Monterey Peninsula Water Supply Project
Hydrogeologic Investigation

Technical Memorandum (TM1)
Summary of Results - Exploratory Boreholes

PREPARED FOR:

California American Water

RBF Consulting

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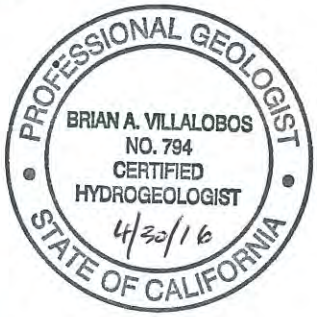

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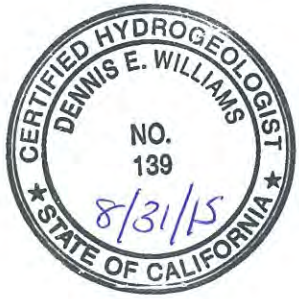

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The investigation and findings described in this Technical Memorandum are the result of collaborative planning and discussions among the hydrogeologic experts that represent key stakeholders for groundwater use and management in the Salinas Valley and Monterey Peninsula area of central California. The Hydrogeology Working Group (HWG) consisted of the following experts: Mr. Tim Durbin and Mr. Martin Feeney (both representing the Salinas Valley Water Coalition and the Monterey County Farm Bureau), Mr. Peter Leffler (representing CalAm), and Dr. Dennis Williams (representing the CPUC CEQA Team). The HWG was formed as a result of a 2013 Settlement Agreement among parties to an ongoing CPUC-proceeding resulting from CalAm's proposed Monterey Peninsula Water Supply Project, to review and approve the scope of field investigation and development of a hydrogeologic conceptual model from which to construct the groundwater modeling tools. The names of the HWG members are presented here to indicate the general agreement among the members on the core findings of the investigative work described herein.

The work completed for this investigation was described in the Hydrogeologic Investigation Workplan (Workplan), Attachment 1, dated 18-Dec-2013. This investigation represents the first phase of field data gathering to develop a hydrogeologic conceptual model for the project area that is accepted by the stakeholders. The conceptual model will be used to refine the existing North Marina Ground Water Model (NMGWM) and construct a new focused model (CEMEX model). These models will be used to evaluate proposed project operations and impacts. Additional phases of field testing are planned and outlined in the Workplan.

Since September 2013, six exploratory boreholes were drilled at the CEMEX facility. Total borehole depth ranged from 250 feet (ft) below ground surface (bgs) to 350 ft bgs. Three of the boreholes were used to collect continuous soil cores, undisturbed soils samples, samples for mechanical grading

analysis, and geophysical logs. Two borings were used to construct isolated zones[1] for collecting water quality samples from aquifers at discrete depths and the last borehole (CX-B4) was used to collect continuous soil cores, undisturbed soils samples, samples for mechanical grading analysis, geophysical logs, and to collect water quality samples. A total of fifteen (15) aquifer zone tests have been completed at the CEMEX site. Water quality samples collected from the isolated aquifer zones were analyzed for the same suite of analytes outlined in the Workplan and included general physical, general mineral, volatile organic compounds, pesticides, tritium, and stable isotopes of oxygen and hydrogen.

Since September 2013, seven exploratory boreholes were drilled in the Moss Landing area. Six borings were drilled to a depth of 200 ft bgs. One boring (MDW-1) was drilled to a depth of 300 ft bgs. Each borehole was used to collect continuous soil cores, undisturbed soil samples, samples for mechanical grading analysis, and geophysical logs. Two isolated aquifer zones were constructed in boreholes ML-1, ML-2, ML-3, ML-4, ML-6, and PR-1 (for a total of 12 zones) to collect depth-specific groundwater quality samples. Four isolated aquifer zones were constructed to collect groundwater samples from Boring MDW-1.

1.2 Findings

1.2.1 General

- The conceptual hydrogeologic model developed from this investigation suggests that a feedwater supply system using slant wells at the CEMEX site is feasible and can utilize the Dune Sand Aquifer and underlying terrace deposits (180-Foot Equivalent Aquifer) as conduits to extract water through the seafloor beneath Monterey Bay.
- This opinion will be tested using the newly constructed CEMEX Model and the refined NMGWM and will be field tested using a test slant well and groundwater monitoring system as described in the Hydrogeologic Investigation Workplan.
- The conceptual model also indicates that the Perched “A” Aquifer between the Molera and Sandholt Road Salinas River State Beach parking lots could provide an alternative target for construction of a subsurface feedwater supply system.

1.2.2 CEMEX Area

The CEMEX facility is located on the westernmost edge of the 180/400-Foot Aquifer Subbasin of the Salinas Valley Groundwater Basin, as currently mapped by DWR (2003) and the MCWRA (2011). The findings of the investigation at CEMEX are summarized below:

[1] An isolated zone is constructed by the installation of well screen at a selected depth interval and isolating the well screen above and below using bentonite seals. Construction of isolated zones allows depth specific sampling of groundwater.

- A significant clay layer is not present beneath the Dune Sand Aquifer at the CEMEX site at elevations commonly attributed to the Salinas Valley Aquitard (SVA), suggesting a different depositional environment than that of the 180-Foot Aquifer in the Salinas Valley. The water quality data suggests groundwater in the Dune Sand Aquifer may be in hydraulic continuity with the underlying aquifer units. The degree of hydraulic continuity will be determined by construction of aquifer specific monitoring wells and the long-term pumping test of the test slant well.
- Stratigraphic relationships and lithologic observations indicate that the aquifer system underlying the Dune Sand Aquifer consists of terrace deposits that are older than the inland 180-Foot Aquifer deposits, since they underlie the Older Dune Sand.
- The terrace deposits appear to be a distinct lithologic unit in terms of geologic history and depositional environment in the Dune Highland area and may be hydrostratigraphically equivalent to the 180-Foot Aquifer in the Salinas Valley.
- For purposes of this document, the alluvial materials encountered near the coast (in the CEMEX area) are based solely on analyses of borehole samples (and geophysical borehole logs). As of yet, no direct correlation can be made between these coastal alluvial deposits and the standard naming convention found further inland (e.g., 180-Foot Aquifer, 400-Foot Aquifer, SVA, etc). Consequently, the naming convention agreed upon by the HWG, includes the word “equivalent” since the lithologic units that make up the aquifers at CEMEX and in the Salinas Valley are chronologically different, but stratigraphically equivalent.
- As a hydrogeologic unit, the terrace deposits will be designated as the 180-Foot Equivalent (180-FTE) Aquifer. The extent of hydrostratigraphic equivalence will be evaluated through a pumping test utilizing the test slant wells and a monitoring network.
- The current interpretation of the distinctive dark greenish-gray clay found at depths ranging from 241 to 282 ft bgs at CEMEX is that it may represent a change in the depositional history and is underlain by a unit equivalent to the Aromas Sand(?)/400-Foot Aquifer.
- Both the Dune Sand Aquifer and the underlying 180-FTE Aquifer extend seaward beneath the Monterey Bay.
- Groundwater in the Dune Sand Aquifer and most of the groundwater in the 180-FTE Aquifer exhibit high concentrations of total dissolved solids (TDS), ranging from 24,000 to 32,000 mg/L, indicating a seawater source.
- Hydraulic conductivity for the Dune Sand at CEMEX ranged from an average low value of 273 ft/day to an average high value of 779 ft/day.

- Hydraulic conductivity for the Older Dune Sand at CEMEX ranged from an average low value of 136 ft/day to an average high value of 372 ft/day.
- Hydraulic conductivity of the terrace deposits that make up the 180-FTE Aquifer ranged from an average low value of 113 ft/day to an average high value of 342 ft/day.
- Hydraulic conductivity values will be further refined based on the long-term test slant well pumping test.
- Analysis of cation/anion ratios indicates that groundwater in the lower portion of 180-FTE Aquifer and in the 400-Foot Aquifer have been geochemically altered due to seawater intrusion.
- Tritium results indicate that groundwater in the lower portion of the 180-FTE Aquifer is older than groundwater in the upper portion of the 180-FTE Aquifer and the Dune Sand Aquifer.
- Analysis of oxygen and hydrogen isotopes suggests that at both the CEMEX and Moss Landing sites, saltwater from the ocean is mixing with a freshwater source that has not undergone significant evaporation (as would be expected of a surface water source).
- Hydrostratigraphic relationships indicate that slant wells drilled into the Dune Sand Aquifer and 180-FTE Aquifer will receive recharge primarily from ocean sources through vertical leakage from the sea floor and horizontal recharge from offshore subsea aquifers. This will be tested by the CEMEX and refined NMGWMs as well as field pumping tests.

1.2.3 Moss Landing Area

The Moss Landing area is located north of the mouth of the Salinas River, which overlies the westernmost edge of the 180/400-Foot Aquifer Subbasin. Borings were drilled and sampled at Moss Landing Harbor and at the Molera, Potrero Road, and Sandholt Road parking lots of Salinas River State Beach. The exploratory borings primarily penetrated fluvial sediments associated with Holocene and Late Pleistocene Salinas River deposition.

The Perched[2] "A" Aquifer is ascribed to the Holocene river alluvium and considered to be the hydrostratigraphic equivalent of the Dune Sand Aquifer located to the south.

- The Perched "A" Aquifer in the Moss Landing area is composed of interbedded river and floodplain deposits.

[2] The term Perched "A" Aquifer refers to the shallow aquifer above the Salinas Valley Aquitard. Traditionally, the term "perched" aquifer refers to a hydrogeologic condition where an aquifer is formed by groundwater being present above (perching on) an impermeable unit such as clay but with an unsaturated portion of an aquifer between the bottom of the clay and the underlying saturated portion of a lower aquifer.

- With the exception of the sediments penetrated in Boring PR-1 and MDW-1, individual sand and sand and gravel lenses do not appear to be either vertically or areally extensive in Moss Landing.
- Significant variations in TDS concentrations suggest that groundwater is mixed with seawater, and is likely present in semi-isolated lenticular deposits.
- In general, the upper isolated aquifer test zones were above a depth of 110 ft bgs. TDS concentrations ranged from 3,200 mg/L to 34,000 mg/L.
- The lower isolated aquifer zones were generally constructed at depths exceeding 150 ft bgs. With the exception of Zone 1 of PR-1 (190-200 feet) at 630 mg/L, the TDS concentrations ranged from 7,400 mg/L to 34,000 mg/L.
- Boring PR-1 penetrated a very permeable unit in the Perched "A" Aquifer from 54 to 139 ft bgs. Groundwater in this interval approximated seawater quality (i.e., 34,000 mg/L). This unit is interpreted to continue, but decrease in thickness southward towards Boring MDW-1. To the north, the unit is interbedded with fine-grained units.
- It is interpreted that the lowest portion of Boring PR-1 penetrated the SVA. Very low TDS concentrations (630 mg/L) encountered in the lowest zone in Boring PR-1 suggest that isolated zones of freshwater may exist within the 180-Foot Aquifer or that the sand unit is laterally discontinuous and may be interbedded with the SVA. In this last interpretation, Boring PR-1 did not completely penetrate the SVA.
- Hydraulic conductivity values for the permeable portion of the Perched "A" Aquifer penetrated in PR-1 ranged from 194 ft/day to 717 ft/day, based upon relationships between grain size distribution and hydraulic conductivity.
- The permeable unit between Boring PR-1 and MDW-1 represents a potential location for slant wells.
- The Moss Landing Borings (ML-1, ML-2, ML-3, ML-4, and ML-6) did not penetrate significant thicknesses of permeable deposits to produce the required feedwater supply volume for the MPWSP.

1.2.4 Refinement of NMGWM and Development of Focused CEMEX Model

The geologic and hydrogeologic data collected during this investigation was used to prepare the interpretations of hydrostratigraphic relationships in the Moss Landing and CEMEX areas. A conceptual model of the hydrostratigraphic units from the Moss Landing to CEMEX area as interpreted from data collected from this investigation is shown below on Figure 1-1

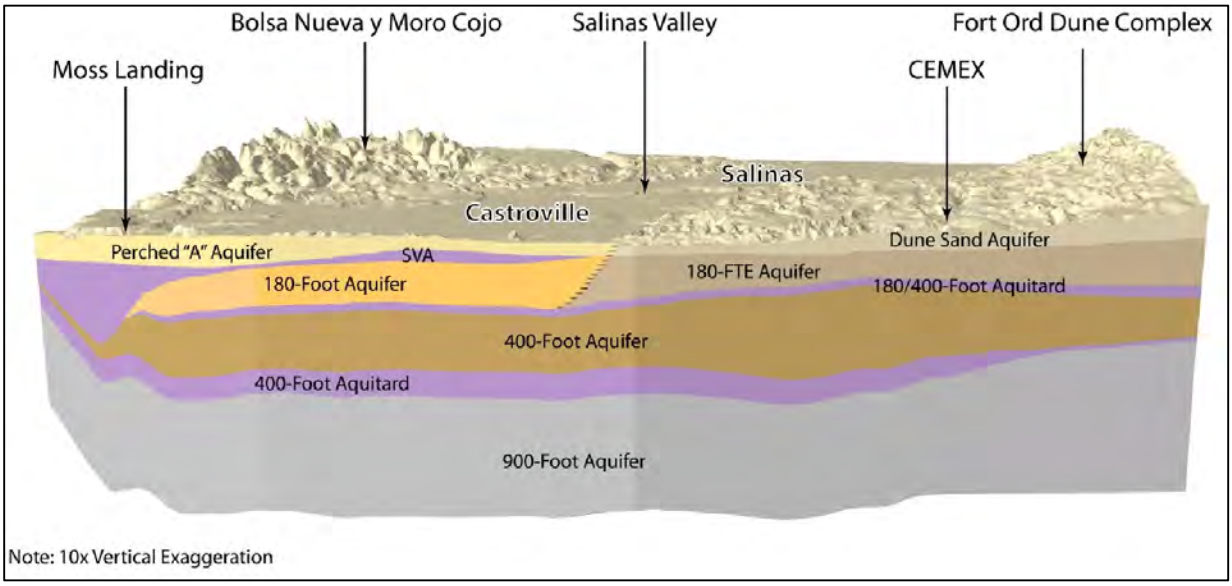


Figure 1-1. Hydrostratigraphic Model – Moss Landing to CEMEX Area

The following table provides a correlation of the geologic and hydrostratigraphic units to groundwater model layers of the Salinas Valley Integrated Groundwater and Surface Water Model (SVIGSM) and the NMGWM. In addition, the project technical advisory group described in Section 2.4 requested that a third model (a focused model) be constructed in the CEMEX area. The new focused model is designated as the CEMEX Model (CM) and will be discussed in Section 6. The model layers of the CM, as correlated to the SVIGSM and NMGWM, are also shown on Table 1-1.

Table 1-1.

Correlation of Geologic and Hydrostratigraphic with SVIGSM, NMGWM, and CM Model Layers

180/400-Foot Aquifer Subbasin			CEMEX Area			SVIGSM Layer[1]	NMGWM Layer	CEMEX Model Layer
Surface Geologic Units	Surface Geologic Units Map Symbol	Hydro-stratigraphic Units	Surface Geologic Units	Surface Geologic Units Map Symbol	Hydro-stratigraphic Units			
Benthic Zone	-	Benthic Zone	-	-	Benthic Zone	Constant Head	1	1
Alluvium	Qal[2]	Perched "A" Aquifer	Dune Sand	Qd	Dune Sand Aquifer	1a	2	2
			Older Dune Sand	Qod				3
								4
Older Alluvium	Qo	Salinas Valley Aquitard	Older Terrace/ Marine Terrace	Qt (Qmt?)	180-FTE Aquifer	1a	3	5
		180-Foot Aquifer				1	4	6
Older Alluvium/ Marine Terrace	Qo/Qmt							7
Older Alluvium/ Older Alluvium Fan – Antioch	Qo/Qfa							8
Older Alluvial Fan – Placentia	Qfp	180/400-Foot Aquitard	Aromas Sand (undifferenciated) (?)	Qar (?)	180/400-Foot Aquitard	2a	5	9
Aromas Sand (undifferentiated)	Qar	400-Foot Aquifer			400-Foot Aquifer	2	6	10
Aromas Sand – Eolian/Fluvial Lithofacies	Qae/Qaf							
Paso Robles Formation	QT	400/900-Foot Aquitard	Paso Robles Formation	QT	400/900-Foot Aquitard	3a	7	11
		900-Foot Aquifer			900-Foot Aquifer	3	8	12

[1]SVIGSM considers "a" layers to be aquitards (vertical hydraulic conductivity and thickness are input)

[2]Subsurface Holocene geologic unit not mapped at surface

2.0 INTRODUCTION

2.1 Background

The California American Water Company (CalAm) is proposing the Monterey Peninsula Water Supply Project (MPWSP, or proposed project) for the purpose of developing water supplies to replace those portions of CalAm's existing supplies that have been constrained by legal decisions regarding CalAm's diversions from the Carmel River and pumping from the Seaside Groundwater Basin. The MPWSP would include construction of a subsurface Seawater Intake System and a desalination plant with a rated capacity of 9.6 million gallons per day (MGD) or 6.4 MGD, which is approximately 10,800 acre-ft per year and 7,200 acre-ft per year, respectively.

On April 23, 2012, CalAm filed an application with the California Public Utilities Commission (CPUC) for the MPWSP (A.12-04-019), seeking a Certificate of Public Convenience and Necessity (CPCN) to construct, own, and operate a desalination facility for water supply on the Monterey Peninsula. The MPWSP application to the CPUC proposed a subsurface intake feedwater system consisting of slant wells located at the CEMEX sand mining property in Marina, CA.

In a letter dated September 26, 2012, the CPUC asked the State Water Resources Control Board (SWRCB) whether CalAm has the legal right to extract desalination feedwater for the proposed MPWSP. The CPUC requested an opinion on whether Cal-Am has a credible legal claim to extract feedwater for the proposed MPWSP in order to inform the CPUC's determination regarding the legal feasibility of the MPWSP. The SWRCB concluded in July 2013, that the conditions in the aquifer where MPWSP feedwater would be extracted could be either confined or unconfined. However, there was not enough information at that time to determine what types of conditions exist at the location of the proposed MPWSP wells. The SWRCB recommended that studies are needed to determine the extent of the Dune Sand Aquifer, the water quality and water quantity of the Dune Sand Aquifer, the extent and thickness of the Salinas Valley Aquitard, and the extent of the 180-Foot Aquifer, if present.

In August 2013, a Settlement Agreement was signed by several of the Parties associated with the CPUC proceeding. The parties agreed that CalAm and Salinas Valley Water Coalition's (SVWC) hydrogeologists would work with other experts to develop and implement a workplan for the proposed source water intake sites consistent with the study recommendations presented in SWRCB's July 2013 Review of the MPWSP.

2.2 Extracting Seawater from Subsea Aquifers for Feedwater Supply

The intake system proposed by CalAm is expected to supply a high percentage of ocean water from aquifer units that are in hydraulic continuity with the ocean floor. The feasibility of extracting seawater

from the aquifers that underlie the ocean floor using slant wells is directly dependent on the vertical and horizontal distribution of hydrostratigraphic units in the project areas and their hydraulic properties.

Previous studies have indicated that in the vicinity of the CEMEX facility, the shallow Dune Sand Aquifer may directly overlie the 180-Foot Aquifer, or may be separated from the 180-Foot Aquifer by low permeability material of the hydrostratigraphic unit designated as the Salinas Valley Aquitard (SVA). Therefore, a key aspect of the exploratory boring program at the CEMEX facility was to evaluate the presence and vertical distribution of hydrostratigraphic units. If the Dune Sand Aquifer directly overlies the 180-Foot Aquifer or an equivalent hydrostratigraphic unit (i.e., no intervening clay layer of significant thickness), and if both units are in hydraulic connection with the ocean floor, feedwater can be obtained directly from the subsea portion of both aquifers with little or no impact on the inland aquifers.

A groundwater model was developed by GEOSCIENCE in 2008 and is called the North Marina Ground Water Model (NMGWM). The NMGWM was developed based on existing data and conceptual models of the hydrogeology in the region, and has been used to evaluate several proposed projects in the area. The NMGWM is a three dimensional variable density finite difference model that uses industry standard computer codes (MODFLOW, MT3DMS and SEAWAT). Regional boundary conditions for the model are obtained from the Salinas Valley Integrated Groundwater and Surface Water Model (SVIGSM). Construction of a third model, a focused model centered at CEMEX, was requested by the Hydrogeology Working Group (HWG). The new model will have additional model layers and a finer grid size than the NMGWM. The new focused model is herein referred to as the CEMEX Model (CM). The CM will be constructed with the field data collected from this investigation. The NMGWM includes the area of the current investigation (i.e., CEMEX and Moss Landing) and will be refined (based on recent field data). Both the CM and the NMGWM will be used to support the CPUC's environmental review process, and to design a subsurface feedwater supply system.

2.3 Subsurface Intakes

Subsurface intakes are generally favored among regulatory agencies because of: (1) the natural water filtration and pretreatment provided by ocean floor sediments, which reduce the need for some treatment chemicals during the desalination process, and (2) the minimal growth of marine organisms that occurs inside the intake pipeline. The slant well subsurface intake system is also a primary consideration because the system will allow for a feedwater supply to be obtained from ocean sources (i.e., vertical leakage through the sea floor and horizontal recharge from offshore aquifers). In general, source water derived from subsurface wells requires significantly less filtration when compared to raw seawater. Subsurface wells are also generally considered a low-impact technology with respect to impingement and entrainment.

The subsurface intake site proposed by CalAm is located at the CEMEX property in Marina. Alternative intake sites have been proposed in the Moss Landing area. Therefore, this technical memorandum addresses the potential feasibility of subsurface intakes in both areas.

Figure 1 is a general location map for the current study. Figure 2 shows the locations of borings completed in both the CEMEX and the Moss Landing areas. Area maps specific to CEMEX facility and the Moss Landing area are shown in Figures 3 and 4, respectively.

2.4 Formation of Hydrogeology Working Group and Formation of the Hydrogeologic Investigation Workplan

As noted earlier, the Settlement Agreement laid the ground work for a collaborative effort by recognized experts in geology, hydrogeology and modeling, representing stakeholders of groundwater use and management in the project area. This led to the development of the Hydrogeology Working Group[3] (HWG). The HWG first met on April 25, 2013, to discuss conceptual models and to form a collaborative plan of investigation to assess the hydrogeologic conditions in the project area. As with any collaborative group, individual opinions need to be evaluated against actual field data and testing to arrive at a conceptual model that reflects a common understanding at the areas of concern. A draft workplan was prepared which provides a phased approach to progressively investigate the hydrogeology and the potential effects to aquifers from the use of subsurface slant wells for obtaining feedwater supply. The draft workplan was submitted to the HWG on August 2, 2013, for review and comment. The final workplan incorporated comments and recommendations by members of the HWG, covered the investigative steps needed to evaluate the project impacts, and was submitted to the HWG on December 18, 2013. This final workplan became the hydrogeology investigation roadmap.

2.5 Project Documents

2.5.1 Hydrogeologic Investigation Workplan

The process adopted by the HWG for the workplan consists of on-going steps of data collection and analysis. The data collected from this initial phase of investigation will be used to construct the CM and to refine the NMGWM. Each subsequent step of data collection will be followed by refinement of the CM and NMGWM, which are the tools being developed to evaluate the short- and long-term hydrogeologic impacts in the project area from operation of the MPWSP. Each step of data gathering will be preceded by an update of the workplan as appropriate, describing the proposed work and

[3] The HWG participants include: Tim Durbin and Martin Feeney (representing the Salinas Valley Water Coalition and the Monterey County Farm Bureau), Peter Leffler (representing CalAm), and Dennis Williams (representing the CPUC CEQA Team).

desired outcomes. Results will be documented by a technical memorandum describing the methods of data collection, findings and recommendations, and the results of the model refinements.

The MPWSP Hydrogeologic Investigation Workplan (HWP) is the main working document for all exploratory, testing, and modeling work, including:

- Attachment 1 - Technical Specifications – Exploratory Boreholes
- Attachment 2 - Technical Specifications – Test Slant Well
- Attachment 3 - Technical Specifications – Monitoring Wells
- Attachment 4 - Technical Specifications – Long Term Pumping Test and Monitoring Program
- Attachment 5 - Technical Specifications – Full Scale Slant Well Field

As such, the HWP is a "living document" which will be modified as appropriate as the project progresses.

To date, technical specifications for the boreholes (Attachment 1) was submitted to the HWG for review and comment, forming the basis for the current investigation. Preliminary Technical Specifications (Attachment 1 of the Hydrogeologic Investigation Report) for the test slant well and two monitoring wells were prepared and submitted to Cal Am for planning purposes. Subsequently, it was decided by CalAm to prepare separate technical specifications for the test slant well and for the monitoring wells. These documents were recently submitted for review. Therefore, after review of the findings of the current document by the HWG, the Technical Specifications for the Test Slant Well and Technical Specifications for the Monitoring Wells (Attachment 2 and Attachment 3 of the Hydrogeologic Investigation Workplan) will be updated if appropriate.

2.5.2 Hydrogeologic Investigation Report

The companion document to the Workplan will be the Hydrogeologic Investigation Report (HIR) and will include technical memorandums documenting all exploratory and testing activities as well as progressive model refinements and impacts. This document will include the following:

The Hydrogeologic Investigation Report will include a series of technical memorandum's which provide the data and analysis conducted throughout the study period including the following:

- Attachment 1 - Technical Memorandum (TM) – Summary of Results – Exploratory Boreholes
- Attachment 2 - Technical Memorandum (TM) – Summary of Results – Test Slant Well and Monitoring Wells
- Attachment 3 - Technical Memorandum (TM) – Summary of Results – Long Term Pumping Test and Monitoring Well Program

- Attachment 4 - Technical Memorandum (TM) – Refined ground water model results following exploratory boreholes, monitoring wells, test slant well and full scale system

The current document is Attachment 1 of the Hydrogeologic Investigation Report.

2.6 Purpose and Scope

2.6.1 Purpose

As part of the Workplan, a geotechnical borehole investigation was undertaken at several sites along the Monterey coast. The purpose of the exploratory boreholes was to obtain information on the lithologic and hydraulic character of the hydrostratigraphic units and the vertical and horizontal distribution of the units. The data gathered from the boreholes will be used to update the NMGWM. The model layers will be refined using the site-specific depth and thickness information of the hydrostratigraphic units. The hydraulic properties of the units obtained from the field work and the water quality data will be used for model input. In other words, the borehole data will help to:

- Characterize the aquifer units,
- Characterize the water contained in the aquifer units (to determine if it is seawater, groundwater, or seawater intruded groundwater), and
- Determine if the Salinas Valley Aquitard (a blue clay layer) exists between the aquifer units at this location.

This technical memorandum:

1. Presents the results from the exploratory borings at the CEMEX facility (see Figure 2) and the Moss Landing area (see Figure 3),
2. Provides an interpretation of the geologic units encountered in the boreholes as they relate to the conceptual hydrogeologic model, and
3. Provides recommendations for refinements to the NMGWM based on the newly collected data.

2.6.2 Scope

The Moss Landing area investigation included drilling of exploratory borings at the Molera, Potrero Road, and Sandholt Road Salinas River State Beach parking lots and along Pacific Coast Highway and along Sandholt Road at Moss Landing Harbor. The CEMEX area investigation included exploratory

borings drilled on the CEMEX facility at locations approved by CEMEX. The approved scope of work for the investigation included the following:

- Drilling of sonic boreholes from depths ranging approximately 200 to 350 feet (ft) below ground surface (bgs)
- Collecting continuous soil cores from all borings
- Preparation of lithologic logs of the materials penetrated in each borehole
- Photographs of soil cores
- Geophysical borehole logs
- Construction of two groundwater quality sampling zones in each borehole in the Moss Landing area and collection of water samples from each zone
- Figures, maps, and photographs showing site locations and conditions
- Borehole destruction details
- Mechanical grading analysis
- Analysis of hydraulic conductivity using the Hazen Approximation, Krumbein-Monk, and Kozeny-Carman methods
- Laboratory vertical and horizontal permeameter testing
- Evaluation of groundwater quality conditions
- Preparation of recommendations for model layer revisions

2.6.3 Added Scope

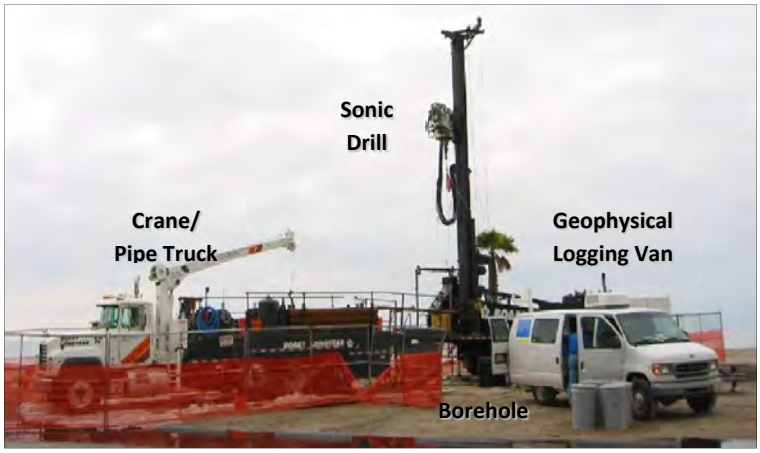
At the initiation of this study, exploratory borings at the CEMEX facility were limited to the collection of lithologic and geophysical data only. More recently, the scope was expanded to include two additional boreholes at the CEMEX facility to collect groundwater quality samples for borings not previously sampled for groundwater quality (see Section 3.1.6). A water quality boring (CX-B1WQ) was drilled adjacent to Boring CX-B1. A second water quality boring (CX-B2WQ) was drilled near Boring CX-B2. A fourth boring (CX-B4, third water quality boring) was also drilled at CEMEX to obtain continuous core and geophysical logs for lithologic logging and to collect groundwater quality samples. The locations of the water quality borings at CEMEX are shown on Figure 2 and Figure 3. In addition, to further explore the area south of Potrero Road, an exploratory boring (MDW-1) was drilled in the Molera parking lot of Salinas River State Beach located at Monterey Dunes Way. Four isolated zones were constructed in MDW-1 to collect water quality samples.

3.0 FIELD INVESTIGATION

3.1 Borehole Drilling and Sampling

3.1.1 Drilling

The sonic drilling method was used for all 13 boreholes for this investigation. All of the sonic drilling was completed by Cascade Drilling of Upland, California. Drilling commenced at the Potrero Road site in September 2013. Sonic drilling produced continuous core samples that were minimally disturbed. The cores from all borings were logged by the field geologist, photographed, and placed in wooden core boxes. Detailed borehole logs for each borehole are provided in Appendix A1. The cores were placed in storage at the Cal Am facility in Pacific Grove, California. Sediment samples were collected of each lithologic unit encountered in the boreholes by the field geologist. Photographs of the core are provided in Appendix B. Table 3-1 below provides a summary of drilling dates for each exploratory boring.



Sonic Drilling Rig and Support Equipment

Table 3-1. Chronology of Field Investigation

Borehole	Location	Drill Dates
PR-1	Moss Landing: SR State Beach Portrero Road Parking Lot	September 20-26, 2013
ML-1	Moss Landing: SR State Beach Sandholt Road Parking Lot	October 1-8, 2013
CX-B1	CEMEX	October 21-26, 2013
CX-B2	CEMEX	November 4-8, 2013
CX-B3	CEMEX	November 9-13, 2014
ML-6	Moss Landing (MBARI)	November 18-24, 2013
ML-4	Moss Landing (Coast Highway)	November 25,26 and December 2-8, 2013
ML-2	Moss Landing (Del Mar Fisheries)	December 9-20, 2013
ML-3	Moss Landing (Coast Highway)	January 6-14, 2014
CX-B1WQ	CEMEX	February 17-26, 2014
CX-B2WQ	CEMEX	March 4-7, 2014
CX-B4	CEMEX	March 20 -April 10, 2014
MDW-1	Moss Landing: SR State Beach Molera Parking Lot	April 23-May 10, 2014

3.1.2 Core Sampling

The core sampling was conducted using a 4-inch to 6-inch diameter inner casing. The core barrel is attached to small-diameter drill rods and is vibrated ahead of the outer casing collecting undisturbed formation materials as the core samples. With each 10-ft advance of the casing, the core barrel was extracted and brought to the surface to retrieve the core. Soil core samples were collected continuously during drilling of all the exploratory boreholes. Upon collection, all soil cores were placed in 6-mil polyethylene plastic sleeves measuring approximately 2 ft in length. Each bag was photographed and properly labeled in the field with the client name, boring number, sample depth interval, and date of collection. The core samples were then split longitudinally in half and visually classified (logged) in the field in accordance with the Unified Soil Classification System (USCS).

3.1.3 California-Modified Split-Spoon Sampling

Split-spoon samples were collected at specified depths from each borehole to obtain undisturbed samples of the formation materials for the purpose of estimating hydraulic conductivity using a laboratory permeameter. Samples were collected from the Dune Sand Aquifer, fine-grained aquitard material, and coarse-grained material.

The split-spoon sampler holds three thin-walled metal (brass or stainless steel) sleeves measuring approximately 6 inches in length and 2.5 inches in diameter. The sampler was attached to a small diameter drill rod that is pushed through 18- to 24-inches of undisturbed formation material ahead of the drilling bit. Each time the split-spoon sampler is retrieved, the sampling sleeves were removed and the exposed ends were covered with Teflon® sheets, covered with plastic caps, and taped to preserve the sample for laboratory testing. Each sleeve was marked with

the project name, borehole name, sample depth and number, and the date. The sample tubes were submitted to PTS Laboratories, Inc. of Santa Fe Springs, California under chain of custody protocol for analysis of vertical and horizontal soil hydraulic conductivity and selected soil parameters. Chain of custody forms are provided in Appendix C, along with the results of the laboratory testing.

3.1.4 Mechanical Grading Analysis

Representative samples of coarse-grained intervals were collected from core samples for mechanical grading analysis. The samples were sieved in the GEOSCIENCE soil laboratory and the grain size distribution was plotted on charts. The depth intervals at which samples were collected for mechanical grading analysis are shown on the corresponding lithologic log (see Appendix A1). Samples were sieved using U.S. Standard sieves with mesh sizes ranging from 0.0740 mm (0.0029 inches) to 9.525 mm (0.375 inches). Grain size distribution plots are provided as Appendix D. Grain size distribution was used to estimate the hydraulic conductivity; discussed in Section 3.2.3. Table 1 (attached) provides a summary of mechanical grading analysis and hydraulic conductivity estimates. Table 1 includes depth interval, lithology, geologic formation, conductivity direction, and the average hydraulic conductivity value for each sample interval. Soil types listed are based upon the results of the mechanical grading analyses.

3.1.5 Geophysical Borehole Logging

Once each borehole target depth was reached, the core barrel was removed and a 4-inch diameter PVC screen was installed within the borehole prior to removing the outer sonic casing. The PVC screen ensured that the borehole remained open during geophysical logging.

Geophysical logs were run throughout the total depth of each borehole. Each geophysical run included the following suite of logs:

- Dual Induction,
- Gamma,
- Temperature, and
- Fluid Resistivity.

Dual induction logs (DIL) were used to determine resistivity of formation materials by measuring conductivity adjacent to the induction tool.[4] The induction tool focuses alternating electromagnetic

[4] Conductivity is measured as (mho/m) and is the inverse of resistivity.

currents into the formation, with medium and deep measurements determined by transmitter/receiver spacing. The DIL is comprised of six (6) separate measurements:

- **RILM** - *Resistivity, Induction Log Medium*
- **RILD** - *Resistivity, Induction Log Deep*
- **CILM** - *Conductivity, Induction Log Medium*
- **CILD** - *Conductivity, Induction Log Deep*
- **SP** - *Spontaneous Potential*
- **GR** - *Gamma Ray*

Gamma ray (GR) logs were used to augment and aid identification of lithologic units encountered within each borehole.

A temperature log measures absolute fluid temperature within a borehole. A calculated differential measurement is provided with the log, which allows detection of vertical fluid movement within a borehole, including fluid entry and exit points.

Fluid resistivity logs provide a measure of the resistivity of borehole fluid (in units of ohm-m) and provide a calculated differential curve. This log was used for correlation of temperature measurements, to assist in locating the presence of borehole water with higher total dissolved solids (TDS) concentrations, and to differentiate between waters from various contributing aquifer zones.

All geophysical logs are provided in Appendix E. The geophysical borehole logs and lithologic descriptions were used to determine recommended depth intervals for zone testing and to delineate the aquifer systems in the study area. The results will be used to design project monitoring wells for long-term aquifer testing.

3.1.6 Isolated Aquifer Zone Testing for Water Quality Sample Collection

Following completion of geophysical logging, the lithologic and geophysical logs were reviewed to select depth intervals that would likely yield groundwater with the lowest and highest salinity. Depth intervals selected were used to construct isolated aquifer zones for groundwater quality sampling. An isolated aquifer zone test consists of constructing a temporary well with a 10-foot well screen interval placed at the depth of the lithologic unit to be tested. A seal is constructed above and below the well screen to isolate the portion of the aquifer for water quality testing. Two depth intervals were selected for groundwater sampling zones for each Moss Landing borehole (Borings Ml-1, ML-2, ML-3, ML-4, ML-6,

and PR-1). Four isolated zones were constructed in Boring MDW-1. For the CEMEX area, a water quality boring was drilled near Boring CX-B1 and designated Boring CX-B1WQ. Another boring was drilled near Boring CX-B2 and designated as Boring CX-B2WQ. A third boring, Boring CX-B4 was drilled approximately 1,500 feet inland from CX-B2WQ and used to collect water quality samples. The locations of the water quality borings (CX-B1WQ, CX-B2WQ, and CX-B4) are shown on Figure 3. Six zones were selected for construction in Boring CX-B1WQ in an effort to assess potential water quality changes between the Dune Sand Aquifer and the underlying aquifer units. The groundwater quality samples were sent to the laboratory with an expedited request. After receipt of groundwater quality results for samples from Boring CX-B1WQ, and after reviewing the geophysical logs and lithologic logs, four zones were selected for Boring CX-B2WQ. The zones were selected to confirm and augment water quality data collected from Boring CX-B1WQ, and to develop an overall profile of groundwater quality at the CEMEX site. Five zones were selected for Boring CX-B4.

Each isolated zone was constructed by placing a bentonite seal below the selected zone interval. A 10-ft PVC screen was placed opposite the selected sampling interval and filter pack consisting of Monterey Sand #3 was placed opposite, above, and below the well screen. A second bentonite seal was placed above the filter pack interval. The bentonite seals effectively isolated the groundwater quality interval from groundwater above and below the selected interval. Each isolated aquifer zone is constructed specifically for the hydrogeologic conditions at the borehole site. The isolated aquifer zone testing forms are provided in Appendix F. Table 3-2 below summarizes the depth of zones by boring selected for the water quality sampling. A total of 31 zones were constructed for water quality sampling.

Table 3-2. Isolated Aquifer Zone Depth Intervals

Zone No.	ML-1	ML-2	ML-3	ML-4	ML-6	PR-1	MDW-1	CX-B1 WQ	CX-B2 WQ	CX-B4
Zone 1 (ft bgs)	113.5-118.5	167-177	180-190	163.5-173.5	152-162	190-200	237-247	274-284	215-225	306-316
Zone 2 (ft bgs)	90-100	90-100	103-113	74.5-84.5	100-110	125-135	187-197	237-247	161-171	248-258
Zone 3 (ft bgs)	-	-	-	-	-	-	152-162	182-192	104-114	155-165
Zone 4 (ft bgs)	-	-	-	-	-	-	60-70	134-144	55-65	110-120
Zone 5 (ft bgs)	-	-	-	-	-	-		84-94	-	58-68
Zone 6 (ft bgs)	-	-	-	-	-	-		51-61	-	
Total Depth (ft bgs)	200	200	200	201	200	200	300	306	250	350

See Appendix F for zone construction details.

Once a zone was constructed, the aquifer unit across from the well screen was developed using a swab and brush to remove fine sediment. A submersible pump was placed in the temporary well and pumped. Field measurements of groundwater quality were collected to evaluate when the groundwater quality had stabilized, and a representative sample of the aquifer unit was collected. Groundwater quality parameters measured and recorded in the field are provided in Table 3-3.

Table 3-3. Field Groundwater Quality Parameters

Parameters and Units	
Time (minutes)	Salinity (ppt)
Water Level (depth in feet, bgs)	Dissolved Oxygen (DO) (mg/L)
Temperature (degrees F)	pH
Conductivity (us/cm)	Oxygen Reduction Potential (ORP) (mV)
Calculated Total Dissolved Solids (TDS) (mg/L)	Turbidity (NTU)

The field measurements were collected approximately every three to five minutes, until at least three field parameters stabilized. The stabilization criteria are provided in Table 3-4.

Table 3-4. Parameter Stabilization Criteria

Parameters and Units	
pH	+/- 0.1 unit
Conductivity	+/- 3%
ORP	+/- 10 mV
Turbidity	+/- 10%
DO	+/- 10%

Groundwater samples were not collected until the turbidity reading was less than 1 NTU in order to avoid the potential for additional metal concentrations from sediments within the sample. Copies of the field data sheets used to record field parameters during zone testing are provided in Appendix F. The results of the laboratory testing are summarized in Table 3a and Table 3b. Copies of the groundwater quality laboratory reports are provided in Appendix G.

3.1.7 Borehole Destruction

Each exploratory borehole was destroyed immediately following completion of geophysical logging (Borings CX-B1, CX-B2 and CX-B3) or after isolated aquifer zone testing (remainder of borings). Each borehole was destroyed by filling with neat cement and native materials. To prevent material bridging during placement, all materials used for borehole destruction were placed through a tremie pipe. Borehole destruction was accomplished in accordance with the approved borehole destruction plan submitted by Cascade Drilling to Monterey County Health Department and in accordance with DWR Bulletins 74-81 and 74-90. The fine-grained units (i.e., aquitards) encountered beneath the Dune Sand Aquifer were sealed using a neat cement grout to insure that mixing of groundwater does not occur between aquifer units.

3.2 Estimates of Hydraulic Conductivity

Multiple estimates of hydraulic conductivity were made using mechanical grading analysis properties and vertical and horizontal conductivity/permeability values from laboratory analyses of relatively undisturbed soil samples.

3.2.1 Mechanical Grading Analysis

Mechanical grading analyses were used to determine the distribution of sediment grain sizes from samples collected from the continuous core. Three analytical methods were used to estimate hydraulic conductivity from the distribution of grain size in the samples. The Hazen Approximation, Krumbein-Monk, and Kozeny-Carman methods were used to estimate hydraulic conductivity from grain size distribution curves. A brief description of these methods is provided below.

Hazen Approximation

Hazen's Approximation is an empirical equation that estimates hydraulic conductivity to be proportional to the square of the effective grain size, which is expressed as:

$$K = C\,(d_{10})^2$$

Where:

K	=	Hydraulic conductivity (cm/s)
C	=	Hazen's constant, approximately 1 (dimensionless)
d_{10}	=	Grain size in mm for which 10% of the particle pass by weight

This method is applicable to sands where the effective grain size (d_{10}) is between approximately 0.1 and 0.3 mm. Hazen's Approximation was originally determined for uniformly graded sands, but it can provide rough but useful estimates for most soils in the fine-grained sand to gravel range (Freeze and Cherry, 1979).

Krumbein-Monk

Krumbein and Monk (1942) described hydraulic conductivity in the form of Darcies for unconsolidated sands with a log-normal grain size distribution. Using this description, they used a semi empirical equation assuming forty percent porosity, which is expressed as:

$$K = \frac{\rho_\omega g}{\mu} \cdot \left[\frac{\phi^3}{1-\phi^2}\right] \cdot \frac{d_m^2}{180}$$

where:

ρ_ω = Fluid density (kg/m^3 or ft/s^3), assumed to be the average temperature of groundwater (22 degrees Celsius)

d_m = Particle diameter or characteristic length of a given material (m or ft)

ϕ = Porosity

μ = Dynamic viscosity (Pa-s pr lbs-s/ft^2), also assumed to be the average temperature of groundwater (22 degrees Celsius)

g = Gravitational constant (m/s^2 or ft /s^2)

Kozeny-Carman

One of the most widely used equations for determining hydraulic conductivity from characteristic lengths is the Kozeny-Carman Equation. Kozeny proposed in 1927, which was later modified by Carman in 1956, a method for determining hydraulic conductivity from the following:

$$K = \frac{\rho_\omega g}{\mu}\left[\frac{n^3}{(1-n)^2}\right]\frac{d_m^2}{180}$$

where:

ρ_ω = Fluid density (kg/m^3 of ft/s^3), assumed to be the average temperature of groundwater (22 degrees Celsius)

n	=	Total Porosity
μ	=	Dynamic viscosity (Pa-s or lbs-s/ft^2), also assumed to be the average temperature of groundwater (22 degrees Celsius)
g	=	Gravitational constant (m/s^2 or ft/s^2)
d_m	=	Harmonic mean particle diameter calculated from the particle size distribution (m or ft)

and

$$d_m = 100\% / \left[\sum \left(\frac{f_i}{D_{ave,i}} \right) \right]$$

where:

f_i	=	fraction of particles between two sieve sizes; larger [l] and smaller [s] (%)
$D_{ave,i}$	=	average particle size between two sieve sizes (cm) = $D_{li}^{0.5} \times D_{si}^{0.5}$

Table 1 (attached) provides a summary of hydraulic conductivity calculations based on mechanical grading analyses from the three methods. The soil types listed may not represent the complete lithologic interval from which they were obtained since the lithology is generally bedded and gradational.

3.2.2 Summary of Hydraulic Conductivity Values

Table 3-5 summarizes the hydraulic conductivity estimates from mechanical grading analyses for ten soil types collected from both the CEMEX and Moss Landing sites. First, the average hydraulic conductivity was calculated separately for all soil types using each method. Secondly, the range of horizontal hydraulic conductivity shown in the Table 3-5 for each type of soil was determined by the method yielding the minimum average and the method yielding the maximum average hydraulic conductivity.

Table 3-5. Summary of Average Hydraulic Conductivity Estimates by Soil Type

Summary of Hydraulic Conductivity Estimates from Mechanical Grading Analysis	
Soil Type (Unified Soils Classification System Designation)	**Horizontal Hydraulic Conductivity Range (ft/day)**
Organic Clay (CH)	NA
Silty Clay (CL)	NA
Silt (ML)	NA
Silty Sand (SM)	77 - 223
Poorly Graded Sand (SP)	112 - 349
Well Graded Sand (SW)	468 - 1,440
Sand with Silt (SP-SM)	33 - 135
Sand with Gravel (SP+Gravel)	342 - 817
Silty Sand Sand + Gravel (SM+ Gravel)	311 - 1,150
Well Graded Sand + Gravel (SW + Gravel)	469 - 859
Well Graded Sand + Gravel (SW + Gravel)	445 - 1,322
Sand with Clay + Gravel (SW-SC + Gravel)	446 - 1,511
Gravel (GW)	334 - 849

Table 3-6 summarizes the hydraulic conductivity estimates using the same approach as Table 3-5 but separately for samples collected from CEMEX and samples collected from Moss Landing. Not all soil types were represented at both sites. In the case where a sample was represented at only one site (i.e., GW: Gravel at CEMEX) the range of hydraulic conductivity was taken from Table 3-5. If a soil type was obtained from both CEMEX and Moss Landing sites (i.e., SW: Well- Graded Sand), the average hydraulic conductivity was calculated separately for each site from the range of values estimated from the samples collected at each site. For the SW: Well-Graded Sand example, the range of average hydraulic conductivity values reported in Table 3-5 falls between the range of average values calculated from each site individually, as shown in Table 3-6.

Table 3-6. Range of Hydraulic Conductivity from Mechanical Grading Analysis (MGA)

Lithology	MGA, CEMEX[1]		MGA, Moss Landing[1]	
	Min Avg Permeability, K [ft/day]	Max Avg Permeability, K [ft/day]	Min Avg Permeability, K [ft/day]	Max Avg Permeability, K [ft/day]
GW: Gravel	334	849	-	-
SM: Silty Sand	50	144	146	421
SM: Silty Sand with Gravel	-	-	311	1,150
SP: Sand	113	331	112	356
SP: Sand with Gravel	176	549	397	907
SP-SM: Sand with Silt	-	-	33	135
SP-SM: Sand with Silt and Gravel	-	-	445	1,322
SW: Well-Graded Sand	286	1,012	619	3,364
SW: Well-Graded Sand with Gravel	-	-	469	859
SW-SC: Sand with Clay and Gravel	-	-	446	1,511

[1] Mechanical grading analysis of formation samples performed by GEOSCIENCE Support Services, Inc. CEMEX MGA includes samples from boreholes CX-B1, CX-B2, CX-B3, and CX-B4. Moss Landing MGA includes samples from boreholes PR-1, ML-1, ML-2, ML-3, ML-4, and ML-6, and MDW-1.

Only one hydraulic conductivity value calculated from pumping test data is available for the aquifer units at CEMEX. Staal, Gardner, and Dunne (SGD, 1992) completed a pumping test in the Dune Sand Aquifer in 1992. Their reported hydraulic conductivity value is 1,750 gpd/ft^2, or approximately 230 ft/day. Table 3-7 provides a summary of the minimum and maximum hydraulic conductivity values for the CEMEX area. The value reported by SGD is comparable to the value estimated for the CEMEX borehole samples for the Older Dune Sand.

Table 3-7. Hydraulic Conductivity for Geologic Units at CEMEX

Geologic Unit	Minimum K-Value (ft/day)	Maximum K-Value(ft/day)
Dune Sand (Qd)*	273	779
Older Dune Sand (Qod)	136	372
Terrace Deposits (Qt)	113	342

*Data from Moss Landing for Qd used here.

Table 3-8 provides a summary of minimum and maximum hydraulic conductivity values for the Moss Landing area.

Table 3-8. Hydraulic Conductivity for Geologic Units at Moss Landing

Geologic Unit	Minimum K-Value (ft/day)	Maximum K-Value (ft/day)
Dune Sand (Qd)	227	619
Perched "A" Aquifer (Qal)	194	717

3.2.3 Laboratory Permeameter Estimates

Undisturbed drive samples were collected from each exploratory boring. A total of 41 samples were submitted for laboratory vertical and horizontal permeameter testing. Samples were selected to represent the Dune Sand Aquifer, fine-grained units such as clay layers, and the aquifer units underlying the Dune Sand Aquifer. The laboratory test reports are provided in Appendix C. Table 2 (attached) summarizes the laboratory vertical and horizontal permeability results. Table 3-9 below summarizes the range of laboratory permeability values based on soil type. The laboratory results in general are much lower than anticipated. The horizontal values appear significantly lower than an anticipated increase of 10 to 20 times the vertical permeability values.

The values provided from both the laboratory permeameter test and the mechanical grading analyses are approximate and will be revisited during the long-term aquifer test. However, the values estimated using the mechanical grading analysis are much closer to those anticipated from future aquifer testing and will form the starting point for refinements to the model in the CEMEX and Moss Landing area.

Table 3-9. Summary of Laboratory Hydraulic Conductivity Results by Soil Type

Summary of Laboratory Hydraulic Conductivity Results by Soil Type		
Soil Type (Unified Soils Classification System Designation)	Vertical Hydraulic Conductivity Range (ft/day)	Horizontal Hydraulic Conductivity Range (ft/day)
Organic Clay (CH)	0.003 - 0.014	NA
Silty Clay (CL)	0.005 - 0.283	NA
Silt (ML)	0.03	0.02
Silty Sand (SM)	0.20 - 1.38	0.37 - 4.34
Poorly Sorted Sand (SP)	0.28 - 17.29	1.80 - 36.56
Sand + Gravel (SP+ Gravel)	0.26 - 14.91	0.17 - 14.51
Sand/ Silty Sand (SP/SM)	0.13	0.31
Sand/Silty Sand/Gravel (SP/SM + Gravel)	24.15	17.74
Well Graded Sand + Gravel (SW + Gravel)	13.18	11.34

4.0 GEOHYDROLOGIC SETTING

4.1 Historical Background

This study includes an investigation of the geohydrologic conditions along the coast at the mouth of the Salinas River from Moss Landing south to the CEMEX facility (see Figure 1). Groundwater is present in multiple aquifer systems in several subbasins in the project area. Data from this study indicates that water quality is variable both in vertical and areal distribution. Historically, a large proportion of groundwater was extracted for agricultural purposes in the Salinas Valley. The Salinas Valley Groundwater Basin underlies the long linear Salinas Valley, which extends approximately 100 miles from headwaters in the southeast to Monterey Bay in the northwest at Moss Landing.

The relatively flat fertile floodplains along the Salinas River were developed for farming; therefore, wells were drilled to supply water for the agricultural development. The hydrogeologic nomenclature and hydrogeologic conceptual model was initially developed as a result of the subsurface information obtained from the drilling of the wells for agriculture.

The California Department of Water Resources (1946) cites the Eleventh Census for 1890 regarding irrigation in Monterey County:

> *…near the mouth of the Salinas River there were reported to be 60 flowing wells upon farms in 1890 most of them being not far from Castroville. They range in depth from 60 to 189 feet, the average being 136 feet…..They are reported to fluctuate with the season, many of them ceasing to flow in the summer….. At Salinas at about 10 miles from the coast, most deep wells are pumped by windmills.*

This historical description of groundwater use clearly conveys groundwater use in the Salinas Valley started early, and, as is the case for many parts of California, wells were drilled into the shallow upper aquifers first, followed by wells into deeper aquifers as greater quantities of water were required for supply. The flowing wells described in 1890 confirm that these early wells were drilled beneath an upper confining layer. DWR (1946) reports that the number of farms in the Valley increased from 21 farms in 1889 to 803 farms by 1929. In 1933, it was reported "that the quality of water in Salinas Valley as a whole was excellent." However, with the advancement in well pump technology, many new large capacity pumping plants (wells) were brought into use. This resulted in an increasing number of wells being placed out of use from seawater intrusion by 1944. The description of the depths of the wells shows that the upper aquifer within the Salinas Valley was the first to be intruded by seawater, and experienced the furthest migration of seawater with time. Seawater intrusion maps published by the Monterey County Water Resources Agency (MCWRA) support this condition.

The historical conditions are significant to the current project because seawater was introduced into the freshwater aquifers beginning at the coast, with a continuous landward migration. This condition appears to correlate with the lowering of inland groundwater levels induced from agricultural pumping. It is our understanding, that a well at CEMEX has historically been included for monitoring seawater intrusion.

4.2 Groundwater Subbasins

4.2.1 "Pressure" Subarea and 180/400-Foot Aquifer

Both the Moss Landing and CEMEX areas lie within the 180/400-Foot Aquifer Subbasin as delineated by the DWR. DWR Bulletin 118 describes the 180/400-Foot Aquifer Subbasin as follows:

> *180/400-Foot Aquifer – Boundary with Corral de Tierra represents the contact between the Quaternary Paso Robles Formation or Aromas Red Sands and the Quaternary Alluvium or Terrace Deposits. Boundary with Seaside Area Subbasin represents seaward projection of the King City Fault (may act as barrier to flow). Northern boundary is the Pajaro Valley Groundwater Basin and coincides with inland projection of a 400-ft deep, buried clay-filled paleodrainage of the Salinas River. Northeastern boundary generally coincides with the northeastern limit of confining conditions in the 180/400-Foot Aquifer Subbasin and Highway 101. Southeastern boundary is the approximate limit of confining conditions in an up-valley direction. Boundaries generally coincide with those of the Pressure Subarea of MCWRA.*

The 180/400-Foot Aquifer Subbasin is characterized by confined groundwater conditions both historically and as described in DWR Bulletin 118.

The 180/400-Foot Aquifer Subbasin is bounded by groundwater divides on the south by the Seaside and the Corral de Tierra Subbasins.

4.2.2 Seaside and Corral de Tierra Subbasins

The Seaside Subbasin borders the 180/400-Foot Aquifer Subbasin to the south. The Seaside Subbasin is described by DWR as:

> The Seaside Subbasin *"northeast boundary is the Salinas Valley proper (180/400-Foot Aquifer), southeast boundary roughly represents the extent of Quaternary sand."*

The Corral de Tierra Subbasin borders the 180/400-Foot Aquifer Subbasin on the south, further inland than the Seaside Subbasin. The Corral de Tierra Subbasin is described by DWR as:

The Salinas Valley-Corral de Tierra Area Subbasin comprises the eastern portion of the former Fort Ord and other unincorporated areas. The subbasin includes outcrops of Plio-Pleistocene nonmarine units, including the Aromas Sands, the Paso Robles Formation. The subbasin is bounded on the northwest by the Seaside Area subbasin and on the northeast by the 180/400 foot aquifer subbasin. On the south and southwest the subbasin is bounded by Middle Miocene marine rock units, and a portion of the eastern boundary is a small area of Mesozoic granitic rocks (DWR, 2004).

4.4 Regional Geologic Setting

Older geologic maps from the 1970s are available which show the onshore and offshore area of Monterey Bay and the description and distribution of stratigraphic units in the area. Seminal work in evaluating the Quaternary geology in the study area was completed by John Tinsley III and William R. Dupré in 1975 as doctoral dissertations submitted to Stanford University. Both dissertations address the distribution and genesis of Quaternary geologic units in the study area and will be referred to later in this section. More recently, the California Geological Survey published a report in 2002 titled "Geologic Map of the Monterey 30'x 60' Quadrangle and Adjacent Areas". Geologic maps are available at scales ranging from 1:100,000 to 1:24,000. These maps form the basis for the current conceptual model of geologic conditions in the vicinity of the project site. A geologic map of the project area is provided as Figure 6a.

In general, the geologic units mapped at the surface in the study area include, from oldest to youngest:

- Aromas Sand
- Quaternary Marine Terrace Deposits
- Quaternary Terrace Deposits
- Older Dune Sand
- Older Alluvium
- Younger Dune Deposits
- Quaternary Basin Fill Alluvium and Floodplain Deposits

A discussion of geologic units is provided in the following sections.

4.4.1 Aromas Sand (Qar, Qae, and Qaf)

The Aromas Sand designated as Qar (undiffentiated Aromas Sand), Qae (eolian lithofacies of the Aromas Sand) and Qaf (fluvial lithofacies of the Aromas Sand) is present near the study area. The Aromas Sand is early Pleistocene in age and crops out north of the Salinas Valley proper on southwest facing slopes above Castroville. The Aromas Sand in this area is overlain by Older Dune Sand deposits, terrace deposits, the Antioch Alluvial Fan, and the Chualar Alluvial Fan (see Figure 6a). Due to the current uncertainty associated with the location and/or extent of the Aromas Sand in the CEMEX area and the regional dune highlands, the USGS (Tinsley, 2014) recommends using a question mark (?) following the name Aromas to denote that a type section for the units formally designated as the Aromas Sand in the Moss Landing and Watsonville areas has not been established in the area south of the Salinas River and the Aromas (?) unit south of the Salinas River is likely an equivalent unit. The Aromas Sand (?) crops out in the eastern part of the Ford Ord area. The unit in this area is underlain by the Paso Robles Formation and overlain by Older Dune Sand deposits. Overall, the outcrops of the Aromas Sand form an arcuate shape from south of the Salinas River to the north. The unit has been eroded in the Salinas Valley during lowering of sea levels to elevations between -200 and -300 ft amsl (Kennedy/Jenks, 2004) which roughly corresponds with the Wisconsinan sea level lowstand offshore at -300 ft amsl at 17,000 years before present (bp; USGS, 1991). With sea level rise in the Holocene (11,000 years bp), the Salinas River Valley was backfilled with Valley Fill deposits. According to Tinsley, the "Base of Holocene marine transgression at this locality (Leonardini Well) occurs at approximately 150 ft below mean sea level (-150 ft above mean sea level, amsl)."

4.4.2 Quaternary Marine Terrace Deposits (Qmt)

According to Dupré, marine terraces flank both the northern and southern margins of Monterey Bay. They formed in response to glacioeustatic fluctuations in sea level. The youngest terraces in the Santa Cruz area were formed during the Sangamon sea level highstands (at 102,000 and 118,000 years bp; Dupré, 1990). Quaternary Marine Terraces are mapped near Moss Landing (see Figure 6a and Figure 8) and north of Elkhorn Slough.

4.4.3 Quaternary Terrace Deposits (Qt)

Terrace deposits are present along and elevated above the Salinas River floodplain. The terrace deposits represent former alluvial fan and river floodplain surfaces, and range in age from early to mid-Pleistocene. Terrace surfaces and their relative stratigraphic positions were mapped by Tinsley (1975) using soil stratigraphic methods. The stratigraphic positions of the terraces associated with the alluvial fans in the northern Salinas Valley were used to interpret the stratigraphic relationships shown on Figure 8. According to Tinsley a distinguishing feature of the Salinas River deposits originating from below the Arroyo Seco drainage which enters the Salinas Valley approximately 40 miles upstream from

the south, is an abundance of porcellaneous chert from the Monterey Formation. The clast type can occur both in older terrace deposits (Tinsley, 2014) as well as younger fluvial deposits which lie beneath the Salinas Valley.

4.4.4 Older Dune Sand (Qod)

The Older Dune Sand (late Pleistocene) is also present in project area. These deposits are much more extensive in the project area south of the Salinas River Valley, extending inland as far as the East Garrison of former Fort Ord (approximately 5 miles inland). However, north of the Salinas River, the Older Dune Sand is limited in extent and crops out in small non-contiguous areas. Further north, nearing the Watsonville area, Older Dune Sand deposits are again extensive, occupying much of the coastal areas. Work completed by Dupré (1975) included study of the Manressa and Sunset Dunes, which are the coastal dunes located north of the Salinas River in the Watsonville area. These dunes are similar to what is called the Fort Ord ERG Dune Complex present in the CEMEX and Fort Ord areas. The term "ERG" is used to describe the landform which is made up of a large dune field. The Older Dune Sand deposits in the Fort Ord area are reported to be as much as 250 ft thick (HLA, 2001). The Dupré work has shown that the Older Dune Sand deposits rest on top of terrace deposits (Santa Cruz Terrace).

Dupré (1975) reports:

> *The Manressa Coastal Dunes conformably overlie the Santa Cruz coastal terrace deposits, hence were deposited during lowering sea level…The Manressa dunes are probably late Sangamonian/early Wisconsinan. The Sunset Dunes are similar in form and probably in origin to the Manressa Dunes, thus they record an interval of dropping sea level following a mid-wisconsinan interstadial highstand.*

Dupré notes that the Older Dune Sand deposits (in the Watsonville area) were deposited during a lowering of sea level between the interglacial Sangamon sea level highstand (125,000 - 85,000 years bp) and glacial Wisconsinan sea level lowstand (85,000 - 11,000 years bp). The current Holocene (11,000 years bp to present) represents the most recent interglacial period.

4.4.5 Older Alluvium (Qo)

Older alluvial deposits are not mapped at the surface in the study area, but underlie the Holocene deposits in the Salinas River Valley. These deposits are late Pleistocene and are likely in erosional contact with terrace deposits. The Older Alluvium contains organic "blue clay" horizons located beneath the Holocene floodplain of the Salinas River, and is typically referred to as the Salinas Valley Aquitard (SVA). According to Tinsley (1975), the presence of this "blue clay" indicates that shallow marine to

brackish water estuarine environments prevailed during the deposition of the horizons, forming the principle aquicludes and aquitards in the 180/400 Foot Aquifer Subbasin.

4.4.6 Younger Dune Deposits (Qd)

Younger dune and beach sand deposits extend along the shoreline of Monterey Bay from the southern end of the Bay, northward to Moss Landing. The deposits are absent in the immediate vicinity of the mouth of the Salinas River (USGS Open File Report 02-373). The dune sand deposits extend landward approximately 0.1 to 0.5 miles inland. The Younger Dune Sand is Holocene in age and overlies older Dune Sand south of the Salinas River and older alluvial deposits along the mouth of the Salinas River Valley. It is likely that the recent dune sand rests over fluvial deposits (which form a shallow aquifer) in the area where the Salinas River Valley meets the ocean. However, to the south of the Salinas River Valley near the community of Marina and Fort Ord, the recent dune sand directly overlies older dune sand deposits.

4.4.7 Quaternary Basin Fill (Qb) Alluvium (Q) and Floodplain Deposits (Qfl)

The Quaternary basin fill, alluvium, and floodplain deposits are Holocene in age, consisting of sedimentary material deposited by the Salinas River and/or its tributaries. These units are mapped within the central portion of the Salinas Valley.

4.5 Local Geology

4.5.1 CEMEX Area

In the CEMEX area, younger and older dune deposits overlie Quaternary terrace deposits. The area is within the western edge of the Older Dune Complex, which is bounded by the Salinas River Valley to the north and extends from the coast to a maximum distance of five miles inland (see Figure 6a). The CEMEX area has been dominated by eolian (wind blown) depositional processes, while the Salinas River Valley is dominated by riverine fluvial depositional processes. The CEMEX area represents a distinct geomorphic area from the Salinas River Valley.

The concept of the formation of coastal dunes during the lowering of sea level as reported by Dupré (1975) suggests that the Older Dune deposits are either equivalent in age or older than the sand, silt, and gravel which form the 180-Foot Aquifer in the Salinas Valley to the north. These fluvial deposits which make up the 180-Foot Aquifer deposits were laid down as the Salinas River Valley degraded its channel during Wisconsinan time. The 180-Foot Aquifer was subsequently capped as sea levels rose at the beginning of the Holocene, forming an estuary and the SVA. The geologic units which form the 180-Foot Aquifer are stratigraphically equivalent but chronologically younger than the terrace deposits which underlie the Older Dune deposits at the CEMEX site.

DWR (2004) notes the "180-Foot Aquifer may in part be correlative to older portions of Quaternary terrace deposits or the upper Aromas Sand". Cross-Section 1-1' (Figure 7a) depicts the relationship between the geologic units that make up the 180-Foot Aquifer present beneath the Salinas Valley and the stratigraphic units encountered in the CEMEX boreholes. The degree of hydraulic connection will be initially evaluated using the CM and the NMGWM but, more significantly, will be field investigated with the test slant well program.

4.5.1.1 Findings from CEMEX Boreholes

Four boreholes were drilled to depths between 306 and 350 ft bgs. The locations are shown on Figure 3. Boring CX-B1 was located closest to the ocean. Boring CX-B2 was located 600 ft inland from CX-B1 along the CEMEX haul road. Boring CX-B3 was located near the CEMEX maintenance shop approximately 1,800 feet from Boring CX-B1, and CX-B4 is located 500 feet east of CX-B3 and approximately 2,700 feet from the shoreline. Lithologic units were found to be similar in all four borings (see boring logs in Appendix A1). The table below summarizes the geologic units encountered in the CEMEX borings CX-B1, CX-B2, CX-B3, and CX-B4.

Table 4-1. Depths of Geologic Units in CEMEX Borings (ft bgs)

Depths of Geologic Units in CEMEX Borings (ft bgs)				
Geologic Unit	Borehole			
	CX-B1	CX-B2	CX-B3	CX-B4
Qd	0-25	0-28	0-20	0-27
Qod	25-85	28-90	20-90	27-95
Qt	85-245	90-240	90-253	95-255
Qar	below 265	below 270	below 287	below 292

Geologic Cross-Section 1-1' (Figure 7a) illustrates the extent of the geologic units in the subsurface and indicates the hydrostratigraphic units associated with each geologic unit. Figure 7b is a close up in the CEMEX area.

4.5.2 Moss Landing Area

The investigation at Moss Landing is inclusive of the area from the Salinas River State Beach Molera parking Lot at Monterey Dunes Way (Boring MDW-1) to the Monterey Bay Aquarium Research Institute (MBARI) located at the northern terminal end of Sandholt Road (Boring ML-6). The geologic units include Younger Dune Deposits (Qd), recent alluvium (Qal), and basin fill deposits (Qb) near the coast. The area around the Pacific Coast Highway is underlain by Older Dune Deposits (Qod) and Quaternary Marine Terrace Deposits (Qmt). Further to the northeast, as land surface elevation increase, the alluvial

fan deposits (Qfa) predominate and are underlain by the Aromas Sand (Qar) which crops out near Elkhorn and Prunedale. The distribution of surface geologic units is shown on Figure 6a.

4.5.2.1 Findings from Moss Landing Boreholes

A total of seven exploratory borings were drilled at the Moss Landing study area. The locations of all of the borings are shown on Figure 2. The five borings drilled in Moss Landing Harbor are shown on Figure 4. Lithologic logs of the borings are presented in Appendix A1. Geologic Cross-Sections 2-2' and 3-3' provided as Figure 8 and Figure 9, respectively, depict the geologic relationships in the Moss Landing area. Cross-Section 2-2' shows Pleistocene Alluvial Fan deposits overlain by Quaternary Marine Terrace Deposits, and in erosional contact with Older Alluvium which contains the 180-Foot Aquifer and the Perched "A" Aquifer. The Older Alluvial deposits are interpreted to extend seaward and be exposed in the walls of Monterey Canyon to the west.

Cross-Section 3-3' parallels the coast extending from the City of Marina to Moss Landing Harbor, and depicts mixed units of sand, silt, clay, and gravel which do not appear to be laterally or vertically extensive. The sand and gravel units encountered in Boring PR-1 showed the greatest thickness (99 ft) of permeable alluvium. The unit appears to decrease in thickness to the south and pinch out south of Boring MDW-1. Deposits interpreted as the SVA were penetrated in Boreholes MDW-1, PR-1, and ML-1 (see Figure 9). Figure 4-1 (Tinsley, 1975) provides a schematic depicting the relationship between the Pleistocene alluvial deposits and the alluvium which contains the SVA and 180-Foot Aquifer beneath the Salinas Valley near Salinas.

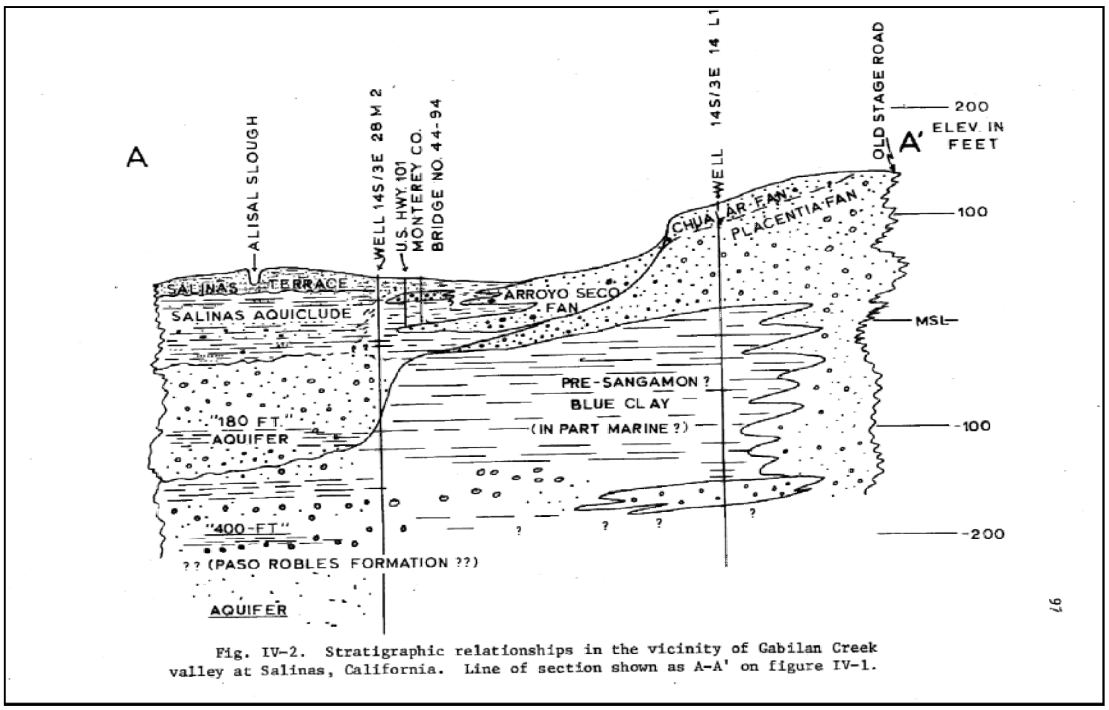


Fig. IV-2. Stratigraphic relationships in the vicinity of Gabilan Creek valley at Salinas, California. Line of section shown as A-A' on figure IV-1.

Figure 4-1. Reproduced from Figure IV-2 of Tinsley, 1975

4.6 Hydrostratigraphy

Traditionally, aquifers in the Salinas Valley Groundwater Basin have been named for the average depth at which they occur (e.g., 180-Foot Aquifer). Water-bearing materials in the area, from oldest to youngest, consist of the Pliocene marine Purisima Formation, Plio-Pleistocene Paso Robles Formation, Pleistocene Aromas Sands, and Holocene Valley Fill materials (Greene, 1970).

Table 4-2 below provides a correlation of surface mapped geologic units shown on Figure 6a and the hydrostratigraphic unit associated with the geologic unit. These units correlate with the CM and NMGWM, and are discussed in Section 6.

Table 4-2. Correlation of Geologic and Hydrostratigraphic Units

180/400-Foot Aquifer Subbasin			CEMEX Area		
Geologic Unit	**Geologic Unit Map Symbol**	**Hydrostratigraphic Units**	**Geologic Units**	**Geologic Unit Map Symbol**	**Hydrostratigraphic Units**
Benthic Zone	--	Benthic Zone	Benthic Zone	--	Benthic Zone
Alluvium	Qal[1]	Perched "A" Aquifer	Dune Sand	Qd	Dune Sand Aquifer
			Older Dune Sand	Qod	
Older Alluvium	Qo	Salinas Valley Aquitard	Older Terrace/ Marine Terrace	Qt (Qmt?)	180-FTE[2]
Older Alluvium/ Marine Terrace	Qo/Qmt	180-Foot Aquifer			
Older Alluvium/ Older	Qo/Qfa				
Older Alluvial Fan – Placentia	Qfp	180/400-Foot Aquitard	Aromas Sand (undifferentiated) (?)	Qar (?)	180/400-Foot Aquitard
Aromas Sand (undifferentiated)	Qar	400-Foot Aquifer			400-Foot Aquifer
Aromas Sand – Eolian/ Fluvial Lithofacies	Qae/Qaf				
Paso Robles Formation	QT	400/900-Foot Aquitard	Paso Robles Formation	QT	400/900-Foot Aquitard
		900-Foot Aquifer			900-Foot Aquifer

[1]Subsurface Holocene geologic unit not mapped at surface

[2] See Section 4.6.4

In the 180/400-Foot Aquifer Subbasin, the aquifer units from oldest to youngest include the 900-Foot Aquifer, 400-Foot Aquifer (generally thought to be contained in the upper part of the Aromas Sand), and the 180-Foot Aquifer present with the Older Alluvium and separated from the overlying Perched "A" Aquifer by the Salinas Valley Aquitard. Thicknesses of individual aquifer units vary in previous work by others. For example, Table 4-3 below provides the estimated thickness of the 180-Foot Aquifer suggested by the work of previous investigators. The information summarized in the Table 4-3 below indicates that identifying the elevation range and thickness of the 180-Foot Aquifer varies and depends on the specific investigator and location.

Table 4-3. Previous Estimates of Thickness and Elevation Ranges for the 180-Foot Aquifer

Previous Investigator	180-Foot Aquifer Near CEMEX	
	Thickness (ft)	Elevation Range (ft amsl)
Greene, 1970	50-250	20 to -220
DWR, 1973	50-150	0 to -300
Tinsley, 1975	100-150	Base of aquifer at -150
Staal, Gardner, Dunne*, 1991	Not reported	Top of aquifer at -110
Fugro West, 1996*	Not reported	Top of aquifer at -135
Harding ESE, 2001	Combines Dune Sand with 180-Foot Aquifer	Base of aquifer at -250
Kennedy Jenks, 2004	100	-100 to -180

* The depth to the 180-Foot Aquifer was determined for a site south of CEMEX.

4.6.1 900-Foot Aquifer

The 900-Foot Aquifer is contained within the Plio-Pleistocene Paso Robles Formation. HLA (2001) notes that the 900-Foot Aquifer is part of a "Deep" aquifer system, which also includes what has been called the 800-Foot, 1,000-Foot, and 1,500-Foot Aquifers. For purposes of groundwater modeling, these aquifers will be collectively termed and simulated as the 900-Foot Aquifer.

4.6.2 400-Foot Aquifer

Within the project area, the 400-Foot Aquifer is the aquifer unit which is contained in the upper and lower portions of the Aromas Sand (USGS, 2003). The thickness of the unit has been reported to be approximately 200 ft (HLA, 2001) but may be as thick as 500 feet (USGS, 2003). The unit is separated from the overlying 180-Foot Aquifer by zones of discontinuous aquifers and aquitards which are approximately 10 to 70 ft thick. The aquitards in this area have been designated as the 180/400-Foot Aquitard.

4.6.3 180-Foot Aquifer

As noted previously, the 180-Foot Aquifer has various reported thicknesses. The aquifer is separated from the overlying Perched "A" Aquifer by the SVA. DWR (2003) states that the 180-Foot Aquifer may, in part, be correlative to older portions of Quaternary Terrace Deposits or the upper Aromas Sand. Work completed for this study suggests that the 180-Foot Aquifer is correlative with terrace deposits of Quaternary age that are older but in erosional contact with younger Salinas River fluvial deposits containing the 180-Foot Aquifer in the Salinas Valley.

According to Tinsley (1975), "extrapolation of the stratigraphic position of the 180-Foot Aquifer offshore shows that it lies within the seismic unit which represents the deltaic deposits" reported by Greene in 1970. The work prepared by Greene suggested approximately 200 ft (60m) to 280 ft (85m) (maximum) thickness of the Holocene deltaic deposits. Tinsley (1975) reported that foraminera[5] from data collected from the water well cuttings suggested that there is 200 ft (60m) to 250 ft (75m) of Holocene sediments near the coast in the southern Salinas River Valley, which correlates well with the work by Greene. However, more recent work by Chin (USGS, 1988) using seismic methods suggests that the offshore Holocene Deltaic deposits are about 70 ft in thickness.

4.6.3.1 Historical Approaches for Identifying the 180-Foot Aquifer

The 180-Foot Aquifer has been historically defined using four separate approaches. The four approaches are: tradition, facies, groundwater flow system, and institutional. A brief description of the approaches applied to water bearing deposits encountered below the Dune Sand at CEMEX is provided below.

Tradition: Traditionally, the 180-Foot Aquifer has been described in narrative, map, and cross-sectional formats. While the descriptions differ among various authors, generally the 180-Foot Aquifer is described as resting beneath the SVA at an average depth of 180 ft bgs, extending offshore, and cropping out on the floor of Monterey Bay. The mapping of seawater intrusion by the MCWRA represents an implied extent of the traditional 180-Foot and 400-Foot Aquifers. At CEMEX, the terrace deposits which underlie dune sand are not capped by the SVA and therefore do not match the traditional description of the 180-Foot Aquifer.

Facies: Some authors have defined the 180-Foot Aquifer in terms of facies. According to Reading (1996) "a facies is a distinctive rock unit that forms under certain conditions of sedimentation, reflecting a particular process or environment." Authors who have described the 180-Foot Aquifer as a sedimentary facies have associated the 180-Foot Aquifer with Salinas River fluvial deposits which were deposited in the pre-Holocene Salinas Valley. Some authors have extended the 180-Foot Aquifer across facies changes.

A "facies change" is a lateral or vertical variation in lithologic or paleontologic characteristics of contemporaneous sedimentary deposits. It is caused by, or reflects, a change in depositional environment" (Neuendorf et al., 2005). For example, in a fluvial system, the center of a river channel may contain sand and gravel while the edges of the river may contain silt and clay deposited in quiet water conditions. A facies change, or change in the sedimentary environment, occurs within the same

[5] Foraminifera (foraminifers or, informally, just forams) are single-celled organisms (amoeboid protists) with shells (plankton).

time-stratigraphic unit. Therefore, including various facies changes in the 180-Foot Aquifer is appropriate. The terrace deposits which underlie the CEMEX property are not a facies change within the fluvial sediments which contain the 180-Foot Aquifer since they represent a different time-stratigraphic unit. The terrace deposits are older and are in erosional contact within the various fluvial facies which contain the 180-Foot Aquifer.

Groundwater-flow system: Under pre-development conditions, groundwater flowed horizontally toward Monterey Bay both within the Salinas Valley and within the Dune Highland area in the vicinity of CEMEX. Under post-development conditions, a reversal in groundwater gradient has resulted in groundwater flowing from Monterey Bay inland, causing seawater intrusion. The groundwater flow systems will cross different facies as well as different time-stratigraphic units. The terrace deposits are likely in hydraulic continuity with the 180-Foot Aquifer. Therefore, groundwater flow will occur across the erosional contact from the 180-Foot Aquifer into the terrace deposits (referred to here as the 180-Foot Equivalent Aquifer, or 180-FTE Aquifer) and vice-versa. The degree of flow between the aquifers will be assessed during the test slant well program.

Institutional: The boundaries of the 180-Foot Aquifer may be defined or implied by legislation or ordinances. It is duly recognized that institutional boundaries have been prepared based on the historical conceptual models of the regional hydrogeology and based on the historical data available. For purposes of this document, the alluvial materials encountered near the coast (in the CEMEX area) are based solely on analyses of borehole samples (and geophysical borehole logs). As of yet, no direct correlation can be made between these coastal alluvial deposits and the standard naming convention found further inland (e.g., 180-Foot Aquifer, 400-Foot Aquifer, SVA, etc.). Therefore, in this document, the upper materials have been classified as the Dune Sand Aquifer and the alluvial materials below have been referred to as stratigraphically equivalent to the inland 180-Foot Aquifer (or 180-FTE Aquifer) and should not be construed to alter institutional interpretations.

4.6.4 180-Foot Equivalent Aquifer (Terrace Deposits)

The terrace deposits are water bearing materials beneath the Dune Sand Aquifer in the CEMEX area. The terrace deposits are approximately 160 ft thick at the CEMEX site, thinning seaward. Hydraulic conductivity values are lower than those attributed to the 180-Foot Aquifer. Based on the data collected in this study, the terrace deposits are interpreted to be stratigraphically equivalent to the 180-Foot Aquifer of the Salinas Valley, and may likely be in hydraulic continuity with the 180-Foot Aquifer. Therefore, for the purposes of this investigation, the aquifer interval within the terrace deposits is referred to as 180-Foot Equivalent (180-FTE) Aquifer. The 180-FTE Aquifer is believed to be in hydraulic continuity with the overlying Dune Sand Aquifer; both units extend seaward beneath Monterey Bay and have similar water quality.

4.6.5 Salinas Valley Aquitard

The SVA consists of discontinuous layers of clays ranging in thickness from 0 to 100 ft. It defines the Pressure Area from Chualar to the coast. In the inland areas, the SVA is generally present overlying the 180-Foot Aquifer, separating the 180-Foot Aquifer from the Perched "A" Aquifer (discussed below). The SVA is present beneath the Moss Landing area but not beneath the CEMEX site.

4.6.6 Dune Sand Aquifer

The Dune Sand Aquifer is present beneath the CEMEX site and represents the water bearing units of both the Younger and Older Dune Sand. Based on groundwater quality data collected at the CEMEX site, and the absence of the SVA, the groundwater in the Dune Sand Aquifer is believed to be hydraulically connected to the underlying 180-FTE Aquifer (terrace deposits). The high salinity suggests that the Dune Sand Aquifer is also connected to the ocean. According to HLA (2001), the Dune Sand Aquifer is hydrostratigraphically equivalent to the Perched "A" Aquifer. Work completed by Emcon (1991) for the Marina Peninsula Class III Landfill suggests that there are multiple perched aquifers within the Older Dune Sand. The aquifer designated as the -2 Foot Aquifer at the landfill appears to correlate with the Perched "A" Aquifer of the Salinas Valley. Recent groundwater levels for the -2 Foot Aquifer are shown on Cross-Section 1-1' (Figure 7a).

4.6.7 Perched "A" Aquifer

The Perched "A" Aquifer is found within the Salinas Valley overlying the SVA. According to HLA (2001), an equivalent unit designated as the "A-aquifer" is found exclusively in the Older Dune Sand beneath the former Fort Ord. This relationship further suggests that groundwater within the Perched "A" Aquifer in the Salinas Valley may be hydraulically connected to the groundwater found in the Older Dune Sand.

4.7 Hydrostratigraphic Interpretation of CEMEX Borehole Data

The CEMEX borings encountered groundwater from slightly below ground surface to the bottom of each borehole. The Dune Sand Aquifer is present to a depth of approximately 90 ft bgs. Groundwater quality data indicates that TDS concentrations for the Dune Sand Aquifer range from approximately 4,800 mg/L inland to 27,000 mg/L near the ocean.

Terrace deposits in the 180-FTE Aquifer underlie the Dune Sand Aquifer and consist of a range of fluvial lithologic units, including thin gravel channels and laminated silt and very fine sand deposits. The base of the terrace deposits appears to be marked by a transition to thicker clay units (10-15 ft thick) with interbedded sand and gravel units (about 10-ft thick) above a distinct "blue" clay layer. TDS concentrations in this unit vary from 16,000 mg/L to near sea water (32,000 mg/L). TDS concentrations

in the terrace deposits appear to be similar to those in the Dune Sand Aquifer. The high and low values of TDS appear to represent groundwater within more isolated channels and lenses within the unit.

The units below the "blue" clay[6] are interpreted to be the 400-Foot Aquifer within the Aromas Sand. TDS concentrations obtained from two isolated zones in this aquifer were approximately 25,000 mg/L to 30,000 mg/L. Table 4-4 below provides a summary of water quality by geologic unit. The TDS concentrations with depth and by geologic unit are shown on Figures 7a and 7b. A detailed discussion of groundwater quality is provided in Section 5.

Table 4-4. Summary of Laboratory Water Quality Results from Boreholes at CEMEX

TDS Concentrations by Zone	Borehole CX-B1 WQ					
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Depth (ft bgs)	274-284	237-247	182-192	134-144	84-94	51-61
TDS (mg/L)	**25,200**	**14,600**	**35,600**	**26,500**	**27,400**	**24,800**
TDS Concentrations by Zone	Borehole CX-B2 WQ					
	Zone 1	Zone 2	Zone 3	Zone 4		
Depth (ft bgs)	215-225	160.5-170.5	104-114	55-65		
TDS (mg/L)	**26,500**	**16,200**	**26,800**	**26,700**		
TDS Concentrations by Zone	Borehole CX-B4					
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	
Depth (ft bgs)	306-316	248-258	155-165	110-120	58-68	
TDS (mg/L)	**29,800**	**27,200**	**20,500**	**24,000**	**4,815**	

4.8 Hydrostratigraphic Interpretation of Moss Landing Boreholes Data

A total of seven borings were drilled in the Moss Landing study area. Figure 8 and Figure 9 are geologic cross-sections constructed from borehole data, and were used to interpret the subsurface stratigraphic and hydrostratigraphic relationships in the Moss Landing area. Cross-Section 2-2' is drawn perpendicular to the shoreline and makes use of the lithologic log from Boring PR-1 and mapped surface geology. The geologic relationships depicted include recent alluvium and older alluvium containing the

[6] The "blue clay" refers to a distinct lithologic unit encountered in CEMEX borings that was dark greenish gray, a Munsell color of 5GY 3/1. Munsell soil color charts are commonly used in the industry to describe soil colors.

Perched "A" Aquifer, SVA, and the 180-Foot Aquifer present beneath the Salinas River in erosional contact with older alluvial fan deposits located on the northern portion of the Salinas Valley. This relationship was reported by Tinsley (1975) for the area around Salinas and indicates that the aquifers in the Salinas Valley may be in hydraulic connection with groundwater in terrace and alluvial fan deposits. The older alluvial deposits and alluvial fan deposits overlie the Aromas Sand which contains the 400-Foot Aquifer.

Cross-Section 3-3' is drawn parallel to the shoreline and extends from Moss Landing south to the City of Marina. Cross Section 3-3' makes use of the lithologic logs from Boreholes MDW-1, PR-1, ML-1, ML-2, and ML-6. Further south, borehole information from previous studies and driller's logs and data recently collected from CEMEX were used to construct the cross-section. The cross-section depicts a thicker sequence of recent alluvium consisting of permeable sand and gravel material present at depths between 58 ft and 139 ft bgs in PR-1. In the Moss Landing area, the recent alluvium is interbedded with silt, silty sand, and clay. To the south of Boring PR-1, the permeable deposits encountered in Boring PR-1 decrease in thickness and pinch out and the Older Alluvium which contains the SVA and the 180-Foot Aquifer is in erosional contact with the terrace deposits. The alluvial deposits are channel and floodplain deposits near the mouth of the Salinas River. The alluvium is underlain by older alluvium which contains the SVA, and the underlying 180-Foot Aquifer. The 180-Foot Aquifer is cut off to the north by clay gorge fill reported by DWR (1973) associated with Elkhorn Slough.

Table 4-5 below summarizes basic groundwater quality data for the Moss Landing borings. The zones above approximately 100 ft bgs had TDS concentrations ranging from freshwater (423 mg/L) to near seawater (29,000 mg/L). Borings ML-2, ML-3 ML-4 contained brackish water (approximately 5,000 mg/L to 9,000 mg/L). With the exception of Zone 1 from ML-3, the lower zones consistently contained high TDS concentrations ranging from approximately 19,000 mg/L to 34,000 mg/L (ML-6). A detailed discussion of groundwater quality is provided in Section 5.

Table 4-5. Summary of Laboratory Water Quality Results from the Moss Landing Borings

Water Quality Parameters	MDW-1				PR-1		ML-1	
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 1	Zone 2	Zone 1	Zone 2
Depth (ft bgs)	237-247	187-197	152-162	60-70	190-200	125-135	113.5-118.5	90-100
TDS (mg/L)	**31,000**	**30,200**	**26,600**	**21,900**	**630**	**34,000**	**22,000**	**3,200**
Water Quality Parameters	**ML-2**		**ML-3**		**ML-4**		**ML-6**	
	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1	Zone 2
Depth (ft bgs)	167-177	90-100	180-190	103-113	163.5-173.5	74.5-84.5	152-162	100-110
TDS (mg/L)	**19,000**	**8,100**	**7,400**	**4,200**	**21,000**	**8,600**	**34,000**	**28,000**

4.9 Updated Conceptual Model

The geologic and hydrogeologic data collected during this investigation was used to prepare the interpretations of hydrostratigraphic relationships in the Moss Landing and CEMEX areas. A conceptual model of the hydrostratigraphic units in the Moss Landing to CEMEX area as interpreted from data collected from this investigation is shown on Figure 4-2.

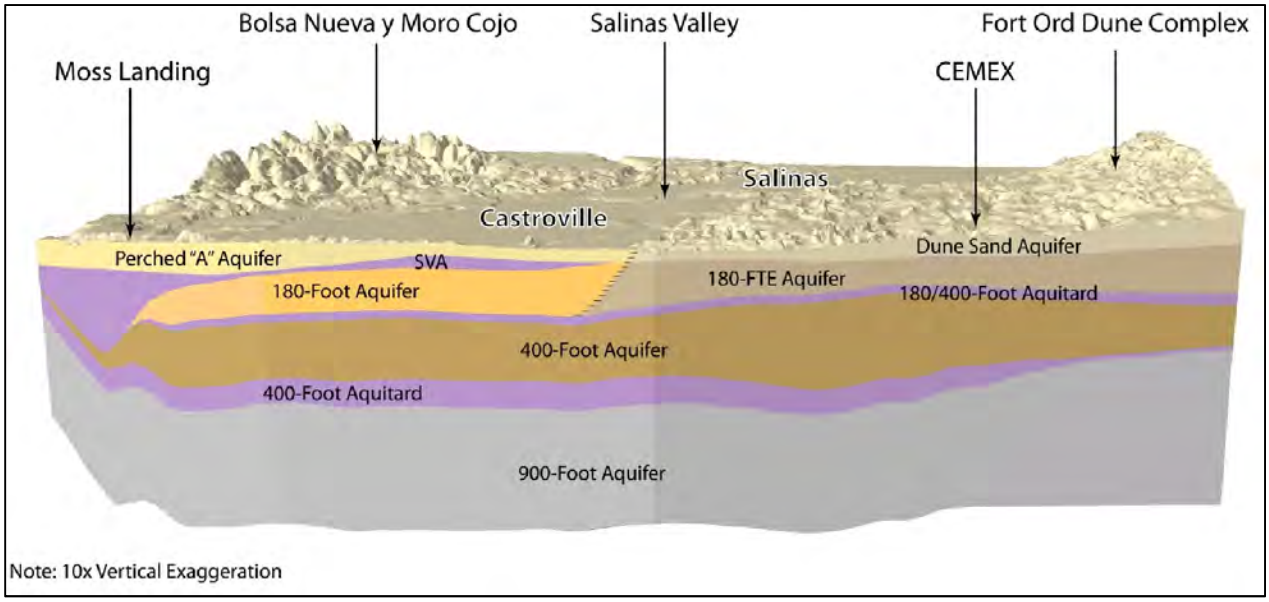


Figure 4-2. Hydrostratigraphic Model Moss Landing to CEMEX Area

5.0 GROUNDWATER QUALITY

5.1 General

5.1.1 Groundwater Levels

Groundwater was encountered in all of the borings drilled during this investigation. Groundwater levels were not established with certainty during this investigation. The groundwater level was measured in the well casing after aquifer zone testing if the zone was left over night to allow full recovery after pumping. In some cases, the zones were removed at the end of pumping to allow for construction of a subsequent zone or for borehole destruction to move the drilling rig to the next location. The installation of permanent monitoring wells during the next phase of investigation will allow an accurate evaluation of groundwater elevations. Table 5-1 below provides groundwater level measurements (depth in ft, bgs) from most of the zones. These are provided as an estimate of depth to water encountered in the temporary well (zone) but may vary with tidal influences or seasonally. In general, the depth to water measured in the boreholes reflects a groundwater surface elevation at or near sea level.

Table 5-1. Depth to Water from Isolated Aquifer Test Zones

	Depth to Water (ft bgs)					
Borehole	**Zone 1**	**Zone 2**	**Zone 3**	**Zone 4**	**Zone 5**	**Zone 6**
Moss Landing						
PR-1	-	-				
ML-1		3.6				
ML-2	3.3	1.6				
ML-3	12.57	10.86				
ML-4	28.68					
ML-6	8.09	9.58				
MDW-1	20.8	19.2	20.9	14.65		
CEMEX						
CX-B1WQ	26		19.53	21.5	19.3	19.9
CX-B2WQ	28.4	26.31	24.3	24.7		

5.1.2 Groundwater Sampling and Analysis

Groundwater samples collected from the isolated aquifer zone tests were submitted for laboratory analysis. Table 5-2 lists the suite of analyses conducted on each sample. The results of the water quality and age dating analyses will partially form the basis for the interpretations of the hydrogeology in the study area discussed in the sections below. The laboratory analytical data are summarized in Table 3a

and Table 3b. Copies of the field data sheets used to record field parameters during zone testing are provided in Appendix G.

Table 5-2. Water Quality Analyses for Exploratory Boreholes

Constituent	Units	Method Reporting Limit	Method
Physical Properties			
Color	Color Units	3	SM 2120B/EPA 110.2
Odor	T.O.N.		EPA 140.1
Oxidation-Reduction Potential (Field)	mV	-	Field Meter - Myron L 6PII
pH (Lab)	Units	0.1	SM 4500 H+B
pH (Field)	Units	-	Field Meter - YSI Pro Plus
Turbidity (Laboratory)	NTU	0.2	EPA 180.1/SM 2130B
Turbidity (Field)	NTU	-	Field Meter - Hach 2100P
Temperature (Field)	°C	-	Field Meter - YSI Pro Plus
Dissolved Oxygen (Field)	mg/L	-	Field Meter - YSI Pro Plus
Silt Density Index (Field)	-	-	ASTM D4189-07
Threshold Odor Number	T.O.N.	1	EPA 140.1/SM 2150
Total Dissolved Solids (Lab)	mg/L	10	SM 2540 C
Total Dissolved Solids (Field)	mg/L	-	Field Meter - YSI Pro Plus
Specific Conductance (Lab)	µmhos/cm	1	SM 2510 B
Specific Conductance (Field)	µS/cm	-	Field Meter - YSI Pro Plus
General Minerals			
Total Cations	meq/L	-	Calculation
Total Anions	meq/L	-	Calculation
Alkalinity as $CaCO_3$	mg/L	3	SM 2320 B
Bicarbonate Alkalinity as HCO_3	mg/L	3	SM 2320 B
Carbonate Alkalinity as $CaCO_3$	mg/L	3	SM 2320 B
Hydroxide Alkalinity as $CaCO_3$	mg/L	3	SM 2320 B
Total Hardness as $CaCO_3$	mg/L	3	Calculation
Aluminum	µg/L	1	EPA 200.7
Arsenic	µg/L	1	EPA 200.7 / EPA 200.8
Barium, Dissolved	µg/L	0.01	EPA 200.7
Boron, Dissolved	µg/L	0.5	EPA 200.8

Bromide, Dissolved	mg/L	0.1	EPA 326.0
Calcium, Dissolved	mg/L	1	EPA 200.7
Chloride, Dissolved	mg/L	1	EPA 300.0
Copper, Total	µg/L	50	EPA 200.7
Fluoride, Dissolved	mg/L	0.1	EPA 300.0 / SM 4500 FC
Iodide, Dissolved	mg/L	0.1	USGS I-2371 / EPA 9056A
Iron, Dissolved	µg/L	100	EPA 200.7 / EPA 200.8
Iron, Total	µg/L	100	EPA 200.7 / EPA 200.8
Lithium	µg/L	10	EPA 200.7 / EPA 6010B
Magnesium, Dissolved	mg/L	1	EPA 200.7
Manganese, Dissolved	µg/L	20	EPA 200.7 / EPA 200.8
Manganese, Total	µg/L	20	EPA 200.7 / EPA 200.8
MBAS	mg/L	0.05	SM 5540 C / EPA 200.8
Nitrogen, Nitrate as NO_3	mg/L	1	EPA 353.2 / EPA 300.0
Nitrogen, Nitrite, Dissolved	mg/L as N	1	SM 4500 NO_2B
Nitrogen, NO_2 + NO_3	mg/L as N	1	EPA 300.0
Nitrogen, Ammonia, Dissolved	mg/L as N	0.1	SM 4500 NH_3H / EPA 350.1
Nitrogen, Ammonia + Organic, Diss. (TKN)	mg/L as N	0.1	EPA 351.2
Phosphorus, Dissolved	mg/L as P	0.01	EPA 365.3
Phosphorus, ortho, Dissolved	mg/L as P	0.01	EPA 365.3
Potassium, Dissolved	mg/L	1	EPA 200.7
Silica, Dissolved	mg/L	1	SM 4500 SiE
Sodium, Dissolved	mg/L	1	EPA 200.7
Strontium, Dissolved	mg/L	0.1	EPA 200.7 / EPA 200.8
Sulfate as SO_4, dissolved	mg/L	0.5	EPA 300.0
Zinc, Total	µg/L	50	EPA 200.7
Radiology / Age Dating Methods			
Delta-Deuterium	δ^2H	-	TC/EA/IRMS
Delta Oxygen-18	$\delta^{18}O$	-	TC/EA/IRMS
Tritium	TU	-	-
Tritium, prec. est.	TU	-	-
Volatile Organic Compounds			
VOCs plus Oxygenates (MTBE)	µg/L	varies	EPA 524.2
EPA Organic Methods			
EDB and DBCP	µg/L	varies	EPA 504.1
Chlorinated Pesticides & PCB's as DCP	µg/L	varies	EPA 508
Chlorinated Acid Herbicides	µg/L	varies	EPA 515
Nitrogen & Phosphorus Pesticides DEHP, DEHA, Benzo(a)Pyrene	µg/L	varies	EPA 525

Carbamates	µg/L	varies	EPA 531.1
Glyphosate	µg/L	varies	EPA 547
Endothall	µg/L	varies	EPA 548.1
Diquat	µg/L	varies	EPA 549.1
Dioxin (2,3,7,8 TCDD)	µg/L	varies	EPA 1613

NTU = Nephelometric Turbidity Units
mg = Milligram
µS = Microsiemens

Due to time constraints, the need to work through weekends, and the need to submit samples to laboratories on the weekend, several laboratories were used for the analytical work. In addition, specialist laboratories were used for age dating using the tritium and oxygen/deuterium isotope analyses. The following are the State Certified Laboratories and specialist laboratories used for analytical testing.

- BSK Associates
- Ceres Analytical Laboratory
- Maxxam Analytics
- Monterey Bay Analytical Services
- Pace Analytical
- SIRFER Stable Isotope Ratio Facility for Environmental Research (University of Utah)
- Weck Laboratories, Inc.
- GEOCHRON Laboratories
- McCampbell Analytical, Inc.

5.2 Groundwater Quality - CEMEX Area

Lithologic, geophysical, and groundwater quality data was collected from borings drilled at the CEMEX facility. The geologic data and geophysical data were used with other published data and driller's logs to construct Cross-Section 1-1' (see Figures 7a and 7b). The cross-section extends from offshore, eastward, through the CEMEX facility and the Monterey Peninsula Landfill into the Salinas Valley. The stratigraphic relationships indicate that groundwater aquifers beneath the CEMEX facility are present in the Younger and Older Dune Sand, in terrace deposits below the Dune Sand, and in what is interpreted as Aromas Sand (?) below the terrace deposits. The terrace deposits are separated from the underlying Aromas Sand (?) by a distinct "blue" clay unit which suggests a change in depositional environment at an elevation of approximately -220 ft amsl. The groundwater present in the terrace deposits appears to be hydrostratigraphically equivalent to the 180-Foot Aquifer is therefore termed 180-FTE Aquifer to be consistent with the nomenclature used in this region. As interpreted, the 180-FTE Aquifer transitions

eastward and is in erosional contact with the older alluvium (which contains the 180-Foot Aquifer) in the Salinas Valley. The sedimentary transition eastward towards the Salinas Valley is shown in Figure 7a. The 180-FTE and 180-Foot Aquifers, although depositionally and chronologically different, are hydrostratigraphically equivalent. The degree of hydrostratigraphic equivalence will be evaluated by the long-term test slant well aquifer testing program.

Table 5-3 summarizes TDS concentrations by depth and interpreted hydrostratigraphic unit at CEMEX. TDS concentrations in the Dune Sand Aquifer range from approximately 28,000 mg/L near the shore to approximately 4,800 mg/L inland in the vicinity of the CEMEX Office (see Figure 3).

Table 5-3 Summary of Water Quality by Hydrostratigraphic Unit-CEMEX

Hydrostratigraphic Unit	CX-B1WQ			CX-B2WQ			CX-B4		
	Zone	Depth(ft, bgs)	TDS (mg/L)	Zone	Depth(ft, bgs)	TDS (mg/L)	Zone	Depth(ft, bgs)	TDS (mg/L)
Dune Sand Aquifer	6	51-61	24,452	4	55-65	26,700	5	58-68	4,815
	5	84-94	28,111						
180-FTE	4	134-144	26,921	3	104-114	26,800	4	110-120	24,000
	3	182-192	32,034	2	160.5-170.5	16,200	3	155-165	20,500
180-400-Aquitard (?)	2	237-247	16,122						
400-FT Aquifer	1	274-284	24,888	1	215-225	26,500	2	248-258	27,200
							1	306-316	29,800

This condition indicates that the Dune Sand Aquifer is directly influenced by the ocean. This influence decreases inland where the infiltration of precipitation and applied agricultural water provide the greater influence.

Groundwater in the 180-FTE Aquifer ranges in TDS concentration, from approximately 16,000 mg/L to approximately 32,000 mg/L. The TDS concentration is generally consistent from the near shore area to the inland area near the CEMEX office. This condition indicates that surface water does not influence the TDS concentration and that the groundwater is influenced by seawater intrusion. The old CEMEX well was reportedly screened in the 180-FTE Aquifer and was abandoned due to high TDS content. However, the driller's log shows that the well was perforated from 246 to 506 ft bgs, which would have placed the perforations in the 400-Foot Aquifer based on the current interpretation. Similar TDS concentrations in the Dune Sand Aquifer within at least 1,500 ft of the shore and the underlying 180-FTE Aquifer, suggest that the two aquifers are in hydraulic connection. In addition, the range of TDS concentrations in the lower portion of the 180-FTE Aquifer suggests that groundwater is present in sediment lenses that may be more isolated from each other and potentially locally isolated from the overlying aquifers.

The Dune Sand Aquifer and upper portion of the 180-FTE Aquifer contain groundwater that is enriched in calcium and strontium, suggesting that geochemical transformation from seawater intrusion has impacted the groundwater in approximately the upper 200 ft. The tritium analysis for samples from CX-B1WQ and CX-B2WQ is discussed in Section 5.8 and indicates that groundwater in the Dune Sand Aquifer is youngest, which is consistent with influence from rainfall and irrigation. The groundwater in the upper portion of the 180-FTE Aquifer may be slightly older and apparently has not had time for geochemical processes from seawater intrusion to impact the quality. The complete age dating analysis will be provided as an addendum to this technical memorandum.

The Dune Sand Aquifer extends seaward and merges with Holocene deltaic deposits beneath the seafloor of Monterey Bay. The base of the terrace deposits in the 180-FTE Aquifer also extend seaward and are unconformably overlain by the Holocene Deltaic deposits at an elevation of approximately -220 ft amsl.

5.3 Groundwater Quality - Moss Landing Area

The Moss Landing area is located at the mouth of the Salinas River, which overlies the 180/400-Foot Aquifer Subbasin. The six exploratory borings primarily penetrated fluvial sediments associated with Holocene Salinas River deposition.

The Perched "A" Aquifer is ascribed to the Holocene river alluvium and considered to be the hydrostratigraphic equivalent of the Dune Sand Aquifer located to the south. The Perched "A" Aquifer in the Moss Landing area is composed of interbedded river and floodplain deposits. With the exception of the sediments penetrated in Boring PR-1, individual sand and sand and gravel lenses do not appear to be either vertically or areally extensive. Significant variations in TDS concentrations suggest that fresh groundwater is mixed with seawater, and is likely present in semi-isolated lenticular deposits.

Table 5-4 provides a summary of TDS concentrations by hydrostratigraphic unit in the Moss Landing area. TDS concentrations in the Perched "A" Aquifer appear to be influenced by fresh or brackish water in the Moss Landing Harbor area, as indicated by TDS concentrations ranging from 3,200 mg/L to 8,600 mg/L in Borings ML-1, Ml-2, ML-3 and ML-4 located near waterways. Groundwater samples from Borings MDW-1, PR-1 and ML-6 were at near seawater quality, reflecting proximity to the ocean.

Boring PR-1 penetrated a very permeable unit in the Perched "A" Aquifer between 58 ft to 139 ft bgs. Groundwater in this zone interval approximated seawater quality (i.e., 34,000 mg/L TDS). It is interpreted that the lowest portion of Boring PR-1 penetrated the SVA. Very low TDS concentrations (630 mg/L) encountered in the lowest zone in Boring PR-1 suggests that isolated zones of freshwater

may exist within the 180-Foot Aquifer or that the sand unit is laterally discontinuous and may be interbedded with the SVA. In this last interpretation, Boring PR-1 did not completely penetrate the SVA.

Table 5-4. Summary of Water Quality by Hydrostratigraphic Unit- Moss Landing

Hydrostratigraphic Unit	MDW-1			PR-1			ML-1		
	Zone	Depth(ft, bgs)	TDS (mg/L)	Zone	Depth(ft, bgs)	TDS (mg/L)	Zone	Depth(ft, bgs)	TDS (mg/L)
Perched A Aquifer	4	60-70	21,900						
				2	125-135	34,000	2	90-100	3,200
							1	113.5-118.5	22,000
180-FT Aquifer	3	152-162	26,600						
	2	187-197	30,200						
	1	237-247	31,000	1	190-200	630*			

Hydrostratigraphic Unit	ML-2			ML-3			ML-4			ML-6		
	Zone	Depth(ft, bgs)	TDS (mg/L)	Zone	Depth(ft, bgs)	TDS (mg/L)	Zone	Depth(ft, bgs)	TDS (mg/L)	Zone	Depth(ft, bgs)	TDS (mg/L)
Perched A Aquifer	2	90-100	8,100	2	103-113	4,200	2	74.5-84.5	8,600	2	100-110	28,000
	1	167-177	19,000	1	189-190	7,400	1	163.5-173.5	21,000	1	152-162	34,000

*Groundwater from Zone of PR-1 may be contained in an isolated zone within the SVA

Boring MDW-1 penetrated the 180-Foot Aquifer. Groundwater collected from three depth intervals within the 180-Foot Aquifer had TDS concentrations close to seawater.

5.4 Determining Average Central California Coast Seawater Quality

Average salinity estimates for the central California coastal region were established based on historical salinity measurements taken at the Granite Canyon monitoring station operated by the Moss Landing Marine Laboratory (Shore Stations Monitoring Program, 2014). Daily salinity measurements were made based on samples collected near the intake for the Marine Pollution Studies Laboratory. An average 33.69 Practical Salinity Units (PSU) salinity was calculated from the Granite Canyon monitoring data based on the average of daily salinity measurements from January 1986 through January 2011.

The composition of major chemical constituents in central California coastal seawater was then calculated from the major chemical constituent concentrations in standard seawater (JGOFS, 1997) multiplied by the ratio of the average local salinity (approximately 33.69) to standard seawater salinity (approximately 35.17). Standard seawater composition and average central California coastal seawater composition is listed in Table 5-5.

Table 5-5. Standard Seawater and Central California Coast Seawater

Parameter	Units	Mean Seawater Values	Central California Coast Average Seawater Values **
Total Dissolved Solids	mg/L	35,176	33,694
Salinity	PSU*	35.17	33.69
Potassium	mg/L	399	382
Sodium	mg/L	10,784	10,329
Magnesium	mg/L	1,284	1,230
Calcium	mg/L	412	395
Strontium	mg/L	7.9	7.57
Bicarbonate	mg/L	108	103
Chloride	mg/L	19,352	18,537
Fluoride	mg/L	1.3	1.25
Sulfate	mg/L	2,712	2,598
Total Boron	mg/L	4.55	4.35
Bromide	mg/L	67.3	64.5

* PSU = Practical Salinity Unit

** Ocean water composition calculated from mean salinities measured at the Granite Canyon Monitoring Station by Moss Landing Marine Laboratories. Average Salinity based on 1988 – 2011 monitoring data.

5.5 Borehole Water Quality Results

Table 5-6 lists the boreholes where water quality samples were collected and the corresponding depth intervals, measured TDS, and calculated TDS. Complete water quality analysis from borehole testing is included in Appendix G. Measured TDS values listed in Table 5-6 were determined using Standard Method 2540, and the calculated TDS values were determined from the water quality analysis for each borehole. Calculated water quality included bicarbonate and all other major and minor ions. Trilinear groundwater plots for the water quality data from CEMEX borings (Boring CX-B1WQ, CX-B2WQ, and CX-B4) are presented on Figure 10. Trilinear groundwater plots for the water quality data from the Moss Landing borings (ML-1, ML-2, ML-3, ML-4, ML-6, PR-1, and MDW-1) are presented on Figure 11. The water quality from the CEMEX borings and the Moss Landing borings plot similarly, suggesting a common source water.

Table 5-6. Comparison of Measured TDS and Calculated TDS for Borehole Water Quality Samples

Zone	Depth Interval (ft)	Measured Total Dissolved Solids mg/L	Calculated Total Dissolved Solids mg/L	Agreement Between Calculated and Measured TDS % Difference
CEMEX Boreholes				
CX-B1WQ-1	274-284	25,200	24,606	-2.4%
CX-B1WQ-2	237-247	14,600	15,177	3.8%
CX-B1WQ-3	182-192	35,600	32,719	-8.8%
CX-B1WQ-4	134-144	26,500	25,547	-3.7%
CX-B1WQ-5	84-94	27,400	26,458	-3.6%
CX-B1WQ-6	51-61	24,800	23,663	-4.8%
CX-B2WQ-1	215 - 225	26,500	23,041	-15.0%
CX-B2WQ-2	161 - 171	16,200	12,599	-28.6%
CX-B2WQ-3	104 - 114	26,800	24,790	-8.1%
CX-B2WQ-4	55 - 65	26,700	25,153	-6.2%
CX-B4-1	306 - 316	29,800	25,130	-18.6%
CX-B4-2	248 - 258	27,200	25,072	-8.5%
CX-B4-3	155 - 165	20,500	18,293	-12.1%
CX-B4-4	110 - 120	24,000	19,744	-21.6%
CX-B4-5	58 - 68	4,815	3,884	-24.0%
Moss Landing Boreholes				
ML-1-1	113.5-123.5	22,000	21,399	-2.8%
ML-1-2	90-100	3,200	3,094	-3.4%
ML-2-1	167-177	19,000	21,870	13.1%
ML-2-2	90-100	8,100	6,872	-17.9%
ML-3-1	180-190	7,400	6,732	-9.9%
ML-3-2	103-113	4,200	4,229	0.7%
ML-4-1	163.5-173.5	21,000	18,542	-13.3%
ML-4-2	74.5-84.5	8,600	8,002	-7.5%
ML-6-1	152-162	34,000	33,230	-2.3%
ML-6-2	100-110	28,000	28,580	2.0%
PR-1-1	190-200	630	760	17.1%
PR-1-2	125-135	34,000	33,767	-0.7%
MDW-1-1	237 - 247	31,000	28,789	-7.7%
MDW-1-2	187 - 197	30,200	29,778	-1.4%
MDW-1-3	152 - 162	26,600	24,772	-7.4%
MDW-1-4	60 - 70	21,900	20,814	-5.2%

5.6 Distinguishing Water Quality from Upper and Lower Aquifers

One of the objectives of the sampling effort was to determine if water quality measured in the upper aquifers could be distinguished from that in the lower aquifers. Several water quality analytical and age dating methods were used to aid in differentiating the upper aquifers from the lower aquifers. Vengosh (2002) used ratios of calcium, magnesium, and lithium to evaluate the source of increased salinity in the Salinas Valley. The methods employed by Vengosh were applied to the water quality samples collected for this investigation. The results are discussed below.

Groundwater samples collected were analyzed for tritium content for determining relative age as well as oxygen ($\delta^{18}O$) and hydrogen ($\delta^{2}H$) isotopes to evaluate the relative contribution of different source waters. The results of these analyses are discussed in Section 5.8 and 5.7.3, respectively.

5.7 Evaluation of Source Waters

5.7.1 CEMEX Boreholes

Prior work in Salinas Valley and coastal central California by Vengosh (2002) had evaluated the geochemical interactions, which occur when seawater intrudes into inland aquifers. When compared to the local seawater values, shifts in some chemical constituents including calcium, sodium, strontium, and boron occur in intruded seawater. Vengosh reported that intruded seawater had enriched ratios of calcium, magnesium, and lithium when compared to those seen in standard seawater.

Water quality data from CEMEX boreholes were analyzed by comparing chloride ratios of the major ion groups with those of standard seawater for the central California coastal region. Chloride is used as a reference in these comparisons, as it is generally conservative and has not been reported to undergo water/rock exchange reactions. Figures 12 through 18 show the ratios of chloride to TDS, Sodium, Calcium, Sulfate, Bromide, Boron, and Strontium measured at different depths in CEMEX borehole CX-B1WQ, CX-B2WQ-1, and CX-B4-1. The dashed line shown in each figure represents the ratio of chloride to the given ion based on the average ocean water values measured for the central California coast (see Table 5-3).

TDS levels in CX-B1WQ zones 1, 4, 5, and 6 are similar (approximately 23,000 to 26,000 mg/L) whereas Zone 2 is substantially lower (15,177 mg/L) and Zone 3 is substantially higher at 32,700 mg/L (see Table 5-3). The chloride/TDS ratio in all six of the zones measured in CEMEX Borehole CX-B1 generally corresponds to diluted seawater (Figure 12). With the exception of Zone 2, chloride/TDS ratios from CX1-B2WQ are similar and tightly clustered around 25,000 mg/L TDS. Each of the zones sampled in Borehole CX-B4 is consistent with diluted seawater ratios for chloride/TDS over a range of TDS values ranging from approximately 4,000 mg/L in the upper zone to 25,000 mg/L in the two lower zones (Figure 12).

When comparing the relative ratios of chloride/sodium and chloride/calcium for Boreholes CX-B1WQ, CX-B2WQ, and CX-B4, there is a clear departure from the local seawater ratios for most of the borehole zones sampled. Figure 13 shows that sodium is comparably depleted in borehole water samples as the chloride/sodium ratios are generally below the local seawater ratio. The relative depletion in sodium is greater in the lower zone samples of all three boreholes as compared to the upper zones (Figure 13). Chloride/calcium ratios shown on Figure 14 indicate that calcium enrichment has occurred as chloride/calcium ratios are well above the diluted seawater line. The trend in relative calcium enrichment is greater at lower zone and decreases in the upper zones for all three boreholes in the CEMEX area.

Figure 15 shows the relative depletion and enrichment of sodium and calcium in the three CEMEX area boreholes as calculated using the ΔCa and ΔNa values, which are determined based on the measured and calculated values based on the standard seawater ratio.

Calcium enrichment and sodium depletion was reported by Vengosh in intruded seawater and was attributed to a base-exchange reaction with clay minerals where calcium is exchanged with sodium between the solid and liquid phase. Figure 14 suggests that the shallower zones in Boreholes CX-B1WQ, CX-B2WQ, and CX-B4 have undergone less calcium enrichment and the lowermost zones have seen the highest amount of calcium enrichment relative to diluted seawater.

Figures 16 and 17 show the ratio of chloride/boron and chloride/strontium, respectively in the Cemex area boreholes. The boron and strontium ratios in the upper zones in Borehole CX-B1WQ (Zones 4, 5, and 6) have similar depletion magnitudes (with respect to Boron, Figure 16) and enrichment with respect to Strontium (Figure 17). Boreholes CX-B4 and CX-B2WQ shows a similar trend to that of CX-B1WQ where the lower zones show a greater departure from the seawater dilution line that the upper zones.

In summary, the results from Boreholes CX-B1WQ, CX-B2WQ, and CX-B4 suggest that the water from the shallower zones (above 144 ft) may be distinguished from water from the deeper zones even if they are at the same TDS level. Water from the deepest zone (274-284 ft) shows a marked distinction in the amount of calcium and strontium enrichment, and sodium depletion when compared to shallower zones. The difference in the amount of calcium and strontium enrichment and sodium depletion between the upper zones and lower zones in the CEMEX area boreholes is likely a function of the relative abundance of clay formation materials in the lower formation as well as groundwater age.

5.7.2 Moss Landing Boreholes

Moss Landing water quality analysis is discussed in two general regions; the Moss Landing Harbor area (Borings ML-1, ML-2, ML-3, ML-4, and ML-5) and the area south of Potrero Road (Borings PR-1 and MDW-1). Water quality samples were collected from a shallow and deep zone in each of the five boreholes drilled in the immediate Moss Landing area (ML boreholes). Results from water quality samples in the Moss Landing Area are listed in Table 5-6.

5.7.2.1 Moss Landing Harbor Area

Chloride ratios of the major ions were compared against the average coastal seawater values to determine if water quality from the upper and lower zones could be distinguished from each other.

TDS results for the Moss Landing boreholes show that the deeper zones in Boreholes ML-1, ML 2, and ML-4 have substantially higher TDS levels than the shallow zones. Borehole ML-3 and ML-6 both showed less variation between TDS measured in the upper and lower zones (Table 5 4).

Figure 19 shows the chloride/TDS ratios from water samples collected from the Moss Landing area boreholes. The dashed line on Figure 19 represents the chloride/TDS ratio of average diluted seawater along the central California coast. The TDS/chloride ratios measured in the Moss Landing boreholes are in relatively close agreement with the seawater dilution line, which indicates the water is consistent with intruded seawater, which has been diluted.

Relative sodium depletion and calcium enrichment is shown on Figure 20 and Figure 21. Results indicate that a relative enrichment of calcium and depletion of sodium has occurred, similar to trends seen in the CEMEX area boreholes. Figure 21 shows a comparison of the net calcium enrichment compared against the net sodium depletion where it can be seen that this phenomena is occurring to some extent in nearly all samples. These data do not show a clear trend with respect to relative enrichment values seen in the upper and lower samples in the ML boreholes.

Figures 22 and 23 show the ratios of chloride to boron and strontium. Enrichment and depletion relative to diluted seawater may also be seen in these constituents in the ML boreholes. The relative depletion of boron and enrichment of strontium in lower zones of the Moss Landing Area boreholes correlate with CEMEX area borehole results and suggest base ion exchange with underlying clay formation materials.

The chloride/sulfate ratios (Figure 24) are generally lower in the Moss Landing boreholes, which may indicate sulfate reduction or some other geochemical transformations are occurring.

Water quality data from the Moss Landing area boreholes do show similar geochemical transformations as seen in the CEMEX area, however, there is not a clear trend between the upper and lower zones in the ML- boreholes. Although a substantial difference in TDS between the upper and lower zones is seen in some of the ML- boreholes, the ratios of chloride to the other major ions do not show a reliable trend with respect to relative enrichment or depletion at the Moss Landing site.

5.7.2.2 Molera and Potrero Road Parking Lots, Salinas River State Beach

Water quality samples were collected from a shallow zone and deep zone at the Potrero Road borehole (PR-1) and from four zones at the Molera Parking Lot located approximately one mile south of the Potrero Road parking lot.

Water quality data for Borehole PR-1 show that the lower zone sample is fresh water (TDS = 630 mg/L) and the upper zone sample is consistent with undiluted seawater (TDS = 34,000 mg/L). When comparing the chloride/major ion ratios in the high TDS sample at Potrero Road, there is not a substantial enrichment or depletion with respect to local seawater ratios (see Figures 19 through 24). This indicates that the geochemical transformations of intruded seawater into freshwater, which results in enrichment or depletion, are not occurring at this site.

TDS values in the MDW-1 borehole ranged from approximately 21,000 mg/L in the lowermost zone to approximately 29,000 mg/L in the upper zone. With respect to relative sodium depletion and calcium enrichment, a clear trend (Figure 21 and 22) is seen in the MDW-1 borehole were relative sodium depletion increases from the lower zones to the upper zones

Ratios of chloride to boron and strontium (Figures 23 and 24) indicate that the uppermost zone in the MDW-1 borehole (MDW-1-4, 60'-70') is consistent with diluted seawater for chloride/boron ratios and chloride/strontium ratios. The lower zones in the MDW-1 borehole show a greater departure from the diluted seawater line as a function of depth.

The chloride/sulfate ratios (Figure 25) for the MDW-1 borehole samples show close agreement with the diluted seawater line suggesting that geochemical and/or biological sulfate transformations are not occurring.

5.7.3 Results of $\delta^{2}H$ and $\delta^{18}O$ Analysis

Stable isotopes of oxygen and hydrogen were analyzed in water samples collected from the CEMEX borehole (CX-B1WQ), Moss Landing boreholes, and Potrero Road borehole. Isotope data were measured for all borehole water quality samples collected except ML-1 Zone 1 and ML-1 Zone 2. Water quality samples from ML-1 were not collected because the samples containers were not made available by the firm responsible for the sampling. Isotopic results from Boreholes CX-B2WQ, CX-B4 and MDW-1 is forthcoming and will be provided as an addendum to this report when they are available. Table 5-7 lists the results of the available oxygen and hydrogen isotopic analyses for groundwater samples collected from CEMEX and Moss Landing.

Table 5-7. Results of Oxygen and Hydrogen Isotope Analyses

Borehole and Zone Designation	Delta-Deuterium (δ^2H) (‰)*	Delta-Oxygen 18 ($\delta^{18}O$) (‰)*
CX-B1WQ-1	-18.4	-2.6
CX-B1WQ-2	-29.1	-4.26
CX-B1WQ-3	-6.21	-0.84
CX-B1WQ-4	-14	-2.03
CX-B1WQ-5	-12	-1.56
CX-B1WQ-6	-15.1	-2.08
ML-2-1	-19.2	-3.07
ML-2-2	-37.6	-5.3
ML-3-1	-40.1	-6.04
ML-3-2	-43.6	-6.43
ML-4-1	-24.5	-3.57
ML-4-2	-35.9	-5.23
ML-6-1	-5.55	-0.59
ML-6-2	-11	-1.33
PR-1-1	-42.5	-6.35
PR-1-2	-3	-0.4

The ratio of $\delta^{18}O$ and δ^2H may be used in geochemical analysis to evaluate the relative contribution of different source waters (e.g., surface water and ground water) when evaluating water mixtures. The relative enrichment or depletion of a given source water with respect to δ^2H and $\delta^{18}O$ may be used as a "fingerprint". If there is a sufficient distinction between different water sources, then the relative contribution from a given source may be estimated.

Results from isotopic analyses of borehole water samples for the CEMEX borehole are shown in Figure 26 and results from the Moss Landing boreholes and Potrero Road borehole is shown in Figure 27. The $\delta^{18}O$ and δ^2H data in both Figures are plotted against the Global Meteoric Water Line (GMWL) for reference. Isotopic data are referenced to Vienna Standard Mean Ocean Water (VSMOW) values, which is shown as $\delta^{18}O$=0‰ and δ^2H=0‰ values on both plots.

Isotopic data measured at the CEMEX site and at Moss Landing show a linear trend with respect to $\delta^{18}O$ and δ^2H. At the CEMEX facility, $\delta^{18}O/\delta^2H$ data show a linear relationship with the upper end points corresponding to Borehole CX-B1WQ Zone 3, which had the highest TDS (32,700 mg/L) and Borehole CX-B1WQ Zone 2 which had the lowest TDS (14,600 mg/L) (see Figure 26). Data measured at Moss Landing were bracketed by endpoints corresponding to 4,200 mg/L and 33,200 mg/L TDS in Boreholes ML-3 Zone 2 and ML-6 Zone 1, respectively (see Figure 27).

Isotopic results from the relatively low TDS boreholes (Boreholes ML-3 Zone 2 and PR-1 Zone 1) indicate that groundwater has not undergone significant evaporation, or geochemical isotopic fractionation, as the values are near the GMWL. For both the CEMEX site and Moss Landing sites, the trend of the borehole data intercepts the GMWL at similar values (δ^2H values ranging from -46 ‰ to approximately -52 ‰), which suggests that the fresh groundwater, which is mixing with intruded seawater at the CEMEX facility, closely corresponds to the GMWL.

Isotopic values measured in samples CX-B1WQ Zone 3, ML-6 Zone 1, and PR-1 Zone 2 represent a local endpoint for intruded seawater, which varies slightly between the sites. Samples from PR-1 Zone 2 are closest to VSMOW values ($\delta^{18}O$ = -0.4 ‰ and δ^2H= -3.0 ‰) while ML-6 Zone 1 and CXB1WQ Zone 3 show slightly more depletion in both $\delta^{18}O$ and δ^2H with respect to VSMOW.

5.8 Results of Tritium Analysis

5.8.1 Background: Tritium Source and Interpretation

Tritium is the radioactive isotope of hydrogen, which is often used as a tracer to target young waters (less than about 50 to 60 years old) and to show if there is a presence of modern recharge. The reported half-life of tritium varies; the current recommended half-life is 12.32 years, but some sources use the older half-life of 12.43 years (Kazemi et al., 2006; Tritium Laboratory, 2010). Tritium is produced through the natural cosmic ray bombardment of nitrogen and deuterium in the upper atmosphere, through the natural neutron radiation of lithium in rocks (especially granitic rocks), and through certain anthropogenic activities.

One of the most important and significant sources of tritium is from thermonuclear tests which were conducted in the northern hemisphere by the United States, United Kingdom, and former Soviet Union beginning in 1952 and peaking around 1963-1964. Additional French and Chinese tests were also conducted in the late 1970s. At the northern hemisphere peak in 1963, the tritium concentrations arising from thermonuclear weapons were three orders of magnitude greater than natural tritium concentrations, which usually range between 3-10 TU in the northern hemisphere and 1-5 TU in the southern hemisphere (Kazemi et al., 2006; Happle, 2010). This bomb pulse tritium signature can be traced into the subsurface and is sometimes used to provide information on the rate of groundwater recharge. However, waters younger than the mid-1960s will not show the bomb tritium peak.

Most methods used for analyzing tritium content yield only qualitative or semi-quantitative results; the precise age cannot be determined. Much of the reason for this is caused by uncertainty due to spatial and temporal variations in initial tritium concentrations at the time of recharge. In addition, it is possible to get similar tritium results from waters recharged before and after the tritium peak. This non-uniqueness is another uncertainty that has to be taken into consideration when analyzing the tritium

results. The presence of tritium itself, however, indicates the presence of "young" water (i.e., less than about 50-60 years old) due to recharge, or possibly borehole leakage. Waters older than about the mid-1950s will generally yield values at or below the tritium detection level of 0.8 TU. The absence of tritium does not in itself necessarily indicate an absence of modern recharge. All groundwater samples from wells represent a mixture of water molecules that may have a very wide range of age distributions arising from differences in flow paths. Therefore, the reported concentrations represent some sort of an average that may be produced from the mixing of water of different ages.

Measured tritium concentrations are expressed in Tritium Units (TU) where one TU is the equivalent of one tritium atom (or one THO molecule) per 1018 atoms of hydrogen (or 1018 H2O molecules). Tritium concentrations are also commonly reported in terms of Tritium Ratios (TR), where 1TR = 1TU. One TU is also equivalent to 0.1181 Becquerel per kilogram (Bq/kg), where 1 Becquerel is equal to one decay per second (Tritium Laboratory, 2010).

5.8.2 Tritium Results CX-B1WQ and CX-B2WQ

Tritium samples were taken from all borings conducted during this investigation. Tritium results for the Moss Landing borings are being re-run using a different method to reduce the detection limits. The results from Moss Landing and Borehole CX-B4 from CEMEX will be provided as an addendum to this report. Groundwater samples were analyzed for tritium at Geochron Laboratories in Chelmsford, Massachusetts using a half-life of 12.43 years. The measured tritium concentrations from CX-B1WQ and CX-B2WQ are presented in Table 5-8.

Table 5-8. Results of Tritium Analyses – CX-B1 WQ and CX-B2WQ

Boring	Water Quality Zone Zone	Depth Interval (ft, bgs)	Tritium Activity [TU] units	Error [TU] units
CX-B1WQ	1	274-284	0.35	±0.09
CX-B1WQ	2	237-247	0.04	±0.09
CX-B1WQ	3	182-192	0.01	±0.09
CX-B1WQ	4	134-144	0.5	±0.09
CX-B1WQ	5	84-94	0.48	±0.09
CX-B1WQ	6	51-61	0.81	±0.09
CX-B2WQ	1	215-225	0.1	±0.09
CX-B2WQ	2	161-171	0.18	±0.09
CX-B2WQ	3	104-114	0.44	±0.09
CX-B2WQ	4	55-65	0.62	±0.09

These values are also displayed graphically on Figure 5-1 as the tritium concentration versus the average sample depth.

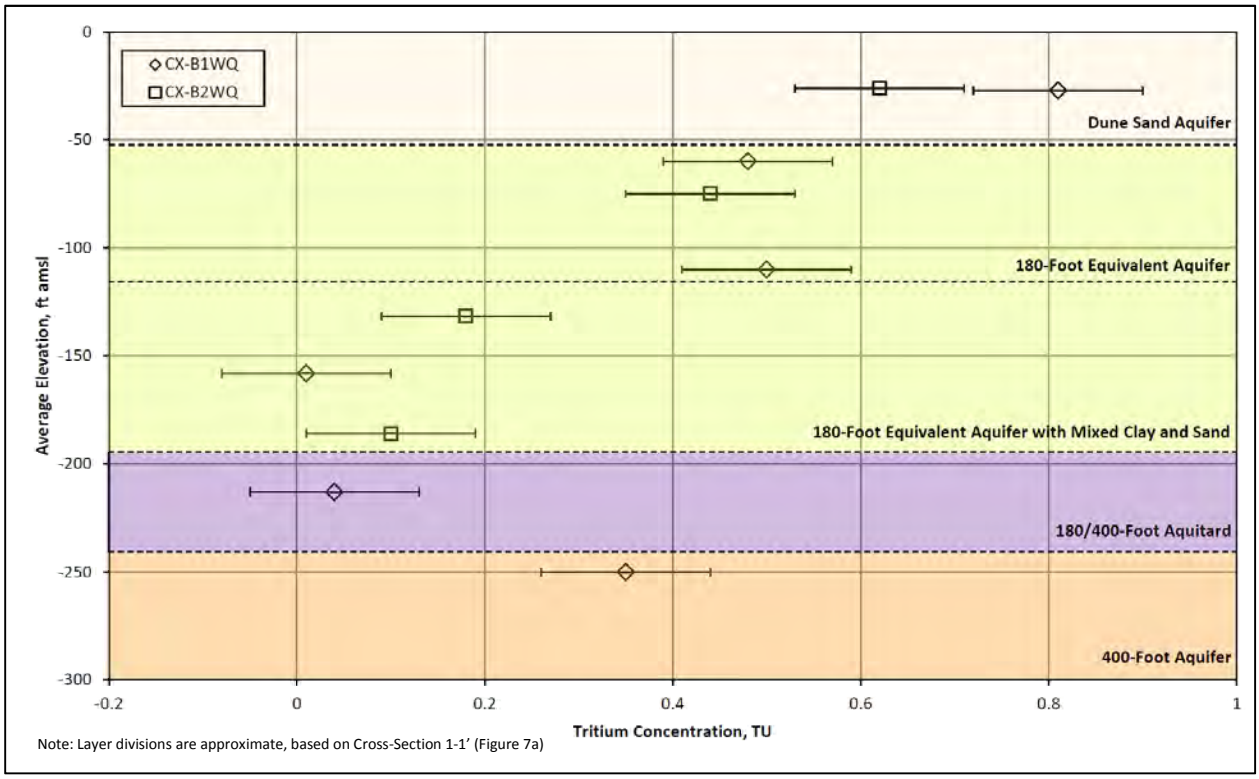


Figure 5-1. Tritium Concentration vs. Sample Elevation – CX-B1WQ and CX-B2WQ

Tritium concentration measured in groundwater samples from Boreholes CX-B1WQ and CX-B2WQ generally decreases with depth, indicating that water possibly takes longer to reach these locations. However, samples taken from elevations between -132 and -213 ft amsl (CX-B1WQ Zones 2 and 3, and CX-B2WQ Zones 1 and 2) have the lowest tritium concentrations. This depth at the base of the 180-FTE Aquifer contains a higher percentage of fine-grained materials and is underlain by the 180/400-Foot Aquitard. This implies that the presence of fine-grained sediments in the lower zone of the 180-FTE Aquifer and the 180/400-Foot Aquitard impedes the movement of water, resulting in water with an older age.

In a study conducted by Michel and others (1997), tritium concentrations along the coast of the Oxnard Plain in California were analyzed. All of the tritium samples came back with very low values and there was no apparent tritium spike in the data, which is similar to the results seen here. Michel et al. interpreted this to mean that the water at the sampled locations entered the subsurface prior to the 1963 tritium peak. Therefore, assuming there is no mixing with different source water, all of the

borehole tritium results from this study indicate that the water is older than the 1960s, with the exception of CX-B1WQ Zone 6 sample collected at 51 to 61 ft bgs.

6.0 NORTH MARINA AND CEMEX GROUNDWATER MODELS

GEOSCIENCE developed the NMGWM which covers the region of the current project, (see Figure 28). The NMGWM has been used to evaluate several proposed projects in the region and will be used, in part, to simulate the effects of slant well pumping. The model was developed in 2008 using computer codes MODFLOW and MT3DMS. In order to accurately model local effects of slant well pumping, a focused model, designated as the CM, is proposed. The CM will be located within the NMGWM centered at the CEMEX site. It will be constructed using the SEAWAT computer code (SEAWAT is a generic MODFLOW/MT3DMS-based computer program designed to simulate three-dimensional variable-density groundwater flow coupled with solute transport) to allow the simulation of sea water intrusion. The CM model will consist of 540 rows and columns with a uniform cell size of 20 feet to a side (see Figure 28), which is a significant refinement over the uniform grid size of 200 ft by 200 ft in the NMGWM. The decreased grid size will allow for a very accurate calibration by matching changes in groundwater levels and quality with historical data.

The exploratory boring information collected during this study has provided valuable data needed to determine the thickness and extent of the Dune Sand Aquifer, Perched "A" Aquifer, and the 180-FTE Aquifer and hydraulic conductivity data for model input. The model layers representing the Dune Sand Aquifer, Perched "A" Aquifer, SVA, and 180-FTE Aquifer will be refined using the new data. Aquifer parameters used in the model will be updated during and after the test slant well program as appropriate to reflect the water level changes occurring in the aquifers during the test slant well pumping.

6.1 Aquifer Characteristics

Hydraulic conductivity values for sediments encountered in the borings were evaluated using both laboratory permeameter test results and using grain-size distribution versus hydraulic conductivity relationship methods published by four different workers. The results are discussed in Section 3.2. Our experience has shown that laboratory permeameter testing typically results in much lower hydraulic conductivity values than those determined by grain-size distribution. Work recently completed by GEOSCIENCE in a coastal aquifer in Southern California, similar to the aquifers encountered in the current study, showed that hydraulic conductivity values calculated from pumping test data closely matched the hydraulic conductivity values using grain-size relationships (GEOSCIENCE, 2013). However, the hydraulic conductivity values determined by grain size distribution can vary significantly from pumping test results depending on the formation tested and selected grain size relationship used for analysis. Nonetheless, the hydraulic conductivity values assigned to the various geologic and aquifer units represent the best available data and will be used for constructing the CM and refining the

NMGWM. The hydraulic conductivity values will be updated with data obtained from the test slant well program.

For groundwater modeling, typical storativity values will be assigned to the aquifer units. Site specific storativity values will be calculated from data to be collected from the long-term pumping test which will be conducted during a subsequent phase of field investigations.

6.2 Model Layer Boundaries

Model layer boundaries and layer extents were defined using the cross-sections prepared from borehole data (see location map Figure 28, Cross-Sections 1-1', 2-2', and 3-3' on Figures 7a through 9, and Cross-Sections A-A' through G-G' on Figures 30 through 36) prepared using lithologic logs and wells from Kennedy/Jenks (2004), DWR and USGS WRIR 02-4003 (2002). The correlation of geologic and hydrostratigraphic units with the regional and local models is summarized in Table 6-1. As seen in the table, the NMGWM will further be refined in the CEMEX Model through the addition of model layers. The NMGWM layers 2 and 4 will each be modeled by 3 layers in the CEMEX Model (layers 2 through 4 and layers 6 through 8, respectively). This division allows for the refinement of aquifer parameters to more accurately reflect the different geologic layers present in these hydrostratigraphic units.

Table 6-1. Correlation of Geologic and Hydrostratigraphic with SVIGSM, NMGWM, CM Model Layers

180/400-Foot Aquifer Subbasin			CEMEX Area			SVIGSM Layer[1]	NMGWM Layer	CEMEX Model Layer
Surface Geologic Units	Surface Geologic Units Map Symbol	Hydro-stratigraphic Units	Surface Geologic Units	Surface Geologic Units Map Symbol	Hydro-stratigraphic Units			
Benthic Zone	-	Benthic Zone	-	-	Benthic Zone	Constant Head	1	1
Alluvium	Qal[2]	Perched "A" Aquifer	Dune Sand	Qd	Dune Sand Aquifer	1a	2	2
			Older Dune Sand	Qod				3
								4
Older Alluvium	Qo	Salinas Valley Aquitard	Older Terrace/ Marine Terrace	Qt (Qmt?)	180-FTE Aquifer	1a	3	5
		180-Foot Aquifer				1	4	6
Older Alluvium/ Marine Terrace	Qo/Qmt							7
Older Alluvium/ Older Alluvium Fan-Antioch	Qo/Qfa							8
Older Alluvial Fan – Placentia	Qfp	180/400-Foot Aquitard	Aromas Sand (undifferenciated) (?)	Qar (?)	180/400-Foot Aquitard	2a	5	9
Aromas Sand (undifferentiated)	Qar	400-Foot Aquifer			400-Foot Aquifer	2	6	10
Aromas Sand – Eolian/Fluvial Lithofacies	Qae/Qaf							
Paso Robles Formation	QT	400/900-Foot Aquitard	Paso Robles Formation	QT	400/900-Foot Aquitard	3a	7	11
		900-Foot Aquifer			900-Foot Aquifer	3	8	12

[1]SVIGSM considers "a" layers to be aquitards (vertical hydraulic conductivity and thickness are input)
[2]Subsurface Holocene geologic unit not mapped at surface

Ninety One (91) control points were used to develop the thickness of each model layer and were based on data from all of the cross-sections. The points were then contoured to provide the rest of the model layer surface. The elevation of each model layer is the top elevation minus the determined thickness.

For example, the bottom elevation of model layer 1 is the surface elevation minus the thickness of model layer 1; the bottom elevation of model layer 2 is the bottom elevation of model layer 1 minus the thickness of model layer 2, etc. The layer thicknesses for the NMGWM are shown on Figures 37 through 43.

6.3 Hydraulic conductivity

Initial model values for the refinement of horizontal hydraulic conductivity were estimated based on the descriptions of borehole samples, laboratory data, and grain size distribution and hydraulic conductivity relationships. A discussion of the development of the horizontal hydraulic conductivity values is provided in Section 3.2.

6.3.1 Vertical Hydraulic Conductivity

Values for the refinement of model layer vertical hydraulic conductivity were estimated based on the descriptions of borehole samples and a series of curves developed to show the relationship between sediment texture and hydraulic conductivity. These curves, representing maximum and minimum horizontal and vertical hydraulic conductivity values, were developed using the following equation (Durbin, 2013; Faunt, 2009):

$$K_i = \left(K_c{}^p \, F_{c,i} + K_f{}^p F_{f,i}\right)^{1/p}$$

where:

Ki	=	Hydraulic conductivity for cell i [ft/day]
Kc	=	Horizontal hydraulic conductivity for coarse-grained material [ft/day]
Kf	=	Horizontal hydraulic conductivity for fine-grained material [ft/day]
Fc,i	=	Fraction of coarse-grained material in cell i [unitless]
Ff,i	=	Fraction of fine-grained material in cell i [unitless]
p	=	Empirical parameter

Lithologic log intervals from the borings were classified as either being “coarse-grained” or “fine-grained” based on the sediment texture described in the logs and texture classification procedures observed in the USGS Professional Paper 1766 (Faunt ed., 2009). Coarse-grained sediment was defined as having a grain size of fine sand or greater (i.e., sand, gravel, pebbles, and cobbles). Fine-grained material was defined as any texture that consisted predominately (greater than 50%) of silt or clay.

To determine the Kc and Kf, the individual lithologic intervals for each borehole were first assigned a maximum or minimum hydraulic conductivity value based on the soil classification for that interval and the estimates of horizontal conductivity made from borehole sample grain size distribution curves. The methods used to estimate the sample hydraulic conductivities are described in greater detail in Section 3.2.1. The weighted Kc and Kf were then calculated for each borehole and each model layer using both the minimum and maximum hydraulic conductivities in order to provide a possible range of Kc and Kf that could be expected for each area (i.e., CEMEX area and Moss Landing area). The results for the CEMEX area are provided in Tables 6 and 7 for the maximum and minimum hydraulic conductivity values respectively and the results for the Moss Landing area are provided in Tables 8 and 9 for the maximum and minimum hydraulic conductivity values, respectively.

The empirical parameter shown in the equation above imparts a particular textural structure to help approximate flow in a heterogeneous anisotropic groundwater system. P values of 0.93 and -0.62 were used for calculating horizontal and vertical hydraulic conductivity, respectively, based on numerical experiments conducted by Durbin (2013).

Figures 44 through 47 show the different curves for the calculation of hydraulic conductivity, and the ranges shown represent the initial values for horizontal and vertical hydraulic conductivity which will be used for the refinement of model aquifer parameters. These values will be modified during model calibration. Figures 44 and 45 show the sediment texture versus hydraulic conductivity at the CEMEX site for the Dune Sand Aquifer and 180-FTE Aquifer, respectively. For the Dune Sand Aquifer, it was estimated that the average percentage of coarse-grained deposits was 98%. Therefore, the horizontal hydraulic conductivity is expected to range from 109 to 304 ft/day with an average of 207 ft/day, while the vertical hydraulic conductivity is expected to range from approximately 8 to 12 ft/day with an average of approximately 10 ft/day. It was estimated that for the 180-FTE Aquifer, the average percentage of coarse-grained deposits was 78%. This correlates with a horizontal hydraulic conductivity value ranging from 71 to 216 ft/day and averaging 143 ft/day. The vertical hydraulic conductivity for this aquifer is expected to range from 0.11 to 0.21 ft/day with an average of 0.16 ft/day.

The sediment texture versus hydraulic conductivity curves for the Dune Sand/Perched “A” Aquifer near the Moss Landing site is shown on Figure 46. These two aquifers are combined because they represent a single model layer. Based on the borehole grain size analysis presented above, the average percentage of coarse-grained deposits is estimated at 49%. As shown, this correlates to a horizontal hydraulic conductivity ranging from 101 to 333 ft/day with an average of 217 ft/day and a vertical hydraulic conductivity ranging from 0.04 to 0.06 ft/day with an average of 0.05 ft/day.

Figure 47 shows the sediment texture versus hydraulic conductivity at the Potrero Road site for the Dune Sand/Perched “A” Aquifer. It was estimated that the average percentage of coarse-grained

deposits here was 93%. Therefore, the horizontal hydraulic conductivity is expected to range from 367 to 1,205 ft/day with an average of 786 ft/day, while the vertical hydraulic conductivity is expected to range from 0.92 to 1.5 ft/day with an average of 1.2 ft/day.

7.0 FINDINGS

7.1 General

- The conceptual hydrogeologic model developed from this investigation suggests that a feedwater supply system using slant wells at the CEMEX site is feasible and can utilize the Dune Sand Aquifer and the underlying terrace deposits as conduits to extract water through the seafloor beneath Monterey Bay.
- This opinion will be tested using the newly constructed CEMEX Model and the refined NMGWM and should be field tested using a test slant well and groundwater monitoring system as described in the Hydrogeologic Investigation Workplan.
- A permeable unit of significant thickness containing groundwater of seawater quality was penetrated in the Moss Landing Boring PR-1 near Boring ML-1. To the north, this unit pinches out and mixes with fine-grained sediments. To the south, the unit decreases in thickness to approximately 25 feet in boring MDW-1 over a distance of approximately one mile.
- The conceptual model also indicates that the Perched "A" Aquifer between the Molera and Sandholt Road Salinas River State Beach parking lots could provide an alternative target for construction of a subsurface feedwater supply system.

7.2 CEMEX Area

The CEMEX facility is located on the westernmost edge of the 180/400-Foot Aquifer Subbasin of the Salinas Valley Groundwater Basin, as currently mapped by DWR (2003) and the MCWRA (2011). The findings of the investigation at CEMEX are summarized below:

- A significant clay layer is not present beneath the Dune Sand Aquifer at the CEMEX site at elevations commonly attributed to the SVA, suggesting a different depositional environment than that of the 180-Foot Aquifer in the Salinas Valley. The water quality data suggests groundwater in the Dune Sand Aquifer may be in hydraulic continuity with the underlying aquifer units. The degree of hydraulic continuity will be determined by construction of aquifer specific monitoring wells and the long-term pumping test of the test slant well.
- Stratigraphic relationships and lithologic observations indicate that the aquifer system underlying the Dune Sand Aquifer consists of terrace deposits that are older than the inland 180-Foot Aquifer deposits, since they underlie the Older Dune Sand.

- The terrace deposits appear to be a distinct lithologic unit in terms of geologic history and depositional environment in the Dune Highland area and may be hydrostratigraphically equivalent to the 180-Foot Aquifer in the Salinas Valley.
- For purposes of this document the alluvial materials encountered near the coast (in the CEMEX area) are based solely on analyses of borehole samples (and geophysical borehole logs). As of yet, no direct correlation can be made between these coastal alluvial deposits and the standard naming convention found further inland (e.g., 180-Foot Aquifer, 400-Foot Aquifer, SVA, etc.).
- As a hydrogeologic unit, the terrace deposits will be designated as the 180-FTE Aquifer. The extent of hydrostratigraphic equivalence will be evaluated through a pumping test utilizing the test slant wells and a monitoring network.
- The current interpretation of the distinctive dark greenish-gray clay found at depths ranging from 241 to 282 ft bgs at CEMEX is that it may represent a change in the depositional history and is underlain by a unit equivalent to the Aromas Sand(?)/400-Foot Aquifer. However, results of groundwater quality sampling from the 400-Foot Aquifer have results similar to that of the overlying Dune Sand Aquifer and 180-FTE Aquifer.
- Both the Dune Sand Aquifer and the underlying 180-FTE Aquifer extend seaward beneath the Monterey Bay.
- Groundwater in the Dune Sand Aquifer and most of the groundwater in the 180-FTE Aquifer exhibit high concentrations of TDS, ranging from 24,000 to 32,000 mg/L.
- Hydraulic conductivity for the Dune Sand at CEMEX ranged from an average low value of 273 ft/day to an average high value of 779 ft/day.
- Hydraulic conductivity for the Older Dune Sand at CEMEX ranged from an average low value of 136 ft/day to an average high value of 372 ft/day.
- Hydraulic conductivity for the 180-FTE terrace deposits ranged from an average low value of 113 ft/day to an average high value of 342 ft/day.
- Hydraulic conductivity values will be further refined based on the long-term test slant well pumping test.
- Analysis of cation/anion ratios indicates that groundwater in the lower portion of 180-FTE Aquifer and in the 400-Foot Aquifer have been geochemically altered due to seawater intrusion.
- Tritium results indicate that groundwater in the lower portion of the 180-FTE Aquifer is older than groundwater in the upper portion of the 180-FTE Aquifer and the Dune Sand Aquifer.

- Analysis of oxygen and hydrogen isotopes suggests that in both the CEMEX and Moss Landing sites, saltwater from the ocean is mixing with a freshwater source that has not undergone significant evaporation (as would be expected of a surface water source).
- Hydrostratigraphic relationships indicate that slant wells drilled into the Dune Sand Aquifer and 180-FTE Aquifer will receive recharge primarily from ocean sources through vertical leakage from the sea floor and horizontal recharge from offshore subsea aquifers. This will be tested by the CM and refined NMGWM as well as field pumping tests.

7.3 Moss Landing Hydrogeologic Conditions

The Moss Landing area is located north of the mouth of the Salinas River, which overlies the westernmost edge of the 180/400-Foot Aquifer Subbasin. Borings were drilled and sampled at Moss Landing Harbor and at the Molera, Potrero Road, and Sandholt Road parking lots of Salinas River State Beach. The exploratory borings primarily penetrated fluvial sediments associated with Holocene and Late Pleistocene Salinas River deposition.

The Perched[7] "A" Aquifer is ascribed to the Holocene river alluvium and considered to be the hydrostratigraphic equivalent of the Dune Sand Aquifer located to the south.

- The Perched "A" Aquifer in the Moss Landing area is composed of interbedded river and floodplain deposits.
- With the exception of the sediments penetrated in Boring PR-1 and MDW-1, individual sand and sand and gravel lenses do not appear to be either vertically or areally extensive in Moss Landing.
- Significant variations in TDS concentrations suggest that groundwater is mixed with seawater, and is likely present in semi-isolated lenticular deposits.
- In general, the upper isolated aquifer test zones were above a depth of 110 ft bgs. TDS concentrations ranged from 3,200 mg/L to 34,000 mg/L.
- The lower isolated aquifer zones were generally constructed at depths exceeding 150 ft bgs. With the exception of Zone 1 of PR-1 (190-200 ft bgs) at 630 mg/L, the TDS concentrations ranged from 7,400 mg/L to 34,000 mg/L.

[7] The term Perched "A" Aquifer refers to the shallow aquifer above the Salinas Valley Aquitard. Traditionally, the term "perched" aquifer refers to a hydrogeologic condition where an aquifer is formed by groundwater being present above (perching on) an impermeable unit such as clay but with an unsaturated portion of an aquifer between the bottom of the clay and the underlying saturated portion of a lower aquifer.

- Boring PR-1 penetrated a very permeable unit in the Perched "A" Aquifer from 54 to 139 ft bgs. Groundwater in this interval approximated seawater quality (i.e., 34,000 mg/L). This unit is interpreted to continue, but decrease in thickness southward towards Boring MDW-1. To the north, the unit is interbedded with fine-grained units.
- It is interpreted that the lowest portion of Boring PR-1 penetrated the SVA. Very low TDS concentrations (630 mg/L) encountered in the lowest zone in Boring PR-1 suggest that isolated zones of freshwater may exist within the 180-Foot Aquifer or that the sand unit is laterally discontinuous and may be interbedded with the SVA. In this last interpretation, Boring PR-1 did not completely penetrate the SVA.
- Hydraulic conductivity values for the permeable portion of the Perched "A" Aquifer penetrated in PR-1 ranged from 194 ft/day to 717 ft/day, based upon relationships between grain size distribution and hydraulic conductivity.
- The permeable unit between Boring PR-1 and MDW-1 represents a potential location for slant wells.
- The Moss Landing Borings (ML-1, ML-2, ML-3, ML-4, and ML-6) did not penetrate significant thicknesses of permeable deposits to produce the required feedwater supply volume for the MPWSP.

7.4 Groundwater Models

The geologic and hydrogeologic data collected during this investigation was used to prepare the interpretations of hydrostratigraphic relationships in the Moss Landing and CEMEX areas which will be used to refine the NMGWM and to develop the CEMEX focused groundwater model. Table 6-1 summarizes the correlation of geologic and hydrostratigraphic units with model layers.

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FIGURES

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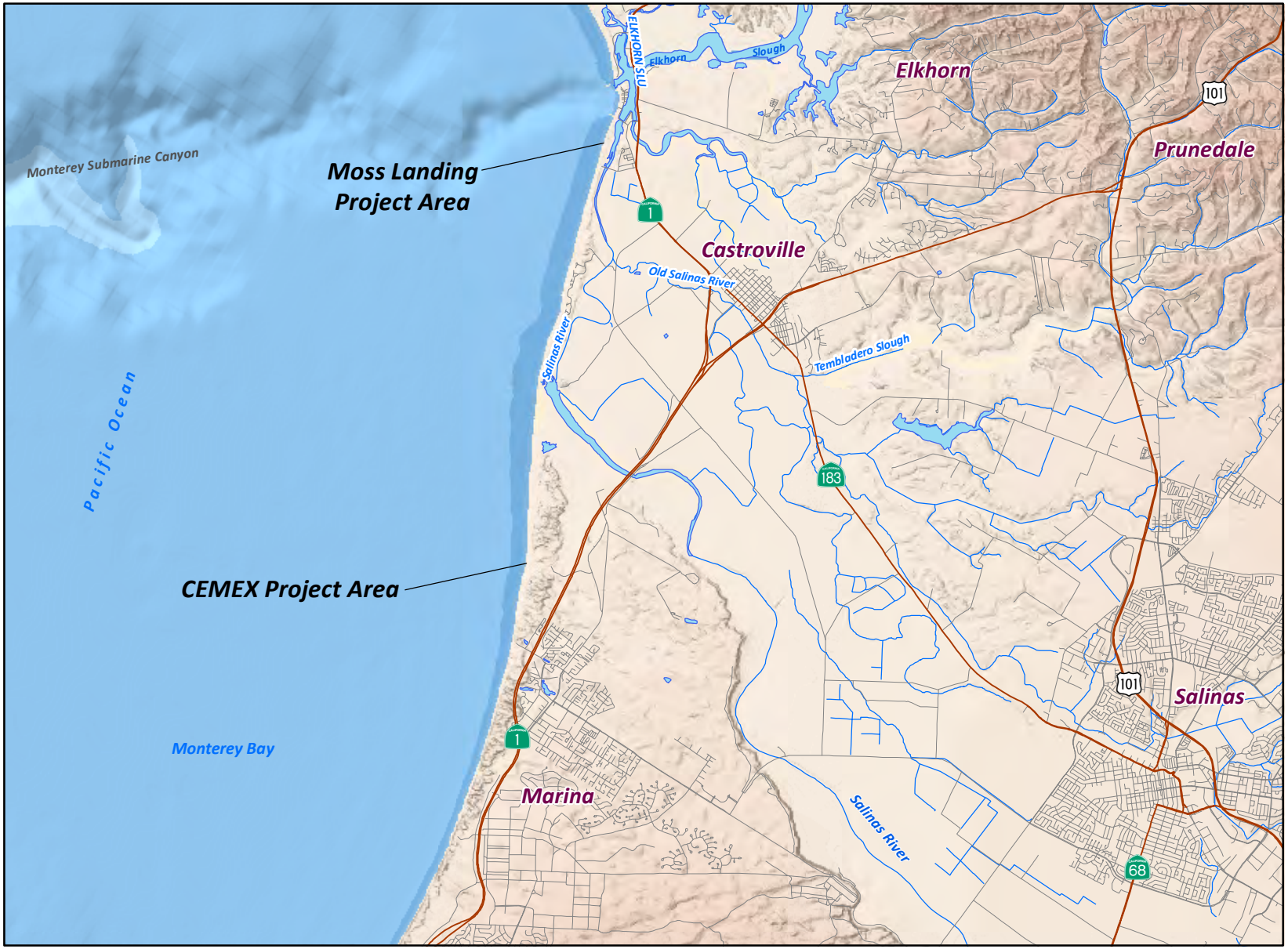
MONTEREY PENINSULA WATER SUPPLY PROJECT HYDROGEOLOGIC INVESTIGATION
ATTACHMENT 1 - TECHNICAL MEMORANDUM (TM 1) - SUMMARY OF RESULTS - EXPLORATORY BOREHOLES

GENERAL
PROJECT LOCATION



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8-Jul-14

Prepared by: DWB. Map Projection: State Plane 1983, Zone IV.

NORTH

0 2 4 Miles

Figure 1

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_1_gen_loc_8x11_7-14.mxd

GENERAL NOTES:

1. LOCATION OF EXISTING FACILITIES SHOWN ON THIS MAP IS APPROXIMATE AND INTENDED FOR PURPOSES OF BIDDING. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LOCATION PRIOR TO CONSTRUCTION.

PROPOSED EXPLORATORY BORING LOCATIONS

EXISTING WELLS

NORTH

0 1000 2000 3000

APPROXIMATE HORIZONTAL SCALE (FEET)

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MONTEREY PENINSULA WATER SUPPLY PROJECT

HYDROGEOLOGIC INVESTIGATION REPORT -ATTACHMENT 1

GENERAL LOCATION OF MOSS LANDING, POTRERO RD, AND CEMEX AREAS

Rev.	Date	By	Description
1			
2			
3			
4			

Date: 08-JUL-14

Designed: MDW

Checked: DEW

File: MSL-CLAM-3-0.dwg

FIGURE 2

LEGEND:

PROPOSED EXPLORATORY BORING LOCATIONS

UPPER CEMEX WELL

NORTH

0 800 1600

APPROXIMATE HORIZONTAL SCALE (FEET)

GEOSCIENCE "SETTING THE STANDARD IN WATER WELL DESIGN SINCE 1978" 909.451.6650 | gssiwater.com	MONTEREY PENINSULA WATER SUPPLY PROJECT	Date: 08-JUL-14	FIGURE
	HYDROGEOLOGIC INVESTIGATION REPORT -ATTACHMENT 1	Designed: MDW Checked: DEW	3
	PROPOSED CEMEX AREA BOREHOLES	File: MSL-CLAM-3-4.dwg	

LEGEND:

PROPOSED EXPLORATORY BORING LOCATIONS

NORTH

0 200 400

APPROXIMATE HORIZONTAL SCALE (FEET)

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MONTEREY PENINSULA WATER SUPPLY PROJECT

HYDROGEOLOGIC INVESTIGATION REPORT -ATTACHMENT 1

MOSS LANDING HARBOR AREA BOREHOLES

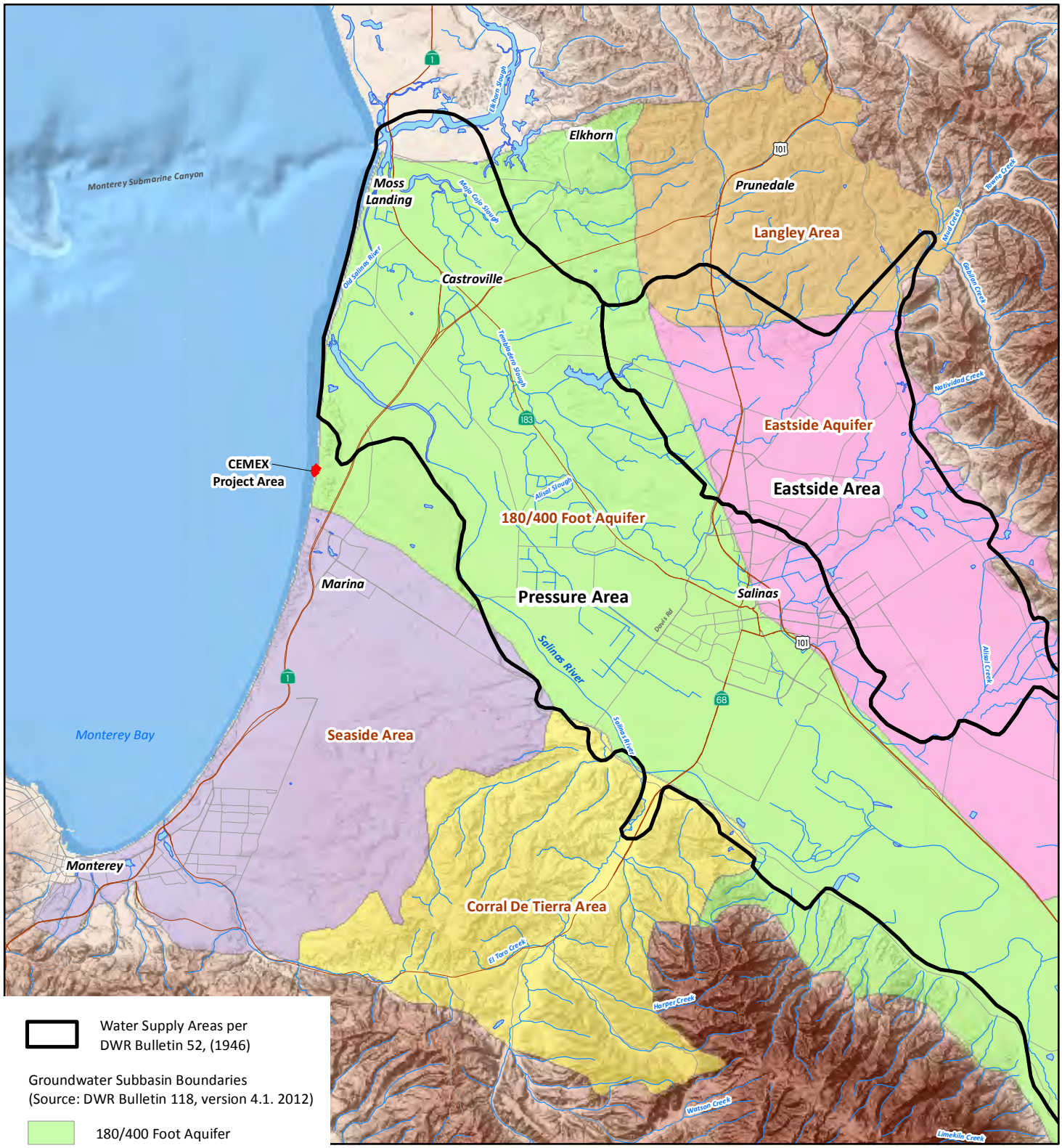
Date: 08-JUL-14

Designed: MDW

Checked: DEW

File: MSL-CLAM-3-5.dwg

FIGURE 4



Water Supply Areas per DWR Bulletin 52, (1946)

Groundwater Subbasin Boundaries
(Source: DWR Bulletin 118, version 4.1. 2012)

- 180/400 Foot Aquifer
- Corral De Tierra Area
- Eastside Aquifer
- Langley Area
- Seaside Area

NORTH

0 2 4 Miles

DWR 1946 AND 2012 GROUNDWATER SUBBASIN BOUNDARIES

8-Jul-14

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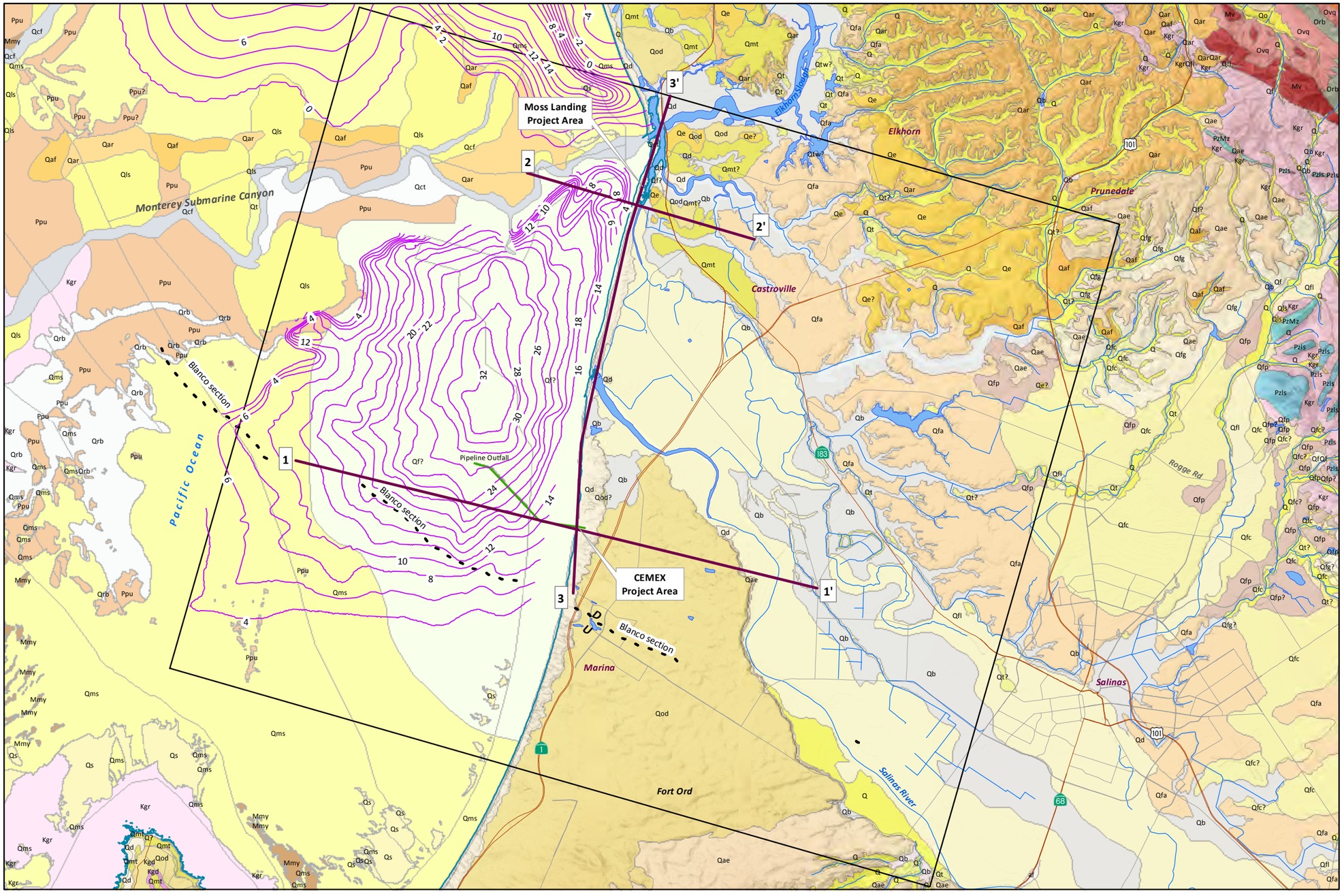
Figure 5

GEOLOGIC SETTING



EXPLANATION

- 1 — 1' Cross-Section Location (See Figures 7a-9)
- Holocene Sediment Thickness (meters) Source (USGS OFR 01-179)
- Fault - Blanco Section of the Reliz Fault (Source: USGS SIM 3059)
- Pipeline Outfall
- North Marina Groundwater Model Boundary
- -10- Elevation of Sea Floor, meters (Wong, F.L. and Eittreim, S.L., 2001)
- Mean High Tide (DOC et al., 2011)

Geology from: (California Geological Survey. "Geologic Map of the Monterey 30'x60' Quadrangle and Adjacent Areas, California. Regional Geologic Map Series, 1:100,000 Scale. Map No. 1. 2002). See Figure 2b for Geologic Legend.

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Prepared by: DWB. Map Projection: State Plane 1983, Zone IV.

NORTH

0 2 4 Miles

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Figure 6a

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_6a_geology_7-14.mxd

California Geological Survey
GEOLOGIC MAP OF THE MONTEREY 30'x60' QUADRANGLE
AND ADJACENT AREAS, CALIFORNIA
Compiled by David L. Wagner, H. Gary Greene, George J. Saucedo
and Cynthia L. Pridmore. 2002

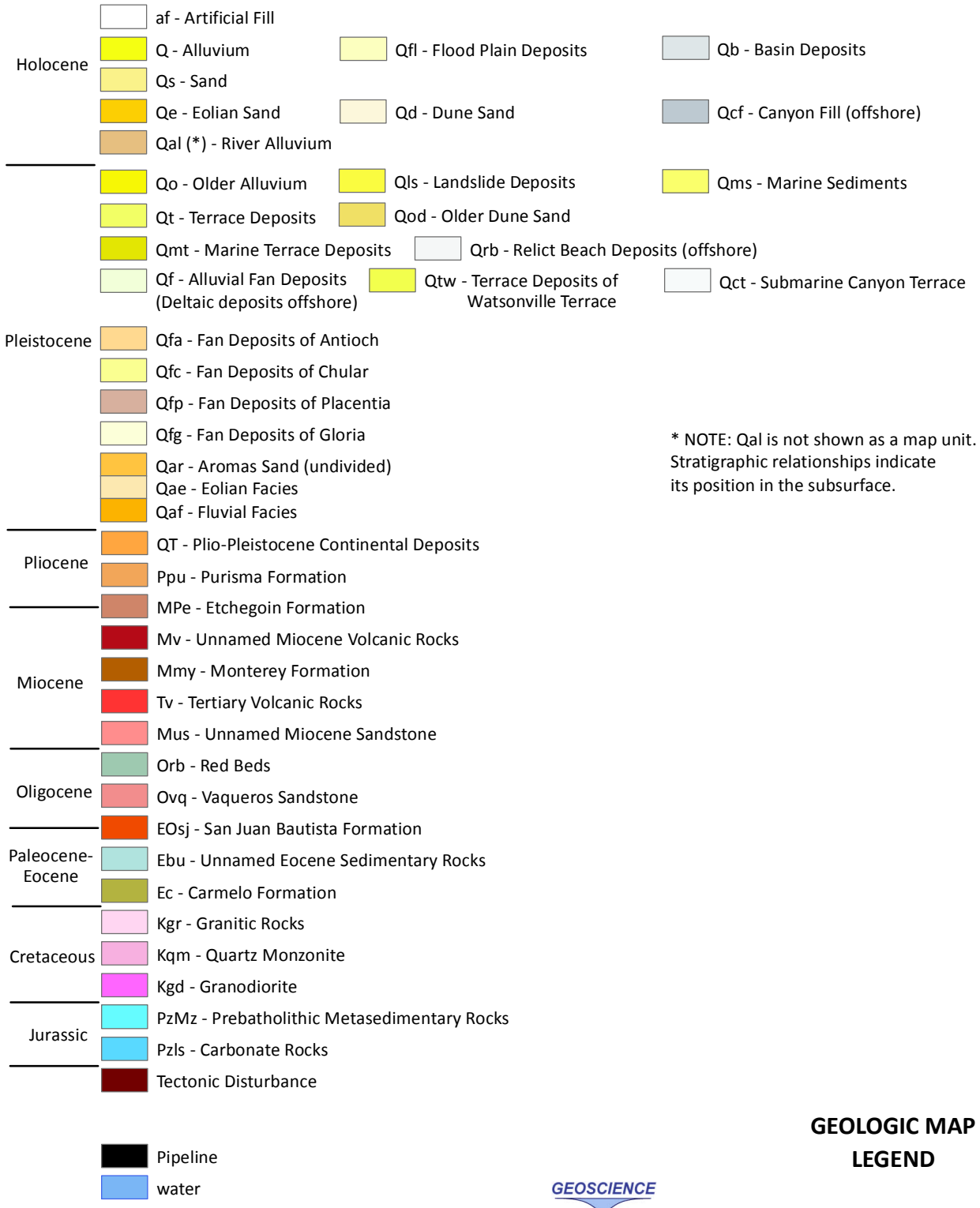

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Figure 6b


1
West
1'
East
Extent of Figure 7b
Pacific Ocean
CEMEX Site
(No Data Available)
Dune Complex - Highland Area
Salinas Valley
Older Dune Sand (Qod)
Terrace Deposits (Qt)
Deltaic Deposits (Shown on Figures 6a and 6b as "QT?")
Marine Sediments (Qms)
Aromas Sand (?) (Qar)
Paso Robles Formation (QT)
Purisima Formation (Ppu)
180-Foot Equivalent Aquifer
180/400-Foot Aquitard
Flood Plain Deposits (Qfl)
Basin Deposits (Qb)
River Alluvium (Qal)
Perched "A" Aquifer
Salinas Valley Aquitard
Valley Fill (Qo)
180-Foot Aquifer
400-Foot Aquifer
Elevation, ft amsl
Source: Kennedy Jenks, 2004.
Explanation
Holocene
Qfl
Qd
Qal
Qb
Pleistocene
Qo
Qt
Qmt
Qf
Qar
Qms
Qod
Pliocene
QT
Ppu
Clay Layer
Geologic Contact (approximate)
Inferred Fault
Arrows on fault show direction of movement
Groundwater Elevation
Borehole/Well with lithology (see Appendix A1 for Borehole Lithologic Logs and Appendix A2 for Well Logs)
CLID Geophysical Log [mmho/m] (see Appendix A1)
Proposed Test Slant Well
Cement Seal
Blank
Screen
Water Quality (TDS) Measurements
Measured Value [mg/L]
Field
Lab
Field Pore Water
23,963
24,800
23,562
Zone 6
Sampled Zone
(For field measurements, see Appendix F, for lab samples, see Appendix G, for field pore water samples, see text)
Vertical Approximate Scale Feet
Horizontal Approximate Scale Feet
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CALIFORNIA AMERICAN WATER & RBF CONSULTING
GEOLOGIC CROSS-SECTION 1-1'
Drawn: LC
Checked:
Approved:
Date: 8-Jul-14
Figure 7a

Station 24,000 ft of Cross-Section 1-1' (WEST)

Station 30,000 ft of Cross-Section 1-1' (EAST)

Elevation, ft amsl

Cross-Section 3-3'
CX-B1WQ
CX-B1
Test Slant Well
Cross-Section A-A'
CX-B2
CX-B2WQ
CX-B3
CX-B4
Highway 1
14S/2E-18E1
Projected 2,350 ft. southwest

Pacific Ocean
Deltaic Deposits (Qf)
Dune Sand (Qd)
Older Dune Sand (Qod)
Terrace Deposits (Qt)
180-Foot Equivalent Aquifer
180/400-Foot Aquitard
400-Foot Aquifer
Aromas Sand (?) (Qar)
Paso Robles Formation (QT)

Zone 6 24,453 / 24,800
Zone 5 28,111 / 27,400
Zone 4 26,921 / 26,500
Zone 3 32,035 / 35,600
Zone 2 16,123 / 14,600
Zone 1 24,888 / 25,200
TD: 306 ft bgs

Zone 4 26,968 / 26,700
Zone 3 27,316 / 26,800
Zone 2 14,708 / 16,200
Zone 1 23,936 / 26,500
TD: 307 ft bgs

7,936
16,966
21,114
23,562
TD: 347 ft bgs

Zone 5 4,794 / 4,815
Zone 4 20,366 / 24,000
Zone 3 19,509 / 20,500
Zone 2 26,132 / 20,500
Zone 1 25,602 / 20,500
TD: 350 ft bgs

Explanation

Holocene: Qd
Pleistocene: Qt, Qod, Qf, Qar
Pliocene: QT
Clay Layer

Geologic Contact (approximate)

Borehole with lithology (see Appendix A1 for Borehole Lithologic Logs and Appendix A2 for Well Logs)

CLID Geophysical Log [mmho/m] (see Appendix A)
1500 0

Proposed Test Slant Well
Cement Seal
Blank
Screen

Water Quality (TDS) Measurements
Measured Value [mg/L]
Field / Lab / Field Pore Water
23,963 / 24,800 / 23,562
Zone 6 Sampled Zone
(For field measurements, see Appendix F, for lab samples, see Appendix G)

24,000 25,000 26,000 27,000 28,000 29,000 30,000

0 100 200
Vertical Approximate Scale Feet

0 500 1,000
Horizontal Approximate Scale Feet

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CEMEX AREA PORTION OF
GEOLOGIC CROSS-SECTION 1-1'

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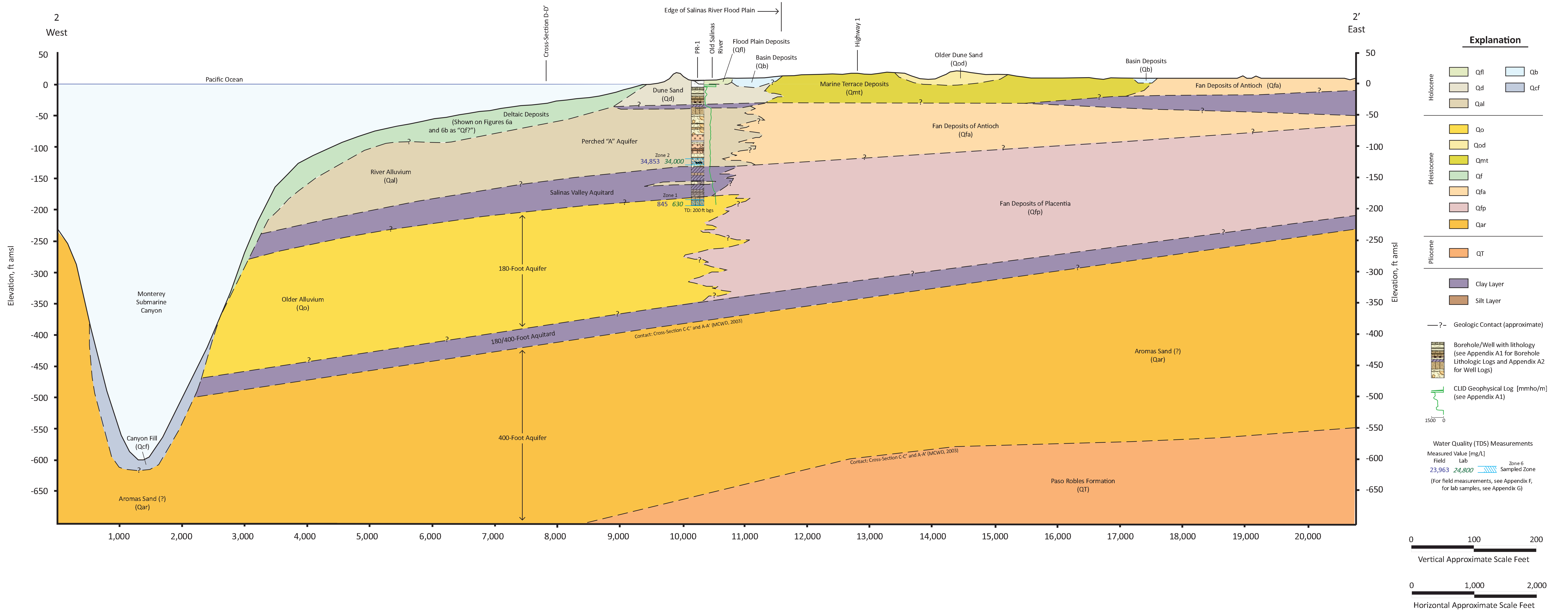
Date: 8-Jul-14

Figure 7b

Projects\MONTEREY AREA DESAL STUDIES\02)ESA_and_ESA-CalAm\11) Logs_x-sections\GSSI_cross-sections_11-13\Fig_7b_x-section_1-1'_CEMEXarea_May-14.ai



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GEOLOGIC CROSS-SECTION 2-2'

Drawn: LC
Checked:
Approved:
Date: 8-Jul-14

Figure 8

Projects\MONTEREY AREA DESAL STUDIES\02)ESA_and_ESA-CalAm\11) Logs_x-sections\GSSI_cross-sections_11-13\Fig_8_LARGE_x-section_2-2'_May-14.ai


3
South
3'
North
Elevation, ft amsl
Dune Sand (Qd)
Older Dune Sand (Qod)
Terrace Deposits (Qt)
Dune Sand Aquifer
180-Foot Equivalent Aquifer
180/400-Foot Aquitard
Salinas River
River Deposits (?) (Qal)
Transition Zone
Older Alluvium (Qo)
Perched "A" Aquifer
River Alluvium (Qal)
Salinas Valley Aquitard
Basin Deposits (Qb)
180-Foot Aquifer
Clay
Clay Gorge Fill (DWR, 1973)
Aromas Sand (?) (Qar)
400-Foot Aquifer
Paso Robles Formation (QT)
Explanation
Holocene
Qb
Qd
Qal
Pleistocene
Qo
Qt
Qod
Qar
Pliocene
QT
Clay Layer
Silt Layer
Geologic Contact (approximate)
Borehole/Well with lithology (see Appendix A1 for Borehole Lithologic Logs and Appendix A2 for Well Logs)
CLID Geophysical Log [mmho/m] (see Appendix A1)
1500 0
Water Quality (TDS) Measurements
Measured Value [mg/L]
Field Lab
23,963 24,800
Zone 6 Sampled Zone
(For field measurements, see Appendix F, for lab samples, see Appendix G)
0 100 200
Vertical Approximate Scale Feet
0 1,000 2,000
Horizontal Approximate Scale Feet

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GEOLOGIC CROSS-SECTION 3-3'

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Checked:
Approved:
Date: 8-Jul-14

Figure 9

Figure 10

Trilinear Diagram
CEMEX Isolated Aquifer Zone Tests

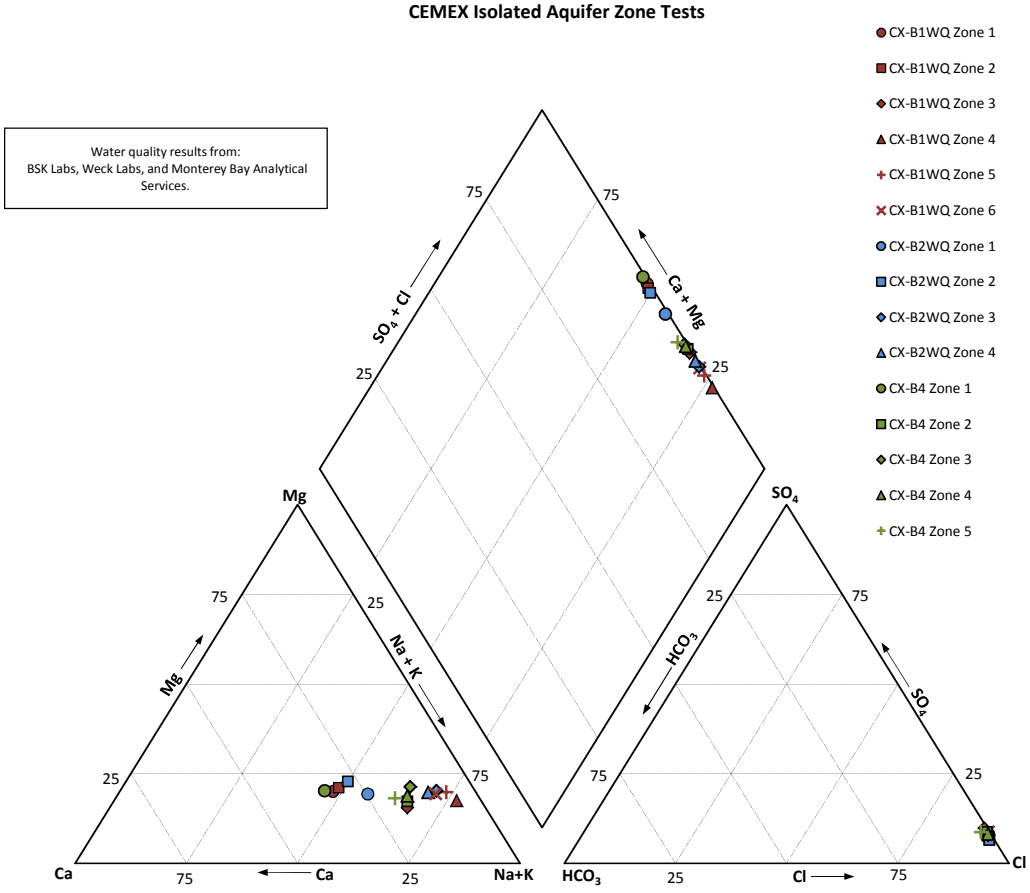
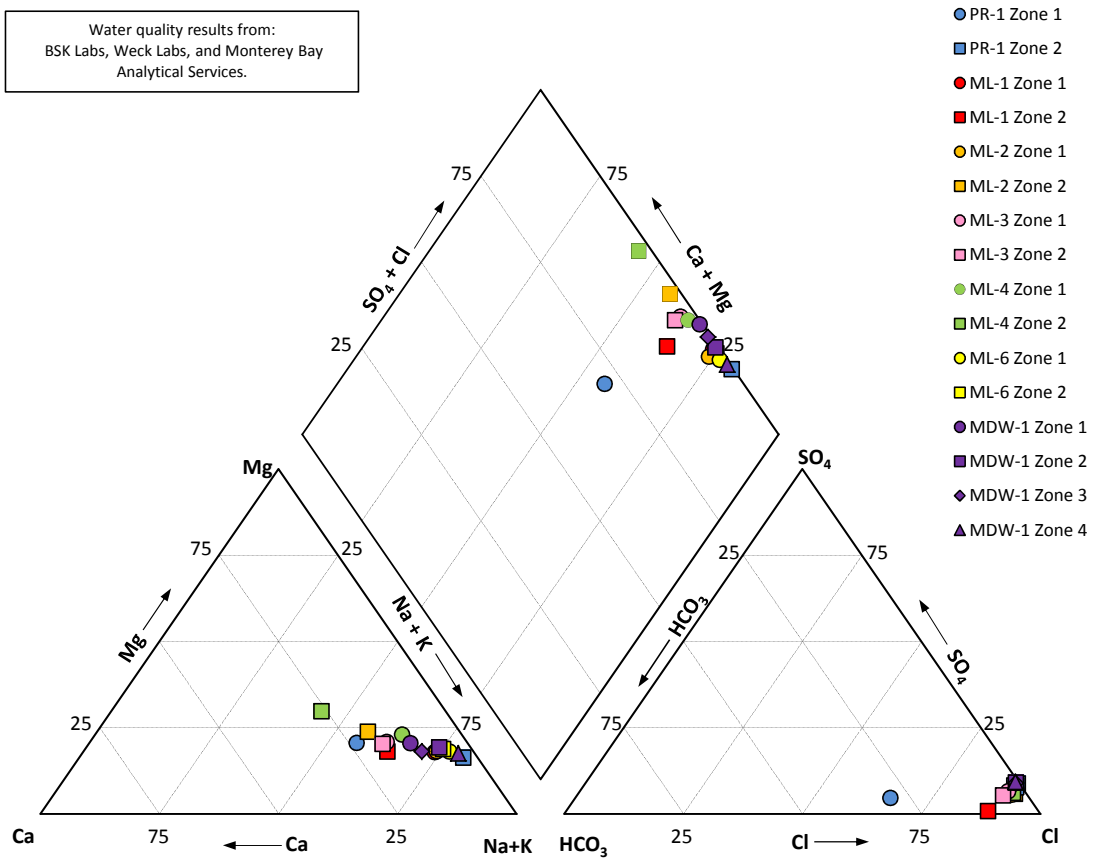


Figure 11

Trilinear Diagram
Moss Landing Isolated Aquifer Zone Tests



CEMEX Area Water Quality Plot
TDS versus Chloride

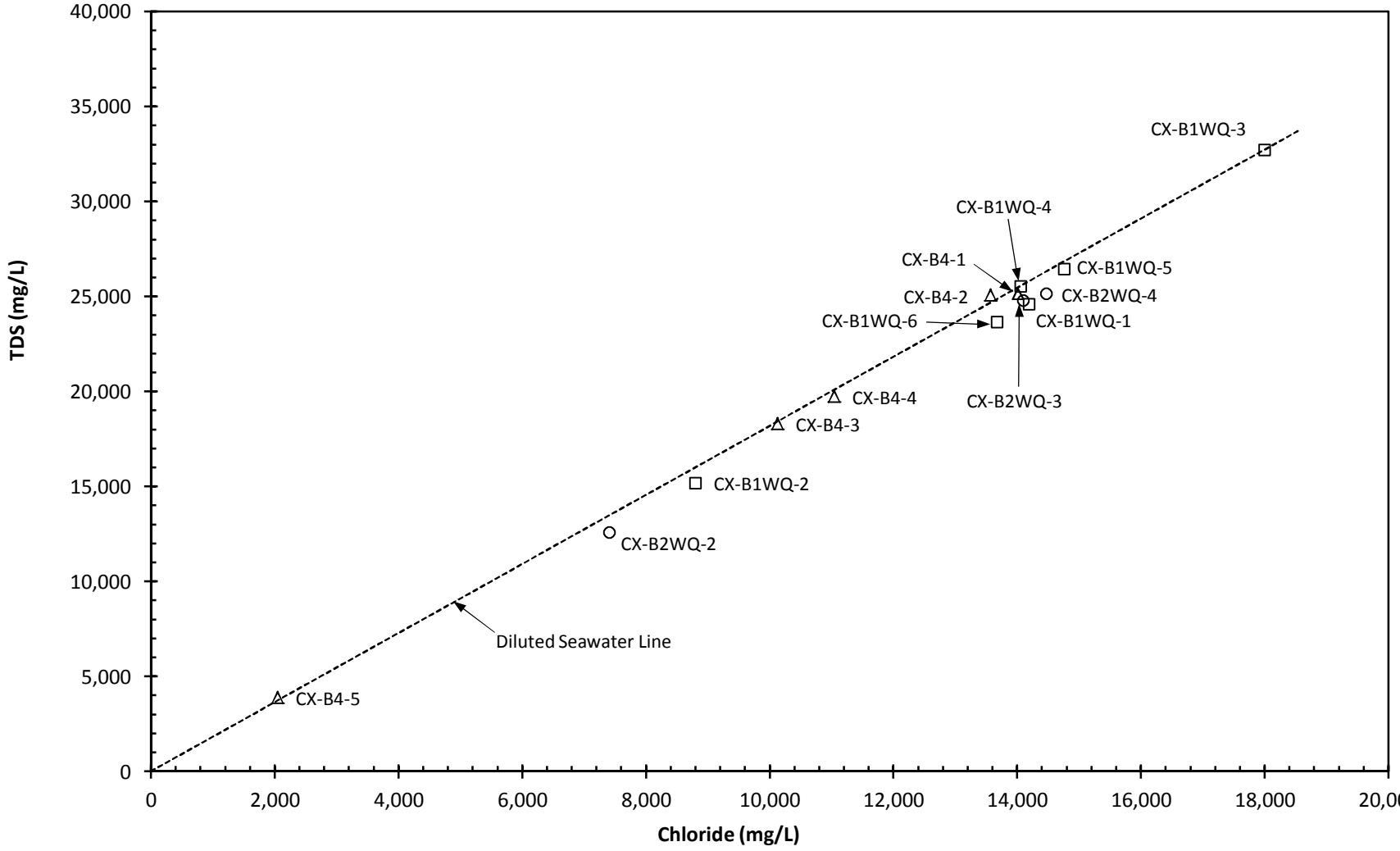


Figure 12

CEMEX Area Water Quality Plot
Sodium versus Chloride

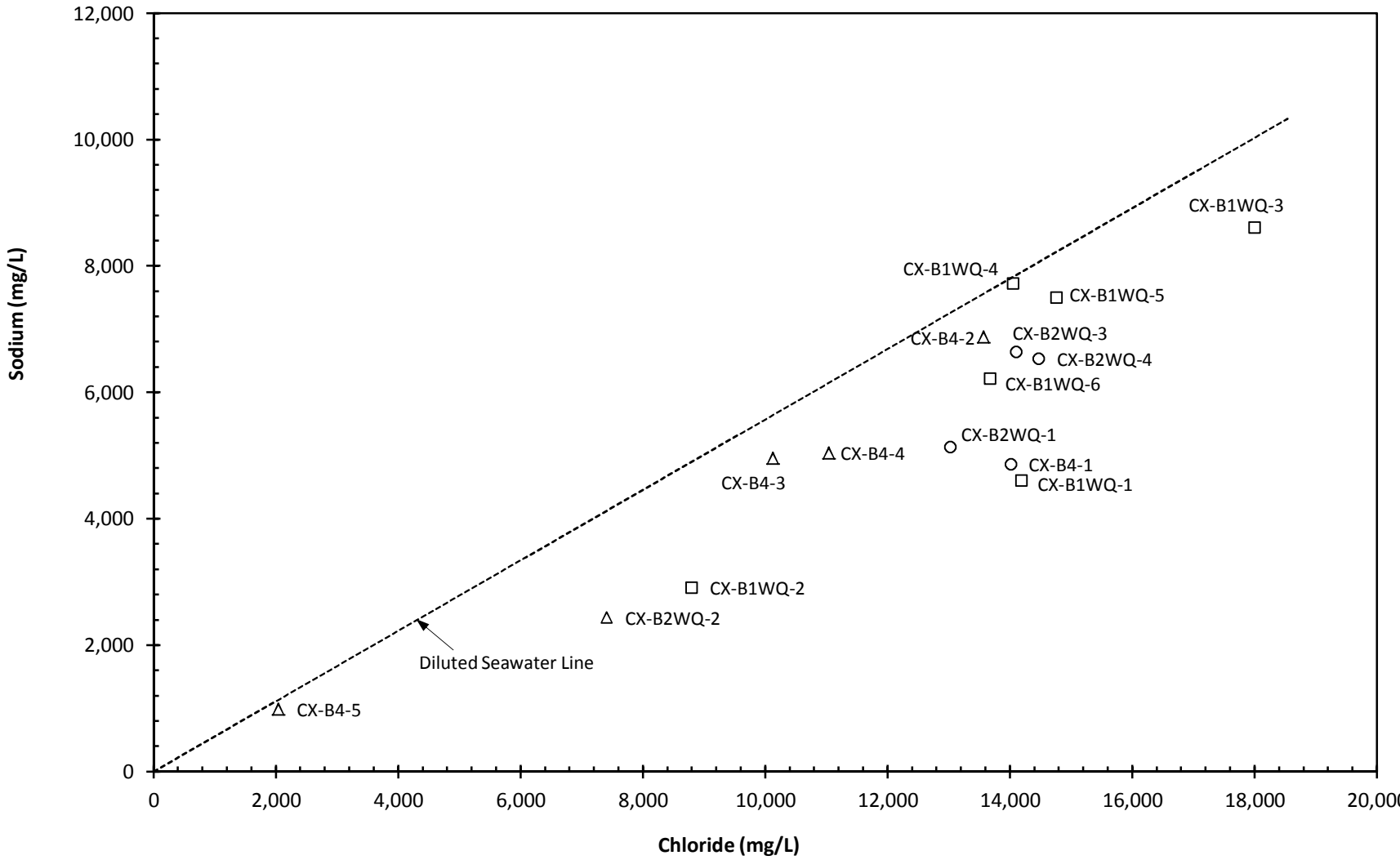


Figure 13

CEMEX Area Water Quality Plot
Calcium versus Chloride

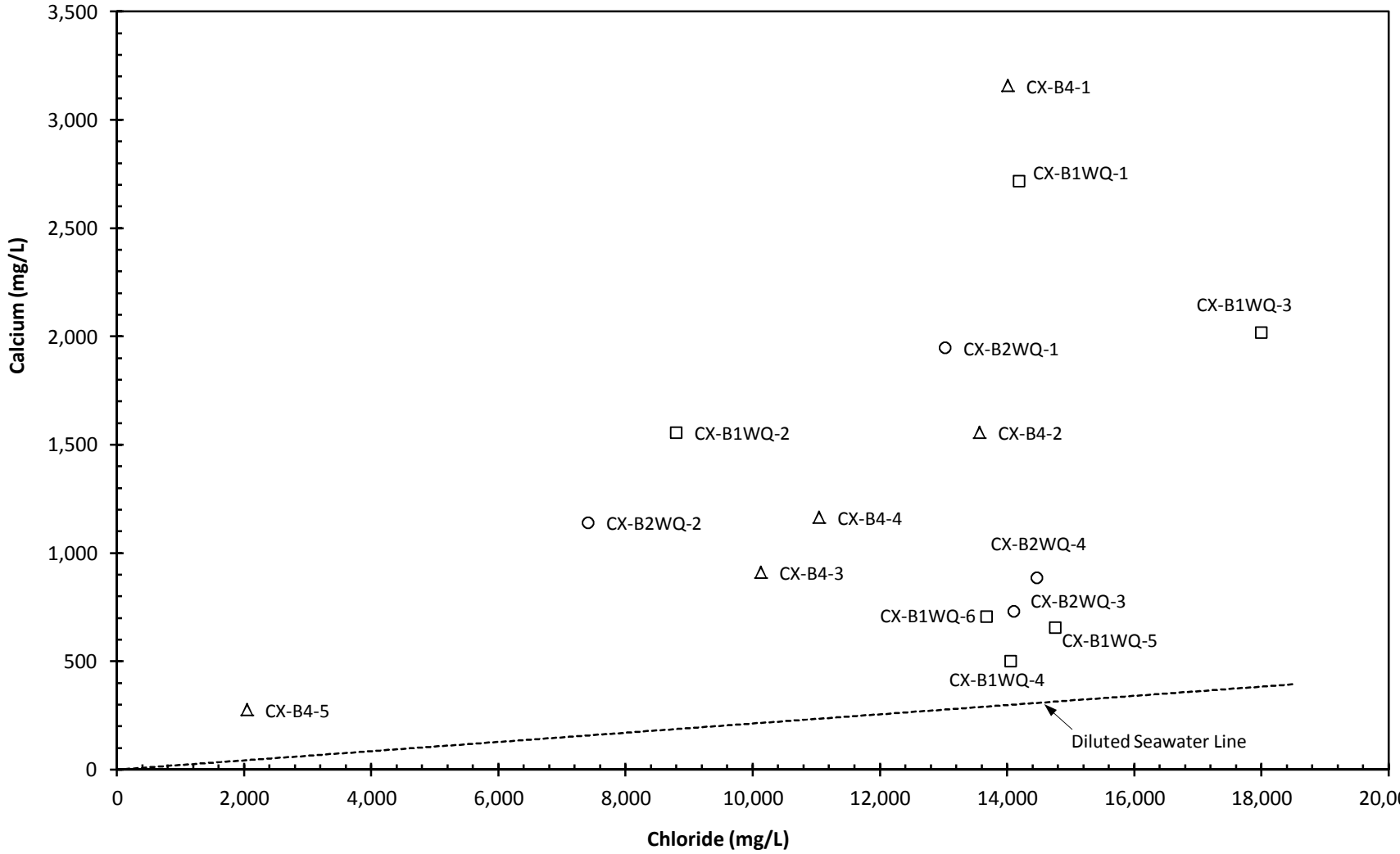


Figure 14

CEMEX Area Water Quality Plot
ΔSodium versus ΔCalcium

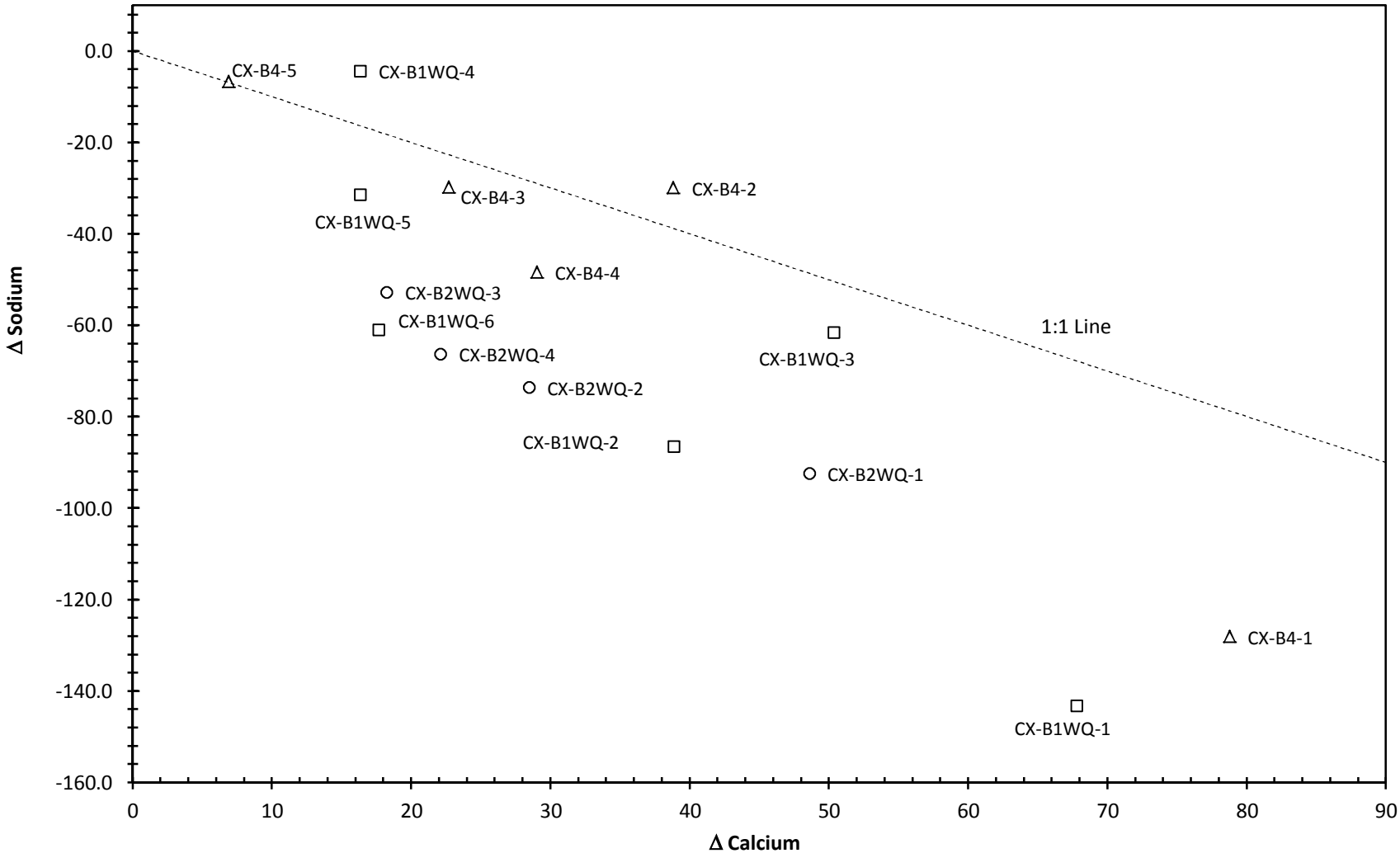


Figure 15

CEMEX Area Water Quality Plot
Total Boron versus Chloride

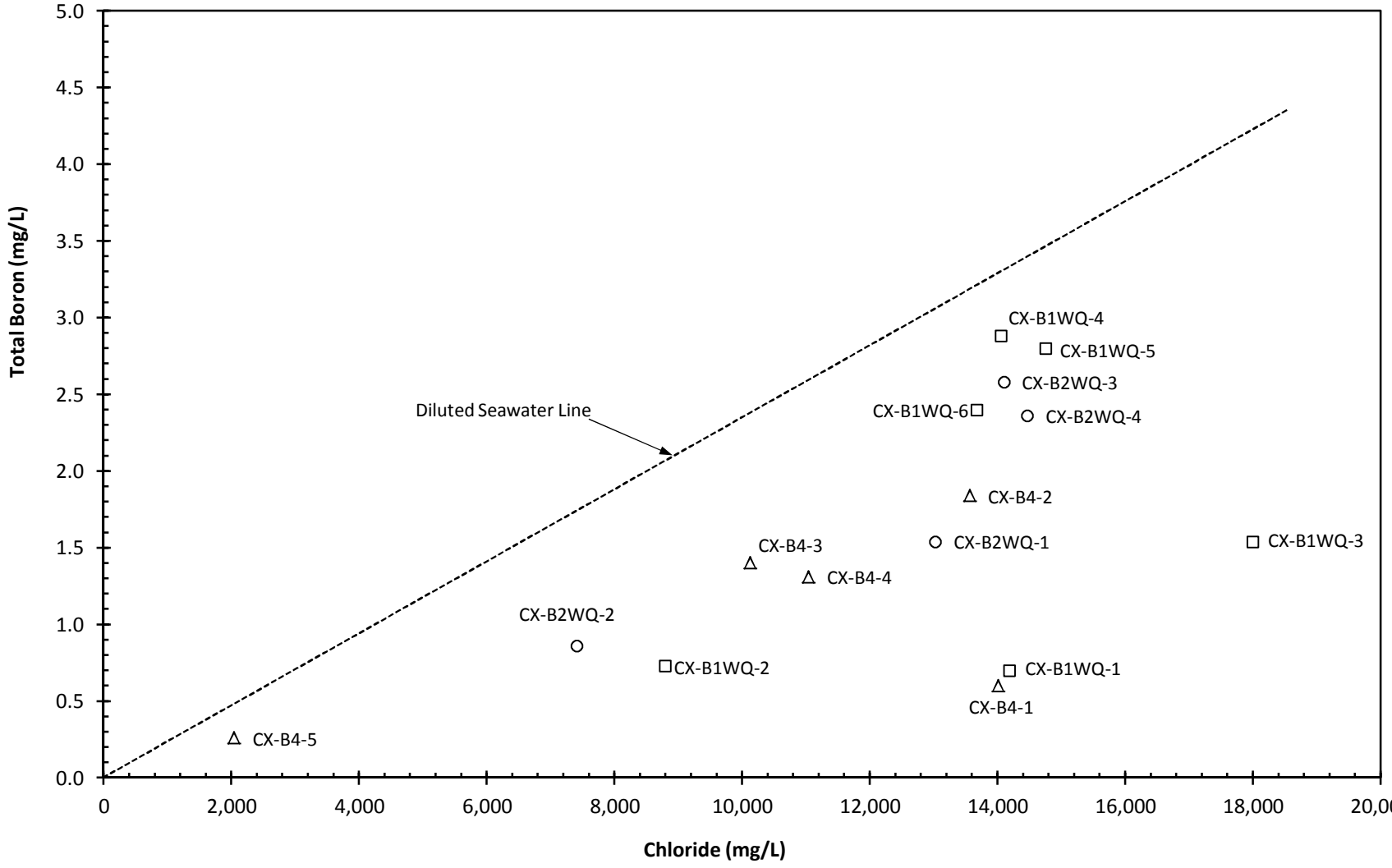


Figure 16

CEMEX Area Water Quality Plot
Strontium versus Chloride

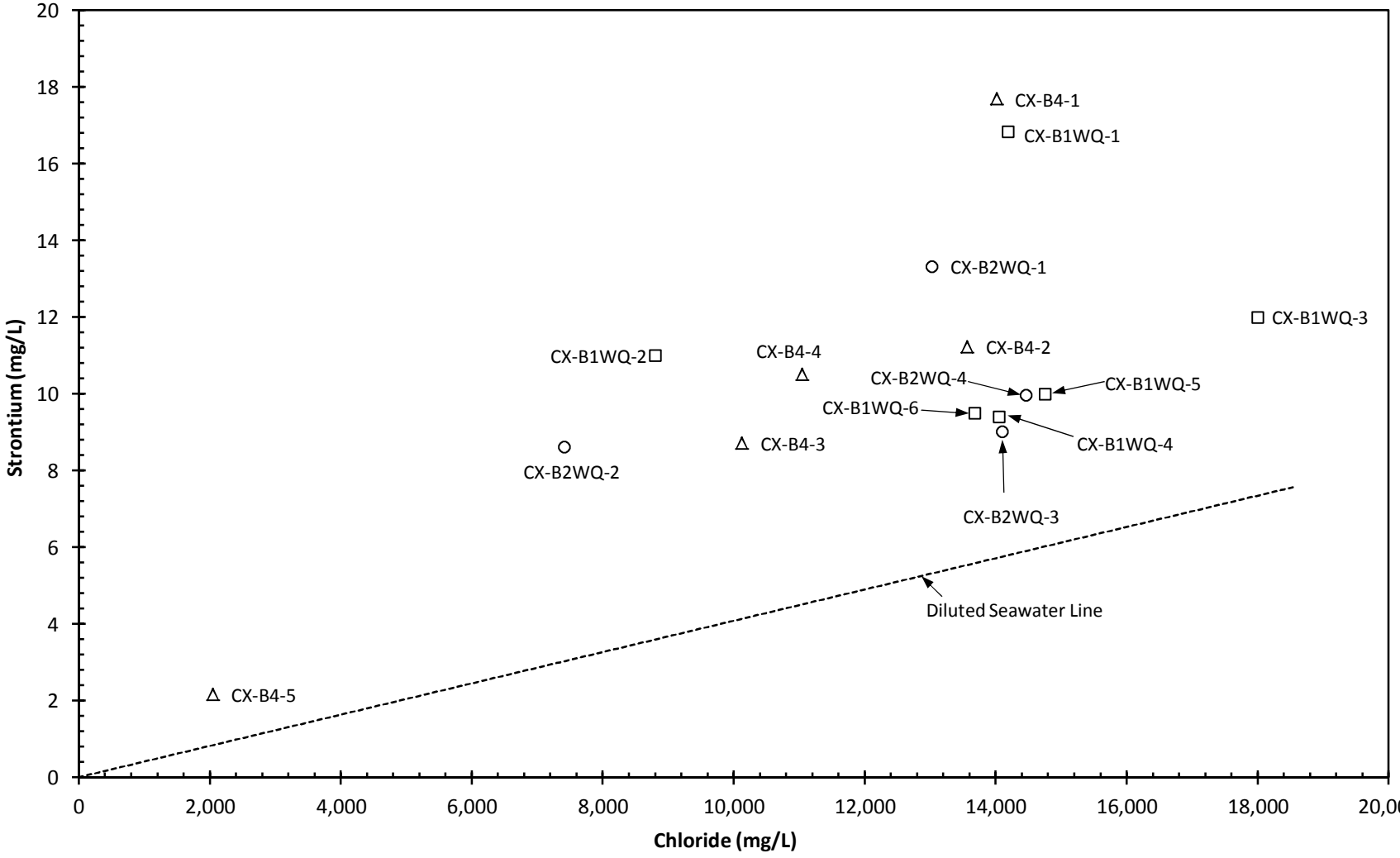


Figure 17

CEMEX Area Water Quality Plot
Sulfate versus Chloride

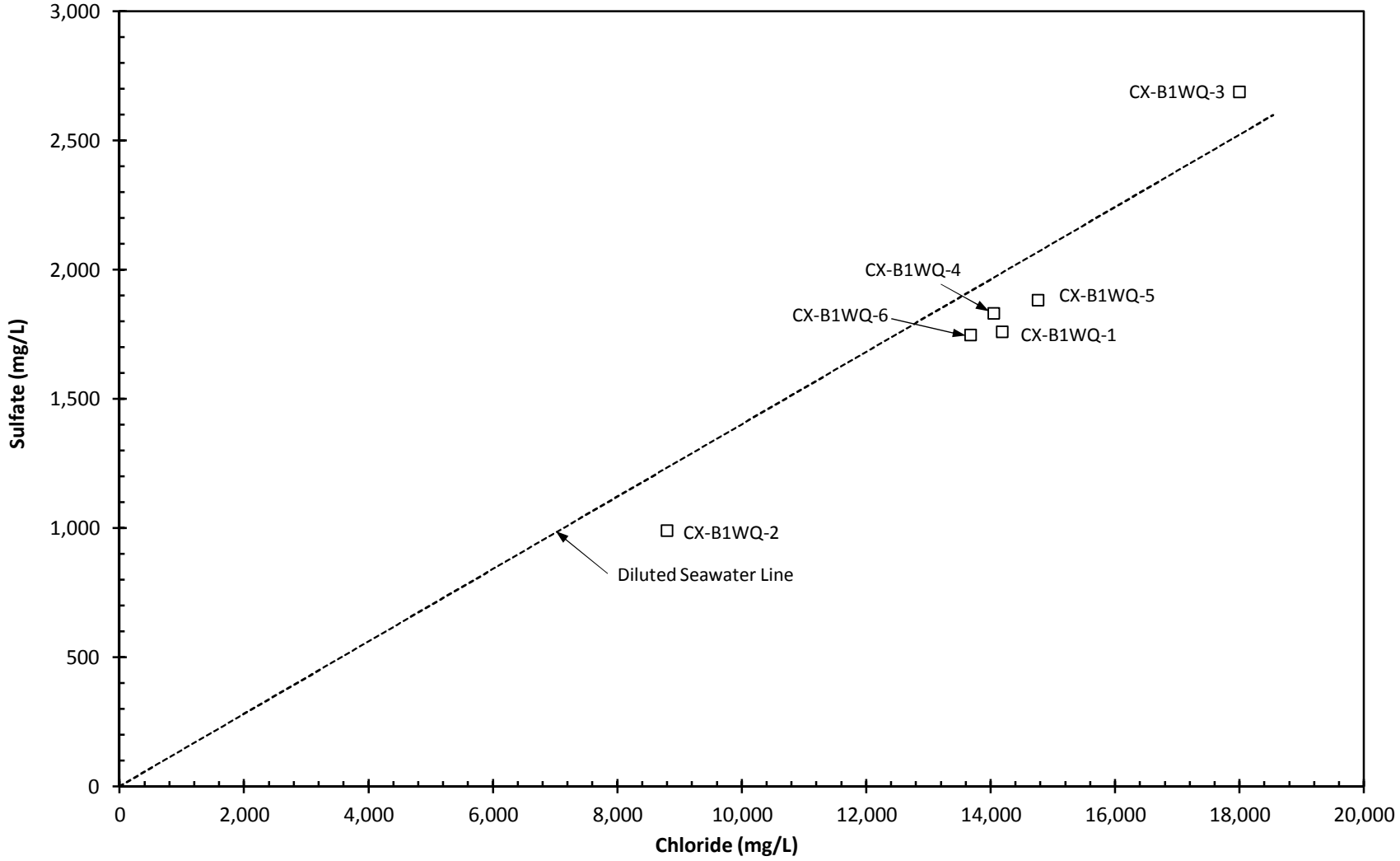


Figure 18

Moss Landing Area Water Quality Plot
TDS versus Chloride

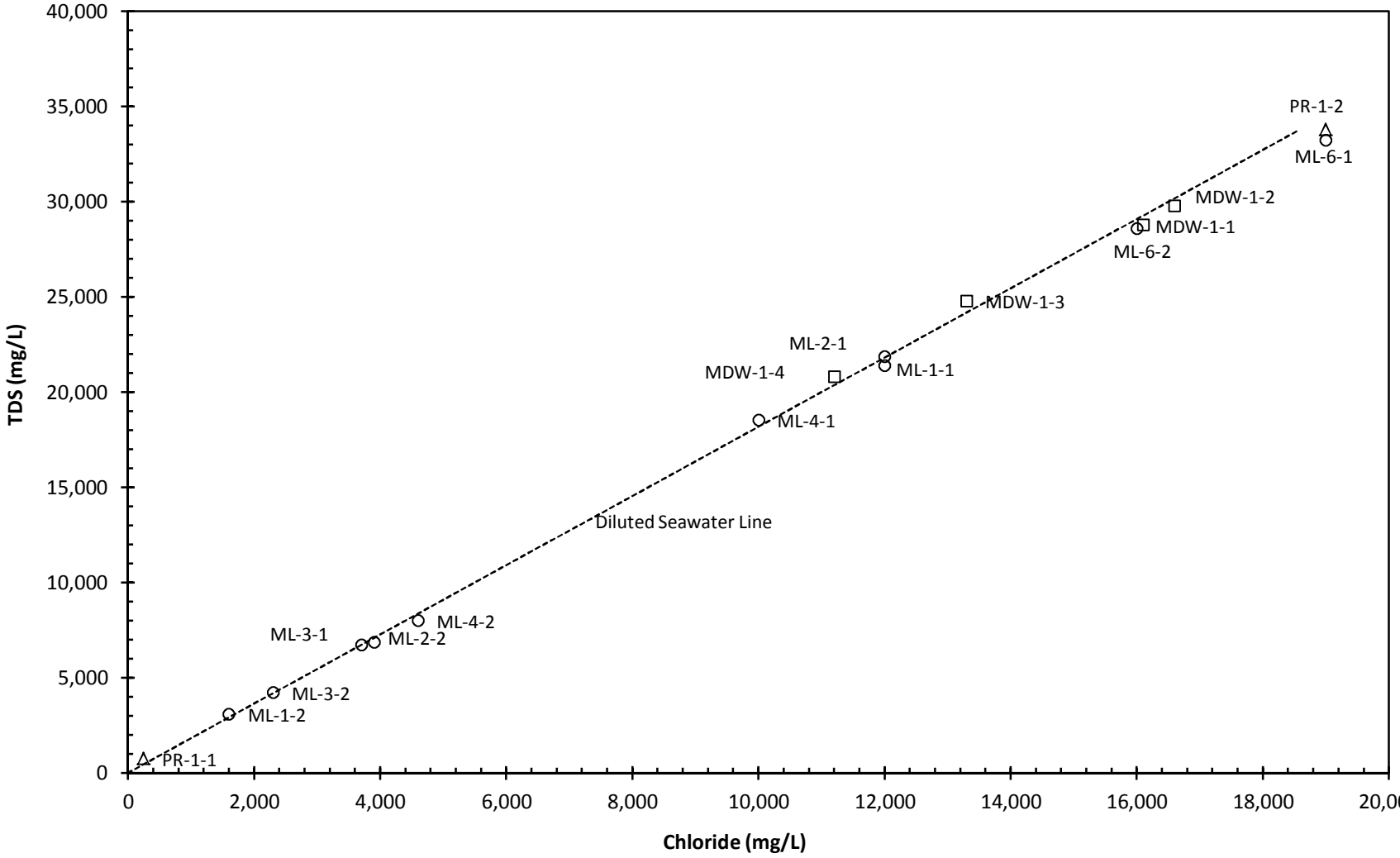


Figure 19

Moss Landing Area Water Quality Plot
Sodium versus Chloride

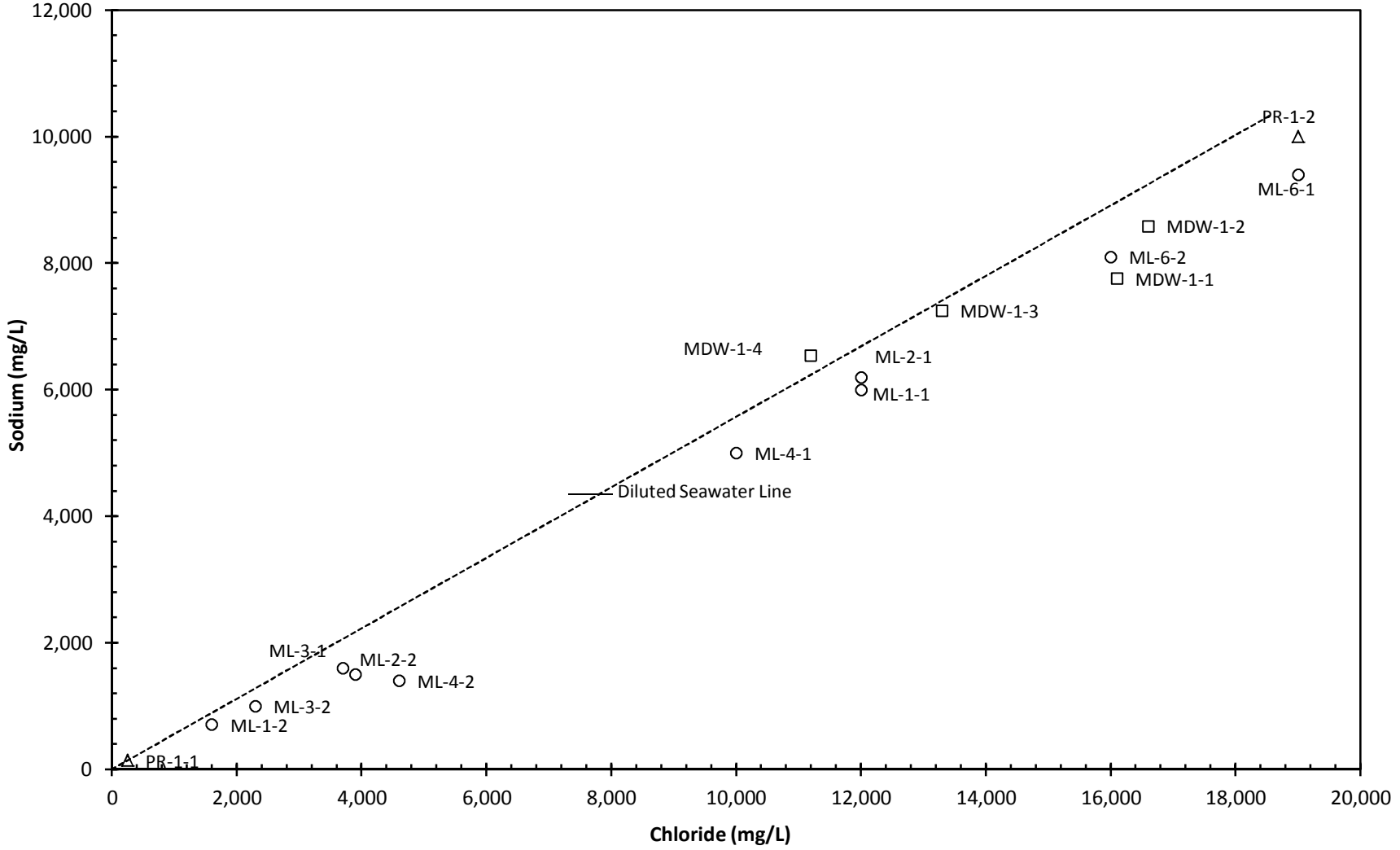


Figure 20

Moss Landing Area Water Quality Plot
Calcium versus Chloride

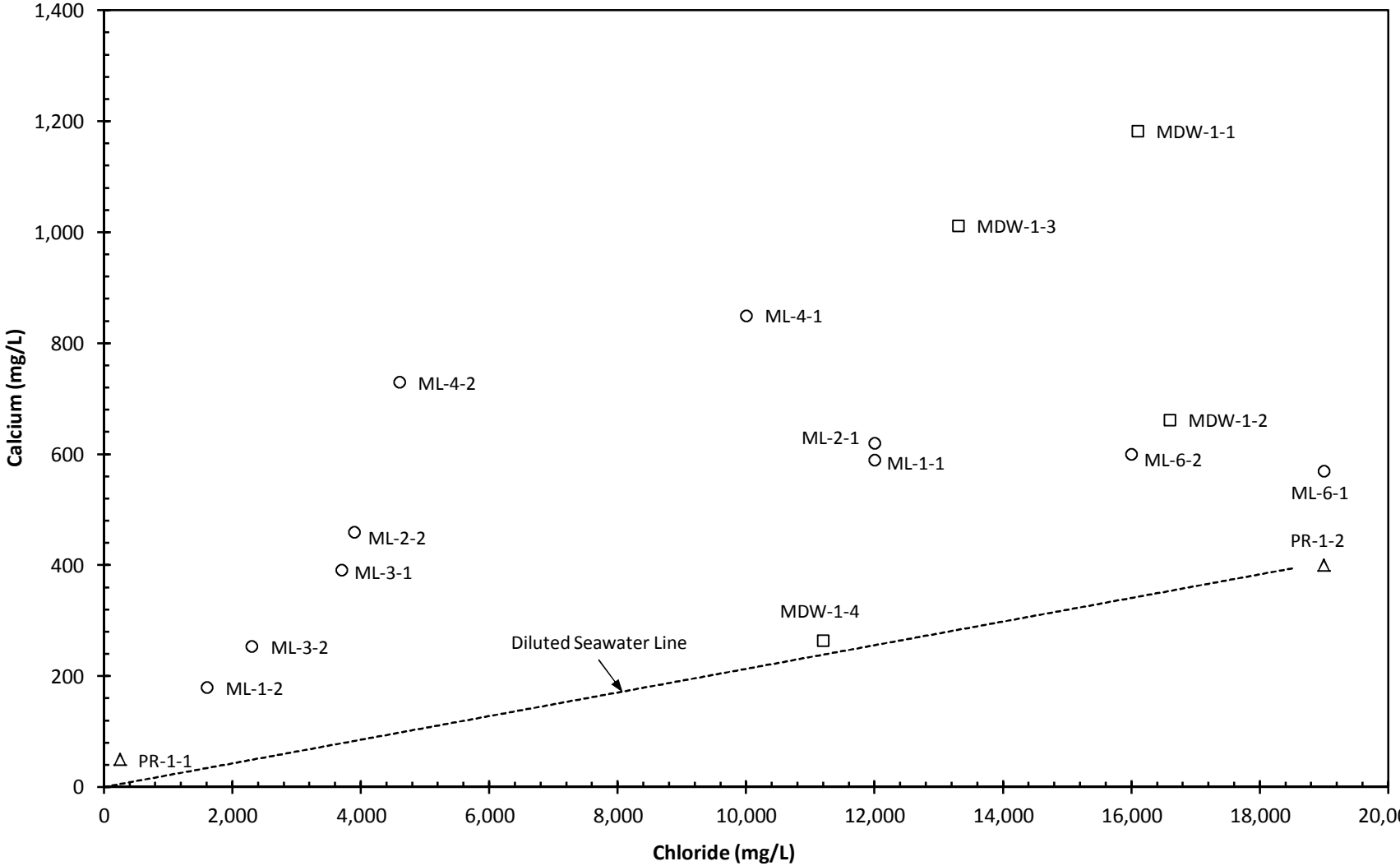


Figure 21

Moss Landing Area Water Quality Plot
ΔSodium versus ΔCalcium

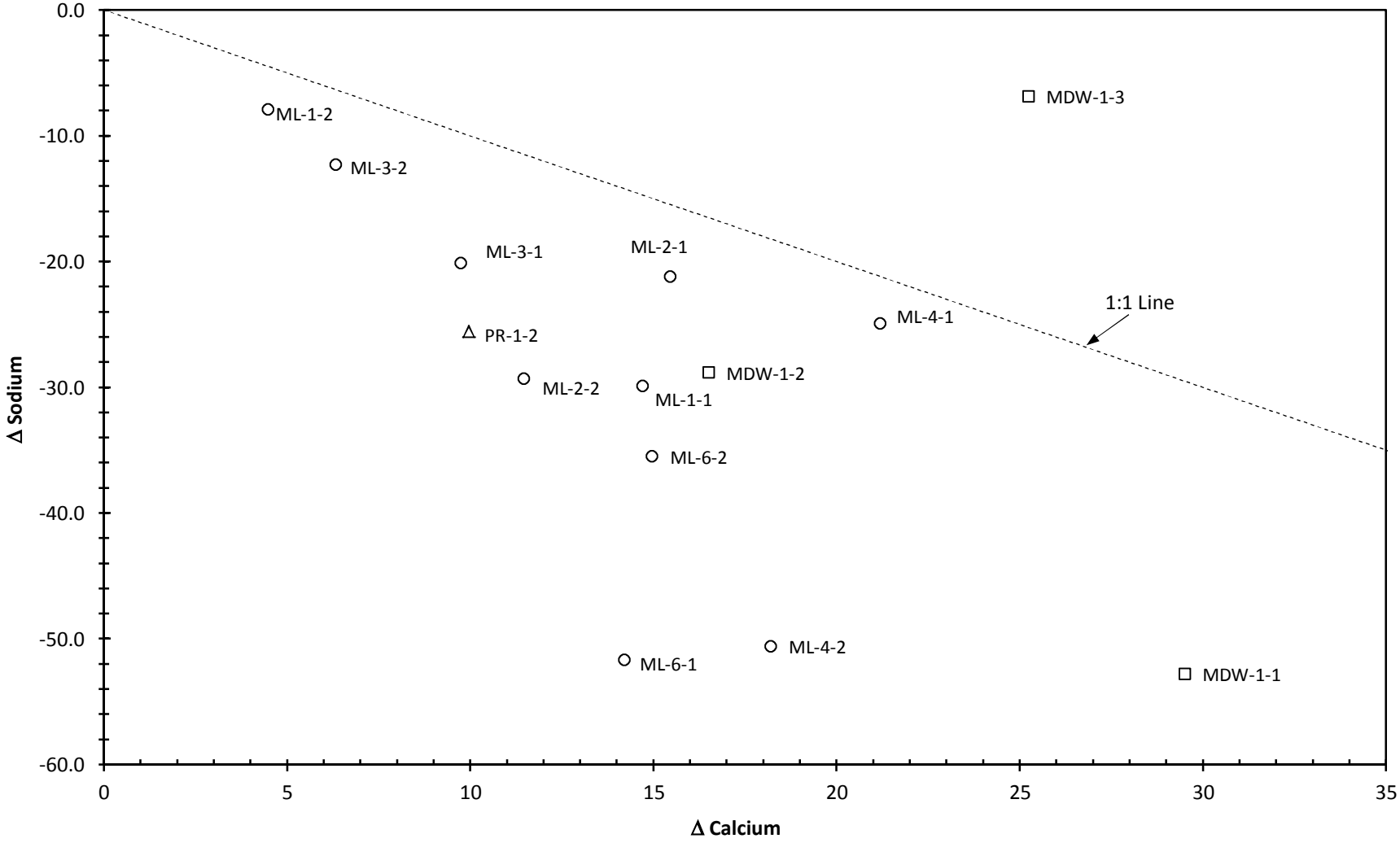


Figure 22

Moss Landing Area Water Quality Plot
Total Boron versus Chloride

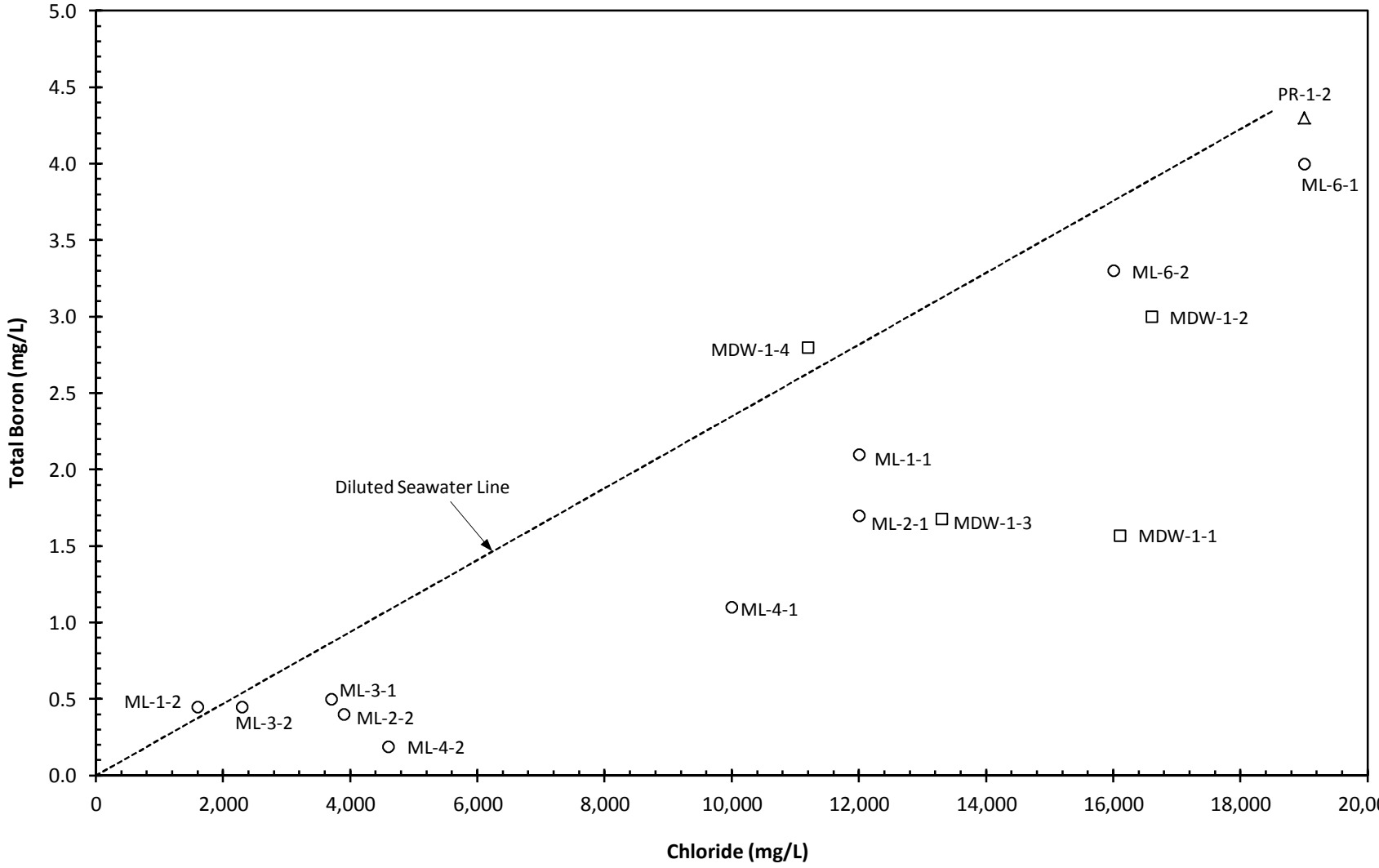


Figure 23

Moss Landing Area Water Quality Plot
Strontium versus Chloride

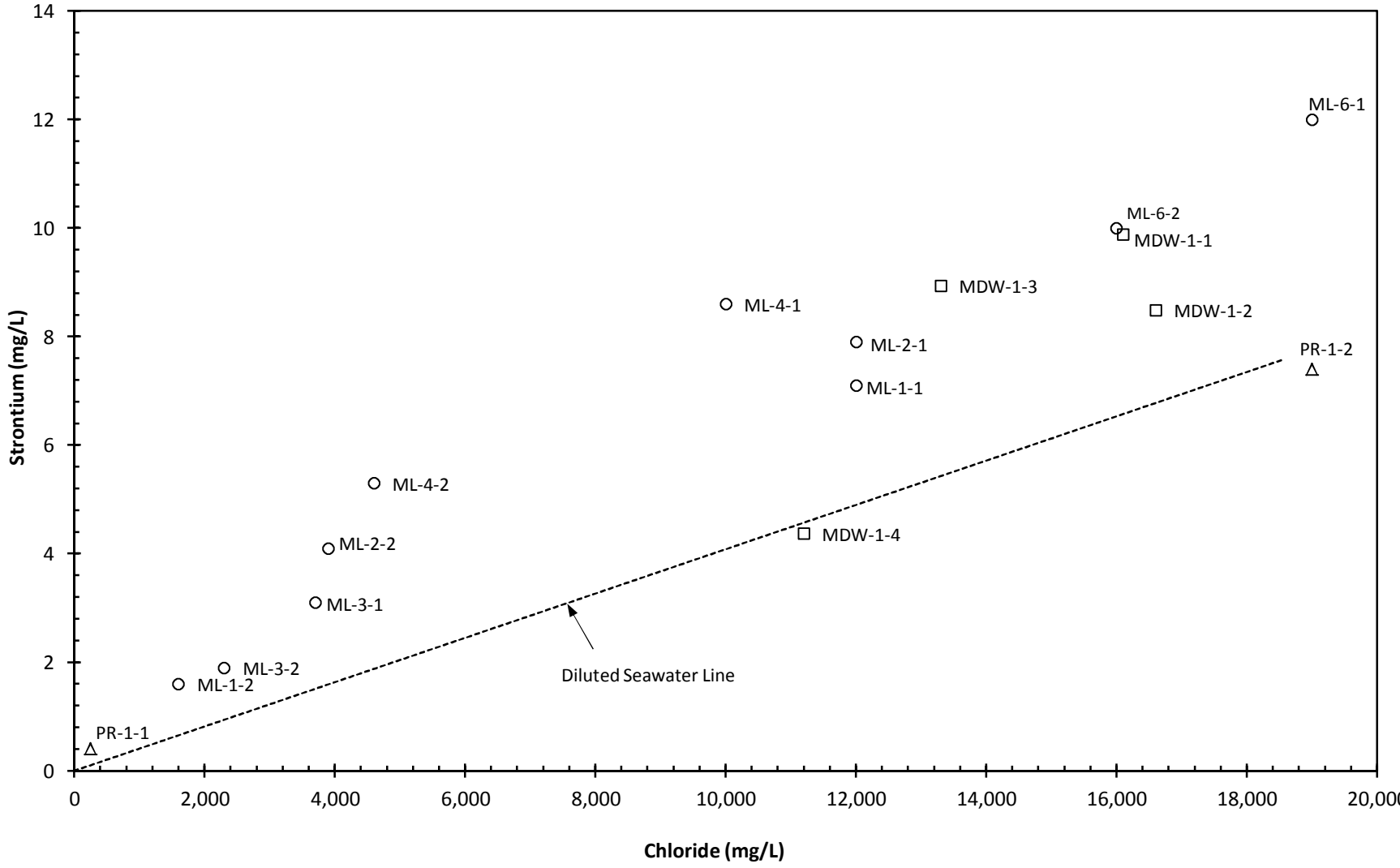


Figure 24

Moss Landing Area Water Quality Plot
Sulfate versus Chloride

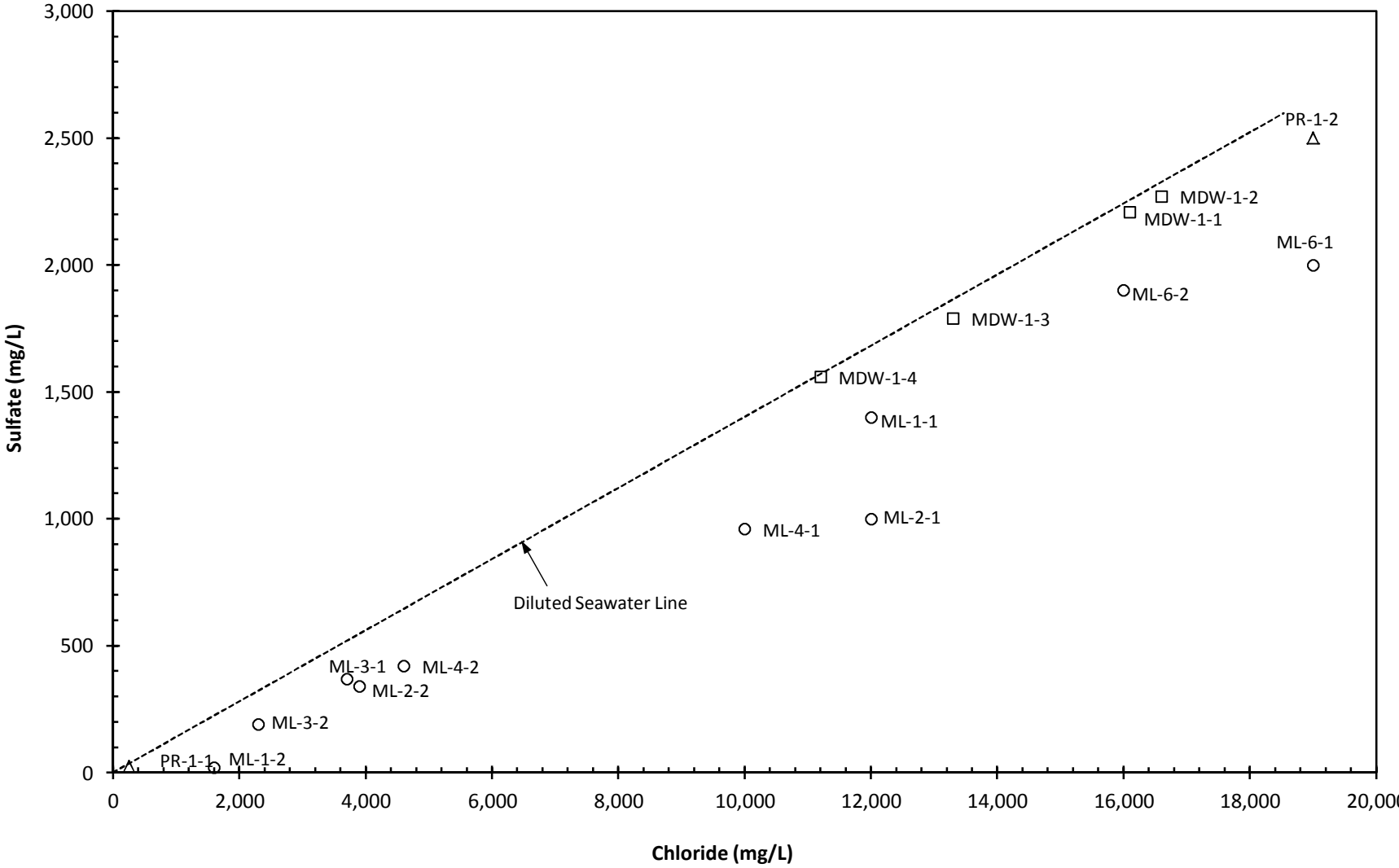


Figure 25

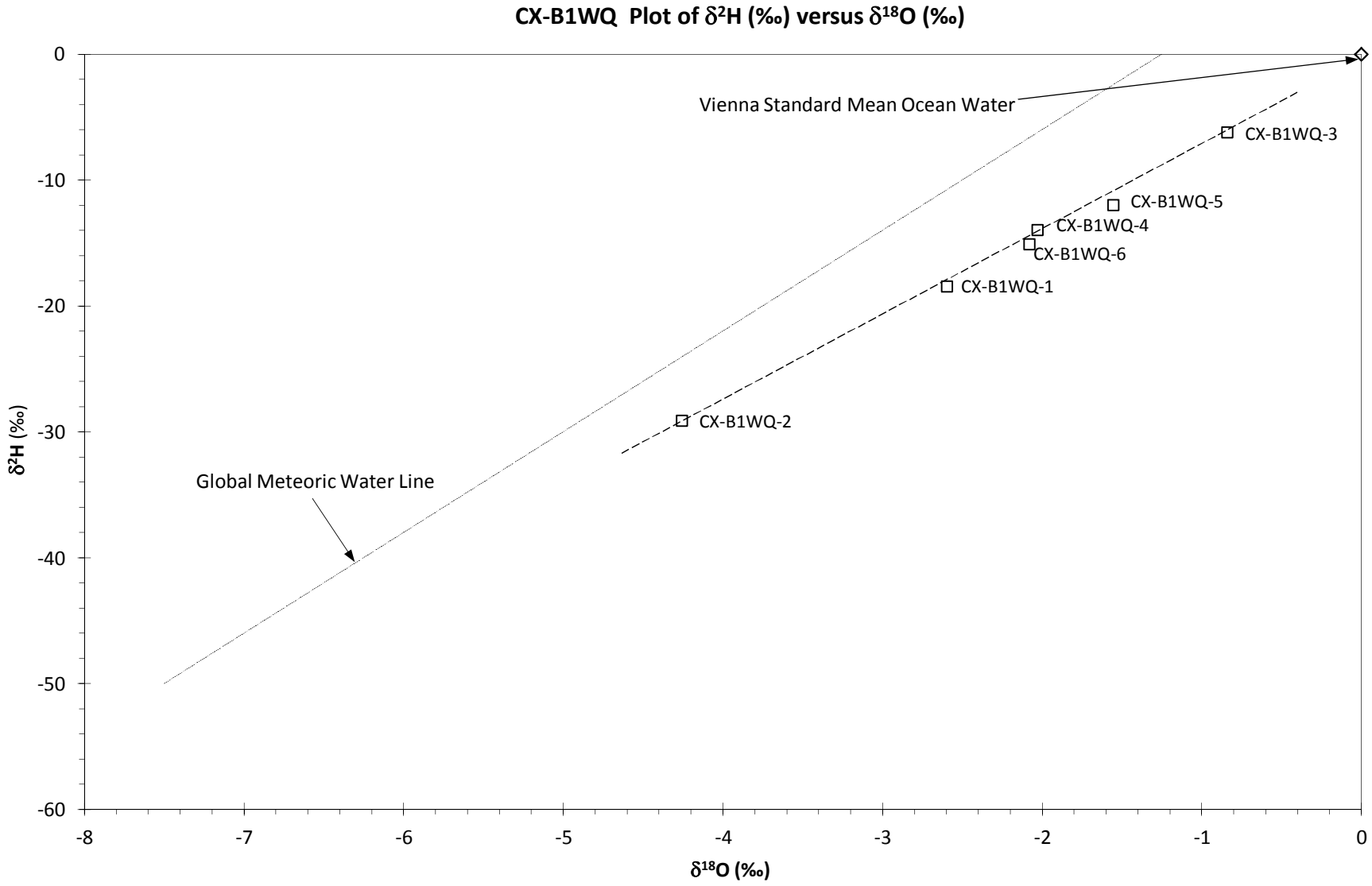

CX-B1WQ Plot of δ²H (‰) versus δ¹⁸O (‰)
Vienna Standard Mean Ocean Water
Global Meteoric Water Line
CX-B1WQ-1
CX-B1WQ-2
CX-B1WQ-3
CX-B1WQ-4
CX-B1WQ-5
CX-B1WQ-6
δ²H (‰)
δ¹⁸O (‰)
0
-10
-20
-30
-40
-50
-60
-8
-7
-6
-5
-4
-3
-2
-1
0

Figure 26

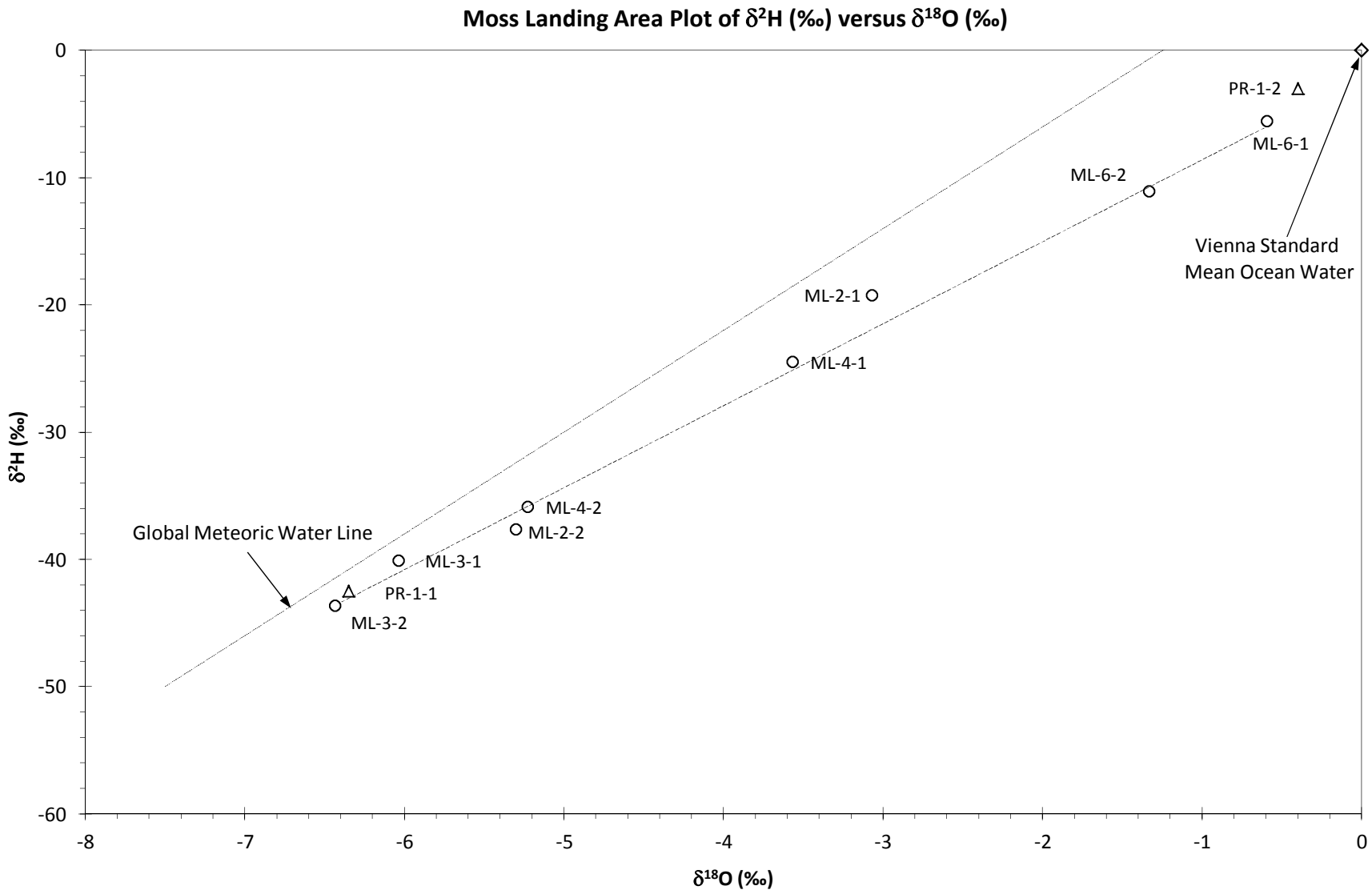
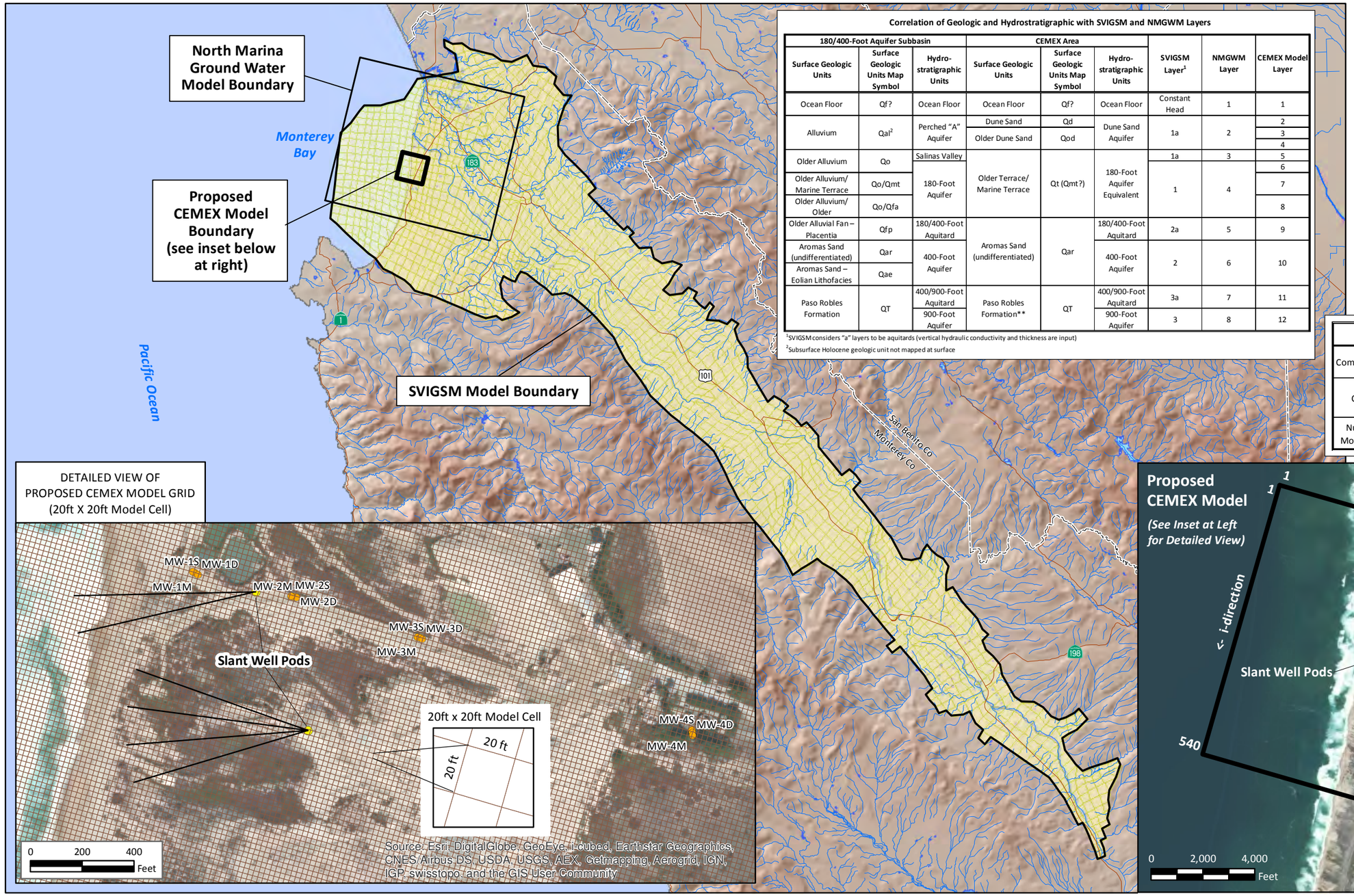

Moss Landing Area Plot of δ²H (‰) versus δ¹⁸O (‰)
δ²H (‰)
δ¹⁸O (‰)
0
-10
-20
-30
-40
-50
-60
-8
-7
-6
-5
-4
-3
-2
-1
0
PR-1-2
ML-6-1
ML-6-2
Vienna Standard
Mean Ocean Water
ML-2-1
ML-4-1
ML-4-2
ML-2-2
Global Meteoric Water Line
ML-3-1
PR-1-1
ML-3-2

Figure 27

GROUND WATER MODEL BOUNDARIES



Correlation of Geologic and Hydrostratigraphic with SVIGSM and NMGWM Layers

180/400-Foot Aquifer Subbasin			CEMEX Area					
Surface Geologic Units	Surface Geologic Units Map Symbol	Hydro-stratigraphic Units	Surface Geologic Units	Surface Geologic Units Map Symbol	Hydro-stratigraphic Units	SVIGSM Layer[1]	NMGWM Layer	CEMEX Model Layer
Ocean Floor	Qf?	Ocean Floor	Ocean Floor	Qf?	Ocean Floor	Constant Head	1	1
Alluvium	Qal[2]	Perched "A" Aquifer	Dune Sand	Qd	Dune Sand Aquifer	1a	2	2
			Older Dune Sand	Qod				3
								4
Older Alluvium	Qo	Salinas Valley	Older Terrace/ Marine Terrace	Qt (Qmt?)	180-Foot Aquifer Equivalent	1a	3	5
Older Alluvium/ Marine Terrace	Qo/Qmt	180-Foot Aquifer				1	4	6
								7
Older Alluvium/ Older	Qo/Qfa							8
Older Alluvial Fan – Placentia	Qfp	180/400-Foot Aquitard	Aromas Sand (undifferentiated)	Qar	180/400-Foot Aquitard	2a	5	9
Aromas Sand (undifferentiated)	Qar	400-Foot Aquifer			400-Foot Aquifer	2	6	10
Aromas Sand – Eolian Lithofacies	Qae							
Paso Robles Formation	QT	400/900-Foot Aquitard	Paso Robles Formation**	QT	400/900-Foot Aquitard	3a	7	11
		900-Foot Aquifer			900-Foot Aquifer	3	8	12

[1] SVIGSM considers "a" layers to be aquitards (vertical hydraulic conductivity and thickness are input)
[2] Subsurface Holocene geologic unit not mapped at surface

MODEL DETAILS

	SVIGSM	NMGWM	CEMEX Model
Computer Code	IGSM	MODFLOW & MT3DMS	SEAWAT
Cell Size	Approx. 0.4 sq. miles	200 ft X 200 ft	20 ft X 20 ft
Number of Model Layers	3	8	12

8-Jul-14

Prepared by: DWB. Map Projection: State Plane 1983, Zone IV.

NORTH

0 5 10 20 Miles

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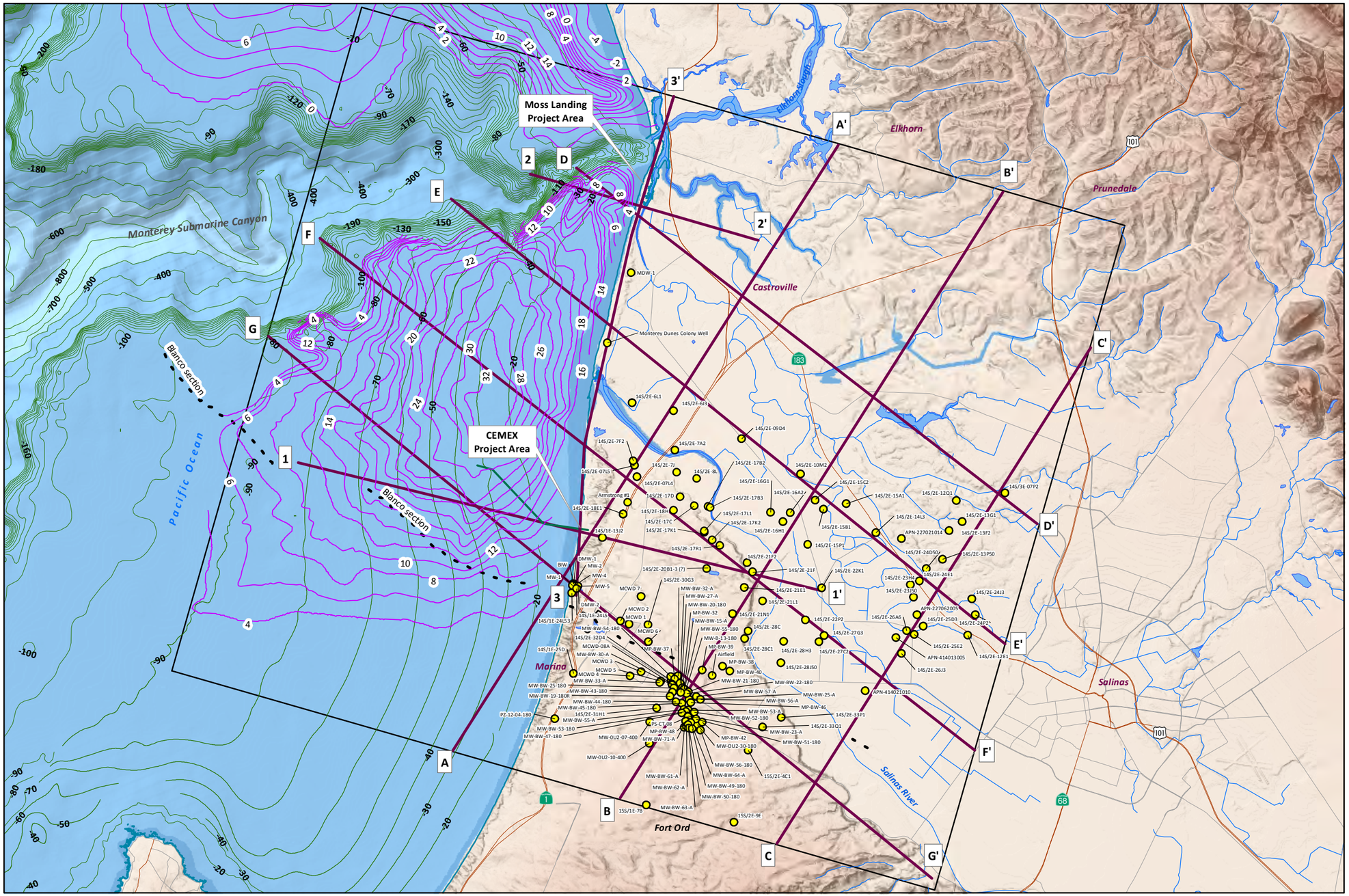
Figure 28

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_28_model_bndys_7-14.mxd



WELL AND CROSS-SECTION LOCATIONS

EXPLANATION

- Well Location
- 1 — 1' Cross-Section Location (See Figures 7-9 and 30-36)
- Holocene Sediment Thickness (meters) Source (USGS OFR 01-179)
- Fault - Blanco Section of the Reliz Fault (Source: USGS SIM 3059)
- Pipeline Outfall
- North Marina Groundwater Model Boundary
- -10 Elevation of Sea Floor, meters (Wong, F.L. and Eittreim, S.L., 2001)
- Mean High Tide (DOC et al., 2011)

8-Jul-14

Prepared by: DWB. Map Projection: State Plane 1983, Zone IV.

NORTH

0 2 4 Miles

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Figure 29

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_29_wells_and_x-secs_7-14.mxd

A
South

A'
North

Elevation, ft amsl

200
100
0
-100
-200
-300
-400
-500
-600
-700
-800
-900
-1,000
-1,100
-1,200

Cross-Section G-G'
Cross-Section 3-3'
Cross-Section 1-1'
Cross-Section F-F'
Cross-Section E-E'
Cross-Section D-D'

14S/02E-24L53
14S/01E-24L05
14S/01E-13J02
14S/02E-18E01
14S/02E-07L04
14S/02E-07L05
14S/02E07F02
14S/02E07A02
14S/02E07A01
14S/02E-06R02
14S/02E-06L01
14S/02E-06J03
14S/02E-05C03
14S/02E-05F04
13S/02E-32N01
13S/02E-32P01
13S/02E-32N02
13S/02E-32E05
13S/02E-32E03
13S/02E-32J03
13S/02E-29J01
13S/02E-28M02
13S/02E-28E01
13S/02E-28B01

Pacific Ocean
Dune Sand Aquifer
180-Foot Equivalent Aquifer
180/400-Foot Aquitard
Salinas Valley Aquitard
Perched "A" Aquifer
180-Foot Aquifer
400-Foot Aquifer

6,000
12,000
18,000
24,000
30,000
36,000
42,000
48,000
54,000
60,000

Legend

- COARSE GRAVEL/SAND
- GRAVEL
- BOULDERS
- GRAVEL/SAND
- TOPSOIL
- SAND
- SAND, BLUE
- SAND, RED
- SAND,WHITE
- SAND, YELLOW
- COARSE SAND
- FINE SAND
- QUICKSAND
- SEDIMENT
- SANDSTONE
- GRAVEL/CLAY
- GRAVELLY CLAY
- GRAVEL/ROCKS/CLAY
- SANDY BLUE CLAY
- SAND/GRAVEL/CLAY
- SAND/CLAY
- SANDY CLAY
- ADOBE
- DECOMPOSED GRANITE
- CLAY, BLUE
- CLAY, BROWN
- CLAY, RED
- CLAY, WHITE
- CLAY, YELLOW
- CLAY
- SHALE
- GRANITE
- SEEPAGE
- OPEN II
- OPEN I

Hydrogeologic Contact (approximate)

Note:
Wells and logs from Kennedy/Jenks (2004), MACTEC (2005), and USGS WRIR 2-4003 (2002)

Bolded well names are wells shown on Figure 29; other logs from previous cross-sections

0 200 400
Vertical Approximate Scale Feet

0 6,000 12,000
Horizontal Approximate Scale Feet

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Figure 30

Projects\ESA_and_ESA-CalAm\01) MPWSP\11) Logs_x-sections\x-section_A-A'_scale_MW

B
South

B'
North

Elevation, ft amsl

300
200
100
0
-100
-200
-300
-400
-500
-600
-700
-800

MW-OU2-30
Airfield
MP-BW-40
14S/02E-28C01
14S/02E-21N01
14S/02E-21E01
14S/02E-21F02
14S/02E-15P01
14S/02E-16G01
14S/02E-16H01
14S/02E-16A02
14S/02E-15B01
14S/02E-15C02
14S/02E-10M02
14S/02E-10H01
14S/02E-03K02
14S/02E-03R02
14S/02E-02E02
14S/02E-02C03
13S/02E-36F01
APN-133013001

Cross-Section F-F'
Cross-Section 1-1'
Cross-Section E-E'
Cross-Section D-D'

Dune Sand Aquifer
180-Foot Equivalent Aquifer
180/400-Foot Aquitard
Perched "A" Aquifer
Salinas Valley Aquitard
180-Foot Aquifer
400-Foot Aquifer

6,000
12,000
18,000
24,000
30,000
36,000
42,000
48,000
54,000
60,000

Legend

- COARSE GRAVEL/SAND
- GRAVEL
- BOULDERS
- GRAVEL/SAND
- TOPSOIL
- SAND
- SAND, BLUE
- SAND, RED
- SAND,WHITE
- SAND, YELLOW
- COARSE SAND
- FINE SAND
- QUICKSAND
- SEDIMENT
- SANDSTONE
- GRAVEL/CLAY
- GRAVELLY CLAY
- GRAVEL/ROCKS/CLAY
- SANDY BLUE CLAY
- SAND/GRAVEL/CLAY
- SAND/CLAY
- SANDY CLAY
- ADOBE
- DECOMPOSED GRANITE
- CLAY, BLUE
- CLAY, BROWN
- CLAY, RED
- CLAY, WHITE
- CLAY, YELLOW
- CLAY
- SHALE
- GRANITE
- SEEPAGE
- OPEN II
- OPEN I

Hydrogeologic Contact (approximate)

Note:
Wells and logs from Kennedy/Jenks (2004), MACTEC (2005), and USGS WRIR 2-4003 (2002)

Bolded well names are wells shown on Figure 29; other logs from previous cross-sections

0 200 400
Vertical Approximate Scale Feet

0 6,000 12,000
Horizontal Approximate Scale Feet

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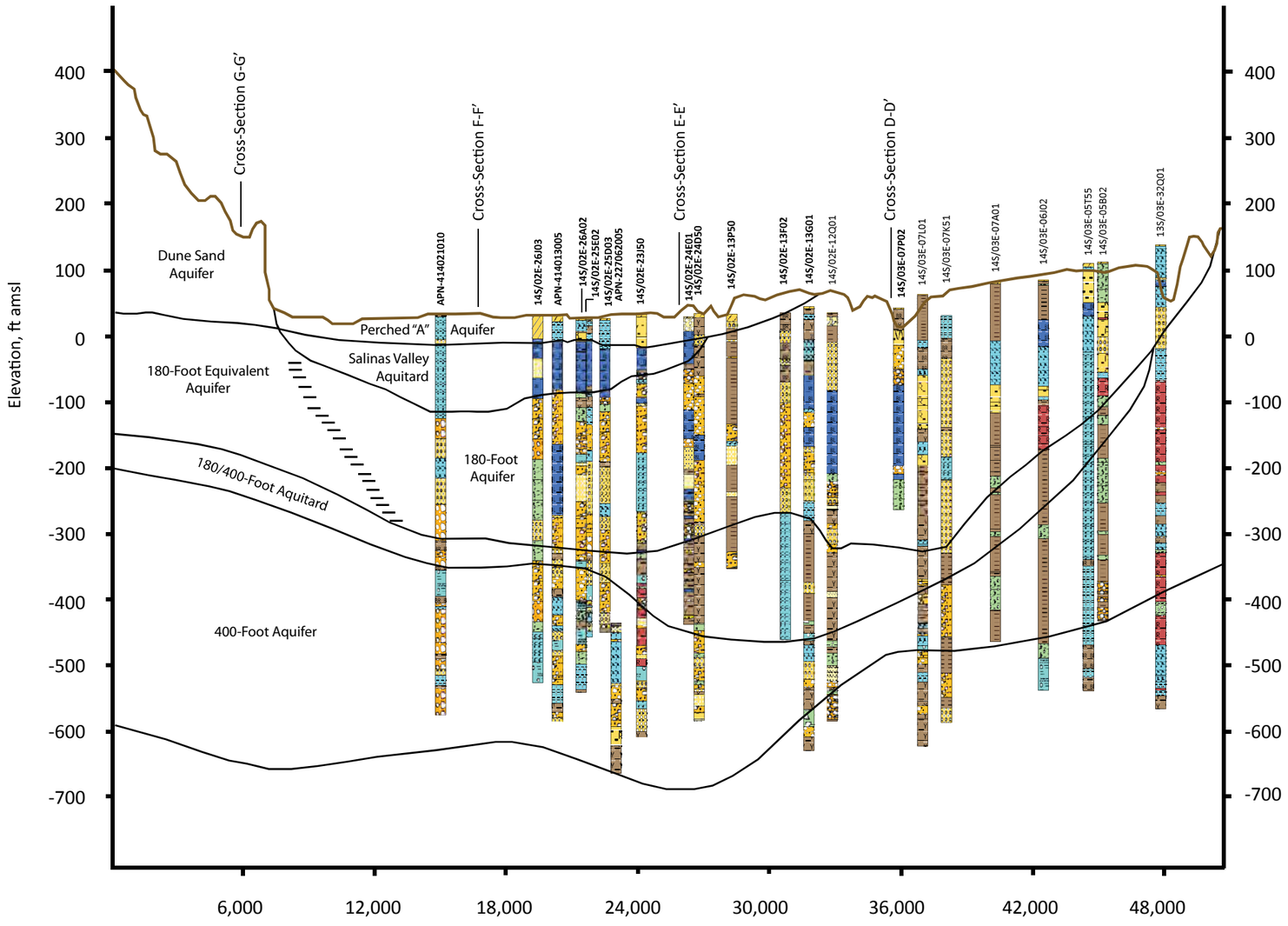
Figure 31

Projects\ESA_and_ESA-CalAm\01) MPWSP\11) Logs_x-sections\x-section_B-B'_MW

C
South

C'
North



Legend

- COARSE GRAVEL/SAND
- GRAVEL
- BOULDERS
- GRAVEL/SAND
- TOPSOIL
- SAND
- SAND, BLUE
- SAND, RED
- SAND,WHITE
- SAND, YELLOW
- COARSE SAND
- FINE SAND
- QUICKSAND
- SEDIMENT
- SANDSTONE
- GRAVEL/CLAY
- GRAVELLY CLAY
- GRAVEL/ROCKS/CLAY
- SANDY BLUE CLAY
- SAND/GRAVEL/CLAY
- SAND/CLAY
- SANDY CLAY
- ADOBE
- DECOMPOSED GRANITE
- CLAY, BLUE
- CLAY, BROWN
- CLAY, RED
- CLAY, WHITE
- CLAY, YELLOW
- CLAY
- SHALE
- GRANITE
- SEEPAGE
- OPEN II
- OPEN I

Hydrogeologic Contact (approximate)

Note:
Wells and logs from Kennedy/Jenks (2004), MACTEC (2005), and USGS WRIR 2-4003 (2002)

Bolded well names are wells shown on Figure 29; other logs from previous cross-sections

0 200 400
Vertical Approximate Scale Feet

0 6,000 12,000
Horizontal Approximate Scale Feet

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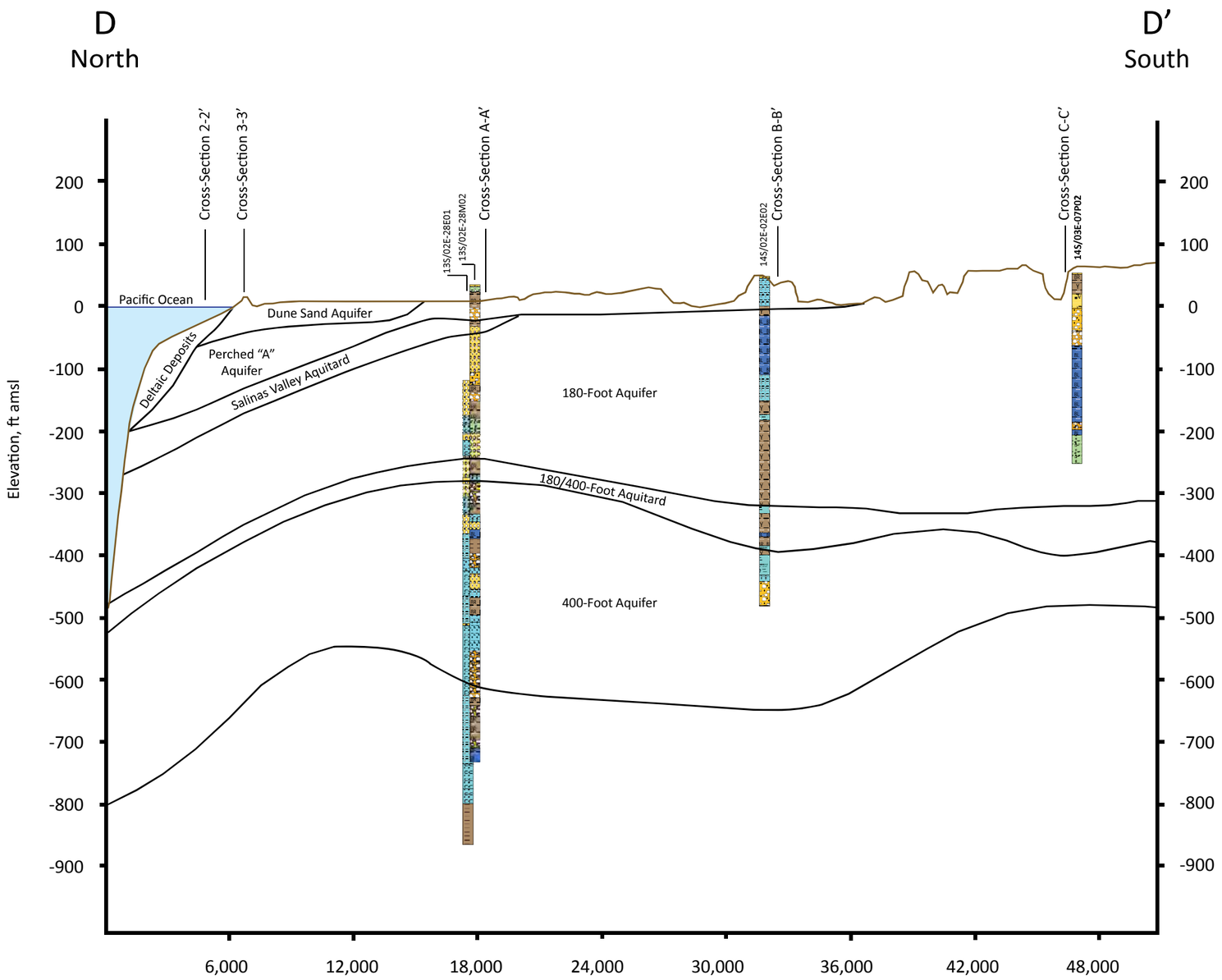
Figure 32

Projects\ESA_and_ESA-CalAm\01) MPWSP\11) Logs_x-sections\x-section_C-C'_MW



Legend

- COARSE GRAVEL/SAND
- GRAVEL
- BOULDERS
- GRAVEL/SAND
- TOPSOIL
- SAND
- SAND, BLUE
- SAND, RED
- SAND,WHITE
- SAND, YELLOW
- COARSE SAND
- FINE SAND
- QUICKSAND
- SEDIMENT
- SANDSTONE
- GRAVEL/CLAY
- GRAVELLY CLAY
- GRAVEL/ROCKS/CLAY
- SANDY BLUE CLAY
- SAND/GRAVEL/CLAY
- SAND/CLAY
- SANDY CLAY
- ADOBE
- DECOMPOSED GRANITE
- CLAY, BLUE
- CLAY, BROWN
- CLAY, RED
- CLAY, WHITE
- CLAY, YELLOW
- CLAY
- SHALE
- GRANITE
- SEEPAGE
- OPEN II
- OPEN I

Hydrogeologic Contact (approximate)

Note:
Wells and logs from Kennedy/Jenks (2004), MACTEC (2005), and USGS WRIR 2-4003 (2002)

Bolded well names are wells shown on Figure 29; other logs from previous cross-sections

0 200 400
Vertical Approximate Scale Feet

0 6,000 12,000
Horizontal Approximate Scale Feet

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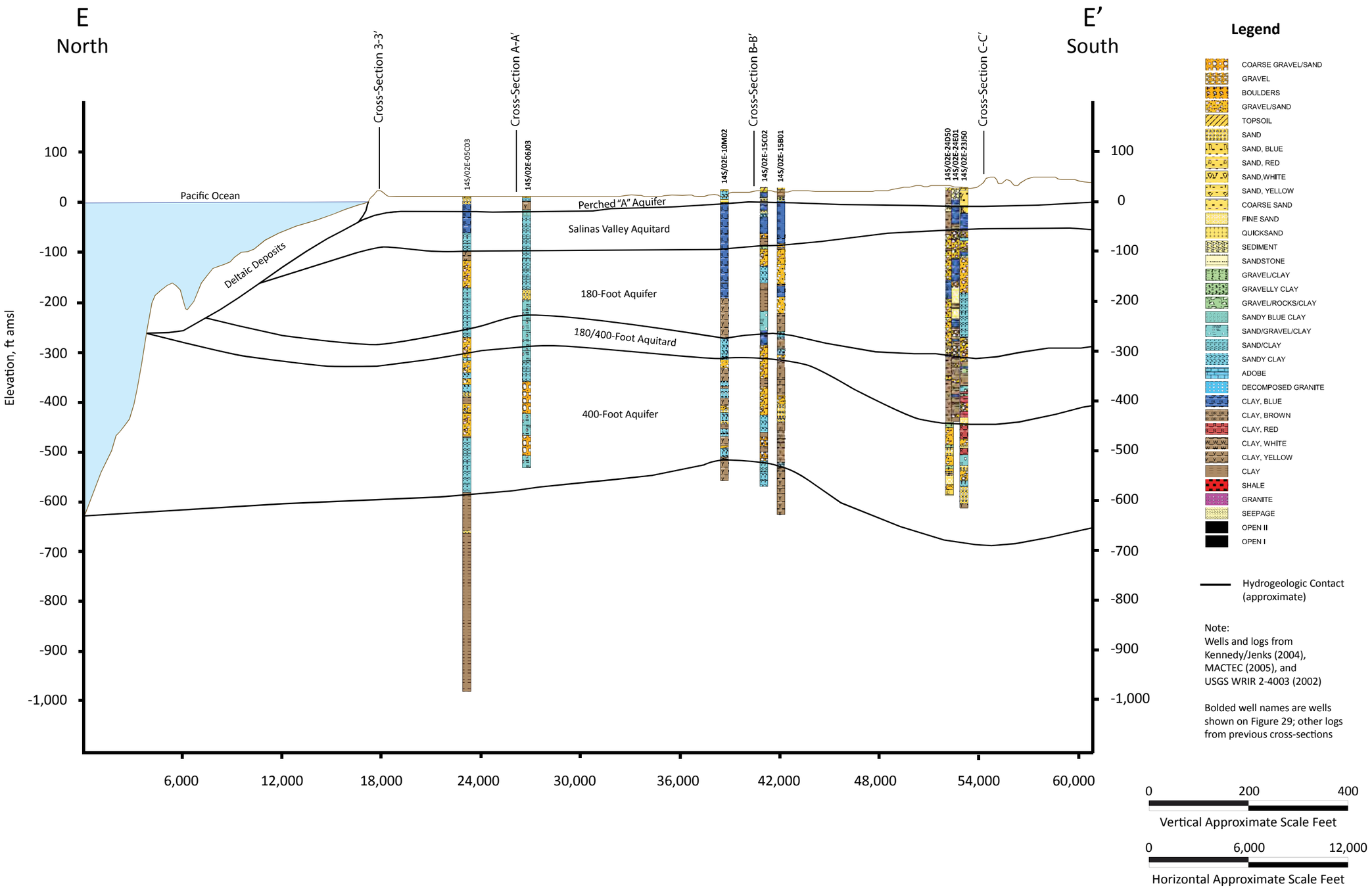
Figure 33

Projects\ESA_and_ESA-CalAm\01) MPWSP\11) Logs_x-sections\x-section_D-D'_MW.ai



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HYDROGEOLOGIC CROSS-SECTION E-E'

Drawn: TC
Checked:
Approved:
Date: 8-Jul-14

Figure 34

Projects\ESA_and_ESA-CalAm\01) MPWSP\11) Logs_x-sections\x-section_E-E'_rev

F
North

F'
South

Cross-Section 3-3'
Cross-Section A-A'
14S/2E-7L4
14S/2E-21E1 (Projected 3,120 ft NW parallel to bluff face)
14S/2E-21F2
Cross-Section 1-1'
Cross-Section B-B'
APN-414021010
Cross-Section C-C'

Perched "A" Aquifer
Pacific Ocean
Dune Sand Aquifer
SVA
Deltaic Deposits
180-Foot Equivalent Aquifer
Salinas Valley Aquitard
180-Foot Aquifer
180/400-Foot Aquitard
400-Foot Aquifer

Elevation, ft amsl

100
0
-100
-200
-300
-400
-500
-600
-700
-800
-900
-1,000

6,000
12,000
18,000
24,000
30,000
36,000
42,000
48,000
54,000
60,000
66,000
72,000

Legend

- COARSE GRAVEL/SAND
- GRAVEL
- BOULDERS
- GRAVEL/SAND
- TOPSOIL
- SAND
- SAND, BLUE
- SAND, RED
- SAND,WHITE
- SAND, YELLOW
- COARSE SAND
- FINE SAND
- QUICKSAND
- SEDIMENT
- SANDSTONE
- GRAVEL/CLAY
- GRAVELLY CLAY
- GRAVEL/ROCKS/CLAY
- SANDY BLUE CLAY
- SAND/GRAVEL/CLAY
- SAND/CLAY
- SANDY CLAY
- ADOBE
- DECOMPOSED GRANITE
- CLAY, BLUE
- CLAY, BROWN
- CLAY, RED
- CLAY, WHITE
- CLAY, YELLOW
- CLAY
- SHALE
- GRANITE
- SEEPAGE
- OPEN II
- OPEN I
- Hydrogeologic Contact (approximate)

Note:
Wells and logs from Kennedy/Jenks (2004), MACTEC (2005), and USGS WRIR 2-4003 (2002)

Bolded well names are wells shown on Figure 29; other logs from previous cross-sections

0 200 400
Vertical Approximate Scale Feet

0 6,000 12,000
Horizontal Approximate Scale Feet

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CALIFORNIA AMERICAN WATER & RBF CONSULTING

HYDROGEOLOGIC CROSS-SECTION F-F'

Drawn: TC
Checked:
Approved:
Date: 8-Jul-14

Figure 35

Projects\ESA_and_ESA-CalAm\01) MPWSP\11) Logs_x-sections\x-section_F-F'_rev

G
North

G'
South

Cross-Section 1-1'
Cross-Section A-A'
Cross-Section 3-3'
Cross-Section B-B'
Cross-Section C-C'

14S/01E-24L53
14S/01E-24L05
Airfield
MP-BW-42

Salinas Valley Aquitard

Pacific Ocean

Dune Sand Aquifer

Deltaic Deposits

180-Foot Equivalent Aquifer

180/400-Foot Aquitard

400-Foot Aquifer

Elevation, ft amsl

200
100
0
-100
-200
-300
-400
-500
-600
-700
-800
-900
-1,000
-1,100

6,000
12,000
18,000
24,000
30,000
36,000
42,000
48,000
54,000
60,000
66,000
72,000

Legend

- COARSE GRAVEL/SAND
- GRAVEL
- BOULDERS
- GRAVEL/SAND
- TOPSOIL
- SAND
- SAND, BLUE
- SAND, RED
- SAND,WHITE
- SAND, YELLOW
- COARSE SAND
- FINE SAND
- QUICKSAND
- SEDIMENT
- SANDSTONE
- GRAVEL/CLAY
- GRAVELLY CLAY
- GRAVEL/ROCKS/CLAY
- SANDY BLUE CLAY
- SAND/GRAVEL/CLAY
- SAND/CLAY
- SANDY CLAY
- ADOBE
- DECOMPOSED GRANITE
- CLAY, BLUE
- CLAY, BROWN
- CLAY, RED
- CLAY, WHITE
- CLAY, YELLOW
- CLAY
- SHALE
- GRANITE
- SEEPAGE
- OPEN II
- OPEN I
- Hydrogeologic Contact (approximate)

Note:
Wells and logs from Kennedy/Jenks (2004), MACTEC (2005), and USGS WRIR 2-4003 (2002)

Bolded well names are wells shown on Figure 29; other logs from previous cross-sections

0 200 400
Vertical Approximate Scale Feet

0 6,000 12,000
Horizontal Approximate Scale Feet

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CALIFORNIA AMERICAN WATER & RBF CONSULTING

HYDROGEOLOGIC CROSS-SECTION G-G'

Drawn: TC
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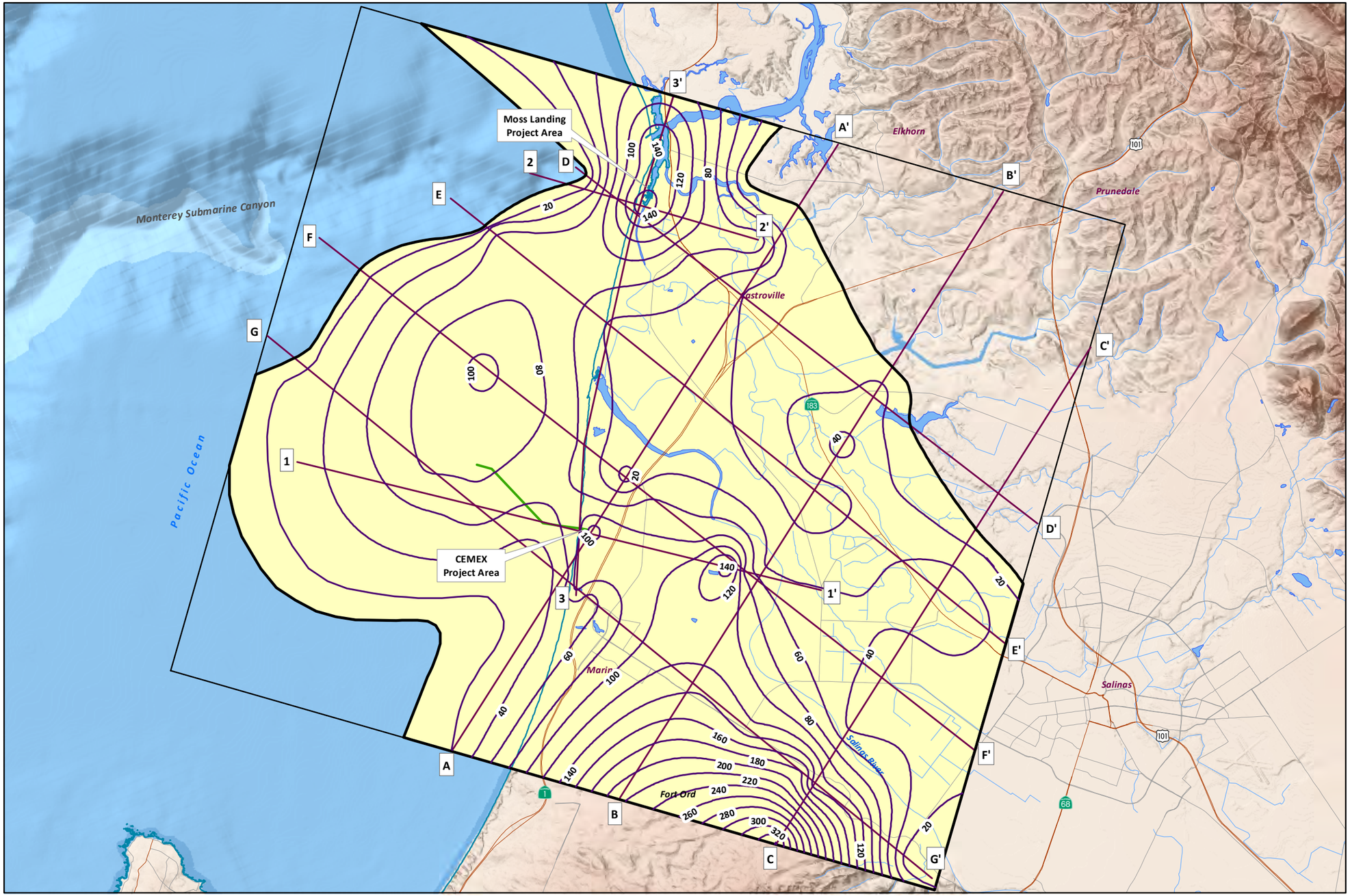
Date: 8-Jul-14

Figure 36

Projects\ESA_and_ESA-CalAm\01) MPWSP\11) Logs_x-sections\Fig_7_x-section_G-G'_monterey

THICKNESS OF DUNE SAND, PERCHED "A", AND DELTAIC DEPOSIT AQUIFERS (MODEL LAYER 2)



EXPLANATION

- Boundary of Dune Sand, Perched "A", and Deltaic Deposit Aquifers
- 20 — Aquifer Thickness (ft)
- 1 — 1' Cross-Section Location (See Figures 7-9 and 30-36)
- Pipeline Outfall
- North Marina Groundwater Model Boundary
- Mean High Tide (DOC et al., 2011)

8-Jul-14

Prepared by: DWB. Map Projection: State Plane 1983, Zone IV.

NORTH

0 2 4 Miles

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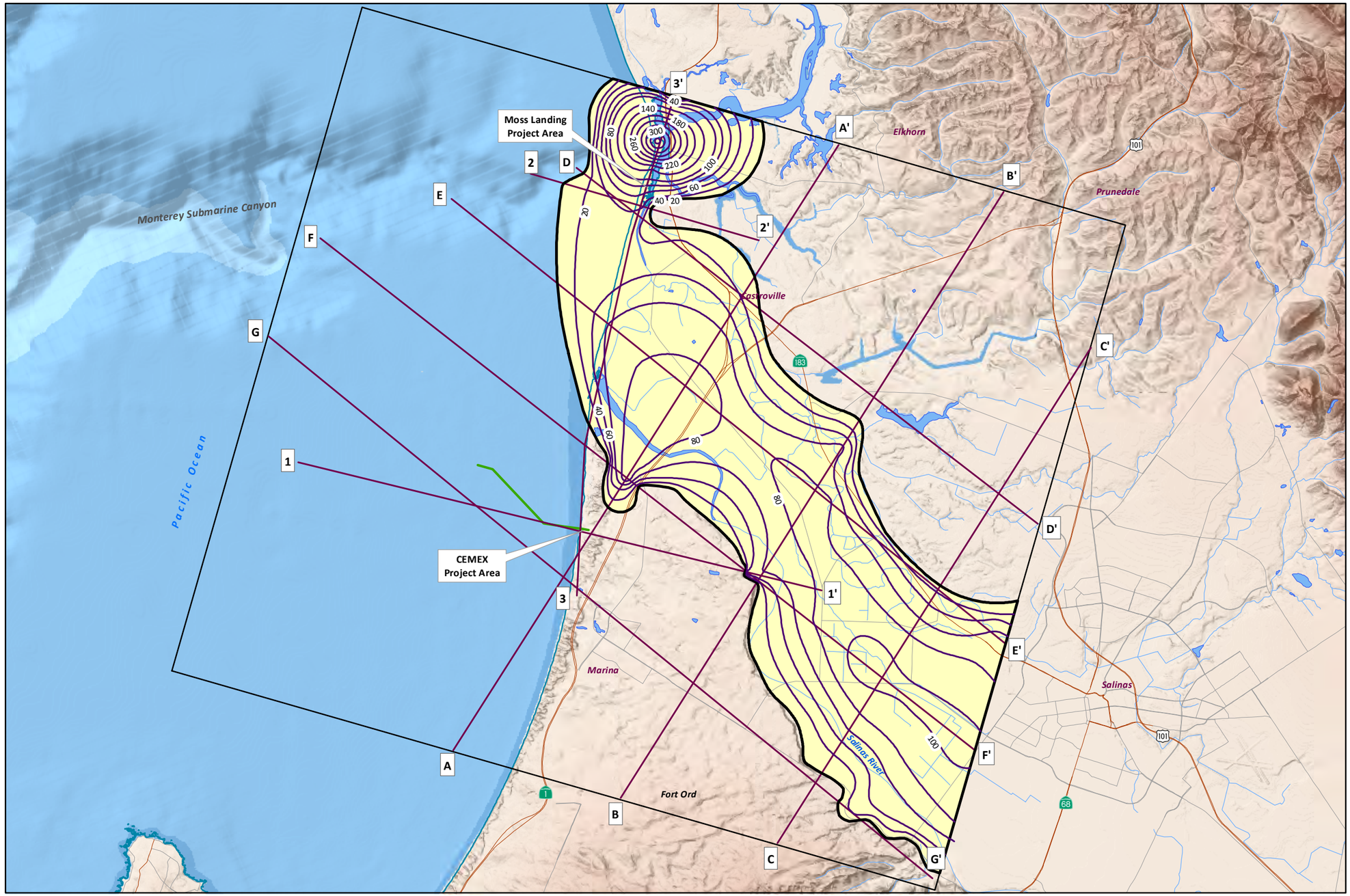
Figure 37

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_37_layer2_Thickness_7-14.mxd

THICKNESS OF SALINAS VALLEY AQUITARD (MODEL LAYER 3)



EXPLANATION

- Boundary of Salinas Valley Aquitard
- 20 — Aquitard Thickness (ft)
- 1 — 1' Cross-Section Location (See Figures 7-9 and 30-36)
- Pipeline Outfall
- North Marina Groundwater Model Boundary
- Mean High Tide (DOC et al., 2011)

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Prepared: DWB. Map Projection: State Plane 1983, Zone IV.

NORTH

0 2 4 Miles

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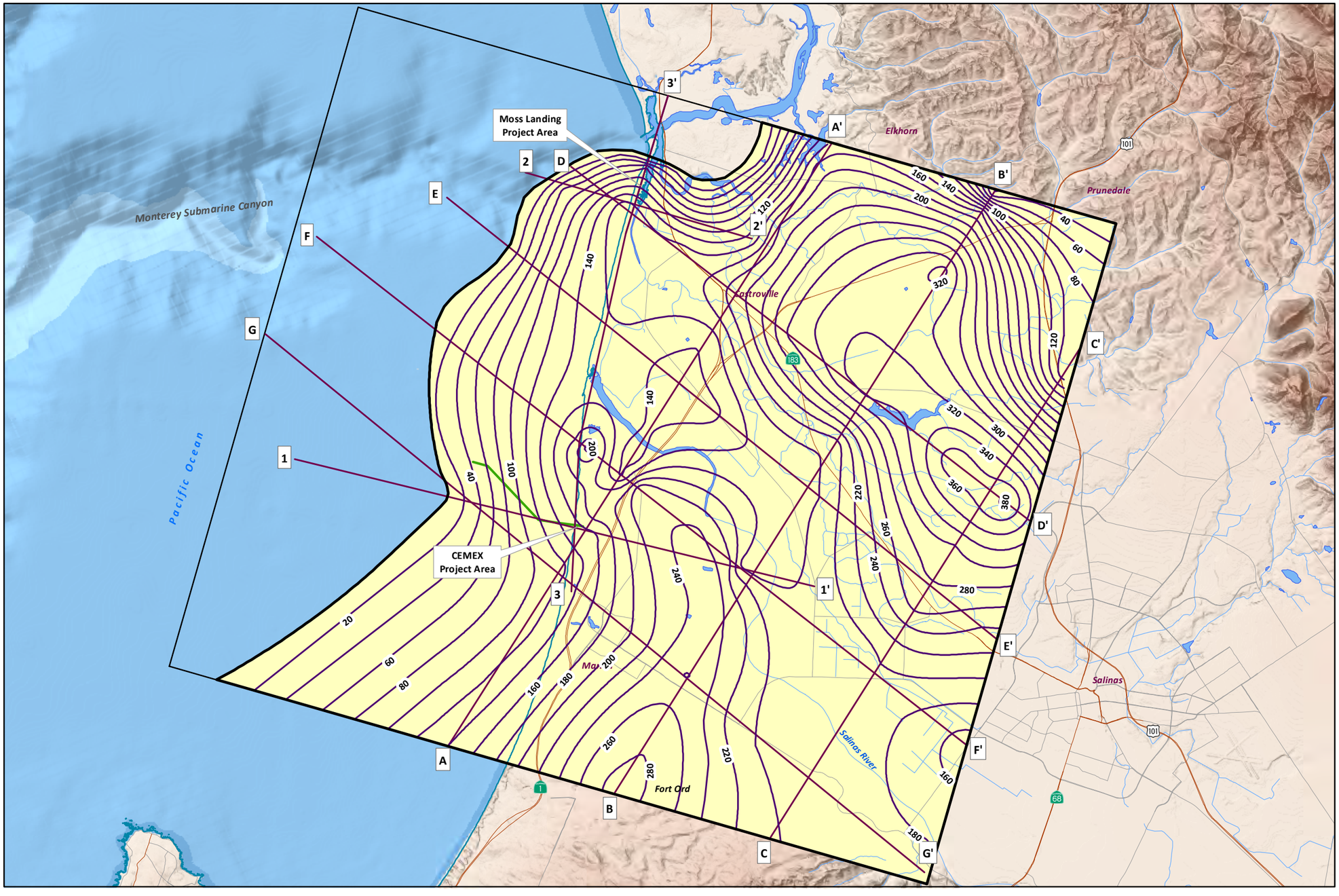
Figure 38

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_38_layer3_Thickness_7-14.mxd

THICKNESS OF 180-FOOT AND 180-FOOT EQIVALENT AQUIFERS (MODEL LAYER 4)



EXPLANATION

- Boundary of 180-Foot and 180-Foot Equivalent Aquifers
- 20 — Aquifer Thickness (ft)
- 1 — 1' Cross-Section Location (See Figures 7-9 and 30-36)
- Pipeline Outfall
- North Marina Groundwater Model Boundary
- Mean High Tide (DOC et al., 2011)

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NORTH

0 2 4 Miles

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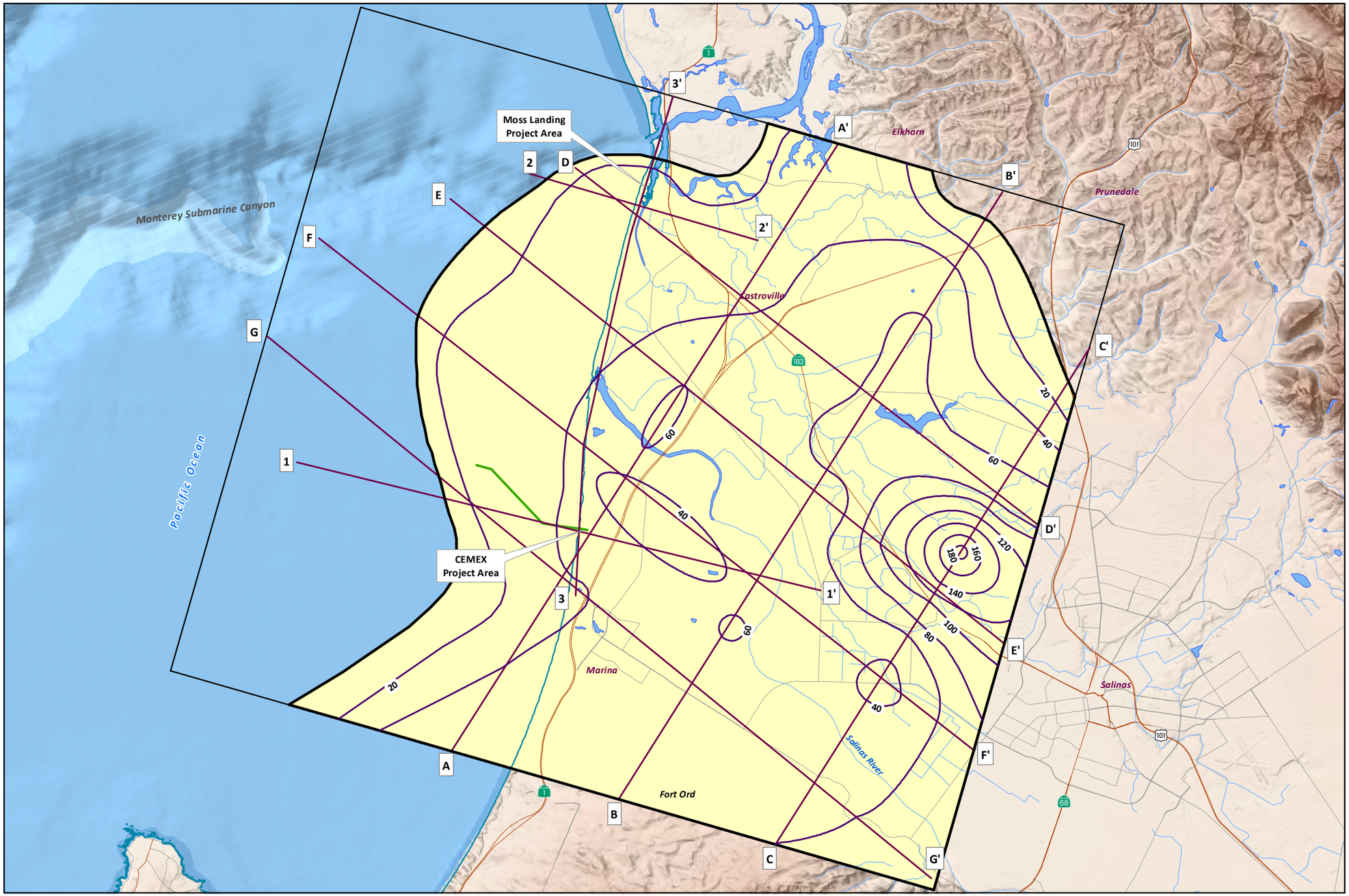
Figure 39

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_39_layer4_Thickness_7-14.mxd

THICKNESS OF 180/400-FOOT AQUITARD (MODEL LAYER 5)



EXPLANATION

- Boundary of 180/480-Foot Aquitard
- 20 — Aquitard Thickness (ft)
- 1 — 1' Cross-Section Location (See Figures 7-9 and 30-36)
- Pipeline Outfall
- North Marina Groundwater Model Boundary
- Mean High Tide (DOC et al., 2011)

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NORTH

0 2 4 Miles

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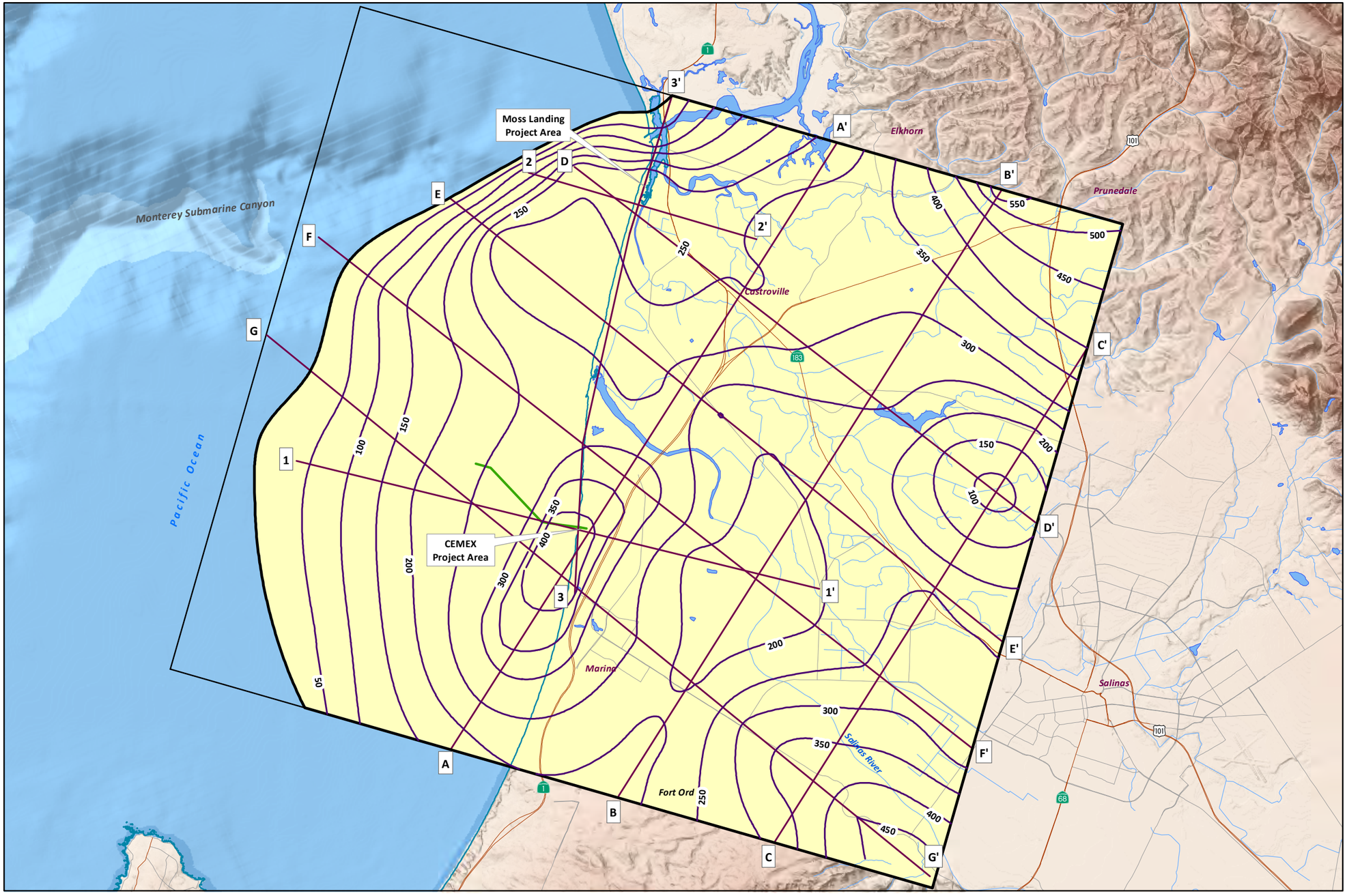
Figure 40

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_40_layer4_Thickness_7-14.mxd

THICKNESS OF 400-FOOT AQUIFER (MODEL LAYER 6)



EXPLANATION

- Boundary of 400-Foot Aquifer
- 20 — Aquifer Thickness (ft)
- 1 — 1' Cross-Section Location (See Figures 7-9 and 30-36)
- Pipeline Outfall
- North Marina Groundwater Model Boundary
- Mean High Tide (DOC et al., 2011)

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Prepared by: DWB. Map Projection: State Plane 1983, Zone IV.

NORTH

0 2 4 Miles

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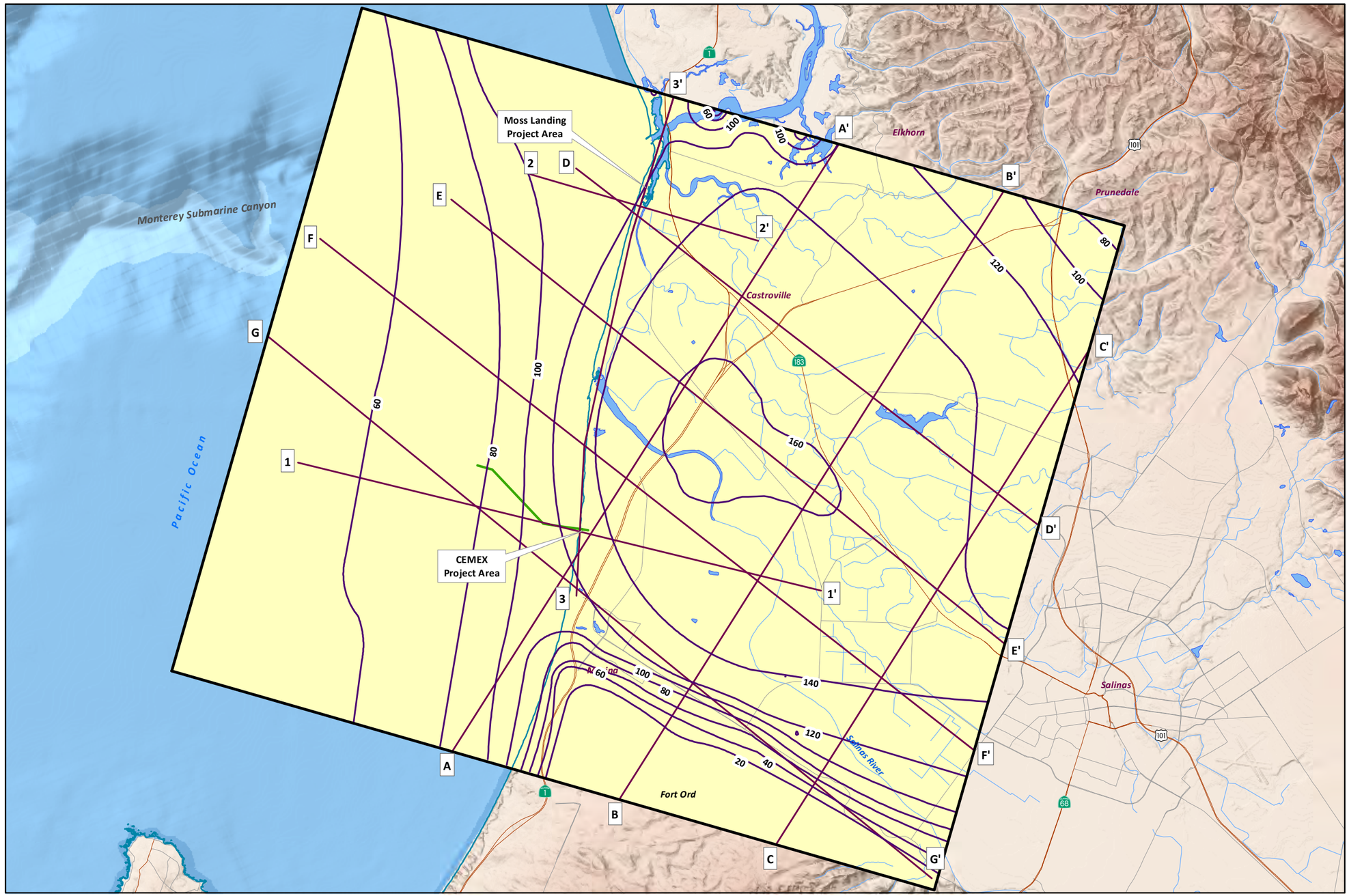
Figure 41

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_41_layer6_Thickness_7-14.mxd

THICKNESS OF 400/900-FOOT AQUITARD (MODEL LAYER 7)



EXPLANATION

- Boundary of 400/900-Foot Aquitard and North Marina Groundwater Model Boundary
- 20 — Aquitard Thickness (ft)
- 1 — 1' Cross-Section Location (See Figures 7-9 and 30-36)
- Pipeline Outfall
- Mean High Tide (DOC et al., 2011)

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NORTH

0 2 4 Miles

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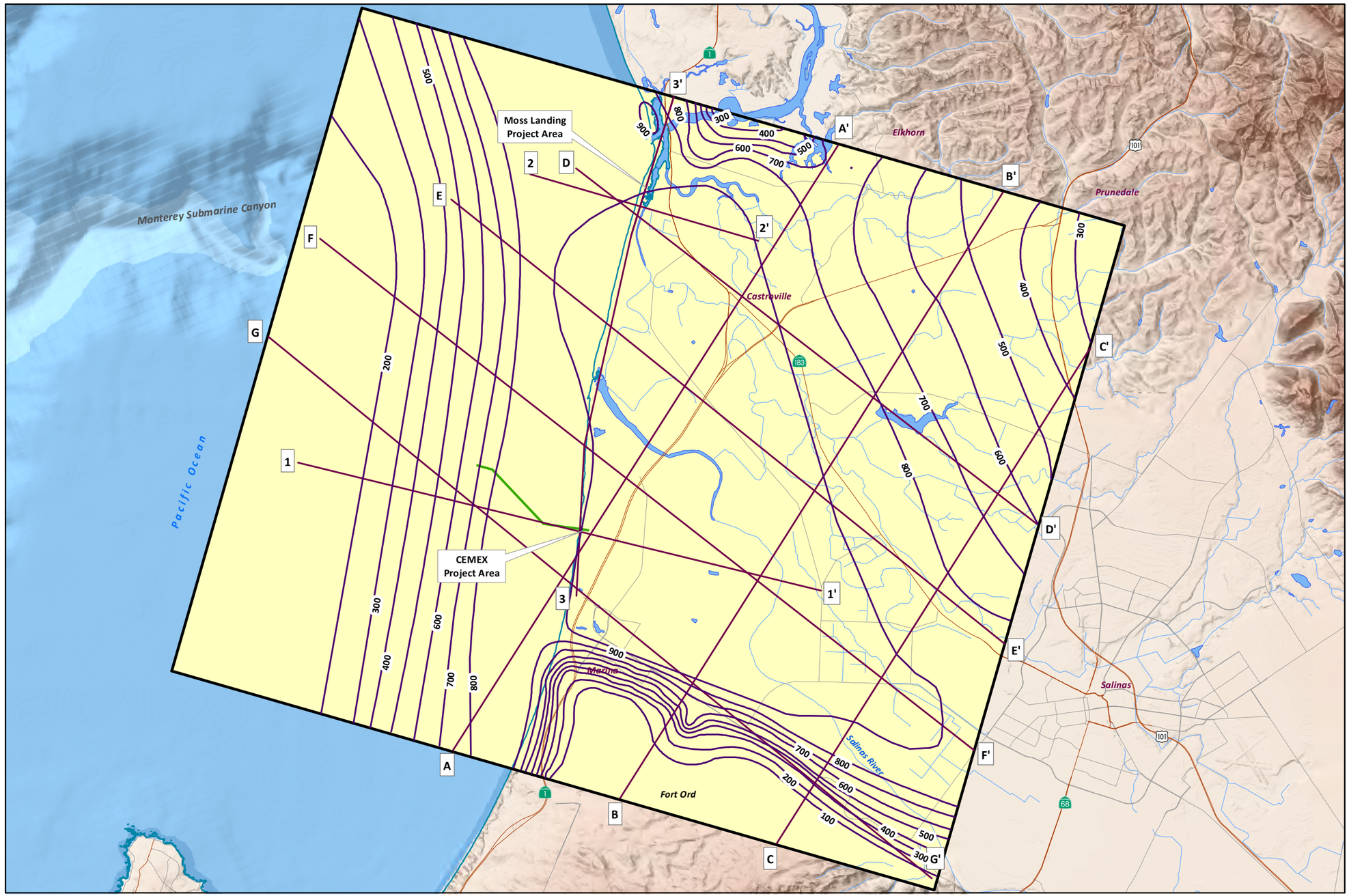
Figure 42

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_42_layer7_Thickness_7-14.mxd

THICKNESS OF 900-FOOT AQUIFER (MODEL LAYER 8)



EXPLANATION

- Boundary of 900-Foot Aquifer and North Marina Groundater Model Boundary
- 20 — Aquifer Thickness (ft)
- 1 — 1' Cross-Section Location (See Figures 7-9 and 30-36)
- Pipeline Outfall
- Mean High Tide (DOC et al., 2011)

8-Jul-14

Prepared by: DWB. Map Projection: State Plane 1983, Zone IV.

NORTH

0 2 4 Miles

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Figure 43

GIS_proj/mcwsp_cal_am/rbf_boring_tech_memo_7-14/4_Fig_43_layer8_Thickness_7-14.mxd

Sediment Texture versus Horizontal and Vertical Hydraulic Conductivity Values
Dune Sand/Perched "A" Aquifer near Potrero Road Site

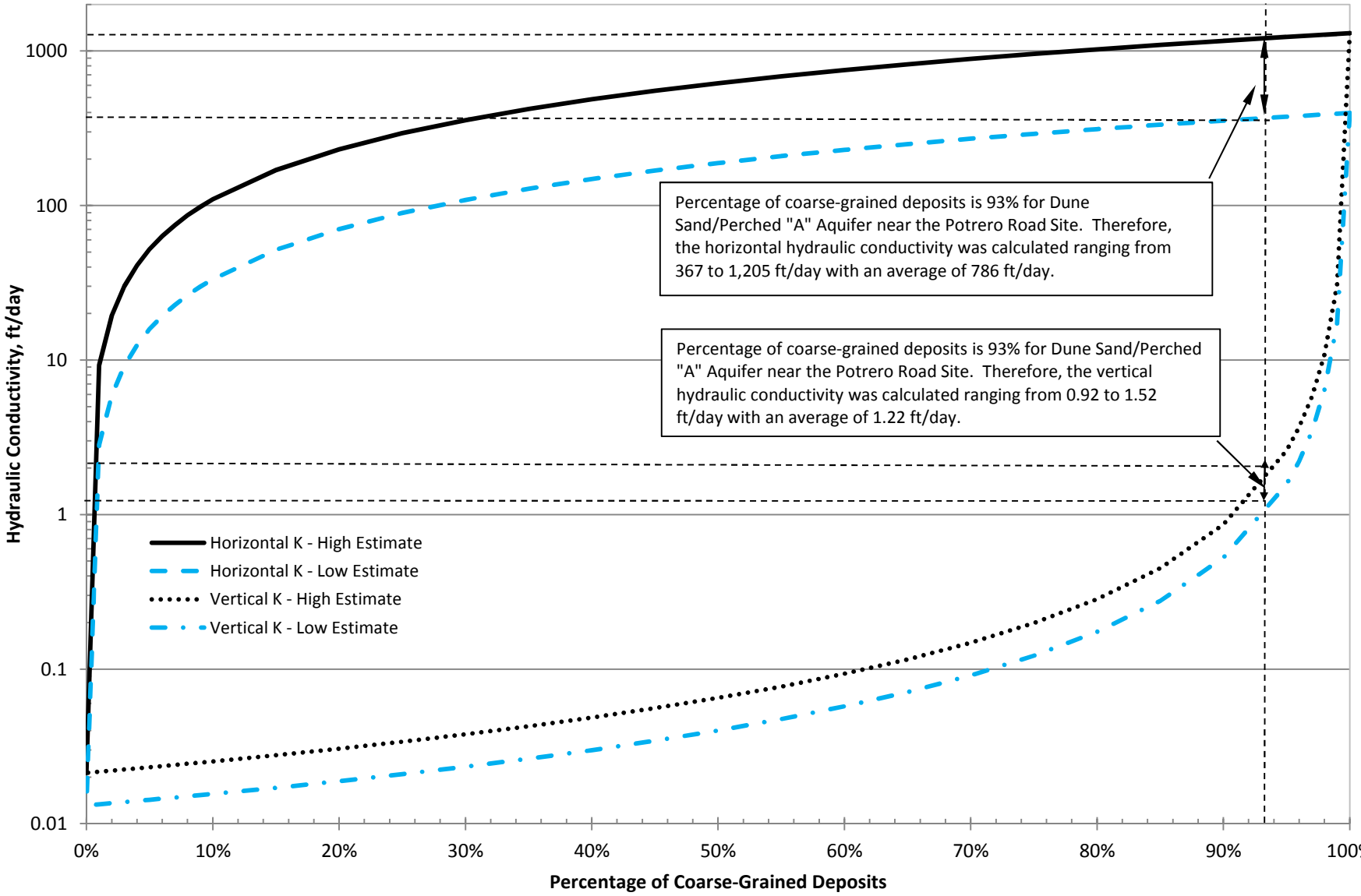

Figure 47

Sediment Texture versus Horizontal and Vertical Hydraulic Conductivity Values
Dune Sand/Perched "A" Aquifer near Moss Landing Site

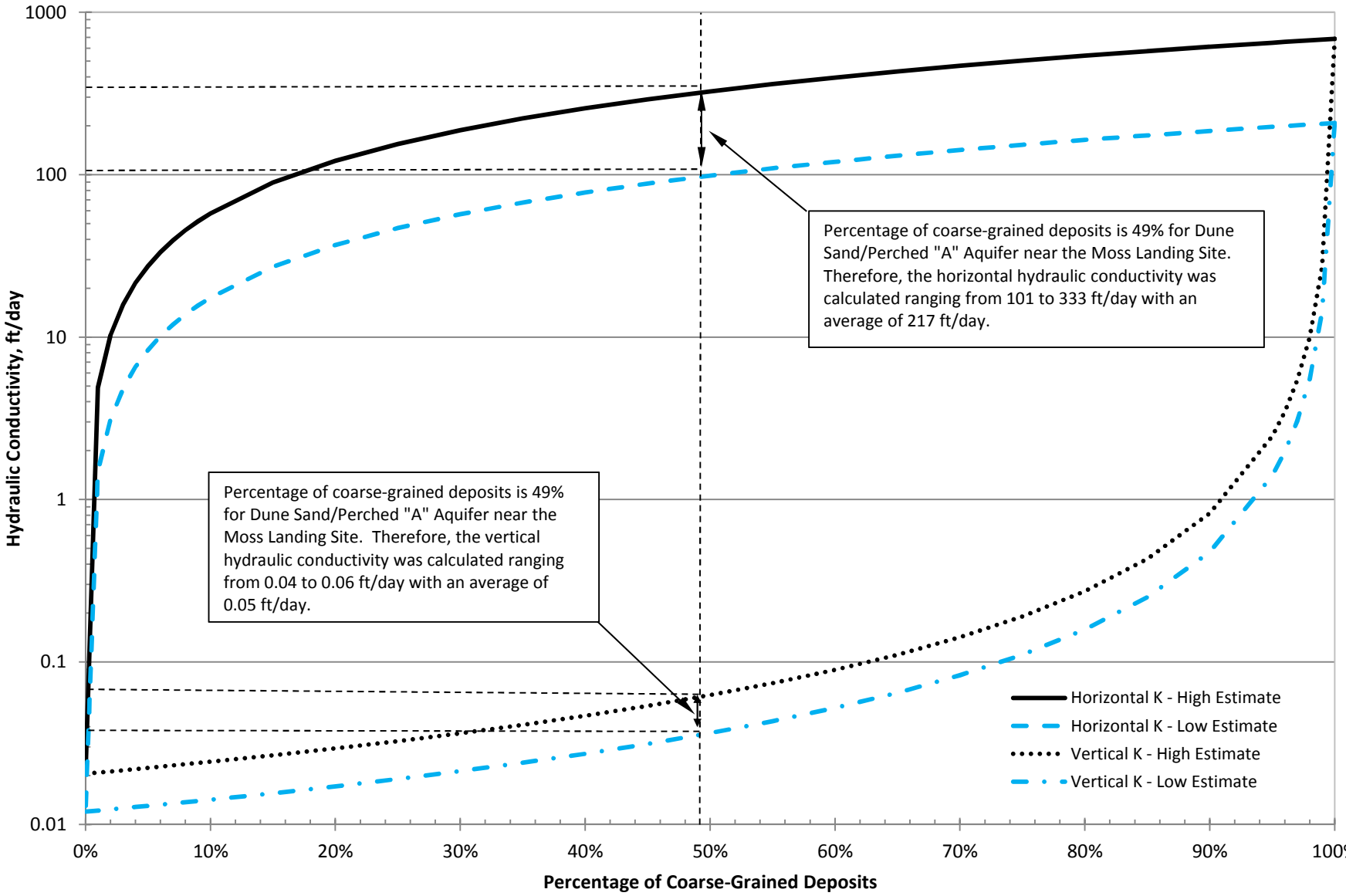

Figure 46

Sediment Texture versus Horizontal and Vertical Hydraulic Conductivity Values
180-Foot Equivalent Aquifer near CEMEX Site

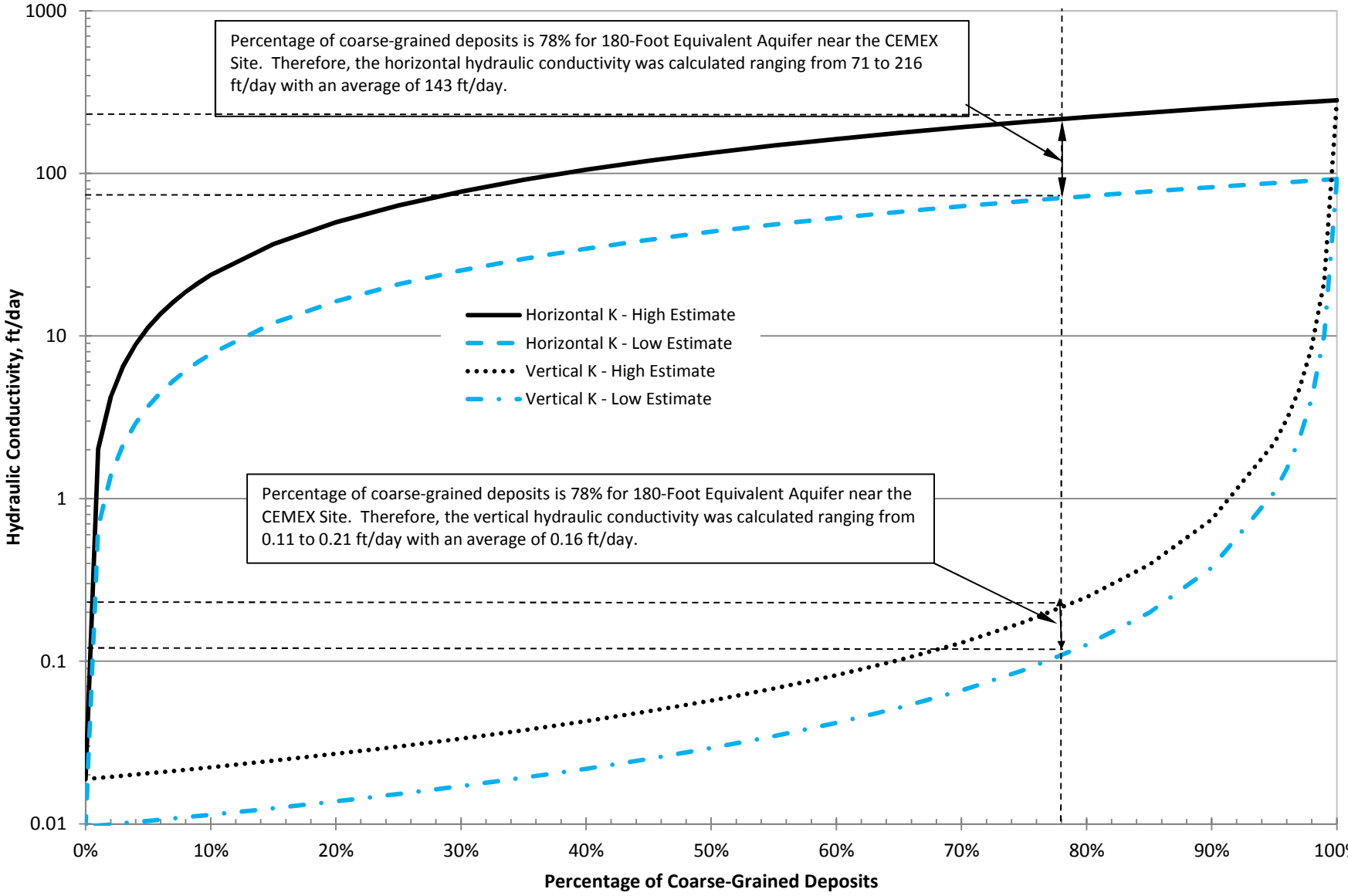

Figure 45

Sediment Texture versus Horizontal and Vertical Hydraulic Conductivity Values
Dune Sand Aquifer near CEMEX Site

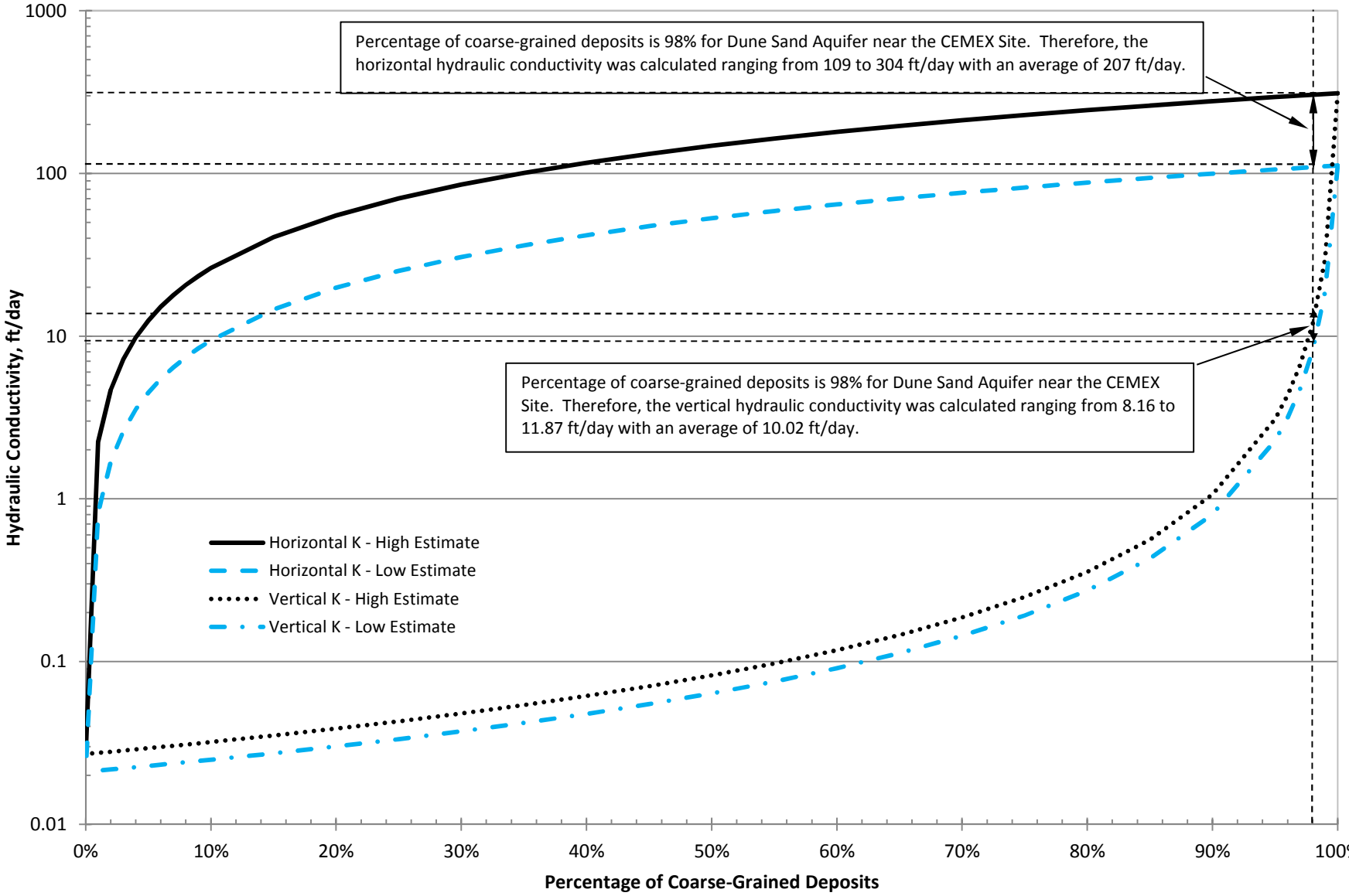

Figure 44

TABLES

GEOSCIENCE

Table 1

Hydraulic Conductivity Calculations

Borehole	Interval [ft bgs]	Method	Sample Type	K Direction	Hydraulic Conductivity, K [ft/day]	Lithology
CX-B1	79-79.5	Hazen	MGA	Horizontal	86	SM: Silty Sand
CX-B1	79-79.5	Krumbein-Monk	MGA	Horizontal	45	SM: Silty Sand
CX-B1	79-79.5	Kozeny-Carman	MGA	Horizontal	130	SM: Silty Sand
				Average :	**87**	
CX-B1	88-88.5	Hazen	MGA	Horizontal	535	SW: Well-Graded Sand
CX-B1	88-88.5	Krumbein-Monk	MGA	Horizontal	491	SW: Well-Graded Sand
CX-B1	88-88.5	Kozeny-Carman	MGA	Horizontal	2,115	SW: Well-Graded Sand
				Average :	**1,047**	
CX-B1	104.5-105	Hazen	MGA	Horizontal	79	SM: Silty Sand
CX-B1	104.5-105	Krumbein-Monk	MGA	Horizontal	40	SM: Silty Sand
CX-B1	104.5-105	Kozeny-Carman	MGA	Horizontal	112	SM: Silty Sand
				Average :	**77**	
CX-B1	115-116	Hazen	MGA	Horizontal	351	SW: Well-Graded Sand
CX-B1	115-116	Krumbein-Monk	MGA	Horizontal	249	SW: Well-Graded Sand
CX-B1	115-116	Kozeny-Carman	MGA	Horizontal	624	SW: Well-Graded Sand
				Average :	**408**	
CX-B1	187-188	Hazen	MGA	Horizontal	150	SM: Silty Sand
CX-B1	187-188	Krumbein-Monk	MGA	Horizontal	127	SM: Silty Sand
CX-B1	187-188	Kozeny-Carman	MGA	Horizontal	344	SM: Silty Sand
				Average :	**207**	
CX-B1	245-245	Hazen	MGA	Horizontal	399	GW: Gravel
CX-B1	245-245	Krumbein-Monk	MGA	Horizontal	334	GW: Gravel
CX-B1	245-245	Kozeny-Carman	MGA	Horizontal	849	GW: Gravel
				Average :	**527**	
CX-B1	295-296	Hazen	MGA	Horizontal	176	SP: Sand with Gravel
CX-B1	295-296	Krumbein-Monk	MGA	Horizontal	176	SP: Sand with Gravel
CX-B1	295-296	Kozeny-Carman	MGA	Horizontal	549	SP: Sand with Gravel
				Average :	**300**	
CX-B2	53	Hazen	MGA	Horizontal	371	SW: Well-Graded Sand
CX-B2	53	Krumbein-Monk	MGA	Horizontal	292	SW: Well-Graded Sand
CX-B2	53	Kozeny-Carman	MGA	Horizontal	770	SW: Well-Graded Sand
				Average :	**477**	
CX-B2	116	Hazen	MGA	Horizontal	24	SM: Silty Sand
CX-B2	116	Krumbein-Monk	MGA	Horizontal	16	SM: Silty Sand
CX-B2	116	Kozeny-Carman	MGA	Horizontal	65	SM: Silty Sand
				Average :	**35**	
CX-B2	141	Hazen	MGA	Horizontal	117	SP: Sand
CX-B2	141	Krumbein-Monk	MGA	Horizontal	95	SP: Sand
CX-B2	141	Kozeny-Carman	MGA	Horizontal	241	SP: Sand
				Average :	**151**	
CX-B2	203	Hazen	MGA	Horizontal	102	SP: Sand

Table 1

Hydraulic Conductivity Calculations

Borehole	Interval [ft bgs]	Method	Sample Type	K Direction	Hydraulic Conductivity, K [ft/day]	Lithology
CX-B2	203	Krumbein-Monk	MGA	Horizontal	72	SP: Sand
CX-B2	203	Kozeny-Carman	MGA	Horizontal	181	SP: Sand
				Average :	**118**	
CX-B2	273	Hazen	MGA	Horizontal	258	SW: Well-Graded Sand
CX-B2	273	Krumbein-Monk	MGA	Horizontal	206	SW: Well-Graded Sand
CX-B2	273	Kozeny-Carman	MGA	Horizontal	725	SW: Well-Graded Sand
				Average :	**396**	
CX-B3	45	Hazen	MGA	Horizontal	99	SP: Sand
CX-B3	45	Krumbein-Monk	MGA	Horizontal	74	SP: Sand
CX-B3	45	Kozeny-Carman	MGA	Horizontal	224	SP: Sand
				Average :	**132**	
CX-B3	121	Hazen	MGA	Horizontal	26	SM: Silty Sand
CX-B3	121	Krumbein-Monk	MGA	Horizontal	21	SM: Silty Sand
CX-B3	121	Kozeny-Carman	MGA	Horizontal	69	SM: Silty Sand
				Average :	**39**	
CX-B3	240	Hazen	MGA	Horizontal	191	SP: Sand
CX-B3	240	Krumbein-Monk	MGA	Horizontal	130	SP: Sand
CX-B3	240	Kozeny-Carman	MGA	Horizontal	509	SP: Sand
				Average :	**277**	
CX-B3	291	Hazen	MGA	Horizontal	373	SW: Well-Graded Sand
CX-B3	291	Krumbein-Monk	MGA	Horizontal	191	SW: Well-Graded Sand
CX-B3	291	Kozeny-Carman	MGA	Horizontal	829	SW: Well-Graded Sand
				Average :	**464**	
CX-B3	312	Hazen	MGA	Horizontal	258	SP: Sand
CX-B3	312	Krumbein-Monk	MGA	Horizontal	206	SP: Sand
CX-B3	312	Kozeny-Carman	MGA	Horizontal	725	SP: Sand
				Average :	**396**	
CX-B4	46-47	Hazen	MGA	Horizontal	374	SP: Sand
CX-B4	46-47	Krumbein-Monk	MGA	Horizontal	230	SP: Sand
CX-B4	46-47	Kozeny-Carman	MGA	Horizontal	628	SP: Sand
				Average :	**411**	
CX-B4	72-73	Hazen	MGA	Horizontal	45	SP: Sand
CX-B4	72-73	Krumbein-Monk	MGA	Horizontal	40	SP: Sand
CX-B4	72-73	Kozeny-Carman	MGA	Horizontal	102	SP: Sand
				Average :	**62**	
CX-B4	115-116	Hazen	MGA	Horizontal	31	SP: Sand
CX-B4	115-116	Krumbein-Monk	MGA	Horizontal	25	SP: Sand
CX-B4	115-116	Kozeny-Carman	MGA	Horizontal	74	SP: Sand
				Average :	**43**	
CX-B4	190-191	Hazen	MGA	Horizontal	121	SP: Sand
CX-B4	190-191	Krumbein-Monk	MGA	Horizontal	97	SP: Sand

Table 1

Hydraulic Conductivity Calculations

Borehole	Interval [ft bgs]	Method	Sample Type	K Direction	Hydraulic Conductivity, K [ft/day]	Lithology
CX-B4	190-191	Kozeny-Carman	MGA	Horizontal	248	SP: Sand
				Average :	**156**	
CX-B4	248-249	Hazen	MGA	Horizontal	202	SP: Sand
CX-B4	248-249	Krumbein-Monk	MGA	Horizontal	163	SP: Sand
CX-B4	248-249	Kozeny-Carman	MGA	Horizontal	380	SP: Sand
				Average :	**248**	
MDW-1	22-23	Hazen	MGA	Horizontal	163	SP: Sand
MDW-1	22-23	Krumbein-Monk	MGA	Horizontal	135	SP: Sand
MDW-1	22-23	Kozeny-Carman	MGA	Horizontal	300	SP: Sand
				Average :	**199**	
MDW-1	59-60	Hazen	MGA	Horizontal	113	SP: Sand
MDW-1	59-60	Krumbein-Monk	MGA	Horizontal	90	SP: Sand
MDW-1	59-60	Kozeny-Carman	MGA	Horizontal	224	SP: Sand
				Average :	**142**	
MDW-1	70-71	Hazen	MGA	Horizontal	385	SP: Sand
MDW-1	70-71	Krumbein-Monk	MGA	Horizontal	250	SP: Sand
MDW-1	70-71	Kozeny-Carman	MGA	Horizontal	730	SP: Sand
				Average :	**455**	
MDW-1	153-154	Hazen	MGA	Horizontal	394	SP: Sand with Gravel
MDW-1	153-154	Krumbein-Monk	MGA	Horizontal	302	SP: Sand with Gravel
MDW-1	153-154	Kozeny-Carman	MGA	Horizontal	984	SP: Sand with Gravel
				Average :	**560**	
MDW-1	181-182	Hazen	MGA	Horizontal	202	SP: Sand
MDW-1	181-182	Krumbein-Monk	MGA	Horizontal	161	SP: Sand
MDW-1	181-182	Kozeny-Carman	MGA	Horizontal	553	SP: Sand
				Average :	**305**	
ML-1	52-53	Hazen	MGA	Horizontal	411	SP: Sand
ML-1	52-53	Krumbein-Monk	MGA	Horizontal	227	SP: Sand
ML-1	52-53	Kozeny-Carman	MGA	Horizontal	951	SP: Sand
				Average :	**530**	
ML-1	58-59	Hazen	MGA	Horizontal	75	SP: Sand
ML-1	58-59	Krumbein-Monk	MGA	Horizontal	51	SP: Sand
ML-1	58-59	Kozeny-Carman	MGA	Horizontal	124	SP: Sand
				Average :	**83**	
ML-1	65-66	Hazen	MGA	Horizontal	85	SP: Sand
ML-1	65-66	Krumbein-Monk	MGA	Horizontal	57	SP: Sand
ML-1	65-66	Kozeny-Carman	MGA	Horizontal	140	SP: Sand
				Average :	**94**	
ML-1	88-89	Hazen	MGA	Horizontal	185	SP: Sand
ML-1	88-89	Krumbein-Monk	MGA	Horizontal	134	SP: Sand
ML-1	88-89	Kozeny-Carman	MGA	Horizontal	521	SP: Sand

Table 1

Hydraulic Conductivity Calculations

Borehole	Interval [ft bgs]	Method	Sample Type	K Direction	Hydraulic Conductivity, K [ft/day]	Lithology
				Average :	**280**	
ML-1	104-106	Hazen	MGA	Horizontal	125	SP: Sand
ML-1	104-106	Krumbein-Monk	MGA	Horizontal	93	SP: Sand
ML-1	104-106	Kozeny-Carman	MGA	Horizontal	312	SP: Sand
				Average :	**177**	
ML-1	108-109	Hazen	MGA	Horizontal	445	SP-SM: Sand with Silt and Gravel
ML-1	108-109	Krumbein-Monk	MGA	Horizontal	445	SP-SM: Sand with Silt and Gravel
ML-1	108-109	Kozeny-Carman	MGA	Horizontal	1,322	SP-SM: Sand with Silt and Gravel
				Average :	**738**	
ML-1	117-118	Hazen	MGA	Horizontal	469	SP: Sand with Gravel
ML-1	117-118	Krumbein-Monk	MGA	Horizontal	654	SP: Sand with Gravel
ML-1	117-118	Kozeny-Carman	MGA	Horizontal	1,175	SP: Sand with Gravel
				Average :	**766**	
ML-2	24-24.5	Hazen	MGA	Horizontal	497	SW: Well-Graded Sand
ML-2	24-24.5	Krumbein-Monk	MGA	Horizontal	383	SW: Well-Graded Sand
ML-2	24-24.5	Kozeny-Carman	MGA	Horizontal	1,090	SW: Well-Graded Sand
				Average :	**656**	
ML-2	50-50.5	Hazen	MGA	Horizontal	92	SP: Sand
ML-2	50-50.5	Krumbein-Monk	MGA	Horizontal	56	SP: Sand
ML-2	50-50.5	Kozeny-Carman	MGA	Horizontal	151	SP: Sand
				Average :	**100**	
ML-2	110.5-111	Hazen	MGA	Horizontal	517	SW: Well-Graded Sand with Gravel
ML-2	110.5-111	Krumbein-Monk	MGA	Horizontal	484	SW: Well-Graded Sand with Gravel
ML-2	110.5-111	Kozeny-Carman	MGA	Horizontal	949	SW: Well-Graded Sand with Gravel
				Average :	**650**	
ML-2	152-152.5	Hazen	MGA	Horizontal	21	SP: Sand
ML-2	152-152.5	Krumbein-Monk	MGA	Horizontal	12	SP: Sand
ML-2	152-152.5	Kozeny-Carman	MGA	Horizontal	53	SP: Sand
				Average :	**29**	
ML-2	188.5-189	Hazen	MGA	Horizontal	30	SP-SM: Sand with Silt
ML-2	188.5-189	Krumbein-Monk	MGA	Horizontal	18	SP-SM: Sand with Silt
ML-2	188.5-189	Kozeny-Carman	MGA	Horizontal	93	SP-SM: Sand with Silt
				Average :	**47**	
ML-3	109.5-110	Hazen	MGA	Horizontal	95	SP: Sand
ML-3	109.5-110	Krumbein-Monk	MGA	Horizontal	60	SP: Sand
ML-3	109.5-110	Kozeny-Carman	MGA	Horizontal	214	SP: Sand
				Average :	**123**	
ML-3	111.5-112	Hazen	MGA	Horizontal	337	SP: Sand
ML-3	111.5-112	Krumbein-Monk	MGA	Horizontal	273	SP: Sand
ML-3	111.5-112	Kozeny-Carman	MGA	Horizontal	914	SP: Sand
				Average :	**508**	

Table 1

Hydraulic Conductivity Calculations

Borehole	Interval [ft bgs]	Method	Sample Type	K Direction	Hydraulic Conductivity, K [ft/day]	Lithology
ML-3	182.5-183	Hazen	MGA	Horizontal	446	SW-SC: Sand with Clay and Gravel
ML-3	182.5-183	Krumbein-Monk	MGA	Horizontal	452	SW-SC: Sand with Clay and Gravel
ML-3	182.5-183	Kozeny-Carman	MGA	Horizontal	1,511	SW-SC: Sand with Clay and Gravel
				Average :	**803**	
ML-3	189-189.5	Hazen	MGA	Horizontal	118	SP: Sand
ML-3	189-189.5	Krumbein-Monk	MGA	Horizontal	95	SP: Sand
ML-3	189-189.5	Kozeny-Carman	MGA	Horizontal	355	SP: Sand
				Average :	**189**	
ML-3	195-195.5	Hazen	MGA	Horizontal	192	SW: Well-Graded Sand with Gravel
ML-3	195-195.5	Krumbein-Monk	MGA	Horizontal	367	SW: Well-Graded Sand with Gravel
ML-3	195-195.5	Kozeny-Carman	MGA	Horizontal	480	SW: Well-Graded Sand with Gravel
				Average :	**346**	
ML-4	28-28.5	Hazen	MGA	Horizontal	164	SP: Sand
ML-4	28-28.5	Krumbein-Monk	MGA	Horizontal	171	SP: Sand
ML-4	28-28.5	Kozeny-Carman	MGA	Horizontal	468	SP: Sand
				Average :	**268**	
ML-4	71-71.5	Hazen	MGA	Horizontal	25	SP: Sand
ML-4	71-71.5	Krumbein-Monk	MGA	Horizontal	21	SP: Sand
ML-4	71-71.5	Kozeny-Carman	MGA	Horizontal	79	SP: Sand
				Average :	**42**	
ML-4	112-112.5	Hazen	MGA	Horizontal	152	SP: Sand
ML-4	112-112.5	Krumbein-Monk	MGA	Horizontal	129	SP: Sand
ML-4	112-112.5	Kozeny-Carman	MGA	Horizontal	345	SP: Sand
				Average :	**208**	
ML-4	152-152.5	Hazen	MGA	Horizontal	189	SP: Sand
ML-4	152-152.5	Krumbein-Monk	MGA	Horizontal	229	SP: Sand
ML-4	152-152.5	Kozeny-Carman	MGA	Horizontal	785	SP: Sand
				Average :	**401**	
ML-4	180-180.5	Hazen	MGA	Horizontal	89	SP: Sand
ML-4	180-180.5	Krumbein-Monk	MGA	Horizontal	63	SP: Sand
ML-4	180-180.5	Kozeny-Carman	MGA	Horizontal	296	SP: Sand
				Average :	**149**	
ML-6	94-94.5	Hazen	MGA	Horizontal	48	SP-SM: Sand with Silt
ML-6	94-94.5	Krumbein-Monk	MGA	Horizontal	49	SP-SM: Sand with Silt
ML-6	94-94.5	Kozeny-Carman	MGA	Horizontal	178	SP-SM: Sand with Silt
				Average :	**91**	
ML-6	104-104.5	Hazen	MGA	Horizontal	306	SW: Well-Graded Sand
ML-6	104-104.5	Krumbein-Monk	MGA	Horizontal	149	SW: Well-Graded Sand
ML-6	104-104.5	Kozeny-Carman	MGA	Horizontal	610	SW: Well-Graded Sand
				Average :	**355**	
ML-6	121-121.5	Hazen	MGA	Horizontal	37	SP: Sand

Table 1

Hydraulic Conductivity Calculations

Borehole	Interval [ft bgs]	Method	Sample Type	K Direction	Hydraulic Conductivity, K [ft/day]	Lithology
ML-6	121-121.5	Krumbein-Monk	MGA	Horizontal	28	SP: Sand
ML-6	121-121.5	Kozeny-Carman	MGA	Horizontal	83	SP: Sand
				Average :	**49**	
ML-6	141-141.5	Hazen	MGA	Horizontal	36	SP: Sand
ML-6	141-141.5	Krumbein-Monk	MGA	Horizontal	29	SP: Sand
ML-6	141-141.5	Kozeny-Carman	MGA	Horizontal	88	SP: Sand
				Average :	**51**	
ML-6	166-166.5	Hazen	MGA	Horizontal	43	SP: Sand
ML-6	166-166.5	Krumbein-Monk	MGA	Horizontal	38	SP: Sand
ML-6	166-166.5	Kozeny-Carman	MGA	Horizontal	106	SP: Sand
				Average :	**62**	
PR-1	56-57	Hazen	MGA	Horizontal	271	SP: Sand
PR-1	56-57	Krumbein-Monk	MGA	Horizontal	165	SP: Sand
PR-1	56-57	Kozeny-Carman	MGA	Horizontal	396	SP: Sand
				Average :	**277**	
PR-1	66-67	Hazen	MGA	Horizontal	328	SP: Sand with Gravel
PR-1	66-67	Krumbein-Monk	MGA	Horizontal	302	SP: Sand with Gravel
PR-1	66-67	Kozeny-Carman	MGA	Horizontal	561	SP: Sand with Gravel
				Average :	**397**	
PR-1	76-77	Hazen	MGA	Horizontal	311	SM: Silty Sand with Gravel
PR-1	76-77	Krumbein-Monk	MGA	Horizontal	836	SM: Silty Sand with Gravel
PR-1	76-77	Kozeny-Carman	MGA	Horizontal	1,150	SM: Silty Sand with Gravel
				Average :	**766**	
PR-1	110-111	Hazen	MGA	Horizontal	699	SW: Well-Graded Sand with Gravel
PR-1	110-111	Krumbein-Monk	MGA	Horizontal	703	SW: Well-Graded Sand with Gravel
PR-1	110-111	Kozeny-Carman	MGA	Horizontal	1,148	SW: Well-Graded Sand with Gravel
				Average :	**850**	
PR-1	124-125	Hazen	MGA	Horizontal	1,055	SW: Well-Graded Sand
PR-1	124-125	Krumbein-Monk	MGA	Horizontal	9,561	SW: Well-Graded Sand
PR-1	124-125	Kozeny-Carman	MGA	Horizontal	2,579	SW: Well-Graded Sand
				Average :	**4,398**	
PR-1	188-189	Hazen	MGA	Horizontal	160	SM: Silty Sand
PR-1	188-189	Krumbein-Monk	MGA	Horizontal	160	SM: Silty Sand
PR-1	188-189	Kozeny-Carman	MGA	Horizontal	429	SM: Silty Sand
				Average :	**249**	
PR-1	197-198	Hazen	MGA	Horizontal	170	SM: Silty Sand
PR-1	197-198	Krumbein-Monk	MGA	Horizontal	132	SM: Silty Sand
PR-1	197-198	Kozeny-Carman	MGA	Horizontal	413	SM: Silty Sand
				Average :	**238**	

Summary of Horizontal and Vertical Permeability Test

Borehole	Interval [ft bgs]	Method	Sample Type	K Direction	Permeability, K [ft/day]	Lithology
CX-B1	66.5-67	EPA9100	Core	Vertical	0.782	SM: Silty Sand
CX-B1	66.5-67	EPA9100	Core	Horizontal	4.337	SM: Silty Sand
CX-B1	166.5-167	EPA9100	Core	Vertical	1.380	SM: Silty Sand
CX-B1	166.5-167	EPA9100	Core	Horizontal	1.729	SM: Silty Sand
CX-B1	257.5-258	EPA9100	Core	Vertical	0.005	CL: Clay
CX-B2	207.5-208	EPA9100	Core	Vertical	10.657	SP: Sand
CX-B2	207.5-208	EPA9100	Core	Horizontal	3.997	SP: Sand
CX-B2	259-259.5	EPA9100	Core	Vertical	0.005	CL: Clay
CX-B3	107.5-108	EPA9100	Core	Vertical	14.909	SP: Sand with Gravel
CX-B3	107.5-108	EPA9100	Core	Horizontal	14.512	SP: Sand with Gravel
CX-B3	129-129.5	EPA9100	Core	Vertical	0.008	CH: Fat Clay
CX-B3	197.5-198	EPA9100	Core	Vertical	0.283	SP: Sand
CX-B3	197.5-198	EPA9100	Core	Horizontal	1.797	SP: Sand
ML-1	76-76.5	EPA9100	Core	Vertical	0.014	CH: Fat Clay
ML-1	107.5-108	EPA9100	Core	Vertical	24.149	SP-SM: Sand with Silt and Gravel
ML-1	107.5-108	EPA9100	Core	Horizontal	17.744	SP-SM: Sand with Silt and Gravel
ML-1	147-147.5	EPA9100	Core	Vertical	0.006	CL: Clay
ML-2	87-87.5	EPA9100	Core	Vertical	0.283	CL: Clay
ML-2	117.5-118	EPA9100	Core	Vertical	0.133	SP-SM: Sand with Silt
ML-2	117.5-118	EPA9100	Core	Horizontal	0.312	SP-SM: Sand with Silt
ML-2	157.5-158	EPA9100	Core	Vertical	0.312	SP: Sand
ML-2	157.5-158	EPA9100	Core	Horizontal	9.099	SP: Sand
ML-3	106.5-107	EPA9100	Core	Vertical	5.300	SP: Sand
ML-3	106.5-107	EPA9100	Core	Horizontal	2.387	SP: Sand
ML-3	166.5-167	EPA9100	Core	Vertical	0.027	ML: Silt

Table 2

Summary of Horizontal and Vertical Permeability Test

Borehole	Interval [ft bgs]	Method	Sample Type	K Direction	Permeability, K [ft/day]	Lithology
ML-3	166.5-167	EPA9100	Core	Horizontal	0.021	ML: Silt
ML-4	76.5-77	EPA9100	Core	Vertical	2.690	SP: Sand
ML-4	76.5-77	EPA9100	Core	Horizontal	2.460	SP: Sand
ML-4	126.5-127	EPA9100	Core	Vertical	0.003	CH: Fat Clay
ML-4	146.5-147	EPA9100	Core	Vertical	17.290	SP: Sand
ML-4	146.5-147	EPA9100	Core	Horizontal	36.564	SP: Sand
ML-6	79.5-80	EPA9100	Core	Vertical	0.007	CL: Clay
ML-6	107.5-108	EPA9100	Core	Vertical	13.180	SW: Well-Graded Sand with Gravel
ML-6	107.5-108	EPA9100	Core	Horizontal	11.338	SW: Well-Graded Sand with Gravel
ML-6	167.5-168	EPA9100	Core	Vertical	0.205	SM: Silty Sand
ML-6	167.5-168	EPA9100	Core	Horizontal	0.368	SM: Silty Sand
PR-1	67-67.5	EPA 9100	Core	Vertical	0.259	SP: Sand with Gravel
PR-1	67-67.5	EPA 9100	Core	Horizontal	0.171	SP: Sand with Gravel
PR-1	145.5-146	EPA 9100	Core	Vertical	0.006	CL: Clay
PR-1	152-152.5	EPA 9100	Core	Vertical	0.006	CL: Clay
PR-1	200.5-201	EPA 9100	Core	Vertical	14.456	Not Determined
PR-1	200.5-201	EPA 9100	Core	Horizontal	0.774	Not Determined

Table 2

Table 3A

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - Moss Landing Area

Borehole:		PR-1		ML-1		ML-2		ML-3		ML-4		ML-6		MDW-1			
Zone #:		1	2	1	2	1	2	1	2	1	2	1	2	1	2	3	4
Screen Interval (ft bgs):		190 - 200	125 - 135	113.5 - 118.5	90 - 100	167 - 177	90 - 100	180 - 190	103 - 113	163.5 - 173.5	74.5 - 84.5	152 - 162	100 - 110	237 - 247	187 - 197	152 - 162	60 - 70
Sample Date:		24-Sep-13	25-Sep-13	5-Oct-13	7-Oct-13	17-Dec-13	19-Dec-13	11-Jan-14	13-Jan-14	5-Dec-13	6-Dec-13	22-Nov-13	23-Nov-13	1-May-14	7-May-14	8-May-14	10-May-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
1,1,1,2-Tetrachloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/L	-	-	-	-	-	ND	ND	ND	-	ND	-	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene-d4	µg/L	4.6	4.8	4.7	4.8	4.6	7.81	9.69	10.1	4.8	8.06	4.6	4.8	5.3	4.9	5.0	5.1
1,2-Dichloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropene, Total	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dimethyl-2-nitrobenzene	µg/L	5.2	5.1	5.6	5.3	4.6	5.0	5.31	5.34	4.9	4.94	4.8	4.7	4.7	5.1	4.7	5.0
1,4-Dichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Br-2-Nitrobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.42	0.48	0.47	0.47
2,2-Dichloropropane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-T	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-TP (Silvex)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-D	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-DB	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
2,4-DCAA	µg/L	-	-	-	-	-	-	9.66	9.96	-	8.27	-	-	-	-	-	-
2-Butanone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	µg/L	-	-	-	-	-	ND	ND	ND	-	ND	-	-	-	-	-	-
2-Chlorotoluene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,5-Dichlorobenzoic acid	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
3-Hydroxycarbofuran	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4´-DDD	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
4,4´-DDE	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
4,4´-DDT	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
4-Chlorotoluene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	µg/L	ND	ND	ND	ND	ND	-	-	-	ND	-	ND	ND	ND	ND	ND	ND
Acifluorfen	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Alachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb Sulfone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb Sulfoxide	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alkalinity as CaCO3	mg/L	190	150	330	320	750	180	210	190	460	200	560	410	158	176	149	118
alpha-BHC	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Aluminum	µg/L	ND	68	ND	150	82	ND	950	47	ND	17	52	ND	120	62	147	ND
Ammonia as N, Dissolved	mg/L	0.14	0.78	15	7.5	14	1.0	10	1.7	9.5	1.7	6.8	1.9	ND	3.22	3.40	ND
AMPA	µg/L	110	110	110	100	87	100	-	-	95	-	100	95	93	100	110	110
Aroclor 1016	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Aroclor 1221	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Aroclor 1232	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - Moss Landing Area

Borehole:		PR-1		ML-1		ML-2		ML-3		ML-4		ML-6		MDW-1			
Zone #:		1	2	1	2	1	2	1	2	1	2	1	2	1	2	3	4
Screen Interval (ft bgs):		190 - 200	125 - 135	113.5 - 118.5	90 - 100	167 - 177	90 - 100	180 - 190	103 - 113	163.5 - 173.5	74.5 - 84.5	152 - 162	100 - 110	237 - 247	187 - 197	152 - 162	60 - 70
Sample Date:		24-Sep-13	25-Sep-13	5-Oct-13	7-Oct-13	17-Dec-13	19-Dec-13	11-Jan-14	13-Jan-14	5-Dec-13	6-Dec-13	22-Nov-13	23-Nov-13	1-May-14	7-May-14	8-May-14	10-May-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Aroclor 1242	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Aroclor 1248	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Aroclor 1254	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Aroclor 1260	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Arsenic, Total	µg/L	ND	13	3.4	ND	ND	ND	1.0	5.1	ND	0.71	4.5	4.3	39	54	44	40
Atrazine	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Dissolved	µg/L	110	ND	160	270	74	380	150	92	84	340	ND	89	94	93	134	ND
Bentazon	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
beta-BHC	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Bicarbonate as CaCO3	mg/L	190	150	330	320	750	180	-	-	460	-	560	410	-	-	-	-
Bicarbonate as HCO3	mg/L	-	-	-	-	-	-	250	230	-	240	-	-	193	215	182	144
Bis(2-ethylhexyl) adipate (DEHA)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate (DEHP)	µg/L	ND	ND	ND	ND	ND	ND	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron, Dissolved	µg/L	ND	4300	2100	450	1700	400	500	450	1100	190	4000	3300	1570	3000	1680	2800
Bromacil	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromide, Dissolved	mg/L	0.80	65	43	5.7	45	14	13	7.7	43	16	68	59	54.0	52	40.0	32.4
Bromobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromofluorobenzene	µg/L	4.9	5.0	5.0	4.9	51	7.70	8.54	9.13	51	9.69	52	53	50	51	52	53
Bromoform	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium, Dissolved	mg/L	50	400	590	180	620	460	391	254	850	730	570	600	1183	662	1012	264
Calcium, Total	mg/L	52	340	590	180	570	450	409	259	860	734	550	580	1211	676	973	257
Captan	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Carbaryl	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbofuran	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CaCO3	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	mg/L	250	19000	12000	1600	12000	3900	-	-	10000	-	19000	16000	16100	16600	13300	11200
Chloride, Total	mg/L	-	-	-	-	-	-	3700	2300	-	4600	-	-	-	-	-	-
Chlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloropropham	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Chlorothalonil	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Color	CU	5.0	20	250	30	45	10	ND	ND	40	ND	20	10	23	50	25	15
Conductivity (Field)	µS/cm	1080	44440	29716	545	29650	9635	10507	6701	26437	11141	40389	35246	36237	38793	31014	26662
Copper, Total	µg/L	ND	54	37	ND	38	15	10	3.4	37	11	58	58	210	201	219	152
Cyanazine	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Dalapon	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DCPA	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
DCPAA	µg/L	71	63	46	48	49	47	-	-	47	-	47	46	42	62	66	64
Decachlorobiphenyl	µg/L	-	-	-	-	-	-	0.0228	0.0295	-	0.0788	-	-	39%	0.0206	0.00734	0.0650
Delta Oxygen-18	$\delta^{18}O$ (‰)	-6.4	-0.5	-	-	-3.1	-5.3	-6.0	-6.4	-3.6	-5.2	-0.6	-1.3	-2.0	-1.0	-2.2	-2.5
delta-BHC	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Delta-Deuterium	$\delta^{2}H$ (‰)	-42.0	-3.0	-	-	-19.2	-37.6	-40.1	-43.6	-24.5	-35.9	-5.5	-11.0	-13	-9	-16	-19
Diazinon	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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Borehole:		PR-1		ML-1		ML-2		ML-3		ML-4		ML-6		MDW-1			
Zone #:		1	2	1	2	1	2	1	2	1	2	1	2	1	2	3	4
Screen Interval (ft bgs):		190 - 200	125 - 135	113.5 - 118.5	90 - 100	167 - 177	90 - 100	180 - 190	103 - 113	163.5 - 173.5	74.5 - 84.5	152 - 162	100 - 110	237 - 247	187 - 197	152 - 162	60 - 70
Sample Date:		24-Sep-13	25-Sep-13	5-Oct-13	7-Oct-13	17-Dec-13	19-Dec-13	11-Jan-14	13-Jan-14	5-Dec-13	6-Dec-13	22-Nov-13	23-Nov-13	1-May-14	7-May-14	8-May-14	10-May-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Dibromochloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloropropane (DBCP)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dicamba	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloroacetate	mg/L	10.6	539	108	10.8	100	25.3	0.5	0.505	140	0.48	132	131	-	-	-	-
Dichlorodifluoromethane (Freon 12)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloroprop	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Dieldrin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-isopropyl ether (DIPE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethoate	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dinoseb	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dioxin (2,3,7,8 TCDD)	pg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND
Diphenamid	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Diquat	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Oxygen (Field)	mg/L	N/A	N/A	N/A	N/A	0	0	3.7	0.1	0	0.1	0.1	0.1	0.2	0.2	0.1	2.5
Disulfoton	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Endosulfan I	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Endosulfan II	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Endosulfan sulfate	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Endothall	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
EPTC	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Ethyl tert-Butyl Ether (ETBE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene Dibromide (EDB)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride, Dissolved	mg/L	0.10	ND	0.12	0.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6
gamma-BHC (Lindane)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Glyphosate	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness as CaCO3	mg/L	240	5300	4700	920	4800	2500	1020	647	6100	1830	6400	6000	8208	6658	6498	3887
Heptachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hydroxide as CaCO3	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide, Dissolved	µg/L	64	ND	ND	180	920	360	100	200	640	51	620	380	ND	ND	ND	ND
Iron, Dissolved	µg/L	ND	ND	6000	ND	ND	140	ND	1700	ND	ND	ND	ND	365	13059	20051	ND
Iron, Total	µg/L	200	650	20000	1800	3000	500	6900	3500	1200	10000	3900	560	492	13532	26720	178
Isopropylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	µg/L	27	150	140	34	270	78	110	86	240	91	390	330	226	153	120	142
m,p-Xylenes	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Dissolved	mg/L	27	1200	810	110	900	360	298	173	970	507	1200	1100	1211	1168	1020	796
Magnesium, Total	mg/L	28	1100	780	110	820	340	310	178	960	512	1200	1100	1259	1207	988	788
Manganese, Dissolved	µg/L	180	1700	5200	790	2600	710	1400	1300	6400	5000	3900	3600	1605	4694	6512	ND
Manganese, Total	µg/L	190	1500	5300	790	2400	680	1500	1400	6400	5100	3800	3500	1653	4817	6303	ND
Mass Balance, Total	meq/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mass Balance-Dissolved Anions	meq/L	12	580	380	51	390	120	-	-	320	-	590	500	504	520	416	351
Mass Balance-Dissolved Cations	meq/L	11	570	360	50	380	120	-	-	340	-	550	480	497	507	452	370
MBAS (Surfactants)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methiocarb	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Methomyl	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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Borehole:		PR-1		ML-1		ML-2		ML-3		ML-4		ML-6		MDW-1			
Zone #:		1	2	1	2	1	2	1	2	1	2	1	2	1	2	3	4
Screen Interval (ft bgs):		190 - 200	125 - 135	113.5 - 118.5	90 - 100	167 - 177	90 - 100	180 - 190	103 - 113	163.5 - 173.5	74.5 - 84.5	152 - 162	100 - 110	237 - 247	187 - 197	152 - 162	60 - 70
Sample Date:		24-Sep-13	25-Sep-13	5-Oct-13	7-Oct-13	17-Dec-13	19-Dec-13	11-Jan-14	13-Jan-14	5-Dec-13	6-Dec-13	22-Nov-13	23-Nov-13	1-May-14	7-May-14	8-May-14	10-May-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metolachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metribuzin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Molinate	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as NO3	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	18	8
Nitrate+Nitrite as N	mg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	0.5	4.2	1.8
Nitrite as NO2-N, Dissolved	mg/L	ND	ND	ND	ND	ND	ND	-	-	ND	-	ND	ND	ND	ND	ND	ND
n-Propylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor	TON	2.0	10	20	50	1.0	1.0	4.0	2.0	1.0	1.0	ND	ND	2	4	1	1
Orthophosphate as P, Dissolved	mg/L	0.14	0.042	ND	0.16	0.20	0.079	0.0039	0.012	0.12	0.077	0.14	0.14	ND	0.08	ND	0.06
Oxamyl	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Oxidation-Reduction Potential (Field)	mV	-50.5	-110.8	N/A	N/A	-99.2	30.1	-105.8	-151.4	-13.8	-92.8	-90.5	60.6	2.33	-106.0	-131.8	-10.1
o-Xylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB Aroclor Screen	µg/L	ND	ND	ND	ND	ND	ND	-	-	ND	-	ND	ND	-	-	-	-
PCBs, Total	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Pentachlorophenol	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene-d12	µg/L	-	-	-	-	-	-	5.08	4.75	-	1.38	-	-	-	-	-	-
pH	pH Units	8.2	7.7	7.4	7.8	7.7	7.6	7.49	7.22	7.6	6.79	7.4	7.4	7.2	6.9	6.9	7.4
pH (Field)	pH Units	6.87	6.66	6.92	7.24	6.86	6.67	7.32	6.94	6.76	6.57	6.63	6.58	7.12	6.80	6.9	7.32
pH Temperature in °C	°C	21.7	21.9	21.6	21.3	20.1	19.9	-	-	21.9	-	21.4	21.0	-	-	-	-
Phosphorus, Dissolved	mg/L	0.11	ND	0.18	0.21	ND	ND	0.078	0.20	ND	0.047	ND	0.12	ND	0.08	ND	0.08
Picloram	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Dissolved	mg/L	6.0	380	92	31	130	34	58	27	98	36	250	270	36	158	81	246
Potassium, Total	mg/L	-	-	-	-	-	-	60	27	-	37	-	-	-	-	-	-
Prometon	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Prometryn	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
Propachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propoxur (Baygon)	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	ND	ND	ND	ND
QC Ratio TDS/SEC		-	-	-	-	-	-	-	-	-	-	-	-	0.70	0.67	0.70	0.66
sec-Butylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silica as SiO2, Dissolved	mg/L	30	25	26	35	34	38	36	40	34	40	32	32	32	30	34	15
Simazine	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium, Dissolved	mg/L	140	10000	6000	710	6200	1500	1600	1000	5000	1400	9400	8100	7758	8588	7254	6541
Sodium, Total	mg/L	-	-	-	-	-	-	1700	1000	-	1400	-	-	-	-	-	-
Specific Conductance (EC)	µmhos/cm	1200	43000	30000	4900	31000	11000	12000	7800	29000	13000	43000	38000	44180	45230	38100	32970
Specific Conductance (EC) (Field)	µS/cm	1296	53620	35169	647	34730	11508	11704	7439	30671	12933	48132	42650	42787	45875	37546	32173
Strontium, Dissolved	µg/L	400	7400	7100	1600	7900	4100	3100	1900	8600	5300	12000	10000	9880	8490	8936	4369
Styrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sulfate as SO4, Dissolved	mg/L	24	2500	1400	21	1000	340	370	190	960	420	2000	1900	2208	2270	1790	1560
TCMX	µg/L	2.3	2.2	2.4	1.2	4.9	5.1	0.0783	0.104	3.5	0.0877	4.6	4.5	-	0.0961	0.0770	0.0796
Temperature (Field)	°C	16.3	15.4	16.9	16.8	17.3	16.4	19.7	19.8	17.8	17.7	16.5	15.9	17.0	16.8	15.9	16
Terbacil	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
tert-Amyl Methyl Ether (TAME)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butyl alcohol (TBA)	µg/L	ND	ND	ND	ND	ND	-	-	-	ND	-	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloro-meta-xylene (TCMX)	%	150	146	165	79	111	115	78	104	80	92	103	103	87	101	81	84
Thiobencarb	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Anions	meq/L	-	-	-	-	-	-	120	73	-	140	-	-	-	-	-	-
Total Cations	meq/L	11	120	-	-	-	-	120	73	-	140	-	-	520	522	437	368
Total Dissolved Solids	mg/L	630	34000	22000	3200	19000	8100	7400	4200	21000	8600	34000	28000	31000	30200	26600	21900
Total Dissolved Solids (Field)	mg/L	845	34853	22847.5	422.5	23616.4	7826.8	7942.4	5059.2	20855.6	8799.2	31284.5	29002	29097.2	31198.4	25513.6	21875.1

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - Moss Landing Area

Borehole:		PR-1		ML-1		ML-2		ML-3		ML-4		ML-6		MDW-1			
Zone #:		1	2	1	2	1	2	1	2	1	2	1	2	1	2	3	4
Screen Interval (ft bgs):		190 - 200	125 - 135	113.5 - 118.5	90 - 100	167 - 177	90 - 100	180 - 190	103 - 113	163.5 - 173.5	74.5 - 84.5	152 - 162	100 - 110	237 - 247	187 - 197	152 - 162	60 - 70
Sample Date:		24-Sep-13	25-Sep-13	5-Oct-13	7-Oct-13	17-Dec-13	19-Dec-13	11-Jan-14	13-Jan-14	5-Dec-13	6-Dec-13	22-Nov-13	23-Nov-13	1-May-14	7-May-14	8-May-14	10-May-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Total Kjehldahl Nitrogen, Dissolved	mg/L	ND	ND	16	8.1	14	1.5	9.7	1.6	11	0.15	7.3	2.3	ND	3.3	3.6	ND
Total Oxidizable Nitrogen, as N	mg/L	ND	ND	ND	ND	ND	ND	-	-	ND	-	ND	ND	-	-	-	-
Total Trihalomethanes	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (TCE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trifluralin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Triphenyl phosphate	µg/L	-	-	-	-	-	-	6.30	6.10	-	5.24	-	-	-	-	-	-
Trithion	µg/L	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-	-	-
Tritium	pCi/L	-68.2 ± 108 (199)	38.7 ± 122 (212)	47.5 ± 127 (220)	-17.9 ± 117 (210)	-4.86±115 (204)	32.8±122 (212)	-2.52 ± 125 (221)	58.9 ± 121 (207)	-118±123 (231)	-110±130 (240)	10.3±129 (226)	-15.7±129 (230)	-	-	-	-
Tritium, prec. est.[2]	TU	-	-	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
Turbidity	NTU	0.67	5.1	150	19	6.0	2.7	160	11	6.6	2.8	6.5	1.6	0.85	9.7	150	0.60
Turbidity (Field)	NTU	0.89	1.56	0.7	2.52	1.68	0.72	65.2	0.99	0.48	0.94	1.26	1.73	2.33	0.64	0.84	0.83
Vinyl Chloride	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, Total	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	µg/L	ND	ND	ND	ND	ND	ND	240	31	ND	29	ND	ND	ND	ND	ND	ND

Notes:

°C = Degrees Celsius
CU = Color Units
$\delta^{18}O$ (‰) = Delta Oxygen-18
$\delta^{2}H$ (‰) = Delta-Deuterium
meq/L = Milliequivalents per Liter
mg/L = Milligrams per Liter
mV = Millivolts
NTU = Nephelometric Turbidity Units
pCi/L = Pico Curies per Liter
pg/L = Picograms per Liter
TON = Threshold Odor Number
TU = Tritium Units
µg/L = Micorgrams per Liter
µmhos/cm = Micromhos per Centimeter
µS/cm = MicroSiemens per Centimeter

ND = NOT DETECTED at or above the Reporting Limit or Practical Quantitation Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)

[1] See laboratory water quality reports in Appendix G for method numbers, dilution factors, Method Detection Limits, and Reporting Limits.
[2] Laboratory water quality results pending.

Table 3B

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - CEMEX - Marina, CA

Borehole:		CX-B1WQ						CX-B2WQ				CX-B4				
Zone #:		1	2	3	4	5	6	1	2	3	4	1	2	3	4	5
Screen Interval (ft bgs):		274 - 284	237 - 247	182 - 192	134 - 144	84 - 94	51 - 61	215 - 225	161 - 171	104 - 114	55 - 65	306 - 316	248 - 258	155 - 165	110 - 120	58 - 68
Sample Date:		18-Feb-14	19-Feb-14	21-Feb-14	22-Feb-14	23-Feb-14	25-Feb-14	8-Mar-14	10-Mar-14	11-Mar-14	12-Mar-14	5-Apr-14	6-Apr-14	8-Apr-14	9-Apr-14	10-Apr-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
1,1,1,2-Tetrachloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene-d4	µg/L	5.0	4.8	4.9	5.0	4.8	4.8	5.0	4.9	4.8	4.6	4.9	4.7	4.8	5.2	5.0
1,2-Dichloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropene, Total	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dimethyl-2-nitrobenzene	µg/L	5.0	5.3	5.6	5.1	5.5	5.4	5.0	4.8	5.2	5.0	5.4	5.2	4.1	4.3	5.0
1,4-Dichlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Br-2-Nitrobenzene	µg/L	-	3.7	3.8	3.7	3.9	2.2	2.4	2.3	0.60	0.64	0.49	0.49	0.44	0.42	0.43
2,2-Dichloropropane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-T	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-TP (Silvex)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-D	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-DB	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DCAA	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,5-Dichlorobenzoic acid	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Hydroxycarbofuran	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4´-DDD	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4´-DDE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4´-DDT	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acifluorfen	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb Sulfone	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb Sulfoxide	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 3B

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - CEMEX - Marina, CA

Borehole:		CX-B1WQ						CX-B2WQ				CX-B4				
Zone #:		1	2	3	4	5	6	1	2	3	4	1	2	3	4	5
Screen Interval (ft bgs):		274 - 284	237 - 247	182 - 192	134 - 144	84 - 94	51 - 61	215 - 225	161 - 171	104 - 114	55 - 65	306 - 316	248 - 258	155 - 165	110 - 120	58 - 68
Sample Date:		18-Feb-14	19-Feb-14	21-Feb-14	22-Feb-14	23-Feb-14	25-Feb-14	8-Mar-14	10-Mar-14	11-Mar-14	12-Mar-14	5-Apr-14	6-Apr-14	8-Apr-14	9-Apr-14	10-Apr-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Aldrin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alkalinity as CaCO3	mg/L	118	132	167	96	126	103	147	129	102	104	112	118	103	98	62
alpha-BHC	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aluminum	µg/L	77	ND	ND	ND	ND	ND	84	74	156	204	ND	ND	ND	31	20
Ammonia as N, Dissolved	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND	ND	ND	ND	ND
AMPA	µg/L	110	100	110	98	89	110	120	98	100	76	98	110	110	96	110
Aroclor 1016	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	µg/L	38	ND	ND	ND	ND	ND	46	28	59	55	33	32	27	26	5
Atrazine	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Dissolved	µg/L	138	210	ND	120	ND	100	109	346	85	90	174	123	84	179	222
Bentazon	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
beta-BHC	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate as CaCO3	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicarbonate as HCO3	mg/L	144	161	204	117	154	126	179	157	124	127	137	144	126	120	76
Bis(2-ethylhexyl) adipate (DEHA)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate (DEHP)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron, Dissolved	µg/L	700	730	1540	2880	2800	2400	1540	860	2580	2360	600	1840	1400	1310	260
Bromacil	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromide, Dissolved	mg/L	41	24	49.6	38	41	38	38	23	45	44	43	39	29	31	6.1
Bromobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromofluorobenzene	µg/L	52	50	51	52	50	48	51	51	51	48	50	49	49	52	51
Bromoform	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium, Dissolved	mg/L	2718	1558	2018	502	656	709	1948	1141	732	886	3158	1557	911	1164	277
Calcium, Total	mg/L	2718	1581	2090	505	674	710	1961	1181	712	896	3125	1516	938	1081	261
Captan	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbaryl	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbofuran	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CaCO3	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	mg/L	14184	8796	17995	14050	14755	13675	13026	7408	14099	14464	14013	13566	10128	11044	2045
Chloride, Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - CEMEX - Marina, CA

Borehole:		CX-B1WQ						CX-B2WQ				CX-B4				
Zone #:		1	2	3	4	5	6	1	2	3	4	1	2	3	4	5
Screen Interval (ft bgs):		274 - 284	237 - 247	182 - 192	134 - 144	84 - 94	51 - 61	215 - 225	161 - 171	104 - 114	55 - 65	306 - 316	248 - 258	155 - 165	110 - 120	58 - 68
Sample Date:		18-Feb-14	19-Feb-14	21-Feb-14	22-Feb-14	23-Feb-14	25-Feb-14	8-Mar-14	10-Mar-14	11-Mar-14	12-Mar-14	5-Apr-14	6-Apr-14	8-Apr-14	9-Apr-14	10-Apr-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Chloroform	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloropropham	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorothalonil	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Color	CU	7	14	ND	10	5	4	21	7	ND	23	23	4	9	16	14
Conductivity (Field)	µS/cm	32361	20869	41546	34907	35167	30803	31029	18875	34532	34162	34754	34291	25663	26466	6208
Copper, Total	µg/L	15	ND	ND	ND	ND	ND	ND	ND	150	136	107	140	111	90	18
Cyanazine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dalapon	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DCPA	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DCPAA	µg/L	48	51	42	43	45	41	45	56	47	47	53	55	56	59	58
Decachlorobiphenyl	µg/L	0.00769	0.0667	0.0149	0.0690	0.0727	71%	0.0277	0.0308	0.0727	0.0680	0.0205	0.0504	0.0417	0.0364	0.0585
Delta Oxygen-18	$\delta^{18}O$ (‰)	-2.6	-4.3	-0.8	-2.0	-1.6	-2.1	-2.3	-3.7	-1.8	-1.4	-3.0	-2.8	-4.3	-4.0	-5.9
delta-BHC	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-Deuterium	$\delta^{2}H$ (‰)	-18.4	-29.1	-6.2	-14.0	-12.0	-15.1	-18.0	-29.2	-13.3	-12.6	-19	-17	-28	-26	-40
Diazinon	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloropropane (DBCP)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dicamba	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloroacetate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (Freon 12)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloroprop	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-isopropyl ether (DIPE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethoate	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dinoseb	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dioxin (2,3,7,8 TCDD)	pg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diphenamid	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved Oxygen (Field)	mg/L	1	1	0.1	3.6	3.6	3.5	0.9	1.4	5.7	4.7	0.6	2.5	4.5	5.1	28.3
Disulfoton	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endothall	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EPTC	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl tert-Butyl Ether (ETBE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene Dibromide (EDB)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride, Dissolved	mg/L	0.2	0.1	ND	ND	0.4	0.3	ND	0.2	0.5	0.5	ND	ND	ND	ND	0.2

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - CEMEX - Marina, CA

Borehole:		CX-B1WQ						CX-B2WQ				CX-B4				
Zone #:		1	2	3	4	5	6	1	2	3	4	1	2	3	4	5
Screen Interval (ft bgs):		274 - 284	237 - 247	182 - 192	134 - 144	84 - 94	51 - 61	215 - 225	161 - 171	104 - 114	55 - 65	306 - 316	248 - 258	155 - 165	110 - 120	58 - 68
Sample Date:		18-Feb-14	19-Feb-14	21-Feb-14	22-Feb-14	23-Feb-14	25-Feb-14	8-Mar-14	10-Mar-14	11-Mar-14	12-Mar-14	5-Apr-14	6-Apr-14	8-Apr-14	9-Apr-14	10-Apr-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
gamma-BHC (Lindane)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Glyphosate	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness as CaCO3	mg/L	11070	6723	9880	5350	6748	5561	8776	5486	5995	6405	12494	7768	5950	5928	1278
Heptachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hydroxide as CaCO3	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide, Dissolved	µg/L	ND	ND	190	ND	160	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	µg/L	362	2539	1780	814	171	57	246	148	ND	121	775	ND	151	130	148
Iron, Total	µg/L	362	2643	1928	922	178	162	367	238	138	164	878	241	205	389	185
Isopropylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	µg/L	218	120	140	120	170	140	149	75	173	164	191	127	63	31	5
m,p-Xylenes	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Dissolved	mg/L	1041	683	1078	981	1215	928	936	605	1056	1015	1146	988	839	845	162
Magnesium, Total	mg/L	1040	674	1132	993	1230	920	942	616	1024	1012	1139	967	876	784	152
Manganese, Dissolved	µg/L	127	166	361	349	ND	172	ND	ND	ND	ND	657	133	204	172	345
Manganese, Total	µg/L	134	187	382	387	78	131	ND	ND	ND	ND	650	128	210	164	320
Mass Balance, Total	meq/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mass Balance-Dissolved Anions	meq/L	439.7	271.9	567.6	436.9	458.5	424.8	405.7	226.8	439	449	432.7	422.8	313.2	342	64.9
Mass Balance-Dissolved Cations	meq/L	423.3	261.6	564.9	458.9	464.6	387.0	399.0	215.5	418	418	464.8	459.7	331.6	349	70.3
MBAS (Surfactants)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methiocarb	µg/L	-	-	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methomyl	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metolachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metribuzin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Molinate	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as NO3	mg/L	ND	ND	ND	2	2	3	ND	2	2	ND	ND	2	3	4	21
Nitrate+Nitrite as N	mg/L	ND	0.2	ND	0.4	0.4	0.8	ND	0.6	0.5	ND	ND	0.3	0.7	0.9	4.9
Nitrite as NO2-N, Dissolved	mg/L	ND	ND	ND	ND	ND	ND	0.4	0.2	ND	ND	ND	ND	ND	ND	0.2
n-Propylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor	TON	1	1	1	1	1	1	1	2	1	1	2	3	1	1	4
Orthophosphate as P, Dissolved	mg/L	0.05	0.09	0.08	0.07	0.07	ND	ND	ND	ND	0.05	ND	ND	ND	ND	ND
Oxamyl	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Oxidation-Reduction Potential (Field)	mV	61.1	-32.4	-253.3	-56.6	7.9	-67.3	49	30.9	45.6	16.2	-38.4	36.8	34	74.9	6.5
o-Xylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB Aroclor Screen	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene-d12	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	6.7	6.9	6.9	6.9	7.2	7.3	7.0	7.4	7.2	7.2	6.8	6.9	6.9	6.6	7.1

Table 3B

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - CEMEX - Marina, CA

Borehole:		CX-B1WQ						CX-B2WQ				CX-B4				
Zone #:		1	2	3	4	5	6	1	2	3	4	1	2	3	4	5
Screen Interval (ft bgs):		274 - 284	237 - 247	182 - 192	134 - 144	84 - 94	51 - 61	215 - 225	161 - 171	104 - 114	55 - 65	306 - 316	248 - 258	155 - 165	110 - 120	58 - 68
Sample Date:		18-Feb-14	19-Feb-14	21-Feb-14	22-Feb-14	23-Feb-14	25-Feb-14	8-Mar-14	10-Mar-14	11-Mar-14	12-Mar-14	5-Apr-14	6-Apr-14	8-Apr-14	9-Apr-14	10-Apr-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
pH (Field)	pH Units	6.54	6.79	6.79	6.82	7.05	7.18	6.71	6.69	6.96	7.12	6.61	6.66	6.75	6.63	6.92
pH Temperature in °C	°C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved	mg/L	0.06	0.10	0.08	0.07	0.07	ND	ND	ND	ND	0.05	ND	0.09	ND	ND	ND
Picloram	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Dissolved	mg/L	53	35	34	256	221	186	55	73	201	226	52	67	56	98	9.6
Potassium, Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prometon	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prometryn	µg/L	-	-	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propachlor	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propoxur (Baygon)	µg/L	-	-	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
QC Ratio TDS/SEC		0.68	0.59	0.73	0.67	0.67	0.67	0.72	0.73	0.66	0.66	0.78	0.71	0.78	0.80	0.70
sec-Butylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silica as SiO2, Dissolved	mg/L	34	ND	25	27	19	18.0	34	30	20	19	34	32	30	27	28
Simazine	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium, Dissolved	mg/L	4612	2914	8612	7968	7500	6219	5135	2437	6643	6536	4864	6747	4958	5041	987
Sodium, Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Specific Conductance (EC)	µmhos/cm	36940	24570	48770	39610	40900	37260	36680	22060	40720	40270	38270	38210	26270	29810	6910
Specific Conductance (EC) (Field)	µS/cm	36601	23705	47112	39592	41336	35952	35199	21620	40173	39657	37688	38354	28707	29933	6988
Strontium, Dissolved	µg/L	16834	11,000	12000	9400	10000	9500	13328	8621	9020	9966	17696	11232	8713	10508	2167
Styrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sulfate as SO4, Dissolved	mg/L	1760	991	2688	1832	1882	1748	1674	713	1855	1822	1663	1789	1202	1358	269
TCMX	µg/L	0.0677	0.110	0.0753	0.0752	0.0796	-	0.112	0.111	0.112	0.0770	0.0855	0.0933	0.0960	0.100	0.0943
Temperature (Field)	°C	18.9	18.7	18.8	18.8	17.2	17.5	18.8	18.3	17.6	17.8	20.9	19.4	19.4	18.9	19.1
Terbacil	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
tert-Amyl Methyl Ether (TAME)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butyl alcohol (TBA)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloro-meta-xylene (TCMX)	%	71	115	79	79	84	111	117	116	118	81	90	98	102	105	99
Thiobencarb	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Anions	meq/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cations	meq/L	424.7	262.0	596.2	463.6	463.4	387.9	406.1	222.0	407	415	463.4	450.4	347.4	319	64.0
Total Dissolved Solids	mg/L	25200	14600	35600	26500	27400	24800	26500	16200	26800	26700	29800	27200	20500	24000	4815
Total Dissolved Solids (Field)	mg/L	24888	16122.8	32034.8	26921.2	28111.2	24452.8	23936	14708.4	27315.6	26968.3	25629.2	26084.8	19522.8	20352.4	4760
Total Kjehldahl Nitrogen, Dissolved	mg/L	ND	0.4	0.3	0.4	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Oxidizable Nitrogen, as N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Trihalomethanes	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (TCE)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trifluralin	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Triphenyl phosphate	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Summary of Isolated Aquifer Zone Testing Field and Laboratory Water Quality Results - CEMEX - Marina, CA

Borehole:		CX-B1WQ						CX-B2WQ				CX-B4				
Zone #:		1	2	3	4	5	6	1	2	3	4	1	2	3	4	5
Screen Interval (ft bgs):		274 - 284	237 - 247	182 - 192	134 - 144	84 - 94	51 - 61	215 - 225	161 - 171	104 - 114	55 - 65	306 - 316	248 - 258	155 - 165	110 - 120	58 - 68
Sample Date:		18-Feb-14	19-Feb-14	21-Feb-14	22-Feb-14	23-Feb-14	25-Feb-14	8-Mar-14	10-Mar-14	11-Mar-14	12-Mar-14	5-Apr-14	6-Apr-14	8-Apr-14	9-Apr-14	10-Apr-14
Constituent[1]	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Trithion	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritium	pCi/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tritium, prec. est.[2]	TU	0.35 ± 0.09	0.04 ± 0.09	0.01 ± 0.09	0.50 ± 0.09	0.48 ± 0.09	0.81 ± 0.09	0.10 ± 0.09	0.18 ± 0.09	0.44 ± 0.09	0.62 ± 0.09	pending	pending	pending	pending	pending
Turbidity	NTU	1.6	2.9	0.70	4.6	0.75	0.45	0.40	0.65	0.65	1.5	0.20	1.3	0.65	1.0	1.4
Turbidity (Field)	NTU	0.57	1.20	0.25	0.24	0.47	0.33	0.91	0.49	0.57	0.63	0.54	1.46	0.18	0.85	1.12
Vinyl Chloride	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, Total	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	µg/L	99	ND	ND	ND	ND	ND	218	217	384	356	ND	ND	ND	38	ND

Notes:

°C = Degrees Celsius
CU = Color Units
$\delta^{18}O$ (‰) = Delta Oxygen-18
$\delta^{2}H$ (‰) = Delta-Deuterium
meq/L = Milliequivalents per Liter
mg/L = Milligrams per Liter
mV = Millivolts
NTU = Nephelometric Turbidity Units
pCi/L = Pico Curies per Liter
pg/L = Picograms per Liter
TON = Threshold Odor Number
TU = Tritium Units
µg/L = Micorgrams per Liter
µmhos/cm = Micromhos per Centimeter
µS/cm = MicroSiemens per Centimeter

ND = NOT DETECTED at or above the Reporting Limit or Practical Quantitation Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)

[1] See laboratory water quality reports in Appendix G for method numbers, dilution factors, Method Detection Limits, and Reporting Limits.
[2] Laboratory water quality results pending.

Hydraulic Conductivity for Geologic Units at CEMEX

	Borehole	CX-B1				CX-B2				CX-B3				CX-B4			
Q_{od}	Weighed average K for each soil Type[1]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]
		1.00	SM: Silty Sand	45	130	1.00	SW: Well-Graded Sand	292	770	1.00	SP: Sand	74	224	1.00	SP: Sand	135	365
	Total K value [ft/day]			**45**	**130**			**292**	**770**			**74**	**224**			**135**	**365**
	Borehole	**CX-B1**				**CX-B2**				**CX-B3**				**CX-B4**			
Q_t	Weighed average K for each soil Type[1]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]
		0.25	GW: Gravel	334	849	0.67	SP: Sand	16	65	0.50	SP: Sand	21	69	1.00	SP: Sand	95	234
		0.38	SW: Well-Graded Sand	330	1,121	0.33	SM: Silty Sand	83	211	0.50	SM: Silty Sand	130	509				
		0.38	SM: Silty Sand	98	266												
	Total K value [ft/day]			**244**	**732**			**38**	**114**			**76**	**289**			**95**	**234**

[1] For each soil type, an average is calculated for each method (Hazen, Krumbein-Monk, and Kozeny-Carman) with a weighed factor of thickness. The min K and max K for each soil type is the minimum and maximum among these three weighed average K value.

Table 4

Hydraulic Conductivity for Geologic Units at MOSS LANDING

	Borehole	MDW-1				ML-1				ML-2				ML-3			
		% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]
Dune Sand	Weighed average K for each soil Type[1]	1.00	SP: Sand	135	300					1.00	SW: Well-Graded Sand	383	1,090				
	Total K value [ft/day]			**135**	**300**							**383**	**1,090**				
	Borehole	**MDW-1**				**ML-1**				**ML-2**				**ML-3**			
		% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]
Perched "A" Aquifer	Weighed average K for each soil Type[1]	1.00	SP: Sand	170	477	0.13	SP: Sand with Gravel	469	1,175	0.33	SW: Well-Graded Sand with Gravel	484	949	1.00	SP: Sand	166	564
						0.13	SP-SM: Sand with Silt and Gravel	445	1,322	0.67	SP: Sand	34	102				
						0.75	SP: Sand	109	393								
	Total K value [ft/day]			**170**	**477**			**196**	**607**			**184**	**385**			**166**	**564**

[1] For each soil type, an average is calculated for each method (Hazen, Krumbein-Monk, and Kozeny-Carman) with a weighed factor of thickness. The min K and max K for each soil type is the minimum and maximum among these three weighed average K value.

Table 5

Hydraulic Conductivity for Geologic Units at MOSS LANDING

	Borehole	ML-4				ML-6				PR-1			
	Weighed average K for each soil Type[1]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]
Dune Sand		1.00	SP: Sand	164	468								
	Total K value [ft/day]			**164**	**468**								
	Borehole	**ML-4**				**ML-6**				**PR-1**			
	Weighed average K for each soil Type[1]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]	% thickness	Lithology	Min K [ft/day]	Max [ft/day]
Perched "A" Aquifer		1.00	SP: Sand	75	212	0.60	SP: Sand	32	92	0.20	SW: Well-Graded Sand with Gravel	699	1,148
						0.20	SW: Well-Graded Sand	149	610	0.20	SM: Silty Sand with Gravel	311	1,150
						0.20	SP-SM: Sand with Silt	48	178	0.20	SP: Sand with Gravel	302	561
										0.20	SP: Sand	165	396
										0.20	SW: Well-Graded Sand	1,055	9,561
	Total K value [ft/day]			**75**	**212**			**59**	**213**			**506**	**2563**

Table 5

CEMEX Area - Maximum K Values

Well	Dune Sand Aquifer					180-Foot Aquifer (or Equivalent)				
	Thickness [ft]	% Coarse	% Fine	Kc [ft/d]	Kf [ft/d]	Thickness [ft]	% Coarse	% Fine	Kc [ft/d]	Kf [ft/d]
CX-B1	86	1.00	0.00	270	na	160	0.81	0.18	508	0.0149
CX-B2	91	0.98	0.02	373	0.0270	148	0.77	0.23	152	0.0190
CX-B3	91	0.95	0.05	308	0.0270	164	0.77	0.23	277	0.0185
CX-B4	90	1.00	0.00	295	na	195	0.77	0.23	190	0.0227
Average	90	0.98	0.02	311	0.0270	167	0.78	0.22	282	0.0188

Table 6

CEMEX Area - Minimum K Values

Well	Dune Sand Aquifer					180-Foot Aquifer (or Equivalent)				
	Thickness [ft]	% Coarse	% Fine	Kc [ft/d]	Kf [ft/d]	Thickness [ft]	% Coarse	% Fine	Kc [ft/d]	Kf [ft/d]
CX-B1	86	1.00	0.00	96	na	160	0.81	0.18	156	0.0043
CX-B2	91	0.98	0.02	136	0.0210	148	0.77	0.23	52	0.0100
CX-B3	91	0.95	0.05	110	0.0210	164	0.77	0.23	90	0.0092
CX-B4	90	1.00	0.00	105	na	195	0.77	0.23	71	0.0150
Average	90	0.98	0.02	112	0.0210	167	0.78	0.22	92	0.0096

Table 7

Moss Landing Area - Maximum K Values

Well	Dune Sand Aquifer/ Perched "A" Aquifer				
	Thickness [ft]	% Coarse	% Fine	Kc [ft/d]	Kf [ft/d]
ML-1	146	0.32	0.68	485	0.0222
ML-2	200	0.65	0.35	783	0.0199
ML-3	200	0.30	0.70	841	0.0201
ML-4	201	0.63	0.37	618	0.0183
ML-6	200	0.64	0.36	704	0.0220
Average	189	0.51	0.49	686	0.0205
PR-1	139	0.93	0.07	1303	0.0213

Moss Landing Area - Minimum K Values

Well	Dune Sand Aquifer/ Perched "A" Aquifer				
	Thickness [ft]	% Coarse	% Fine	Kc [ft/d]	Kf [ft/d]
ML-1	146	0.32	0.68	166	0.0144
ML-2	200	0.65	0.35	228	0.0112
ML-3	200	0.30	0.70	235	0.0114
ML-4	201	0.63	0.37	200	0.0089
ML-6	200	0.64	0.36	210	0.0140
Average	189	0.51	0.49	208	0.0120
PR-1	139	0.93	0.07	397	0.0131

APPENDIX A1

Borehole Lithologic Logs

GEOSCIENCE

APPENDIX A1:

BOREHOLE LITHOLOGIC LOGS

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Description **Page**

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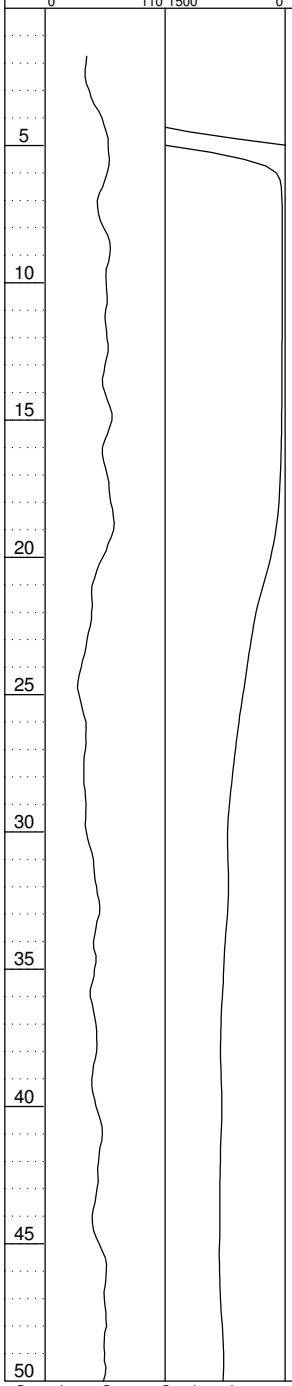
BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME **CX-B1**					
CLIENT	California American Water	LOCATION **Marina, CA** **CEMEX Lapis Plant** **36° 42' 47.3796", -121° 48' 21.2364"** **Geographic NAD83**			
PROJECT NUMBER	13017-13				
REPORT DATE	7/8/2014				
DRILLING CONTRACTOR	Cascade Drilling	LOGGED BY **B. Villalobos**			
DRILLER	Jose Munguia				
DRILLING RIG TYPE	Prosonic 600T	DRILLING METHOD	Sonic	START DATE	10/22/13
BOREHOLE DIAMETER	9 in/8 in				
SURFACE ELEVATION	28.0 ft	TOTAL DEPTH	306 ft bgs	FINISH DATE	10/29/13
CORE SIZE	6 in				

Lithologic Log



NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet) | Sample Type

SAND (SP): brown (10YR 4/3) and dark grayish brown (10YR 4/2), 100% fine to medium grained sand, subrounded, poorly graded, <5% dark mineral sand grains; trace silt, interbedded; medium sorted; dry sample; contains feldspar and amphibole.

SAND (SP): yellowish brown (10YR 5/8), 100% fine grained sand, subrounded, poorly graded, <2% dark mineral sand grains; well sorted; dry sample; contains quartz.

SAND (SP): yellowish brown (10YR 5/4), 100% fine to medium grained sand, subrounded; trace silt, silty sand interbedding; medium sorted; dry sample; contains feldspar and amphibole.

SAND (SP): yellowish brown (10YR 5/6), 100% fine to medium grained sand, subrounded; medium sorted; moist sample; contains quartz, feldspar and amphibole.

SAND (SP): dark yellowish brown (10YR 4/6), 100% medium grained sand; trace silt, trace gray silt lenses; wet sample; contains quartz, feldspar and amphibole.

SAND (SP): greenish gray (5GY 5/1), 100% medium grained sand, subrounded, <5% dark mineral sand grains, <0.5% coarse sand grains; well sorted; wet sample; contains quartz, feldspar and amphibole.

SAND (SP): yellowish brown (10YR 5/8), 100% medium grained sand, subrounded, poorly graded, <5% dark mineral sand grains; well sorted; wet sample; contains quartz, feldspar and amphibole.

SAND (SP): yellowish brown (10YR 5/4), 100% medium grained sand, subrounded, poorly graded, beds of medium to coarse sand; trace fine gravel up to 12.7 mm, subrounded; trace silt, brown and gray streaks of silty sand; medium sorted; wet sample; contains quartz, feldspar, amphibole, siltstones, and chert.

SAND (SP): grayish brown (2.5Y 5/2), 100% medium to coarse grained sand, subrounded to rounded; trace fine gravel up to 4.8 mm, subrounded to rounded; poorly sorted; wet sample; contains quartz, feldspar, and chert; granitic.

SAND (SP): yellowish brown (10YR 5/4), 90% medium to coarse grained sand, subrounded;

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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*Zone test details are for CX-B1WQ, approximately 80 ft west of CX-B1

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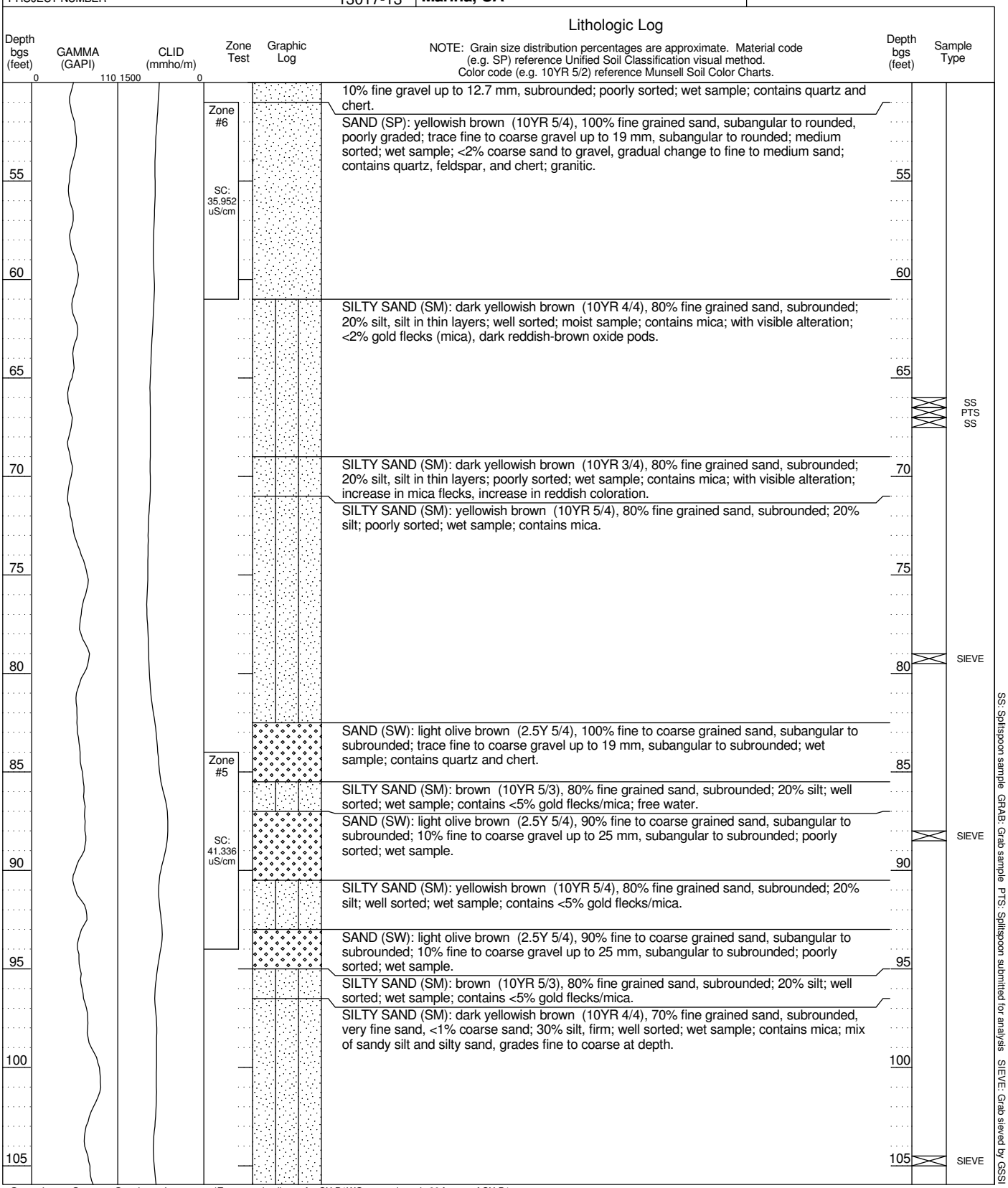
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
CX-B1	California American Water	13017-13	**Marina, CA**



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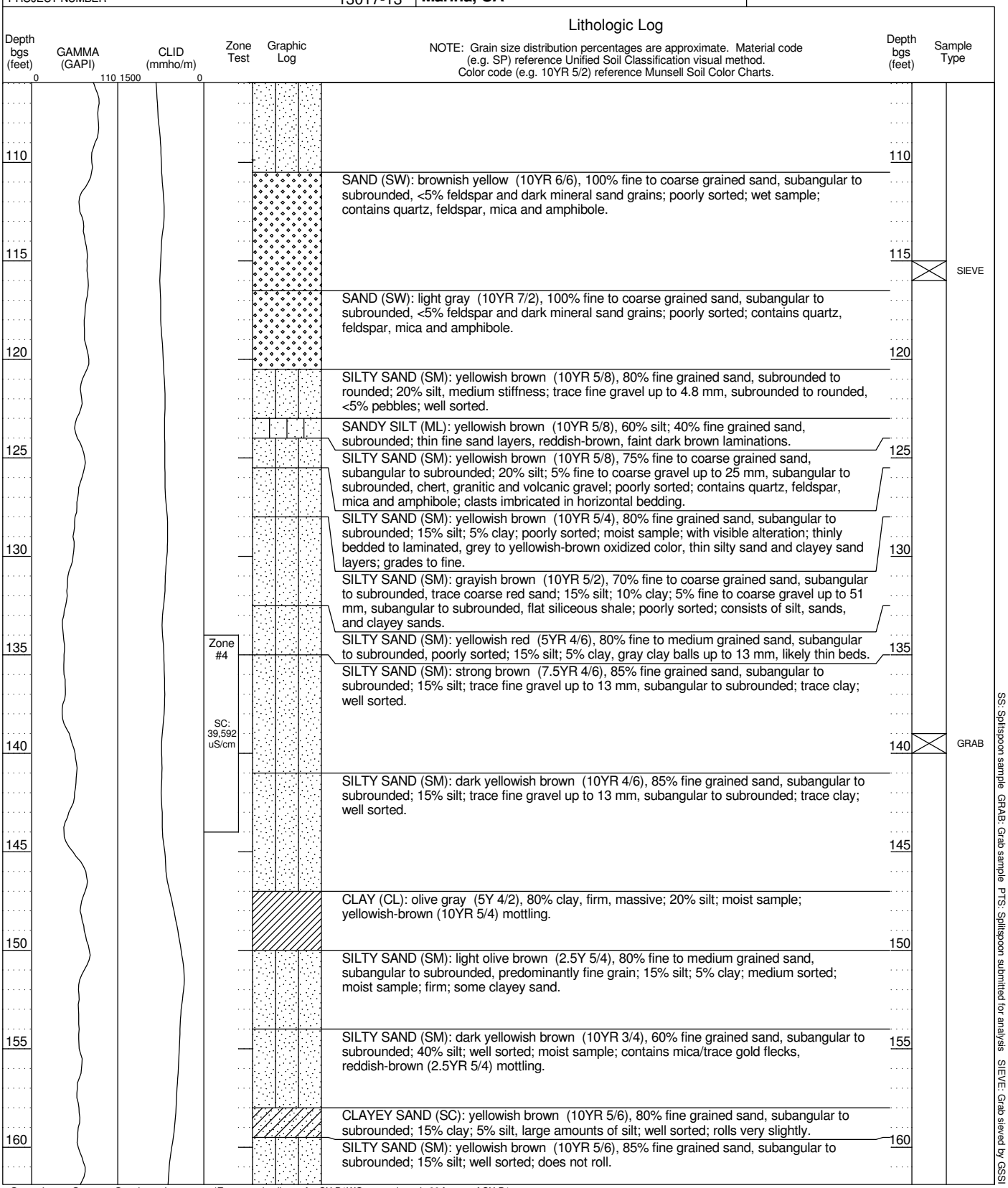
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
CX-B1	California American Water	13017-13	**Marina, CA**



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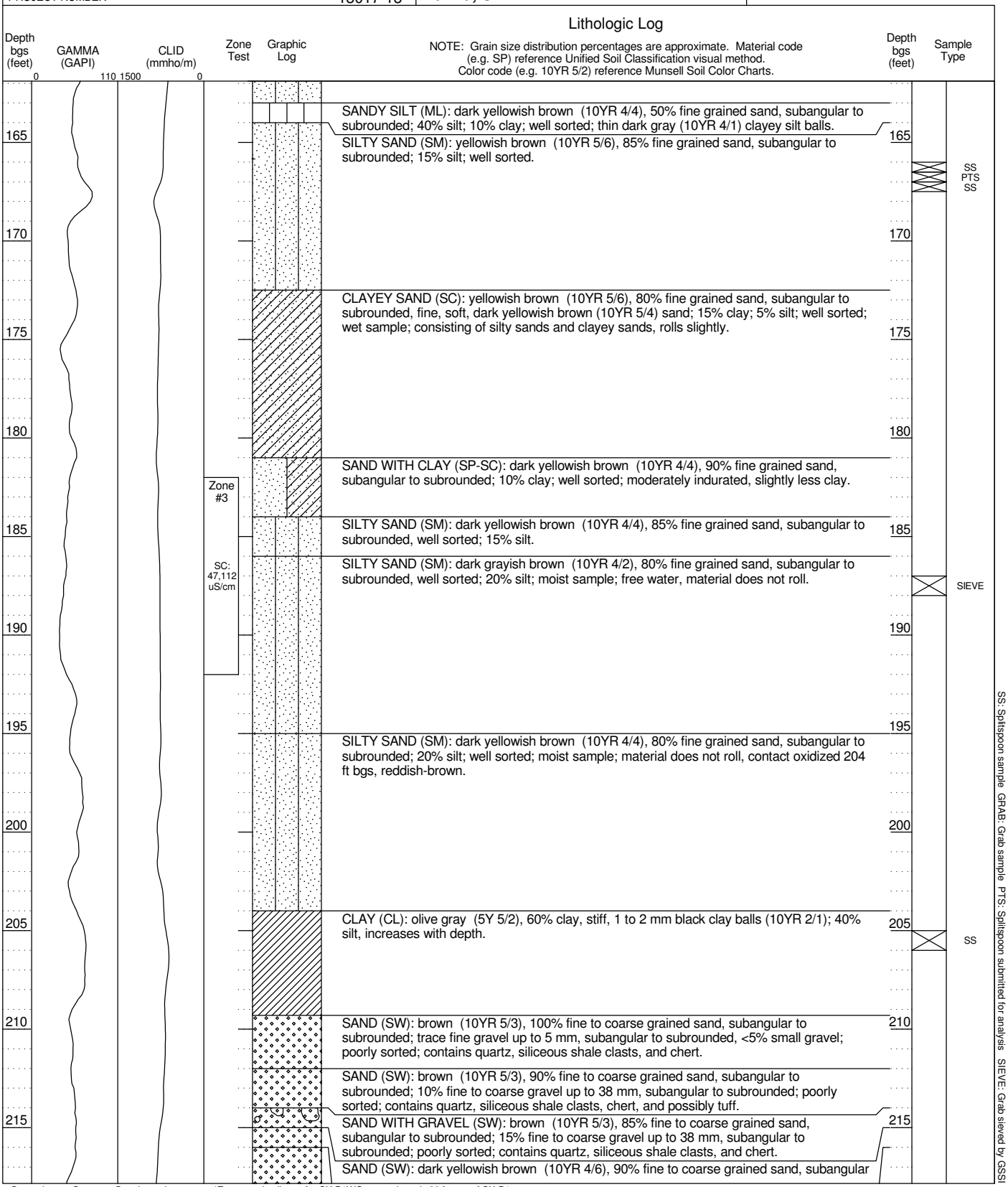
BOREHOLE NAME **CX-B1**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**



SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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BOREHOLE NAME **CX-B1**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**

Lithologic Log

Depth bgs (feet) | GAMMA (GAPI) 0 110 | CLID (mmho/m) 1500 0 | Zone Test | Graphic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet) | Sample Type

to subrounded; 10% fine to coarse gravel up to 38 mm, subangular to subrounded; poorly sorted; contains quartz; oxidized layer.

220 — SAND (SW): olive (5Y 5/3), 90% fine to coarse grained sand, subangular to subrounded; 10% fine to coarse gravel up to 38 mm, subangular to subrounded; poorly sorted; contains quartz.

CLAY (CL): light olive brown (2.5Y 5/3), 80% clay, medium plasticity; 20% silt; firm, massive.

225 — CLAY (CL): light olive brown (2.5Y 5/4), 80% clay, medium plasticity; 20% silt; with visible alteration; very faint laminations, gray and yellowish-brown slicken sides, 1 to 3 mm balls of reddish-brown oxide stains (vertical).

230

235 — CLAY (CL): light olive brown (2.5Y 5/6), 80% clay; 20% silt; transition in color, increase in yellow, very stiff.

Zone #2

SC: 23,705 uS/cm

240 — SAND (SW): light yellowish brown (10YR 6/4), 100% fine to coarse grained sand, subangular to subrounded, 5% coarse grains; poorly sorted; wet sample; contains quartz, volcanic, and chert.

245 — GRAVEL (GW): light yellowish brown (10YR 6/4), 90% fine to coarse gravel up to 75 mm, subrounded; 10% medium to coarse grained sand, subrounded; poorly sorted; moist sample; contains quartz; basal gravel. — SIEVE

SILT (ML): olive yellow (2.5Y 6/8), 80% silt; 20% clay; yellowish-brown and light gray mottling, thinly laminated, very stiff.

250 — CLAY (CL): pale olive (5Y 6/4), 80% clay; 20% silt; with visible alteration; oxidized, thinly laminated.

CLAY (CL): very dark greenish gray (5GY 3/1), 100% clay, high plasticity; moist sample; massive.

CLAY (CL): dark olive gray (5Y 3/2), 100% clay, high plasticity; moist sample.

255 — CLAY (CL): very dark greenish gray (5GY 3/1), 100% clay, high plasticity; moist sample; massive.

CLAY (CL): pale olive (5Y 6/4), 80% clay; 20% silt; with visible alteration; oxidized, thinly laminated. — PTS

260 — SANDY CLAY (CL): olive (5Y 5/3), 70% clay, stiff, massive, oxidized clay balls, 1 to 2 mm; 30% medium to coarse grained sand; contains evaporites, gypsum, with visible alteration; yellowish-brown mottling; compression slicken sides.

265 — SANDY CLAY (CL): olive (5Y 5/3), 70% clay, stiff; 30% medium to coarse grained sand, subangular to subrounded, <2% coarse grains, predominantly quartz.

SAND (SP): olive gray (5Y 5/2), 90% medium to coarse grained sand, subangular, poorly graded; 10% fine to coarse gravel up to 25 mm, subangular, granitic; trace silt; trace clay; contains quartz, feldspar and mica.

270 — CLAY (CL): olive (5Y 5/3), 85% clay, low plasticity; 15% silt; moist sample.

SAND (SP): pale olive (5Y 6/3), 100% medium to coarse grained sand, subangular to subrounded, trace dark minerals, water film on sand grains; trace fine gravel up to 4.8 mm, subangular to subrounded; wet sample; contains quartz, feldspar, mica, amphibole, and chert; yellowish-brown and reddish-brown mottling.

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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*Zone test details are for CX-B1WQ, approximately 80 ft west of CX-B1

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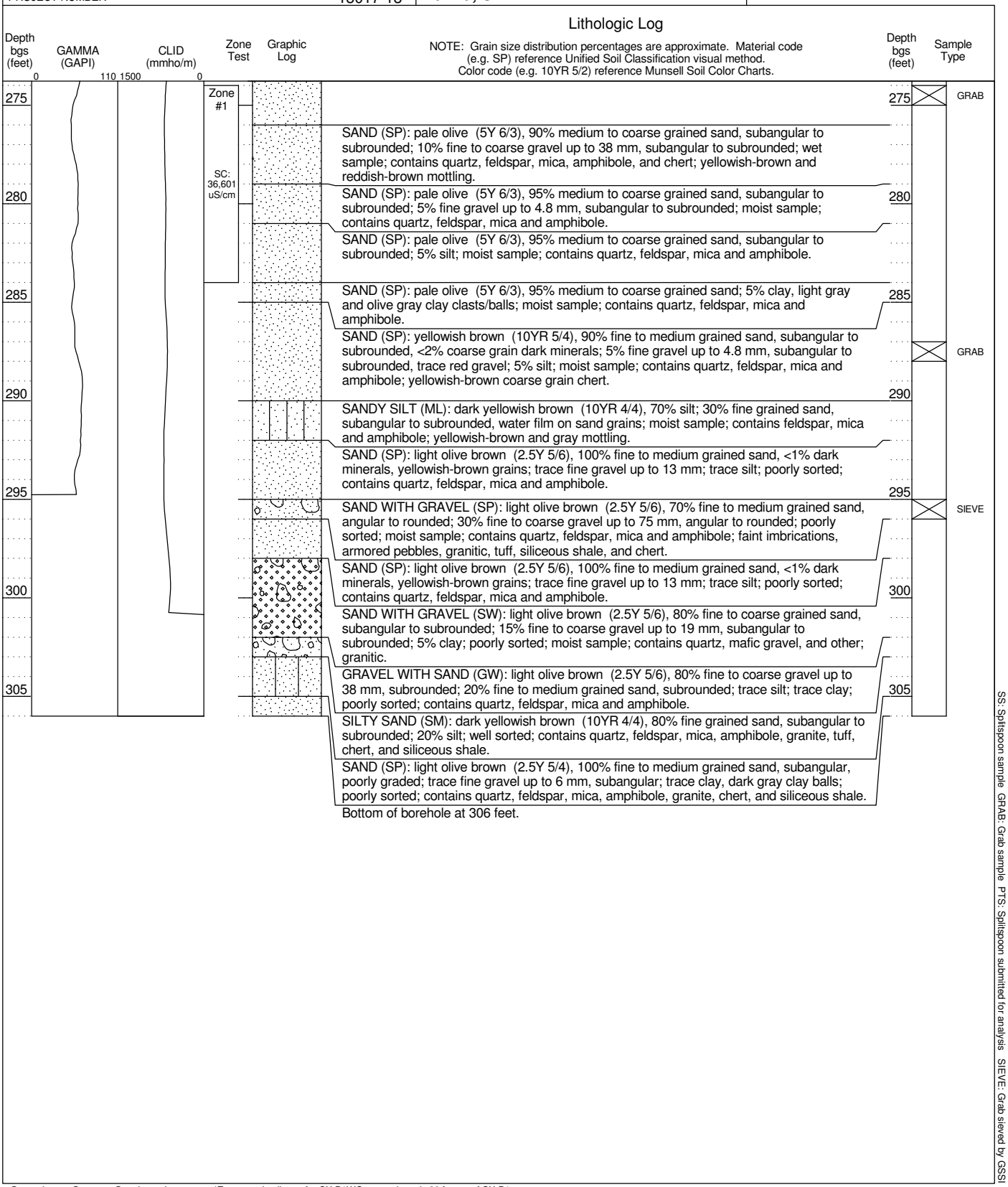
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
CX-B1	California American Water	13017-13	**Marina, CA**



SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

*Zone test details are for CX-B1WQ, approximately 80 ft west of CX-B1

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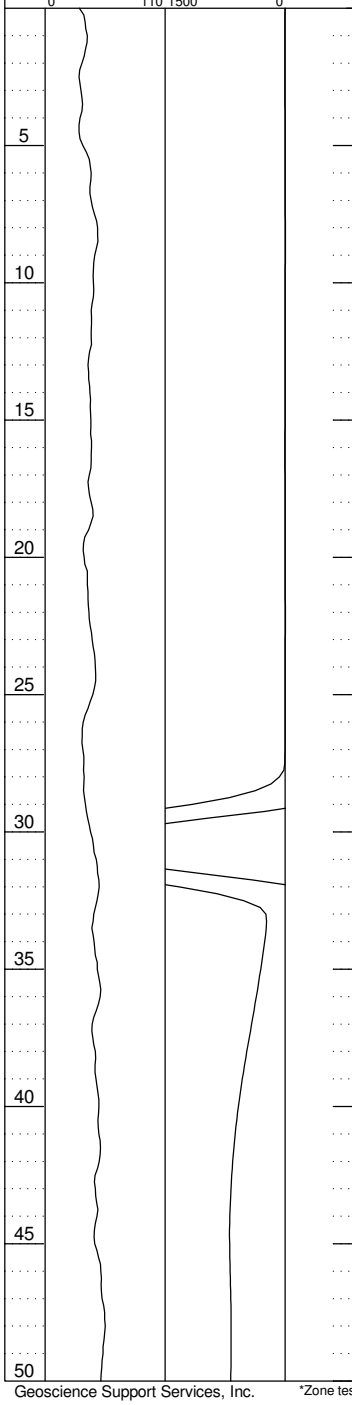
BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME	**CX-B2**						
CLIENT	California American Water	LOCATION	**Marina, CA**				
PROJECT NUMBER	13017-13		**CEMEX Lapis Plant**				
REPORT DATE	7/8/2014		**36° 42' 46.2636", -121° 48' 13.4316"** **Geographic NAD83**				
DRILLING CONTRACTOR	Cascade Drilling	LOGGED BY	**N. Reynolds**				
DRILLER	Jose Munguia						
DRILLING RIG TYPE	Prosonic 600T	DRILLING METHOD	Sonic	START DATE	11/04/13	BOREHOLE DIAMETER	6.25 in
SURFACE ELEVATION	32.0 ft	TOTAL DEPTH	307 ft bgs	FINISH DATE	11/07/13	CORE SIZE	4 in

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.



SAND (SP): light olive brown (2.5Y 5/4), 100% fine to medium grained sand, subangular to rounded; trace fine to coarse gravel up to 28 mm, rounded; trace silt; poorly sorted; contains quartz, feldspar and amphibole; shell fragments.

SILT (ML): light olive brown (2.5Y 5/3), 90% silt; 10% fine grained sand, subangular to subrounded; moderate cementation; decomposing minerals, shell fragments.

SAND (SP): light olive brown (2.5Y 5/4), 95% fine to medium grained sand, subangular to subrounded, predominantly fine; 5% silt; well sorted; contains quartz, feldspar and amphibole.

SAND (SP): brown (7.5YR 4/4), 95% fine to medium grained sand, subangular to subrounded; 5% silt; medium sorted; contains quartz, feldspar and amphibole.

SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, subangular to subrounded, predominantly fine; medium sorted; contains quartz, feldspar and amphibole.

SAND (SP): olive (5Y 5/3), 100% fine to medium grained sand, subangular to subrounded, predominantly fine; well sorted; contains quartz, feldspar and amphibole.

SANDY SILT (ML): olive (5Y 5/3), 70% silt; 30% fine to medium grained sand, subangular to subrounded; contains quartz, feldspar and amphibole; interbed.

SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, subangular to subrounded; medium sorted; contains quartz, feldspar and amphibole; gray interbeds.

SAND (SP): olive (5Y 5/3), 100% fine to medium grained sand, subangular to subrounded, predominantly fine; well sorted; contains quartz, feldspar and amphibole.

SILTY SAND (SM): gray (5Y 5/1), 85% fine grained sand, subangular to subrounded; 15% silt; medium sorted; dry sample; contains quartz, feldspar and amphibole; ; powdery.

SAND (SP): light yellowish brown (2.5Y 6/4), 100% medium grained sand, subangular to subrounded; medium sorted; contains quartz, feldspar and amphibole.

SAND (SW): light yellowish brown (2.5Y 6/4), 100% fine to coarse grained sand, subangular to subrounded, predominantly medium to coarse; poorly sorted; contains quartz, feldspar, mica and amphibole.

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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*Zone test details are for CX-B2WQ, approximately 60 ft west of CX-B2

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BOREHOLE NAME **CX-B2**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	Lithologic Log	Depth bgs (feet)	Sample Type
							SIEVE
55			Zone #4		SAND (SP): light yellowish brown (2.5Y 6/3), 100% fine to medium grained sand, subangular to subrounded; trace silt; poorly sorted; contains quartz, feldspar, mica and amphibole.	55	
					SAND (SP): light olive brown (2.5Y 5/4), 100% fine grained sand, subangular to subrounded; trace silt; well sorted; contains quartz, feldspar, mica and amphibole; higher mica content.		
60			SC: 39,657 uS/cm			60	
65					SILTY SAND (SM): light olive brown (2.5Y 5/3), 85% fine grained sand, subangular to subrounded, predominantly very fine grain; 15% silt; trace fine gravel up to 12 mm, rounded, at 76 ft; trace clay, clay lenses; well sorted; contains quartz, feldspar, mica and amphibole; altered shell fragments at 75 ft.	65	
70						70	
75						75	
80						80	
							GRAB
85					SAND WITH GRAVEL (SP): light olive brown (2.5Y 5/3), 80% fine grained sand, subangular to subrounded; 15% fine to coarse gravel up to 25 mm, subangular to subrounded, rounded; 5% clay, clay lenses; trace silt; well sorted; contains quartz, feldspar, mica and amphibole; altered minerals.	85	
					SAND (SP): light olive brown (2.5Y 5/3), 100% fine grained sand, subangular to subrounded, predominantly very fine grain; trace silt; well sorted; contains quartz, feldspar, mica and amphibole; trace shell fragments at 86 to 87 ft.		
					SAND (SP): olive (5Y 5/3), 100% fine to medium grained sand, subangular to subrounded; medium sorted; contains quartz, feldspar, mica and amphibole.		
90					SAND (SP): light olive brown (2.5Y 5/6), 95% medium to coarse grained sand, subangular to rounded, predominantly coarse grain; 5% fine to coarse gravel up to 35 mm, rounded, at 90 to 91.1 ft; medium sorted; contains quartz, feldspar, mica and amphibole.	90	
					SAND (SP): light olive brown (2.5Y 5/4), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole; alteration visible with rusty coloration at 93.3 ft.		
95					SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to coarse grained sand, subangular to rounded; trace fine to coarse gravel up to 35 mm, rounded; poorly sorted; contains quartz, feldspar, mica and amphibole.	95	
					SAND (SP): light olive brown (2.5Y 5/3), 100% fine grained sand, subangular to subrounded; trace fine to coarse gravel up to 37 mm, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole; moderately cemented sand and gravel at 96.4-96.8 ft.		GRAB
100					SAND (SP): light olive brown (2.5Y 5/3), 90% fine to coarse grained sand, subangular to rounded, predominantly medium and coarse; 10% fine to coarse gravel up to 45 mm, subangular to rounded; poorly sorted; contains quartz, feldspar, mica and amphibole.	100	
					SAND (SP): light olive brown (2.5Y 5/3), 100% fine grained sand, subangular to subrounded, medium and coarse grain interbeds; trace clay, green-gray clay balls at 102.4 to 103.2 ft; poorly sorted; contains quartz, feldspar, mica and amphibole; clay and alteration at 100 ft.		
105			Zone #3			105	

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

*Zone test details are for CX-B2WQ, approximately 60 ft west of CX-B2

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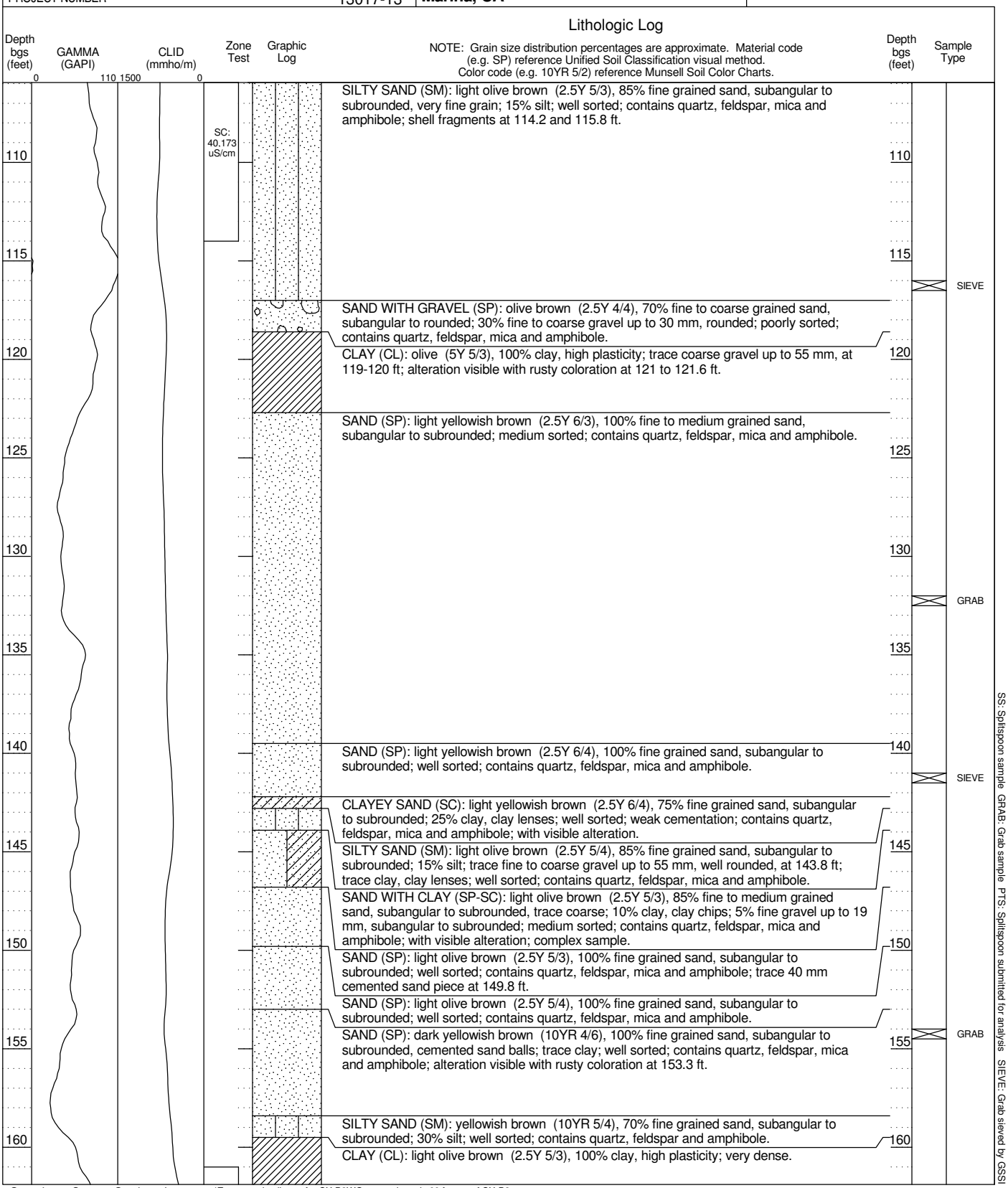
BOREHOLE NAME **CX-B2**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**



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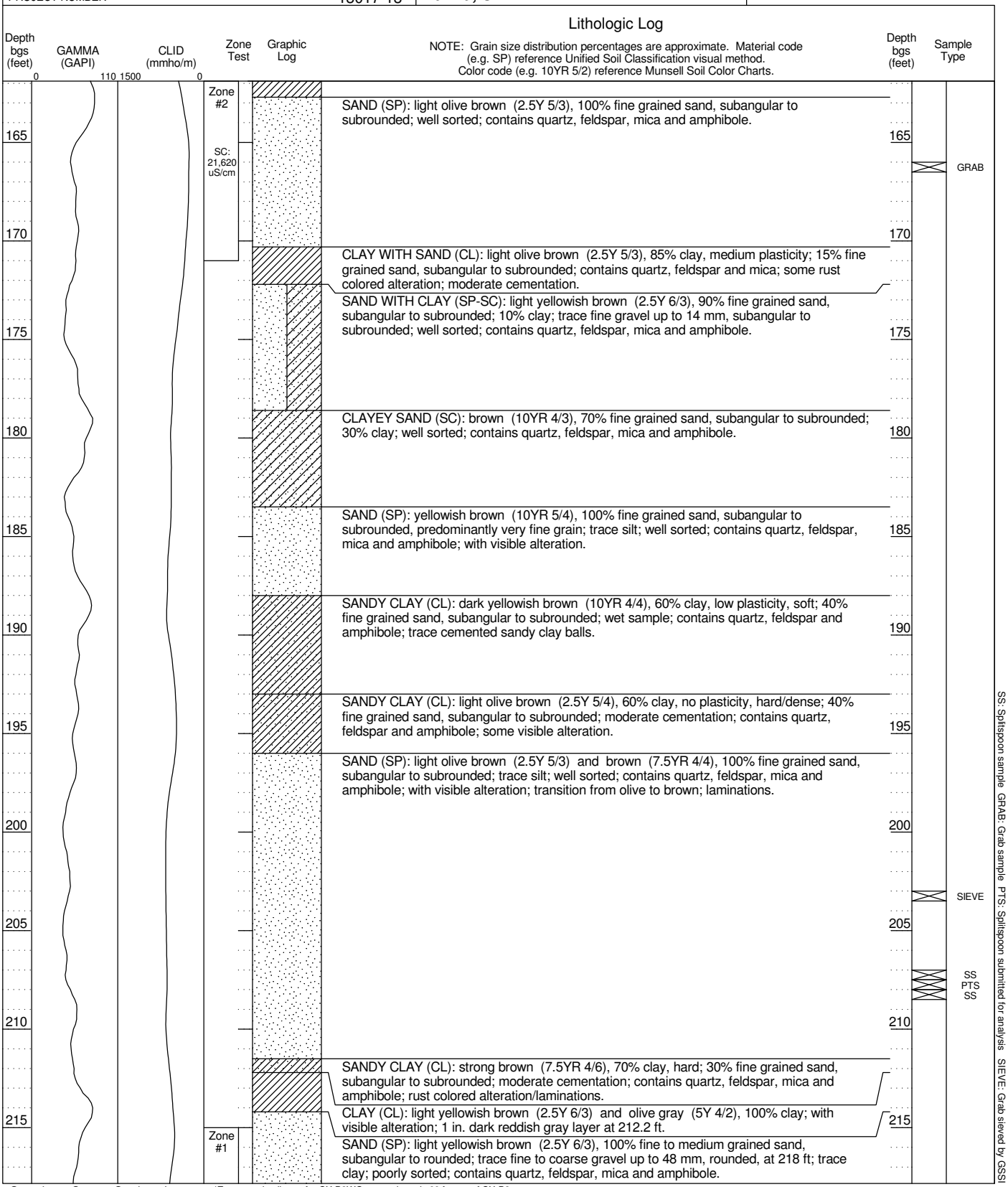
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
CX-B2	California American Water	13017-13	**Marina, CA**



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*Zone test details are for CX-B2WQ, approximately 60 ft west of CX-B2

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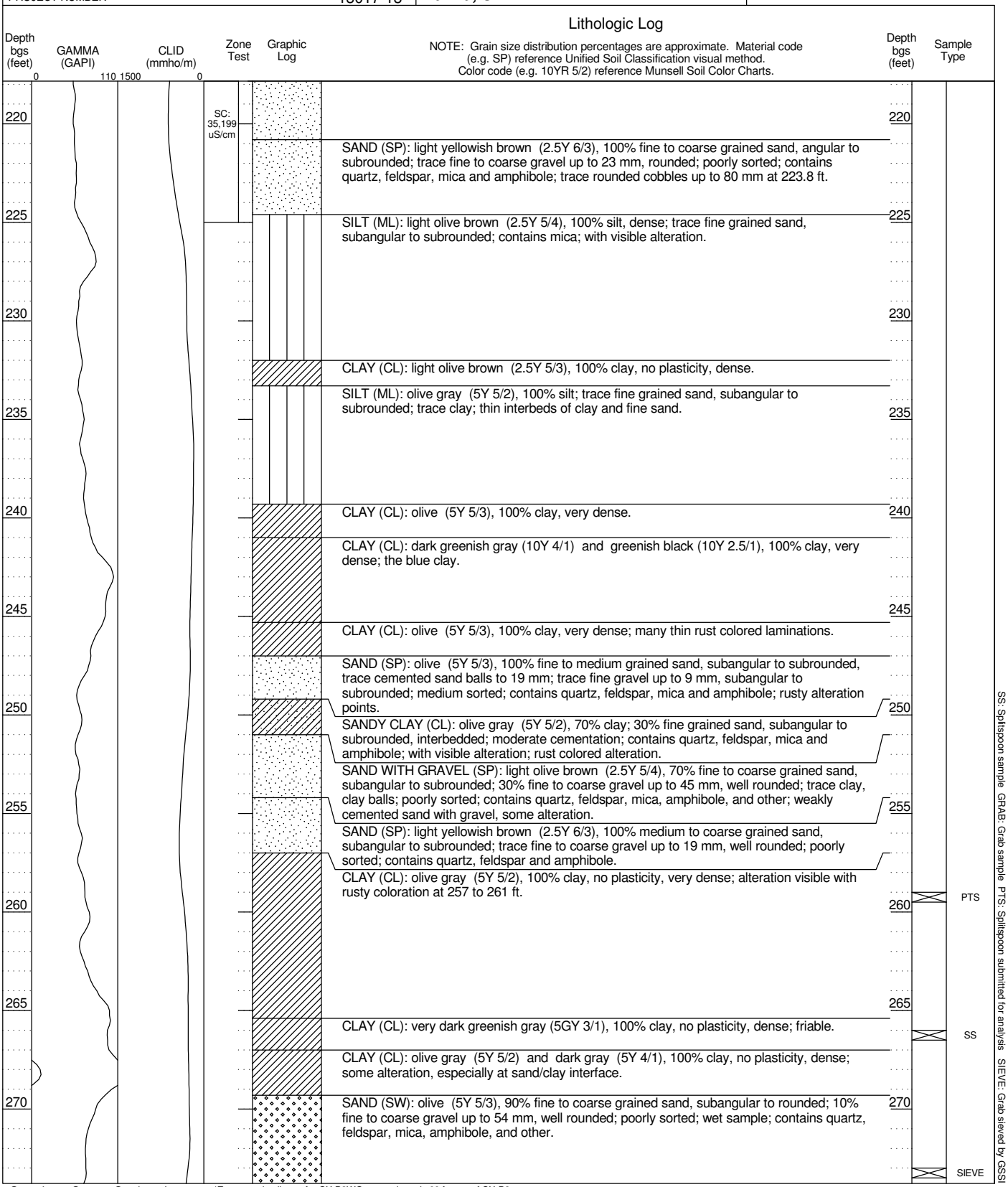
BOREHOLE NAME
CX-B2

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**



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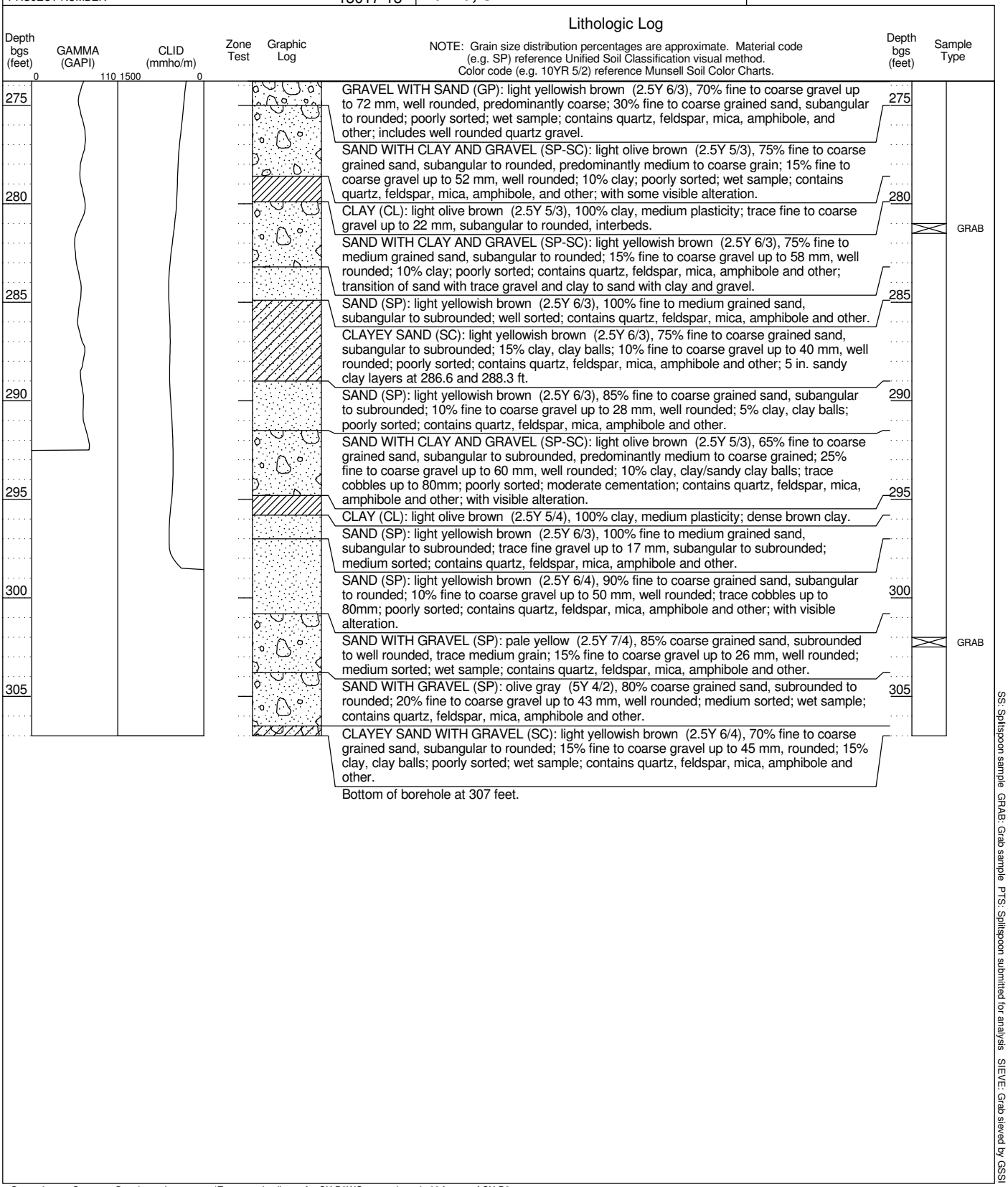
BOREHOLE NAME **CX-B2**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**



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BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME **CX-B3**					
CLIENT	California American Water	LOCATION **Marina, CA**			
PROJECT NUMBER	13017-13	**CEMEX Lapis Plant**			
REPORT DATE	7/8/2014	**36° 42' 43.1316", -121° 47' 59.9316"** **Geographic NAD83**			
DRILLING CONTRACTOR	Cascade Drilling	LOGGED BY			
DRILLER	Jose Munguia	**N. Reynolds**			
DRILLING RIG TYPE	Prosonic 600T	DRILLING METHOD	Sonic	START DATE	11/09/13
BOREHOLE DIAMETER	6.25 in	SURFACE ELEVATION	39.0 ft	TOTAL DEPTH	347 ft bgs
FINISH DATE	11/14/13	CORE SIZE	4 in		

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log		Depth bgs (feet)	Sample Type
0					SAND (SP): dark brown (10YR 3/3), 95% fine to medium grained sand, subangular to rounded, predominantly fine grained; 5% silt; medium sorted; contains quartz, feldspar and amphibole; first 7 ft disturbed sample.		
5						5	
10					SAND (SP): pale yellow (2.5Y 7/4), 100% fine to medium grained sand, subangular to subrounded, predominantly fine grained; medium sorted; contains quartz, feldspar and amphibole.	10	
15					SAND (SP): light olive brown (2.5Y 5/3), 100% fine to medium grained sand, subangular to rounded, predominantly fine grained; medium sorted; contains quartz, feldspar and amphibole.	15	
20					SILT WITH SAND (ML): light gray (5Y 7/2), 85% silt; 15% fine grained sand, subrounded; dry sample/powdery.	20	
25					SAND (SP): pale yellow (2.5Y 7/4), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole.	25	
30					SAND (SP): light yellowish brown (2.5Y 6/4), 95% fine to medium grained sand, subangular to subrounded; 5% silt; medium sorted; contains quartz, feldspar and amphibole.	30	
35					SAND (SP): light olive brown (2.5Y 5/3), 100% fine to medium grained sand, subangular to rounded, predominantly fine grained; medium sorted; contains quartz, feldspar and amphibole.	35	
					SILT (ML): light gray (5Y 7/2), 100% silt; trace fine grained sand; dry sample; powdery.		
40					SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, subrounded to rounded; medium sorted; contains quartz, feldspar and amphibole.	40	
45					SAND (SP): light yellowish brown (2.5Y 6/3), 100% fine grained sand, subangular to subrounded, trace medium grained; well sorted; contains quartz, feldspar, mica and amphibole.	45	SIEVE
50						50	

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BOREHOLE NAME **CX-B3**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	Lithologic Log	Depth bgs (feet)	Sample Type
55					SAND (SW): light yellowish brown (2.5Y 6/4), 100% fine to coarse grained sand, subangular to rounded; poorly sorted; contains quartz, feldspar, mica and amphibole.	55	
					SAND (SP): light olive brown (2.5Y 5/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole.		
60					SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, subangular to subrounded, predominantly fine grained; medium sorted; contains quartz, feldspar, mica and amphibole.	60	
					SAND (SP): light yellowish brown (2.5Y 6/3), 100% fine to coarse grained sand, subrounded to rounded, predominantly medium to coarse grained; trace fine gravel up to 15 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.		
					SAND (SP): light olive brown (2.5Y 5/4), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole.		
65					SAND (SW): light yellowish brown (2.5Y 6/3), 100% fine to coarse grained sand, subrounded to rounded; trace fine gravel up to 15 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.	65	
					SAND (SP): light olive brown (2.5Y 5/4), 100% fine grained sand, subangular to subrounded, trace medium grained; medium sorted; contains quartz, feldspar, mica and amphibole; higher mica content.		
70					SAND (SP): light olive brown (2.5Y 5/3), 95% fine grained sand, subrounded, very fine grained; 5% silt; well sorted; contains quartz, feldspar, mica and amphibole; higher mica content.	70	
75						75	
80						80	
							GRAB
85						85	
90					SAND (SP): olive yellow (2.5Y 6/6), 95% fine to medium grained sand, subrounded to rounded; 5% silt; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.	90	
95					SAND WITH GRAVEL (SP): light yellowish brown (2.5Y 6/4), 75% medium to coarse grained sand, subrounded to rounded, trace fine grained; 20% fine to coarse gravel up to 32 mm, rounded; 5% clay, sandy clay balls; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.	95	
					SAND WITH SILT (SP-SM): light yellowish brown (2.5Y 6/4), 90% fine grained sand, subangular to subrounded; 10% silt, silty sand balls; well sorted; contains quartz, feldspar, mica and amphibole; with visible alteration.		
100					GRAVEL WITH SAND (GP): light yellowish brown (2.5Y 6/4), 60% fine to coarse gravel up to 48 mm, rounded; 40% medium to coarse grained sand, subrounded to rounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.	100	
					SAND (SW): light yellowish brown (2.5Y 6/4), 100% fine to coarse grained sand, subrounded to rounded; trace fine gravel up to 10 mm, subrounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.		
							GRAB
105					SAND (SP): light olive brown (2.5Y 5/4), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, mica, amphibole, and other, with some	105	

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BOREHOLE NAME **CX-B3**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**

Lithologic Log

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.	Depth bgs (feet)	Sample Type
					visible alteration.		
					SAND WITH GRAVEL (SP): light yellowish brown (2.5Y 6/4), 80% fine to coarse grained sand, subangular to rounded, predominantly medium to coarse grained; 20% fine to coarse gravel up to 58 mm, subrounded to rounded; trace clay; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.		SS PTS SS
110						110	
115					SILTY SAND (SM): light olive brown (2.5Y 5/3), 85% fine grained sand, subrounded, very fine grained; 15% silt; well sorted; contains quartz, feldspar, mica and amphibole.	115	
120						120	SIEVE
125					SAND WITH SILT AND GRAVEL (SP-SM): light olive brown (2.5Y 5/3), 75% fine grained sand, subrounded; 15% fine to coarse gravel up to 27 mm, rounded, multi-colored; 10% silt; well sorted; contains quartz, feldspar, mica and amphibole; with visible alteration.	125	
					SILTY SAND (SM): light olive brown (2.5Y 5/3), 85% fine grained sand, subrounded, very fine grained; 15% silt; well sorted; contains quartz, feldspar, mica and amphibole.		
130					FAT CLAY (CH): dark gray (5Y 4/1), 100% clay, medium plasticity, dense/hard.	130	PTS
					SILT (ML): pale olive (5Y 6/3), 100% silt, dense; visible alteration/rust colored laminations.		
					SAND (SP): light olive brown (2.5Y 5/4), 100% fine grained sand, subrounded, very fine grained; well sorted; contains quartz, feldspar, mica and amphibole; with visible alteration.		
					SILT (ML): olive gray (5Y 5/2), 100% silt; with visible alteration.		
135					SAND (SP): light yellowish brown (2.5Y 6/4), 95% fine to medium grained sand, subangular to subrounded, grades to predominantly medium grained sand at 135 ft; 5% silt; poorly sorted; contains quartz, feldspar, mica and amphibole.	135	
					SILT (ML): olive (5Y 5/3), 100% silt; visible alteration/rust colored laminations.		
140					SAND (SP): pale olive (5Y 6/3), 100% fine to medium grained sand, subangular to subrounded, predominantly medium grained; medium sorted.	140	
145					CLAYEY SAND (SC): pale olive (5Y 6/3), 70% fine to coarse grained sand, subangular to rounded; 20% clay; 10% fine to coarse gravel up to 40 mm, well rounded, especially at 144.5 to 145 ft; poorly sorted; contains quartz, feldspar, mica, amphibole, and other, visible rust colored alteration.	145	
					FAT CLAY (CH): pale olive (5Y 6/3), 100% clay, dense; medium plasticity.		
150					CLAYEY SAND (SC): pale olive (5Y 6/3), 70% fine to coarse grained sand, subrounded to rounded; 30% clay; trace fine to coarse gravel up to 25 mm, subangular; poorly sorted; with visible alteration; contains quartz, feldspar, amphibole, and other.	150	
					SANDY FAT CLAY (CH): pale olive (5Y 6/3), 70% clay, medium plasticity; 30% fine to medium grained sand, subangular to subrounded; contains quartz, feldspar, amphibole, and other; some visible alteration with rusty coloration.		
155					FAT CLAY (CH): pale olive (5Y 6/3), 100% clay, medium plasticity; visible alteration/rust colored laminations.	155	
					SILTY SAND (SM): pale olive (5Y 6/3), 85% fine grained sand, subrounded to rounded; 15% silt; well sorted; contains quartz, feldspar and amphibole.		
					FAT CLAY (CH): olive (5Y 5/3), 100% clay, low plasticity; trace fine grained sand, subangular to subrounded; some rust colored alterations.		
160					SAND WITH SILT (SP-SM): pale olive (5Y 6/3), 90% fine grained sand, subangular to subrounded, altered sand layers, rust and white coloration; 10% silt; trace fine to coarse gravel up to 38 mm, rounded; trace clay, clay balls; well sorted; contains quartz, feldspar, mica, amphibole, and other.	160	

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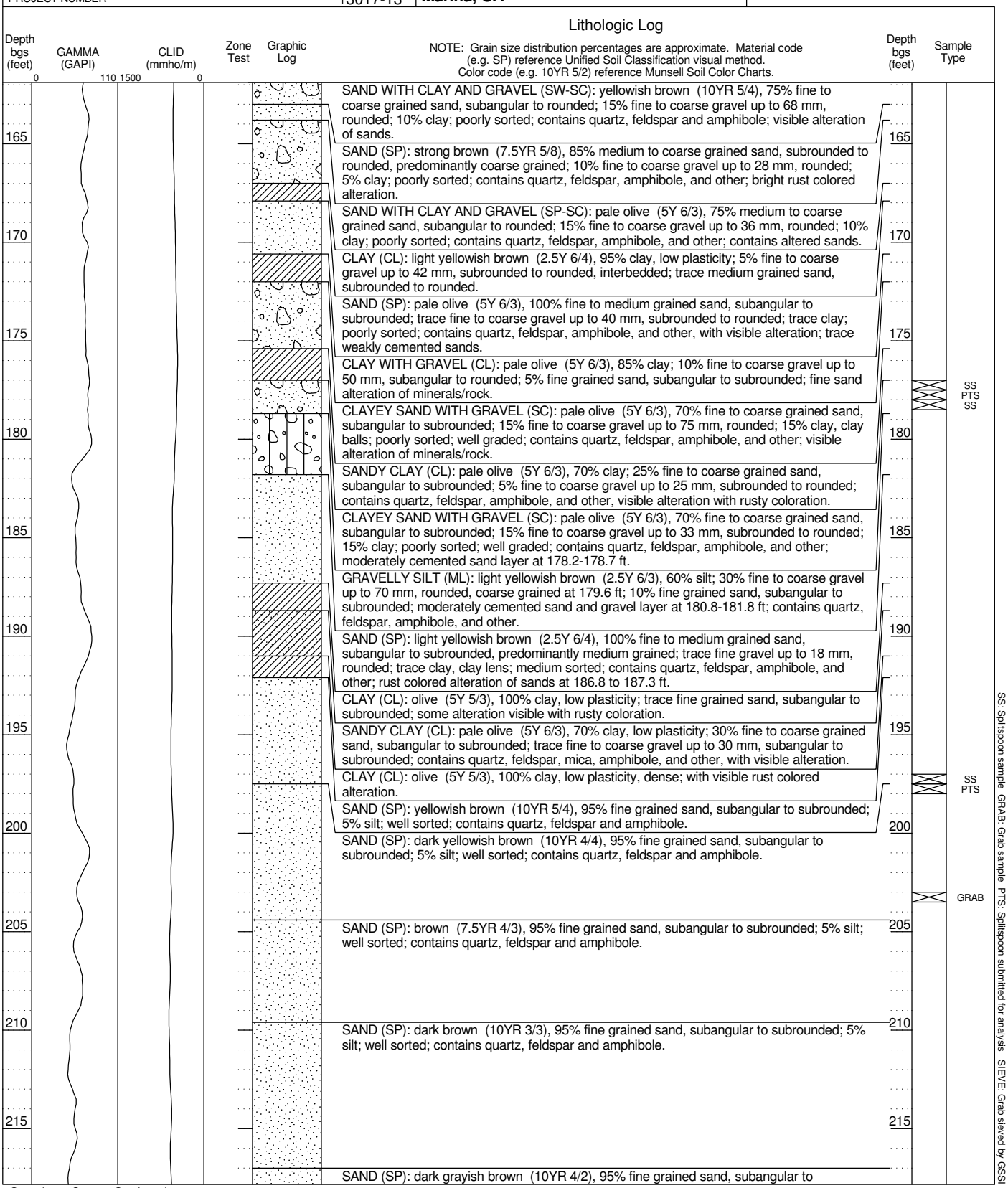
BOREHOLE NAME **CX-B3**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**



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BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
CX-B3	California American Water	13017-13	**Marina, CA**

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	Lithologic Log	Depth bgs (feet)	Sample Type
					subrounded; 5% silt; well sorted; contains quartz, feldspar and amphibole; with some visible alteration; cementation at 219 and 224 ft.		
220						220	
225					SILT (ML): dark brown (10YR 3/3), 95% silt; 5% fine grained sand, subangular to subrounded.	225	
					CLAY (CL): olive (5Y 5/3), 100% clay, no plasticity, dense; alteration visible with rust colored laminations below 230 ft.		
230						230	
					SAND (SP): pale olive (5Y 6/3), 90% fine to coarse grained sand, subangular to subrounded, predominantly medium grained; 10% fine to coarse gravel up to 70 mm, rounded, interbedded; poorly sorted; contains quartz, feldspar, mica and amphibole; gravel layers at 237, 237.8, and 238.6 to 239.7 ft.		
235						235	
240						240	SIEVE
					SAND WITH GRAVEL (SW): pale olive (5Y 6/3), 85% fine to coarse grained sand, subangular to rounded; 15% fine to coarse gravel up to 68 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other; with visible alteration.		
245					SAND (SP): dark grayish brown (2.5Y 4/2), 100% fine grained sand, subrounded; trace silt, cemented brown silt at 246.6 ft; well sorted; contains quartz, feldspar, amphibole, and other.	245	
					SANDY SILT (ML): olive (5Y 5/3), 70% silt; 30% fine grained sand, subangular to subrounded; with some visible rust colored alteration.		
250					SAND (SW): pale olive (5Y 6/3), 85% fine to coarse grained sand, subangular to subrounded; 10% fine to coarse gravel up to 42 mm, rounded; 5% clay; poorly sorted; contains quartz, feldspar, mica, amphibole, and other; with some visible alteration; thin sandy clay layers.	250	
255						255	GRAB
					FAT CLAY (CH): pale olive (5Y 6/3), 100% clay, low plasticity, very dense; some darker fine laminations.		
260						260	
					SILT (ML): pale olive (5Y 6/3), 100% silt; trace fine grained sand, subangular to subrounded; trace clay; silt with fine sand and altered sand and trace clay clasts from 262.8 to 263.9 ft; high mica content.		
265					SAND (SP): olive (5Y 5/3), 100% fine to medium grained sand, subangular to subrounded; trace fine to coarse gravel up to 33 mm, rounded; medium sorted; contains quartz, feldspar, mica, amphibole, and other; visible rust colored alteration of sands at 268.5 ft(3in.).	265	
					SAND (SP): pale olive (5Y 6/3), 90% medium to coarse grained sand, subangular to subrounded; 10% fine to coarse gravel up to 50 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.		
270						270	GRAB

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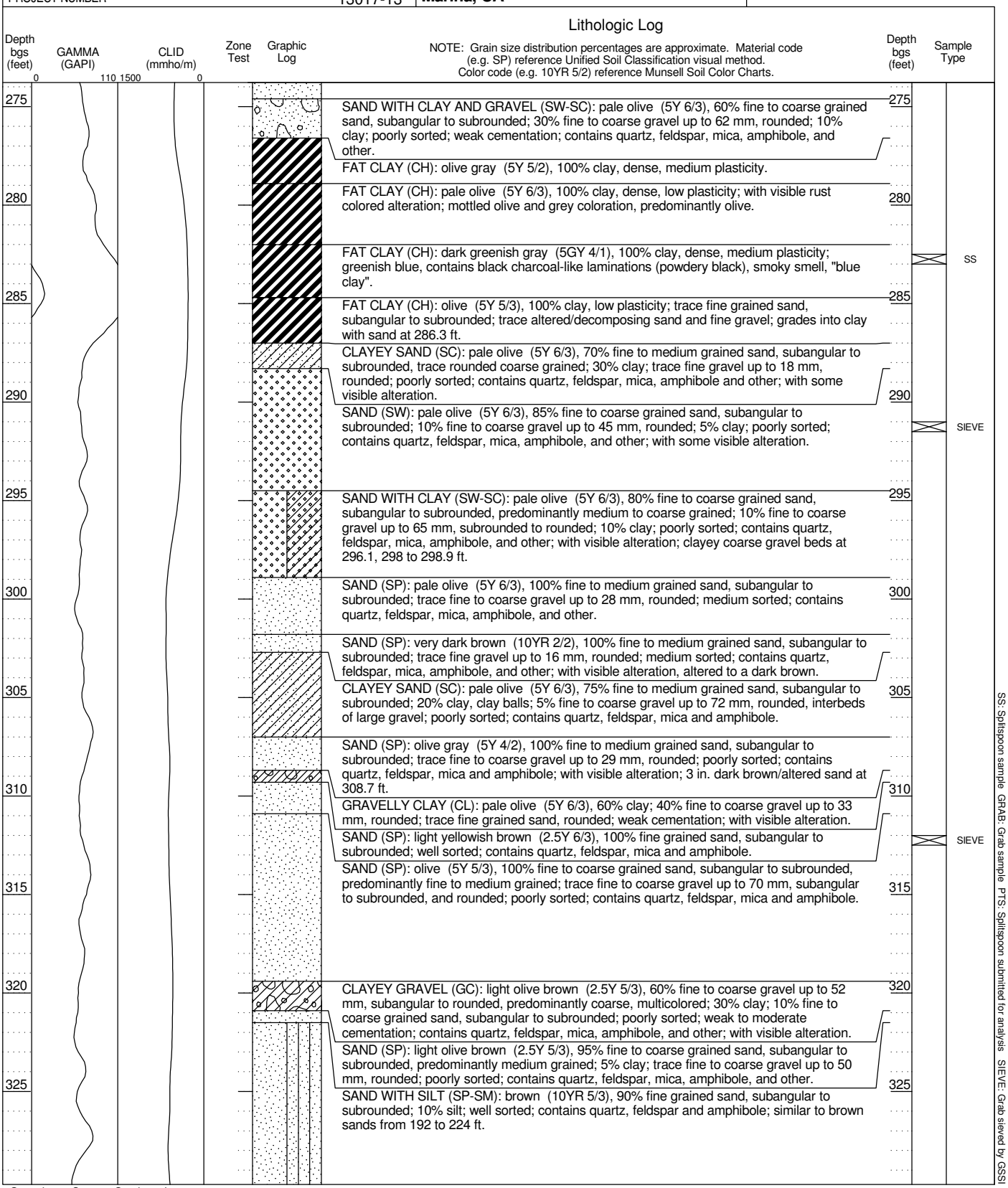
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
CX-B3	California American Water	13017-13	**Marina, CA**



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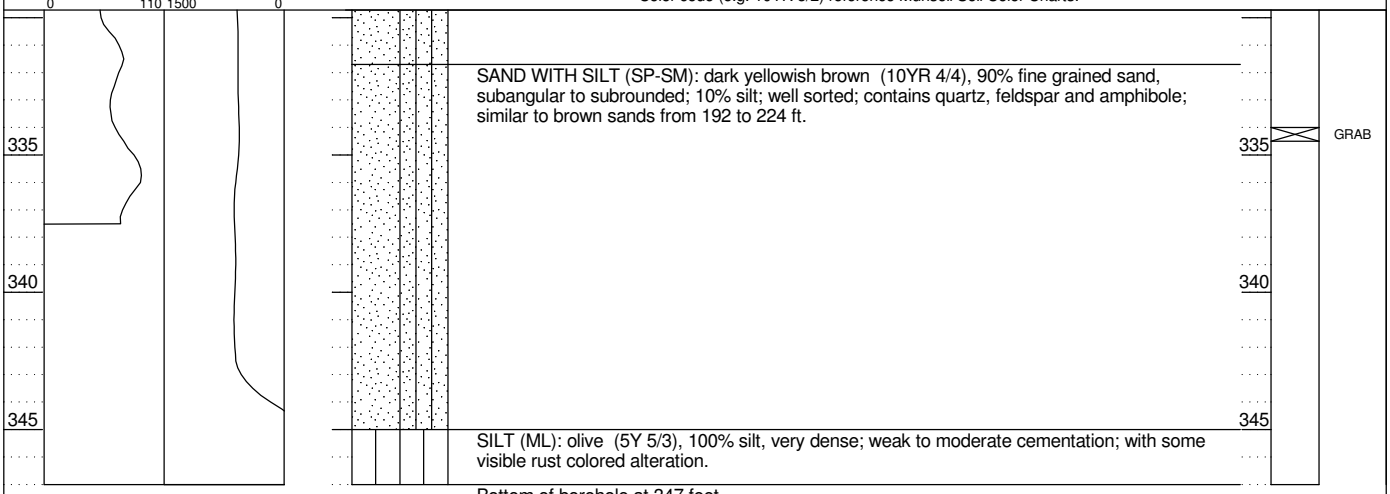
BOREHOLE NAME
CX-B3

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**



Bottom of borehole at 347 feet.

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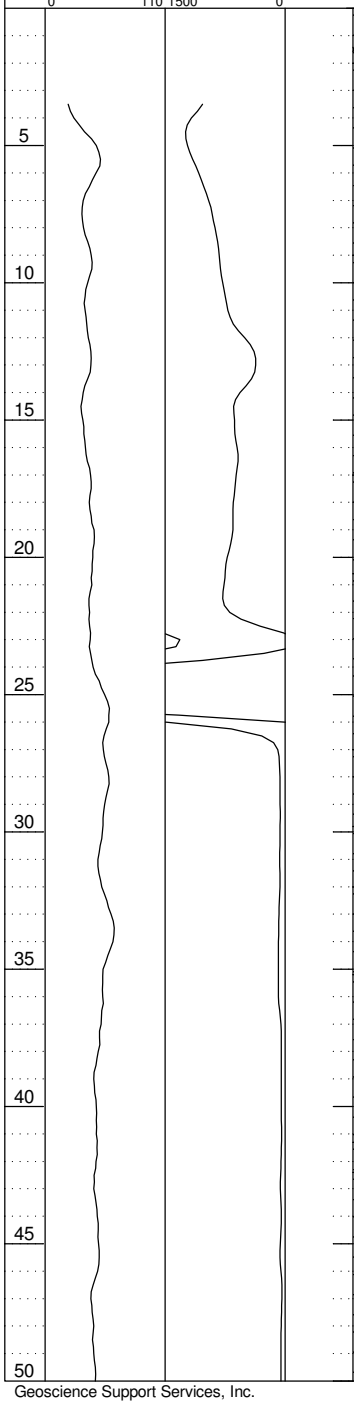
BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME	**CX-B4**						
CLIENT	California American Water	LOCATION	**Marina, CA**				
PROJECT NUMBER	13017-13		**CEMEX Lapis Plant**				
REPORT DATE	7/8/2014		**36° 42' 42.1848", -121° 47' 55.2192"** **Geographic NAD83**				
DRILLING CONTRACTOR	Cascade Drilling	LOGGED BY	**N. Reynolds**				
DRILLER	Jose Munguia						
DRILLING RIG TYPE	Prosonic 600T	DRILLING METHOD	Sonic	START DATE	3/20/14	BOREHOLE DIAMETER	8 in
SURFACE ELEVATION	39.0 ft	TOTAL DEPTH	350 ft bgs	FINISH DATE	4/10/14	CORE SIZE	6 in

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.



SAND WITH GRAVEL (SP): light olive brown (2.5Y 5/3) and pale yellow (2.5Y 7/3), 65% fine to medium grained sand, subangular to rounded; 30% fine to coarse gravel up to 70 mm, subangular to rounded; 5% silt; medium sorted; contains quartz, feldspar and amphibole; trace cobbles; trace organics/roots.

SAND (SP): very dark grayish brown (10YR 3/2), 95% fine grained sand, subrounded to rounded; 5% silt; trace fine to coarse gravel up to 52 mm, subrounded to rounded, at 8.5 ft bgs; well sorted; contains quartz, feldspar, amphibole and other.

SAND (SP): pale yellow (5Y 7/4), 100% fine to medium grained sand, subangular to subrounded; trace silt, trace silt balls; medium sorted; contains quartz, feldspar, amphibole and other.

SAND (SP): olive gray (5Y 4/2), 100% fine to medium grained sand, subangular to rounded; medium sorted; contains quartz, feldspar, amphibole and other.

SAND (SP): pale yellow (5Y 7/4), 100% fine to medium grained sand, subangular to subrounded; medium sorted; contains quartz, feldspar, amphibole and other.

SAND (SP): light olive brown (2.5Y 5/3), 100% fine to medium grained sand, subangular to subrounded; medium sorted; contains quartz, feldspar, amphibole and other.

SAND (SP): light olive brown (2.5Y 5/4), 95% fine grained sand, subangular to subrounded; 5% silt, gray silt pieces; well sorted; contains quartz, feldspar, mica and amphibole.

SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, subangular to subrounded; medium sorted; contains quartz, feldspar, amphibole and other.

SAND (SP): light yellowish brown (2.5Y 6/3), 100% medium grained sand, subangular to subrounded, trace fine grained; trace silt; medium sorted; contains quartz, feldspar, mica, amphibole and other; trace weakly cemented olive silty sand layer from 37.5 to 37.8 ft bgs; coarser than above.

SAND (SP): light yellowish brown (2.5Y 6/3), 100% fine grained sand, subangular to subrounded; trace silt; well sorted; contains quartz, feldspar, mica and amphibole; trace thin olive/gray horizontal silt lenses at 42.1 ft bgs.

SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, subangular, predominantly medium grained, trace coarse grained; trace fine gravel up to 10 mm, subrounded; medium sorted; contains quartz, feldspar, mica, amphibole and other.

Depth bgs (feet) | Sample Type

5 | 10 | 15 | 20 | 25 GRAB | 30 | 35 | 40 | 45 SIEVE | 50

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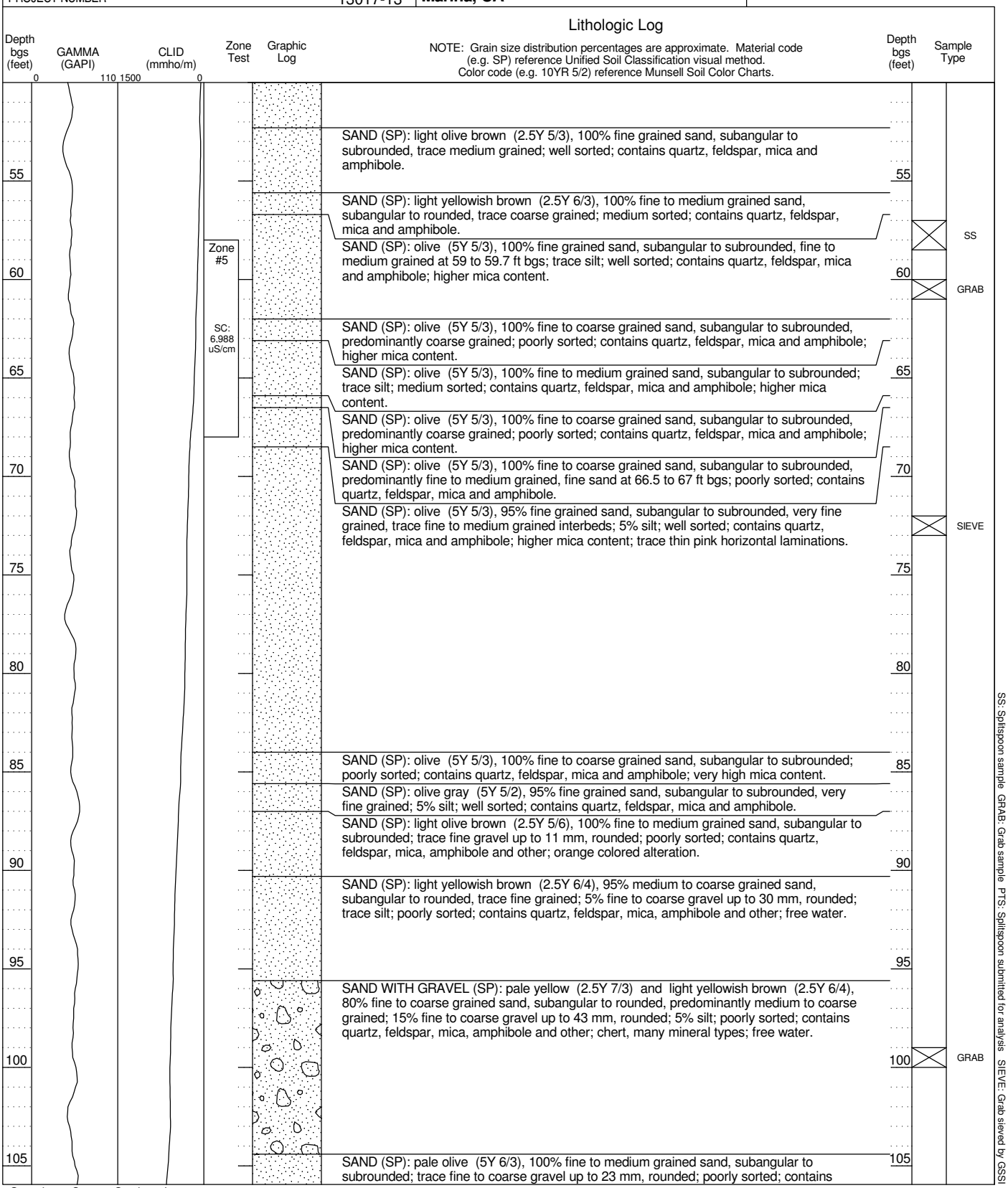
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
CX-B4	California American Water	13017-13	**Marina, CA**



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BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
CX-B4	California American Water	13017-13	**Marina, CA**

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	Zone Test	Lithologic Log	Depth bgs (feet)	Sample Type
		quartz, feldspar, mica, amphibole and other.		
		SAND (SP): light yellowish brown (2.5Y 6/3), 90% fine to coarse grained sand, subangular to rounded; 10% fine to coarse gravel up to 30 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole and other.		
110	Zone #4	SAND (SP): light olive brown (2.5Y 5/4), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole.	110	
115	SC: 29,933 uS/cm	SAND (SP): light olive brown (2.5Y 5/4), 95% fine grained sand, subangular to subrounded, very fine grained; 5% silt; well sorted; contains quartz, feldspar, mica and amphibole.	115	SIEVE
120		SAND (SP): olive (5Y 5/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole; increase in olive coloration.	120	
125		SILT (ML): pale olive (5Y 6/3), 95% silt; 5% fine grained sand, subangular to subrounded, highly altered, rust, tan and black from 124.1 to 124.9 ft bgs; low plasticity; thin rusty and black horizontal alteration/lamination.	125	
		SAND WITH SILT AND GRAVEL (SP-SM): pale olive (5Y 6/3), 75% fine grained sand, subangular to subrounded, fine grained grading to medium to coarse grained silty gravelly sand; 15% fine to coarse gravel up to 41 mm, rounded; 10% silt; poorly sorted; contains quartz, feldspar, mica and amphibole; highly altered at 127.5 ft bgs.		
130		CLAY (CL): dark gray (5Y 4/1), 100% clay, medium plasticity, dense; trace thin rust colored horizontal lamination; highly altered at 129.2 ft bgs.	130	
		SILT WITH SAND (ML): olive (5Y 5/3), 80% silt, silt bed from 132.2 to 132.7 ft bgs; 20% fine grained sand, subangular to subrounded, very fine grained; contains quartz, feldspar and mica; trace thin rust colored horizontal alteration/lamination.		
135		SAND (SP): pale olive (5Y 6/3), 100% fine grained sand, subangular to subrounded, grades to fine to medium grained; trace silt; poorly sorted; contains quartz, feldspar, mica and amphibole.	135	
		SAND (SP): olive (5Y 5/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole; highly altered/rust colored at 137.1 ft bgs.		
		FAT CLAY (CH): olive gray (5Y 5/2), 100% clay, high plasticity, dense; trace black and rust colored lamination; trace black ashy deposits.		
140		SANDY CLAY (CL): pale olive (5Y 6/3), 60% clay, no plasticity; 40% fine grained sand, subangular to subrounded; contains quartz and feldspar; thin black and rust colored lamination.	140	
		FAT CLAY (CH): pale olive (5Y 6/3), 100% clay, high plasticity, dense; thin black and rust colored lamination.		
		SAND (SP): pale yellow (2.5Y 7/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole; trace rust colored alteration.		
145			145	
				SS
150			150	
		SANDY CLAY (CL): pale olive (5Y 6/3), 60% clay, no plasticity; 40% fine grained sand, subangular to subrounded; contains quartz and feldspar; thin black and rust colored lamination.		
155		SAND (SP): pale olive (5Y 6/3), 95% fine to medium grained sand, subangular to subrounded; 5% silt; trace fine to coarse gravel up to 22 mm, subangular; poorly sorted; contains quartz, feldspar, mica and amphibole; 2.5 in. horizontal rusty/altered band at 154 ft bgs.	155	
	Zone #3	SAND WITH GRAVEL (SP): pale olive (5Y 6/3), 80% fine to coarse grained sand, subangular; rusty/altered from 160.4 to 160.7 ft bgs; 15% fine to coarse gravel up to 52 mm, subrounded to rounded; 5% clay; poorly sorted; contains quartz, feldspar, amphibole and other.		
160	SC: 28,707 uS/cm		160	

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BOREHOLE NAME **CX-B4**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	Lithologic Log	Depth bgs (feet)	Sample Type
165					GRAVEL WITH CLAY AND SAND (GP-GC): pale olive (5Y 6/3), 60% fine to coarse gravel up to 60 mm, subrounded to rounded; 30% medium to coarse grained sand, subangular; 10% clay; trace cobbles; poorly sorted; contains quartz, feldspar, amphibole and other; trace round cobbles up to 85 mm at 163 to 166 ft bgs; many mineral types; trace rusty alteration.	165	
							GRAB
170						170	
					SILT (ML): olive (5Y 5/3), 100% silt, very dense; friable; rust colored alteration and lamination.		
175						175	
					SILTY SAND (SM): pale olive (5Y 6/3), 85% fine grained sand, subangular to subrounded; 15% silt, from 177.3 to 177.6 ft bgs; no plasticity; well sorted; contains quartz, feldspar and amphibole.		
180					SAND (SP): light olive gray (5Y 6/2), 100% fine grained sand, subangular to subrounded, grades to fine to medium grained; trace fine gravel up to 18 mm, rounded; well sorted; contains quartz, feldspar, mica and amphibole; rusty alteration at 177.6 ft bgs.	180	
					CLAY WITH SAND (CL): pale olive (5Y 6/3), 85% clay, low plasticity; 10% fine to medium grained sand, subangular to subrounded; 5% fine to coarse gravel up to 36 mm, rounded; contains quartz, mica and amphibole; clay with sand and gravel interbeds; weakly cemented clay and gravel at 183.5 ft bgs; trace rusty alteration/nodules.		
185					SAND (SP): olive gray (5Y 5/2), 100% fine to medium grained sand, subangular to subrounded; medium sorted; contains quartz, feldspar, mica and amphibole.	185	
					SAND (SP): yellowish brown (10YR 5/6), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole; start of "the brown sand".		
190						190	
							SIEVE
195						195	
					SAND (SP): dark yellowish brown (10YR 4/6), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole; redder coloration than above.		
200						200	
					SAND (SP): dark yellowish brown (10YR 3/4), 95% fine grained sand, subangular to subrounded; 5% silt; well sorted; contains quartz, feldspar and amphibole; trace weakly cemented sands and sand nodules; mottled coloration.		
205						205	
210					SAND (SP): brown (10YR 4/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole.	210	
							GRAB
					SAND (SP): strong brown (7.5YR 4/6), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole; faint thin rusty horizontal lamination; more red.		
215						215	

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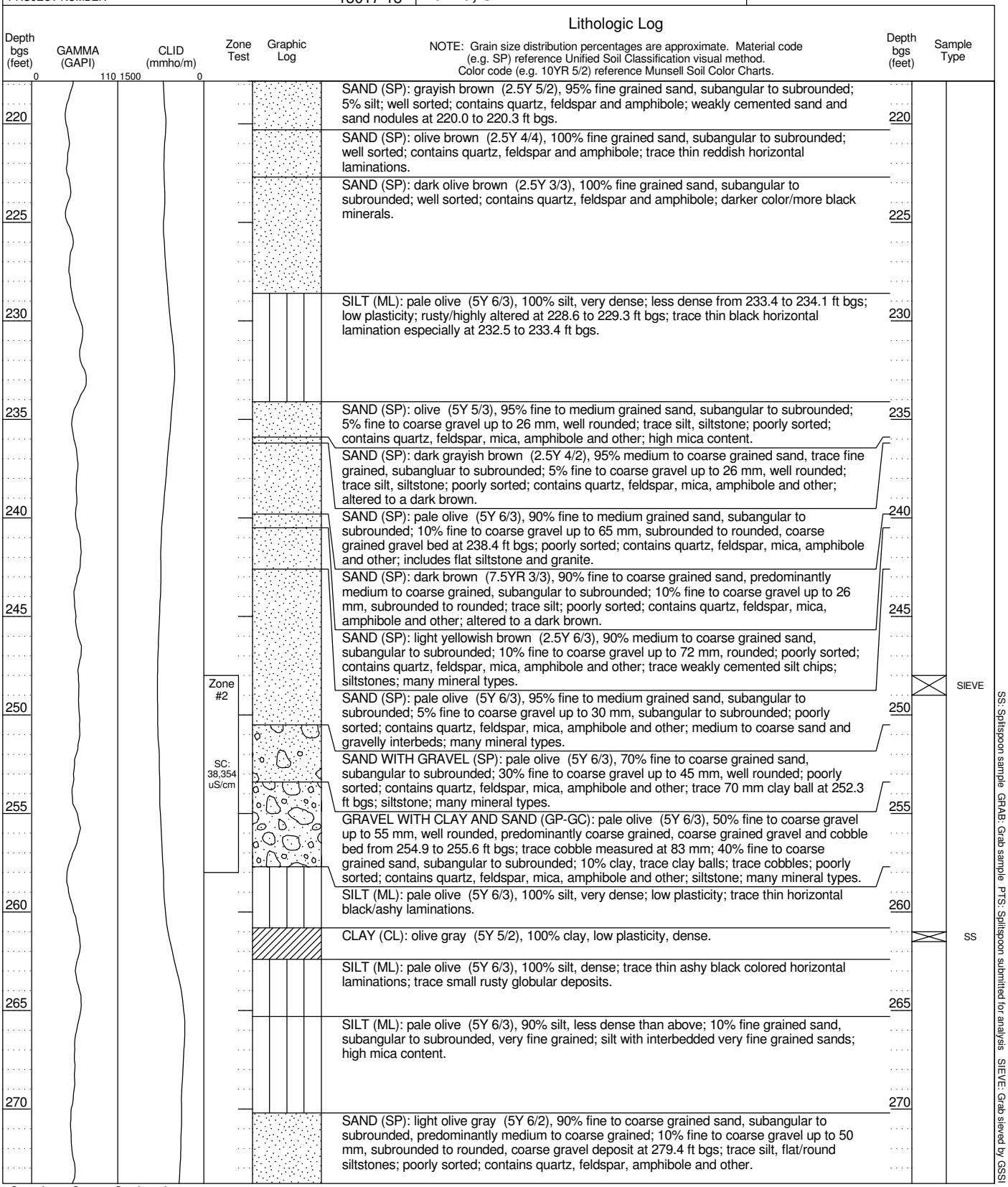
BOREHOLE NAME **CX-B4**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**



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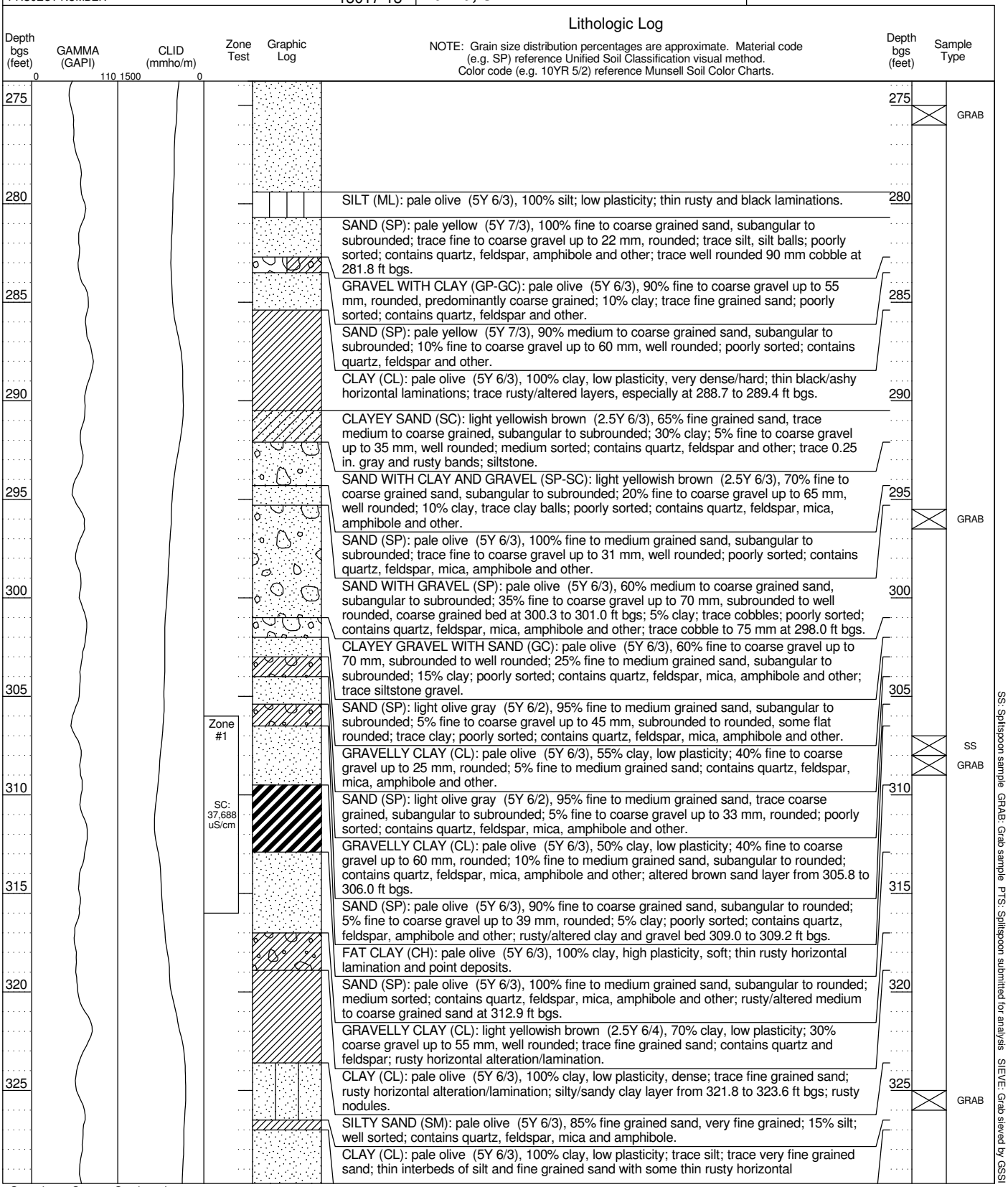
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	LOCATION
CX-B4	California American Water	**Marina, CA**
	PROJECT NUMBER 13017-13	



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BOREHOLE NAME **CX-B4**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Marina, CA**

Lithologic Log

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.	Depth bgs (feet)	Sample Type
					lamination/alteration.		
					SAND (SP): pale olive (5Y 6/3), 100% fine grained sand, subangular to subrounded, trace clay pods; well sorted; contains quartz, feldspar, mica and amphibole; higher mica content; more black minerals.		
335					CLAY (CL): olive gray (5Y 5/2), 70% clay, medium plasticity; 30% silt; trace fine grained sand; clay with 2 to 3 in. silt/fine grained sand with thin rusty horizontal lamination/alteration.	335	
					FAT CLAY (CH): light olive gray (5Y 6/2), 100% clay, medium plasticity.		
340					SAND (SP): brown (10YR 4/3), 100% fine grained sand, subangular to subrounded; trace silt; well sorted; contains quartz, feldspar and amphibole; weakly cemented, especially near rusty horizontal laminations; start of the second "brown sand" layer, similar to sand at 187.6 ft bgs.	340	
345					SAND (SP): brown (10YR 5/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole; less red, more gray-brown.	345	
350					SAND (SP): brown (10YR 4/3), 100% fine grained sand, subangular to subrounded; trace silt; well sorted; contains quartz, feldspar and amphibole; faint thin rusty horizontal laminations; weak to moderately cemented below 348.3 ft bgs, especially in areas of rusty alteration; more red; moderately cemented at 350 ft bgs.	350	GRAB
					Bottom of borehole at 350 feet.		

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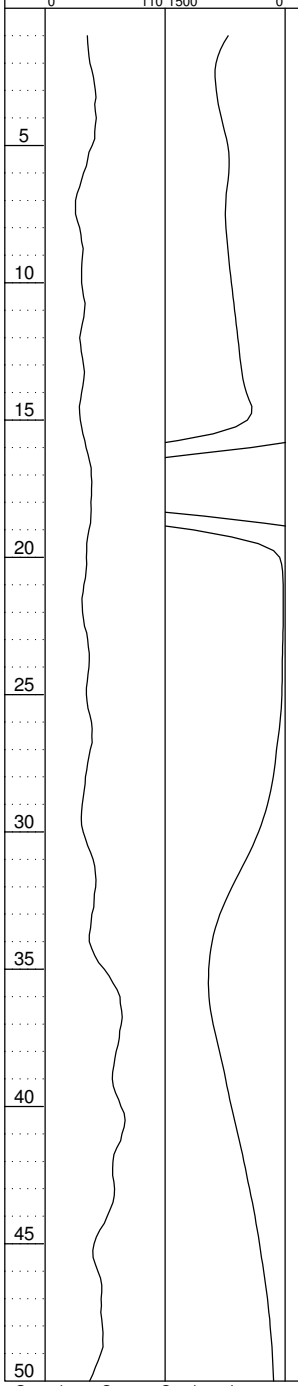
BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME **MDW-1**							
CLIENT	California American Water	LOCATION **Castroville, CA** **Salinas River State Beach** **36° 46' 32.3688", -121° 47' 41.4816"** **Geographic NAD83**					
PROJECT NUMBER	13017-13						
REPORT DATE	7/8/2014						
DRILLING CONTRACTOR	Cascade Drilling	LOGGED BY **N. Reynolds**					
DRILLER	Jose Munguia						
DRILLING RIG TYPE	Prosonic 600T	DRILLING METHOD	Sonic	START DATE	4/23/14	BOREHOLE DIAMETER	8 in
SURFACE ELEVATION	20.0 ft	TOTAL DEPTH	300 ft bgs	FINISH DATE	4/27/14	CORE SIZE	6 in

Lithologic Log



NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	Lithologic Description	Sample Type
	NO SAMPLE: asphalt.	
	NO SAMPLE: gravel road base.	
	SAND (SP): dark grayish brown (2.5Y 4/2), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole.	
5	SAND (SP): light yellowish brown (2.5Y 6/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole.	
	SAND (SP): very dark grayish brown (2.5Y 3/2), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole.	
10		
15	SAND (SP): light olive brown (2.5Y 5/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole.	
20		SIEVE
25		
	SILTY SAND (SM): black (10YR 2/1) and dark gray (5Y 4/1), 80% fine grained sand, subangular to subrounded; 20% silt; well sorted; contains quartz, feldspar and amphibole; organic rich (wood).	
30	SAND (SP): olive gray (5Y 5/2), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole.	
	SAND (SP): dark greenish gray (10Y 4/1), 100% fine grained sand, subangular to subrounded, trace medium grained; well sorted; contains quartz, feldspar and amphibole.	
35	CLAY (CL): dark greenish gray (10Y 4/1), 100% clay, medium plasticity, soft, silty; trace silt; abundance of horizontal black/ashy deposits between 34.5 - 36.4 ft bgs; mica present; trace white flakes (shells?); bluish coloration.	
40	SILT (ML): dark greenish gray (10Y 4/1), 100% silt; no to low plasticity; clayey interbeds with horizontal black/ashy laminations; trace white ashy deposits from 39.5 -40.0 ft bgs; mica present.	SS
45	CLAY (CL): very dark greenish gray (10Y 3/1), 95% clay, medium plasticity, soft, trace horizontal black/ashy deposits; 5% fine grained sand, subangular to subrounded, interbedded; contains quartz, feldspar and amphibole.	
50	SAND (SP): dark greenish gray (10Y 4/1), 95% fine grained sand, subangular to subrounded, trace medium grained; 5% clay, clayey interbeds at 52.8 - 53.4 ft bgs and 54.4	

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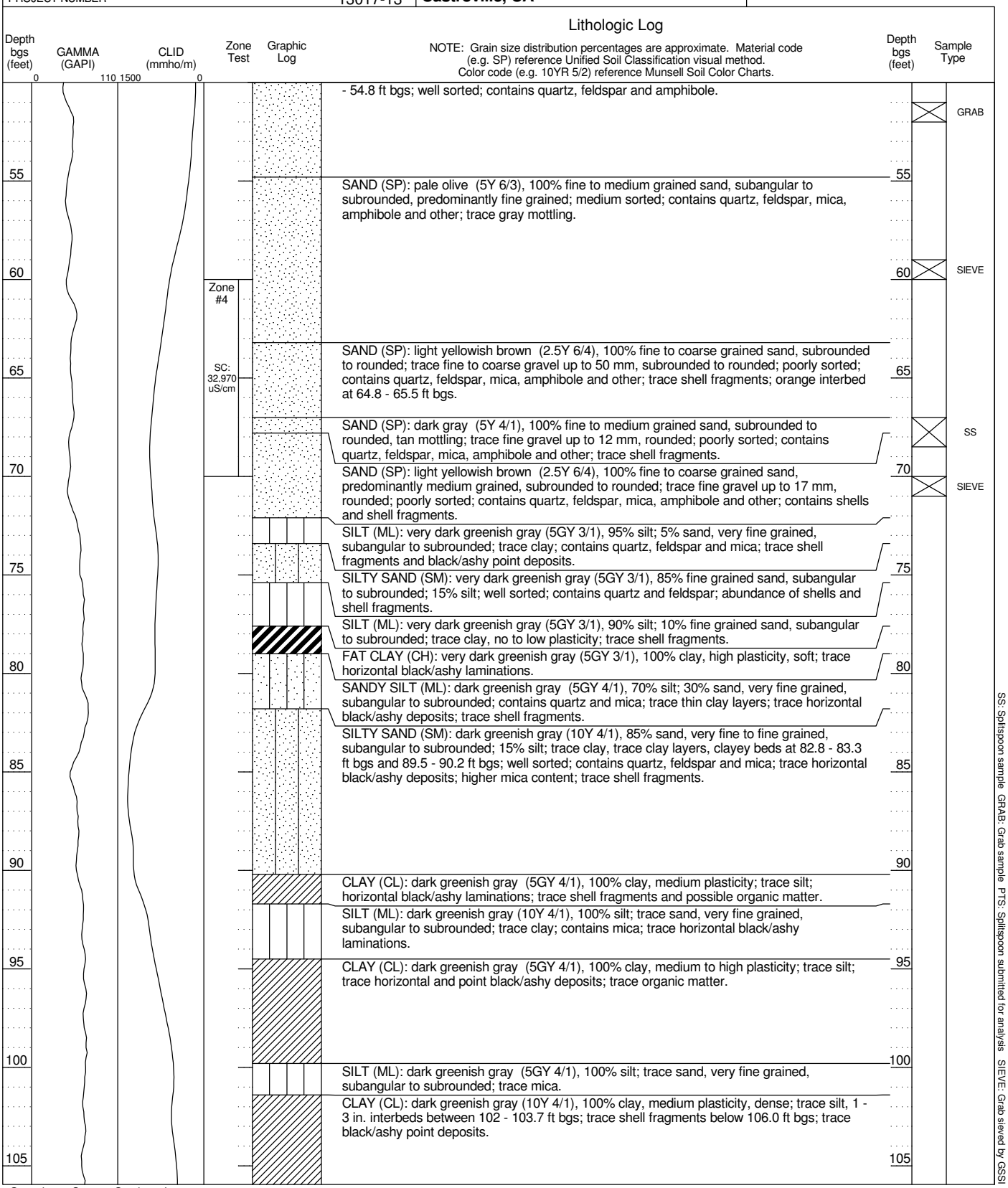
BOREHOLE NAME **MDW-1**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Castroville, CA**



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BOREHOLE NAME **MDW-1**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Castroville, CA**

Lithologic Log

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.	Depth bgs (feet)	Sample Type
					SAND (SP): greenish gray (10Y 5/1), 100% sand, very fine grained, subangular to subrounded; trace silt; well sorted; contains quartz, feldspar and mica.		
110						110	
115						115	
					SAND (SP): greenish gray (5GY 5/1), 100% fine to coarse grained sand, predominantly medium grained, subrounded to rounded; trace fine to coarse gravel up to 32 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole and other; includes siltstone and chert.		
120						120	
					SILT (ML): dark greenish gray (5GY 4/1), 100% silt; trace fine grained sand; trace clay, 1 in. clay interbeds; contains mica; thin horizontal black/ashy laminations in clays.		
					FAT CLAY (CH): dark greenish gray (5GY 4/1), 100% clay, high plasticity, dense; very dense from 124.3 - 127.0 ft bgs; thin rusty and black/ashy horizontal lamination from 126.0 - 127.0 ft bgs.		
125						125	SS
					SILT (ML): dark greenish gray (10Y 4/1), 100% silt; trace thin clayey interbeds; thin horizontal black/ashy lamination.		
					FAT CLAY (CH): dark greenish gray (10Y 4/1), 100% clay, medium to high plasticity, soft clay from 128.3 - 129.6 ft bgs, dense clay from 129.6 - 135.2 ft bgs; trace silt, dark brown silty deposit from 132.2 - 133.4 ft bgs within clay; trace horizontal laminations and point black/ashy deposits.		
130						130	
135						135	
					SILT (ML): dark greenish gray (10Y 4/1), 95% silt; 5% sand, very fine grained, subangular to subrounded; trace clay; contains mica; trace thin horizontal black/ashy laminations.		
					SAND (SP): greenish gray (5GY 5/1), 95% fine to medium grained sand, subangular to subrounded, trace rounded coarse grained; 5% fine to coarse gravel up to 25 mm, rounded; medium sorted; contains quartz, feldspar, mica, amphibole and other; many mineral types.		
140						140	GRAB
145						145	
					SAND (SP): greenish gray (10Y 5/1), 100% fine to medium grained sand, subangular to rounded; trace fine to coarse gravel up to 35 mm, rounded; medium sorted; contains quartz, feldspar, mica, amphibole and other; trace rounded cobbles up to 75 mm at 145.2 ft bgs; includes chert and siltstone; many mineral types.		SS
					SAND (SP): dark greenish gray (10Y 4/1), 100% fine to medium grained sand, subrounded to rounded; trace fine gravel up to 17 mm, rounded; well sorted; contains quartz, feldspar, mica, amphibole and other; trace clay balls; includes siltstone.		
150						150	GRAB
					SAND WITH CLAY (SP-SC): dark greenish gray (5GY 4/1), 85% fine to medium grained sand, subangular to rounded, trace coarse grained; 10% clay; 5% fine to coarse gravel up to 65 mm, rounded; contains quartz, feldspar, mica, amphibole and other; many mineral types; included siltstone.		
			Zone #3		SAND WITH GRAVEL (SP): light olive gray (5Y 6/2), 60% fine to coarse grained sand, subangular to rounded; 40% fine to coarse gravel up to 70 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole and other; gravel with sand from 152.6 - 153.5 ft bgs.		SIEVE
155						155	
			SC: 38,100 uS/cm		SAND (SP): olive gray (5Y 5/2), 100% fine grained sand, subangular to subrounded; trace fine to coarse gravel up to 21 mm, subrounded to rounded; well sorted; contains quartz, feldspar, amphibole and other; silt at 156.7 - 157 ft bgs.		
160						160	

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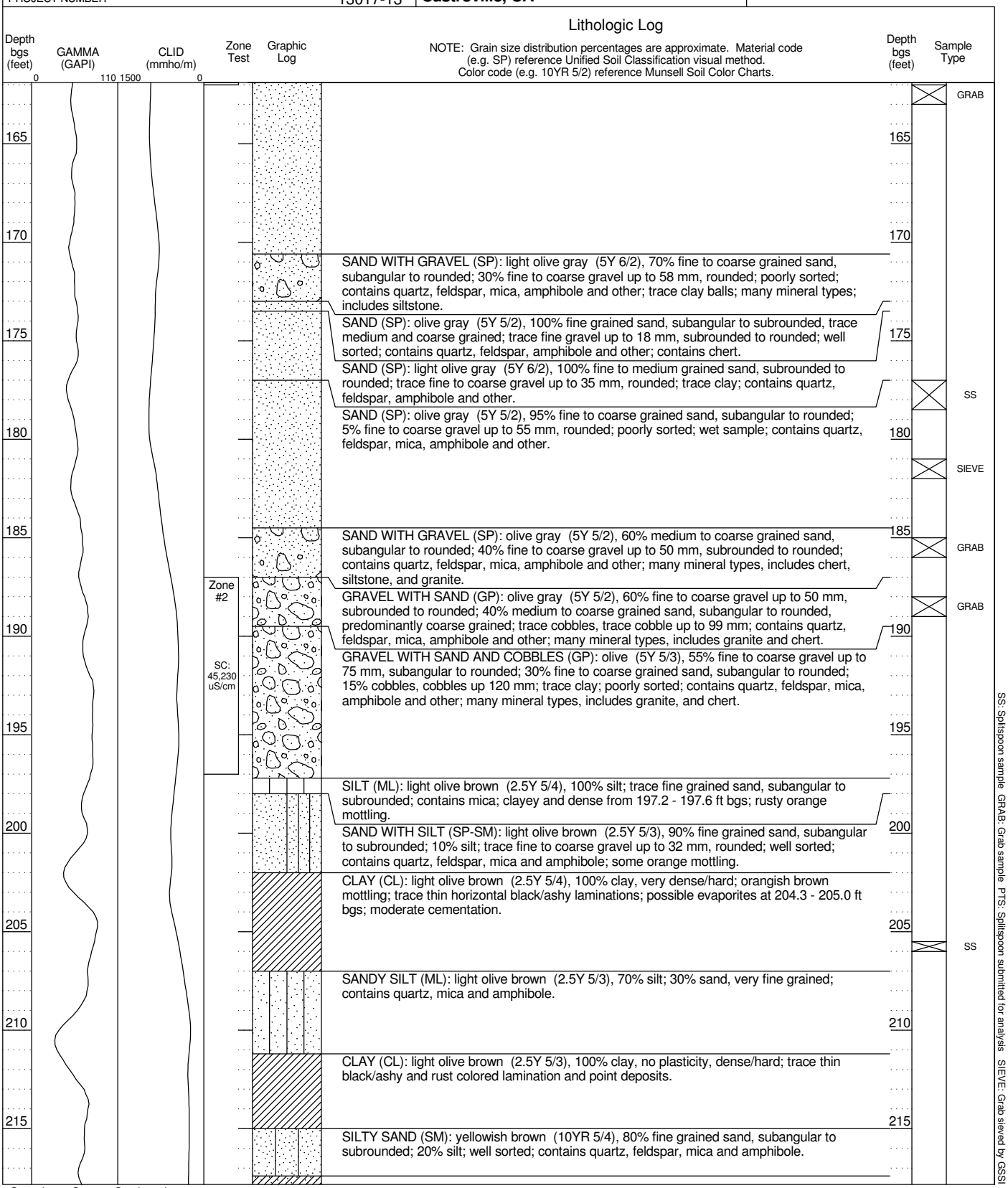
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
MDW-1	California American Water	13017-13	**Castroville, CA**



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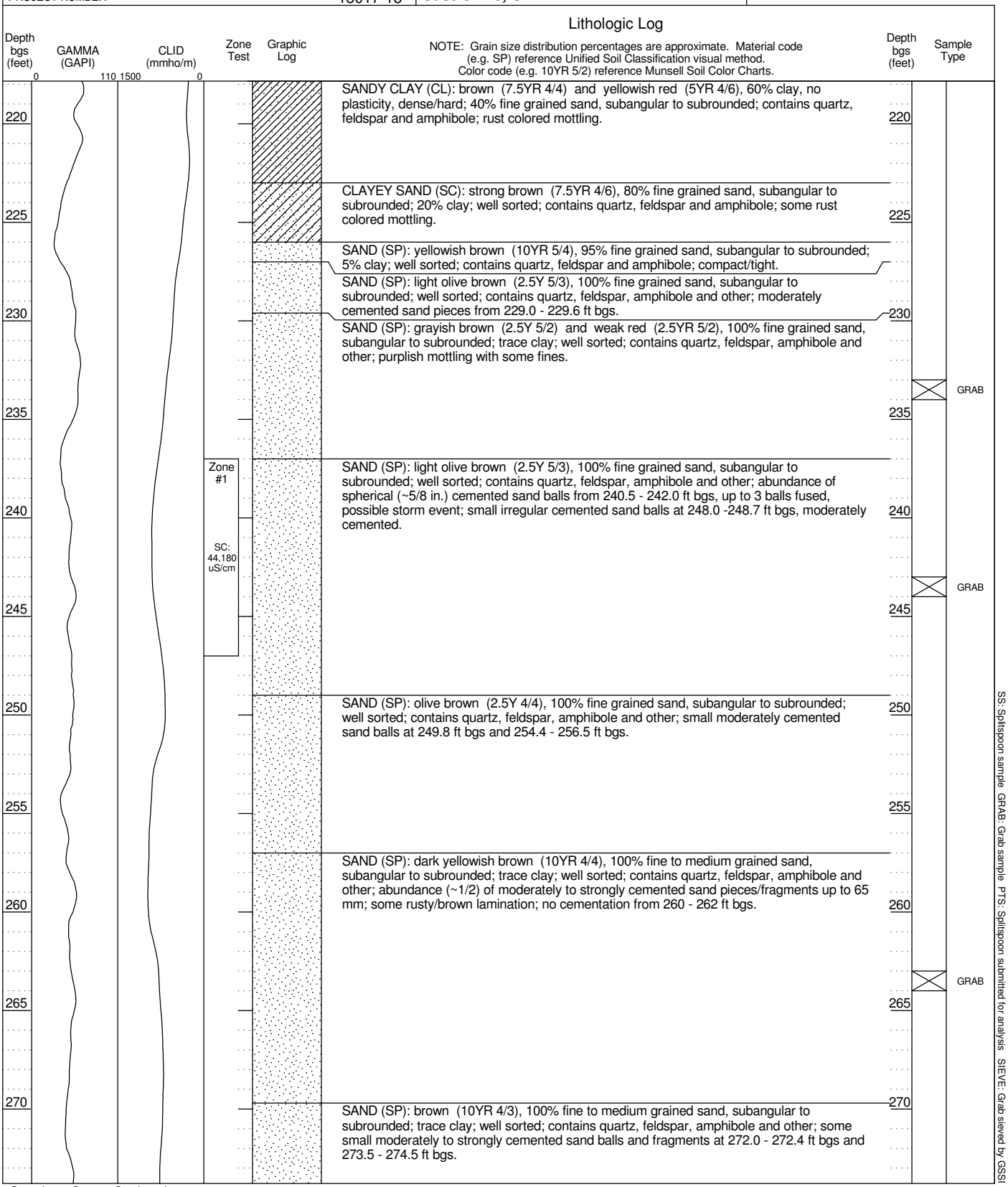
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	LOCATION
MDW-1	California American Water	**Castroville, CA**
	PROJECT NUMBER 13017-13	



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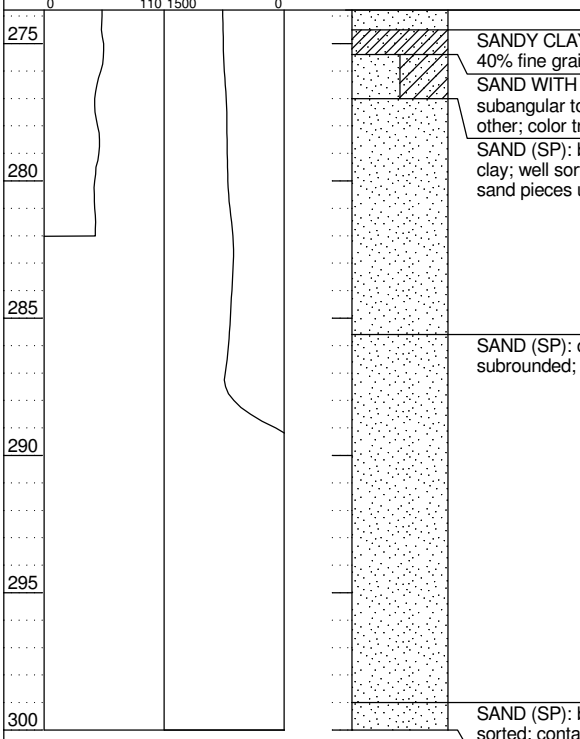
BOREHOLE NAME
MDW-1

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Castroville, CA**

Lithologic Log



NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet) | Sample Type

275 — SANDY CLAY (CL): dark yellowish brown (10YR 4/4), 60% clay, no plasticity, dense/hard; 40% fine grained sand; moderately cemented.

SAND WITH CLAY (SP-SC): yellowish brown (10YR 5/4), 90% fine grained sand, subangular to subrounded; 10% clay; well sorted; contains quartz, feldspar, amphibole and other; color transition.

280 — SAND (SP): brown (7.5YR 4/4), 95% fine grained sand, subangular to subrounded; 5% clay; well sorted; contains quartz, feldspar, amphibole and other; tight; moderately cemented sand pieces up to 80 mm at 283.2 - 285.6 ft bgs; rusty mottled coloration and lamination. — GRAB

285 — SAND (SP): dark grayish brown (10YR 4/2), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, amphibole and other.

290 — GRAB

295

300 — SAND (SP): brown (7.5YR 4/4), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, amphibole and other; some weak cementation.

Bottom of borehole at 300 feet.

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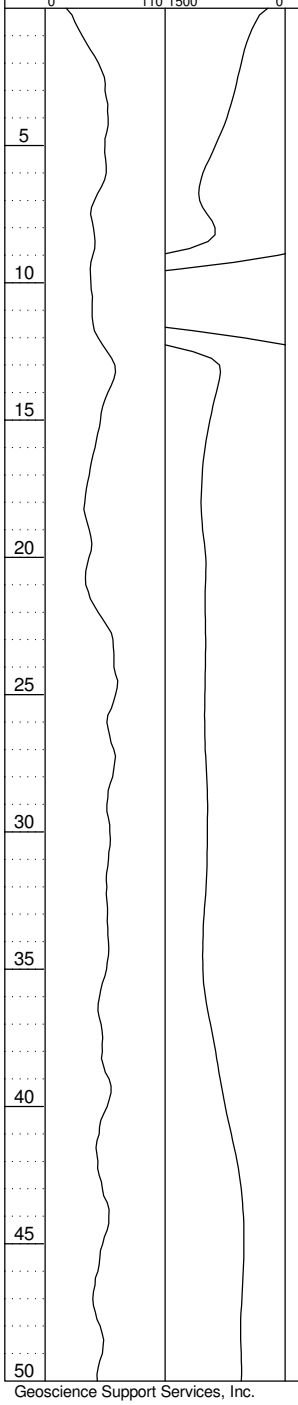
BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME	**ML-1**						
CLIENT	California American Water	LOCATION	**Moss Landing, CA**				
PROJECT NUMBER	13017-13		**Sandholdt Rd**				
REPORT DATE	7/8/2014		**36° 47' 58.0632", -121° 47' 20.31"** **Geographic NAD83**				
DRILLING CONTRACTOR	Cascade Drilling	LOGGED BY	**N. Reynolds**				
DRILLER	Jose Munguia						
DRILLING RIG TYPE	Prosonic 600T	DRILLING METHOD	Sonic	START DATE	10/02/13	BOREHOLE DIAMETER	8 in
SURFACE ELEVATION	8.0 ft	TOTAL DEPTH	200 ft bgs	FINISH DATE	10/07/13	CORE SIZE	6 in

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.



SAND (SP): light olive brown (2.5Y 5/3), 100% fine grained sand, subrounded, trace medium to coarse grained; trace fine to coarse gravel up to 35 mm, subrounded; medium sorted.

SILT (ML): dark gray (5Y 4/1), 100% silt.

CLAY (CL): dark gray (5Y 4/1), 100% clay, high plasticity; with visible alteration.

SILT (ML): very dark gray (5Y 3/1), 100% silt; with shells.

SAND (SP): light yellowish brown (2.5Y 6/4), 100% medium to coarse grained sand, subangular to rounded; trace fine to coarse gravel up to 30 mm, rounded; poorly sorted; trace shells up to 120 mm.

CLAY WITH SAND (CL): very dark gray (5Y 3/1), 85% clay; 10% fine to coarse grained sand, subrounded to rounded; 5% fine to coarse gravel up to 25 mm, rounded; trace shell fragments.

SANDY SILT (ML): very dark gray (2.5Y 3/1), 60% silt; 40% fine grained sand, subangular to subrounded; shells at 31.6 and 34.0 ft, trace organics at 29.4 ft.

CLAY (CL): very dark gray (5Y 3/1), 100% clay, medium plasticity.

SAND (SP): dark gray (5Y 4/1), 100% fine to medium grained sand, subangular; poorly sorted.

CLAY (CL): very dark gray (2.5Y 3/1), 100% clay, high plasticity; trace shell fragments.

SANDY SILT (ML): very dark gray (2.5Y 3/1), 70% silt; 30% fine grained sand, subrounded; abundant shell fragments.

SAND (SP): dark gray (5Y 4/1), 100% fine to medium grained sand, subangular, trace coarse grained; trace fine to coarse gravel up to 25 mm, subrounded to rounded; poorly sorted; abundance of shells and shell fragments.

Depth bgs (feet) | Sample Type

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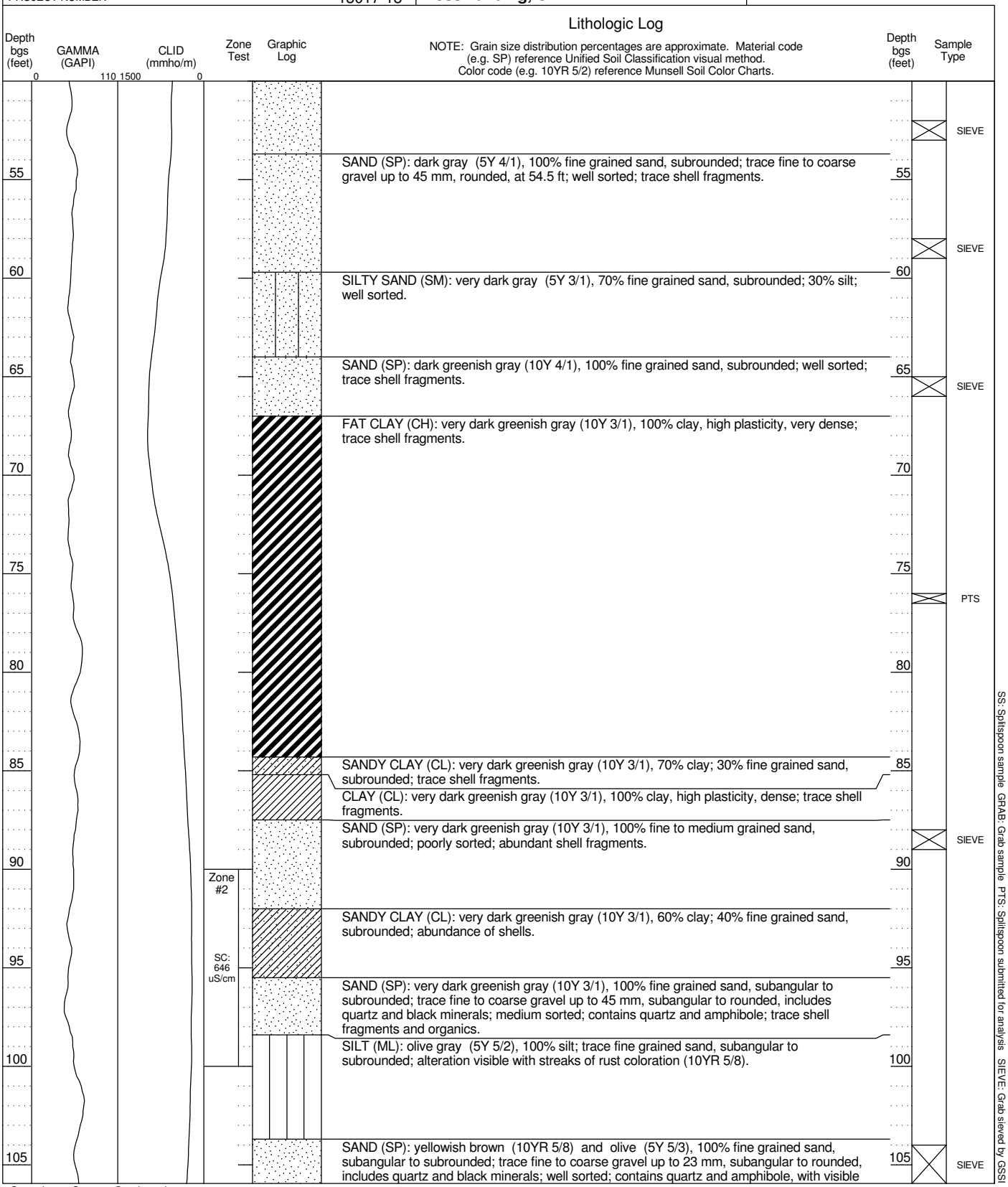
BOREHOLE NAME **ML-1**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Moss Landing, CA**



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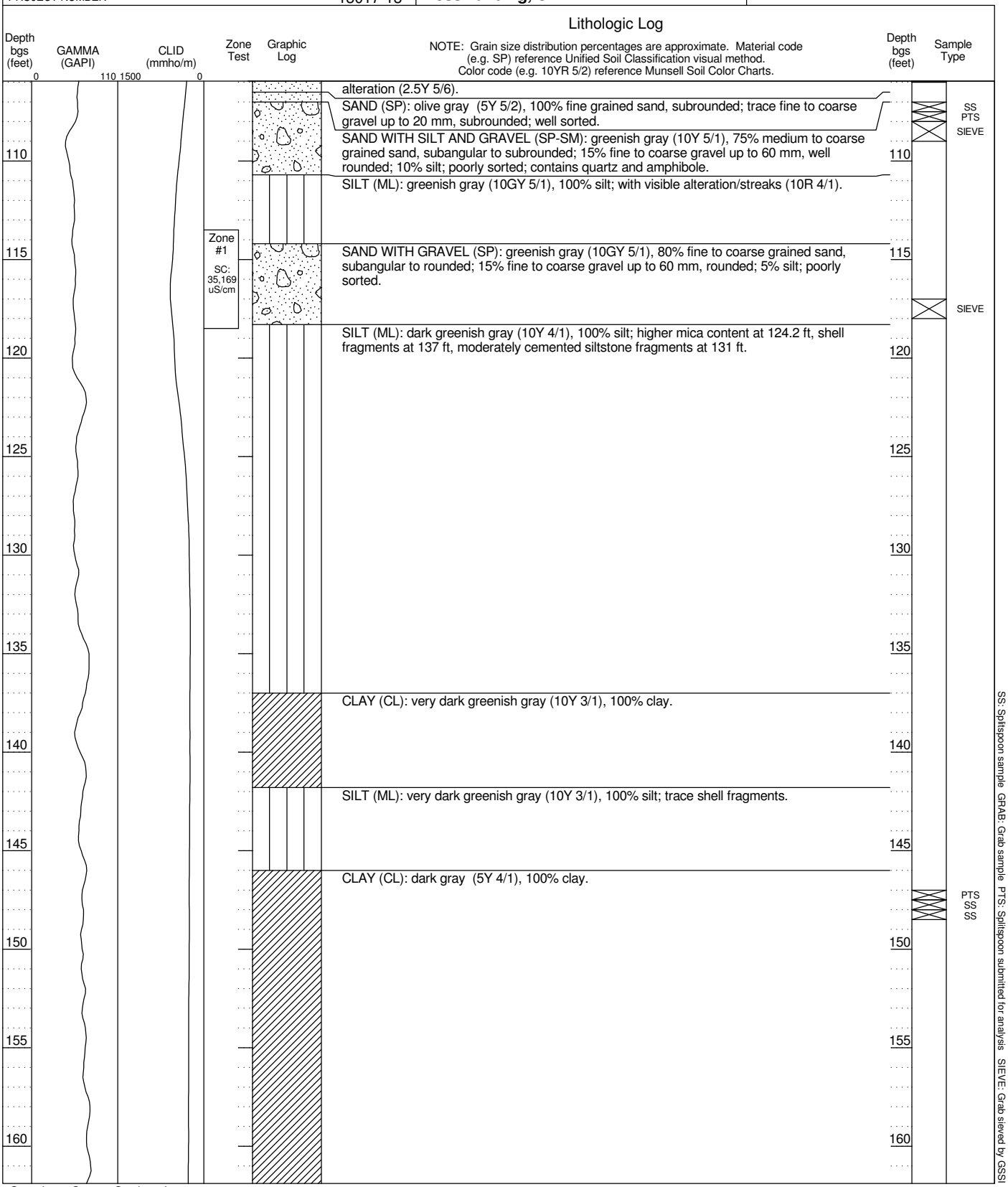
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	LOCATION
ML-1	California American Water	**Moss Landing, CA**
	PROJECT NUMBER 13017-13	



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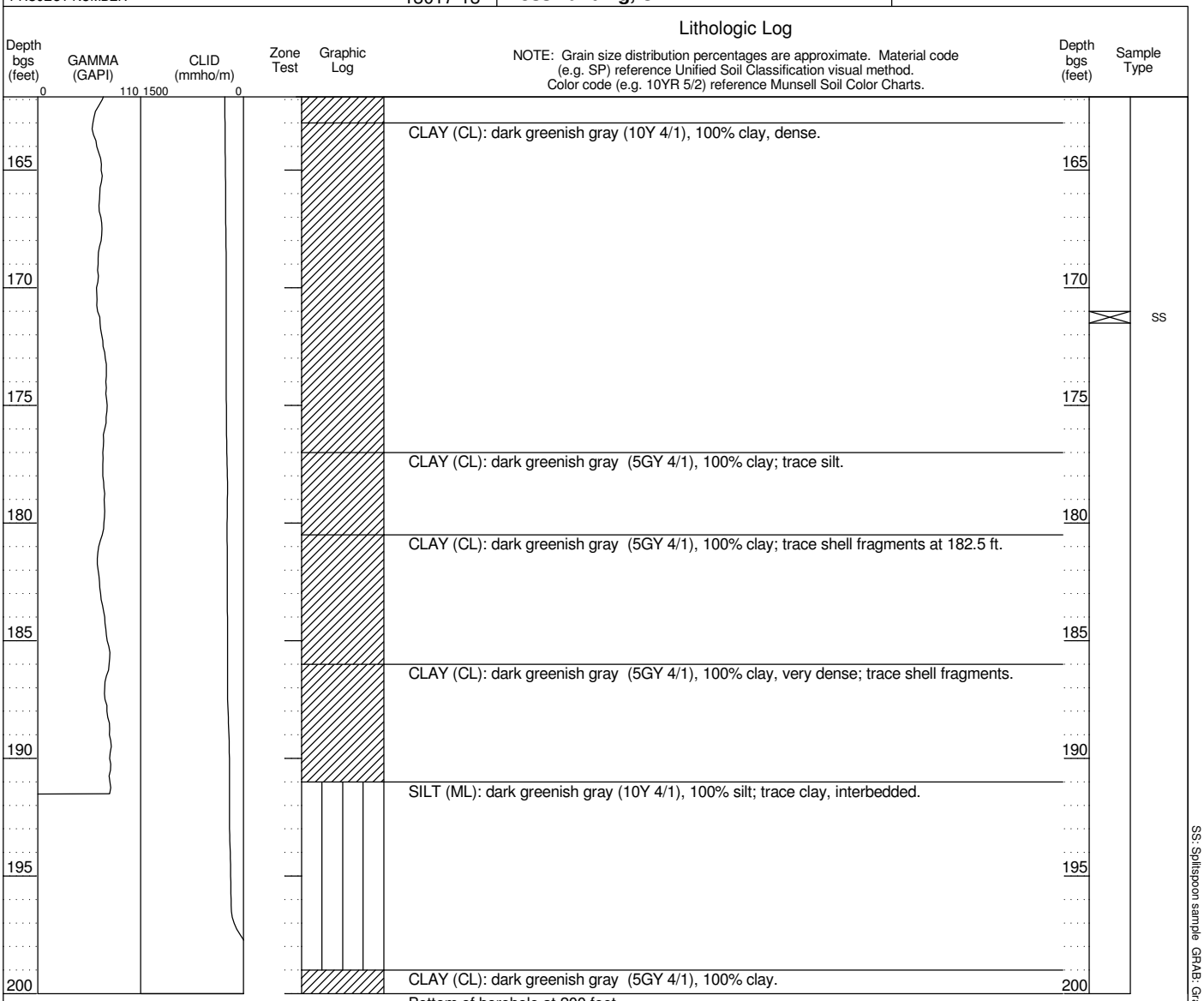
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
ML-1	California American Water	13017-13	**Moss Landing, CA**



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BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME: **ML-2**					
CLIENT: California American Water		LOCATION: **Moss Landing, CA** **Del Mar Fisheries** **36° 48' 11.7648", -121° 47' 12.4368"** **Geographic NAD83**			
PROJECT NUMBER: 13017-13					
REPORT DATE: 7/8/2014					
DRILLING CONTRACTOR: Cascade Drilling		LOGGED BY: **N. Reynolds**			
DRILLER: Jose Munguia					
DRILLING RIG TYPE: Prosonic 600T	DRILLING METHOD: Sonic	START DATE: 12/09/13	BOREHOLE DIAMETER: 8 in
SURFACE ELEVATION: 7.0 ft	TOTAL DEPTH: 200 ft bgs	FINISH DATE: 12/19/13	CORE SIZE: 6 in

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log		Depth bgs (feet)	Sample Type
					SANDY SILT (ML): olive gray (5Y 4/2), 65% silt; 25% fine to medium grained sand, subangular; 10% fine to coarse gravel up to 26 mm, subangular; contains quartz, feldspar, and other; asphalt present.		
					SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, subangular to subrounded, predominantly fine grained; trace silt; medium sorted; contains quartz and feldspar.		
5					SANDY SILT (ML): very dark grayish brown (10YR 3/2), 60% silt; 40% fine grained sand, subangular to subrounded; trace fine to coarse gravel up to 29 mm, subangular to subrounded; contains quartz and feldspar; red brick and concrete block to 90 mm.	5	
					SAND (SP): very dark grayish brown (2.5Y 3/2) and dark grayish brown (2.5Y 4/2), 100% fine to medium grained sand, subrounded to rounded, trace coarse grained; trace fine to coarse gravel up to 41 mm, subangular; trace silt; poorly sorted; contains quartz, feldspar,		
10					amphibole, and other.	10	
					SAND (SW): light yellowish brown (2.5Y 6/4), 100% fine to coarse grained sand, subrounded to rounded; trace fine to coarse gravel up to 27 mm, subrounded to rounded; poorly sorted; contains quartz, feldspar, amphibole, and other; well rounded coarse sand and fine gravel layer with shells at 13.7 ft.		
15					SAND (SP): olive gray (5Y 4/2), 100% fine to medium grained sand, subangular to rounded; trace silt; medium sorted; contains quartz, feldspar, amphibole, and other; trace shell fragments.	15	
20						20	
					SAND (SP): light olive gray (5Y 6/2), 100% fine to medium grained sand, subangular to rounded; trace silt, trace thin silt lens; medium sorted; contains quartz, feldspar, amphibole, and other; trace organics/wood.		
					SILT (ML): very dark greenish gray (10Y 3/1), 100% silt; trace fine grained sand, subrounded; contains mica; organics/wood.		
25					SAND (SW): light yellowish brown (2.5Y 6/3), 100% fine to coarse grained sand, subrounded to rounded; trace fine gravel up to 5 mm, rounded; poorly sorted; contains quartz, feldspar, amphibole, and other; trace shell fragments.	25	SIEVE
					CLAY (CL): dark greenish gray (5GY 4/1), 80% clay, medium plasticity, soft; 20% silt; silty clay with an abundance of shells.		
30					SILT (ML): dark greenish gray (5G 4/1), 100% silt, low plasticity; abundant shells and shell fragments.	30	
					SANDY SILT (ML): dark greenish gray (5GY 4/1), 51% silt; 49% fine grained sand, subrounded; trace fine gravel up to 18 mm, rounded; contains quartz, feldspar, and other; alternating fine sand and silt; abundance of shells and shell fragments; thin black/dark brown laminations (organics/wood).		
35					FAT CLAY (CH): dark greenish gray (5GY 4/1), 100% clay, high plasticity; trace shells.	35	
					SAND (SP): greenish gray (5GY 5/1) and dark greenish gray (5GY 4/1), 100% fine grained sand, subangular to subrounded; trace silt; trace clay; well sorted; interbeded clays and silts approx. every foot, thin black laminations in clays, trace shell and organics(wood), large shells up to 61 mm at 39.0 ft; silt at 41.0 to 41.5, 46.3 to 46.6, 50.6 to 51.5 ft; clay at 52.5 to 54.1 ft.		
40						40	
45						45	
50						50	

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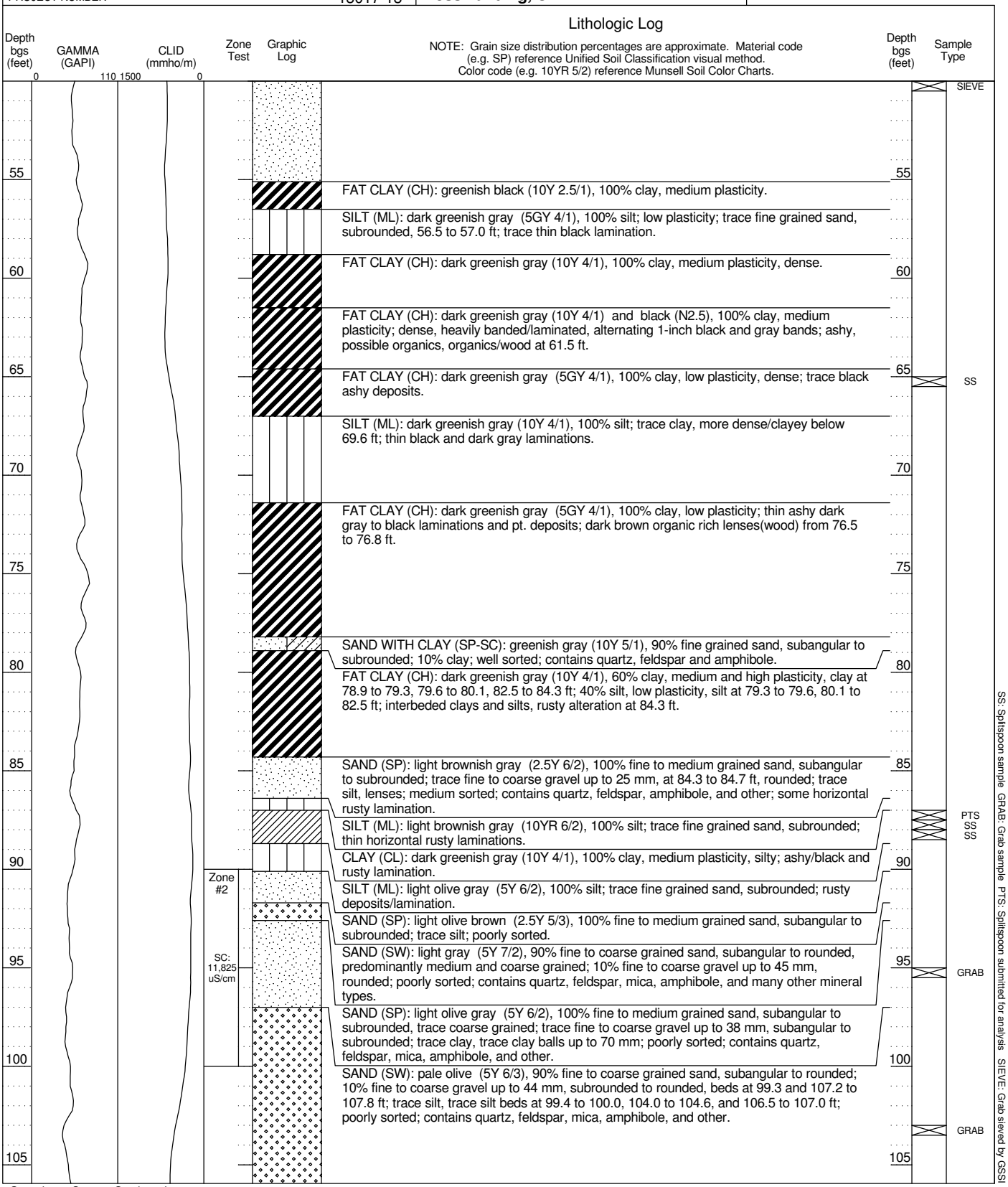
BOREHOLE NAME **ML-2**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Moss Landing, CA**



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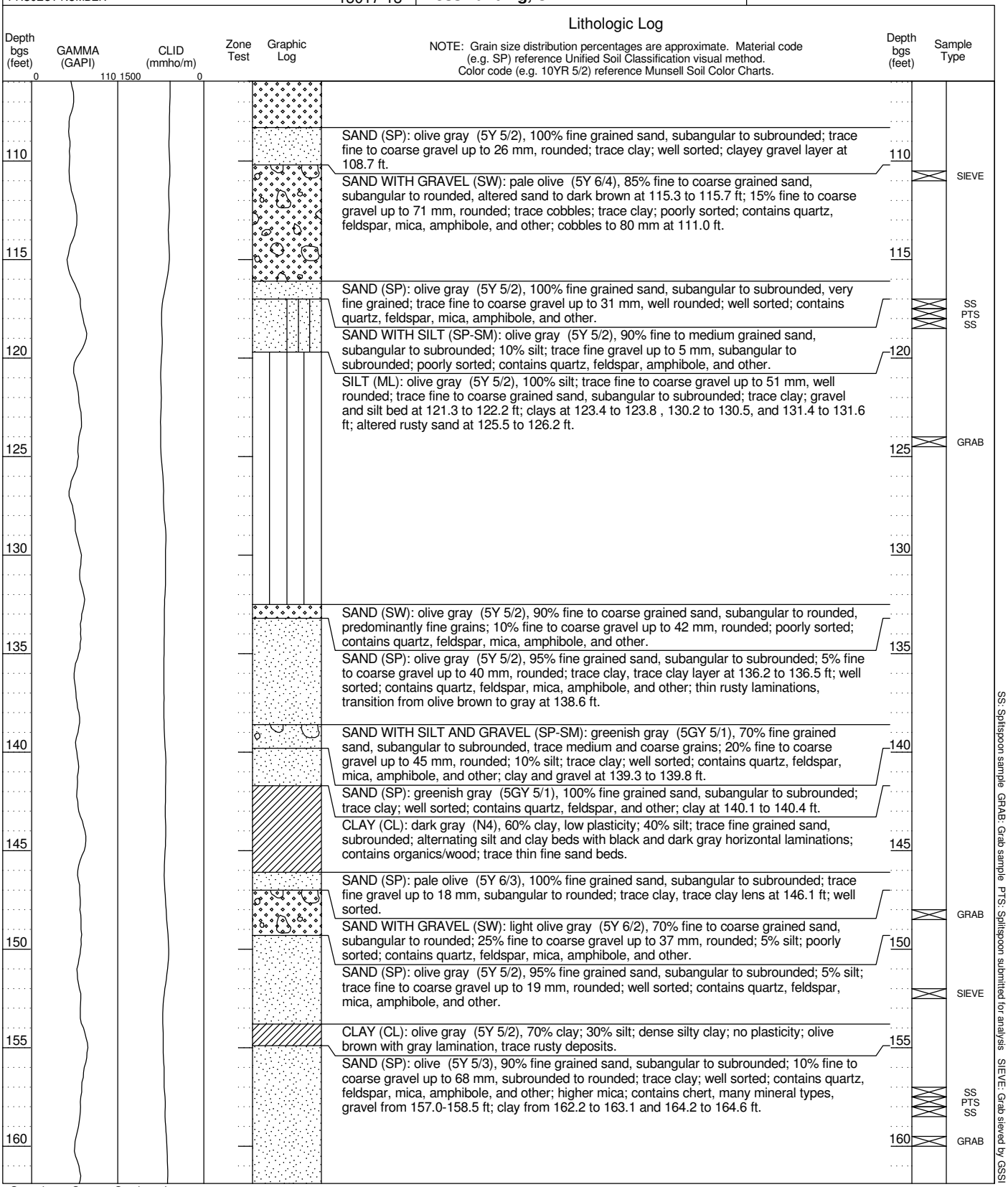
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
ML-2	California American Water	13017-13	**Moss Landing, CA**



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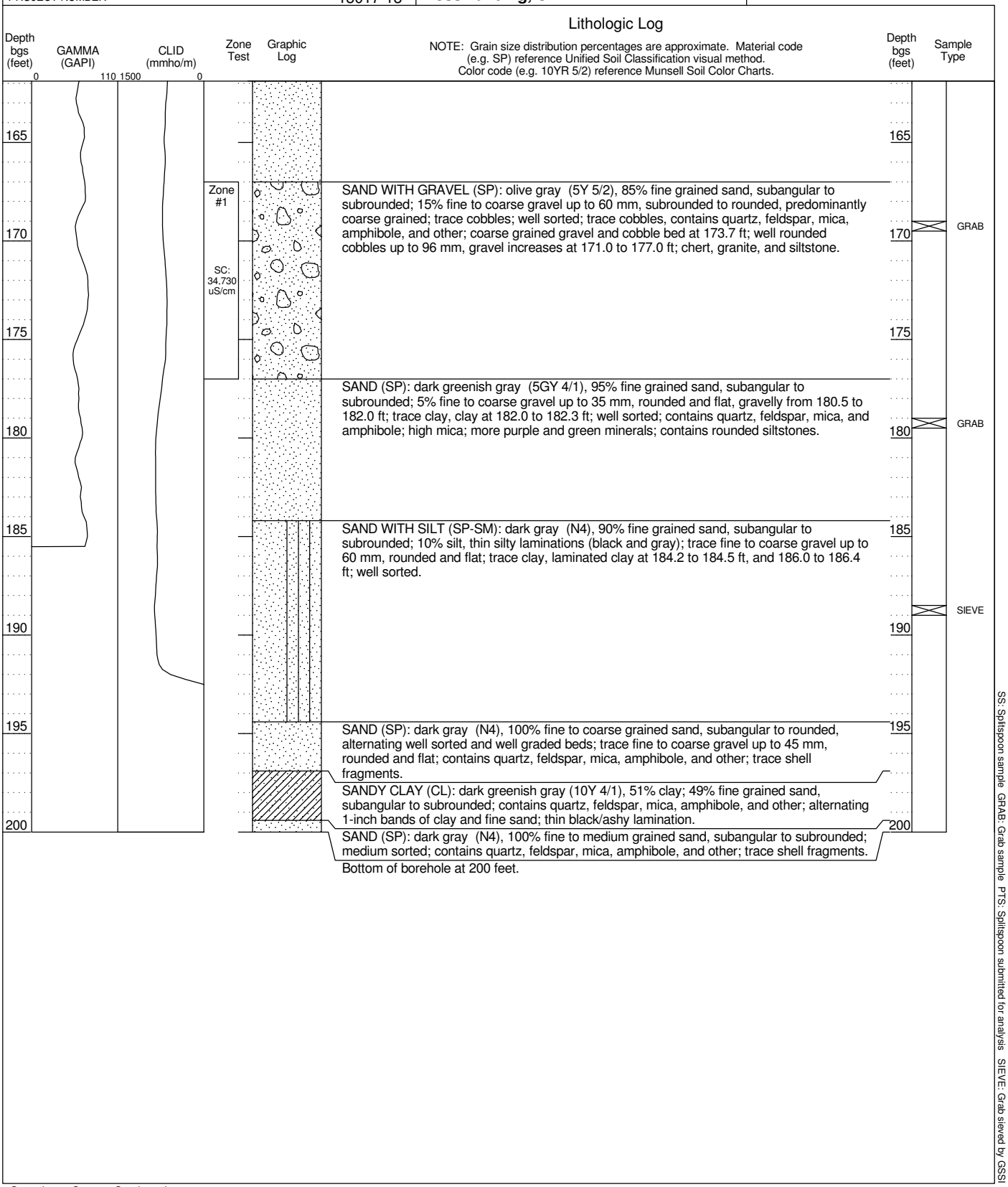
BOREHOLE NAME **ML-2**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Moss Landing, CA**



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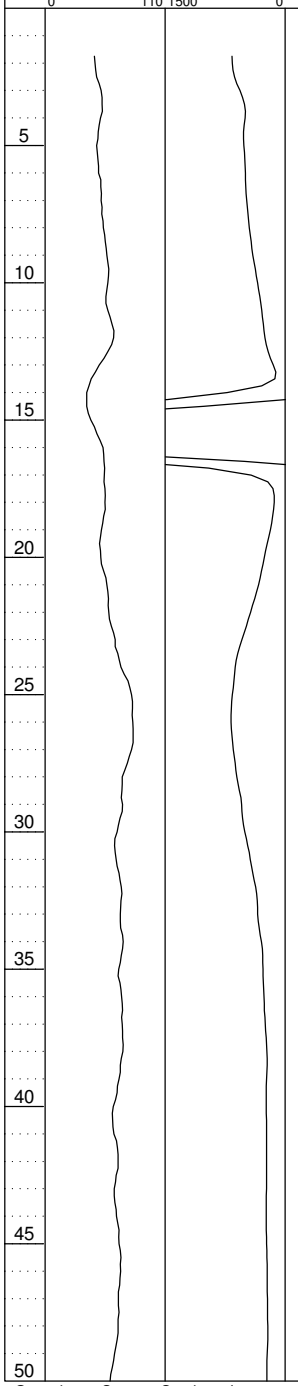
BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME: **ML-3**					
CLIENT: California American Water		LOCATION: **Moss Landing, CA**			
PROJECT NUMBER: 13017-13		**Nadar Agha Property**			
REPORT DATE: 7/8/2014		**36° 48' 00.6768", -121° 47' 00.7656"** **Geographic NAD83**			
DRILLING CONTRACTOR: Cascade Drilling		LOGGED BY: **N. Reynolds**			
DRILLER: Jose Munguia					
DRILLING RIG TYPE: Prosonic 600T	DRILLING METHOD: Sonic	START DATE: 1/07/14	BOREHOLE DIAMETER: 8 in		
SURFACE ELEVATION: 16.0 ft	TOTAL DEPTH: 200 ft bgs	FINISH DATE: 1/13/13	CORE SIZE: 6 in		

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.



SANDY SILT (ML): light olive brown (2.5Y 5/3), 70% silt; 30% fine grained sand, subangular to subrounded; trace fine to coarse gravel up to 22 mm, subangular; contains quartz, feldspar, mica and amphibole.

SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, predominantly fine, subangular to subrounded; trace fine to coarse gravel up to 25 mm, flat and rounded; trace silt; medium sorted; contains quartz, feldspar, mica and amphibole.

SAND (SW): light yellowish brown (2.5Y 6/3), 100% fine to coarse grained sand, subangular to subrounded; trace fine gravel up to 15 mm, subrounded; trace silt, some silty sand beds; poorly sorted; contains quartz, feldspar, mica and amphibole.

SAND (SP): light brownish gray (2.5Y 6/2), 95% fine to medium grained sand, subangular to subrounded; 5% silt, 1-inch alternating dry powdery grey silt beds from 10.3 to 11.1 ft; trace coarse gravel up to 60 mm, rounded, at 10.5 ft; medium sorted; contains quartz, feldspar and mica.

SAND (SP): light yellowish brown (2.5Y 6/3), 100% fine to medium grained sand, subangular to subrounded; trace coarse gravel up to 60 mm, rounded; medium sorted; contains quartz, feldspar, mica and amphibole; higher mica content; rust colored altered sand at 18.9 ft contact.

CLAY (CL): light yellowish brown (2.5Y 6/3), 95% clay, medium plasticity, silty clay; 5% fine to coarse grained sand, subrounded to rounded; trace fine to coarse gravel up to 30 mm, rounded, interbeds; contains quartz, feldspar, mica and amphibole; high mica content, some horizontal ashy deposits.

SAND (SW): light olive gray (5Y 6/2), 95% fine to coarse grained sand, subangular to rounded; 5% fine gravel up to 18 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other, higher mica content.

GRAB

SAND (SP): olive (5Y 5/3), 95% fine grained sand, subangular to subrounded; 5% fine to coarse gravel up to 39 mm, subrounded to rounded; well sorted; contains quartz, feldspar, mica, amphibole, and other, high mica content.

CLAY (CL): pale olive (5Y 6/3), 85% clay, no plasticity; 15% silt, thin silty interbeds; thin black and rust colored laminations.

FAT CLAY (CH): dark greenish gray (10Y 4/1), 100% clay, medium plasticity, dense; trace fine grained sand, subangular to subrounded, sand layer from 32.0 to 32.3 ft; dense clay with trace ashy deposits/horizontal laminations; organics (wood) at 32.7, 36.0, 38.1, 40.1, and 46.6 ft.

Depth bgs (feet) | Sample Type

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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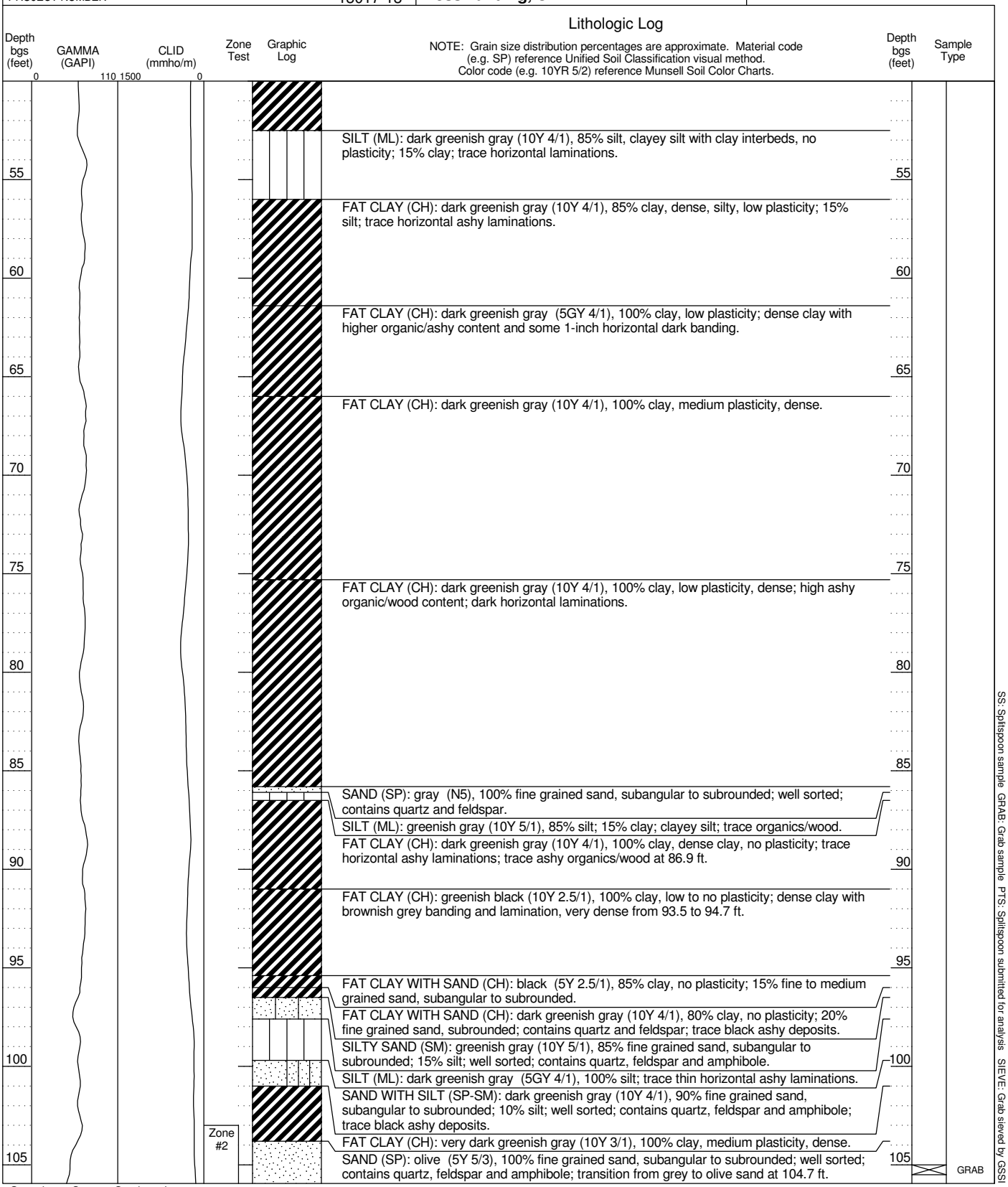
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
ML-3	California American Water	13017-13	**Moss Landing, CA**



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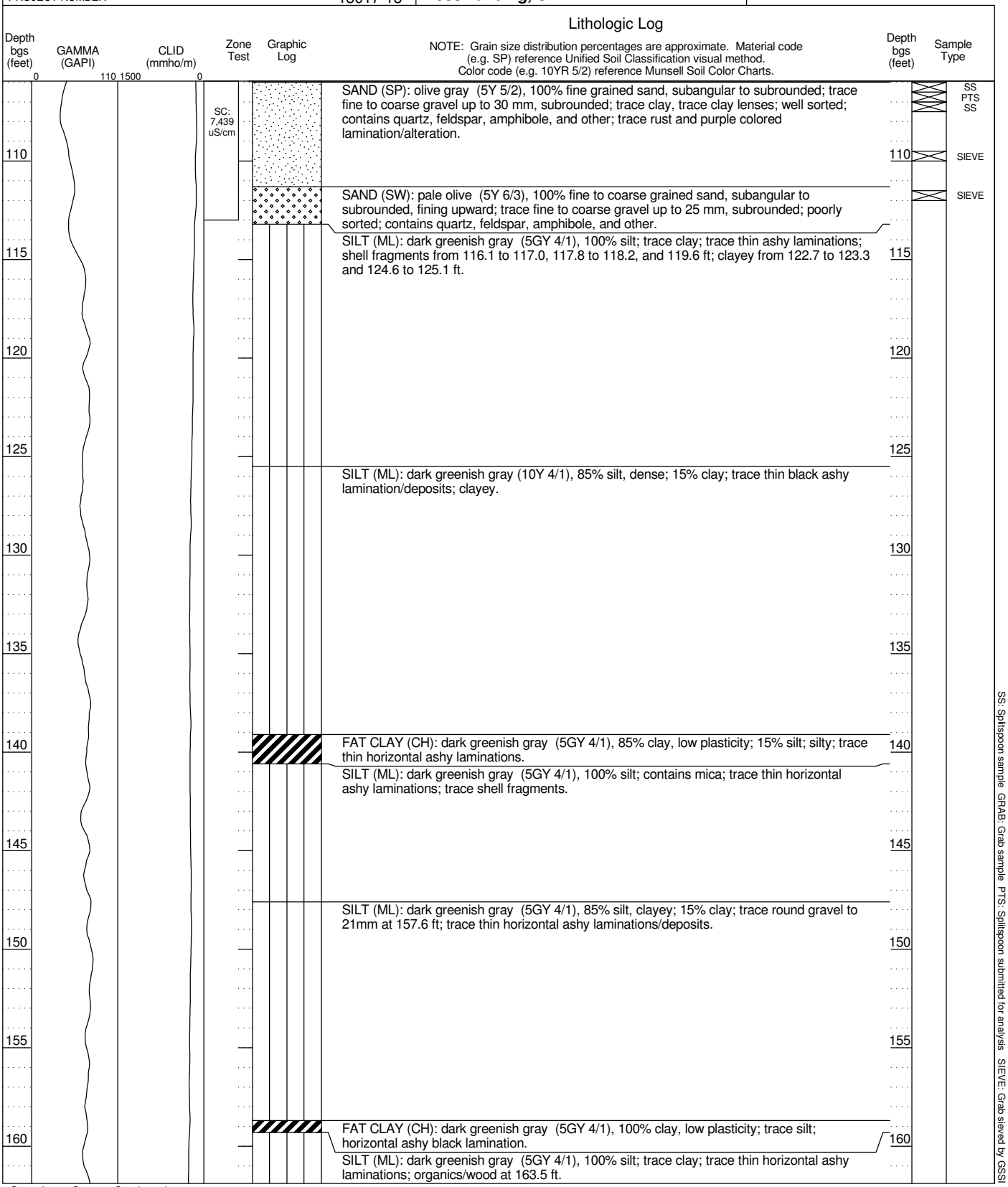
BOREHOLE NAME **ML-3**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Moss Landing, CA**



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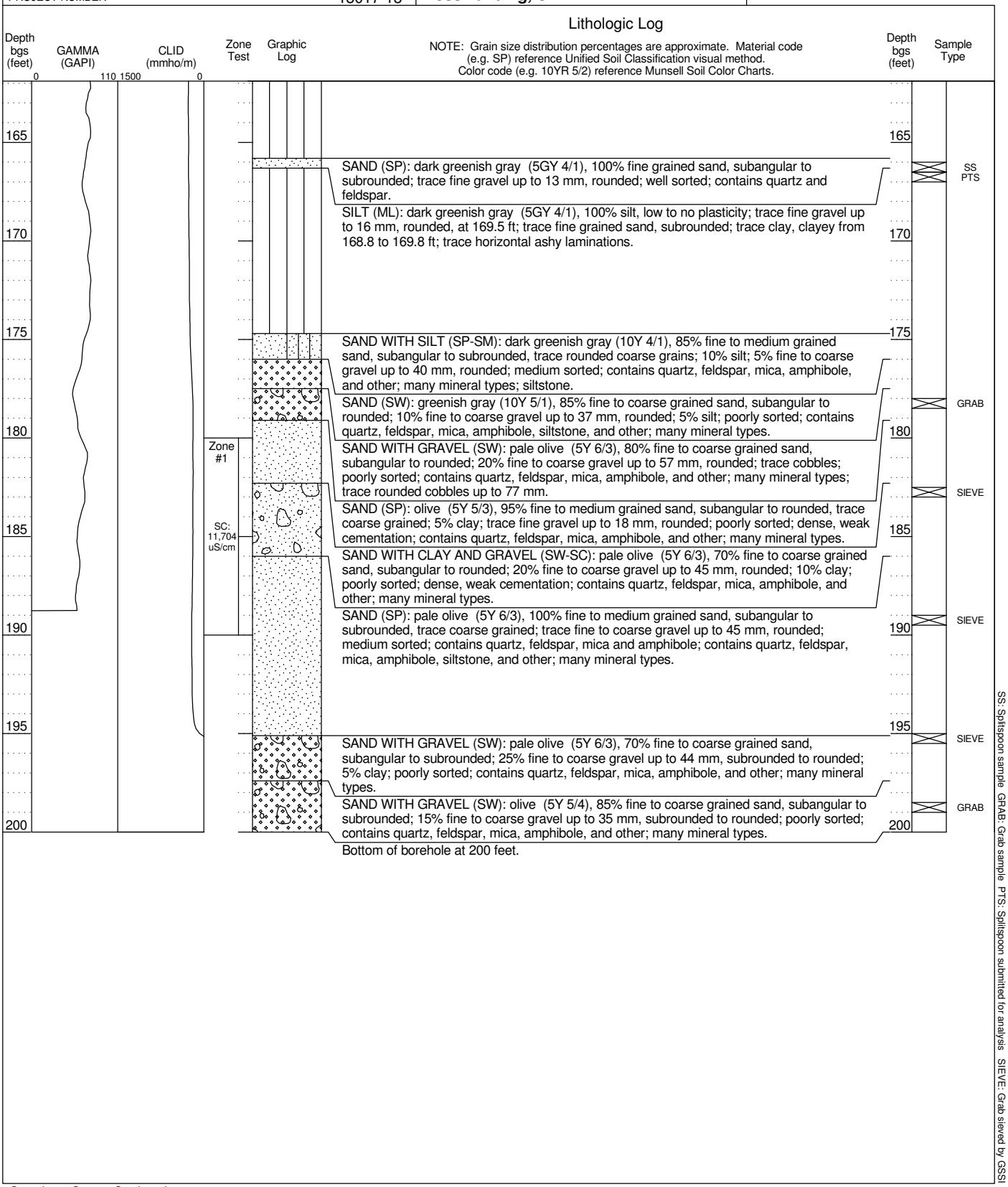
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
ML-3	California American Water	13017-13	**Moss Landing, CA**



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BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME **ML-4**							
CLIENT	California American Water			LOCATION **Moss Landing, CA** **Nadar Agha Property** **36° 48' 09.342", -121° 47' 02.526"** **Geographic NAD83**			
PROJECT NUMBER	13017-13						
REPORT DATE	7/8/2014						
DRILLING CONTRACTOR	Cascade Drilling			LOGGED BY **N. Reynolds**			
DRILLER	Jose Munguia						
DRILLING RIG TYPE	Prosonic 600T	DRILLING METHOD	Sonic	START DATE	12/02/13	BOREHOLE DIAMETER	8 in
SURFACE ELEVATION	32.0 ft	TOTAL DEPTH	201 ft bgs	FINISH DATE	12/06/13	CORE SIZE	7 in

Lithologic Log

NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	Material Description	Depth bgs (feet)	Sample Type
					SILTY SAND (SM): yellowish brown (10YR 5/4), 80% fine grained sand, subangular to subrounded; 20% silt; trace fine to coarse gravel up to 20 mm, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole; trace organics/roots.		
					SANDY SILT (ML): dark brown (10YR 3/3), 70% silt; 30% fine grained sand, subangular to subrounded; trace fine gravel up to 5 mm, subangular to subrounded; contains quartz and feldspar; trace organics/roots.		
5					SANDY SILT (ML): very dark brown (10YR 2/2), 70% silt; 30% fine grained sand, subangular to subrounded; trace fine gravel up to 5 mm, subangular to rounded; contains quartz and feldspar; trace organics/roots.	5	
					CLAY (CL): olive (5Y 5/3), 90% clay, low plasticity; 10% fine grained sand, subangular to subrounded; contains quartz and feldspar; some rusty alteration.		
10					CLAY (CL): light yellowish brown (2.5Y 6/4), 90% clay, low plasticity, trace cemented clay; 10% silt; trace fine grained sand, subangular to subrounded; friable, organics (black), evaporite minerals (spherical).	10	
					SILT (ML): light yellowish brown (2.5Y 6/3), 90% silt, clayey silt; 10% fine to medium grained sand, subangular to subrounded, 4-inch rusty sand interbeds; contains quartz and feldspar; trace rusty alteration and organics.		
15					SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine grained sand, subangular to subrounded; well sorted; dry sample; contains quartz, feldspar, mica and amphibole; with visible rust colored alteration.	15	
					CLAY (CL): olive (5Y 5/3), 100% clay, clay with silty interbeds; trace fine grained sand, subangular to subrounded, rusty alteration; rust and black horizontal laminations.		
20					SAND (SP): light yellowish brown (2.5Y 6/4), 95% fine to medium grained sand, subangular to subrounded, predominantly fine grained, some rusty alteration; 5% silt; trace fine gravel up to 18 mm, rounded; medium sorted; dry sample; contains quartz, feldspar, mica and amphibole; trace weakly cemented sand and silt interbeds.	20	
25					SAND (SP): pale olive (5Y 6/3), 100% fine to medium grained sand, subangular to subrounded, trace coarse grained; trace fine gravel up to 18 mm, subangular to rounded; medium sorted; contains quartz, feldspar, mica and amphibole.	25	
							SIEVE
30						30	
					SAND (SW): pale olive (5Y 6/3), 95% fine to coarse grained sand, subangular to rounded; 5% fine to coarse gravel up to 65 mm, subangular to rounded, coarse subrounded gravel at 30.7 and 32.1 ft; poorly sorted; contains quartz, feldspar, mica and amphibole.		
35					SAND (SP): light olive brown (2.5Y 5/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole; higher mica content.	35	
					SAND (SP): light olive gray (5Y 6/2), 100% fine to medium grained sand, subangular to rounded, trace coarse grained; trace fine gravel up to 18 mm, rounded; trace clay, trace clay balls; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.		
					SAND (SP): olive gray (5Y 5/2), 100% fine grained sand, subangular to subrounded, trace coarse black grains; well sorted; contains quartz, feldspar, mica and amphibole; high mica.		
40						40	GRAB
					CLAY (CL): olive gray (5Y 5/2), 100% clay, low to no plasticity; alteration visible, rusty horizontal laminations.		
45					FAT CLAY (CH): dark greenish gray (5GY 4/1), 100% clay, medium plasticity, dense; alteration visible, dark gray laminations.	45	
					SILT WITH SAND (ML): olive gray (5Y 5/2), 85% silt; 15% fine grained sand, subangular to subrounded; alteration visible, rusty horizontal laminations; contains mica.		
					CLAY (CL): olive gray (5Y 5/2), 100% clay, medium plasticity; trace silt; alteration visible, rusty horizontal laminations (silt).		
50					CLAY (CL): dark greenish gray (10Y 4/1), 100% clay, medium plasticity; gray to black	50	

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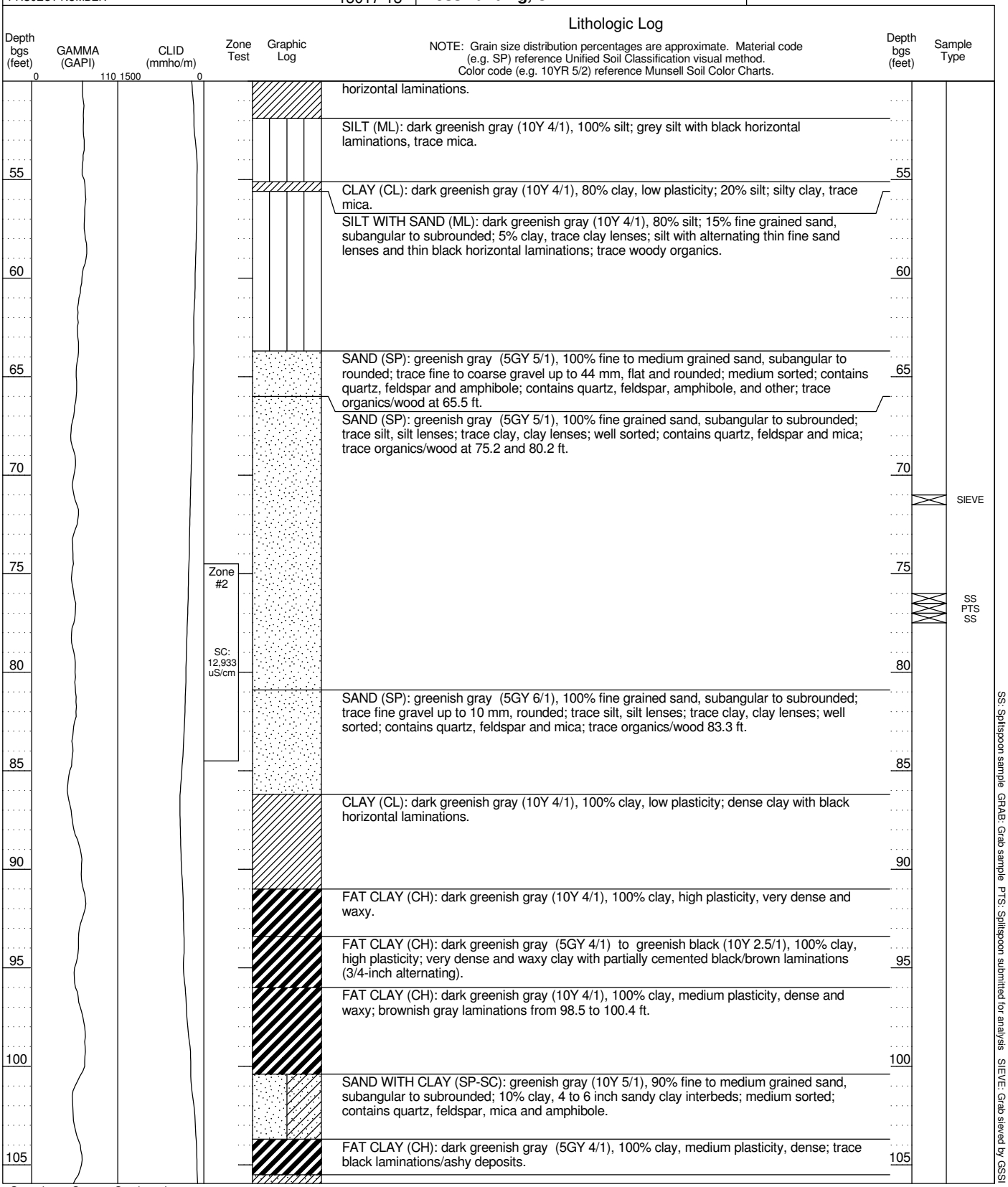
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
ML-4	California American Water	13017-13	**Moss Landing, CA**



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BOREHOLE NAME **ML-4**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Moss Landing, CA**

Lithologic Log

Depth bgs (feet)	GAMMA (GAPI) 0 110	CLID (mmho/m) 1500 0	Zone Test	Graphic Log	NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.	Depth bgs (feet)	Sample Type
					SANDY CLAY (CL): dark greenish gray (5GY 4/1), 70% clay, low plasticity; 30% fine to coarse grained sand, subangular; contains quartz and feldspar; trace small black ashy deposits; trace organics/wood at 106 ft.		
110					SAND (SP): dark greenish gray (10Y 4/1) to greenish gray (5GY 5/1), 100% fine to medium grained sand, subangular to subrounded; well sorted; contains quartz, feldspar and amphibole; trace organics/wood; high quartz content.	110	
							SIEVE
115						115	
					CLAY (CL): dark greenish gray (10G 4/1), 80% clay, low plasticity; 20% silt; trace fine grained sand, subangular to subrounded; trace small black/ashy deposits; silty clay.		
120					SAND (SP): dark greenish gray (10Y 4/1), 100% fine to medium grained sand, subangular to subrounded, predominantly fine grained; trace fine gravel up to 17 mm, subrounded to rounded; trace clay, clay lens at 119.0 ft; medium sorted; contains quartz, feldspar, mica, amphibole, and other; trace organics/wood.	120	
					CLAY (CL): dark greenish gray (5GY 4/1), 95% clay, low plasticity, silty clay; 5% fine grained sand, subangular to subrounded; contains quartz and feldspar; trace black ashy deposits.		
125					CLAYEY SAND (SC): greenish gray (10G 5/1), 70% fine grained sand, subrounded; 30% clay, medium plasticity; well sorted; contains quartz, feldspar and amphibole; alternating beds of sand and clay.	125	
					FAT CLAY (CH): very dark greenish gray (10Y 3/1), 100% clay, medium plasticity, dense.		SS PTS SS
					CLAY WITH SAND (CL): dark greenish gray (10G 4/1), 80% clay, no plasticity; 20% fine grained sand, subrounded; trace organics/wood.		
130					FAT CLAY (CH): greenish gray (10G 5/1), 100% clay, medium plasticity, dense and waxy; trace sand balls; highly altered/rusty laminations at 131.3 ft.	130	
					SAND (SP): pale yellow (2.5Y 7/3), 100% fine to medium grained sand, subangular to subrounded, predominantly fine grained, trace coarse; trace fine to coarse gravel up to 43 mm, subrounded to rounded, flat; trace silt, 2.5-inch silt at 133.8 ft; medium sorted; contains quartz, feldspar, mica, amphibole, and other; some purple colored alteration.		GRAB
135						135	
					SANDY CLAY WITH GRAVEL (CL): light yellowish brown (2.5Y 6/3), 60% clay, no plasticity; 25% fine to coarse grained sand, subangular to subrounded; 15% fine to coarse gravel up to 40 mm, subrounded to rounded; contains quartz, feldspar, mica, amphibole, and other; with visible alteration of sands.		GRAB
140					SAND (SW): light yellowish brown (2.5Y 6/3), 100% fine to coarse grained sand, subangular to rounded, predominantly medium to coarse grained; trace fine to coarse gravel up to 32 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.	140	
					SAND (SP): pale olive (5Y 6/3), 100% fine grained sand, subangular to subrounded, coarse grained from 138.8 to 139.2 ft; well sorted; contains quartz, feldspar, mica and amphibole; trace rust colored laminations.		
					SILT (ML): olive (5Y 5/3), 100% silt; rusty and black/ashy laminations/alteration (at 139.2 ft).		
145					SILTY SAND (SM): olive (5Y 5/3), 85% fine grained sand, subangular to subrounded; 15% silt; trace fine to coarse gravel up to 57 mm, subangular to rounded; trace clay, 1-inch clay lens at 141.3 ft; well sorted; contains quartz, feldspar and amphibole; rust colored horizontal laminations.	145	
					SILT (ML): olive (5Y 5/3), 100% silt; trace fine grained sand, subrounded; contains mica; rust colored horizontal laminations.		SS PTS SS
150					SAND (SP): light yellowish brown (2.5Y 6/3), 100% fine to coarse grained sand, subangular to rounded, predominantly fine to medium grained; trace fine to coarse gravel up to 39 mm, rounded, quartz-rich and sandstone, higher gravel content at 144.5 to 146 ft and 149.5 to 150.5 ft; poorly sorted; contains quartz, feldspar, mica, amphibole, and other; many mineral types.	150	
							SIEVE
155					SAND (SP): light yellowish brown (2.5Y 6/4), 100% fine to medium grained sand, subangular to subrounded; trace fine to coarse gravel up to 24 mm, rounded; medium sorted; contains quartz, feldspar, mica, amphibole, and other.	155	
					SAND (SP): olive (5Y 5/3), 100% fine to coarse grained sand, subangular to rounded, predominantly fine to medium grained; trace fine gravel up to 15 mm, rounded; trace clay; poorly sorted; contains quartz, feldspar, mica, amphibole, and other.		
160						160	
					SAND WITH CLAY AND GRAVEL (SW-SC): light yellowish brown (2.5Y 6/3), 65% fine to		

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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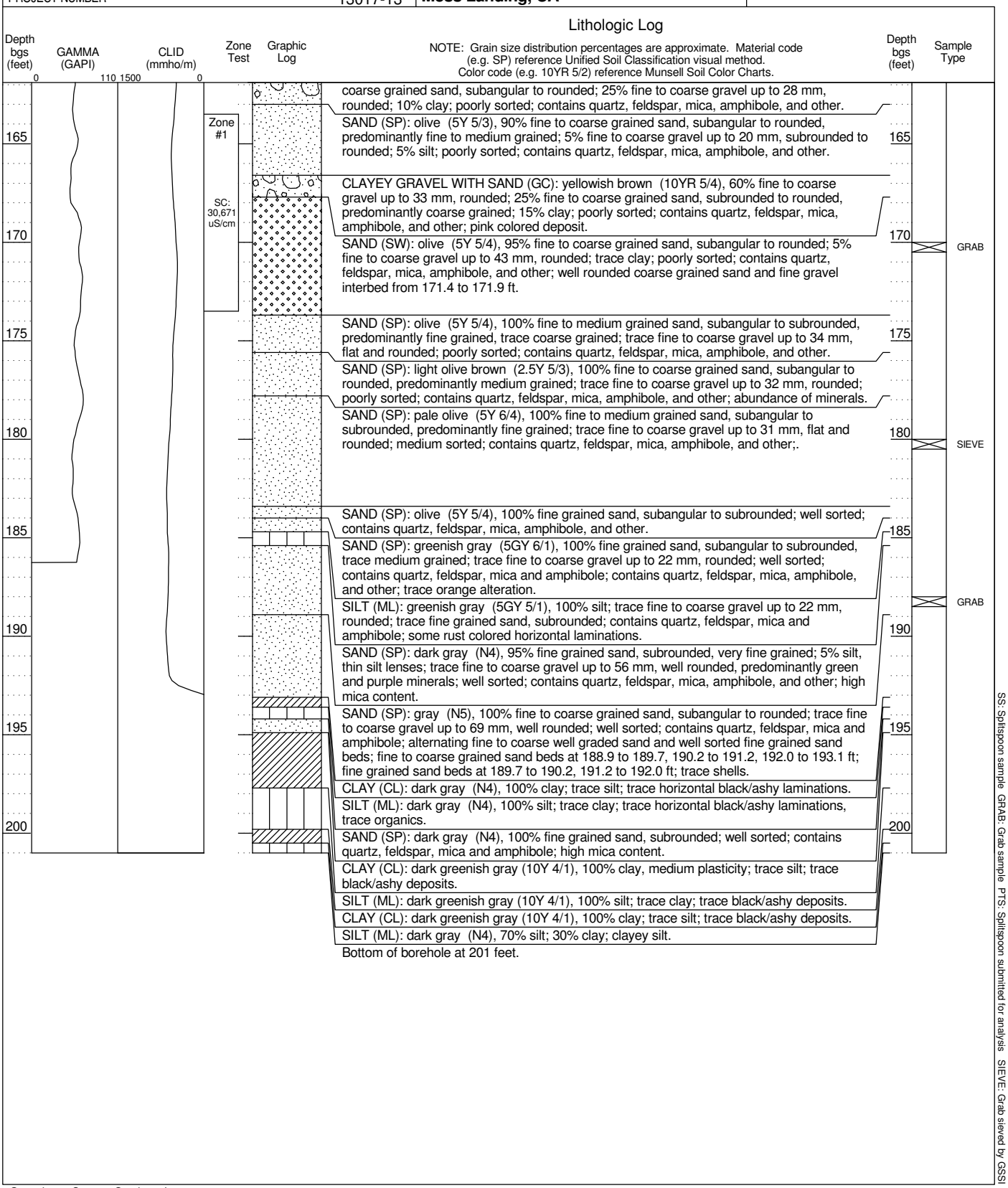
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
ML-4	California American Water	13017-13	**Moss Landing, CA**



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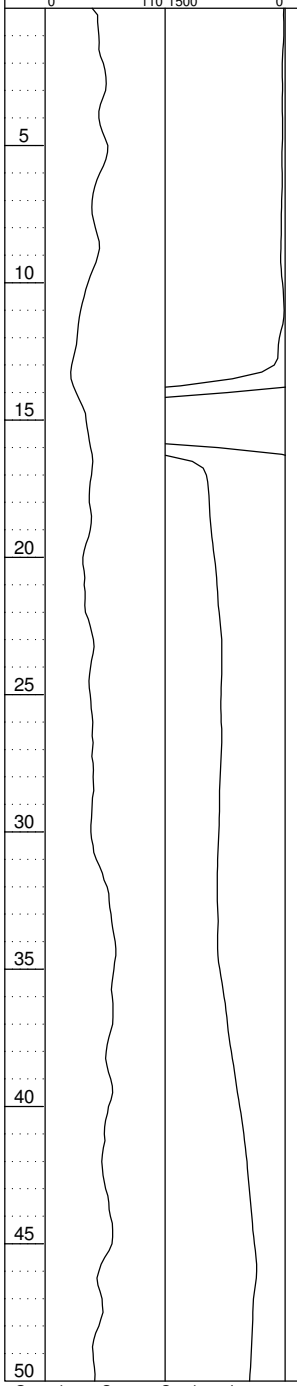
BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME **ML-6**					
CLIENT	California American Water	LOCATION **Moss Landing, CA** **MBARI** **36° 48' 21.4992", -121° 47' 16.0188"** **Geographic NAD83**			
PROJECT NUMBER	13017-13				
REPORT DATE	7/8/2014				
DRILLING CONTRACTOR	Cascade Drilling	LOGGED BY **N. Reynolds**			
DRILLER	Jose Munguia				
DRILLING RIG TYPE	Prosonic 600T	DRILLING METHOD	Sonic	START DATE	11/18/13
BOREHOLE DIAMETER	8 in	SURFACE ELEVATION	15.0 ft	TOTAL DEPTH	200 ft bgs
FINISH DATE	11/23/13	CORE SIZE	7 in		

Lithologic Log



NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet) | Sample Type

CLAYEY SAND (SC): olive (5Y 4/4), 85% fine to medium grained sand, subangular to rounded; 15% clay, sandy clay balls; trace fine gravel up to 5 mm, rounded; poorly sorted; contains quartz, feldspar, mica and amphibole; trace shells and shell fragments.

CLAYEY SAND (SC): olive (5Y 4/4), 70% fine to medium grained sand, subangular to rounded; 30% clay; trace fine to coarse gravel up to 62 mm, angular to rounded; poorly sorted; contains quartz, feldspar, mica and amphibole; contains shells. — 5

SAND (SP): olive (5Y 4/4), 100% fine to medium grained sand, subangular to subrounded; trace coarse gravel rounded, interbedded; trace silt, silt from 8.7 to 9.2 ft with high mica content and some alteration; poorly sorted; contains quartz, feldspar and amphibole. — 10

— 15

SAND (SP): olive gray (5Y 5/2), 100% fine to medium grained sand, subangular to subrounded; medium sorted; contains quartz, feldspar, mica and amphibole; altered rust and black colored sands from 22.0 to 23.5 ft. — 20

SAND (SP): olive (5Y 5/4), 95% medium to coarse grained sand, subangular to rounded; 5% fine to coarse gravel up to 40 mm, rounded; poorly sorted; contains quartz, feldspar, mica, amphibole, and other; trace shells and shell fragments. — 25

— 30

CLAY (CL): olive brown (2.5Y 4/4), 100% clay, low plasticity; with visible rust and black colored alteration.

CLAY (CL): very dark greenish gray (5GY 3/1), 100% clay, medium plasticity; trace organics, altered black and dark gray and weakly cemented from 33.7 to 34.2 ft. — 35

CLAY (CL): very dark greenish gray (5GY 3/1), 100% clay, low plasticity; dark gray/black laminations.

SILT (ML): very dark greenish gray (10Y 3/1), 95% silt; 5% fine grained sand, subrounded, very fine grained; contains mica; thin black laminations.

FAT CLAY (CH): very dark greenish gray (10Y 3/1), 100% clay, medium plasticity; trace fine grained sand, subrounded, fine sand layer at 40.2 to 40.4 ft; trace black/gray laminations, trace organics. — 40

CLAY (CL): greenish black (10Y 2.5/1), 100% clay, medium plasticity; trace silt, silt interbed at 42.4 to 42.8 ft.

CLAY (CL): olive (5Y 4/3), 100% clay, low plasticity; trace fine grained sand, subangular to subrounded; alteration visible with black/grey and brown coloration. — 45

SANDY CLAY (CL): yellowish red (5YR 4/6), 50% fine grained sand, subangular to subrounded; 50% clay; with visible rust colored alteration; sandy clay to clayey sand.

CLAY (CL): light olive brown (2.5Y 5/3), 95% clay; 5% fine grained sand, subangular to subrounded; trace silt; with visible rust colored alteration.

SAND (SP): light yellowish brown (2.5Y 6/3), 95% fine grained sand, subangular to subrounded; 5% silt; well sorted; contains quartz, feldspar, mica and amphibole; with trace — 50

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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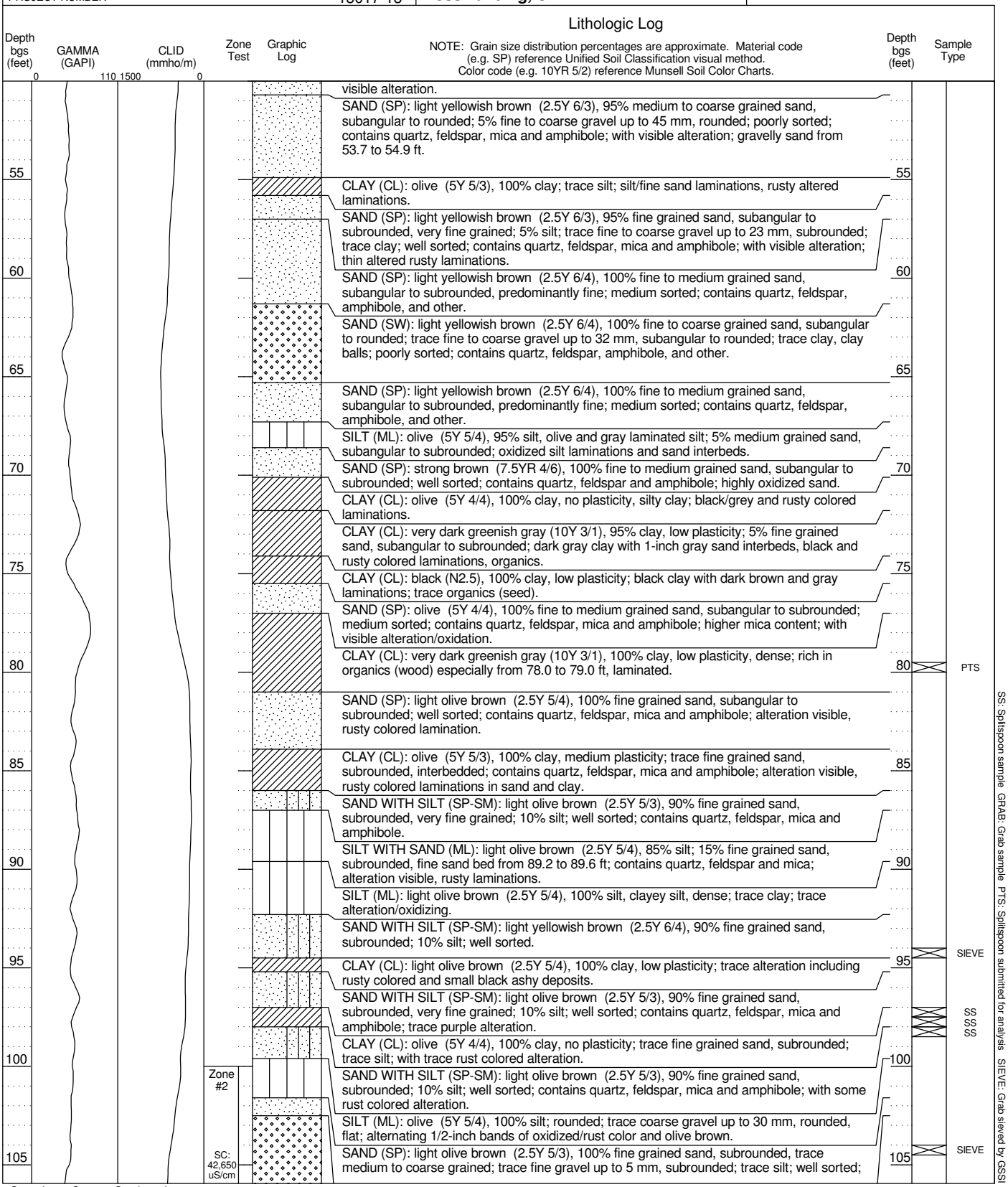
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	LOCATION
ML-6	California American Water	**Moss Landing, CA**
	PROJECT NUMBER 13017-13	



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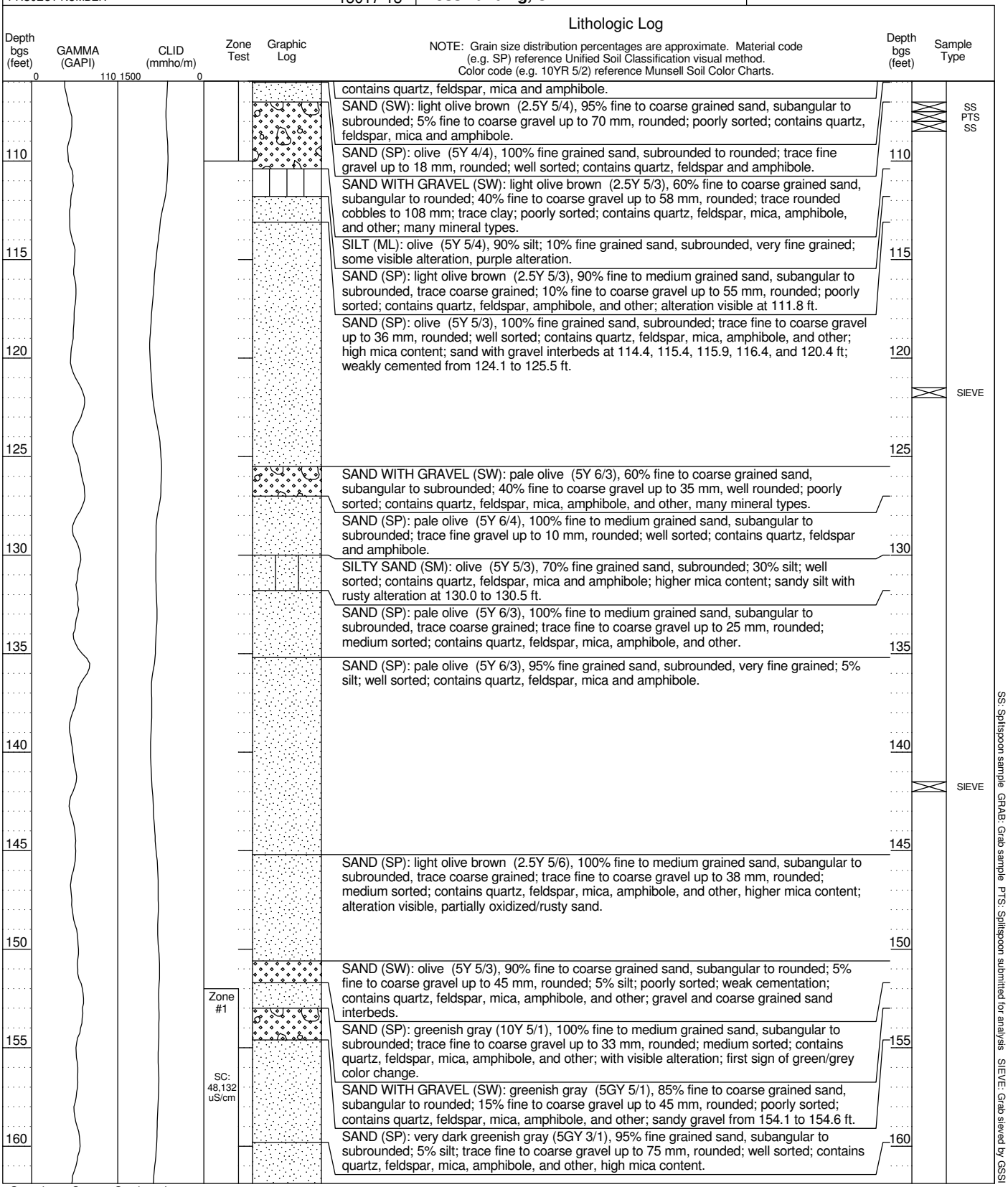
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	LOCATION
ML-6	California American Water	**Moss Landing, CA**
	PROJECT NUMBER 13017-13	



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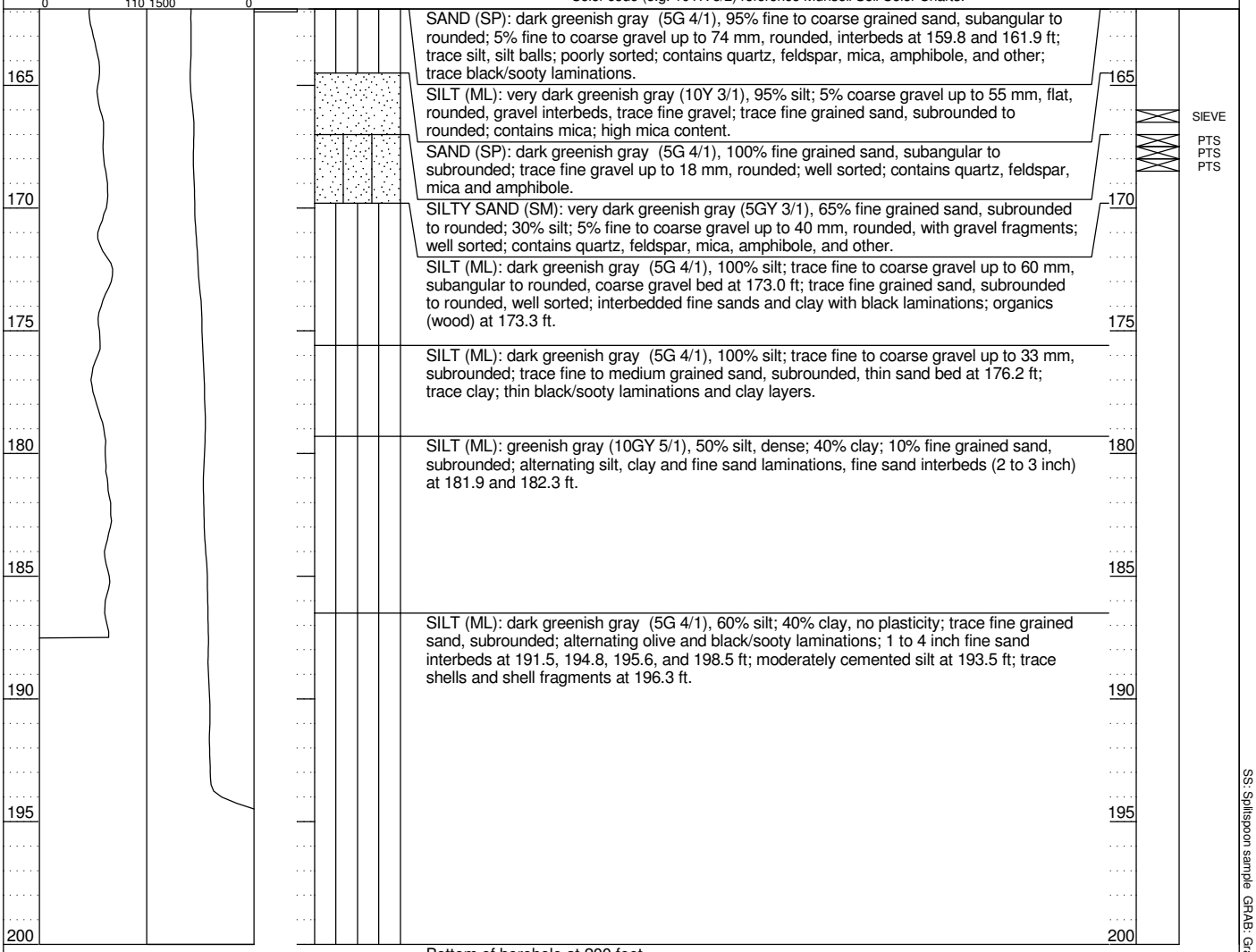
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
ML-6	California American Water	13017-13	**Moss Landing, CA**



Bottom of borehole at 200 feet.

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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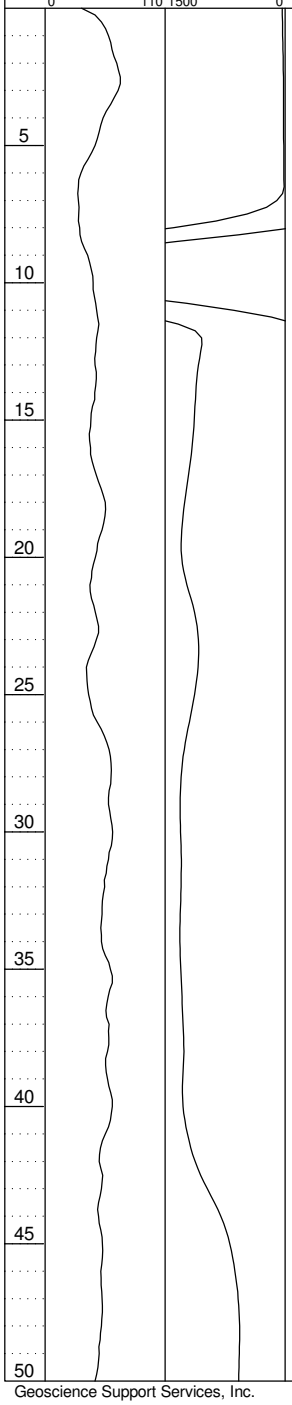
BOREHOLE LITHOLOGIC LOG

BOREHOLE NAME: **PR-1**			
CLIENT: California American Water		LOCATION: **Castroville, CA**	
PROJECT NUMBER: 13017-13		**Potrero Rd**	
REPORT DATE: 7/8/2014		**36° 47' 25.9368", -121° 47' 30.7248"** **Geographic NAD83**	
DRILLING CONTRACTOR: Cascade Drilling		LOGGED BY: **B. Villalobos**	
DRILLER: Jose Munguia			
DRILLING RIG TYPE: Prosonic 600T	DRILLING METHOD: Sonic	START DATE: 9/21/13	BOREHOLE DIAMETER: 8 in
SURFACE ELEVATION: 9.0 ft	TOTAL DEPTH: 201.5 ft bgs	FINISH DATE: 9/25/13	CORE SIZE: 6 in

Lithologic Log



NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.

Depth bgs (feet) | Sample Type

NO SAMPLE.

SAND (SP): brown (7.5YR 5/3), 100% fine to medium grained sand, subangular to subrounded; poorly sorted; moist sample.

SILTY SAND (SM): dark brown (10YR 3/3), 80% fine to medium grained sand, subangular to subrounded; 20% silt; poorly sorted; moist sample.

SANDY CLAY (CL): greenish black (5GY 2.5/1), 70% clay, organic clay; 30% fine grained sand, subrounded, very fine grained; moist sample; contains quartz, feldspar, mica and amphibole.

SAND (SP): brown (7.5YR 5/3), 95% medium to coarse grained sand, subangular to subrounded; 5% fine gravel up to 5 mm, subangular to subrounded; poorly sorted; contains quartz, feldspar, mica and amphibole.

SILTY SAND (SM): dark greenish gray (5GB 4/1), 80% fine grained sand, subangular to subrounded, very fine grained; 20% silt; well sorted; moist sample.

NO SAMPLE.

SAND (SP): dark greenish gray (5GB 4/1), 100% medium to coarse grained sand, subangular to subrounded; poorly sorted; moist sample.

SILTY SAND (SM): dark greenish gray (5GB 4/1), 85% fine to medium grained sand, subangular to subrounded; 15% silt; trace fine gravel up to 5 mm; poorly sorted; few clayey silt beds.

SAND (SP): light olive brown (2.5Y 5/4), 100% medium to coarse grained sand, subangular to subrounded; trace fine gravel up to 5 mm; poorly sorted; moist sample.

SAND (SP): dark olive gray (5Y 3/2), 100% fine grained sand, subangular to subrounded; well sorted; moist sample.

SANDY SILT (ML): dark greenish gray (5GB 4/1), 70% silt; 30% fine grained sand, subangular to subrounded, very fine grained; moist to wet sample; contains mica.

SILT (MH): dark greenish gray (5GB 4/1), 90% silt, organic silt; 10% fine grained sand, subangular to subrounded, very fine grained; moist to wet sample; contains mica.

SAND (SP): dark greenish gray (5GB 4/1), 100% medium grained sand, subangular to subrounded; well sorted; moist to wet sample; contains quartz and feldspar.

CLAY (CL): dark greenish gray (5GB 4/1), 80% clay, medium plasticity; 20% silt; moist sample; moderately firm; massive; few 3 mm black organic stringers.

SILTY SAND (SM): dark greenish gray (5GB 4/1), 80% medium to coarse grained sand, subangular to subrounded; 20% silt; trace fine gravel up to 5 mm; poorly sorted; moist to wet sample; contains quartz, feldspar, mica and amphibole; abundant shell fragments including 1 inch bi-valve shells.

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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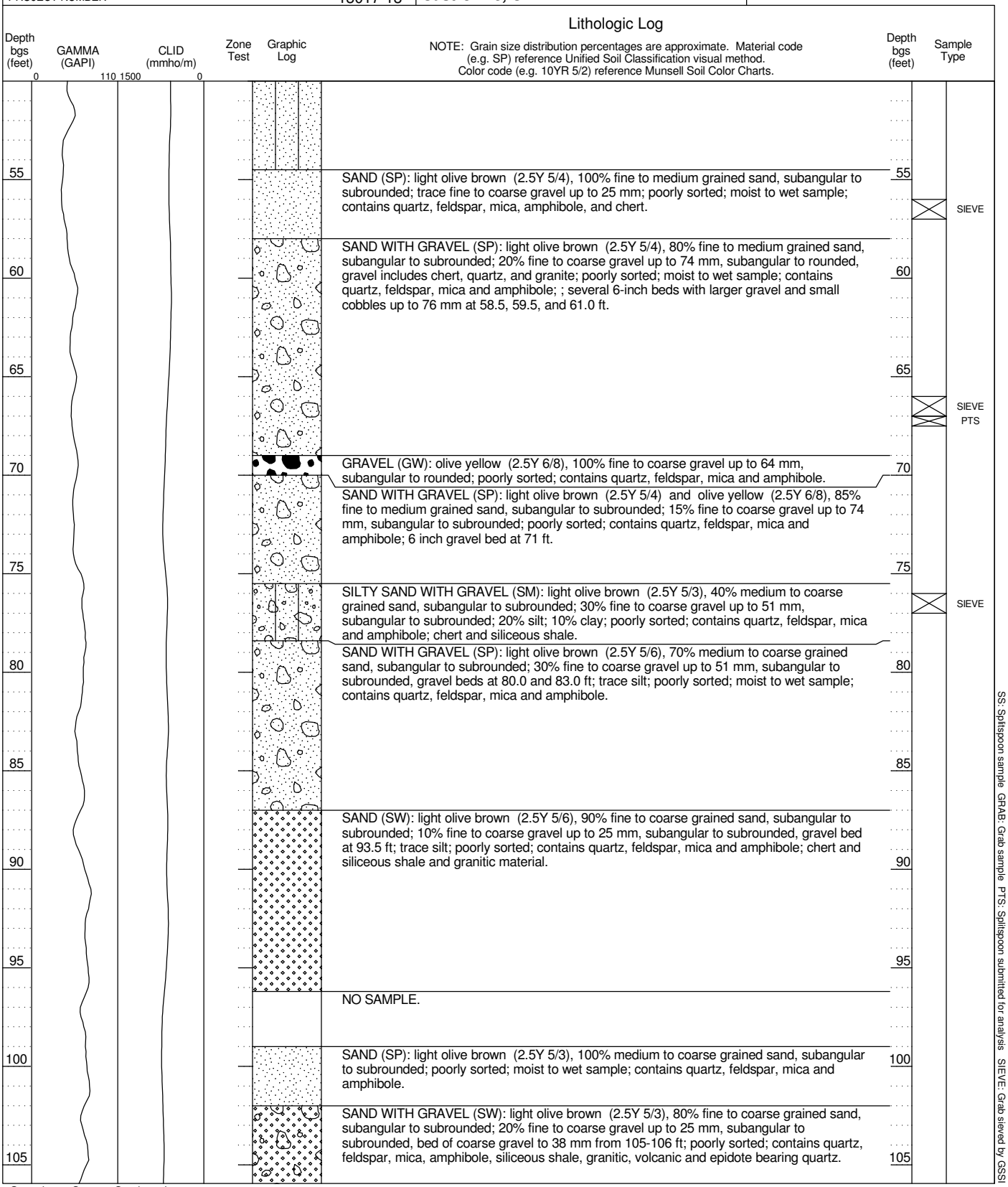
BOREHOLE LITHOLOGIC LOG (continued)

BOREHOLE NAME	CLIENT	PROJECT NUMBER	LOCATION
PR-1	California American Water	13017-13	**Castroville, CA**



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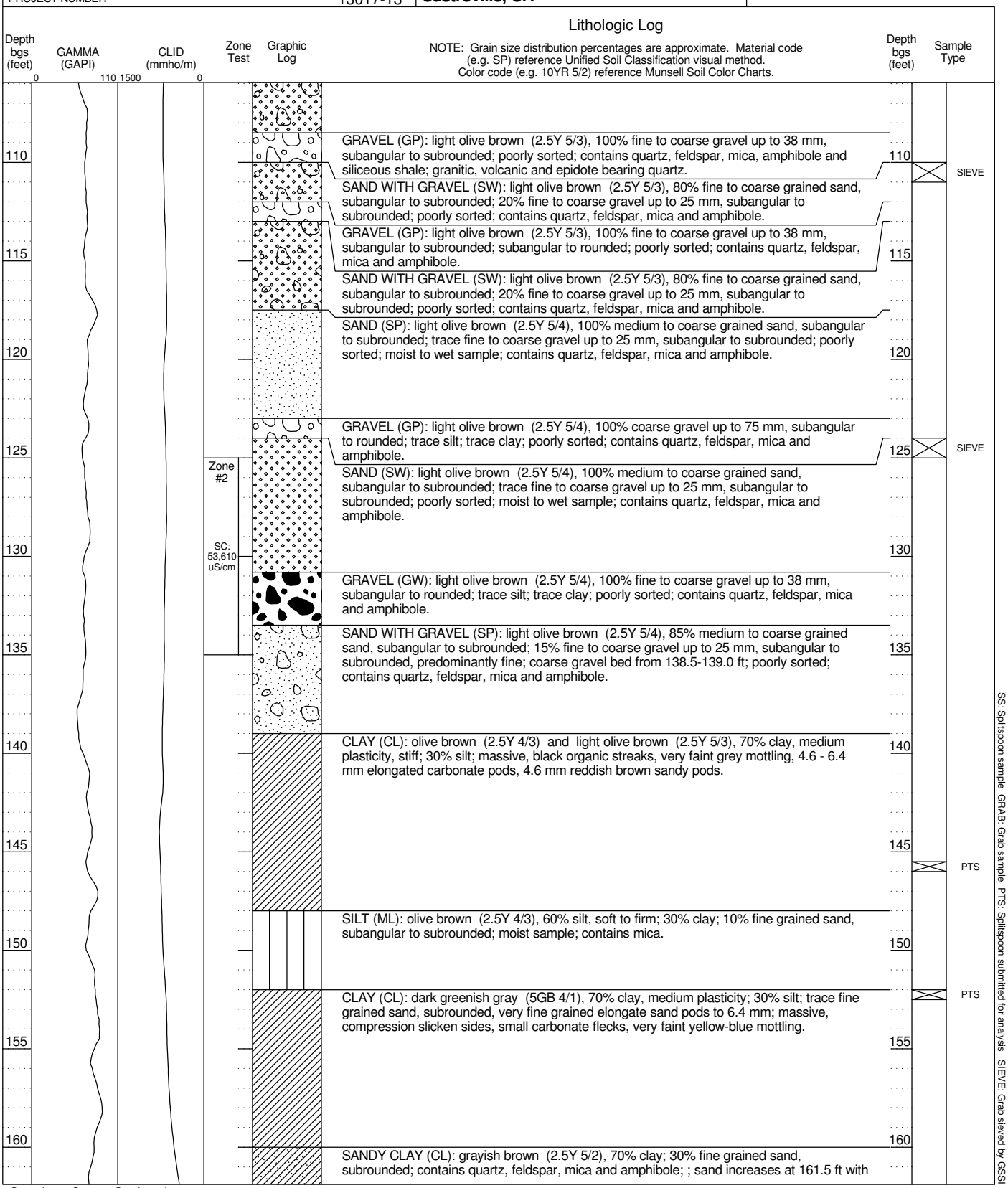
BOREHOLE NAME **PR-1**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Castroville, CA**



SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

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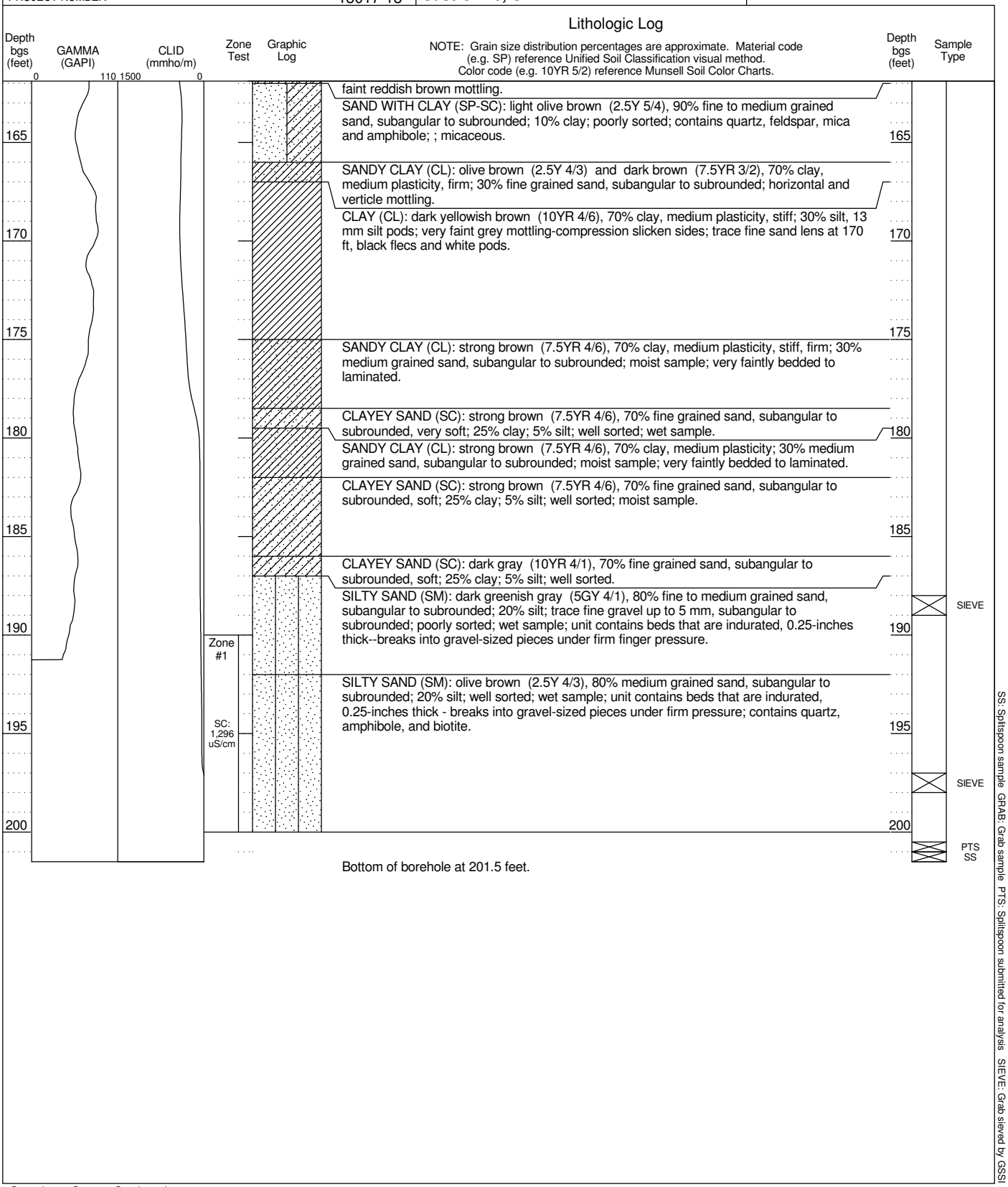
BOREHOLE NAME **PR-1**

BOREHOLE LITHOLOGIC LOG (continued)

CLIENT California American Water
PROJECT NUMBER 13017-13
LOCATION **Castroville, CA**



Bottom of borehole at 201.5 feet.

SS: Splitspoon sample GRAB: Grab sample PTS: Splitspoon submitted for analysis SIEVE: Grab sieved by GSSI

APPENDIX A2

Well Logs Used for Cross-Sections

GEOSCIENCE

APPENDIX A2:

WELL LOGS USED FOR CROSS-SECTIONS

CONTENTS

Description **Page**

ORIGINAL
File with DWR

Page 1 of 2

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e011049

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. #4
Date Work Began 01/24/04, Ended 03/10/04
Local Permit Agency Monterey Dunes Health Dept.
Permit No. 03-01231 Permit Date 11/18/03

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Direct Rotary FLUID Bentonite

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0 80	Fine to course sand
80 90	Fine to course sand w/blue clay
90 100	Fine to med. sand
100 123	Fine to med. sand w/clay lenses
123 143	Blue clay w/fine to med. sand
143 154	Blue clay w/fine to course sand and gravel
154 165	Fine to course sand w/gravel and rock
165 187	Fine to med. sand & cobbles with clay lenses
187 197	Fine to med. sand
197 219	Fine to course sand
219 250	Fine to course sand & gravel
250 304	Fine to course sand & cobbles
304 314	Fine to course sand w/clay and cobbles
314 355	Fine to course sand w/90% clay
355 366	Fine to course sand w/clay
366 387	Fine to med. sand w/clay lenses
387 408	Fine to med. sand w/50% clay
408 418	Fine to course sand
418 440	Fine to course sand & gravel
440 455	Fine to course sand w/40% clay
455 461	Fine to course sand & gravel with 50% clay
461 485	Fine to course sand & gravel
485 505	Fine to course sand
505 556	Fine to course sand & gravel
556 577	Fine to course sand w/red clay

TOTAL DEPTH OF BORING: 1422 (Feet)
TOTAL DEPTH OF COMPLETED WELL 1364 (Feet)

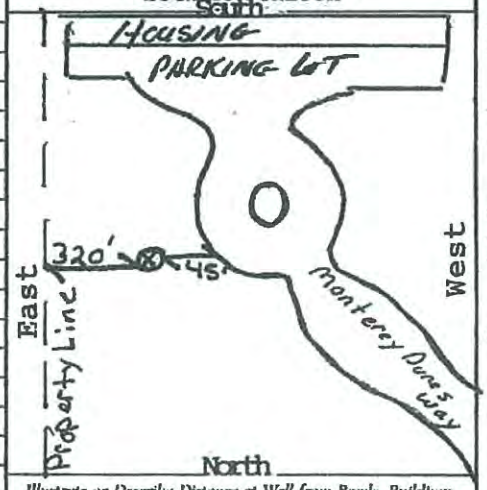
WELL OWNER

Name Monterey Dunes Colony
Mailing Address 195 Monterey Dunes Way
City Castroville STATE CA ZIP 95012

WELL LOCATION

Address 195 Monterey Dunes Way
City Castroville
County Monterey
APN Book 229 Page 041 Parcel 004
Township ___ Range ___ Section ___
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. ***PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USES (✓)
WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER N/A (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 13 (Ft.) & DATE MEASURED 03/04/04
ESTIMATED YIELD * 200 (GPM) & TEST TYPE Pump
TEST LENGTH 24 (Hrs.) TOTAL DRAWDOWN 42 (Ft.)
** May not be representative of a well's long-term yield.* 24 hour Test

CASING (S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0 60	36			X		A53B	29.260	.375	
0 321	28			X		A53B	19.260	.375	
+2 1221	18	X				A53B	8"	.322	
1221 1301	18	X				304ss	8"	.322	
1301 1361	18		X			304ss	8"	XXHD	.040
1361 1364	18	X				304ss	8"	.322	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0 60	X			10 sack
0 321	X			10 sack
0 1220	X			Neat cem.
1220 1370			X	8x16

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
X Geophysical Log(s)
___ Soil/Water Chemical Analyses
X Other Site map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Rottman Drilling Co.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 46471 N Division, Lancaster, CA 93535
CITY STATE ZIP

Signed Larry W. Rottman, President 03/19/04 316599
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 2 of 2

Owner's Well No. #4

Date Work Began 01/24/04, Ended 03/10/04

Local Permit Agency Monterey Dunes Health Dept.

Permit No. 03-01231 Permit Date 11/18/03

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e011049

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Direct Rotary FLUID Bentonite

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
		lenses
577	610	Fine to course sand, rock & clay
610	620	Fine to course sand
620	630	Fine to course sand & gravel
630	650	Fine to course sand & gravel with clay lenses
650	661	Fine to med. sand with clay
661	681	Fine sand with clay
681	693	Fine sand & gravel w/clay lenses
693	725	80% Silty clay w/20% hard sand
725	737	90% Hard silty clay & sand lenses
737	767	90% Hard silty clay w/sand rock lenses
767	791	95% Hard packed clay - cemented
791	820	Brown silty clay (hard packed)
820	882	Grayish brown clay w/blue stricks
882	945	Clay with rock
945	1011	Clay w/fine sand & silt
1011	1105	20% Clay w/fine to med. sand
1105	1170	Fine sand and silt
1170	1190	Clay w/fine sand, silt & rock
1190	1230	Fine sand, silt & rock
1230	1270	Clay with fine sand
1270	1290	Silt & clay
1290	1365	Fine sand
1365	1391	Clay w/fine sand lenses
1391	1422	Fine sand

TOTAL DEPTH OF BORING: 1422 (Feet)
TOTAL DEPTH OF COMPLETED WELL 1364 (Feet)

WELL OWNER

Name Monterey Dunes Colony
Mailing Address 195 Monterey Dunes Way
City Castroville, CA 95012 STATE ZIP

WELL LOCATION

Address 195 Monterey Dunes Way
City Castroville
County Monterey
APN Book 229 Page 041 Parcel 004
Township ___ Range ___ Section ___
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH

NORTH / WEST / EAST / SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USES (✓)

WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 12 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 13 (Ft.) & DATE MEASURED 03/02/04
ESTIMATED YIELD * 500 (GPM) & TEST TYPE Pump
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 102 (Ft.)
* *May not be representative of a well's long-term yield.* (Step Test)

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	60	36			x		A53B	29.260	.375	
0	321	28			x		A53B	19.260	.375	
+2	1221	18	x				A53B	8"	.322	
1221	1301	18	x				304ss	8"	.322	
1301	1361	18		x			304ss	8"	XXHD	.040
1361	1364	18	x				304ss	8"	.322	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	60	x			10 sack
0	321	x			10 sack
0	1220	x			Neat cem.
1220	1370			x	8x16

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
X Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Rottman Drilling Co.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

46471 N Division, Lancaster, CA 93535
ADDRESS CITY STATE ZIP

Signed Laura Rottman Pres.
WELL DRILLER/AUTHORIZED REPRESENTATIVE

03/19/04 DATE SIGNED

316599 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

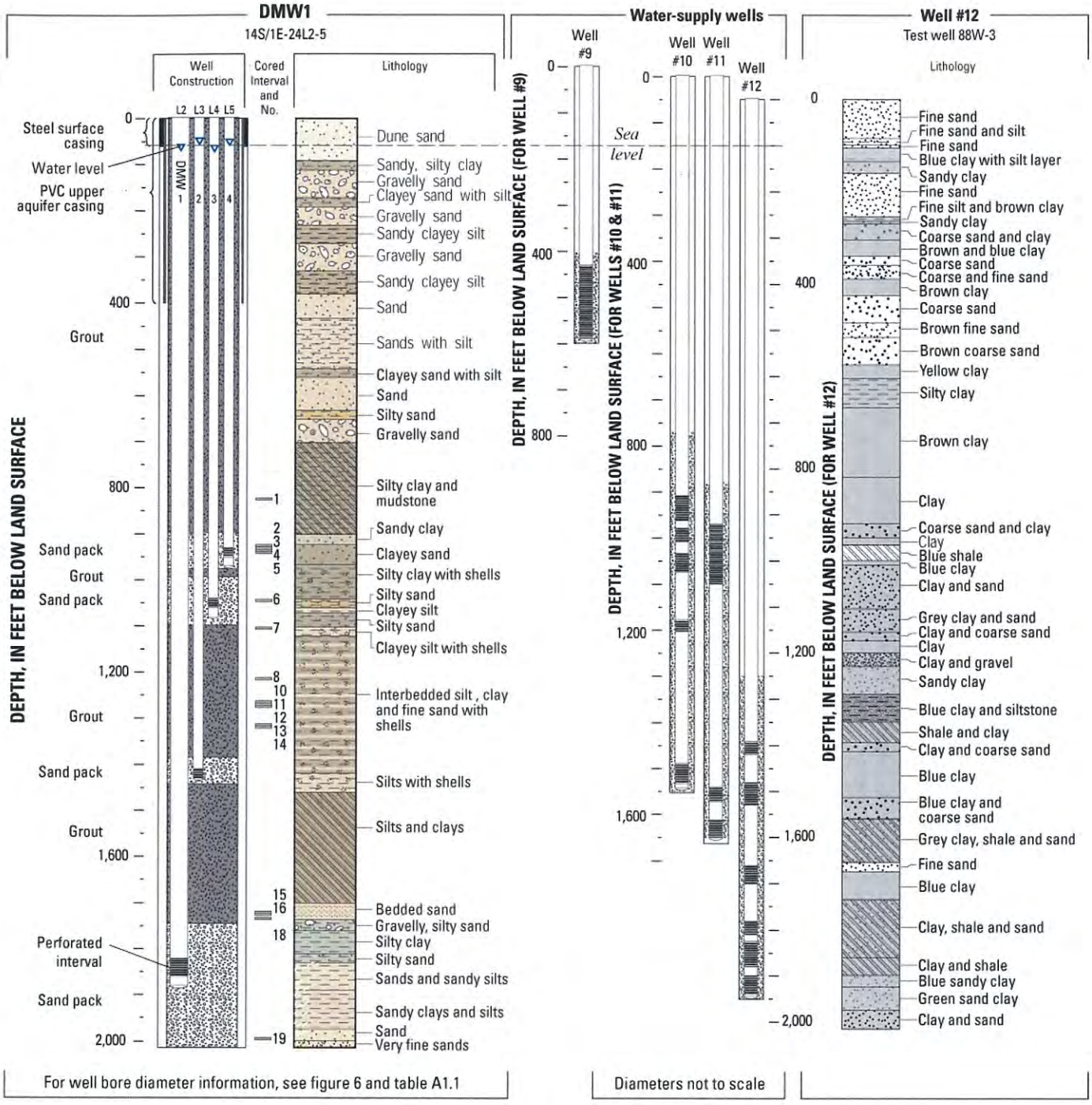


Figure 3. Well construction and lithology for the deep-aquifer monitoring well and selected nearby water-supply wells, Marina, California.

Dennis Hangan
PLICATE Steve Taylor
tain copy

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do Not Fill In
No 141763
State Well No. 19S/2E-6L1
Other Well No.

) OWNER:

me Monterey County Flood Control Dist
dress County Courthouse
Salinas, Ca. 93901

) LOCATION OF WELL:

unty Monterey Owner's number, if any
nship, Range, and Section Milligan Hill
tance from cities, roads, railroads, etc. See attached map

) TYPE OF WORK (check):

w Well [X] Deepening [ ] Reconditioning [ ] Destroying [ ]
destruction, describe material and procedure in Item 11.

4) PROPOSED USE (check):

Domestic [ ] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [X]

(5) EQUIPMENT:

Rotary [X]
Cable [ ]
Other [ ]

6) CASING INSTALLED:

STEEL OTHER
SINGLE [X] DOUBLE [ ]

From ft.	To ft.	Diam.	Gage or Wall	Diameter of Bore
	600'	16	3/8	28-1/2
600	603	16	reducer	26
603	1563	12"	3/16	26

If gravel packed

From ft.	To ft.
0	600
600	603
603	1563

Size of gravel: Spec sand

Type of shoe or well ring: Weld

(7) PERFORATIONS OR SCREEN:

Type of perforation or name of screen: Shump

From ft.	To ft.	Perf. per row	Rows per ft.	Size in. x in.
880 per Dick				
850	1540			3/32 Horz. Louvre Full Flo

(8) CONSTRUCTION:

Was a surface sanitary seal provided? Yes [X] No [ ] To what depth 800 ft.
Were any strata sealed against pollution? Yes [X] No [ ] If yes, note depth of strata
From ft. to ft.
From ft. to ft.
Method of sealing Concrete and 30" steel conductor 100'

(9) WATER LEVELS:

Depth at which water was first found, if known ft.
Standing level before perforating, if known ft.
Standing level after perforating and developing ft.

WELL TESTS:

Was pump test made? Yes [ ] No [ ] If yes, by whom?
gal./min. with ft. drawdown after hrs.
Temperature of water Was a chemical analysis made? Yes [ ] No [ ]
Was electric log made of well? Yes [X] No [ ] If yes, attach copy

(11) WELL LOG:

Total depth 1809 ft. Depth of completed well 1560 ft.
Formation. Describe by color, character, size of material, and structure

0 ft. to 6	Top Soil
6' - 15'	Blue sandy clay
15' - 32'	Fine blue sand
32' - 60'	Blue clay w/sea shell
60' - 75'	Blue soft sand
75' - 100'	Blue clay
100' - 184'	Blue clay & sand streak
184' - 278'	Coarse sand & gravel
278' - 300'	Yellow Clay
300' - 330'	Blue clay
330' - 360'	Coarse yellow sand, streak of clay
360' - 434'	Yellow clay, streaks blue & brown shale
434' - 440'	Yellow clay, streaks blue & brown shale
440' - 490'	White coarse sand
490' - 528'	Blue clay
529' - 590'	Sand & gravel, streak clay
590' - 610'	Yellow Clay
610' - 621'	Sand & gravel
621' - 715'	Yellow clay w/streak of sand
715' - 747'	Yellow clay w/streak gravel
747' - 778'	Yellow clay w/streak gravel
778' - 795'	yellow clay w/streak gravel blue clay
795' - 840'	Yellow clay w/streak gravel blue clay
840' - 872'	Blue clay
872' - 903'	Blue clay
903' - 934'	Brown clay
934' - 965'	Hard brown clay & shale
965' - 997'	Hard brown clay & shale
997' - 1028'	Hard brown clay & shale
1028' - 1059'	Blue clay
1059' - 1090'	Blue & brown clay

Work started 9/20 19 76 Completed 11/12 19 76

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

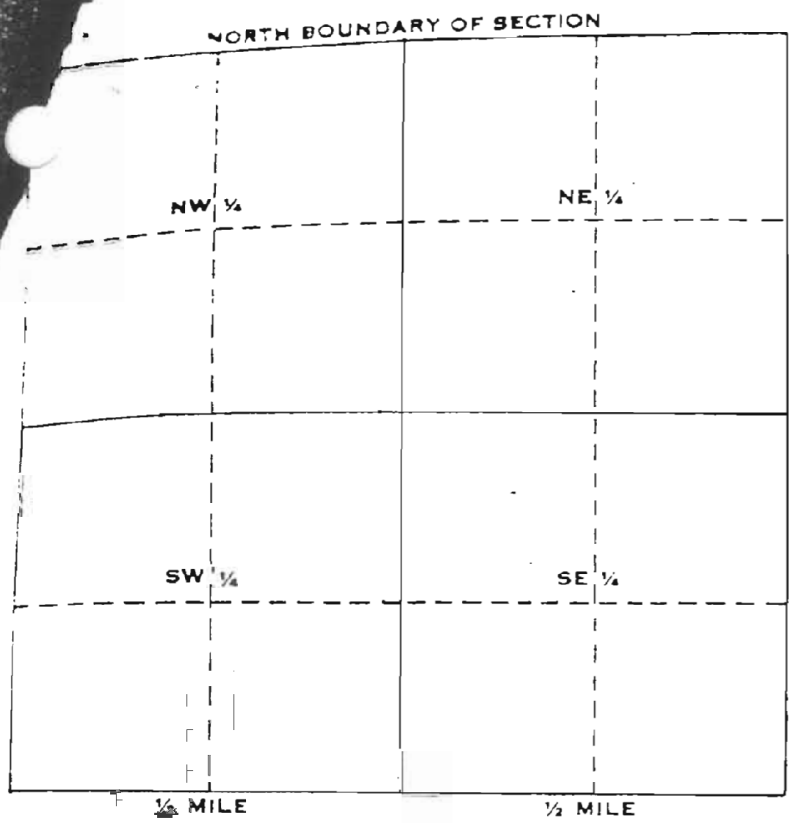
NAME Salinas Pump Co.
(Person, firm or corporation) (Typed or printed)
Address 1128 Madison Lane
Salinas, Ca. 93901
[SIGNED] (Well Driller)
License No. 273053 Dated 19

SKETCH LOCATION OF WELL ON REVERSE SIDE

OVER
CONTINUED ON BACK

145/2E-6L1

WELL [illegible] SKETCH



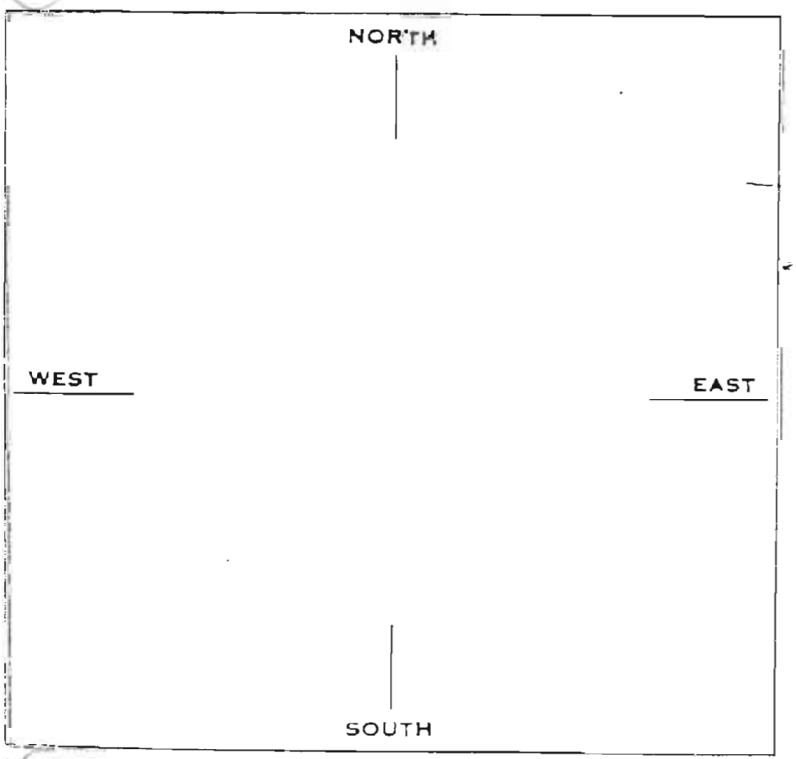
A. Location of well in sectionized areas.
Sketch roads, railroads, streams, or other features as necessary.

Township 14 N/S

Range 2 E/W

Section No. 6L1

1090'	- 1122'	Blue & brown shaley clay
1122'	- 1153'	Blue & brown shaley clay
1153'	- 1184'	Blue shaley clay with streak hard sandstone
1184'	- 1247'	Blue shale streak sand
1247'	- 1300'	Blue clay, streak sand
1300'	- 1340'	Blue clay streak sand
1340'	- 1372'	blue clay & shale
1372'	- 1403'	Blue clay, strk gravel & sand
1403'	- 1435'	Strk gravel & sand
1435'	- 1466'	Strk gravel & sand
1466'	- 1498'	Strk gravel & sand
1498'	- 1529'	Strk gravel & sand
1529'	- 1561'	Strk gravel & sand 1545'
1561'	- 1592'	Strk gravel & sand
1592'	- 1600'	Strk gravel & sand
1600'	- 1630'	XX Blue clay
1630'	- 1645'	Blue clay & sand
1645'	- 1660'	Brown clay & Blue clay
1660'	- 1675'	Shale, blue clay
1675'	- 1690'	Shale, blue clay
1690'	- 1705'	Brown clay, blue clay
1705'	- 1720'	Brown clay, sand streak
1720'	- 1735'	Blue clay
1735'	- 1750'	Blue clay
1750'	- 1809'	Blue shale



cation of well in areas not sectionized.
ketch roads, railroads, streams, or other features as necessary.
ndicate distances.

14S/02E-17K1

TRIPLICATE
Owner's Copy

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do not fill in
No. 286024

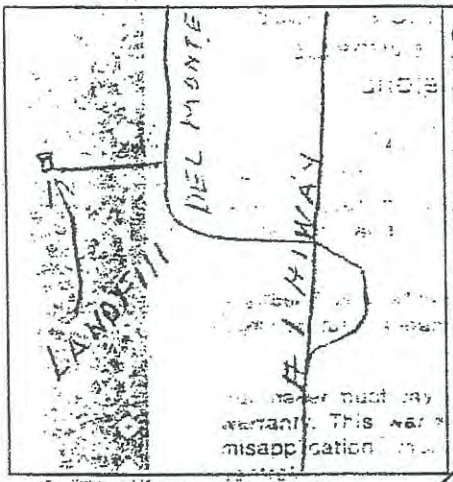
Notice of Intent No. 239439
Local Permit No. or Date 7-28-89 69712

[NEW WATER SUPPLY WELL LOCATED SOUTH OF SCALEHOUSE]

State Well No. 14S/02E-17K01
Other Well No. PRESSURE-180 Ft.

(1) OWNER: Name Marina Landfill-Mtry Regional Waste Mgmt. Dist
Address P.O. Box 609
City Marina, CA 93933 ZIP

(2) LOCATION OF WELL (See instructions):
County Monterey Owner's Well Number
Well address if different from above Marina Disposal site
Township Range Section
Distance from cities, roads, railroads, fences, etc.



WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☐
Industrial ☐
Test Well ☐
Municipal ☐
Other ☐
(Describe)

(5) EQUIPMENT:
Rotary ☒ Reverse ☐
Cable ☐ Air ☐
Other ☐ Bucket ☐

(6) GRAVEL PACK: Yes ☒ No ☐ Size 6
Diameter of bore 14
Packed from 180 to 250 ft.
well pack pea gravel & sand

(7) CASING INSTALLED:
Steel ☐ Plastic ☒ Concrete ☐

(8) PERFORATIONS:
Type of perforation or size of screen

From ft.	To ft.	Dia in.	Gage or Wall	From ft.	To ft.	Slot size
0	210	6	pvc SDR21	F480	210	250 .030 pvc sand screen

(9) WELL SEAL: BEYOND THE DURATION OF THE APPLICABLE
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 180 ft.
Were strata sealed against pollution? Yes ☒ No ☐, Interval solid ft.
Method of sealing to wo[illegible] neat cement

(10) WATER LEVELS:
Depth of first water, if known 131 ft.
Standing level after well completion ~~136~~ 131 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Self
Type of test: Pump ☒ Bailer ☐ Air lift ☐
Depth to water at start of test 131 ft. At end of test 136 ft.
Discharge gal/min after 33 hours Water temperature 67
Chemical analysis made? Yes ☒ No ☐ If yes, by whom? Nitrate Al Lab
Was electric log made? Yes ☐ No ☐ If yes, attach copy to this report

(12) WELL LOG: Total depth 255 ft. Completed depth 250 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	4	Top soil
4	35	Beach sand
35	56	Brown silt
56	91	Loose red sand
91	126	Green clay & sand
126	152	Red sand water bearing
152	159	Green clay
159	194	Coarse sand
194	205	Sticky green clay
205	255	Coarse gravel

CONFIDENTIAL NOT FOR PUBLIC USE WATER CODE SEC. 13752

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Signed James I. Ash (Well Driller)
NAME FRED ASH & SONS, INC (Person, firm, or corporation) (Typed or printed)
Address 16339 Castroville Blvd.
City Salinas, CA 93907 ZIP
License No. 391942 Date of this report 8-9-89

Work started 8-3-89 19 Completed 8-4-89 19

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86-96355

P. O. BOX 178
1508 ABBOTT ST.

TELEPHONE
408 424-2937

5-17-74

ROY V. ALSOP & SON

SINCE 1873
Well Drilling

FAIRBANKS-MORSE PUMPS AND PRESSURE SYSTEMS POMONA
INDUSTRIAL PUMPS
SALES AND SERVICE
SALINAS, CALIFORNIA 93901

Dia. 14" #10 ga.

LOG OF WELL
for
Monterey Peninsula Garbage & Refuse Disposal District

June 3, 1972

145/2E-17L1

0 ft.	to 108 ft.		Sand
108	" 132		Blue clay
132	" 144		Yellow sandy-sediment
144	" 148		Blue clay
148	" 162		Sandy yellow sediment
162	" 176		Fine packed sand
176	" 188		Yellow clay
188	" 200		Sand & fine gravel
200	" 206		Fine silty sand
206	" 214		Fine sand & float rock
214	" 226		Blue clay
226	" 236		Yellow clay
-146 > 236	" 240		Fine gravel
240 I	" 303		Sand & gravel
303	" 305		Yellow clay
305	" 320		Mucky sand
320 I	" 351		Sand & gravel
351	" 354		Soft sand stone

Perforations: 244 ft. to 303 ft.
328 " 338

Concrete Plug - 6 ft.

Static Water Level - 139½ ft.

= = = gallons per minute =
= ~~1100~~ =

Pumps 1090 gal per minute

Ground elev. approx 90 feet

14/2 - 18E1

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Water Code Sec. 13 CONFIDENTIAL LOG 33

ORIGINAL
File with DWR

Do Not Fill In

No 121665

State Well No. 14S/2E-18E1

Other Well No.

(1) OWNER: Armstrong Ranch
Name c/o M. L. Dubach, Inc.
Address PO Box P, Davis, Ca. 95616

(2) LOCATION OF WELL:
County Monterey Owner's number, if any
Township, Range, and Section: Between Marina & Castroville
Distance from cities, roads, railroads, etc.: 2½ mi. from Bridges on Hwy 1,
off Lapis Road

(3) TYPE OF WORK (*check*):
New Well ☑ Deepening ☐ Reconditioning ☐ Destroying ☐
If destruction, describe material and procedure in Item 11.

(4) PROPOSED USE (*check*):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(5) EQUIPMENT:
Rotary ☑
Cable ☐
Other ☐

(6) CASING INSTALLED:
STEEL: OTHER:
SINGLE ☒ DOUBLE ☐

From ft.	To ft.	Diam.	Gage or Wall
	303	14"	1/4
303	306	14"x12" reducer	
306	870	12	1/4

If gravel packed

Diameter of Bore	From ft.	To ft.
26	300	870

Size of shoe or well ring:
Size of gravel: 1/4 pea
Describe joint welded

(7) PERFORATIONS OR SCREEN:
Type of perforation or name of screen

From ft.	To ft.	Perf. per row	Rows per ft.	Size in. x in.
666	834	8	4½	1/8" std louvre
498				

(8) CONSTRUCTION:
Was a surface sanitary seal provided? Yes ☑ No ☐ To what depth? 300 ft.
Were any strata sealed against pollution? Yes ☑ No ☐ If yes, note depth of strata
From 0 ft. to 300 ft.
From ft. to ft.
Method of sealing cement

(9) WATER LEVELS:
Depth at which water was first found, if known ft.
Standing level before perforating, if known ft.
Standing level after perforating and developing ft.

(10) WELL TESTS: To be tested
Was pump test made? Yes ☐ No ☐X If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
Temperature of water Was a chemical analysis made? Yes ☐ No ☐
Was electric log made of well? Yes ☐ No ☐ If yes, attach copy

(11) WELL LOG:
Total depth ft. Depth of completed well 870 ft.
Formation: *Describe by color, character, size of material, and structure*

ft.	ft.	Formation
0	75	fine sand
75	100	coarse gravel
100	125	gravel-streaks clay
125	150	clay rock
150	175	coarse gravel
175	200	gravel-streak clay
200	225	fine sand streak clay
225	250	fine sand streak clay
250	275	gravel
275	300	fine sand streak clay
300	325	white sand
325	350	sand-clay streaks
350	375	sand
375	400	fine sand
400	425	sand gravel
425	450	sand gravel
450	475	sand streaks clay
475	500	coarse gravel-clay
500	525	sand clay
525	550	sand clay
550	575	sandy clay
575	600	fine sand clay
600	625	sand
625	650	Red clay gravel
650	675	yellow clay
675	700	yellow clay
700	725	fine gravel
725	750	coarse gravel
750	775	coarse gravel
775	800	fine gravel
800	825	coarse gravel
825	850	coarse gravel
850	875	yellow clay
875	890	yellow clay
890	913	yellow clay

Work started 7-2-74 19 Completed 7-9-74 19

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME Salinas Pump Co.,
(Person, firm, or corporation) (Typed or printed)
Address 1128 Madison Lane, Salinas, Ca. 93901
[SIGNED] (Well Driller)
License No. 273053 Dated 7-15-74, 19

SKETCH LOCATION OF WELL ON REVERSE SIDE

TRIPLICATE
Owner's Copy
Page 1 of 2

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 419777

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. 701471
Date Work Began 06/18/97, Ended 06/26/97
Local Permit Agency MONTEREY COUNTY DEPARTMENT OF HEALTH
Permit No. WSAL 97 067 Permit Date 04/07/97

GEOLOGIC LOG

ORIENTATION (✓) ___ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	3	TOP SOIL
3	60	CLEAN HOLE
60	90	SAND
90	100	SANDY CLAY AND CLAY
100	120	BLUE CLAY AND SANDY CLAY
120	155	CLAY
155	160	SANDY CLAY AND SAND
160	180	SAND AND GRAVEL
180	200	SAND
200	220	CLAY
220	230	CLAY AND SAND
230	240	SAND AND GRAVEL
240	245	SAND
245	255	CLAY
255	260	SAND
260	280	SAND AND LITTLE CLAY
280	345	SAND AND GRAVEL
345	360	CLAY
360	380	CLAY AND SAND
380	400	BROWN AND BLUE CLAY
400	480	CLAY
480	520	CLAY AND SANDY CLAY
520	540	CLAY AND GRAVEL
540	560	CLAY AND SAND
560	562	SAND
562	600	SANDY CLAY
600	640	CLAY AND FINE SANDY CLAY
640	655	CLAY
655	660	SAND

TOTAL DEPTH OF BORING 840 (Feet)
TOTAL DEPTH OF COMPLETED WELL 825 (Feet)

WELL OWNER

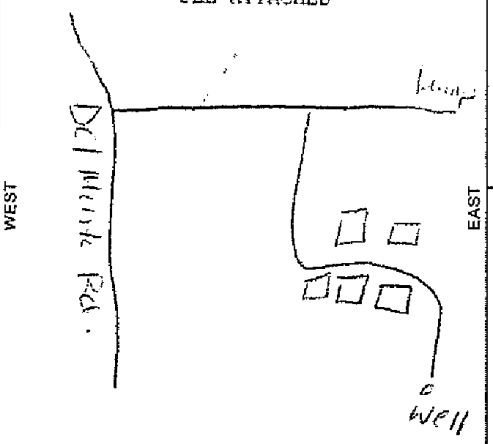
Name HINTON
Mailing Address 5 HARRIS COURT
CITY MONTEREY, CA. 93940 STATE ZIP

WELL LOCATION

Address 14811 DEL MONTE AVE.
City MONTEREY
County MONTEREY
APN Book 175 Page 011 Parcel 041
or Township ___ Range ___ Section ___
or Latitude ___ DEG. MIN. SEC. NORTH Longitude ___ DEG. MIN. SEC. WES

LOCATION SKETCH

NORTH
SEE ATTACHED



SOUTH
Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materia Under "GEOLOGIC LOG*

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
X Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTEC TION
___ OTHER (Specify)

DRILLING METHOD REVERSE ROTARY FLUID WATER

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 162.25 (Ft.) & DATE MEASURED 08/18/97
ESTIMATED YIELD* 250 (GPM) & TEST TYPE PUMP
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN 19.35 (Ft.)
** May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL/ GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	50	32			X		STEEL	.250	STAINLESS .040	
0	670	22	X				STEEL	.250	STAINLESS	
670	730	22		X			STEEL	.250	STAINLESS .040	
730	785	22	X				STEEL	.250	STAINLESS	
785	805	22		X			STEEL	.250	STAINLESS .040	
805	825	22	X				STEEL	.250	STAINLESS	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	650	XX			
650	840			XX	8X16

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME MAGGIORA BROS. DRILLING, INC.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
595 AIRPORT BLVD. WATSONVILLE, CA 95076
ADDRESS CITY STATE ZIP

Signed ___ 11/14/97 24[illegible]57
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

TRIPLICATE
Owner's Copy
Page 2 of 2

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 419779

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. 201471
Date Work Began 06/18/97, Ended 06/26/97
Local Permit Agency MONTEREY COUNTY DEPARTMENT OF HEALTH
Permit No. WSAL 97-067 Permit Date 04/07/97

GEOLOGIC LOG

ORIENTATION (✓) ___ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
660 to 680	COARSE SAND AND GRAVEL
680 to 700	COARSE SAND
700 to 715	HARD SAND
715 to 720	SAND AND GRAVEL
720 to 730	SAND AND GRAVEL
730 to 740	CLAY
740 to 780	HARD CLAY
780 to 785	CLAY
785 to 790	SAND AND GRAVEL
790 to 800	HARD SAND
800 to 840	CLAY

TOTAL DEPTH OF BORING 840 (Feet)
TOTAL DEPTH OF COMPLETED WELL 825 (Feet)

WELL OWNER

Name MBWPCD
Mailing Address 5 HARRIS COURT
CITY MONTEREY, CA. 93940 STATE ZIP

WELL LOCATION

Address 14811 DEL MONTE AVE.
City MONTEREY
County MONTEREY
APN Book 175 Page 011 Parcel 041
or Township ___ Range ___ Section ___
or Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH

NORTH
SEE ATTACHED
WEST EAST
SOUTH
Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
___ Domestic
X Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD REVERSE ROTARY FLUID WATER

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 162.25 (Ft.) & DATE MEASURED 08/18/97
ESTIMATED YIELD* 250 (GPM) & TEST TYPE PUMP
TEST LENGTH 5.5 (Hrs.) TOTAL DRAWDOWN 19.33 (Ft.)
* *May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL/ GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0 to 50	32			X		STEEL	.250	STAINLESS .040	
0 to 670	22	X				STEEL	.250	STAINLESS	
670 to 730	22		X			STEEL	.250	STAINLESS .040	
730 to 785	22	X				STEEL	.250	STAINLESS	
785 to 805	22		X			STEEL	.250	STAINLESS .040	
805 to 825	22	X				STEEL	.250	STAINLESS	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0 to 650	XX			
650 to 840			XX	8X16

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME MAGGIORA BROS. DRILLING, INC.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 595 AIRPORT BLVD. CITY WATSONVILLE, CA STATE 95076 ZIP
Signed [signature] (WELL DRILLER/AUTHORIZED REPRESENTATIVE)
DATE SIGNED 11/14/97
C-57 LICENSE NUMBER 249957

Cross-Section B-B' Well Names	Top (feet bgs)	Bottom (feet bgs)	Boring log record	GEOBASE Code
14S/2E-21N01	438	498	sand and gravel (pea to 1") clay at top-streaks	snd/grvl/cly
14S/2E-21N01	498	510	yellow brown clay	yellow clay
14S/2E-21N01	510	534	sand and gravel (1-3" rocks)	gravel/sand
14S/2E-21N01	534	564	sand	sand
14S/2E-21N01	564	580	sand and gravel (1-4" rocks)	gravel/sand
14S/2E-21N01	580	596	red sand	red sand
14S/2E-21N01	596	600	red sandstone	red sand
14S/2E-21E01	0	128	yellow dry sand	yellow sand
14S/2E-21E01	128	130	yellow clay w/streaks of red	yellow clay
14S/2E-21E01	130	144	blue clay - hard	blue clay
14S/2E-21E01	144	156	hard yellow clay	yellow clay
14S/2E-21E01	156	180	fine yellow clay	yellow sand
14S/2E-21E01	180	188	blue clay	blue clay
14S/2E-21E01	188	196	blue sand	blue sand
14S/2E-21E01	196	218	coarse sand w/some gravel	gravel/sand
14S/2E-21E01	218	242	brown sand - fine/some gravel	gravel/sand
14S/2E-21E01	242	272	hard yellow clay w/some sand	sandy clay
14S/2E-21E01	272	280	sand w/some rock	gravel/sand
14S/2E-21E01	280	396	sand/gravel rock (3-6")	gravel/sand
14S/2E-21E01	396	408	yellow clay	yellow clay
14S/2E-21E01	408	428	sand and some gravel	gravel/sand
14S/2E-21E01	428	442	sand and heavy gravel/rock (1-3")	gravel/sand
14S/2E-21E01	442	450	sand and heavy gravel/clay streaks	snd/grvl/cly
14S/2E-21E01	450	456	sand and gravel (1-3")	gravel/sand
14S/2E-21E01	456	460	yellow clay	yellow clay
14S/2E-21E01	460	466	sand	sand
14S/2E-21E01	466	470	yellow clay	yellow clay
14S/2E-21E01	470	484	fine sand and some gravel	gravel/sand
14S/2E-21E01	484	492	coarse sand and heavy gravel	gravel/sand
14S/2E-21E01	492	508	coarse sand and some gravel	gravel/sand
14S/2E-21E01	508	514	hard yellow clay	yellow clay
14S/2E-21E01	514	518	white sandstone w/yellow clay	sandy clay
14S/2E-21E01	518	532	fine sand	fine sand
14S/2E-21E01	532	542	coarse sand and gravel/rocks (1-4")	gravel/sand
14S/2E-21E01	542	550	sandy clay	sandy clay
14S/2E-21E01	550	562	sand and gravel w/clay streaks	gravel/sand
14S/2E-21E01	562	576	sand and heavy gravel	gravel/sand
14S/2E-21E01	576	592	fine sand	fine sand
14S/2E-21E01	592	612	sand and gravel (1-5" rock)	gravel/sand
14S/2E-21E01	612	614	red sandstone	red sand
14S/2E-21F02	0	8	top soil	topsoil
14S/2E-21F02	8	65	sediment	sediment
14S/2E-21F02	65	90	blue sandy clay	blue clay
14S/2E-21F02	90	116	yellow clay	yellow clay
14S/2E-21F02	116	130	mucky sand	sand
14S/2E-21F02	130	134	sandy yellow clay	yellow clay
14S/2E-21F02	134	140	river gravel	gravel
14S/2E-21F02	140	166	yellow clay	yellow clay
14S/2E-21F02	166	186	sand and gravel	gravel/sand
14S/2E-21F02	186	194	sand and fine gravel	gravel/sand
14S/2E-21F02	194	263	heavy gravel	gravel

Cross-Section B-B' Well Names	Top (feet bgs)	Bottom (feet bgs)	Boring log record	GEOBASE Code
14S/2E-21F02	263	277	red sand	red sand
14S/2E-21F02	277	280	yellow clay	yellow clay
14S/2E-21F02	280	297	gravel and yellow clay	gravelly clay
14S/2E-21F02	297	300	yellow clay	yellow clay
14S/2E-16G01	0	100	clay	clay
14S/2E-16G01	100	170	coarse sand	coarse sand
14S/2E-16G01	170	220	gravel	gravel
14S/2E-16G01	220	230	gravel/brown clay	gravelly clay
14S/2E-16G01	230	240	gravel/clay	gravelly clay
14S/2E-16G01	240	260	coarse sand/clay	sandy clay
14S/2E-16G01	260	360	clay/sand	sandy clay
14S/2E-16G01	360	370	sand/clay	sandy clay
14S/2E-16G01	370	420	coarse sand	coarse sand
14S/2E-16G01	420	440	clay/sand	sandy clay
14S/2E-16G01	440	470	coarse sand	coarse sand
14S/2E-16G01	470	490	sand/clay	sandy clay
14S/2E-16G01	490	520	sand/clay	sandy clay
14S/2E-16G01	520	540	clay	clay
14S/2E-16G01	540	570	sand	sand
14S/2E-16G01	570	610	coarse sand	coarse sand
14S/2E-16G01	610	630	sand/clay	sandy clay
14S/2E-09D04	0	150	brown clay	brown clay
14S/2E-09D04	150	180	coarse sand	coarse sand
14S/2E-09D04	180	220	coarse sand/gravel	gravel/sand
14S/2E-09D04	220	230	clay/gravel	gravelly clay
14S/2E-09D04	230	260	silt stone/clay	clay
14S/2E-09D04	260	270	clay	clay
14S/2E-09D04	270	280	coarse sand/clay	sandy clay
14S/2E-09D04	280	330	clay	clay
14S/2E-09D04	330	420	sand/clay	sandy clay
14S/2E-09D04	420	430	coarse sand/clay	sandy clay
14S/2E-09D04	430	440	coarse sand	coarse sand
14S/2E-09D04	440	460	coarse sand/clay	sandy clay
14S/2E-09D04	460	490	coars sand	coarse sand
14S/2E-09D04	490	500	coarse sand/clay	sandy clay
14S/2E-09D04	500	540	sand/clay	sandy clay
14S/2E-09D04	540	550	hard clay	clay
14S/2E-09D04	550	570	hard clay/sand	sandy clay
14S/2E-09D04	570	580	coarse sand	coarse sand
14S/2E-09D04	580	610	coarse sand/clay	sandy clay
14S/2E-09D04	610	630	clay/sand	sandy clay

Notes:

* a partial boring log description is provided for this well

ORIGINAL
File Original, Duplicate and Triplicate with the REGIONAL WATER POLLUTION CONTROL BOARD No. 3
(Insert appropriate number)

WATER WELL DRILLERS REPORT
(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA 32 12S 2E

Do Not Fill In
No. 751

State Well No. /
Other Well No. 14/2-21F
1C-74

(1) OWNER:
Name Mrs. A. Warcken
Address Pomber Street
Castroville, California

(2) LOCATION OF WELL:
County Monterey Owner's number, if any—
R. F. D. or Street No.
On Breschini Ranch 2½ Mi. E. SE of Twin Bridges & State Highway 1. 50 ft. NE of old well # 46 on Map

(3) TYPE OF WORK (check):
New well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(5) EQUIPMENT:
Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:
SINGLE ☐ DOUBLE ☒

From ft.	to ft.	Diam.	Gage or Wall
0	300	12"	12

If gravel packed

Diameter of Bore	from ft.	to ft.

Type and size of shoe or well ring
Describe joint
Size of gravel:

(7) PERFORATIONS:
Type of perforator used Mills
Size of perforations 3½ in., length, by ½ in.

From ft.	to ft.	Perf. per row	Rows per ft.
200	261	6	1

(8) CONSTRUCTION:
Was a surface sanitary seal provided? ☐ Yes ☐ No To what depth ft.
Were any strata sealed against pollution? ☐ Yes ☐ No If yes, note depth of strata

From ft.	to ft.

Method of Sealing

(9) WATER LEVELS:
Depth at which water was first found ft.
Standing level before perforating ft.
Flowing level after perforating ft.

(10) WELL TESTS:
Was a pump test made? ☐ Yes ☐ No If yes, by whom?
Yield: gal./min. with ft. draw down after hrs.
Temperature of water Was a chemical analysis made? ☐ Yes ☐ No
Was electric log made of well? ☐ Yes ☐ No

(11) WELL LOG:
Total depth 300 ft. Depth of completed well 300 ft.
Formation: Describe by color, character, size of material, and structure.

0 ft. to	2 ft.	Top soil
2 "	65 "	Sediment
65 "	90 "	Blue sandy clay
90 "	116 "	Yellow clay
116 "	130 "	Mucky sand
130 "	134 "	Sandy yellow clay
134 "	140 "	River gravel
140 "	166 "	Yellow clay
166 "	186 "	Sand & gravel
186 "	194 "	Sand & fine gravel
194 "	263 "	Heavy gravel
264 "	277 "	Red sand
277 "	280 "	Yellow clay
280 "	297 "	Gravel & yellow clay
297 "	300 "	Yellow clay

Work started 19 . Completed 19

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Roy V. Alsop & Son
(Person, firm, or corporation) (Typed or printed)
Address 1508 Abbott Street
Salinas, California

[SIGNED] Roy V. Alsop
Well Driller
License No. 132870 Dated: October 22, 1956

Water Code Section 7

DWR FORM NO. 246 (REV. 3-54)

TH-1

STAAL, GARDNER & DUNNE, INC.

Consulting Engineers and Geologists
5855 Olivas Park Drive • Ventura, California 93003-7672

SGD

DRILLING LOG

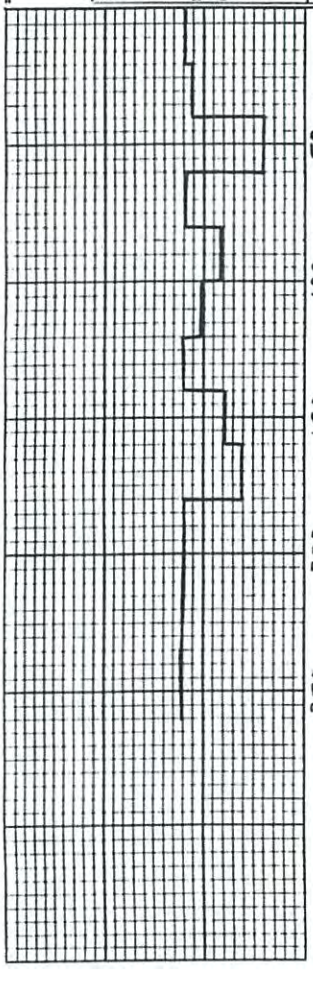
CLIENT: Monterey Peninsula Water Management District			M91157
WELL: Monterey Sand (TH-1)	No.:	GEOLOGIST: M.S. Burke, M.B. Feeney	
COUNTY: Monterey	STATE: CA	LOGGING PERSONNEL: M.S. Burke	
TOWNSHIP:	RANGE:	SECTION:	SERVICES PERFORMED: Project management, lithologic logging, hydrogeologic analysis, contractor supervision.
LOCATION: Abandoned Monterey Sand Plant, Marina, CA		DATE BEGUN: 12/10/91	DATE RELEASED: 12/10/91
ELEVATION: 10 (per GE)	TOTAL DEPTH: 260'	INTERVAL LOGGED: 0-260'	FOOTAGE:
SPUD DATE: 12/10/91	FINAL DATE: 12/10/91	REMARKS: Drilling fluid - Supermud; E-, & Gamma logs performed; Test hole abandoned by pumping neat cement from bottom of hole.	
DRILLING COMPANY: R.L. Redfearn, Bakersfield, CA			
PUSHER: Rick Redfearn, Asst'd By John O'Tool			

HOLE SIZE	
0 - 260	4-3/4"

CASING RECORD		

ABBREVIATIONS			
CO	CIRCULATE OUT	PR	POOR RETURNS
LAT	LOGGED AFTER TRIP	SC	SAND CONTENT (%)
NB	NEW BIT	VIS	VISCOSITY (SECONDS)
NCB	NEW CORE BIT	WL	WATER LOSS (CC/30 MIN)
NR	NO RETURN	WT	FLUID WEIGHT (LBS/CU.FT.)

CLAY SILT SAND GRAVEL



RIG ACTIVITY MUD ADDITIONS AND PROPERTIES

4 3/4" Tricone Bit

Losing circulation, thickening mud; adding water. Circ. reestablished

Heavy rig chatter 168-180'

TD 260'

DESCRIPTION AND REMARKS

SAND, orangish brown, medium grained, subrounded to rounded, predom. quartz, yellowish orange staining on grains, minor brown silt.

SANDY SILT, reddish brown, slightly clayey w/ sand a/a, sl. coarser.

SAND, yellowish/grayish brown, predom. coarse grained granitic quartz, yellowish orange staining, subrounded.

SILTY CLAY, dark olive/brownish gray, sl. sticky w/ few grains of sand.

SAND, brownish gray, coarse to v. coarse w/ some fine gravel, predom. quartz & granitic grains, subrounded, minor gravel

SILTY CLAY, brownish gray/olive gray, w/ occasional coarse to v. coarse grains of quartz sand.

SAND, grayish brown, fine to coarse grained, subang. to subrnd, predom. granitic quartz w/ some chert fragments (sharp & rounded edges)

CLAY, medium to light brownish gray, sticky, low plasticity, flocculated appearance, slightly silty/sandy

SAND, a/a, w/ more chert grains & fragments

CLAY, a/a

SAND, a/a

TH-2

STAAL, GARDNER & DUNNE, INC.

Consulting Engineers and Geologists
5855 Olivas Park Drive • Ventura, California 93003-7672

DRILLING LOG

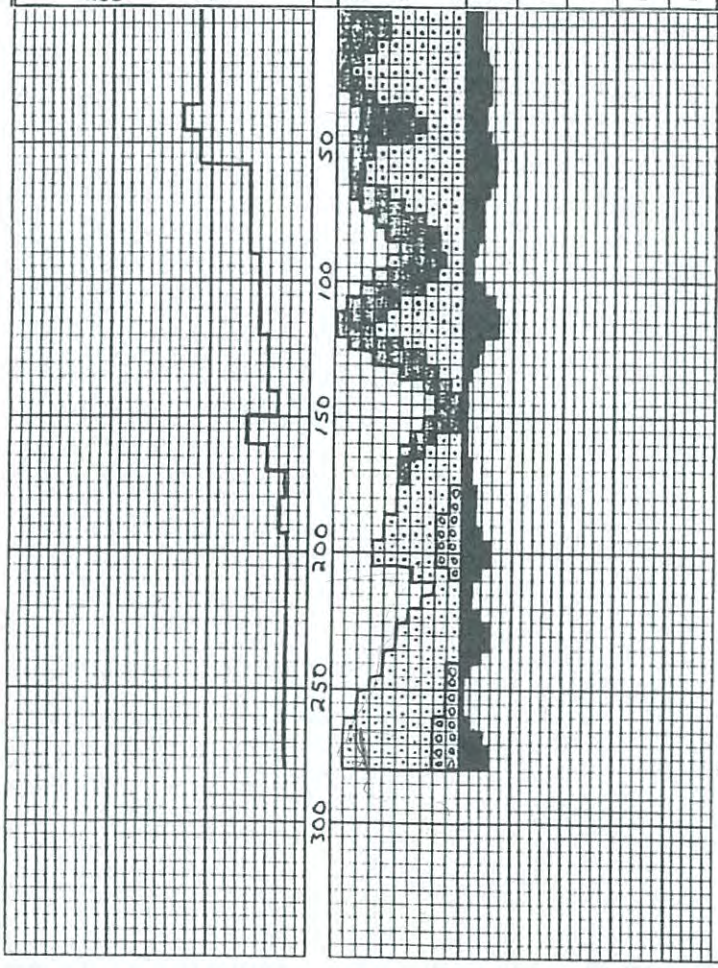
CLIENT: Monterey Peninsula Water Management District			M91157
WELL: Regional Park (TH-2)	No.:	GEOLOGIST: M. S. Burke, M. B. Feeney	
COUNTY: Monterey	STATE: CA	LOGGING PERSONNEL: M. S. Burke	
TOWNSHIP:	RANGE: SECTION:	SERVICES PERFORMED: Project management, lithologic logging, hydrogeologic consultation, contractor observation.	
LOCATION: Regional Park District, Marina, CA. E-lge of bluff at end of road starting at end of Dune Dr.		DATE BEGUN: 12/18/91	DATE RELEASED: 12/18/91
ELEVATION: 19 ft (merge)	TOTAL DEPTH: 277'	INTERVAL LOGGED: 0 - 277'	FOOTAGE: 277'
SPUD DATE: 12/18/91	FINAL DATE: 12/18/91	REMARKS: Drilling fluid - Revert, E- & Gamma logs performed, test hole abandoned w/ neat cement.	
DRILLING COMPANY: Pitcher Drilling, Palo Alto, CA.			
PUSHER: Wayne Baker, Garry Foppiano (asst)			

HOLE SIZE	
0 - 277'	5 1/4"

CASING RECORD		

ABBREVIATIONS			
CO	CIRCULATE OUT	PR	POOR RETURNS
LAT	LOGGED AFTER TRIP	SC	SAND CONTENT (%)
NB	NEW BIT	VIS	VISCOSITY (SECONDS)
NCB	NEW CORE BIT	WL	WATER LOSS (CC/30 MIN)
NR	NO RETURN	WT	FLUID WEIGHT (LBS/CU.FT.)

CLAY SILT SAND GRAVEL



RIG ACTIVITY MUD ADDITIONS AND PROPERTIES

Begin @ 750
5 1/4" rock bit, revert
Thick mud @ first, cuttings wouldn't drop for first 35'.

TD 277, 1345

DESCRIPTION AND REMARKS

SAND, pale brown to brown, fine to med. grained, predom. subangular quartz, silty.

SANDY SILTY, brown to dark brown, w/ sand a/a

SAND, grayish brown, f. to c. grained, sub-rounded to subang., predom quartz grains w/ abdt mafic flecks, some yellowish-orange staining, silty, sl. clay.

CLAYEY SILT, lt. brownish gray w/ some fine grained sand

Dark brownish gray.

SANDY SILT, dk brownish gray silt a/a, w/ f. to med. grained, subrounded quartz sand.

SAND, dk yellowish brown, f. to c. grained w/ abdt coarse, subrnd granitic quartz w/ yellowish brown silt.

SANDY SILT, pale brown to brown, sl. clayey w/ fine quartz sand.

CLAY, grayish brown, sl. to mod. sticky, high plasticity, little silt, no sand, tight

SANDY CLAY, clay a/a w/ some silt, sticky, low plasticity, more coarse grained sand. (subang quartz w/ some orange staining) (common chert gravel fragments (rounded & sharp edges). Few coarse grains & fine gravel (chert & granite)

Coarse to very coarse.

SANDY CLAY, grayish brown, sticky, w/ sand a/a, lt brownish gray @ 220' w/ spongy consistency

SAND a/a w/ brown clay.

CLAY, bluish gray, tight, sticky, high plastic. color change to brownish gray @ 260.

SAND, brownish gray to yellowish brown predom quartz (2/3) w/ chert (1/3) some gravel, minor clay.

TH-3

STAAL, GARDNER & DUNNE, INC.

Consulting Engineers and Geologists
5855 Olivas Park Drive • Ventura, California 93003-7672

SGD

DRILLING LOG

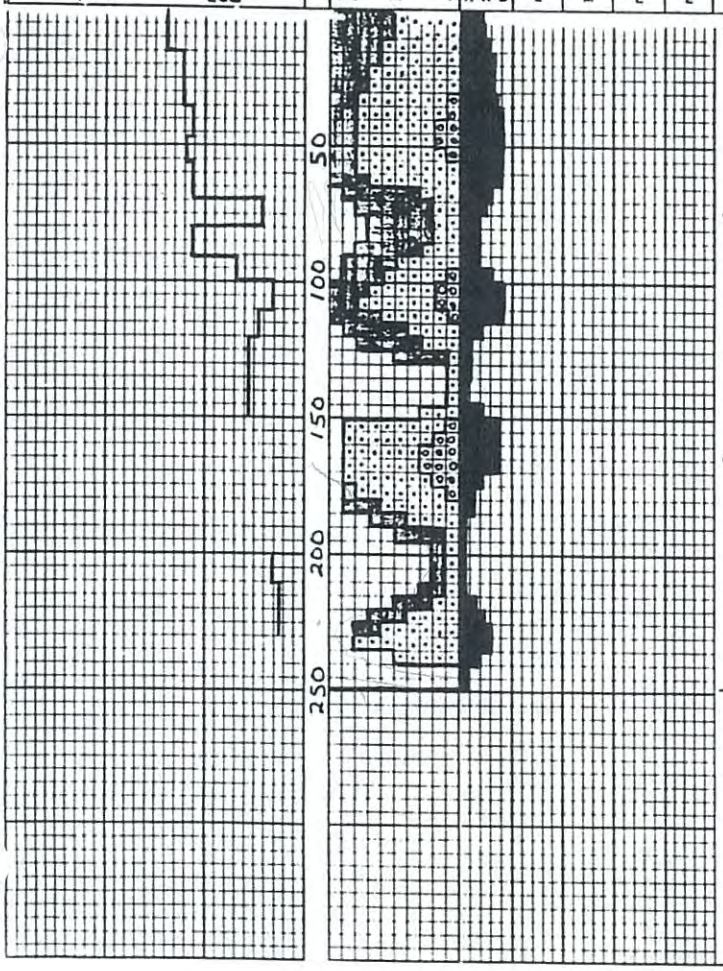
CLIENT: Monterey Peninsula Water Management District			M91157
WELL: Granite Rock Co. /TH-3	No.:	GEOLOGIST: M.S. Burke, M.B. Feeney	
COUNTY: Monterey	STATE: CA	LOGGING PERSONNEL: M.S. Burke	
TOWNSHIP:	RANGE:	SECTION:	SERVICES PERFORMED: Project management, lithologic logging, hydrogeologic consultation, contractor supervision.
LOCATION: On the beach at the Granite Rock Co. property in Marina, CA		DATE BEGUN: 12/19/91	DATE RELEASED: 12/19/91
ELEVATION: 7ft (per GE)	TOTAL DEPTH: 250'	INTERVAL LOGGED: 0-250'	FOOTAGE: 250'
SPUD DATE: 12/19/91	FINAL DATE: 12/19/91	REMARKS: Drilling fluid - Revert. E & Gamma logs performed, test hole abandoned w/ neat cement.	
DRILLING COMPANY: Pitcher Drilling, Palo Alto, CA.			
PUSHER: Wayne Baker, asstd by Garry Foppiono			

HOLE SIZE	
0-250'	5 1/4"

CASING RECORD		

ABBREVIATIONS			
CO	CIRCULATE OUT	PR	POOR RETURNS
LAT	LOGGED AFTER TRIP	SC	SAND CONTENT (%)
NB	NEW BIT	VIS	VISCOSITY (SECONDS)
NCB	NEW CORE BIT	WL	WATER LOSS (CC/30 MIN)
NR	NO RETURN	WT	FLUID WEIGHT (LBS/CU.FT.)

CLAY SILT SAND GRAVEL



RIG ACTIVITY MUD ADDITIONS AND PROPERTIES	DESCRIPTION AND REMARKS
Begin drilling @ 855 w/ drag bit.	SAND, brown, fine to coarse gr., predom. med grained, subrounded, predom. quartz w/ many brown/olive gray grains, silty.
	SAND, brownish gray, a/a, though coarser grained granitic source for quartz, less silt, some fine gravel.
Wiper run, 1130-1200; "mud rings" forming in bore hole.	CLAYEY SILT, olive gray to dark olive gray, micaceous, sl. sandy
	SAND, fine to coarse grained, though predom. med, brown, predom. granitic quartz, subangular to subrounded, silty, w/ minor ~~porcelain~~ chert grains & few f. chert gravel (rounded)
	CLAY, bluish gray to olive gray, moderately tight, sticky, silty.
	Very tight, less silt.
Change to rock bit.	SAND, pale brown, fine to coarse grained, subangular to subrounded, predom quartz w/ abnt grains of chert, common chert gravel f/ags w/ sharp & rounded edges.
	CLAY, olive to olive gray, sticky, low plastic., silty, sl. sandy.
	Tighter, less silt & sand.
	SAND, a/a
TD 250', 1450	CLAY, olive brown to grayish brown, sticky, tight, very little sand or silt

APPENDIX B

Photographs of Cores and Chip Trays

(See attached DVD)

GEOSCIENCE

APPENDIX C

Soil Physical Properties Data Reports

GEOSCIENCE

APPENDIX C:

SOIL PHYSICAL PROPERTIES DATA REPORTS

CONTENTS

Description **Page**

PTS Laboratories, Inc.

8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

October 14, 2013

Brian Villalobos
Geoscience Support Services
P.O. Box 220
Claremont, CA 91711

Re: PTS File No: 43626
Physical Properties Data
MPWSP; 13017-13

Dear Mr. Villalobos:

Please find enclosed report for Physical Properties analyses conducted upon samples received from your MPWSP; 13017-13 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please contact Rachel Spitz at (562) 347-2504.

Sincerely,
PTS Laboratories, Inc.

Michael Mark Brady, P.G.
District Manager

Encl.

PTS Laboratories, Inc.

8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

March 5, 2014

Brian Villalobos
Geoscience Support Services
P.O. Box 220
Claremont, CA 91711

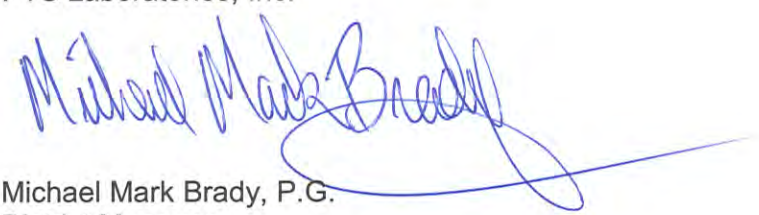
Re: PTS File No: 44073
Physical Properties Data
MPWSP; 13017-13

Dear Mr. Villalobos:

Please find enclosed report for Physical Properties analyses conducted upon samples received from your MPWSP; 13017-13 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories Inc. appreciates the opportunity to be of service. If you have any questions or require additional information, please contact Morgan Richards at (562) 347-2509.

Sincerely,
PTS Laboratories, Inc.



Michael Mark Brady, P.G.
District Manager

Encl.

PTS Laboratories, Inc.

8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

March 13, 2014

Brian Villalobos
Geoscience Support Services
P.O. Box 220
Claremont, CA 91711

Re: PTS File No: 44073
Revised Physical Properties Data Rev.01
MPWSP; 13017-13

Dear Mr. Villalobos:

Please find enclosed revised report for Physical Properties analyses conducted upon samples received from your MPWSP; 13017-13 project. The report has been revised to correct a unit calculation error for horizontal Hydraulic Conductivity for sample ML-4 146.5-147 at 146.95. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories Inc. appreciates the opportunity to be of service. If you have any questions or require additional information, please contact Morgan Richards at (562) 347-2509.

Sincerely,
PTS Laboratories, Inc.

Michael Mark Brady, P.G.
District Manager

Encl.

Project Name: MPWSP
Project Number: 13017-13

PTS File No: 44073
Client: Geoscience Support Services

TEST PROGRAM - 20140206

CORE ID	Depth ft.	Core Recovery ft.	Hydraulic Conductivity Pkg.	Hydraulic Conductivity API RP40/EPA 9100		Notes
		Plugs:	Vert. 1"	Horz. 1"		
Date Received: 20140204						
CX-B1 66.5-67	66.5-67	0.50	X	X		
CX-B1 166.5-167.0	166.5-167.0	0.50	X	X		
CX-B1 257.5-258	257.5-258	0.50	X			
CX-B2 207.5-208	207.5-208	0.50	X	X		
CX-B2 259-259.5	259-259.5	0.50	X			
CX-B3 107.5-108	107.5-108	0.50	X	X		
CX-B3 129-129.5	129-129.5	0.50	X			
CX-B3 177.5-178	177.5-178	0.50				
CX-B3 197.5-198	197.5-198	0.50	X	X		
ML-1 76-76.5	76-76.5	0.50	X			
ML-1 107.5-108	107.5-108	0.50	X	X		
ML-1 147-147.5	147-147.5	0.50	X			
ML-2 87-87.5	87-87.5	0.50	X			
ML-2 117.5-118	117.5-118	0.50	X	X		
ML-2 157.5-158	157.5-158	0.50	X	X		
ML-3 106.5-107	106.5-107	0.50	X	X		
ML-3 166.5-167	166.5-167	0.50	X	X		
ML-4 76.5-77	76.5-77	0.50	X	X		
ML-4 126.5-127	126.5-127	0.50	X			
ML-4 146.5-147	146.5-147	0.50	X	X		
ML-6 79.5-80	79.5-80	0.50	X			
ML-6 107.5-108	107.5-108	0.50	X	X		
ML-6 167-168.5	167-168.5	0.50	X	X		
TOTALS:	23 cores	11.50	22	14		23

Project Name: **MPWSP**
Project Number: **13017-13**

PTS File No: **44073**
Client: **Geoscience Support Services**

TEST PROGRAM - 20140206

CORE ID	Depth ft.	Core Recovery ft.	Hydraulic Conductivity Pkg.	Hydraulic Conductivity API RP40/EPA 9100		Notes
		Plugs:	Vert. 1"	Horz. 1"		

Laboratory Test Program Notes

Contaminant identification: **NONE**

Standard TAT for basic analysis is 10 business days.

Hydraulic Conductivity Package – Saturated Zone: Native-state permeability to water, total and air-filled porosity, grain and bulk density, moisture content, total pore fluid (water only) saturation.

PTS Laboratories

PTS File No: 44073
Client: Geoscience Support Services
Report Date: 03/05/14

PHYSICAL PROPERTIES DATA - HYDRAULIC CONDUCTIVITY PACKAGE

Project Name: MPWSP
Project No: 13017-13

		METHODS:	API RP 40 / ASTM D2216	API RP 40		API RP 40		API RP 40	API RP 40; EPA 9100	
									25 PSI CONFINING STRESS	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT, % weight	DENSITY		POROSITY, %Vb (2)		TOTAL PORE FLUID SATURATIONS (3), % Pv	EFFECTIVE (4,5) PERMEABILITY TO WATER, millidarcy	HYDRAULIC CONDUCTIVITY (4,5), cm/s
				DRY BULK, g/cc	GRAIN, g/cc	TOTAL	AIR-FILLED			
CX-B1 66.5-67	66.6	V	22.9	1.46	2.66	45.0	11.6	74.2	273	2.76E-04
CX-B1 166.5-167.0	166.6	V	24.7	1.58	2.82	43.8	4.7	89.3	484	4.87E-04
CX-B1 257.5-258	257.5-258	V	41.1	1.11	2.61	57.7	12.2	78.8	1.75	1.75E-06
CX-B2 207.5-208	207.6	V	21.5	1.48	2.67	44.6	12.9	71.1	3820	3.76E-03
CX-B2 259-259.5	259.1	V	31.0	1.33	2.63	49.3	7.9	83.9	1.83	1.85E-06
CX-B3 107.5-108	107.6	V	20.6	1.43	2.64	45.8	16.4	64.2	5210	5.26E-03
CX-B3 129-129.5	129.1	V	35.5	1.25	2.62	52.1	7.6	85.5	2.83	2.86E-06
CX-B3 197.5-198	197.6	V	18.1	1.66	2.69	38.2	8.1	78.8	101	1.00E-04
ML-1 76-76.5	76.1	V	42.4	1.17	2.67	56.1	6.3	88.7	4.89	4.83E-06
ML-1 107.5-108	107.6	V	15.0	1.53	2.65	42.1	19.0	54.8	8540	8.52E-03
ML-1 147-147.5	147.1	V	32.4	1.31	2.66	50.8	8.4	83.4	1.97	1.98E-06
ML-2 87-87.5	87.1	V	20.5	1.50	2.66	43.4	12.7	70.8	101	1.00E-04
ML-2 117.5-118	117.6	V	24.3	1.43	2.64	45.8	11.0	76.0	47.3	4.70E-05
ML-2 157.5-158	157.6	V	19.2	1.52	2.61	41.6	12.3	70.5	110	1.10E-04
ML-3 106.5-107	106.6	V	12.9	1.53	2.64	42.0	22.3	47.0	1900	1.87E-03
ML-3 166.5-167	166.6	V	28.6	1.31	2.65	50.7	13.2	73.9	9.6	9.51E-06
ML-4 76.5-77	76.6	V	21.4	1.41	2.62	46.3	16.2	65.1	954	9.49E-04
ML-4 126.5-127	126.6	V	25.0	1.44	2.64	45.5	9.5	79.1	1.18	1.18E-06
ML-4 146.5-147	146.6	V	14.1	1.45	2.61	44.3	23.8	46.3	6180	6.10E-03
ML-6 79.5-80	79.6	V	32.2	1.33	2.64	49.7	6.9	86.0	2.43	2.43E-06
ML-6 107.5-108	107.6	V	15.0	1.41	2.64	46.3	25.2	45.6	4710	4.65E-03
ML-6 167-168.5	167.6	V	25.6	1.38	2.62	47.4	12.1	74.3	72.6	7.23E-05

(1) Sample Orientation: H = horizontal; V = vertical; R = remold

(2) Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids.

(3) Fluid density used to calculate pore fluid saturations: Water = 0.9996 g/cc.

(4) Effective (Native) = With as-received pore fluids in place.

(5) Permeability to water and hydraulic conductivity measured at saturated conditions.

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

Water = filtered Laboratory Fresh (tap) or Site water.

PTS Laboratories

PTS File No: 44073
Client: Geoscience Support Services
Report Date: 03/13/14

PHYSICAL PROPERTIES DATA - HYDRAULIC CONDUCTIVITY Rev.01

(Methodology: API RP 40; EPA 9100)

Project Name: MPWSP
Project No: 13017-13

				25 PSI CONFINING STRESS		
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	ANALYSIS DATE	EFFECTIVE PERMEABILITY TO WATER (2,3), millidarcy	HYDRAULIC CONDUCTIVITY (3), cm/s	INTRINSIC PERMEABILITY TO WATER (3), cm^2
CX-B1 66.5-67	66.95	H	20140305	1560	1.53E-03	1.54E-08
CX-B1 166.5-167.0	466.95	H	20140305	622	6.10E-04	6.14E-09
CX-B2 207.5-208	207.95	H	20140305	1440	1.41E-03	1.42E-08
CX-B3 107.5-108	107.95	H	20140305	5200	5.12E-03	5.13E-08
CX-B3 197.5-198	197.95	H	20140305	644	6.34E-04	6.35E-09
ML-1 107.5-108	107.95	H	20140305	6330	6.26E-03	6.25E-08
ML-2 117.5-118	117.95	H	20140305	111	1.10E-04	1.10E-09
ML-2 157.5-158	157.95	H	20140305	3270	3.21E-03	3.23E-08
ML-3 106.5-107	106.95	H	20140305	851	8.42E-04	8.40E-09
ML-3 166.5-167	166.95	H	20140305	7.59	7.53E-06	7.49E-11
ML-4 76.5-77	76.95	H	20140305	873	8.68E-04	8.62E-09
ML-4 146.5-147	146.95	H	20140305	12900	1.29E-02	1.28E-07
ML-6 107.5-108	107.95	H	20140305	3990	4.00E-03	3.94E-08
ML-6 167-168.5	167.95	H	20140305	130	1.30E-04	1.28E-09

(1) Sample Orientation: H = horizontal; V = vertical; R = remold

(2) Effective (Native) = With as-received pore fluids in place.

(3) Permeability to water and hydraulic conductivity measured at saturated conditions.
Water = filtered Laboratory Fresh (tap) or Site water.

Project Name: MPWSP
Project Number: 13017-13

PTS File No: 43626
Client: Geoscience Support Services

TEST PROGRAM - 20131002

CORE ID	Depth ft.	Core Recovery ft.	Hydraulic Conductivity Pkg.	Hydraulic Conductivity API RP40/EPA 9100		Notes
		Plugs:	Vert. 1"	Horz. 1"		
Date Received: 20130926						
PR-1 67 ft - 67.5 ft	67-67.5	0.50	X	X		
PR-1 145.5 ft - 146 ft	145.5-146	0.50	X			
PR-1 152 ft - 152.5 ft	152-152.5	0.50	X			
PR-1 200.5 ft - 201 ft	200.5-201	0.50	X	X		
TOTALS:	4 cores	2.00	4	2		4

Laboratory Test Program Notes

Contaminant identification: _____

Standard TAT for basic analysis is 10 business days.

Hydraulic Conductivity Package – Saturated Zone: Native-state permeability to water, total and air-filled porosity, grain and bulk density, moisture content, total pore fluid (water only) saturation.

PTS Laboratories

PTS File No: 43626
Client: Geoscience Support Services
Report Date: 10/14/13

PHYSICAL PROPERTIES DATA - HYDRAULIC CONDUCTIVITY PACKAGE

Project Name: MPWSP
Project No: 13017-13

		METHODS:	API RP 40 / ASTM D2216	API RP 40		API RP 40		API RP 40	API RP 40; EPA 9100	
									25 PSI CONFINING STRESS	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT, % weight	DENSITY		POROSITY, %Vb (2)		TOTAL PORE FLUID SATURATIONS (3), % Pv	EFFECTIVE (4,5) PERMEABILITY TO WATER, millidarcy	HYDRAULIC CONDUCTIVITY (4,5), cm/s
				DRY BULK, g/cc	GRAIN, g/cc	TOTAL	AIR-FILLED			
PR-1 67 ft - 67.5 ft	67.2	V	15.1	1.69	2.59	34.8	9.4	73.0	91.1	9.13E-05
PR-1 145.5 ft - 146 ft	145.6	V	28.6	1.38	2.68	48.5	9.0	81.4	2.08	2.08E-06
PR-1 152 ft - 152.5 ft	152.1	V	27.1	1.45	2.72	46.5	7.1	84.8	2.03	2.04E-06
PR-1 200.5 ft - 201 ft	200.65	V	16.5	1.61	2.67	39.8	13.3	66.6	5120	5.10E-03

(1) Sample Orientation: H = horizontal; V = vertical; R = remold
(2) Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids.
(3) Fluid density used to calculate pore fluid saturations: Water = 0.9996 g/cc.
(4) Effective (Native) = With as-received pore fluids in place.
(5) Permeability to water and hydraulic conductivity measured at saturated conditions.
Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected
Water = filtered Laboratory Fresh (tap) or Site water.

PTS Laboratories

PTS File No: 43626
Client: Geoscience Support Services
Report Date: 10/14/13

PHYSICAL PROPERTIES DATA - HYDRAULIC CONDUCTIVITY

(Methodology: API RP 40; EPA 9100)

Project Name: MPWSP
Project No: 13017-13

				25 PSI CONFINING STRESS		
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	ANALYSIS DATE	EFFECTIVE PERMEABILITY TO WATER (2,3), millidarcy	HYDRAULIC CONDUCTIVITY (3), cm/s	INTRINSIC PERMEABILITY TO WATER (3), cm^2
PR-1 67 ft - 67.5 ft	67.05	H	20131010	61.1	6.03E-05	6.03E-10
PR-1 200.5 ft - 201 ft	200.55	H	20131010	269	2.73E-04	2.65E-09

(1) Sample Orientation: H = horizontal; V = vertical; R = remold

(2) Effective (Native) = With as-received pore fluids in place.

(3) Permeability to water and hydraulic conductivity measured at saturated conditions.
Water = filtered Laboratory Fresh (tap) or Site water.

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY: Geoscience Support Services

ADDRESS: PO 220 | CITY: Claremont, CA | ZIP CODE: 91711

PROJECT MANAGER: Brian Villalobos | bvillalobos@geoscience-water.com

PROJECT NAME: MPWSP | PHONE NUMBER: 909-451-6650

PROJECT NUMBER: 13017-13 | FAX NUMBER: 909-451-6638

SITE LOCATION: CEMEX

SAMPLER SIGNATURE:

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.:

PTS FILE: 44073

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity			COMMENTS
CX-B1 66.5-67	10/22/13	1500	66.5-67	1		X															X			
CX-B1 166.5-167.0	10/23/13	1500	166.5-167	1		X															X			
CX-B1 257.5-258	10/25/13	1500	257.5-258	1		X															X			2 inches of sample missing
CX-B2 207.5-208	11/5/13	1345	207.5-208	1		X															X			
CX-B2 259-259.5	11/6/13	1000	259-259.5	1		X															X			
CX-B3 107.5-108	11/10/13	1500	107.5-108	1		X															X			
CX-B3 129-129.5	11/10/13	1500	129-129.5	1		X															X			
CX-B3 177.5-178	11/10/13	1500	177.5-178	1		X															X			
CX-B3 197.5-198	11/10/13	1500	197.5-198	1		X															X			
																								76°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds	Andrew Kieta		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS LABS
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610
PTS Laboratories, Inc. • 4349 W. 12th St. • Houston, TX 77055 • Phone (713) 216-1800 • Fax (713) 216-1882

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY: Geoscience Support Services		
ADDRESS: PO 220	CITY: Claremont, CA	ZIP CODE: 91711
PROJECT MANAGER: Brian Villalobos	bvillalobos@geoscience-water.com	
PROJECT NAME: MPWSP	PHONE NUMBER: 909-451-6650	
PROJECT NUMBER: 13017-13	FAX NUMBER: 909-451-6638	
SITE LOCATION: Sandholdt dr area, Moss Landing		
SAMPLER SIGNATURE:		

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity			COMMENTS
ML-1 76-76.5	10/3/13	10:30	76-76.5	1		X															X				
ML-1 107.5-108	10/3/13	13:10	107.5-108	1		X															X				
ML-1 147-147.5	10/3/13	14:00	147-147.5	1		X															X				

76°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds	Andrew Kiela		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS LABS
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610
PTS Laboratories, Inc. • 4249 W. 12th St. • Houston, TX 77055 • Phone (713) 216-1899 • Fax (713) 216-1882

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	Del Mar Fisheries, Moss Landing
SAMPLER SIGNATURE	

ANALYSIS REQUEST

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity			COMMENTS
ML-2 87-87.5	12/9/13	1610	87-87.5	1		X															X				
ML-2 117.5-118	12/10/13	0935	117.5-118	1		X															X				
ML-2 157.5-158	12/10/13	1430	157.5-158	1		X															X				
																									76°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds	Andrew Kieta		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS LABS
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	Moss Landing, Nadar Agha property
SAMPLER SIGNATURE	

ANALYSIS REQUEST

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity				COMMENTS
ML-3 106.5-107	1/7/14	1600	106.5-107	1		X															X				
ML-3 166.5-167	1/8/14	1350	166.5-167	1		X															X				
ML-4 76.5-77	11/26/13	1320	76.5-77	1		X															X				
ML-4 126.5-127	12/2/13	1350	126.5-127	1		X															X				
ML-4 146.5-147	12/2/13	1745	146.5-147	1		X															X				

76 °F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds	Andrew Kiehl		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS CAB S
DATE: 2-3-14	DATE: 2-3-14	DATE: 2-4-14	DATE: 2/4/14
TIME: 17:00	TIME: 17:00	TIME: 10:26	TIME: 10:26

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PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	MBARI, Moss Landing
SAMPLER SIGNATURE	

ANALYSIS REQUEST

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity				COMMENTS
ML-6 79.5-80	11/19/13	1310	79.5-80	1		X															X					
ML-6 107.5-108	11/19/13	1320	107.5-108	1		X															X					
ML-6 167-168.5	11/20/13	0935	167-168.5	1		X															X					
																										76°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds / Matthew Ryan	Andrew Kieta / Cond Kieta		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS CABS
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

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PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE ___ OF ___

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	Potrero Rd Parking Area, Moss Landing
SAMPLER SIGNATURE	

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity			
PR-1 67 ft - 67.5 ft	9/21/13	1500	67 - 67.5	1		X															X			
PR-1 145.5 ft -146 ft	9/22/13	1400	145.5 - 146	1		X															X			
PR-1 152 ft - 152.5 ft	9/22/13	1420	152 -152.5	1		X															X			
PR-1 200.5 ft - 201 ft	9/22/13	1730	200.5 -201	1		X															X			

PO#

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☐
72 HOURS ☐
OTHER: ___

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ___

PTS QUOTE NO.

PTS FILE: 43626

COMMENTS

Rcvd @ 74°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS LABS
DATE: 9/26/13 TIME: 10:40	DATE: 9/26/13 TIME: 10:40	DATE: 9/26/13 TIME: 11:45	DATE: 9/26/13 TIME: 11:45

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Project Name: MPWSP
Project Number: 13017-13

PTS File No: 44073
Client: Geoscience Support Services

TEST PROGRAM - 20140206

CORE ID	Depth ft.	Core Recovery ft.	Hydraulic Conductivity Pkg.	Hydraulic Conductivity API RP40/EPA 9100		Notes
		Plugs:	Vert. 1"	Horz. 1"		
Date Received: 20140204						
CX-B1 66.5-67	66.5-67	0.50	X	X		
CX-B1 166.5-167.0	166.5-167.0	0.50	X	X		
CX-B1 257.5-258	257.5-258	0.50	X			
CX-B2 207.5-208	207.5-208	0.50	X	X		
CX-B2 259-259.5	259-259.5	0.50	X			
CX-B3 107.5-108	107.5-108	0.50	X	X		
CX-B3 129-129.5	129-129.5	0.50	X			
CX-B3 177.5-178	177.5-178	0.50				
CX-B3 197.5-198	197.5-198	0.50	X	X		
ML-1 76-76.5	76-76.5	0.50	X			
ML-1 107.5-108	107.5-108	0.50	X	X		
ML-1 147-147.5	147-147.5	0.50	X			
ML-2 87-87.5	87-87.5	0.50	X			
ML-2 117.5-118	117.5-118	0.50	X	X		
ML-2 157.5-158	157.5-158	0.50	X	X		
ML-3 106.5-107	106.5-107	0.50	X	X		
ML-3 166.5-167	166.5-167	0.50	X	X		
ML-4 76.5-77	76.5-77	0.50	X	X		
ML-4 126.5-127	126.5-127	0.50	X			
ML-4 146.5-147	146.5-147	0.50	X	X		
ML-6 79.5-80	79.5-80	0.50	X			
ML-6 107.5-108	107.5-108	0.50	X	X		
ML-6 167-168.5	167-168.5	0.50	X	X		
TOTALS:	23 cores	11.50	22	14		23

Project Name: MPWSP
Project Number: 13017-13

PTS File No: 44073
Client: Geoscience Support Services

TEST PROGRAM - 20140206

CORE ID	Depth ft.	Core Recovery ft.	Hydraulic Conductivity Pkg.	Hydraulic Conductivity API RP40/EPA 9100		Notes
		Plugs:	Vert. 1"	Horz. 1"		

Laboratory Test Program Notes

Contaminant identification: **NONE**

Standard TAT for basic analysis is 10 business days.

Hydraulic Conductivity Package – Saturated Zone: Native-state permeability to water, total and air-filled porosity, grain and bulk density, moisture content, total pore fluid (water only) saturation.

PTS Laboratories

PTS File No: 44073
Client: Geoscience Support Services
Report Date: 03/13/14

PHYSICAL PROPERTIES DATA - HYDRAULIC CONDUCTIVITY PACKAGE Rev.01

Project Name: MPWSP
Project No: 13017-13

		METHODS:	API RP 40 / ASTM D2216	API RP 40		API RP 40		API RP 40	API RP 40; EPA 9100	
									25 PSI CONFINING STRESS	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT, % weight	DENSITY		POROSITY, %Vb (2)		TOTAL PORE FLUID SATURATIONS (3), % Pv	EFFECTIVE (4,5) PERMEABILITY TO WATER, millidarcy	HYDRAULIC CONDUCTIVITY (4,5), cm/s
				DRY BULK, g/cc	GRAIN, g/cc	TOTAL	AIR-FILLED			
CX-B1 66.5-67	66.6	V	22.9	1.46	2.66	45.0	11.6	74.2	273	2.76E-04
CX-B1 166.5-167.0	166.6	V	24.7	1.58	2.82	43.8	4.7	89.3	484	4.87E-04
CX-B1 257.5-258	257.5-258	V	41.1	1.11	2.61	57.7	12.2	78.8	1.75	1.75E-06
CX-B2 207.5-208	207.6	V	21.5	1.48	2.67	44.6	12.9	71.1	3820	3.76E-03
CX-B2 259-259.5	259.1	V	31.0	1.33	2.63	49.3	7.9	83.9	1.83	1.85E-06
CX-B3 107.5-108	107.6	V	20.6	1.43	2.64	45.8	16.4	64.2	5210	5.26E-03
CX-B3 129-129.5	129.1	V	35.5	1.25	2.62	52.1	7.6	85.5	2.83	2.86E-06
CX-B3 197.5-198	197.6	V	18.1	1.66	2.69	38.2	8.1	78.8	101	1.00E-04
ML-1 76-76.5	76.1	V	42.4	1.17	2.67	56.1	6.3	88.7	4.89	4.83E-06
ML-1 107.5-108	107.6	V	15.0	1.53	2.65	42.1	19.0	54.8	8540	8.52E-03
ML-1 147-147.5	147.1	V	32.4	1.31	2.66	50.8	8.4	83.4	1.97	1.98E-06
ML-2 87-87.5	87.1	V	20.5	1.50	2.66	43.4	12.7	70.8	101	1.00E-04
ML-2 117.5-118	117.6	V	24.3	1.43	2.64	45.8	11.0	76.0	47.3	4.70E-05
ML-2 157.5-158	157.6	V	19.2	1.52	2.61	41.6	12.3	70.5	110	1.10E-04
ML-3 106.5-107	106.6	V	12.9	1.53	2.64	42.0	22.3	47.0	1900	1.87E-03
ML-3 166.5-167	166.6	V	28.6	1.31	2.65	50.7	13.2	73.9	9.6	9.51E-06
ML-4 76.5-77	76.6	V	21.4	1.41	2.62	46.3	16.2	65.1	954	9.49E-04
ML-4 126.5-127	126.6	V	25.0	1.44	2.64	45.5	9.5	79.1	1.18	1.18E-06
ML-4 146.5-147	146.6	V	14.1	1.45	2.61	44.3	23.8	46.3	6180	6.10E-03
ML-6 79.5-80	79.6	V	32.2	1.33	2.64	49.7	6.9	86.0	2.43	2.43E-06
ML-6 107.5-108	107.6	V	15.0	1.41	2.64	46.3	25.2	45.6	4710	4.65E-03
ML-6 167-168.5	167.6	V	25.6	1.38	2.62	47.4	12.1	74.3	72.6	7.23E-05

(1) Sample Orientation: H = horizontal; V = vertical; R = remold

(2) Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids.

(3) Fluid density used to calculate pore fluid saturations: Water = 0.9996 g/cc.

(4) Effective (Native) = With as-received pore fluids in place.

(5) Permeability to water and hydraulic conductivity measured at saturated conditions.

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

Water = filtered Laboratory Fresh (tap) or Site water.

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	CEMEX
SAMPLER SIGNATURE	

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity			COMMENTS
CX-B1 66.5-67	10/22/13	1500	66.5-67	1		X															X			
CX-B1 166.5-167.0	10/23/13	1500	166.5-167	1		X															X			
CX-B1 257.5-258	10/25/13	1500	257.5-258	1		X															X			2 inches of sample missing
CX-B2 207.5-208	11/5/13	1345	207.5-208	1		X															X			
CX-B2 259-259.5	11/6/13	1000	259-259.5	1		X															X			
CX-B3 107.5-108	11/10/13	1500	107.5-108	1		X															X			
CX-B3 129-129.5	11/10/13	1500	129-129.5	1		X															X			
CX-B3 177.5-178	11/10/13	1500	177.5-178	1		X															X			
CX-B3 197.5-198	11/10/13	1500	197.5-198	1		X															X			
																								76°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds	Andrew Kieta		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS LABS
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610
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PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix C OF

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	Sandholdt dr area, Moss Landing
SAMPLER SIGNATURE	

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity			COMMENTS
ML-1 76-76.5	10/3/13	10:30	76-76.5	1		X															X				
ML-1 107.5-108	10/3/13	13:10	107.5-108	1		X															X				
ML-1 147-147.5	10/3/13	14:00	147-147.5	1		X															X				

76°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds	Andrew Kiela		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS LABS
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610
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PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	Del Mar Fisheries, Moss Landing
SAMPLER SIGNATURE	

ANALYSIS REQUEST

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity			COMMENTS
ML-2 87-87.5	12/9/13	1610	87-87.5	1		X															X				
ML-2 117.5-118	12/10/13	0935	117.5-118	1		X															X				
ML-2 157.5-158	12/10/13	1430	157.5-158	1		X															X				

76°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds	Andrew Kieta		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS LABS
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	Moss Landing, Nadar Agha property
SAMPLER SIGNATURE	

ANALYSIS REQUEST

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity				COMMENTS
ML-3 106.5-107	1/7/14	1600	106.5-107	1		X															X				
ML-3 166.5-167	1/8/14	1350	166.5-167	1		X															X				
ML-4 76.5-77	11/26/13	1320	76.5-77	1		X															X				
ML-4 126.5-127	12/2/13	1350	126.5-127	1		X															X				
ML-4 146.5-147	12/2/13	1745	146.5-147	1		X															X				

76 °F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds	Andrew Kirtz		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS CAB S
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610

PTS Laboratories, Inc.

CHAIN OF CUSTODY RECORD

PAGE Appendix OF

COMPANY	Geoscience Support Services
ADDRESS	PO 220
CITY	Claremont, CA
ZIP CODE	91711
PROJECT MANAGER	Brian Villalobos
EMAIL	bvillalobos@geoscience-water.com
PROJECT NAME	MPWSP
PHONE NUMBER	909-451-6650
PROJECT NUMBER	13017-13
FAX NUMBER	909-451-6638
SITE LOCATION	MBARI, Moss Landing
SAMPLER SIGNATURE	

PO# 13017-13

TURNAROUND TIME
24 HOURS ☐ 5 DAYS ☐
48 HOURS ☐ NORMAL ☑
72 HOURS ☐
OTHER: _____

SAMPLE INTEGRITY (CHECK):
INTACT X ON ICE ____

PTS QUOTE NO.

PTS FILE: 44073

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TCEQ/TNRCC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Horizontal Conductivity			
ML-6 79.5-80	11/19/13	1310	79.5-80	1		X															X				
ML-6 107.5-108	11/19/13	1320	107.5-108	1		X															X				
ML-6 167-168.5	11/20/13	0935	167-168.5	1		X															X				

COMMENTS

76°F

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
Nathan Reynolds / Matthew Ryan	Andrew Kieta / Andrew Kieta		
COMPANY: GEOSCIENCE	COMPANY: Geoscience	COMPANY: Geoscience	COMPANY: PTS CABS
DATE: 2-3-14 TIME: 17:00	DATE: 2-3-14 TIME: 17:00	DATE: 2-4-14 TIME: 10:26	DATE: 2/4/14 TIME: 10:26

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610
PTS Laboratories, Inc. • 4242 W. 10th St. • Houston, TX 77055 • Phone (713) 216-1800 • Fax (713) 216-1880

APPENDIX D

Mechanical Grading Analyses – Formation Materials

GEOSCIENCE

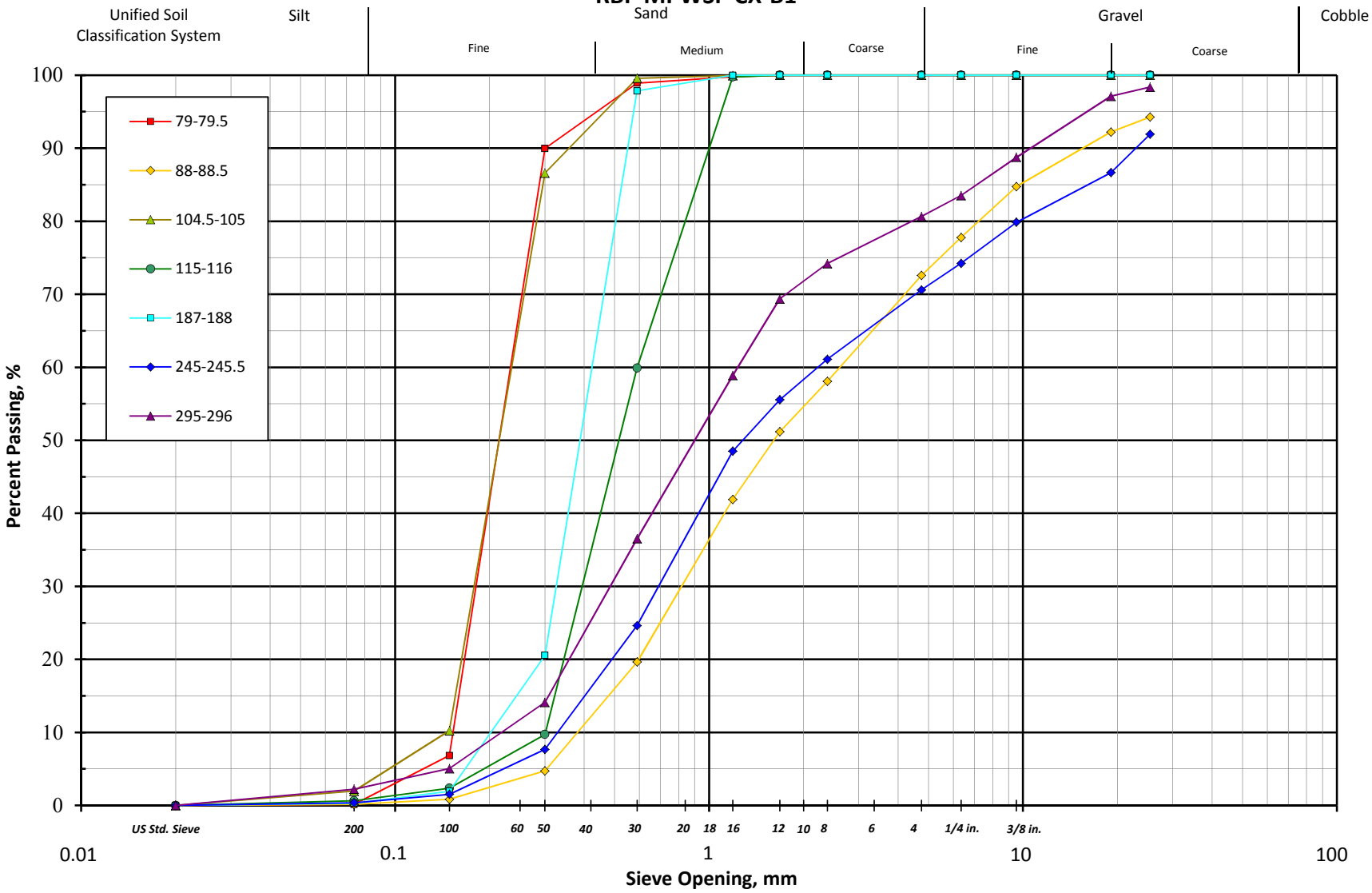
APPENDIX D:

MECHANICAL GRADING ANALYSES – FORMATION MATERIALS

CONTENTS

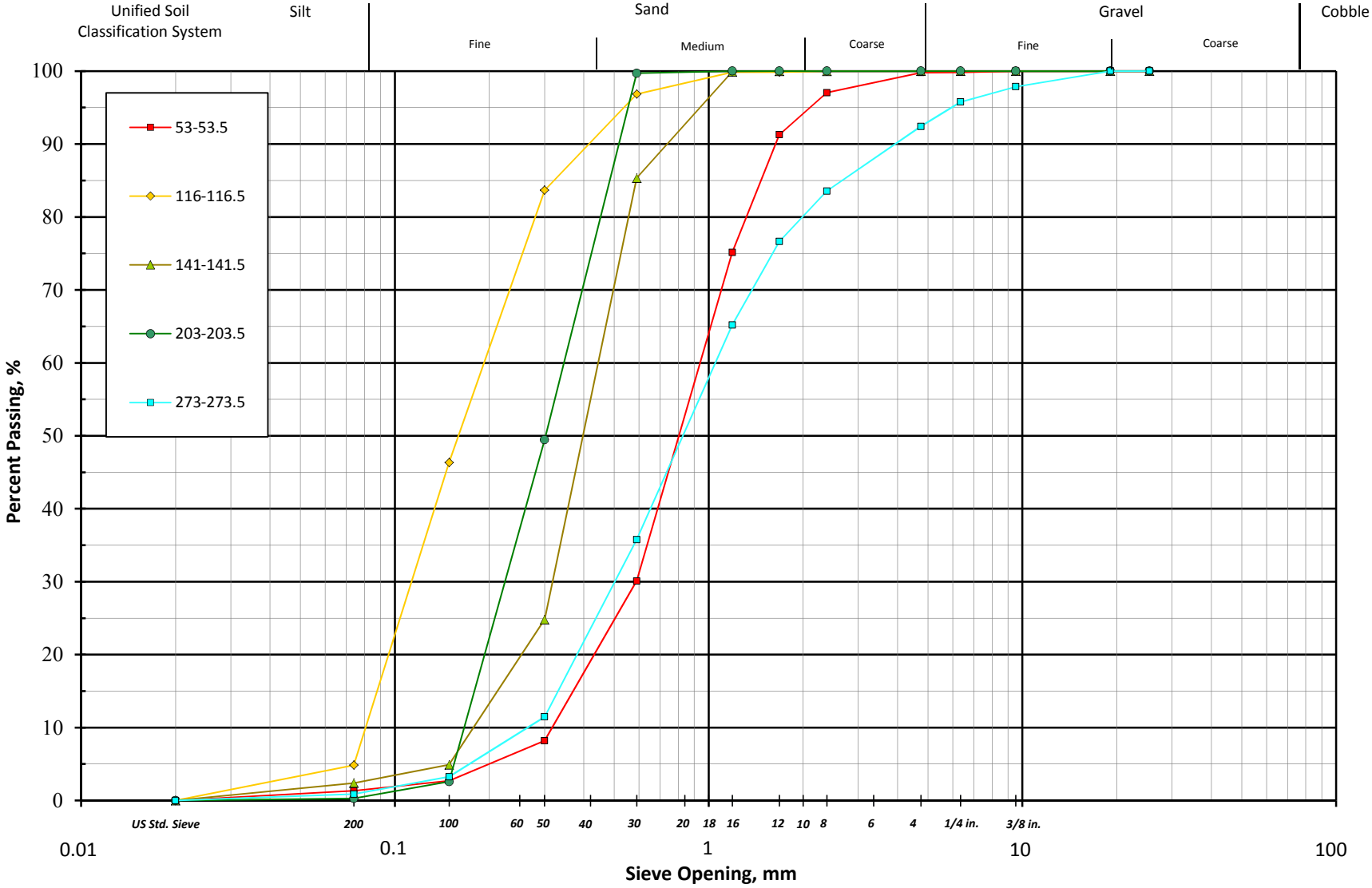
Description **Page**

Mechanical Grading Analysis
RBF-MPWSP CX-B1



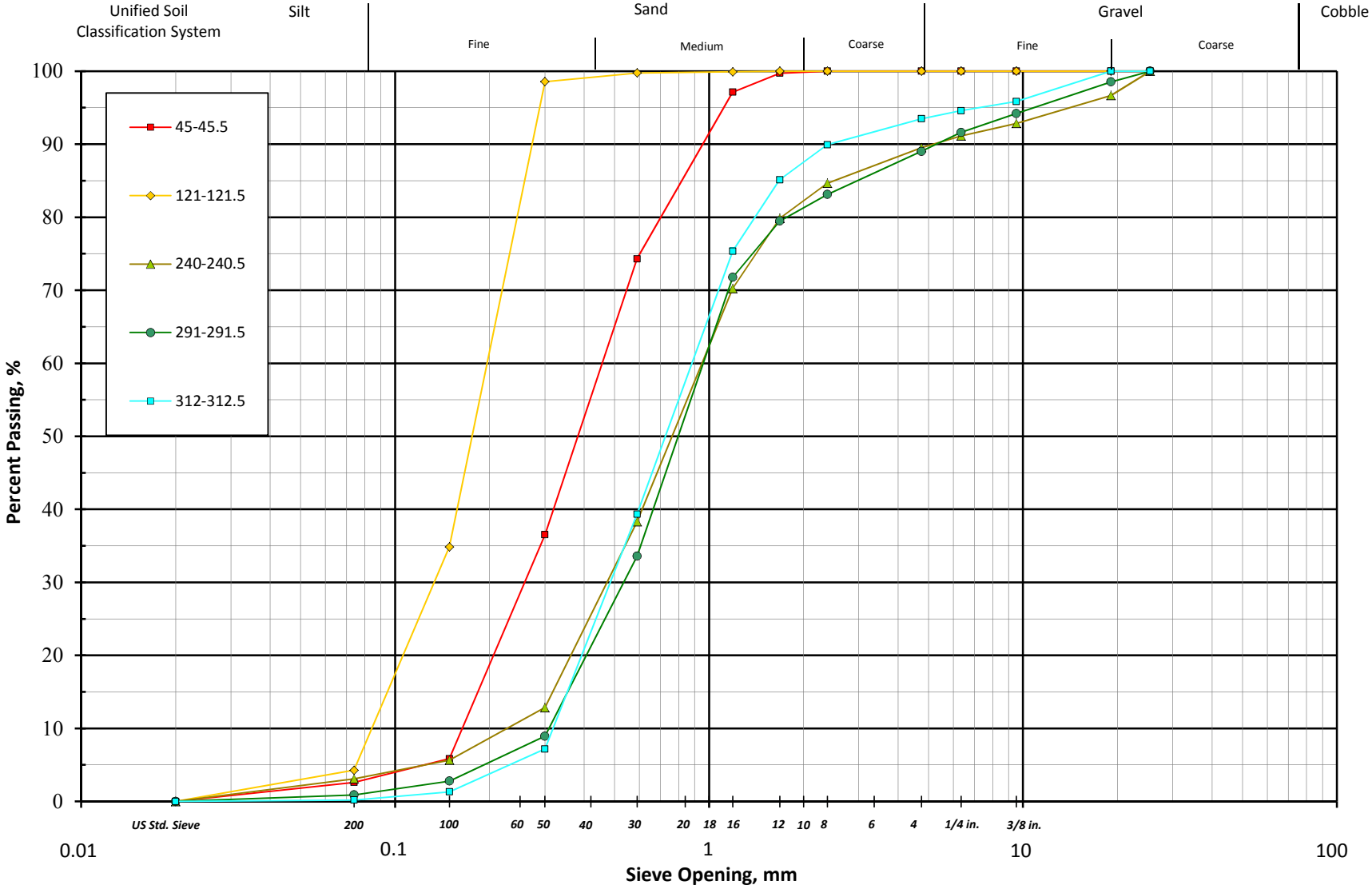
Appendix D

Mechanical Grading Analysis
RBF-MPWSP CX-B2



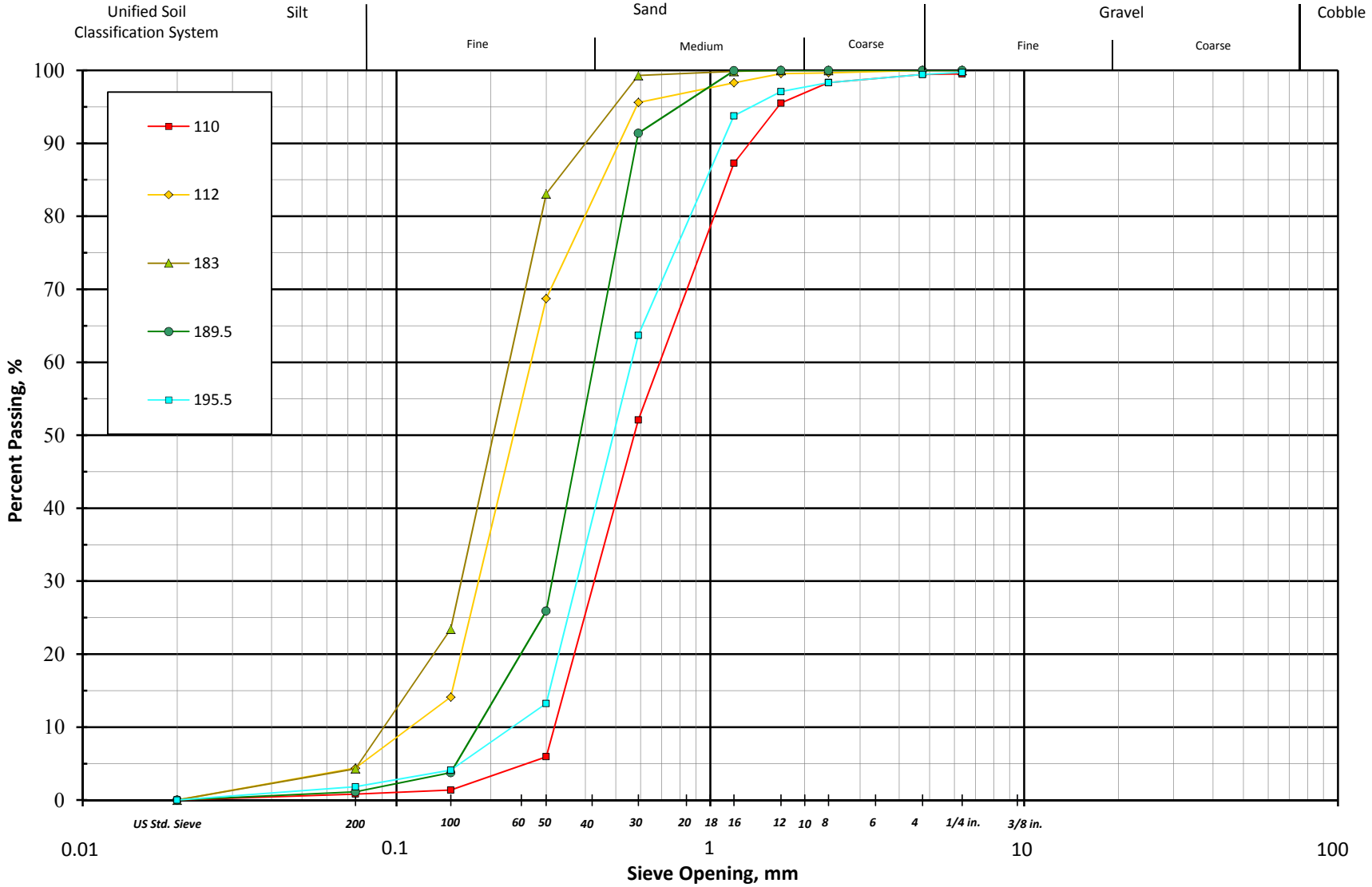
Appendix D

Mechanical Grading Analysis
RBF-MPWSP CX-B3



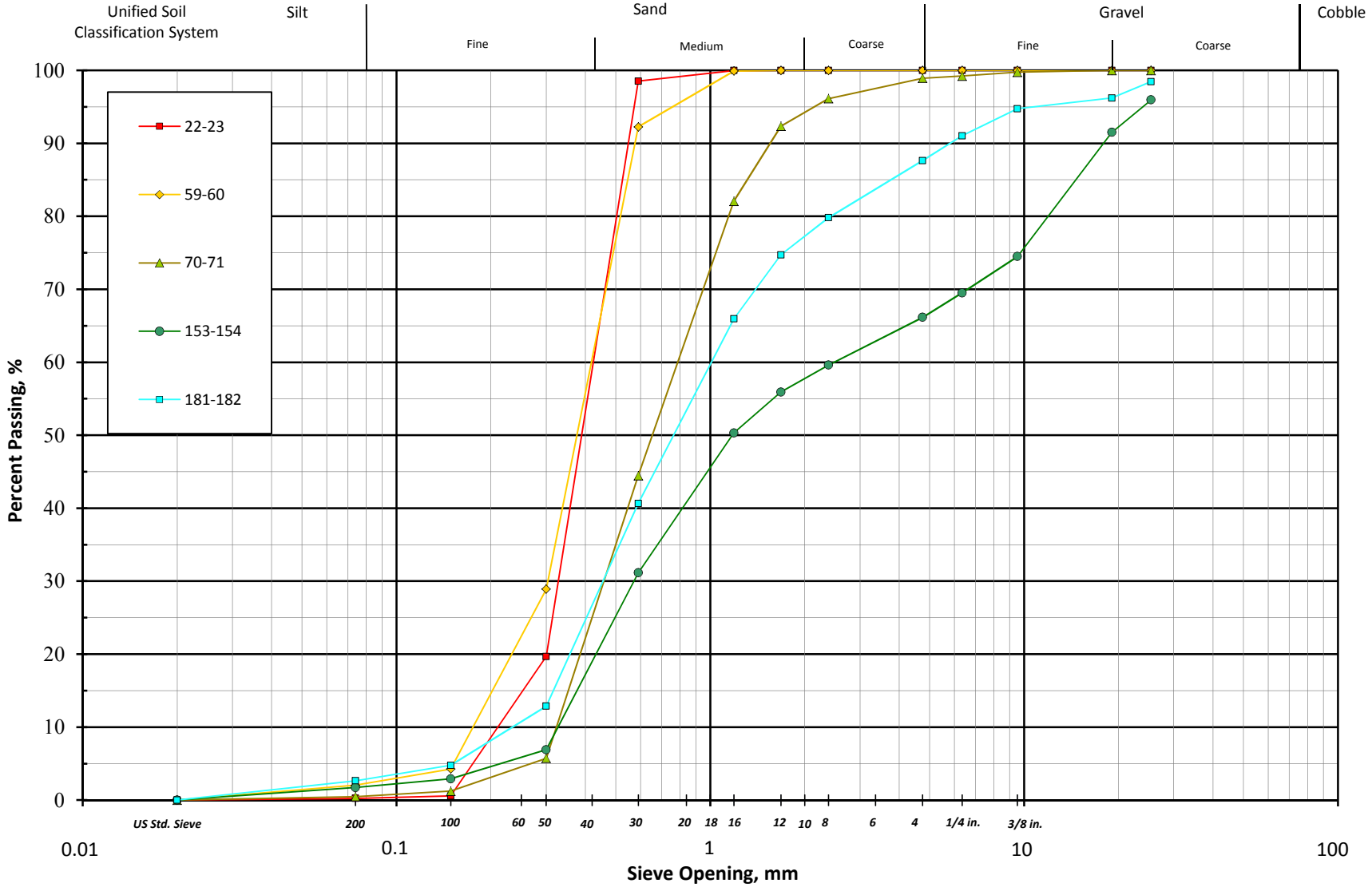
Appendix D

Mechanical Grading Analysis
RBF-MPWSP CX-B4



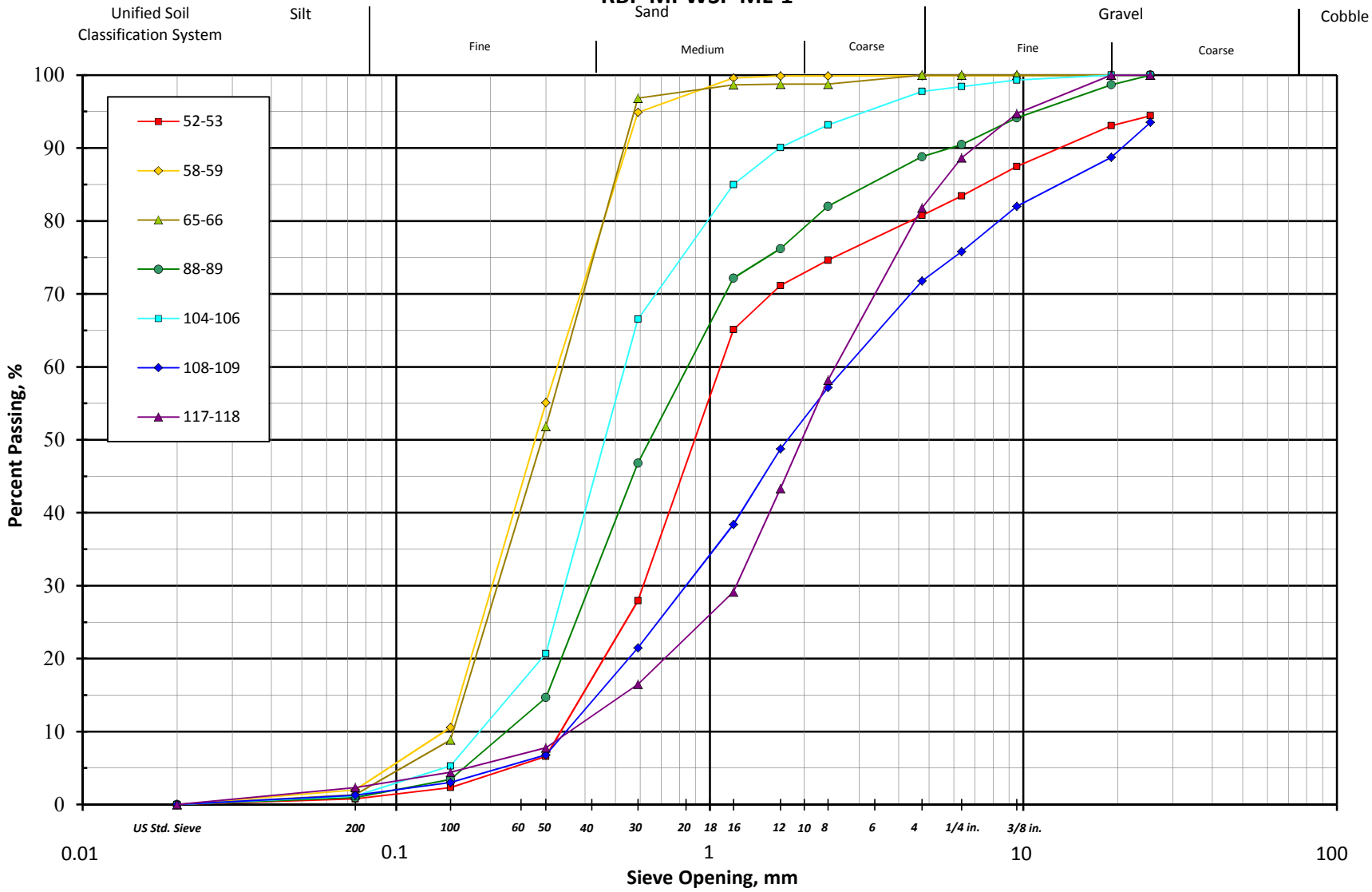
Appendix D

Mechanical Grading Analysis
RBF-MPWSP MDW-1



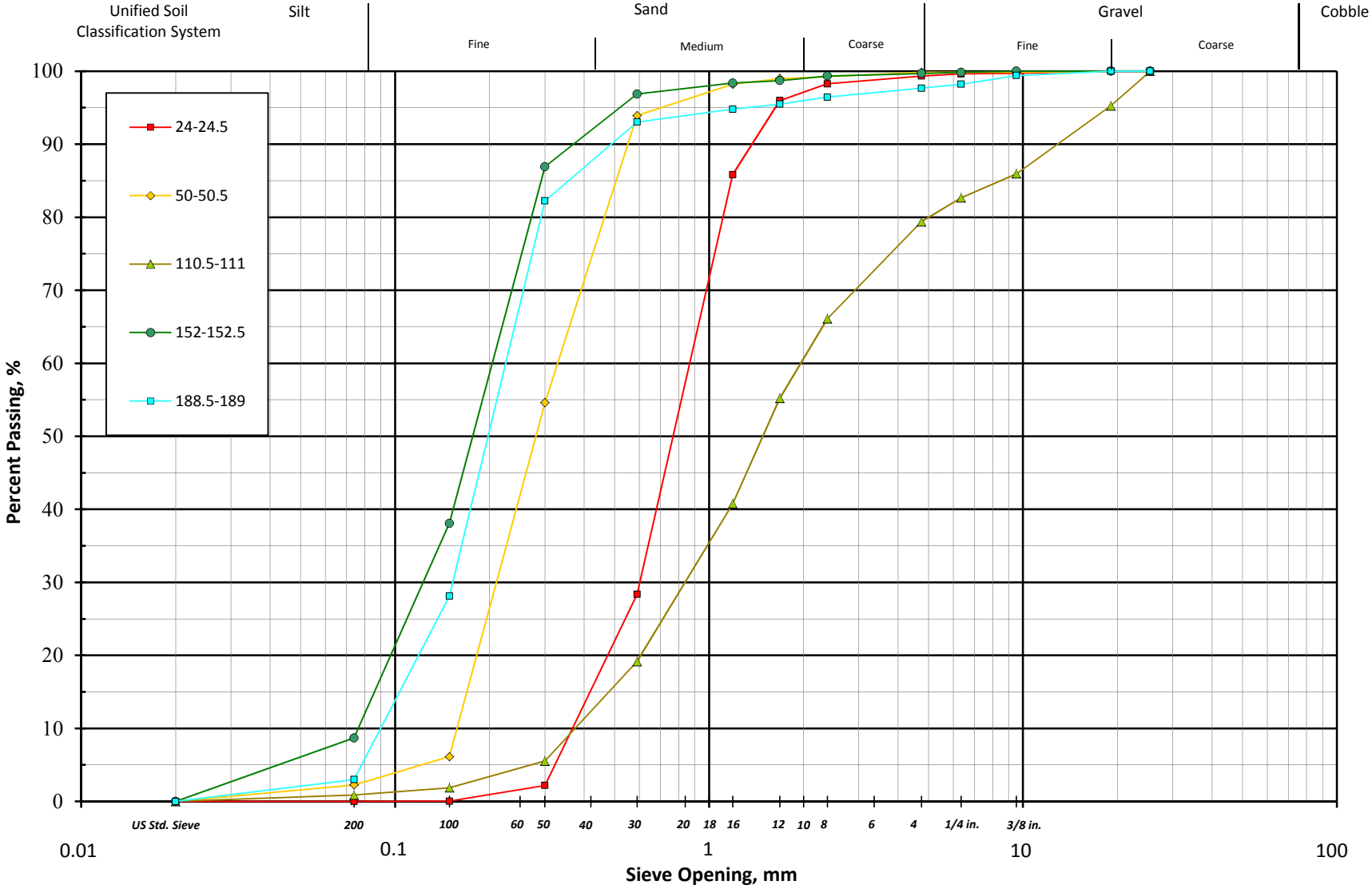
Appendix D

Mechanical Grading Analysis
RBF-MPWSP ML-1



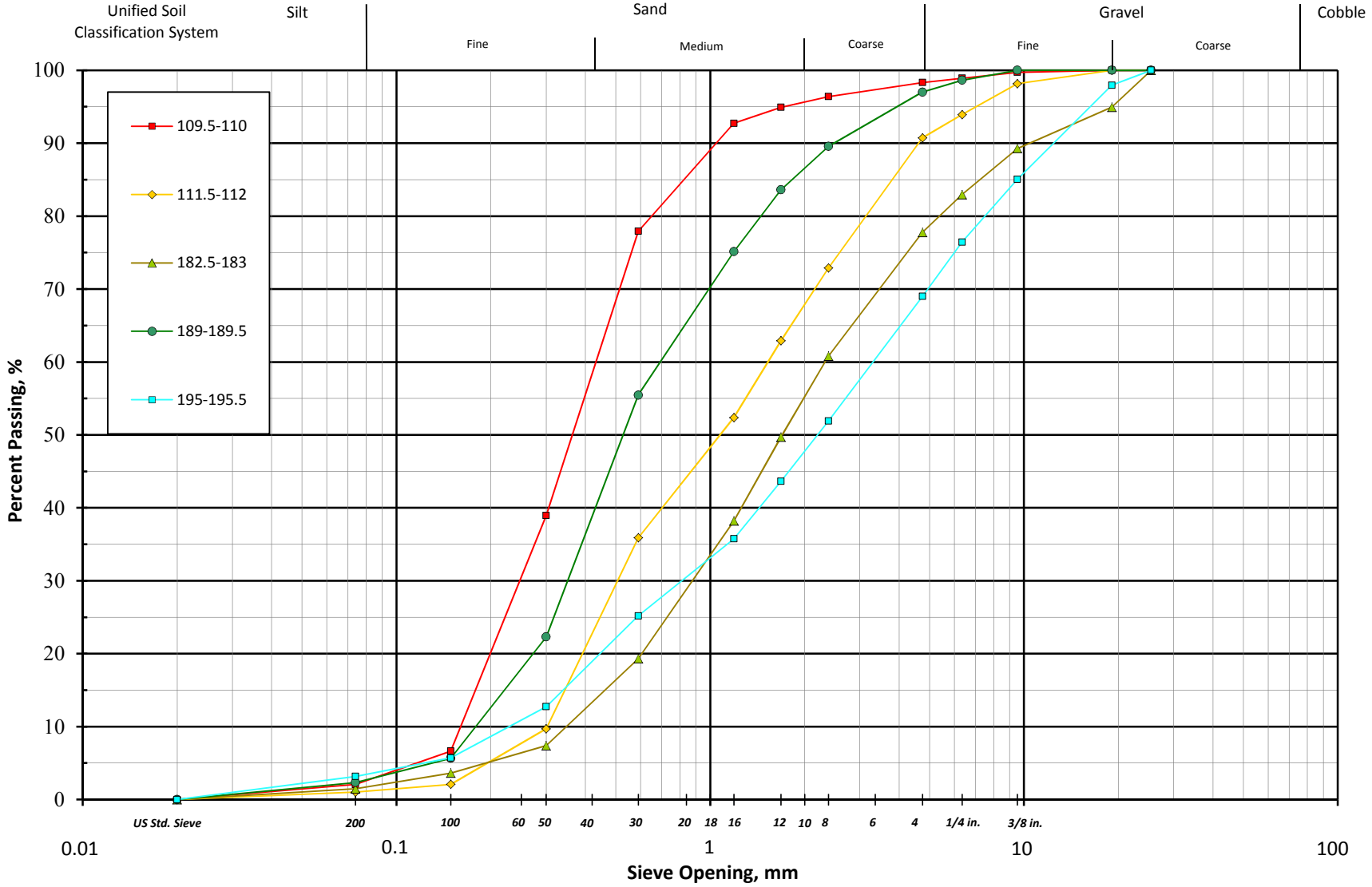
Appendix D

Mechanical Grading Analysis
RBF-MPWSP ML-2



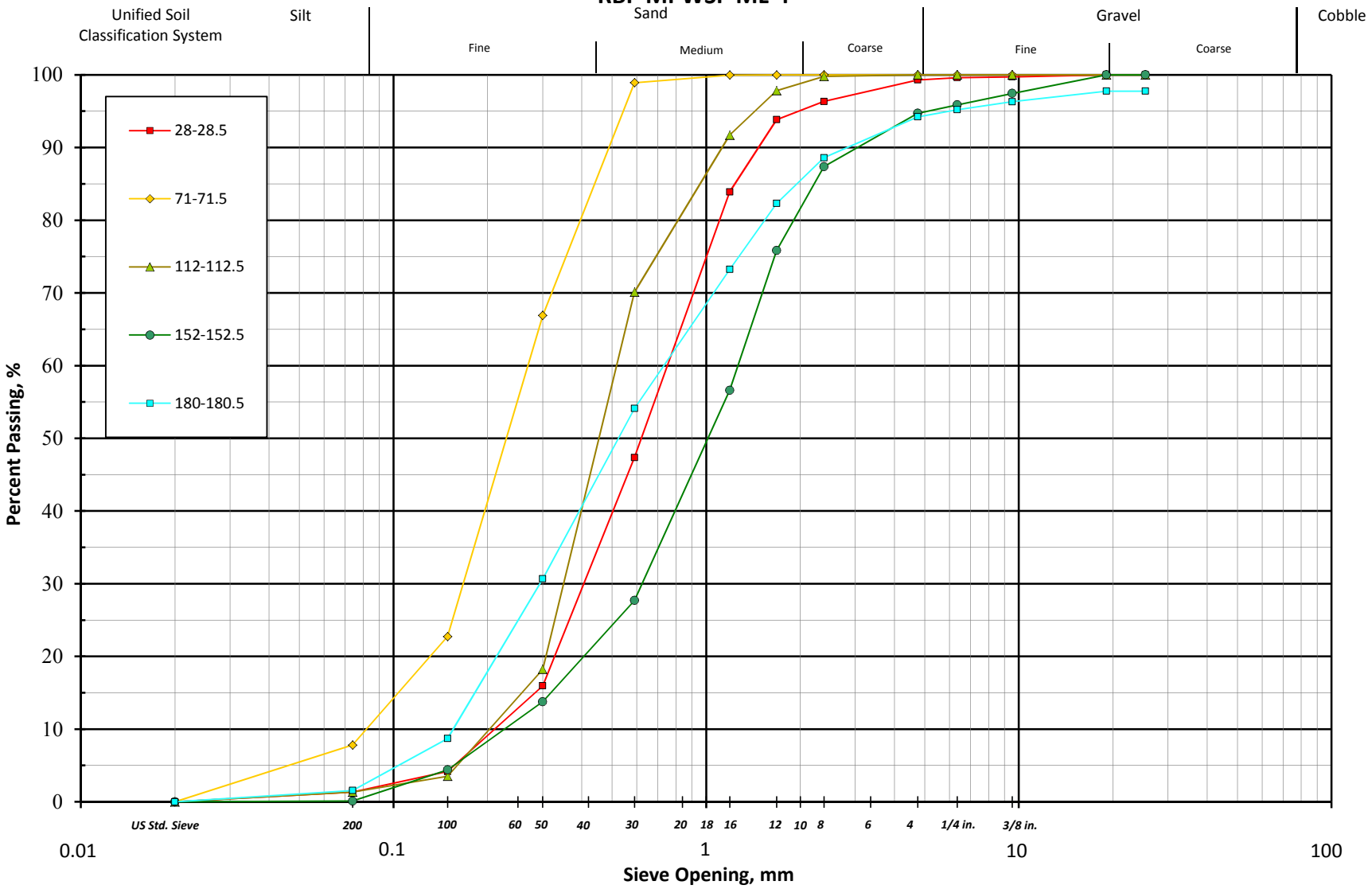
Appendix D

Mechanical Grading Analysis
RBF-MPWSP ML-3



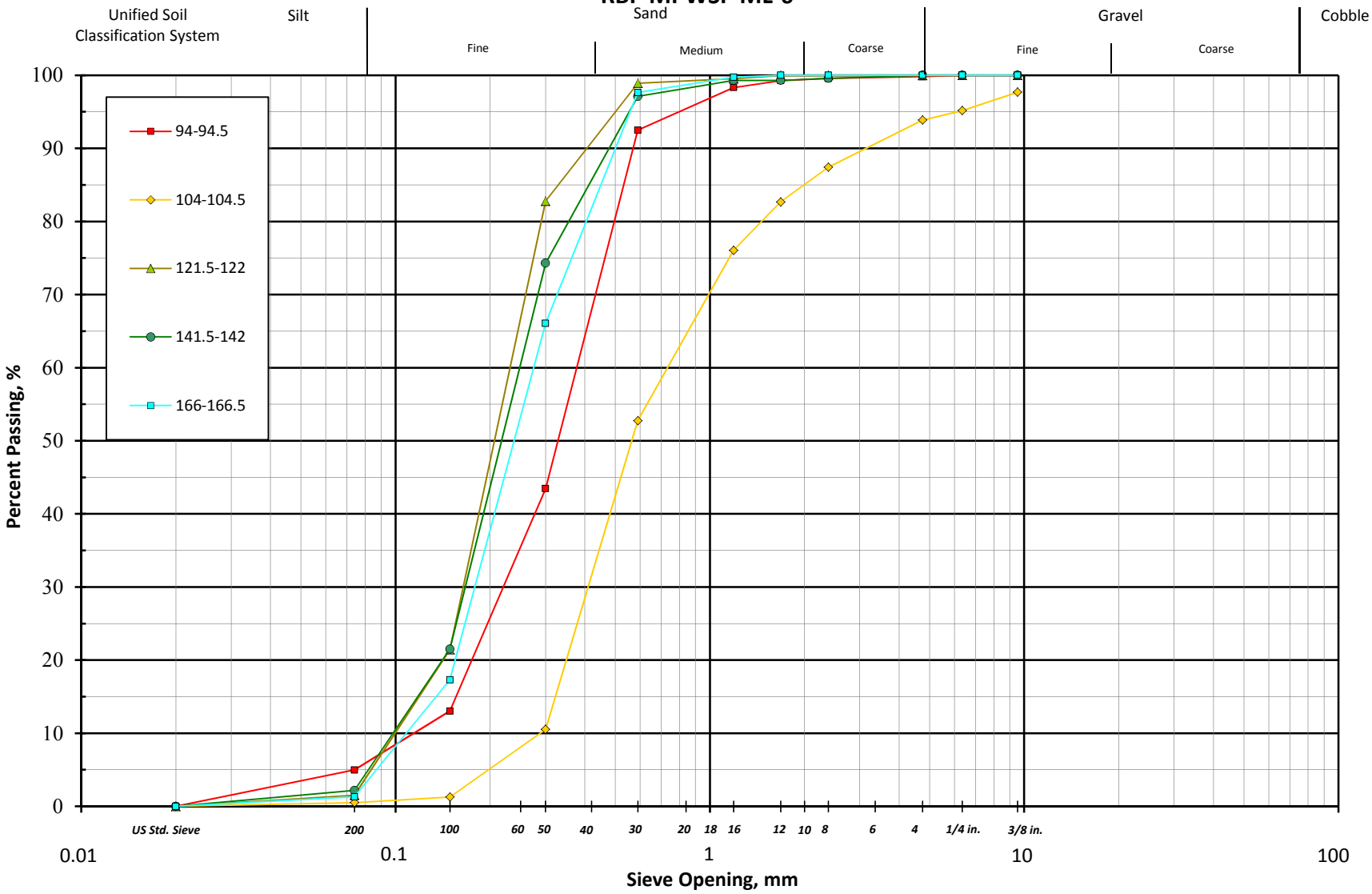
Appendix D

Mechanical Grading Analysis
RBF-MPWSP ML-4



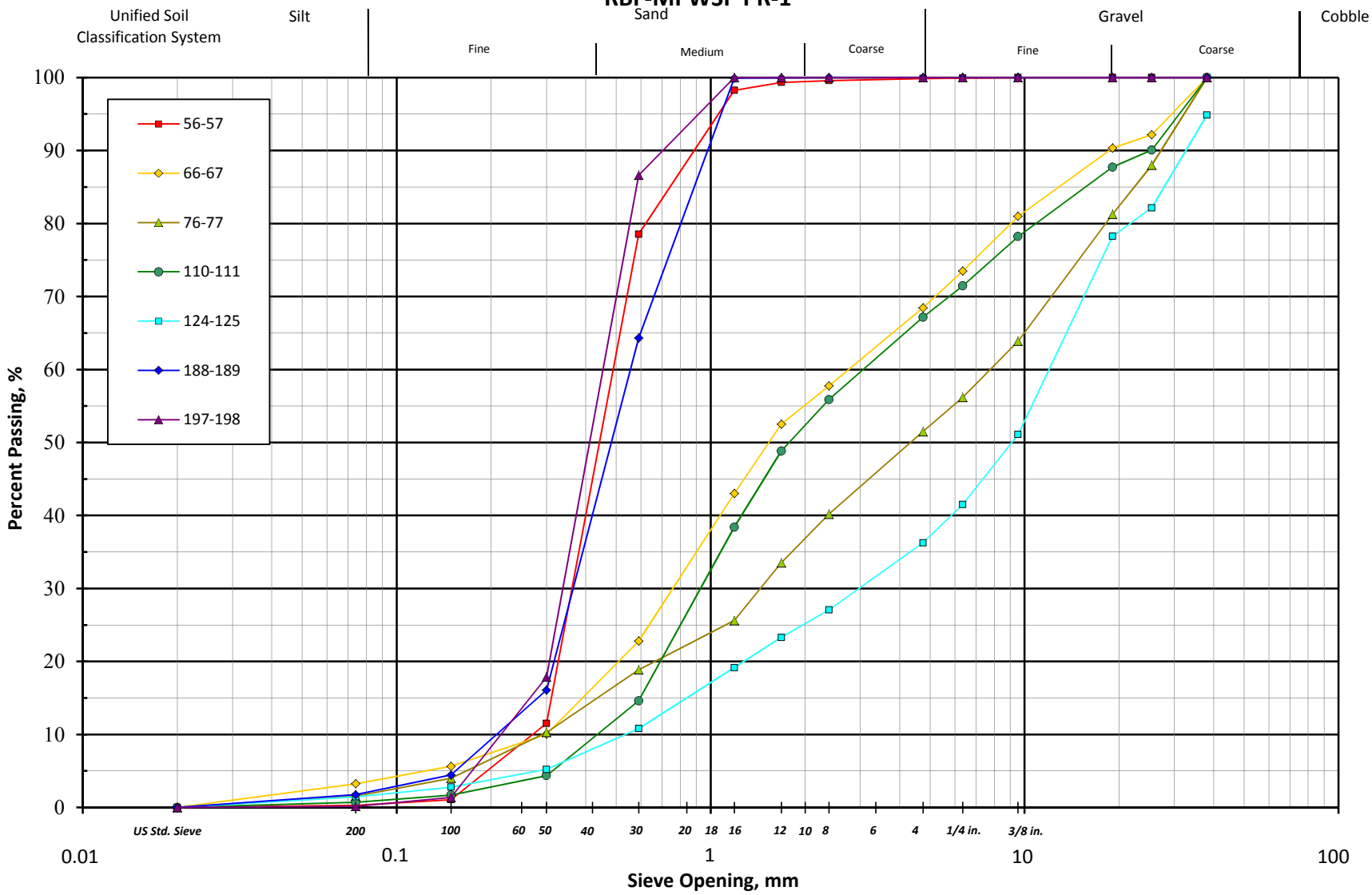
Appendix D

Mechanical Grading Analysis
RBF-MPWSP ML-6



Appendix D

Mechanical Grading Analysis
RBF-MPWSP PR-1



Appendix D

APPENDIX E

Geophysical Borehole Logs

GEOSCIENCE

APPENDIX E:

GEOPHYSICAL BOREHOLE LOGS

CONTENTS

Description **Page**

PACIFIC SURVEYS

DUAL INDUCTION GAMMA-RAY

Job No. 17725

File No.

Company CASCADE DRILLING, INC.

Well CX-B1

Field MARINA

County MONTEREY State CA

Location

OFF OF LAPIS RD.
GPS: N 36o 42.797' W 121o 48.360'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

Permanent Datum	G.L.	Elevation above perm. datum	Elevation K.B. D.F. G.L.
Log Measured From	G.L. 0'		
Drilling Measured From	G.L.		

Date	10-26-2013		
Run Number	ONE		
Depth Driller	305'		
Depth Logger	304'		
Bottom Logged Interval	304'		
Top Log Interval	0'		
Open Hole Size	9" (0'-100')	8" (100'-306')	
Type Fluid	N/A		
Density / Viscosity	N/A		
Fluid Level	N/A		
Bentonite Seal	N/A		
Time Well Ready	1330		
Time Logger on Bottom	1400		
Equipment Number	PS-3		
Location	LA		
Recorded By	SCHUMACHER		
Witnessed By	B. VILLALOBOS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	9"	0'	100'				
TWO	8"	100'	306'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9"	N/A	0'	3.5'
Prot. String	4" PVC	N/A	0'	305'
Production String				
Liner				

<<< Fold Here >>>

Comments

0.010" SLOT FROM 5'-305' BGS

Calibration Report

Database File 17725.db
Dataset Pathname DIL
Dataset Creation Sat Oct 26 14:46:45 2013

Dual Induction Calibration Report

Serial-Model:	0001-ALT	
Surface Cal Performed:	Wed Aug 31 18:21:15 2011	**Appendix E**

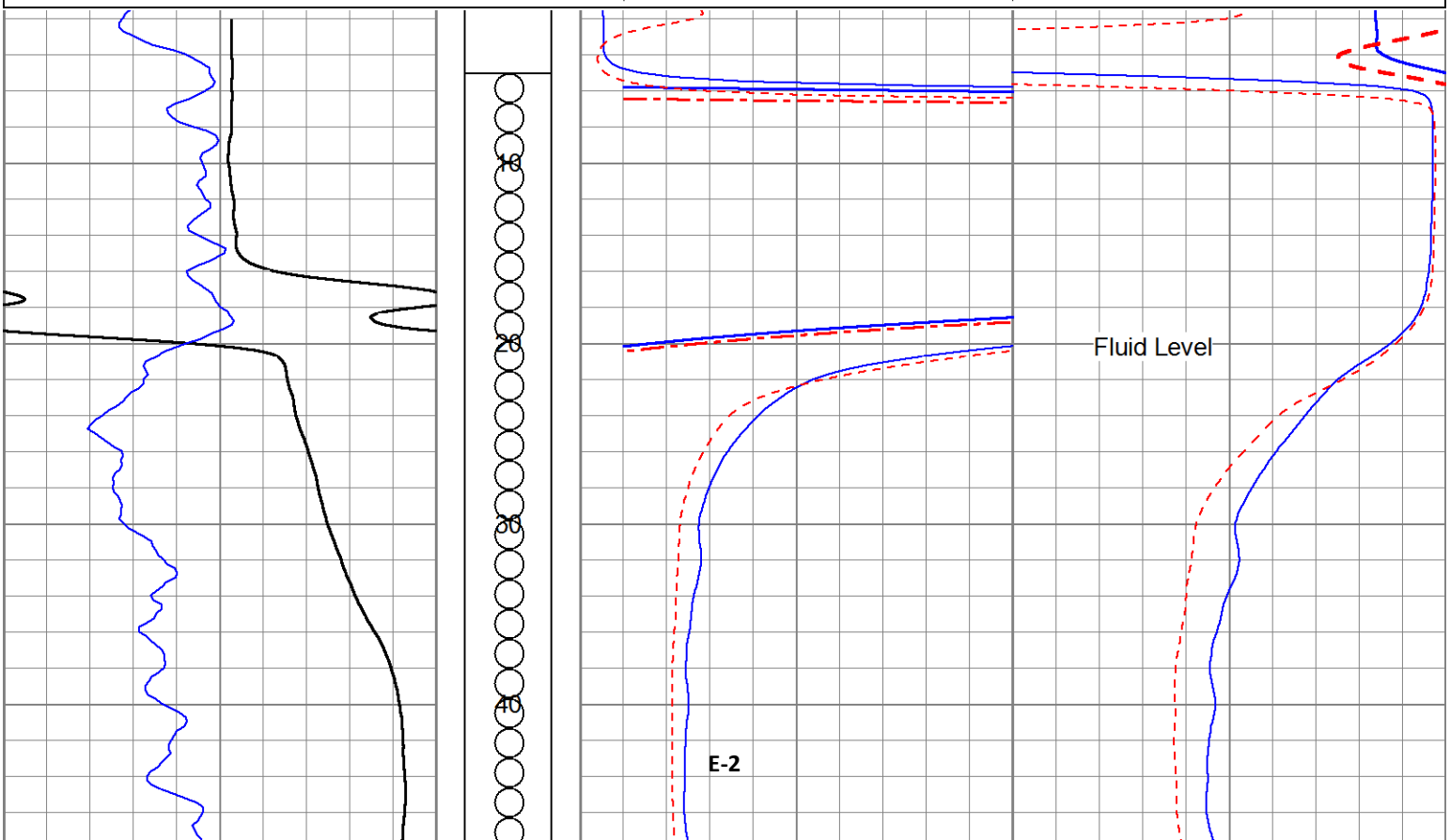
	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	1407.490	3493.640	cps	0.000	612.000	mmho/m	0.293	-412.905
Medium	1908.120	14487.900	cps	0.000	1960.000	mmho/m	0.156	-297.296

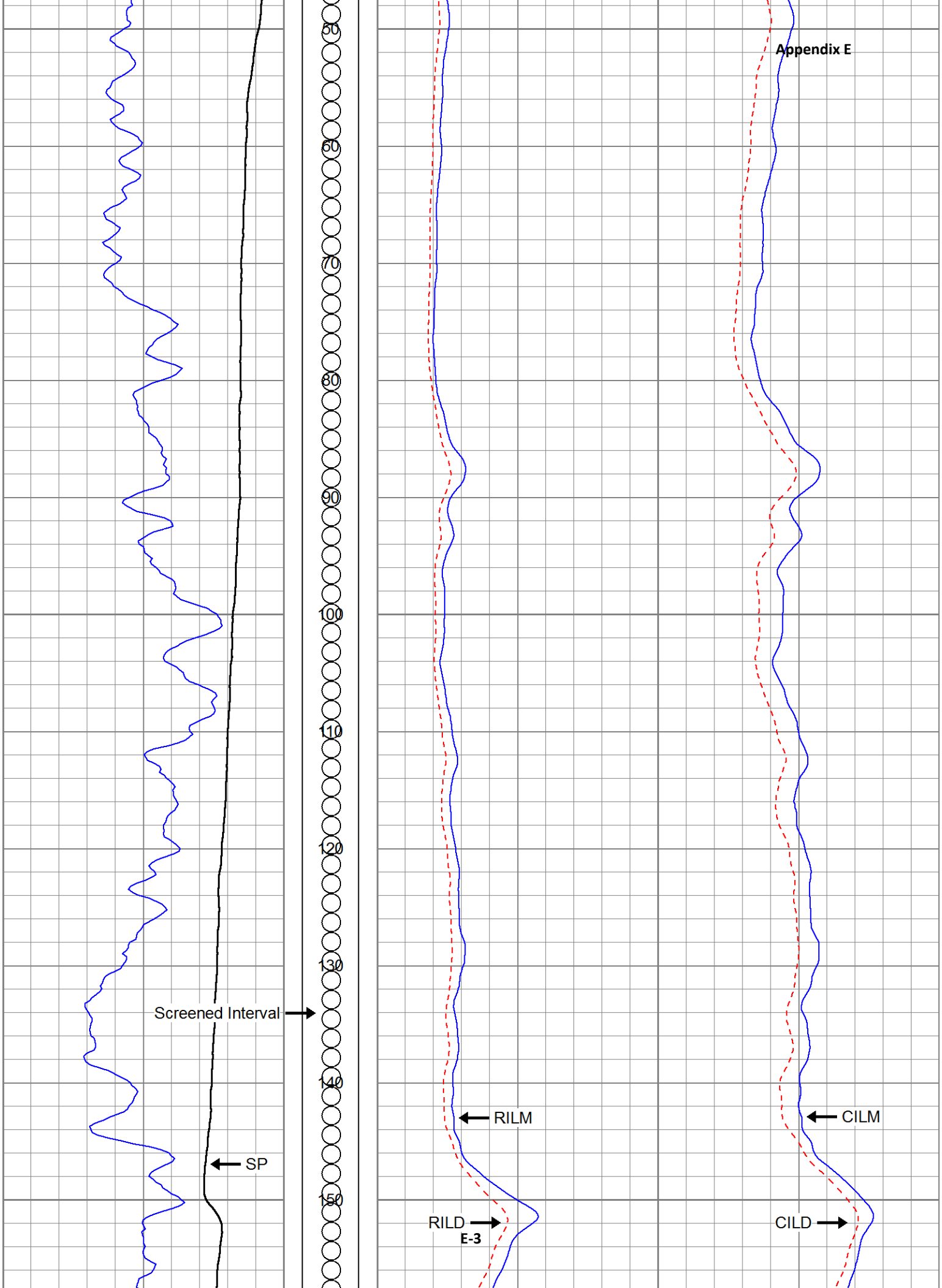
Gamma Ray Calibration Report

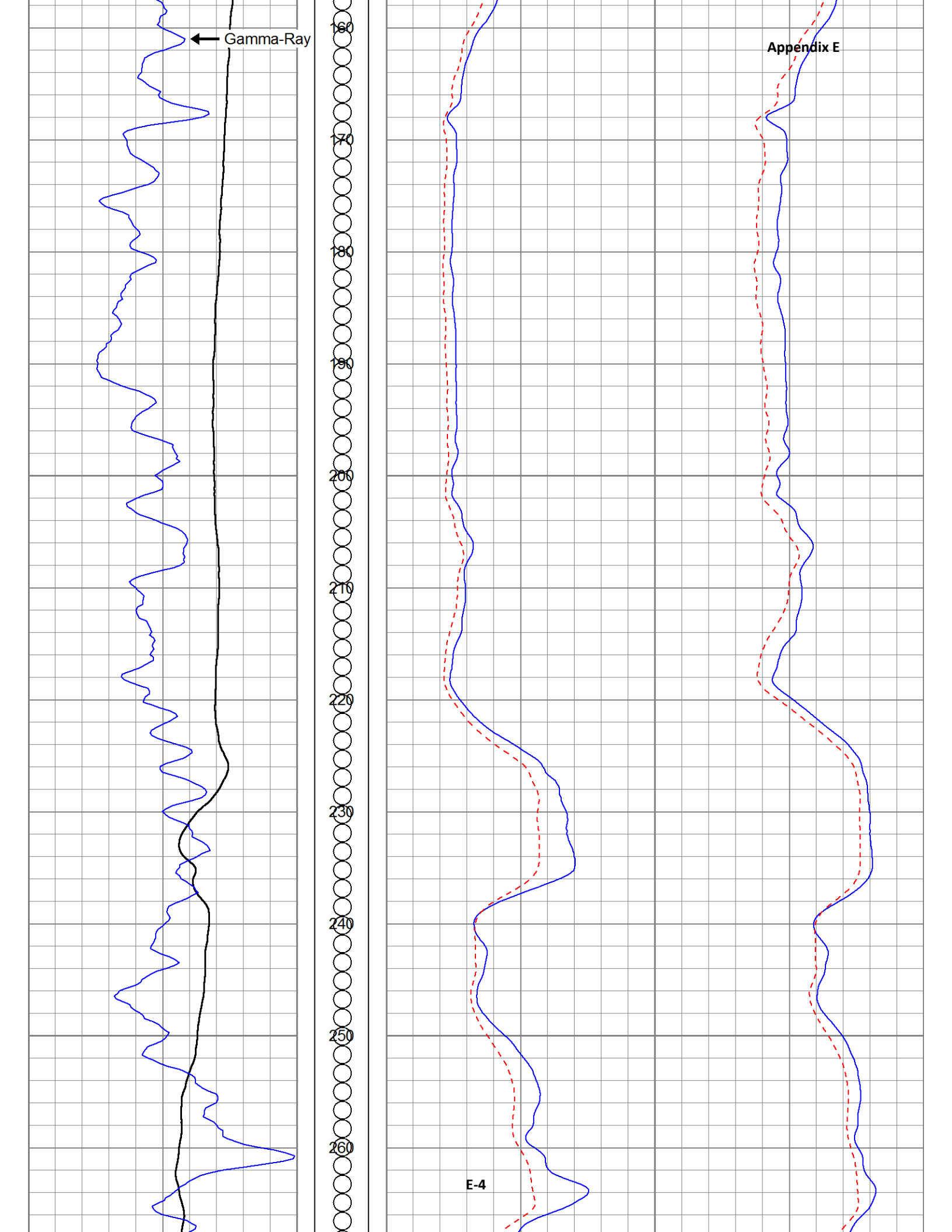
Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Aug 31 18:22:13 2011	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

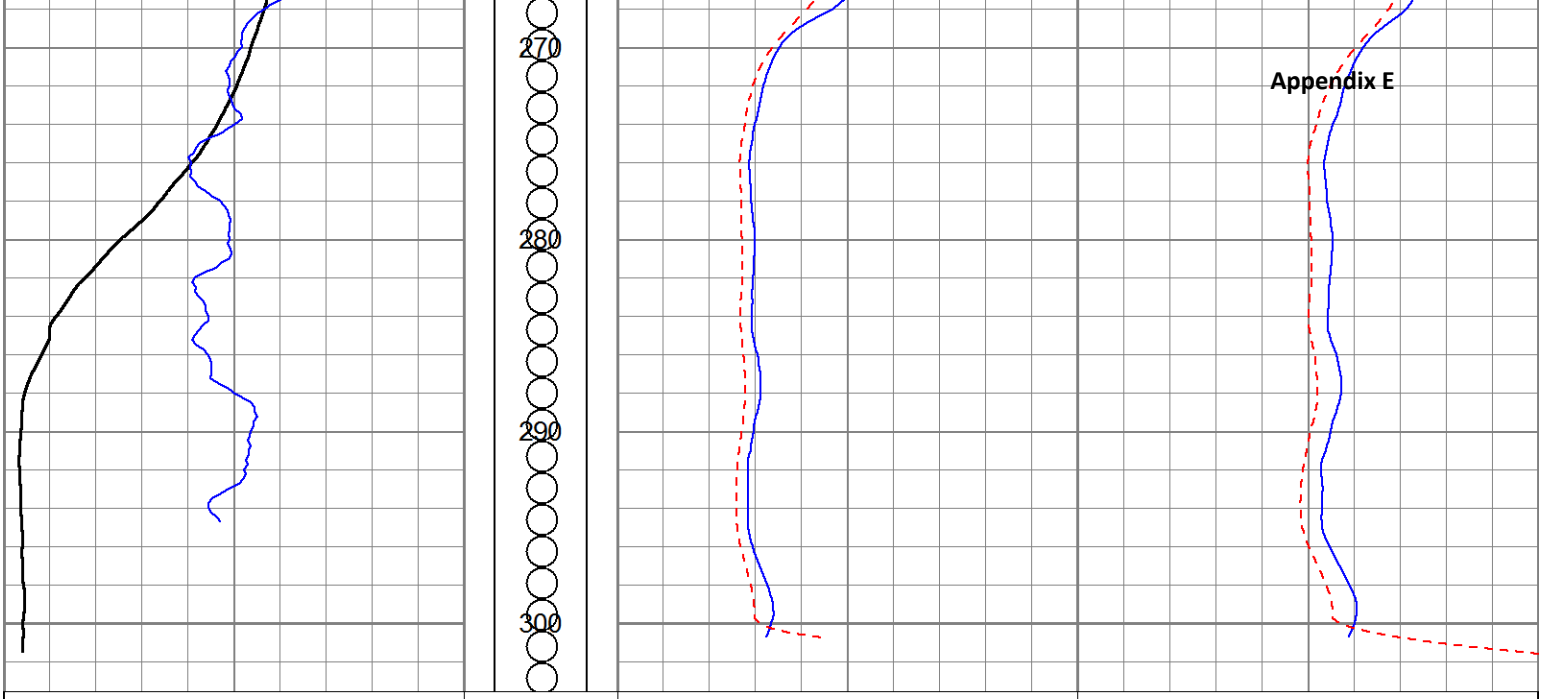
Database File	17725.db
Dataset Pathname	DIL
Presentation Format	dil_ps
Dataset Creation	Sat Oct 26 14:46:45 2013
Charted by	Depth in Feet scaled 1:120

10	SP (mV)	160		0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110		0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
				5	RILM backup (Ohm-m)	10	15000	CILM backup (mmho/m)	1500
				5	RILD backup (Ohm-m)	10	15000	CILD backup (mmho/m)	1500




50
60
70
80
90
100
110
120
130
140
150
Screened Interval
SP
RILM
RILD
CILM
CILD


Gamma-Ray
160
170
180
190
200
210
220
230
240
250
260



10 SP (mV) 160	0 RILM (Ohm-m) 5	1500 CILM (mmho/m) 0
10 Gamma Ray (GAPI) 110	0 RILD (Ohm-m) 5	1500 CILD (mmho/m) 0
	5 RILM backup (Ohm-m) 10	15000 CILM backup (mmho/m) 1500
	5 RILD backup (Ohm-m) 10	15000 CILD backup (mmho/m) 1500

PACIFIC SURVEYS

DUAL INDUCTION GAMMA RAY

Job No. 17805

File No.

Company CASCADE DRILLING INC.

Well CX-B2

Field MARINA

County MONTEREY State CA

Location

OFF OF LAPIS RD.
GPS: N36o42.768' W121o48.226'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

Permanent Datum	G.L.	Elevation above perm. datum	Elevation K.B.
Log Measured From	G.L. 0'		D.F.
Drilling Measured From	G.L.		G.L.

Date	11-07-2013		
Run Number	ONE		
Depth Driller	305.5'		
Depth Logger	301.5'		
Bottom Logged Interval	300'		
Top Log Interval	0'		
Open Hole Size	7" (0'-30')	6.5" (30'-307')	
Type Fluid	WATER		
Density / Viscosity	N/A		
Fluid Level	27'		
Bentonite Seal	N/A		
Time Well Ready	11:00 AM		
Time Logger on Bottom	11:30 AM		
Equipment Number	PS-5		
Location	L.A.		
Recorded By	ABREAU		
Witnessed By	N. REYNOLDS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	7"	0'	30'				
TWO	6.5"	30'	307'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	7.25"	N/A	0'	30'
Prot. String				
Production String	4" PVC	SCH 40	0'	305.5'
Liner				

<<< Fold Here >>>

Comments

Calibration Report

Database File 17805.db
Dataset Pathname DIL
Dataset Creation Thu Nov 07 12:02:28 2013

Dual Induction Calibration Report

Serial-Model:	0001-ALT	
Surface Cal Performed:	Tue Feb 19 09:35:46 2013	**Appendix E**

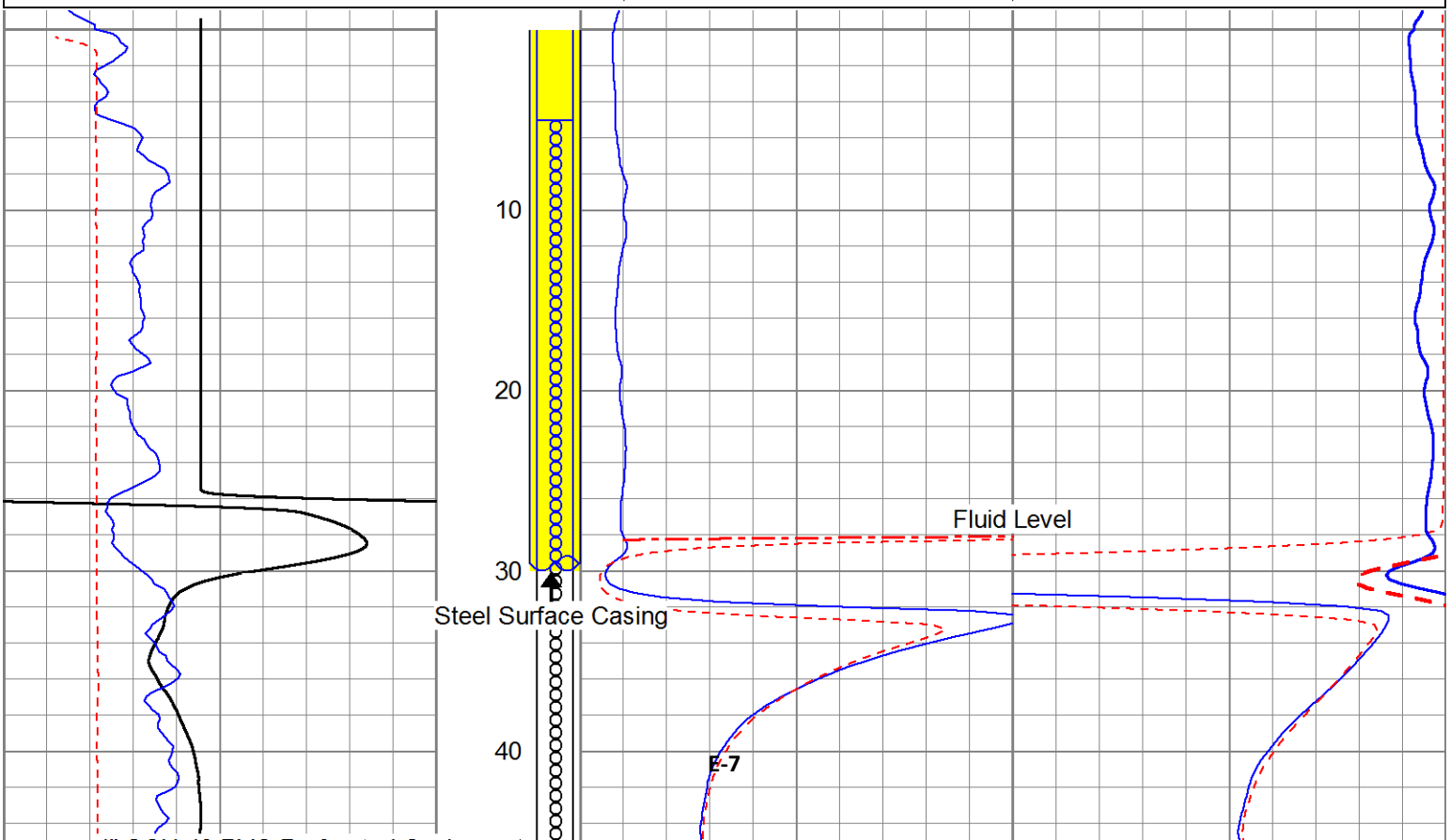
Loop:	Readings Air	Readings Loop		References Air	References Loop		Results m	Results b
Deep	1421.120	3677.430	cps	0.000	612.000	mmho/m	0.271	-385.466
Medium	2115.060	14165.800	cps	0.000	1960.000	mmho/m	0.163	-344.005

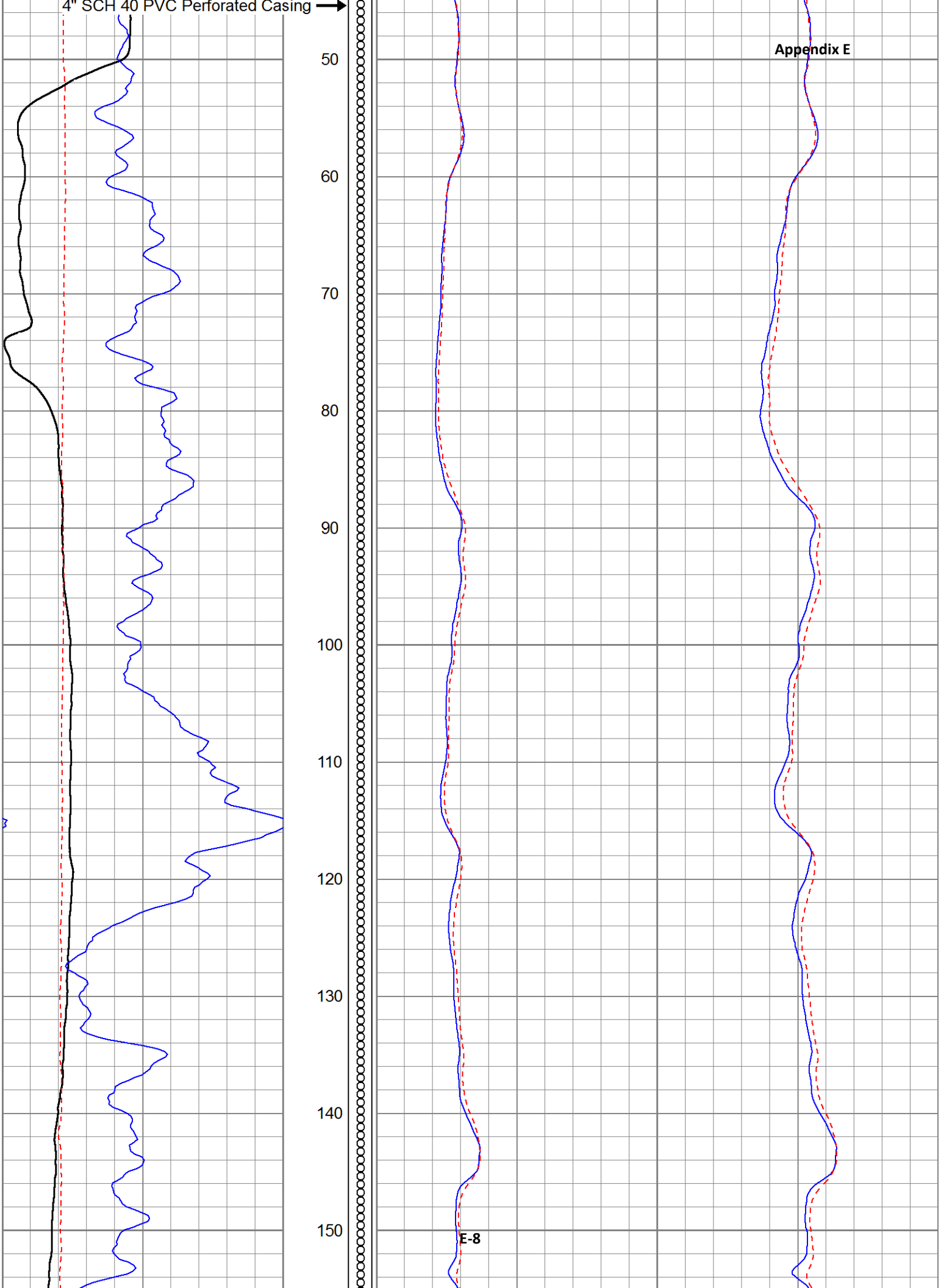
Gamma Ray Calibration Report

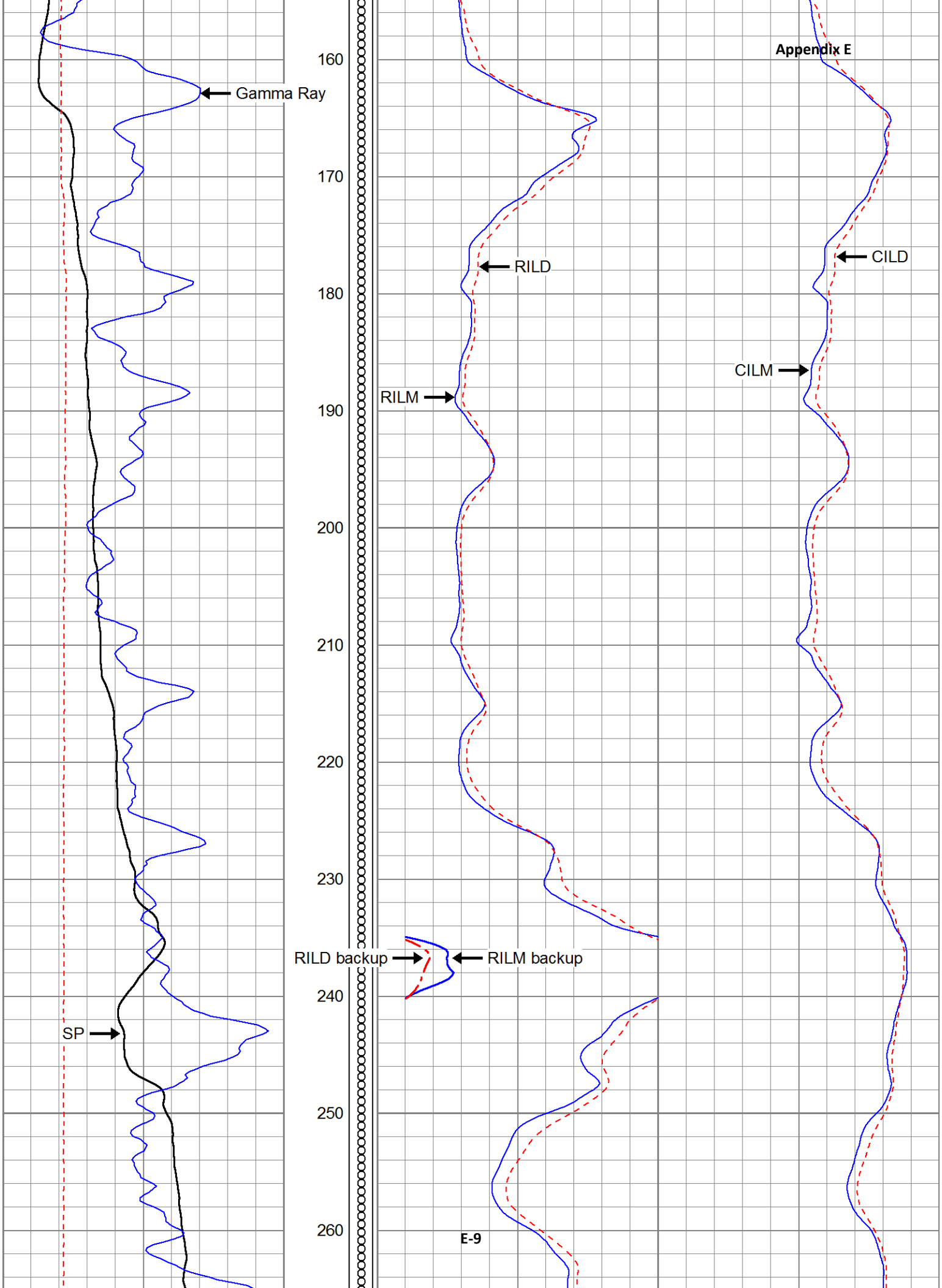
Serial Number:	PS_1	
Tool Model:	01	
Performed:	Tue Feb 19 09:35:55 2013	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

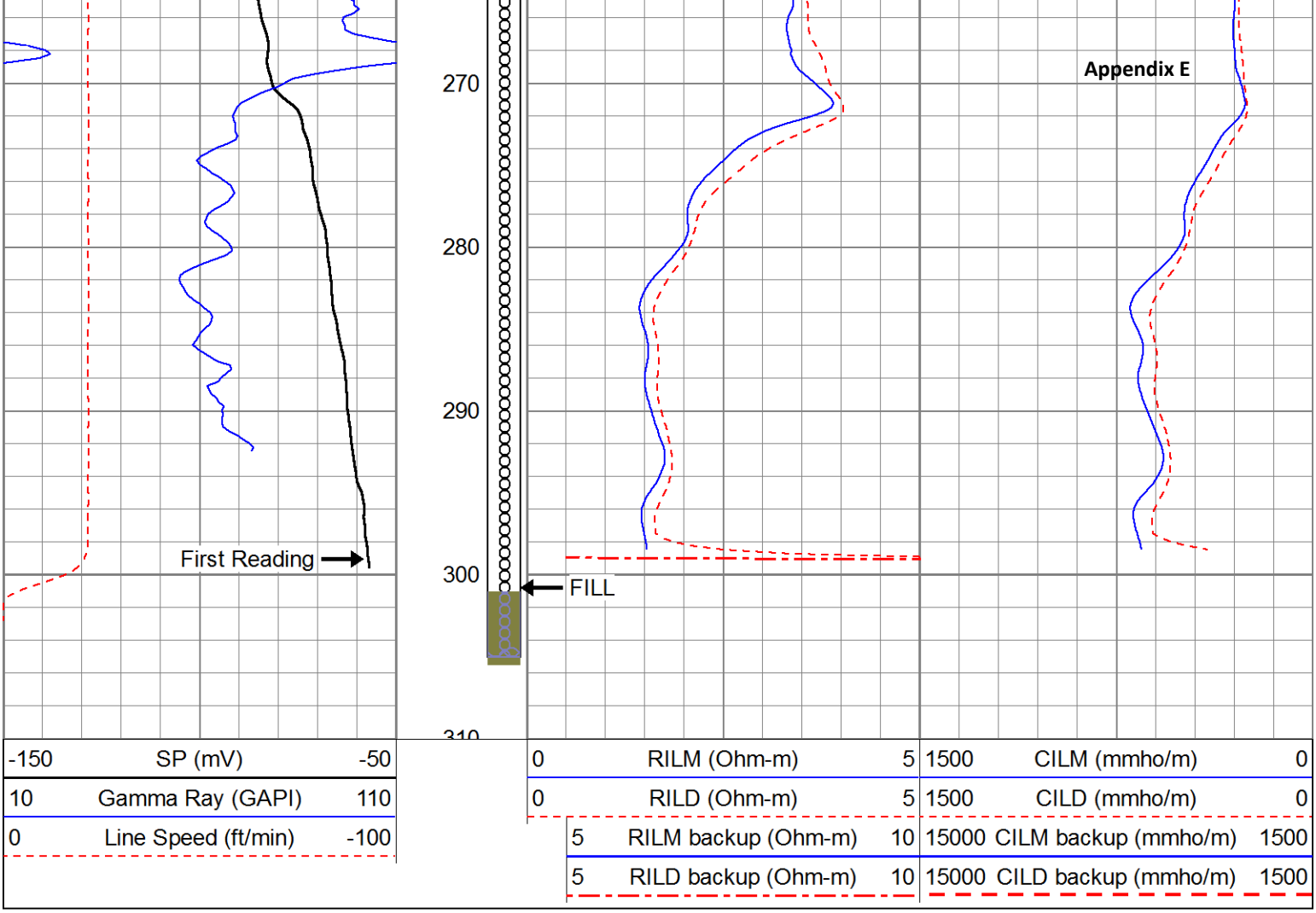
Database File	17805.db
Dataset Pathname	DIL
Presentation Format	dil_ps
Dataset Creation	Thu Nov 07 12:02:28 2013
Charted by	Depth in Feet scaled 1:120

-150	SP (mV)	-50	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
0	Line Speed (ft/min)	-100	5	RILM backup (Ohm-m)	10	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	10	15000	CILD backup (mmho/m)	1500




4" SCH 40 PVC Perforated Casing
50
60
70
80
90
100
110
120
130
140
150


160
170
180
190
200
210
220
230
240
250
260
Gamma Ray
SP
RILD
RILM
RILD backup
RILM backup
CILD
CILM


270
280
290
300
First Reading
FILL
-150 SP (mV) -50
10 Gamma Ray (GAPI) 110
0 Line Speed (ft/min) -100
0 RILM (Ohm-m) 5
0 RILD (Ohm-m) 5
5 RILM backup (Ohm-m) 10
5 RILD backup (Ohm-m) 10
1500 CILM (mmho/m) 0
1500 CILD (mmho/m) 0
15000 CILM backup (mmho/m) 1500
15000 CILD backup (mmho/m) 1500

PACIFIC SURVEYS

TEMPERATURE
DELTA TEMPERATURE
FLUID RESISTIVITY
DELTA FLUID RESISTIVITY

Job No. 17821

File No.

Company CASCADE DRILLING INC.

Well CX-B3

Field MARINA

County MONTEREY State CA

Location

OFF OF LAPIS RD.
GPS: N36o42.721' W121o47.985'

Other Services:

DUAL INDUCTION
GAMMA RAY

			Elevation
Permanent Datum	G.L.	Elevation above perm. datum	K.B.
Log Measured From	G.L. 0'		D.F.
Drilling Measured From	G.L.		G.L.

Date	11-12-2013		
Run Number	ONE		
Depth Driller	348.5'		
Depth Logger	346.5'		
Bottom Logged Interval	346'		
Top Log Interval	0'		
Open Hole Size	7" (0-30')	6.5" (30'-348.5')	
Type Fluid	WATER		
Density / Viscosity	N/A		
Fluid Level	26'		
Bentonite Seal	N/A		
Time Well Ready	10:00 AM		
Time Logger on Bottom	10:10 AM		
Equipment Number	PS-5		
Location	L.A.		
Recorded By	ABREAU		
Witnessed By	N. REYNOLDS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	7"	0'	30'				
TWO	6.5"	30'	348.5'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	7.25"	N/A	0'	30'
Prot. String				
Production String	4" PVC	SCH 40	0'	348.5'
Liner				

<<< Fold Here >>>

Comments

Calibration Report

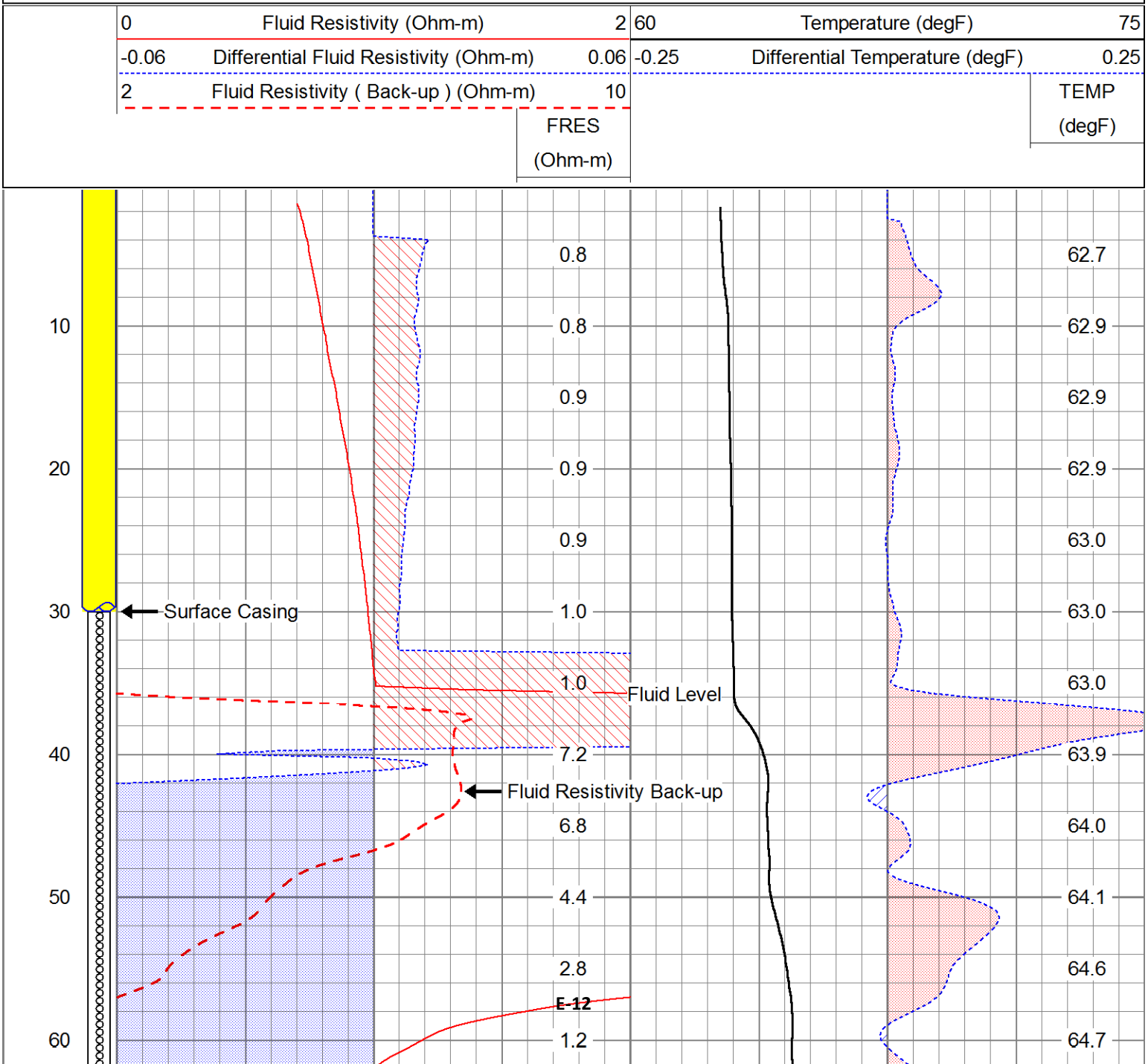
Database File 17821.db
Dataset Pathname tmp
Dataset Creation Tue Nov 12 10:04:04 2013

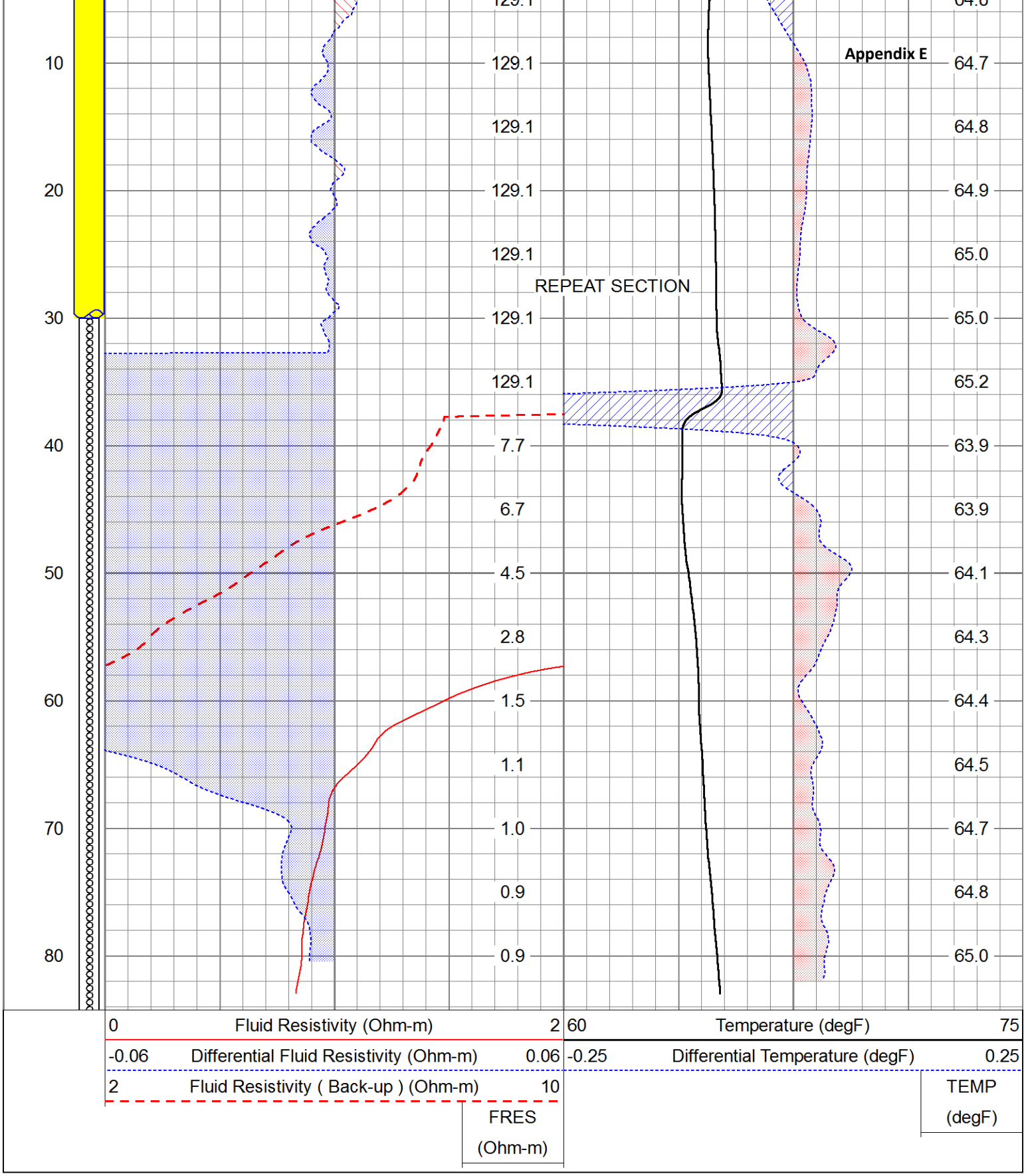
Temperature Calibration Report

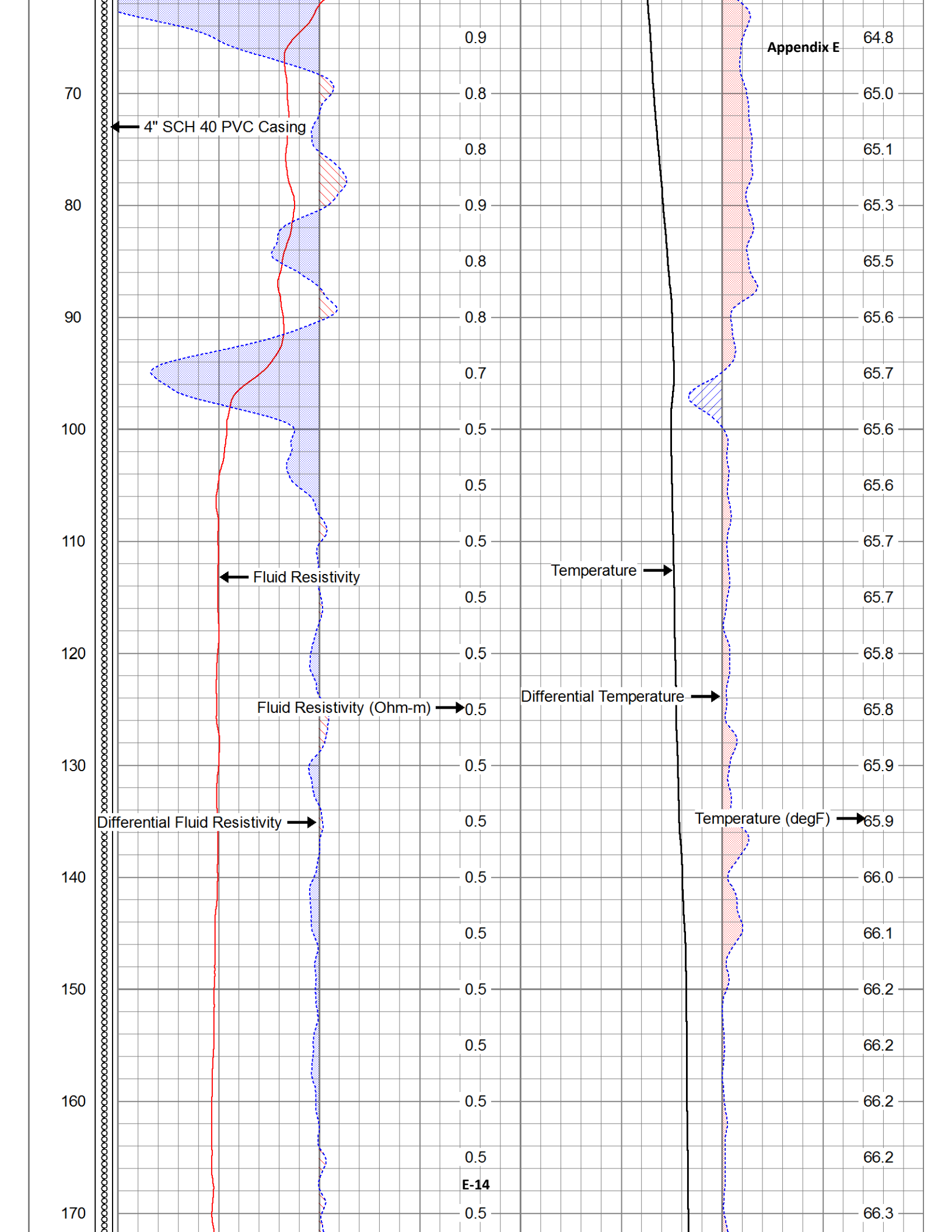
Appendix E

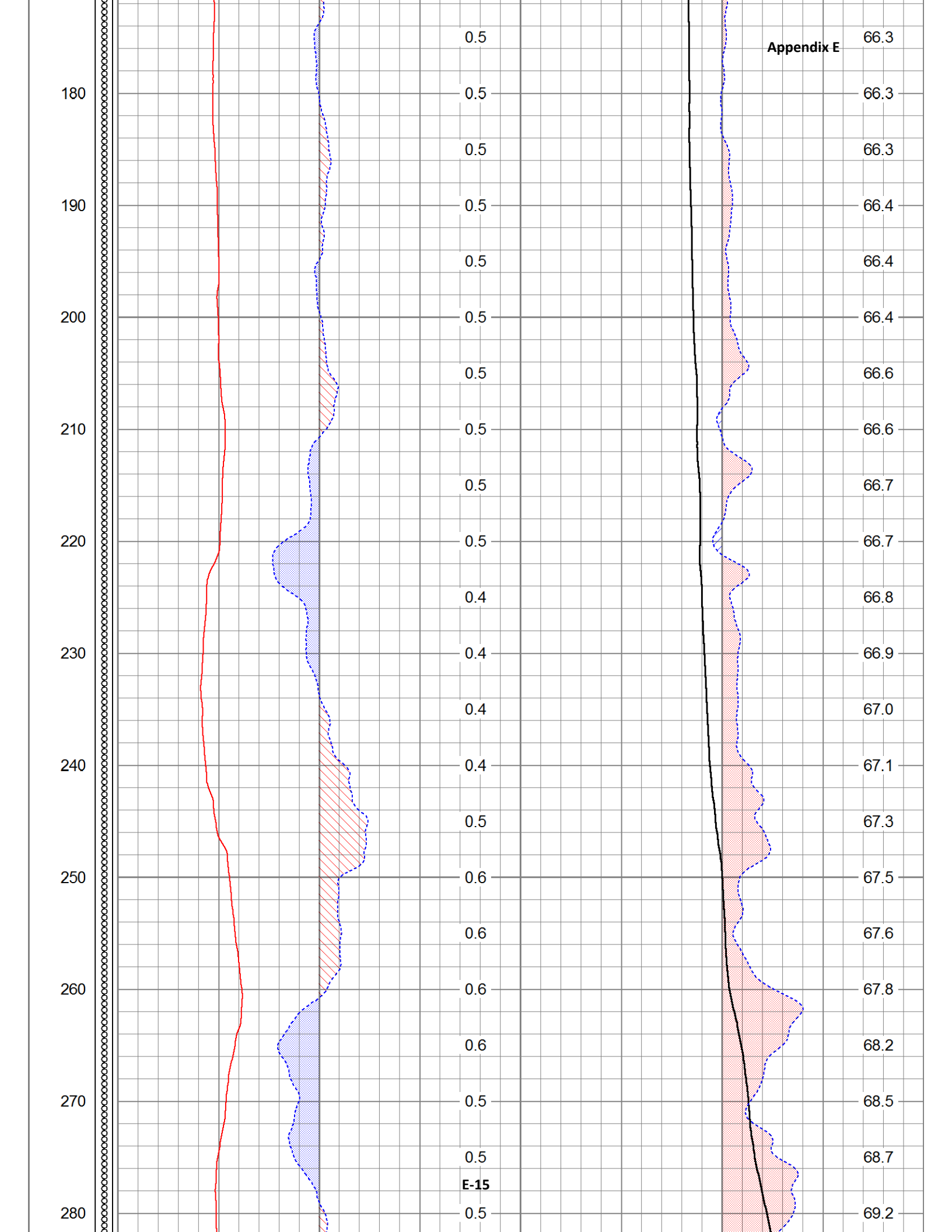
Serial Number:	5269A	
Tool Model:	MLS	
Performed:	Fri Nov 30 10:30:16 2012	
	Reference	Reading
Low Reference:	46.04 degF	1527.00cps
High Reference:	146.30 degF	4253.00cps
Gain:	0.04	
Offset:	-9.42	
Delta Spacing	2	

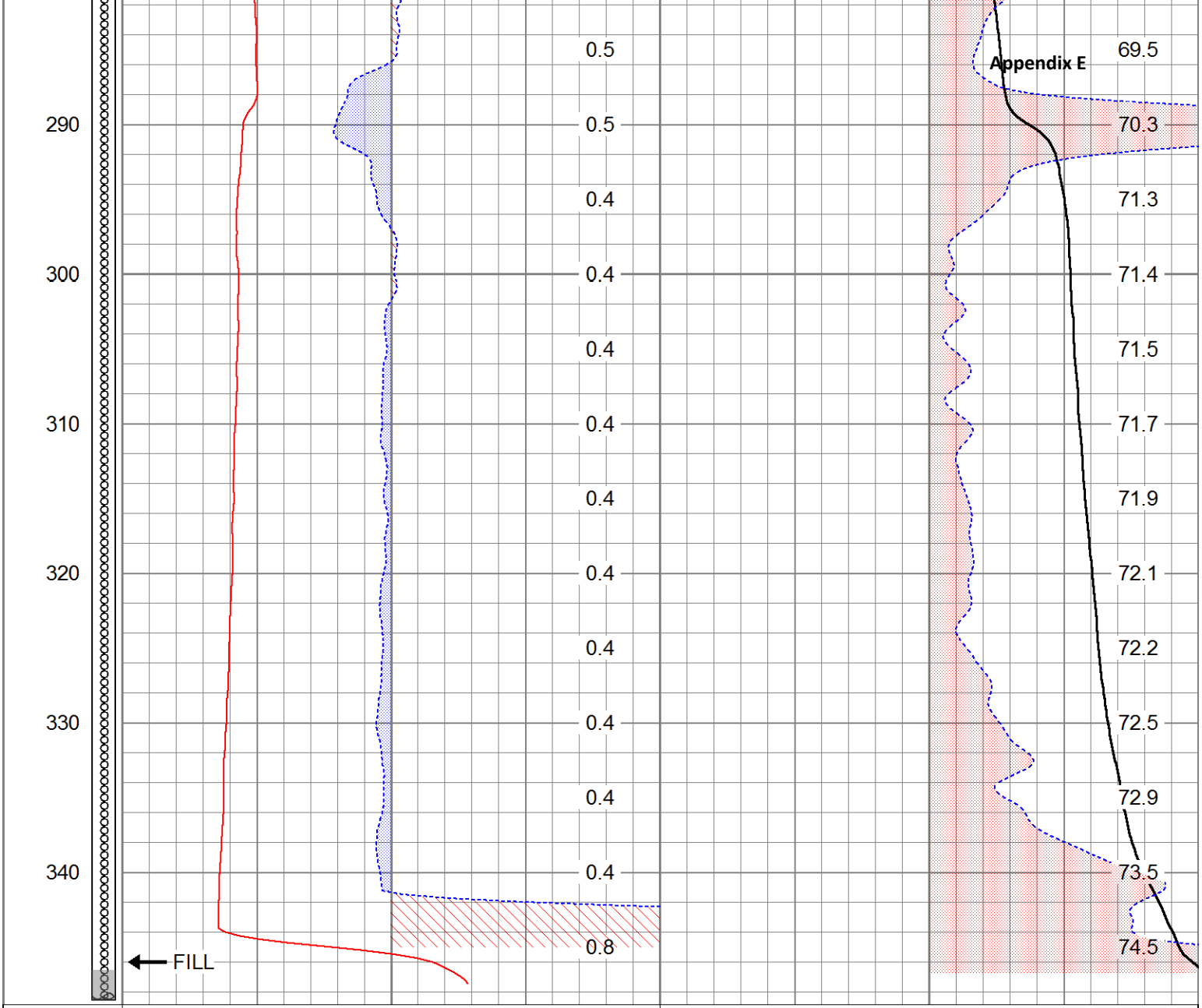
Database File	17821.db
Dataset Pathname	tmp
Presentation Format	frttemp2
Dataset Creation	Tue Nov 12 10:04:04 2013
Charted by	Depth in Feet scaled 1:120



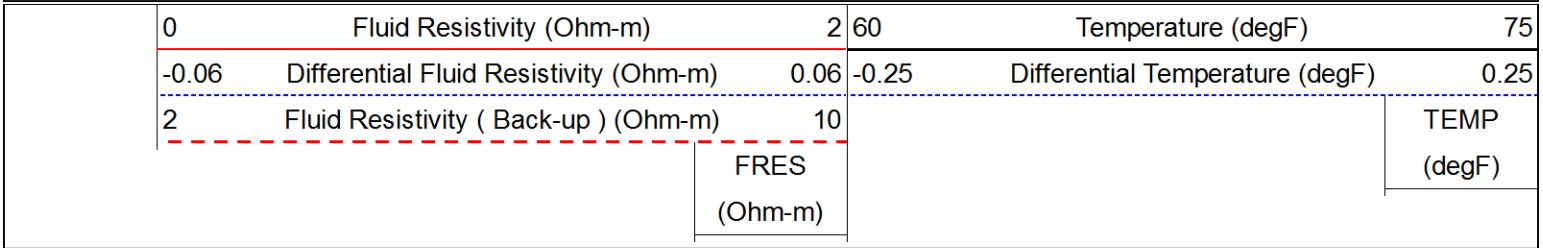

REPEAT SECTION
10
20
30
40
50
60
70
80
129.1
129.1
129.1
129.1
129.1
129.1
7.7
6.7
4.5
2.8
1.5
1.1
1.0
0.9
0.9
64.7
64.8
64.9
65.0
65.0
65.2
63.9
63.9
64.1
64.3
64.4
64.5
64.7
64.8
65.0
0
Fluid Resistivity (Ohm-m)
2
-0.06
Differential Fluid Resistivity (Ohm-m)
0.06
2
Fluid Resistivity (Back-up) (Ohm-m)
10
FRES
(Ohm-m)
60
Temperature (degF)
75
-0.25
Differential Temperature (degF)
0.25
TEMP
(degF)


Appendix E
4" SCH 40 PVC Casing
Fluid Resistivity
Fluid Resistivity (Ohm-m)
Differential Fluid Resistivity
Temperature
Differential Temperature
Temperature (degF)
70
80
90
100
110
120
130
140
150
160
170
0.9
0.8
0.8
0.9
0.8
0.8
0.7
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
0.5
64.8
65.0
65.1
65.3
65.5
65.6
65.7
65.6
65.6
65.7
65.7
65.8
65.8
65.9
65.9
66.0
66.1
66.2
66.2
66.2
66.3


Appendix E
180
190
200
210
220
230
240
250
260
270
280
0.5
0.4
0.6
66.3
66.4
66.6
66.7
66.8
66.9
67.0
67.1
67.3
67.5
67.6
67.8
68.2
68.5
68.7
69.2
E-15



Database File	17821.db
Dataset Pathname	tmp_rpt
Presentation Format	frttemp2
Dataset Creation	Tue Nov 12 10:27:23 2013
Charted by	Depth in Feet scaled 1:120



PACIFIC SURVEYS

DUAL INDUCTION GAMMA RAY

Job No. 18145

File No.

Company CASCADE DRILLING INC.

Well CX-B4

Field MARINA

County MONTEREY State CA

Location

LAPIS RD
GPS: N36o 42.714' W121o 47.910'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

Permanent Datum	G.L.		Elevation	Elevation
Log Measured From	G.L.	0'	above perm. datum	K.B.
Drilling Measured From	G.L.			D.F.
				G.L.

Date	3-27-2014		
Run Number	ONE		
Depth Driller	348.5'		
Depth Logger	345'		
Bottom Logged Interval	345'		
Top Log Interval	0'		
Open Hole Size	8" (26-350')		
Type Fluid	WATER		
Density / Viscosity	N/A		
Fluid Level	35'		
Bentonite Seal	N/A		
Time Well Ready	13:00		
Time Logger on Bottom	13:30		
Equipment Number	PS-7		
Location	LA		
Recorded By	WATKINS		
Witnessed By	N. REYNOLDS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8"	26'	350'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	10"	N/A	0'	25'
Prot. String				
Production String	4" PVC	N/A	0'	348.5'
Liner				

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All interpretations are opinions based on inferences from electrical or other measurements and Pacific Surveys cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Pacific Surveys' general terms and conditions set out in our current Price Schedule.

Comments

Calibration Report

Database File 18145.db
Dataset Pathname dil/dil.1
Dataset Creation Thu Mar 27 14:50:26 2014

Dual Induction Calibration Report

Serial-Model: 0001-ALT
Surface Cal Performed:

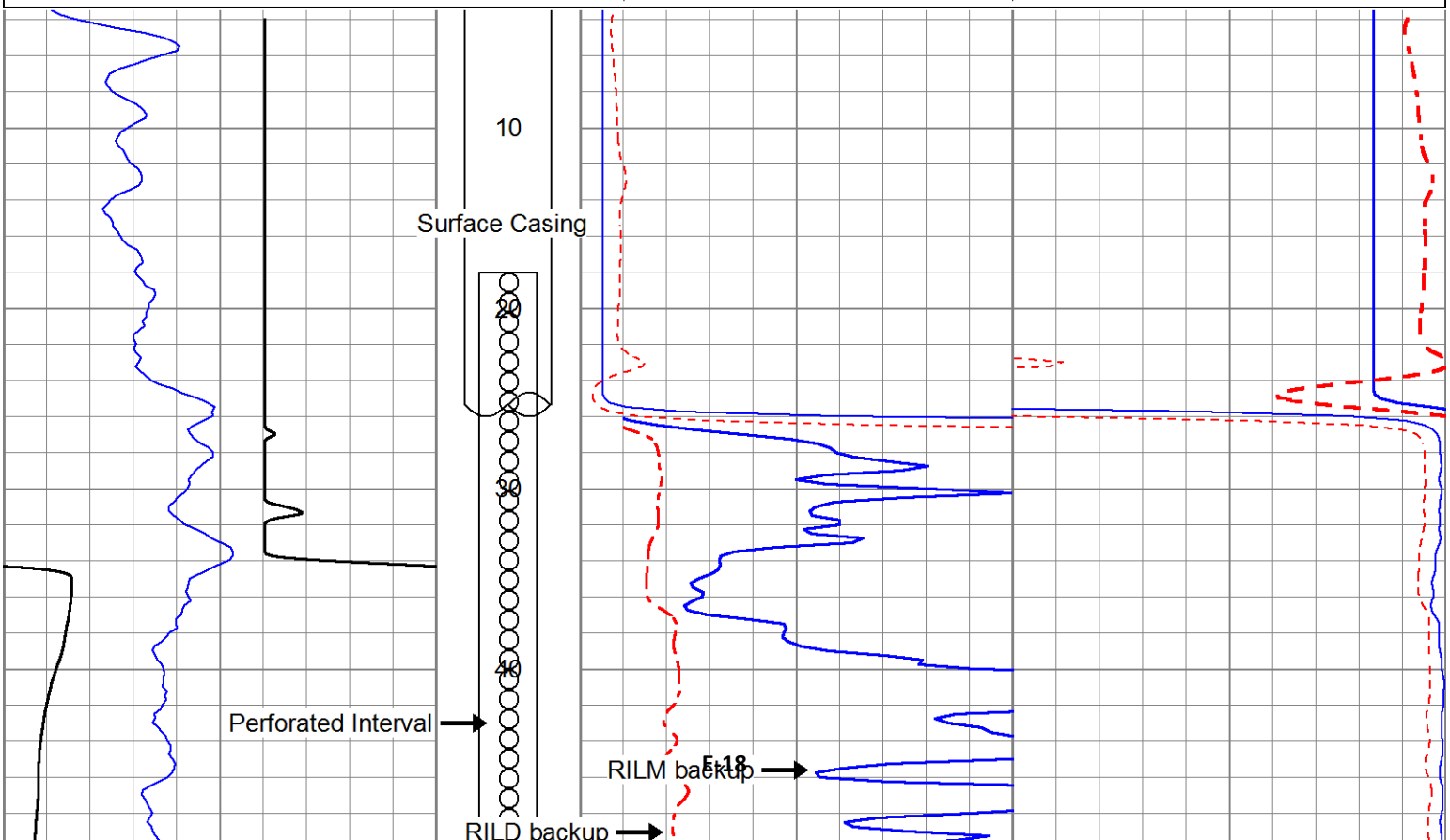
Loop:	Readings Air	Readings Loop		References Air	References Loop		Results m	Results b
Deep	1411.390	3440.570	cps	0.000	612.000	mmho/m	0.302	-425.677
Medium	2379.120	14715.100	cps	0.000	1960.000	mmho/m	0.159	-378.004

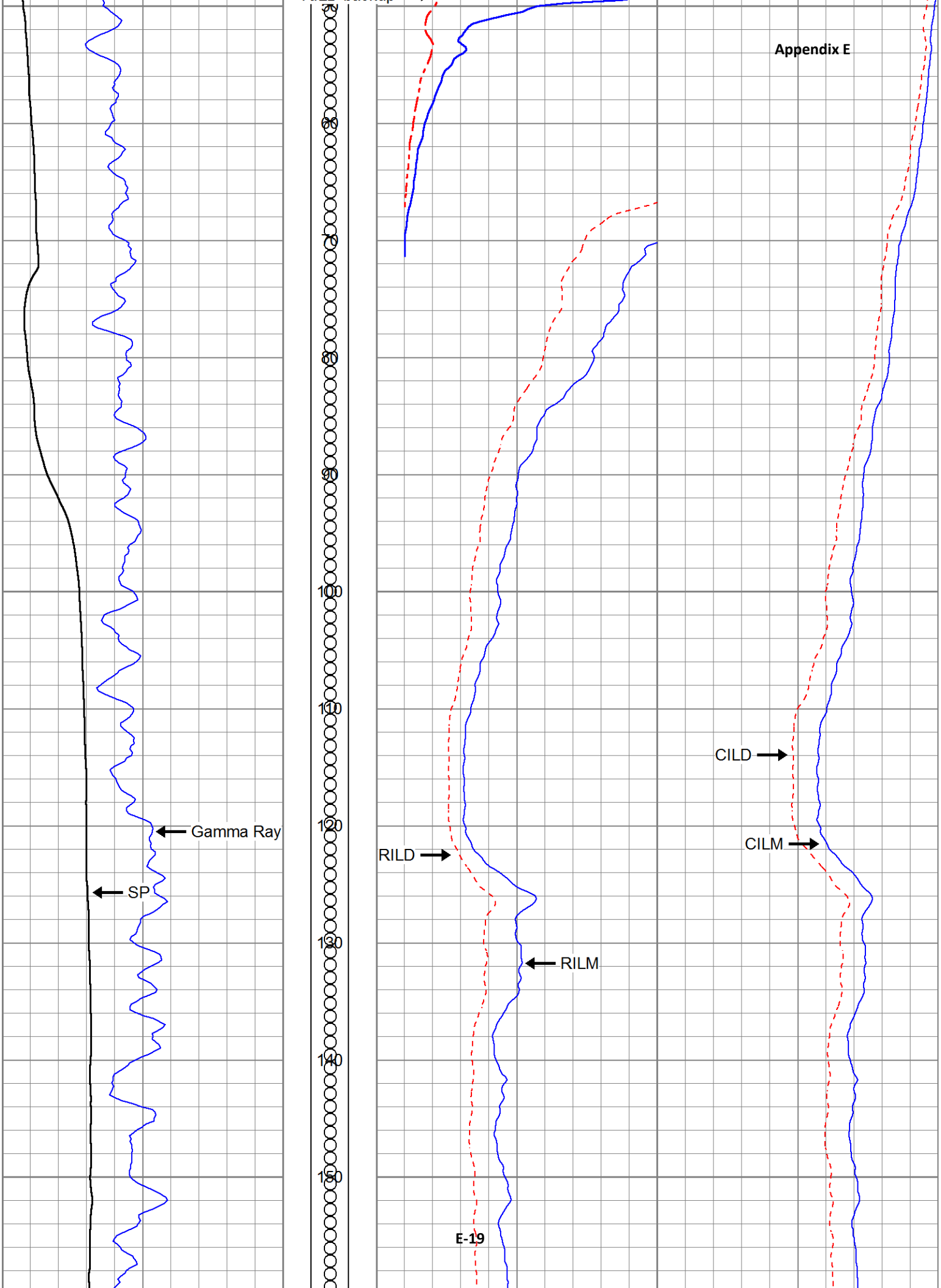
Gamma Ray Calibration Report

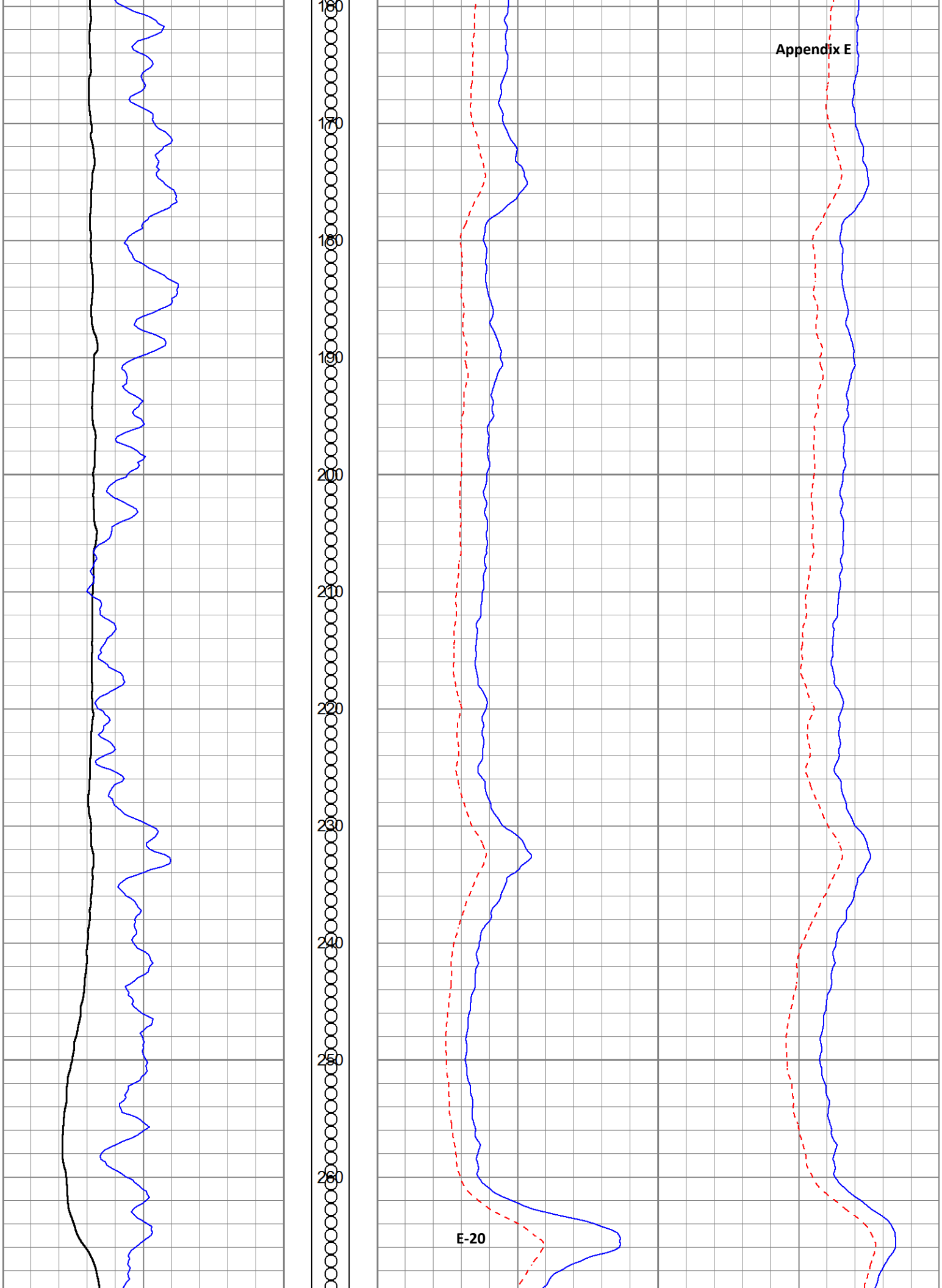
Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Sep 19 16:56:13 2012	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

Database File	18145.db
Dataset Pathname	dil/dil.1
Presentation Format	dil_ps
Dataset Creation	Thu Mar 27 14:50:26 2014
Charted by	Depth in Feet scaled 1:120

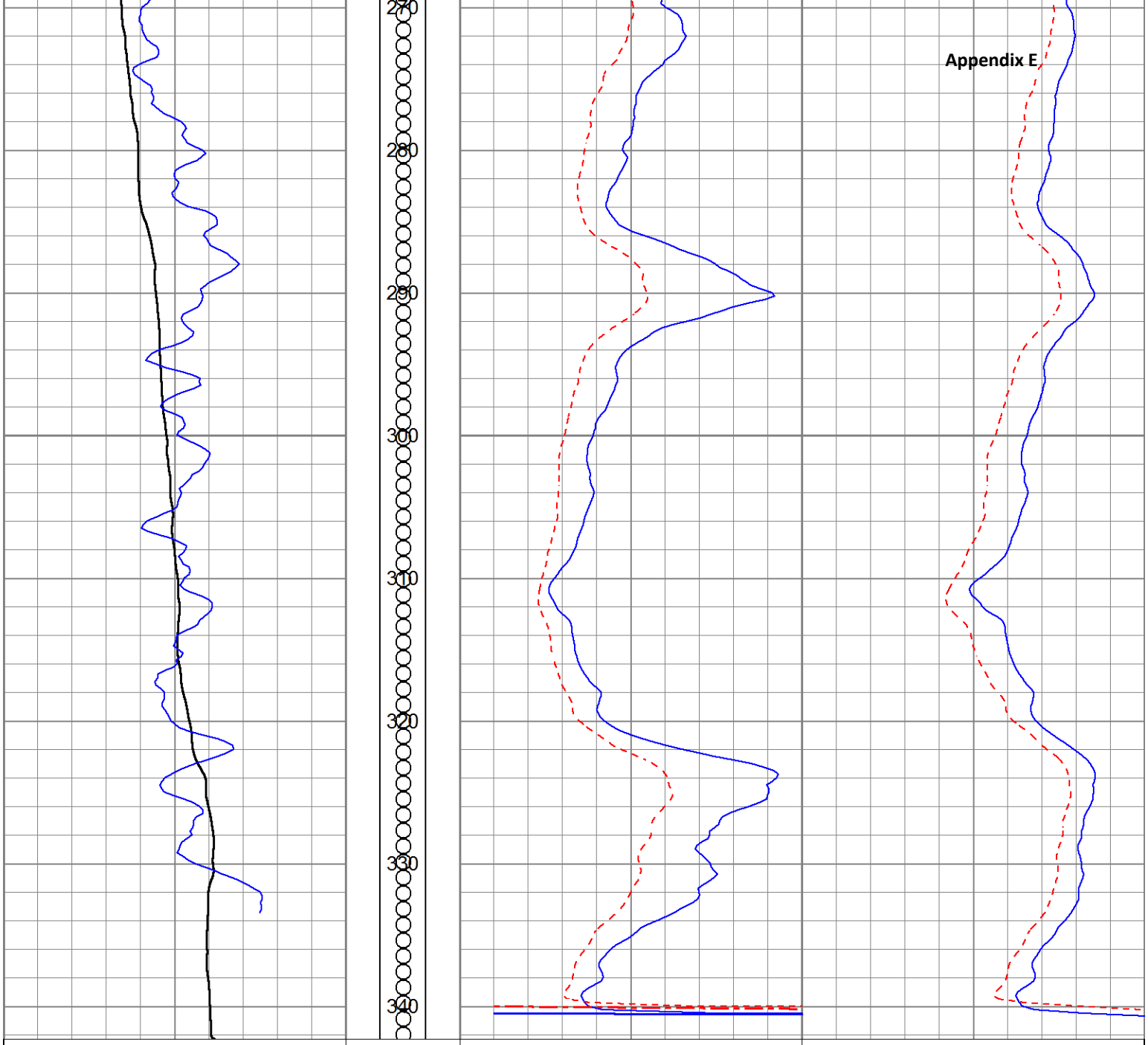
-125	SP (mV)	75	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	105	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	105	15000	CILD backup (mmho/m)	1500




60
70
80
90
100
110
120
130
140
150
Gamma Ray
SP
RILD
RILM
CILD
CILM



E-20


270
280
290
300
310
320
330
340
-125 SP (mV) 75
10 Gamma Ray (GAPI) 110
0 RILM (Ohm-m) 5
0 RILD (Ohm-m) 5
5 RILM backup (Ohm-m) 105
5 RILD backup (Ohm-m) 105
1500 CILM (mmho/m) 0
1500 CILD (mmho/m) 0
15000 CILM backup (mmho/m) 1500
15000 CILD backup (mmho/m) 1500

PACIFIC SURVEYS

DUAL INDUCTION GAMMA RAY

Job No. 18298

File No.

Company CASCADE DRILLING INC.

Well MDW-1

Field CASTROVILLE

County MONTEREY State CA

Location

MONTEREY DUNES WAY
GPS: N36o 46.540' W121o 47.694'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

Permanent Datum	G.L.		Elevation	Elevation
Log Measured From	G.L.	0'	above perm. datum	K.B.
Drilling Measured From	G.L.			D.F.
				G.L.

Date	4-28-2014		
Run Number	ONE		
Depth Driller	292'		
Depth Logger	291'		
Bottom Logged Interval	291'		
Top Log Interval	0'		
Open Hole Size	9" (17-47')	8" (47-300')	
Type Fluid	WATER		
Density / Viscosity	N/A		
Fluid Level	~17'		
Bentonite Seal	N/A		
Time Well Ready	11:00		
Time Logger on Bottom	11:20		
Equipment Number	PS-3		
Location	LA		
Recorded By	WATKINS		
Witnessed By	N. REYNOLDS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	9"	17'	47'				
ONE	8"	47'	300'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	10"	N/A	0'	17'
Prot. String				
Production String	4"	N/A	0'	292'
Liner				

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Comments

4" CASING INSTALLED TO 294'. FILL MATERIAL TAGGED AT 292'. CASING HAD 0.010" SLOTS.

Calibration Report

Database File 18298.db
Dataset Pathname DIL
Dataset Creation Mon Apr 28 12:14:40 2014

Dual Induction Calibration Report

Serial-Model:	0001-ALT	
Surface Cal Performed:	Wed Aug 31 18:21:15 2011	**Appendix E**

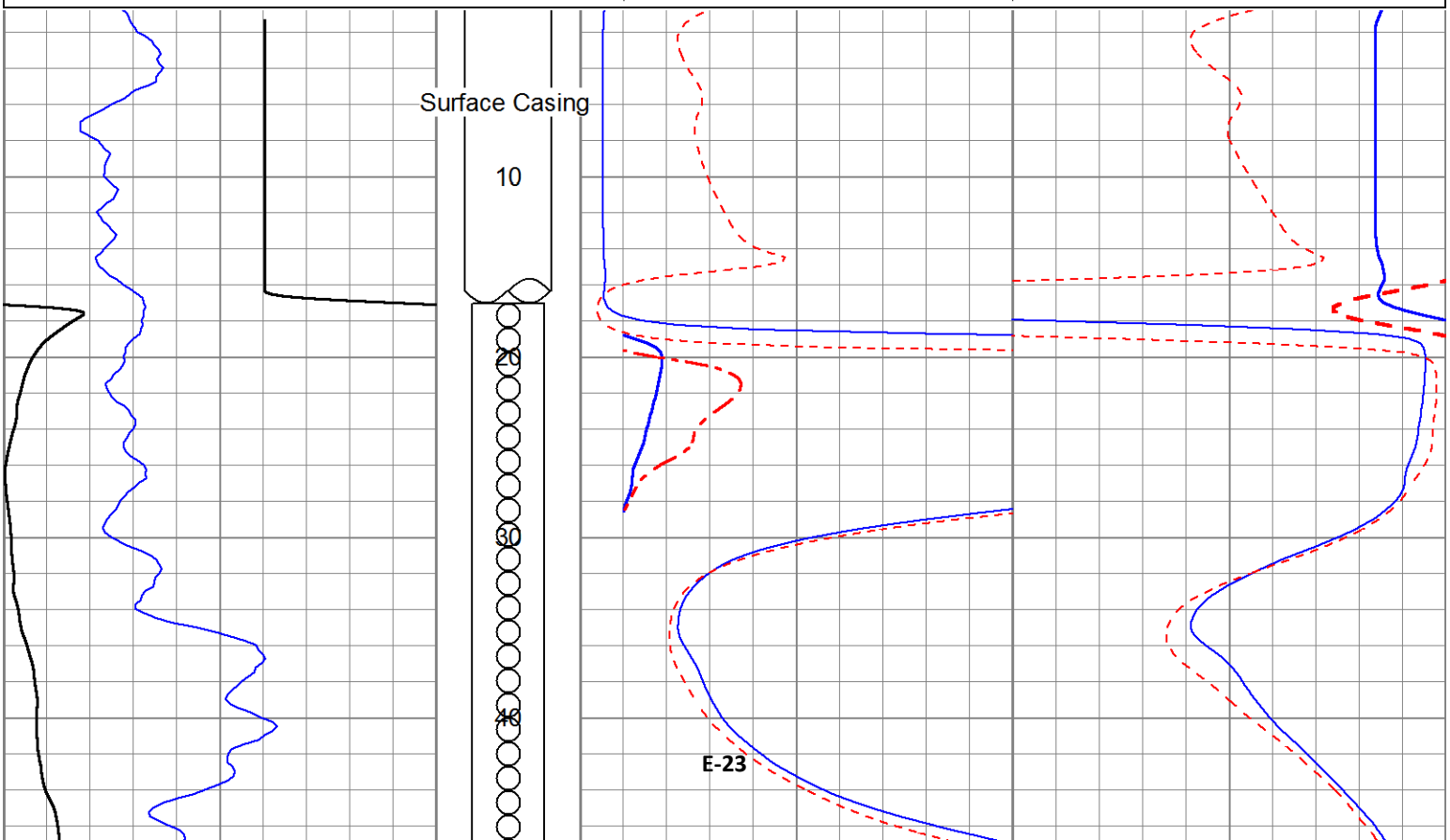
	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	1407.490	3493.640	cps	0.000	612.000	mmho/m	0.293	-412.905
Medium	1908.120	14487.900	cps	0.000	1960.000	mmho/m	0.156	-297.296

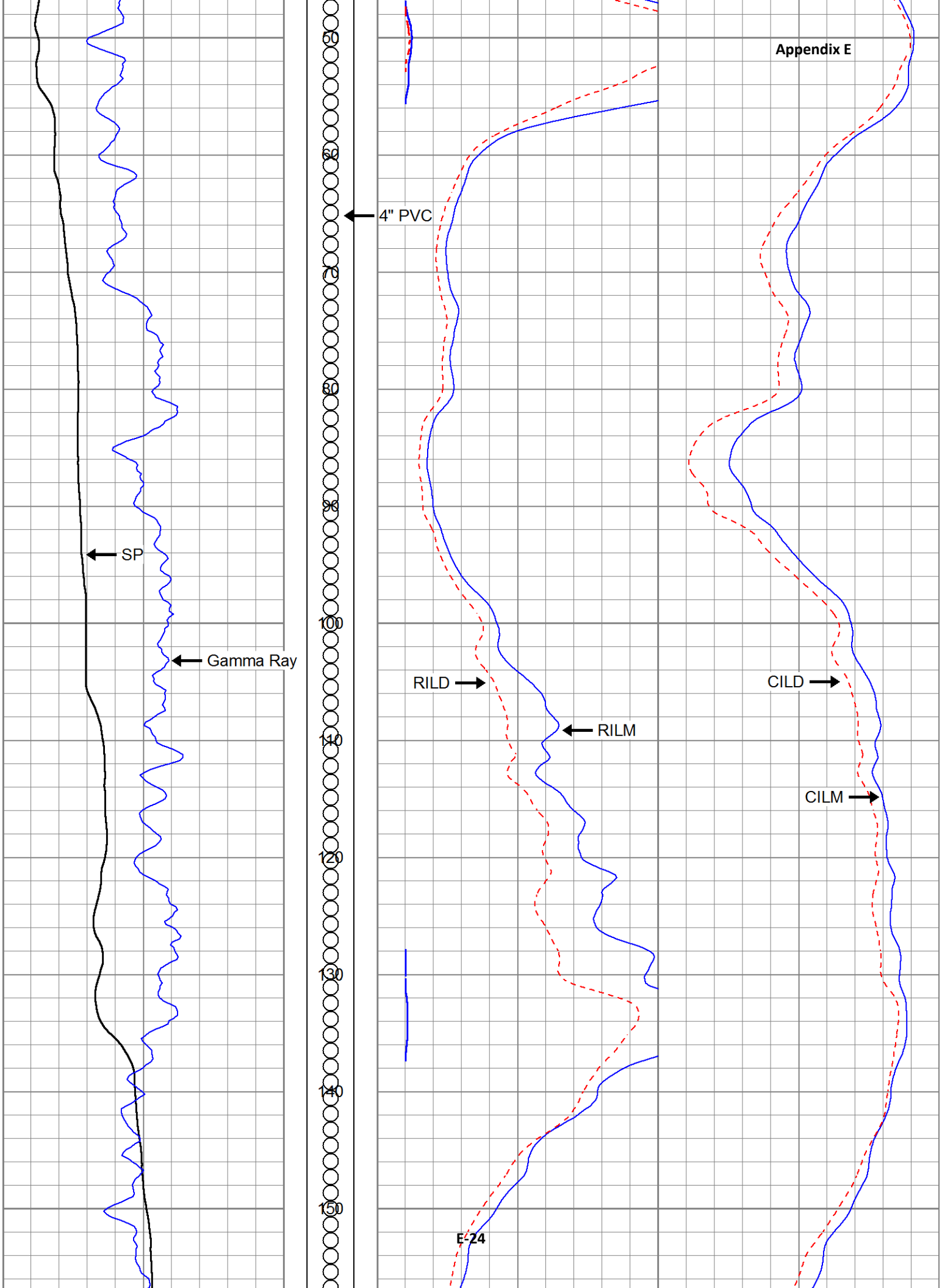
Gamma Ray Calibration Report

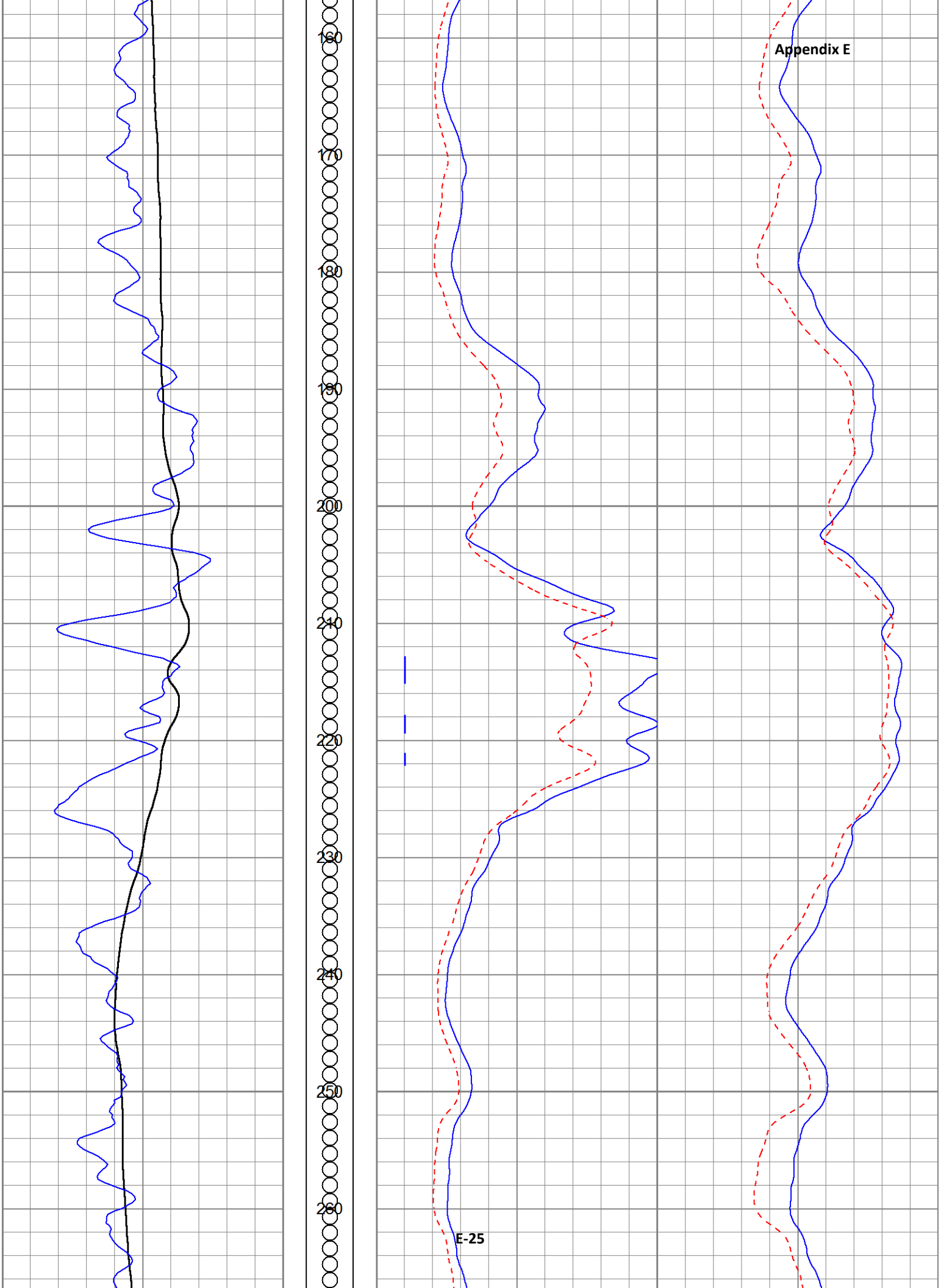
Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Aug 31 18:22:13 2011	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

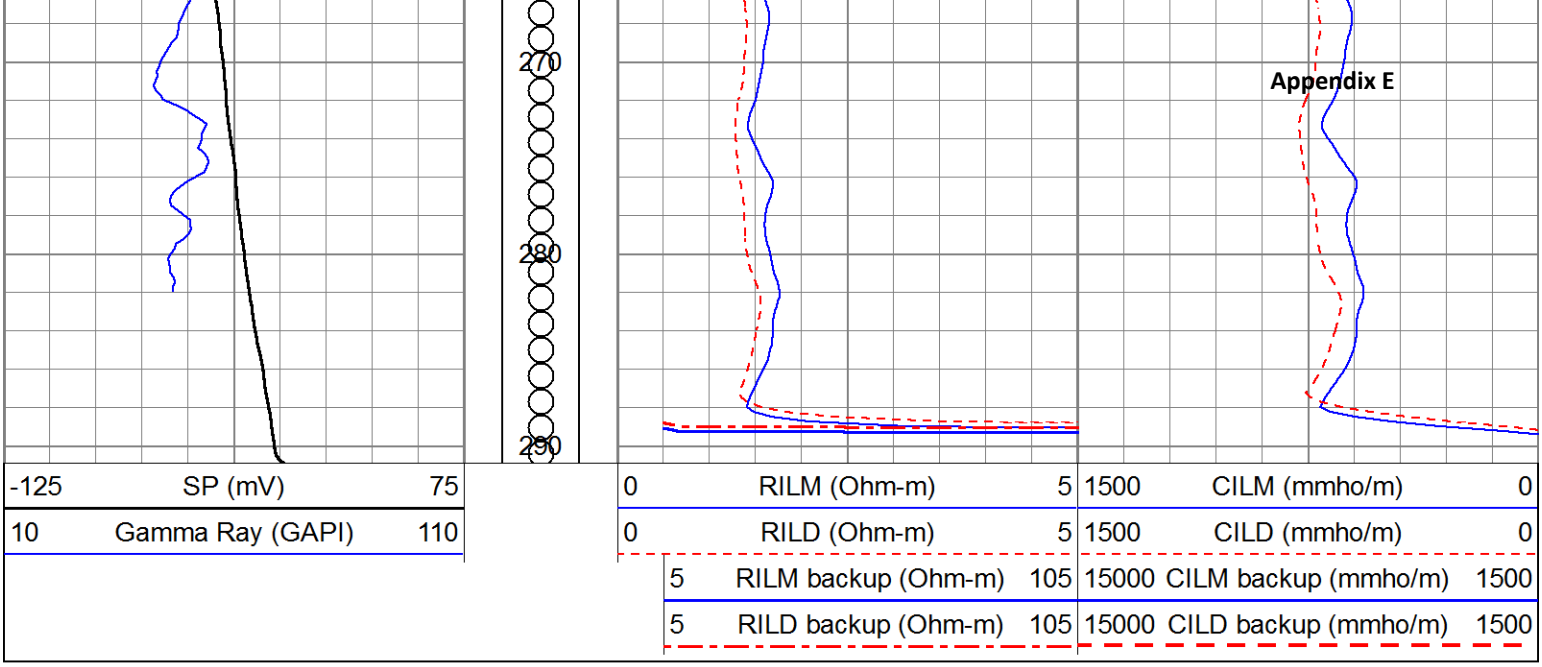
Database File	18298.db
Dataset Pathname	DIL
Presentation Format	dil_ps
Dataset Creation	Mon Apr 28 12:14:40 2014
Charted by	Depth in Feet scaled 1:120

-125	SP (mV)	75	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	105	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	105	15000	CILD backup (mmho/m)	1500




50
60
70
80
90
100
110
120
130
140
150
4" PVC
SP
Gamma Ray
RILD
RILM
CILD
CILM


160
170
180
190
200
210
220
230
240
250
260



-125	SP (mV)	75
10	Gamma Ray (GAPI)	110

0	RILM (Ohm-m)	5
0	RILD (Ohm-m)	5
5	RILM backup (Ohm-m)	105
5	RILD backup (Ohm-m)	105

1500	CILM (mmho/m)	0
1500	CILD (mmho/m)	0
15000	CILM backup (mmho/m)	1500
15000	CILD backup (mmho/m)	1500

PACIFIC SURVEYS

DUAL INDUCTION GAMMA-RAY

Job No. 17719

File No.

Company CASCADE DRILLING, INC.

Well ML-1

Field MOSS LANDING

County MONTEREY State CA

Location

NEAR SANDHOLDT RD
GPS: N36o 47.967' W121o 47.343'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

Permanent Datum	G.L.	Elevation above perm. datum	Elevation K.B.
Log Measured From	G.L. 0'		D.F.
Drilling Measured From	G.L.		G.L.

Date	10-4-2013
Run Number	ONE
Depth Driller	200'
Depth Logger	200'
Bottom Logged Interval	200'
Top Log Interval	0'
Open Hole Size	8"
Type Fluid	N/A
Density / Viscosity	N/A
Fluid Level	N/A
Bentonite Seal	N/A
Time Well Ready	15:30
Time Logger on Bottom	15:45
Equipment Number	PS-3
Location	LA
Recorded By	WATKINS
Witnessed By	N. REYNOLDS

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8"	0'	200'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9"	N/A	0'	10'
Prot. String	4"	N/A	0'	200'
Production String				
Liner				

<<< Fold Here >>>

Comments

0.010" SLOT FROM 10-200' BGS

Calibration Report

Database File 17719.db
Dataset Pathname dil
Dataset Creation Fri Oct 04 15:51:34 2013

Dual Induction Calibration Report

Serial-Model:	0001-ALT	
Surface Cal Performed:	Wed Aug 31 18:21:15 2011	**Appendix E**

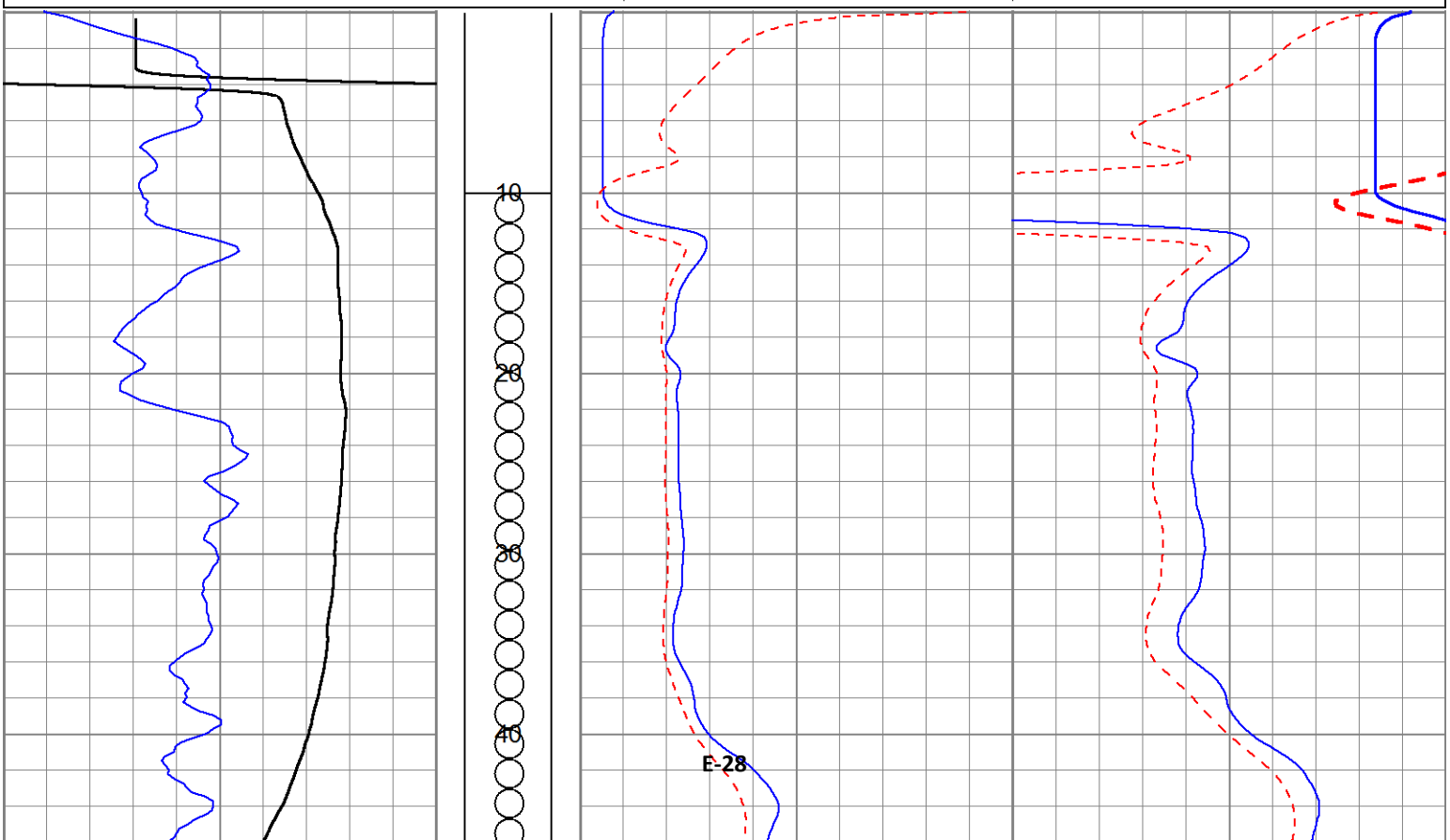
	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	1407.490	3493.640	cps	0.000	612.000	mmho/m	0.293	-412.905
Medium	1908.120	14487.900	cps	0.000	1960.000	mmho/m	0.156	-297.296

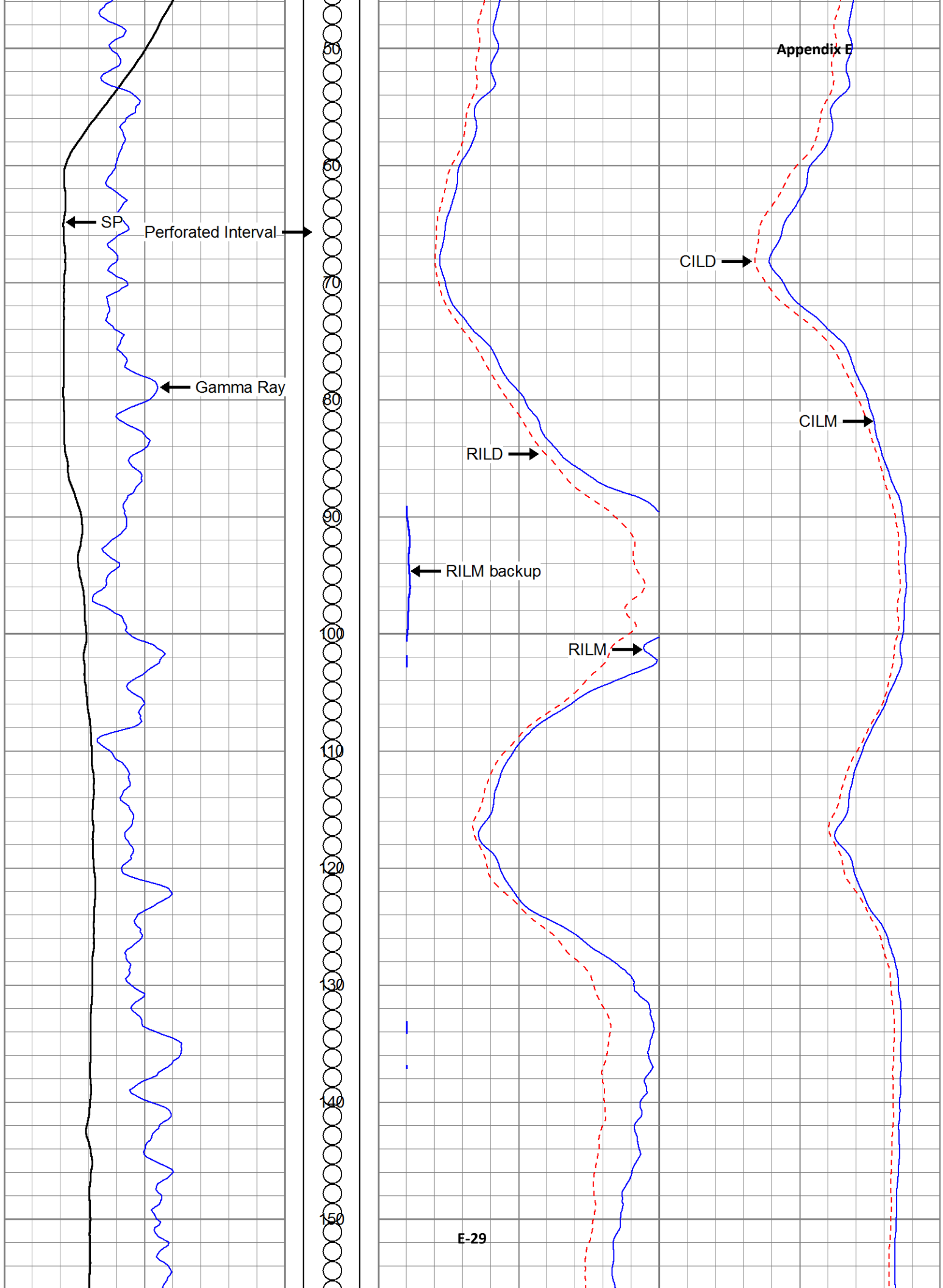
Gamma Ray Calibration Report

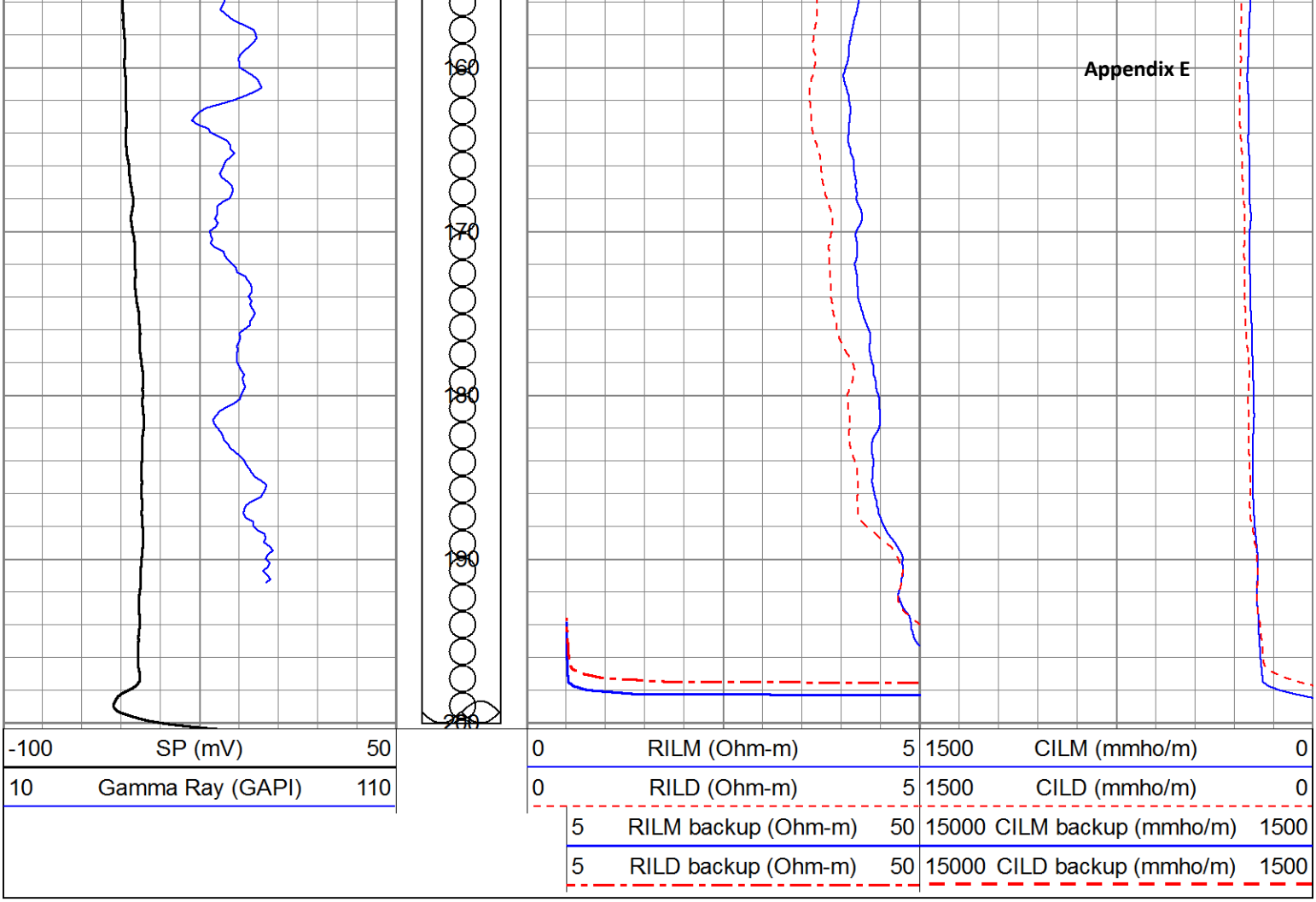
Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Aug 31 18:22:13 2011	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

Database File	17719.db
Dataset Pathname	dil
Presentation Format	dil_ps
Dataset Creation	Fri Oct 04 15:51:34 2013
Charted by	Depth in Feet scaled 1:120

-100	SP (mV)	50	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	50	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	50	15000	CILD backup (mmho/m)	1500




SP
Perforated Interval
Gamma Ray
RILD
RILM backup
RILM
CILD
CILM
50
60
70
80
90
100
110
120
130
140
150


160
170
180
190
200
-100 SP (mV) 50
10 Gamma Ray (GAPI) 110
0 RILM (Ohm-m) 5
0 RILD (Ohm-m) 5
5 RILM backup (Ohm-m) 50
5 RILD backup (Ohm-m) 50
1500 CILM (mmho/m) 0
1500 CILD (mmho/m) 0
15000 CILM backup (mmho/m) 1500
15000 CILD backup (mmho/m) 1500

PACIFIC SURVEYS

DUAL INDUCTION GAMMA-RAY

Job No. 17870

File No.

Company CASCADE DRILLING

Well ML-2

Field MOSS LANDING

County MONTEREY State CA

Location

7549 SANDHOLDT RD.
GPS: N36o 48.205' W121o 47.218'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

Permanent Datum	G.L.	Elevation above perm. datum	Elevation K.B.
Log Measured From	G.L. 0'		D.F.
Drilling Measured From	G.L.		G.L.

Date	12-11-2013		
Run Number	ONE		
Depth Driller	197'		
Depth Logger	194.5'		
Bottom Logged Interval	194.5'		
Top Log Interval	0'		
Open Hole Size	8"		
Type Fluid	WATER		
Density / Viscosity	N/A		
Fluid Level	3.45'		
Bentonite Seal	N/A		
Time Well Ready	0945		
Time Logger on Bottom	1000		
Equipment Number	PS-7		
Location	LA		
Recorded By	SCHUMACHER		
Witnessed By	N. REYNOLDS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8"	0'	200'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8"	N/A	0'	23.5'
Prot. String				
Production String	4" PVC	SCH 40	0'	198'
Liner				

E-31

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pacific Surveys cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Pacific Surveys' general terms and conditions set out in our current Price Schedule.

Comments

NOTE: 0.010" SLOT FROM 18.5' TO 198'.

Calibration Report

Database File 17870.db
Dataset Pathname DUAL
Dataset Creation Wed Dec 11 11:54:33 2013

Dual Induction Calibration Report

Serial-Model: 0001-ALT
Surface Cal Performed:

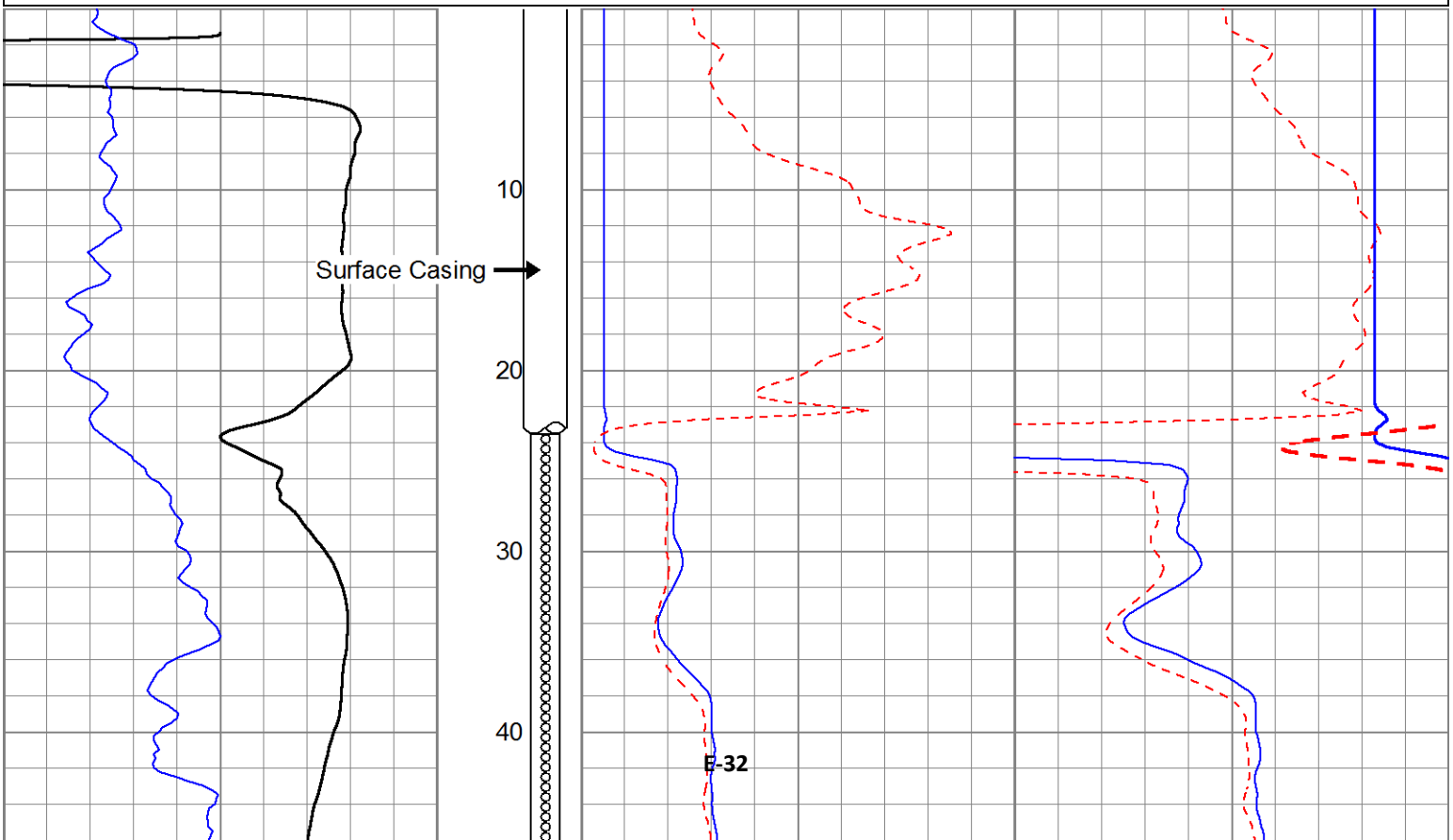
Loop:	Readings Air	Readings Loop		References Air	References Loop		Results m	Results b
Deep	1411.390	3440.570	cps	0.000	612.000	mmho/m	0.302	-425.677
Medium	2379.120	14715.100	cps	0.000	1960.000	mmho/m	0.159	-378.004

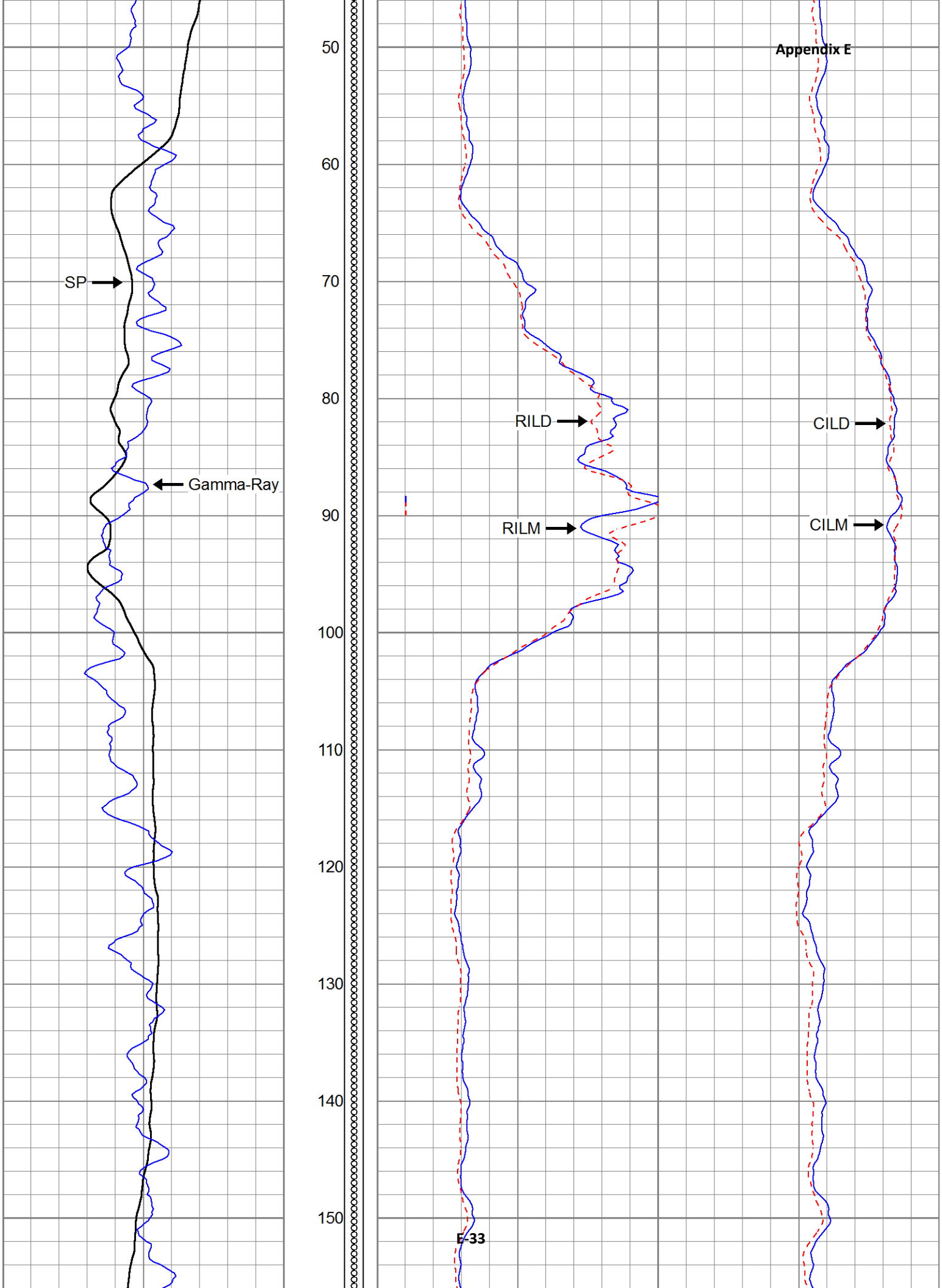
Gamma Ray Calibration Report

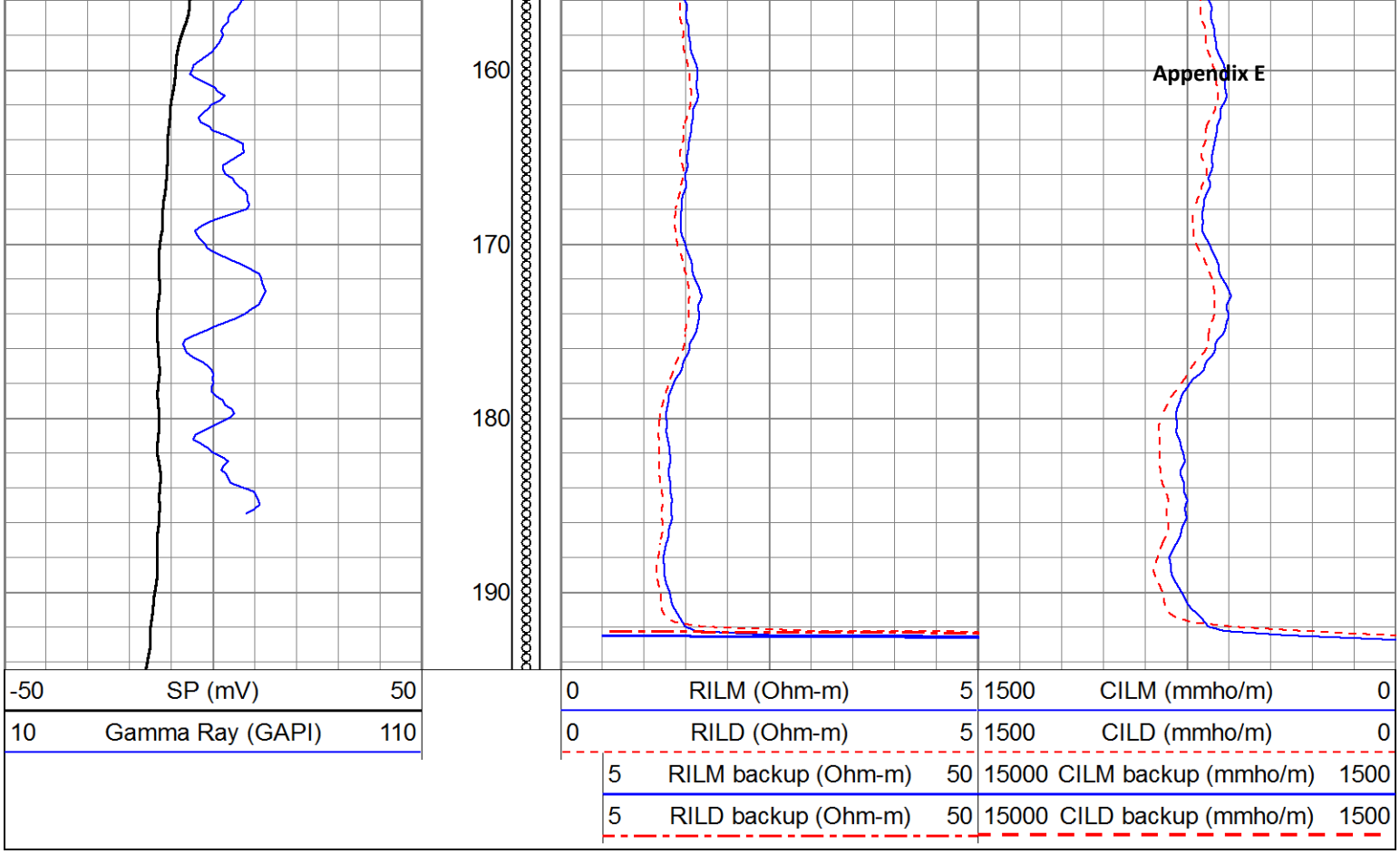
Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Sep 19 16:56:13 2012	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

Database File	17870.db
Dataset Pathname	DUAL
Presentation Format	dil_ps
Dataset Creation	Wed Dec 11 11:54:33 2013
Charted by	Depth in Feet scaled 1:120

-50	SP (mV)	50	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	50	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	50	15000	CILD backup (mmho/m)	1500




SP
Gamma-Ray
50
60
70
80
90
100
110
120
130
140
150
RILD
RILM
CILD
CILM


160
170
180
190
-50 SP (mV) 50
10 Gamma Ray (GAPI) 110
0 RILM (Ohm-m) 5
0 RILD (Ohm-m) 5
5 RILM backup (Ohm-m) 50
5 RILD backup (Ohm-m) 50
1500 CILM (mmho/m) 0
1500 CILD (mmho/m) 0
15000 CILM backup (mmho/m) 1500
15000 CILD backup (mmho/m) 1500

PACIFIC SURVEYS

DUAL INDUCTION GAMMA RAY

Job No. 17939

File No.

Company CASCADE DRILLING
Well ML-3
Field MOSS LANDING
County MONTEREY State CA

Location

Intersection of Moss Landing Rd & Cabrillo Hwy
GPS:N36o48.013' W121o47.021'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

Permanent Datum	G.L.	Elevation above perm. datum	Elevation K.B. D.F. G.L.
Log Measured From	G.L. 0'		
Drilling Measured From	G.L.		

Date	01-09-2014		
Run Number	ONE		
Depth Driller	198'		
Depth Logger	197.5'		
Bottom Logged Interval	197.5'		
Top Log Interval	0'		
Open Hole Size	8"		
Type Fluid	WATER		
Density / Viscosity	N/A		
Fluid Level	10'		
Bentonite Seal	N/A		
Time Well Ready	9:30 AM		
Time Logger on Bottom	10:00 AM		
Equipment Number	PS-7		
Location	LA		
Recorded By	ABREAU		
Witnessed By	N. REYNOLDS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8"	0'	200'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8"	N/A	0'	14'
Prot. String				
Production String	4" PVC	SCH 40	0'	200'
Liner				

<< Fold Here >>>

Comments

NOTE: 0.010" SLOT FOR LENGTH OF PVC

Calibration Report

Database File 17939.db
Dataset Pathname dil2
Dataset Creation Thu Jan 09 11:22:56 2014

Dual Induction Calibration Report

Serial-Model: 0001-ALT
Surface Cal Performed:

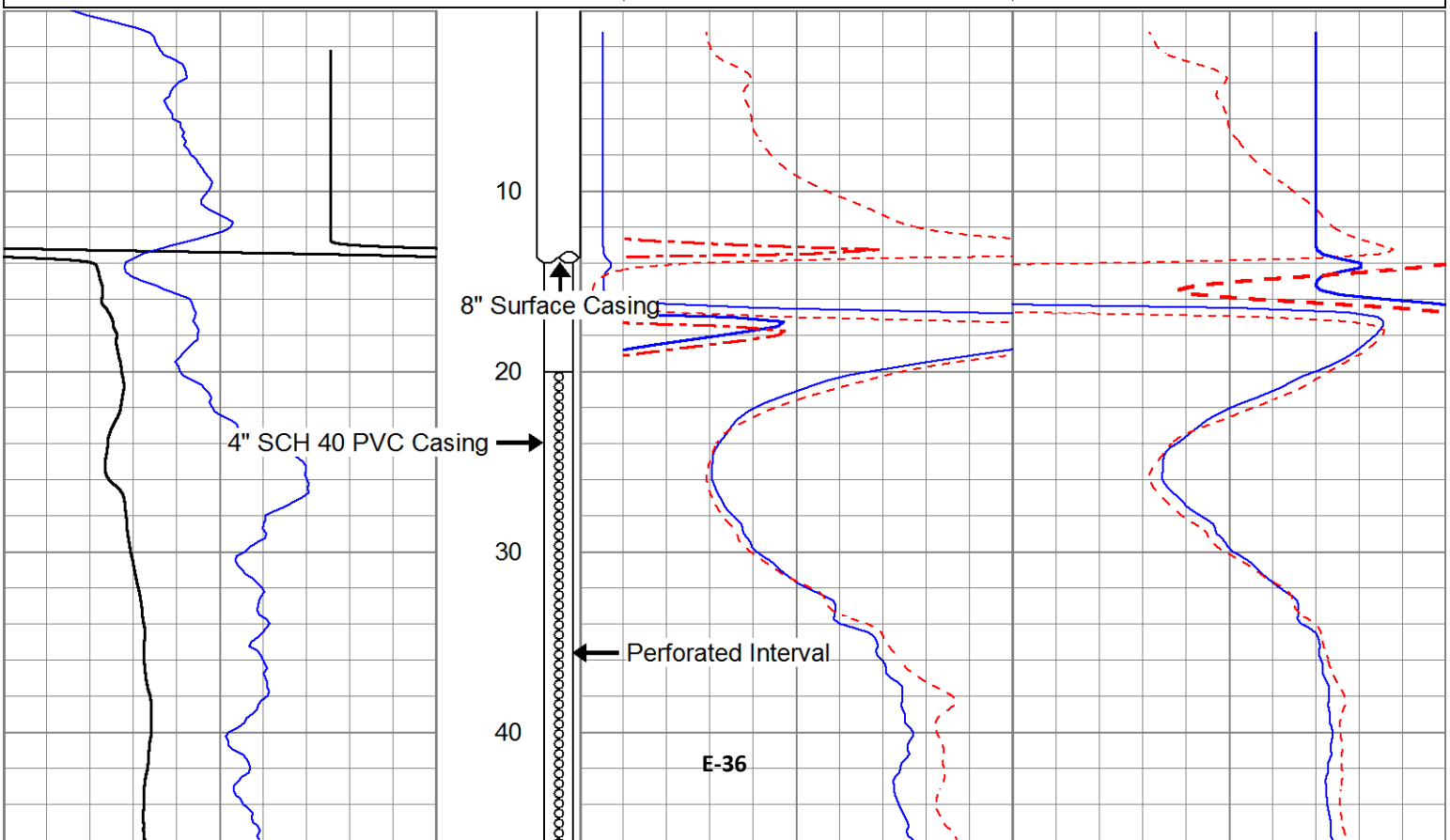
Loop:	Readings Air	Readings Loop		References Air	References Loop		Results m	Results b
Deep	1407.490	3493.640	cps	0.000	612.000	mmho/m	0.293	-412.906
Medium	1908.120	14487.900	cps	0.000	1960.000	mmho/m	0.156	-297.296

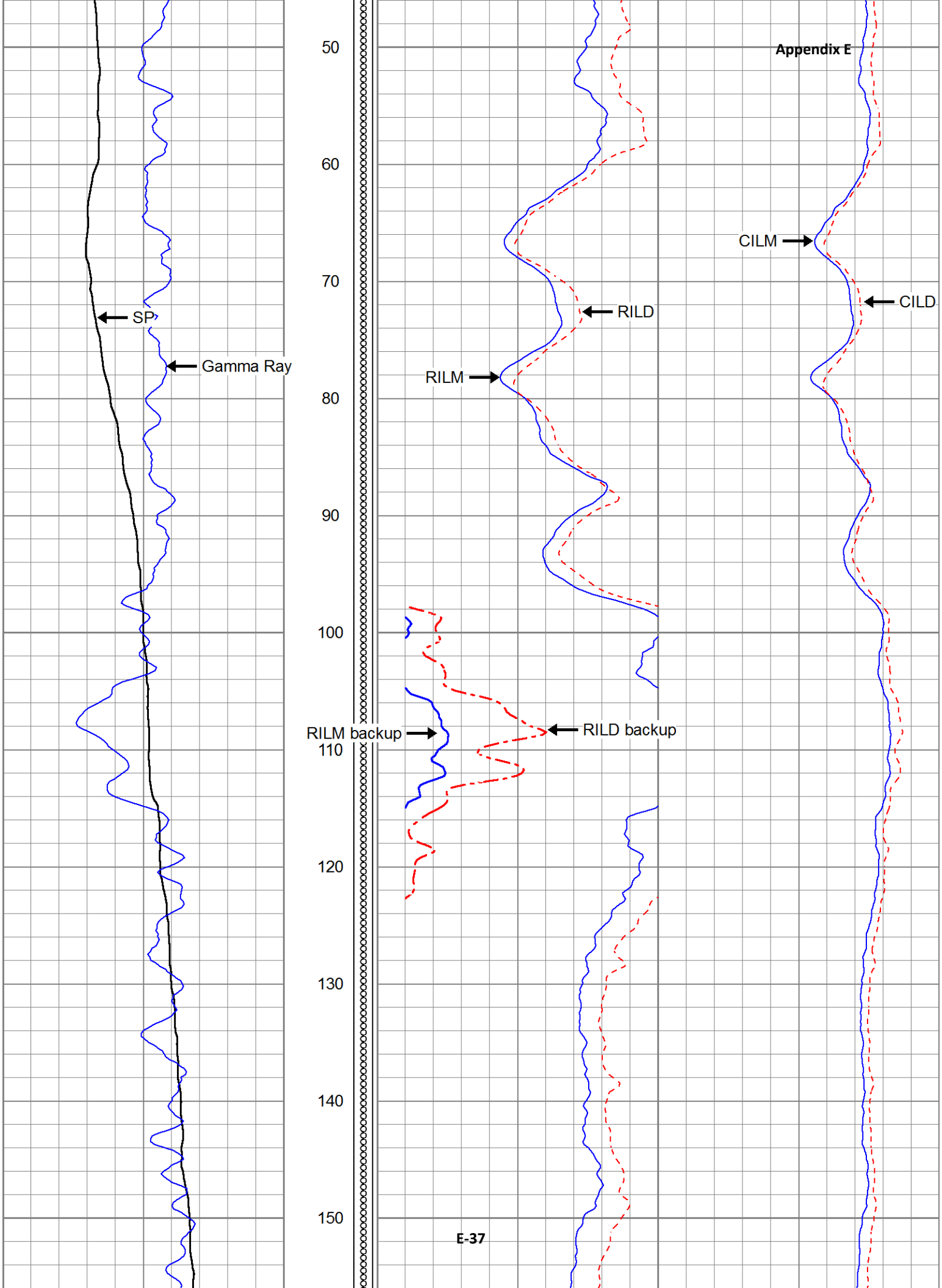
Gamma Ray Calibration Report

Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Sep 19 16:56:13 2012	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

Database File	17939.db
Dataset Pathname	dil2
Presentation Format	dil_ps
Dataset Creation	Thu Jan 09 11:22:56 2014
Charted by	Depth in Feet scaled 1:120

-80	SP (mV)	20	0	RILM (Ohm-m)	5	1000	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1000	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	10	10000	CILM backup (mmho/m)	1000
			5	RILD backup (Ohm-m)	10	10000	CILD backup (mmho/m)	1000

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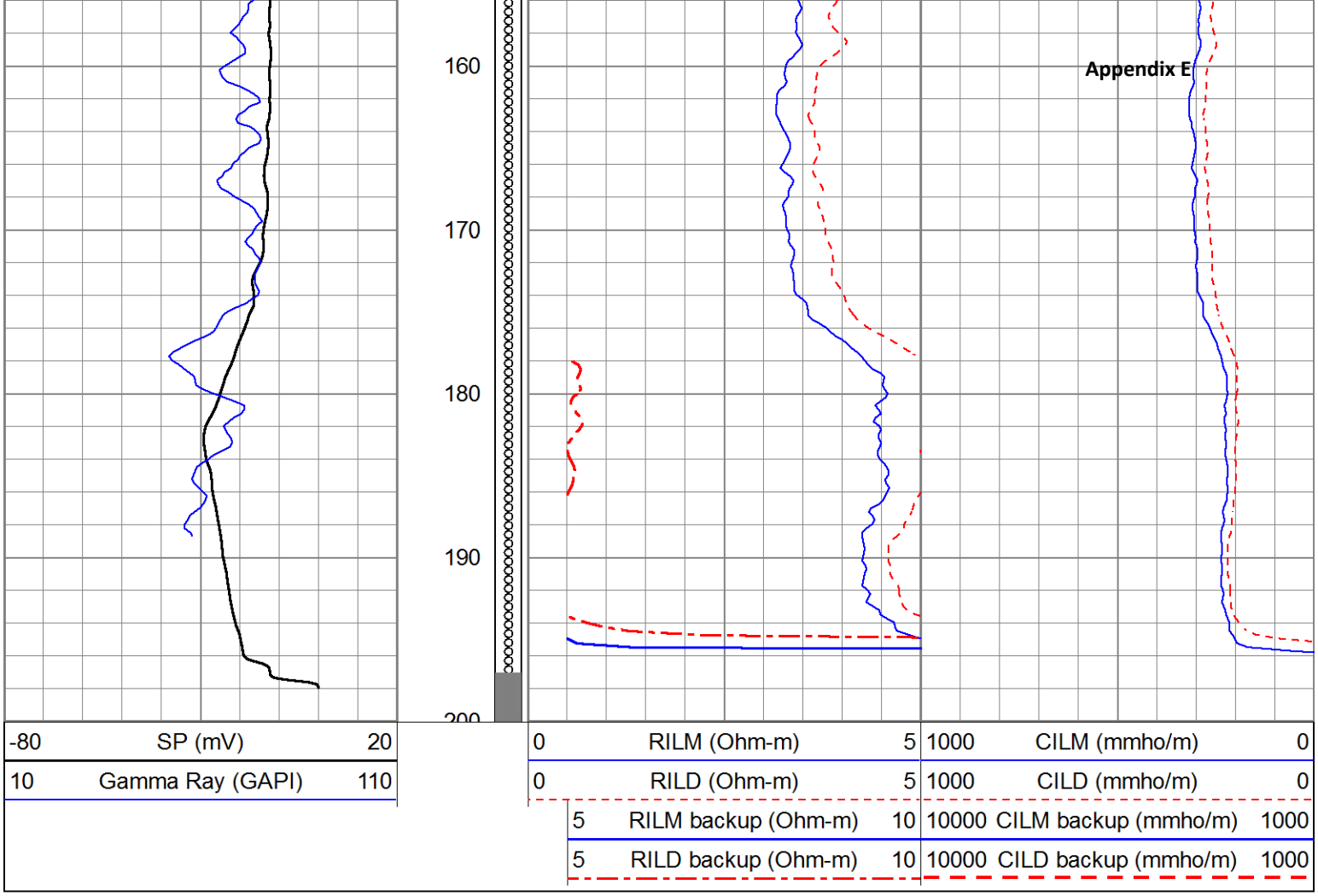
60
70
80
90
100
110
120
130
140
150
SP
Gamma Ray
RILD
RILM
RILM backup
RILD backup
CILM
CILD


160
170
180
190
200
-80 SP (mV) 20
10 Gamma Ray (GAPI) 110
0 RILM (Ohm-m) 5
0 RILD (Ohm-m) 5
5 RILM backup (Ohm-m) 10
5 RILD backup (Ohm-m) 10
1000 CILM (mmho/m) 0
1000 CILD (mmho/m) 0
10000 CILM backup (mmho/m) 1000
10000 CILD backup (mmho/m) 1000

PACIFIC SURVEYS

DUAL INDUCTION GAMMA-RAY

Job No. 17859

File No.

Company CASCADE DRILLING

Well ML-4

Field MOSS LANDING

County MONTEREY State CA

Location

SOUTH OF INTERSECTION OF CABRILLO HWY & DOLAN RD
GPS: N36o 48.156' W121o 47.030'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

			Elevation
Permanent Datum	G.L.	Elevation above perm. datum	K.B.
Log Measured From	G.L. 0'		D.F.
Drilling Measured From	G.L.		G.L.

Date	12-3-2013		
Run Number	ONE		
Depth Driller	195.5'		
Depth Logger	195.5'		
Bottom Logged Interval	195.5'		
Top Log Interval	0'		
Open Hole Size	8"		
Type Fluid	WATER		
Density / Viscosity	N/A		
Fluid Level	28'		
Bentonite Seal	N/A		
Time Well Ready	13:00		
Time Logger on Bottom	13:15		
Equipment Number	PS-7		
Location	LA		
Recorded By	WATKINS		
Witnessed By	N. REYNOLDS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8"	0'	201'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8"	N/A	0'	14.5'
Prot. String				
Production String	4" PVC	SCH 40	0'	195.5'
Liner				

<< Fold Here >>>

Comments

NOTE: 0.010" SLOT FOR LENGTH OF PVC

Calibration Report

Database File 17859.db
Dataset Pathname dil
Dataset Creation Tue Dec 03 14:01:05 2013

Dual Induction Calibration Report

Serial-Model: 0001-ALT
Surface Cal Performed:

Appendix E

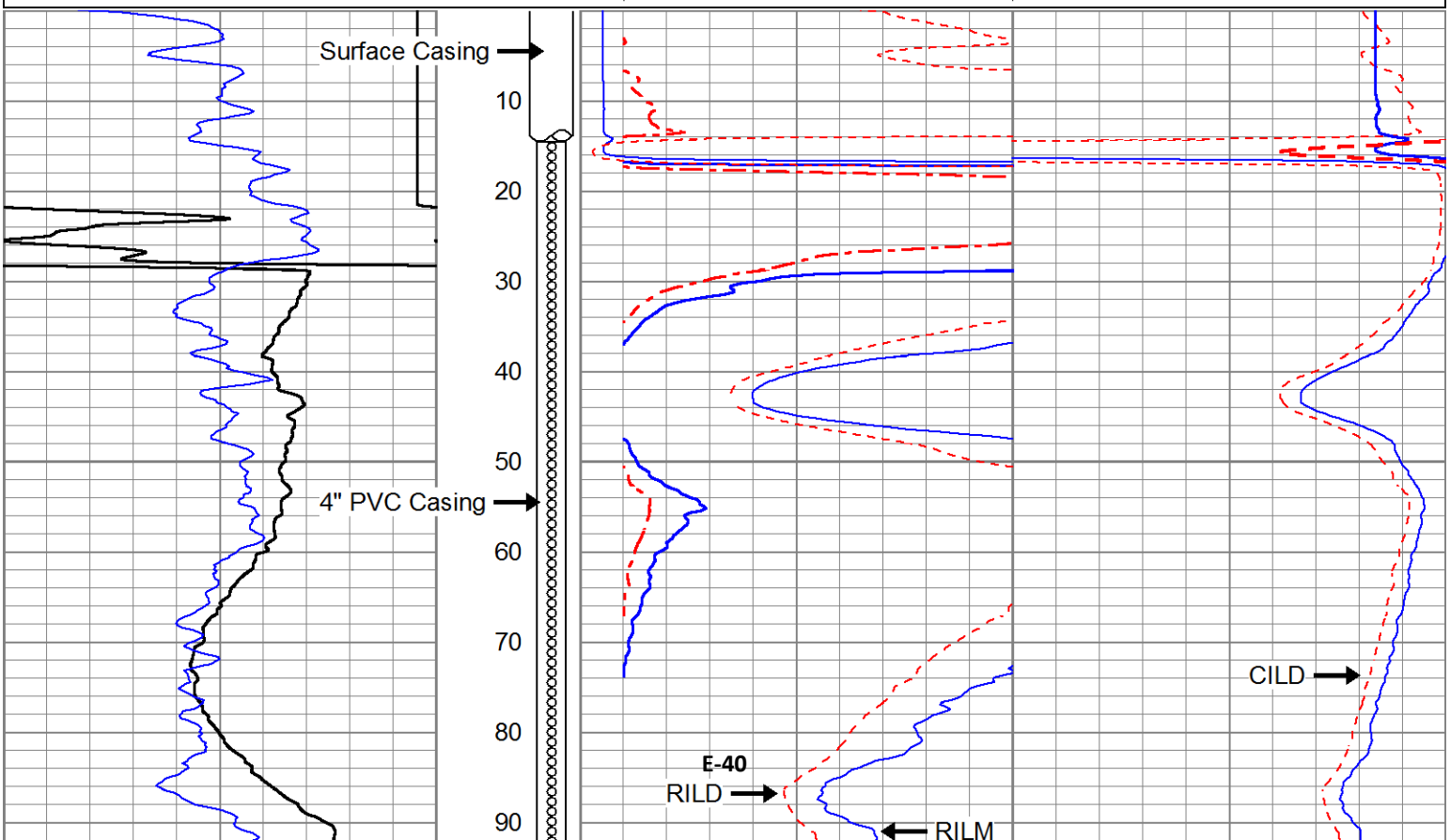
Loop:	Readings Air	Readings Loop		References Air	References Loop		Results m	Results b
Deep	1411.390	3440.570	cps	0.000	612.000	mmho/m	0.302	-425.677
Medium	2379.120	14715.100	cps	0.000	1960.000	mmho/m	0.159	-378.004

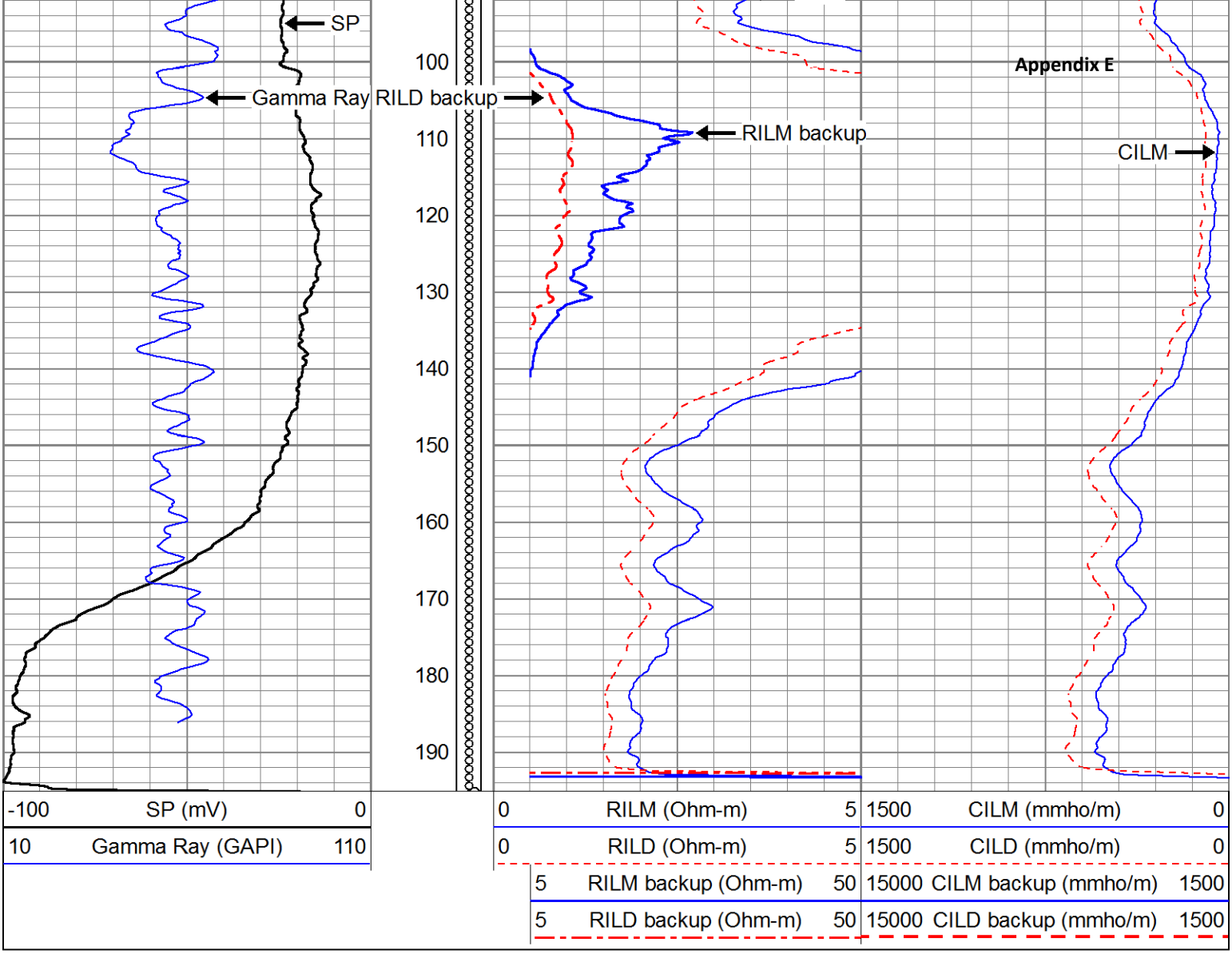
Gamma Ray Calibration Report

Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Sep 19 16:56:13 2012	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

Database File	17859.db
Dataset Pathname	dil
Presentation Format	dil_ps
Dataset Creation	Tue Dec 03 14:01:05 2013
Charted by	Depth in Feet scaled 1:240

-100	SP (mV)	0	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	50	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	50	15000	CILD backup (mmho/m)	1500





-100	SP (mV)	0	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	50	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	50	15000	CILD backup (mmho/m)	1500

PACIFIC SURVEYS

DUAL INDUCTION GAMMA-RAY

Job No. 17787

File No.

Company CASCADE DRILLING

Well ML-6

Field MOSS LANDING

County MONTEREY State CA

Location

7500 SANDHOLDT RD.

Other Services:

TEMPERATURE
FLUID RESISTIVITY

			Elevation
Permanent Datum	G.L.	Elevation above perm. datum	K.B.
Log Measured From	G.L. 0'		D.F.
Drilling Measured From	G.L.		G.L.

Date	11-20-2013		
Run Number	ONE		
Depth Driller	199.6'		
Depth Logger	199.6'		
Bottom Logged Interval	196.5'		
Top Log Interval	0'		
Open Hole Size	8"		
Type Fluid	WATER		
Density / Viscosity	N/A		
Fluid Level	10'		
Bentonite Seal	N/A		
Time Well Ready	1415		
Time Logger on Bottom	1430		
Equipment Number	PS-7		
Location	LA		
Recorded By	SCHUMACHER		
Witnessed By	N. REYNOLDS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8"	0'	200'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8"	N/A	0'	15'
Prot. String				
Production String	4" PVC	SCH 40	0'	200'
Liner				

<< Fold Here >>>

Comments

NOTE: 0.010" SLOT FOR LENGTH OF PVC

Calibration Report

Database File 17787.db
Dataset Pathname dil2
Dataset Creation Wed Nov 20 15:33:46 2013

Dual Induction Calibration Report

Serial-Model: 0001-ALT
Surface Cal Performed:

Appendix E

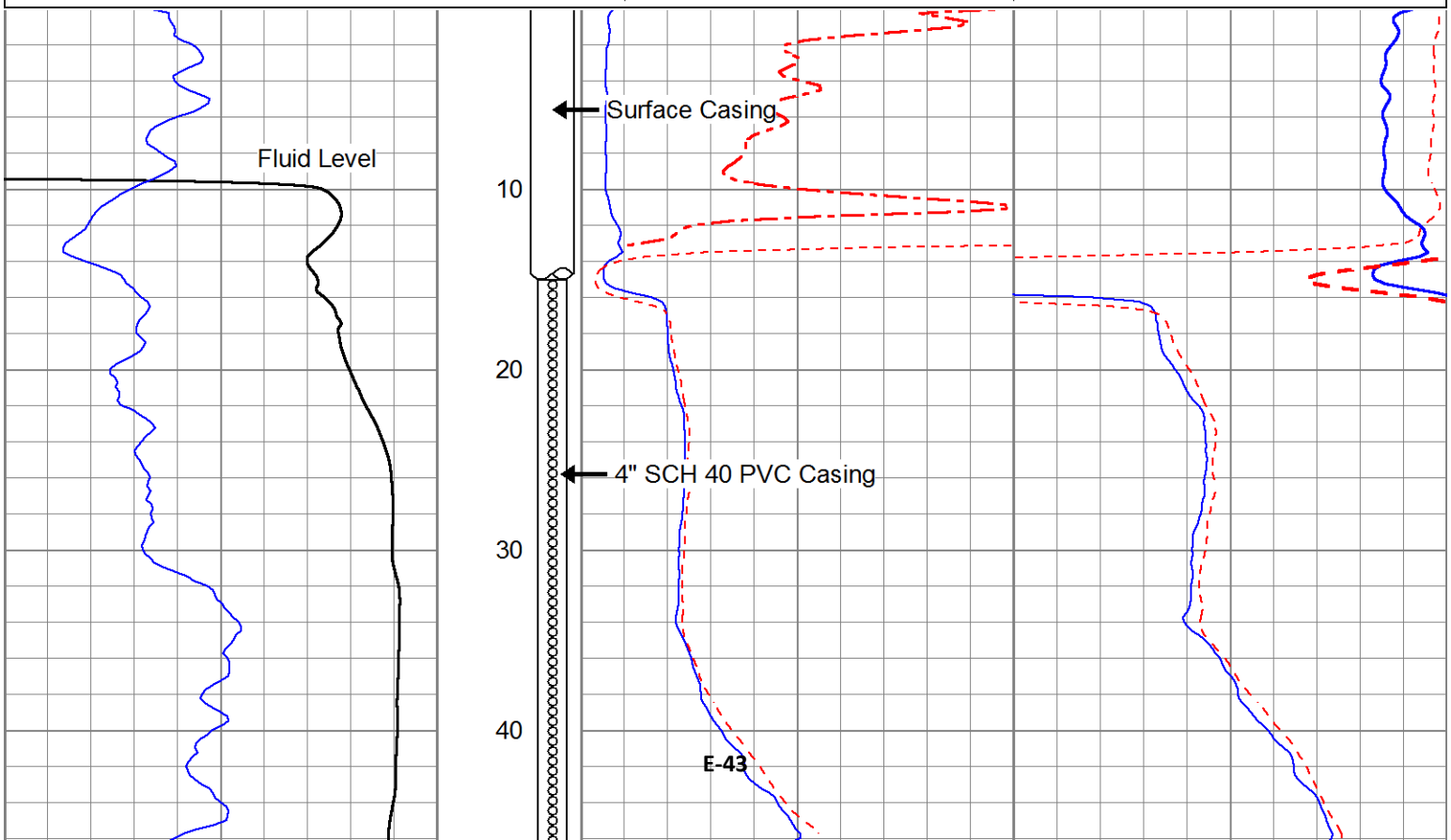
Loop:	Readings Air	Readings Loop		References Air	References Loop		Results m	Results b
Deep	1440.330	3755.270	cps	0.000	612.000	mmho/m	0.264	-380.779
Medium	1967.190	14170.100	cps	0.000	1960.000	mmho/m	0.161	-315.965

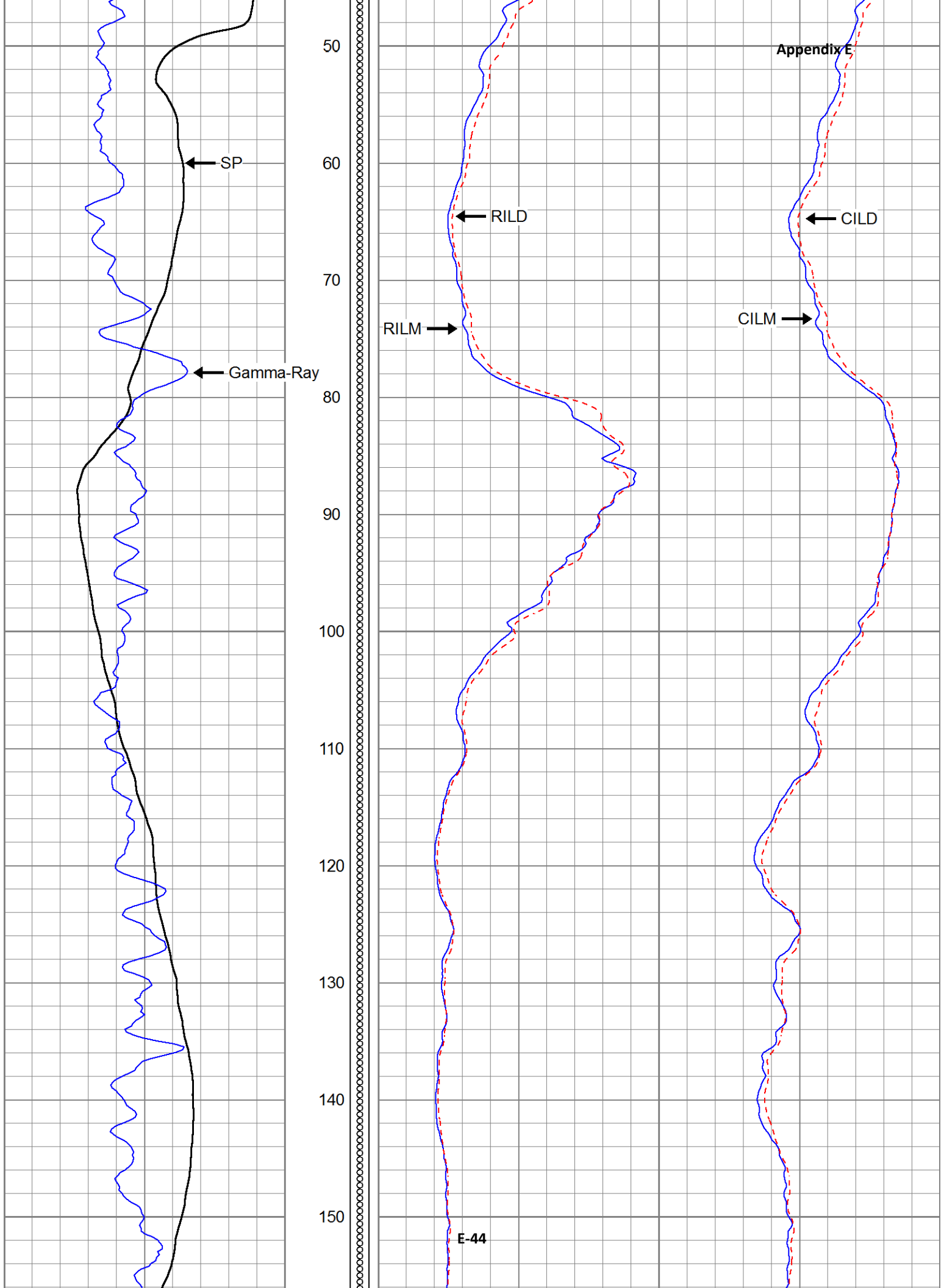
Gamma Ray Calibration Report

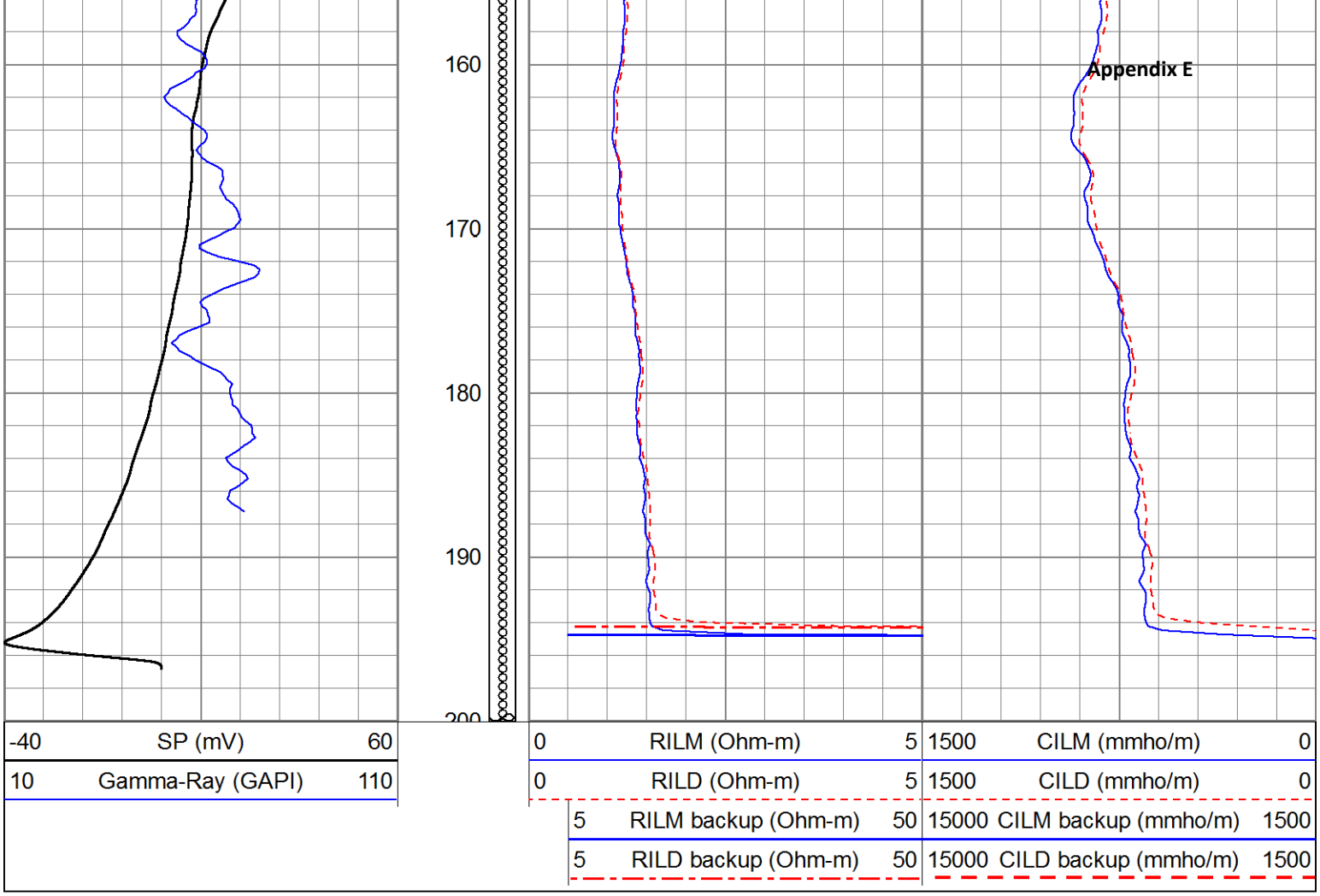
Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Sep 19 16:56:13 2012	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

Database File	17787.db
Dataset Pathname	dil2
Presentation Format	dil_ps
Dataset Creation	Wed Nov 20 15:33:46 2013
Charted by	Depth in Feet scaled 1:120

-40	SP (mV)	60	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma-Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	50	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	50	15000	CILD backup (mmho/m)	1500




SP
Gamma-Ray
RILD
RILM
CILD
CILM
50
60
70
80
90
100
110
120
130
140
150


160
170
180
190
200
-40 SP (mV) 60
10 Gamma-Ray (GAPI) 110
0 RILM (Ohm-m) 5
0 RILD (Ohm-m) 5
5 RILM backup (Ohm-m) 50
5 RILD backup (Ohm-m) 50
1500 CILM (mmho/m) 0
1500 CILD (mmho/m) 0
15000 CILM backup (mmho/m) 1500
15000 CILD backup (mmho/m) 1500

PACIFIC SURVEYS

DUAL INDUCTION GAMMA-RAY

Job No. 17689

File No.

Company CASCADE DRILLING, INC.

Well PR-1

Field MOSS LANDING

County MONTEREY State CA

Location

POTRERO RD
GPS: N36o 47.439' W121o 47.509'

Other Services:

TEMPERATURE
FLUID RESISTIVITY

Permanent Datum	G.L.	Elevation above perm. datum	Elevation K.B. D.F. G.L.
Log Measured From	G.L. 0'		
Drilling Measured From	G.L.		

Date	9-23-2013		
Run Number	ONE		
Depth Driller	200'		
Depth Logger	200'		
Bottom Logged Interval	200'		
Top Log Interval	0'		
Open Hole Size	8"		
Type Fluid	N/A		
Density / Viscosity	N/A		
Fluid Level	N/A		
Bentonite Seal	N/A		
Time Well Ready	10:15		
Time Logger on Bottom	10:30		
Equipment Number	PS-3		
Location	LA		
Recorded By	WATKINS		
Witnessed By	B. VILLALOBOS		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8"	0'	200'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9"	N/A	0'	10'
Prot. String	4"	N/A	0'	200'
Production String				
Liner				

<<< Fold Here >>>

Comments

0.010" SLOT FROM 10-180' BGS

Calibration Report

Database File 17689.db
Dataset Pathname dil
Dataset Creation Mon Sep 23 10:40:26 2013

Dual Induction Calibration Report

Serial-Model: 0001-ALT
Surface Cal Performed:

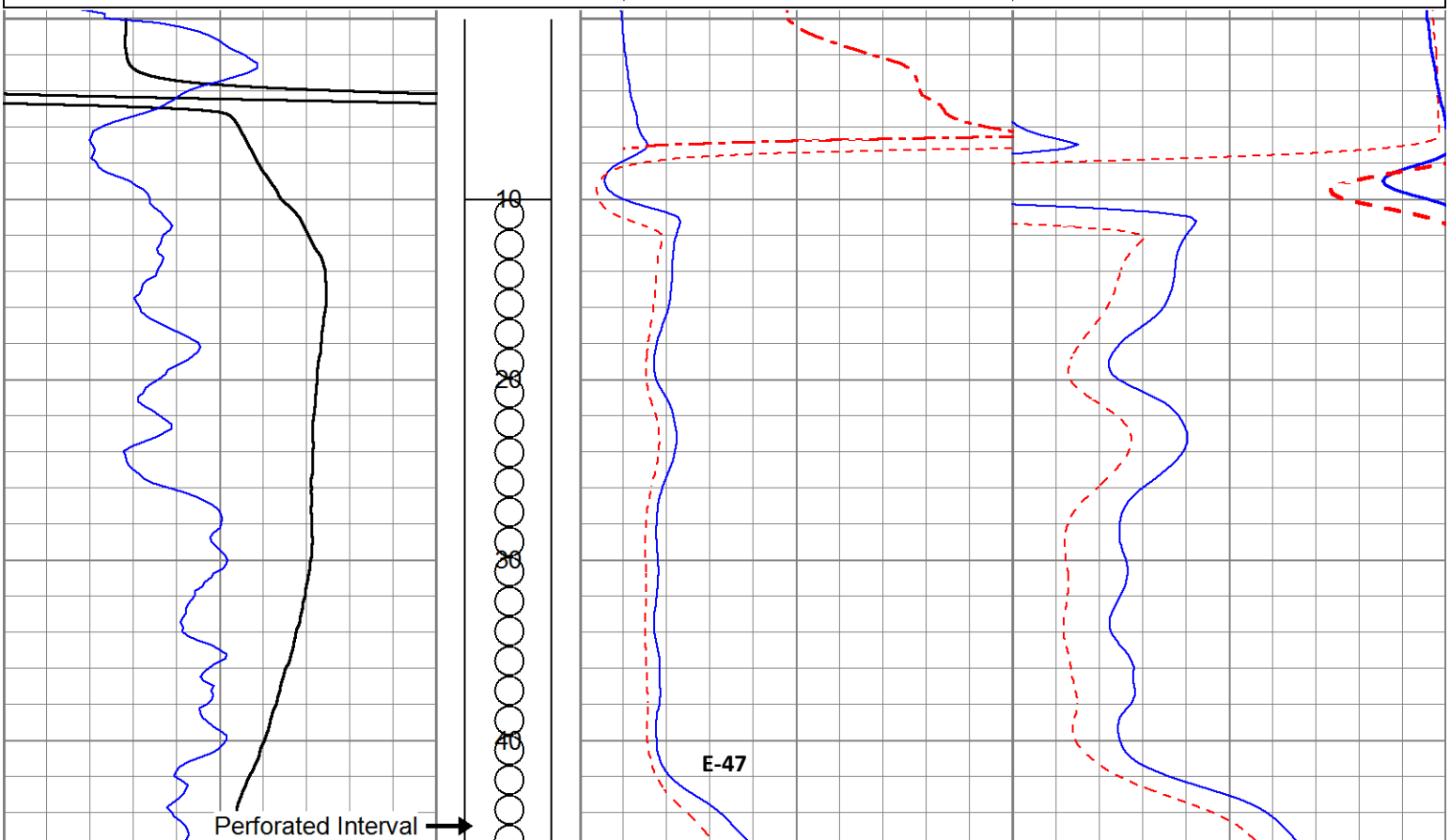
Loop:	Readings Air	Readings Loop		References Air	References Loop		Results m	Results b
Deep	1407.490	3493.640	cps	0.000	612.000	mmho/m	0.293	-412.905
Medium	1908.120	14487.900	cps	0.000	1960.000	mmho/m	0.156	-297.296

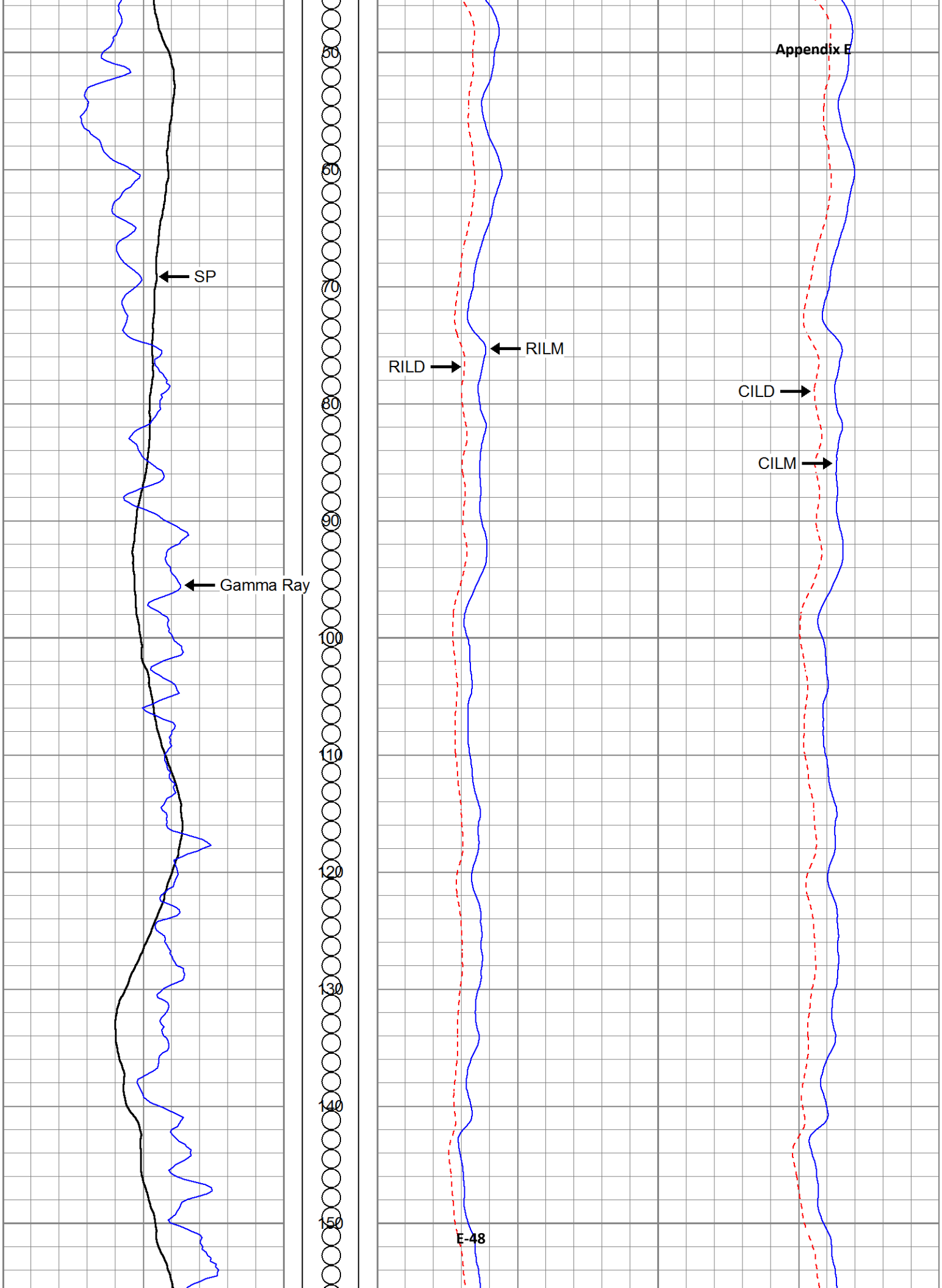
Gamma Ray Calibration Report

Serial Number:	PS_1	
Tool Model:	01	
Performed:	Wed Aug 31 18:22:13 2011	
Calibrator Value:	162.0	GAPI
Background Reading:	46.1	cps
Calibrator Reading:	180.8	cps
Sensitivity:	1.2020	GAPI/cps

Database File	17689.db
Dataset Pathname	dil
Presentation Format	dil_ps
Dataset Creation	Mon Sep 23 10:40:26 2013
Charted by	Depth in Feet scaled 1:120

100	SP (mV)	200	0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
10	Gamma Ray (GAPI)	110	0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
			5	RILM backup (Ohm-m)	50	15000	CILM backup (mmho/m)	1500
			5	RILD backup (Ohm-m)	50	15000	CILD backup (mmho/m)	1500




50
60
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80
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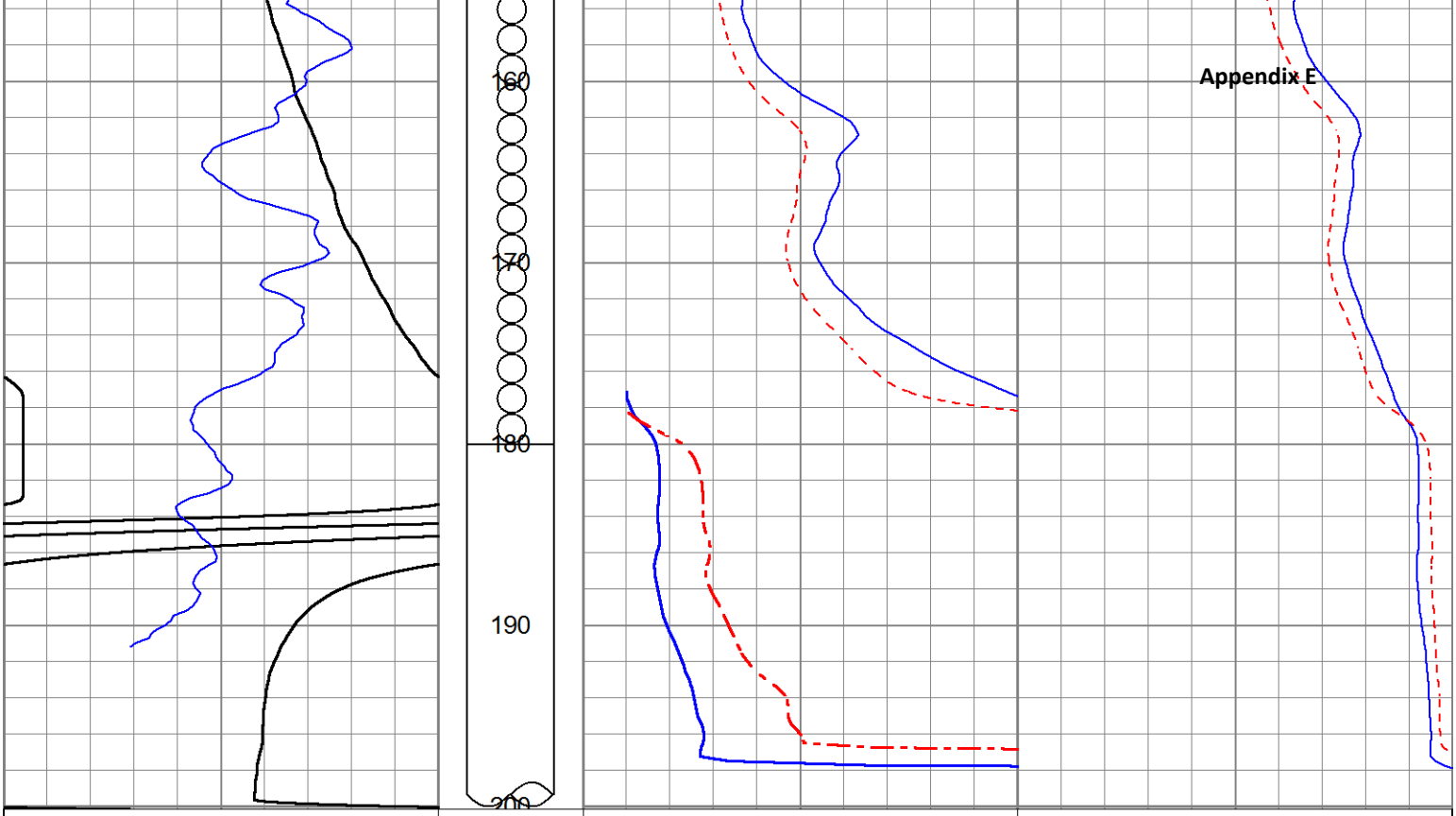
100
110
120
130
140
150
SP
Gamma Ray
RILM
RILD
CILD
CILM



100	SP (mV)	200
10	Gamma Ray (GAPI)	110

0	RILM (Ohm-m)	5	1500	CILM (mmho/m)	0
0	RILD (Ohm-m)	5	1500	CILD (mmho/m)	0
5	RILM backup (Ohm-m)	50	15000	CILM backup (mmho/m)	1500
5	RILD backup (Ohm-m)	50	15000	CILD backup (mmho/m)	1500

APPENDIX F

Isolated Aquifer Zones Construction Forms

And Well Sampling Data Forms

GEOSCIENCE

APPENDIX F:

ISOLATED AQUIFER ZONES CONSTRUCTION FORMS AND WELL SAMPLING DATA FORMS

CONTENTS

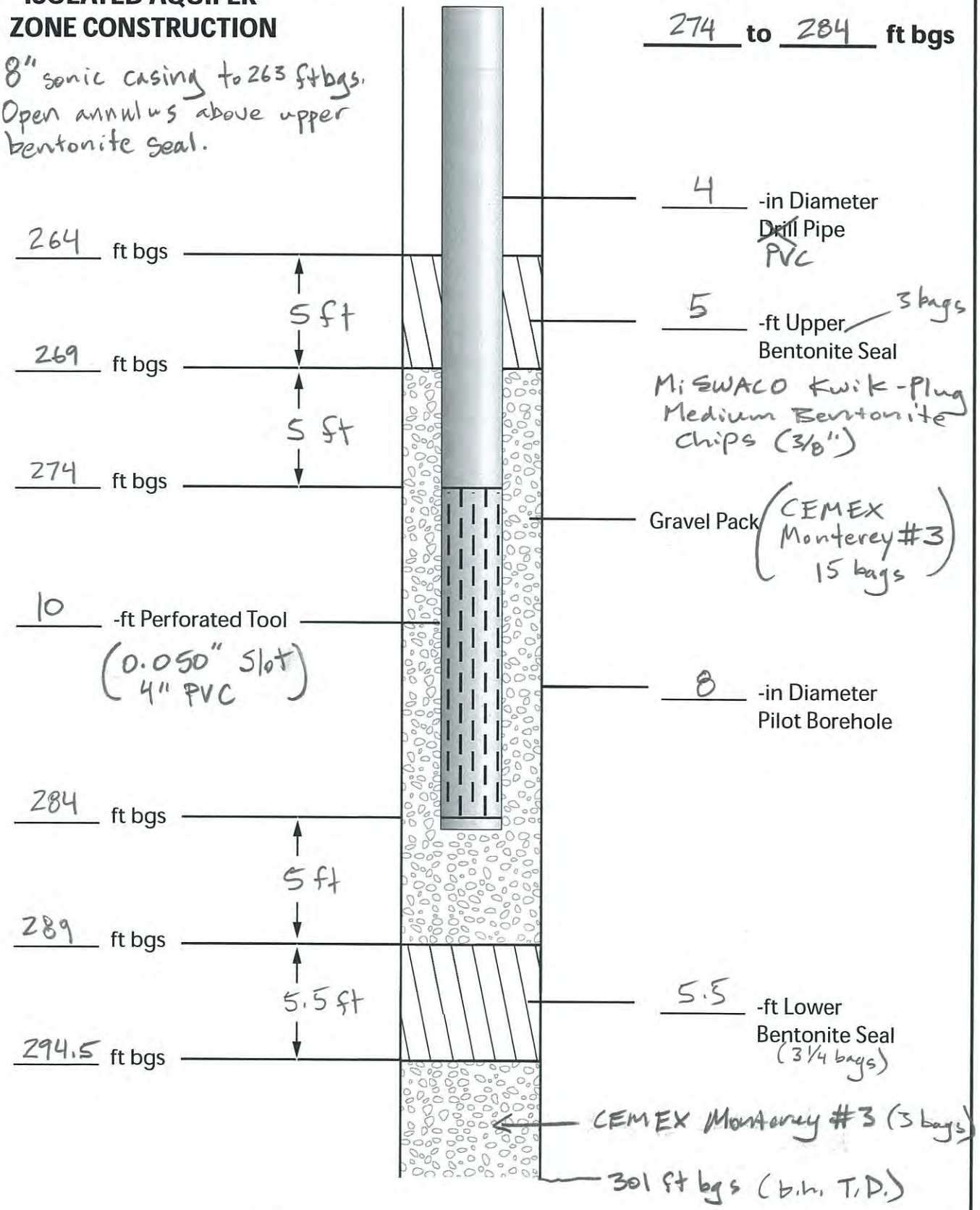
ISOLATED AQUIFER ZONE CONSTRUCTION

Zone #1 As-Built

Zone No. 1

274 to 284 ft bgs

8" sonic casing to 263 ft bgs. Open annulus above upper bentonite seal.



GEOSCIENCE
GEOSCIENCE Support Services, Incorporated
P.O. Box 220, Claremont, CA 91711
Tel: (909) 451-6650 Fax: (909) 451-6638
www.gssiwater.com

Client: RBF Consulting Inc.

Well Name/Number: MPWSP Exploratory Borehole CX-B1WQ

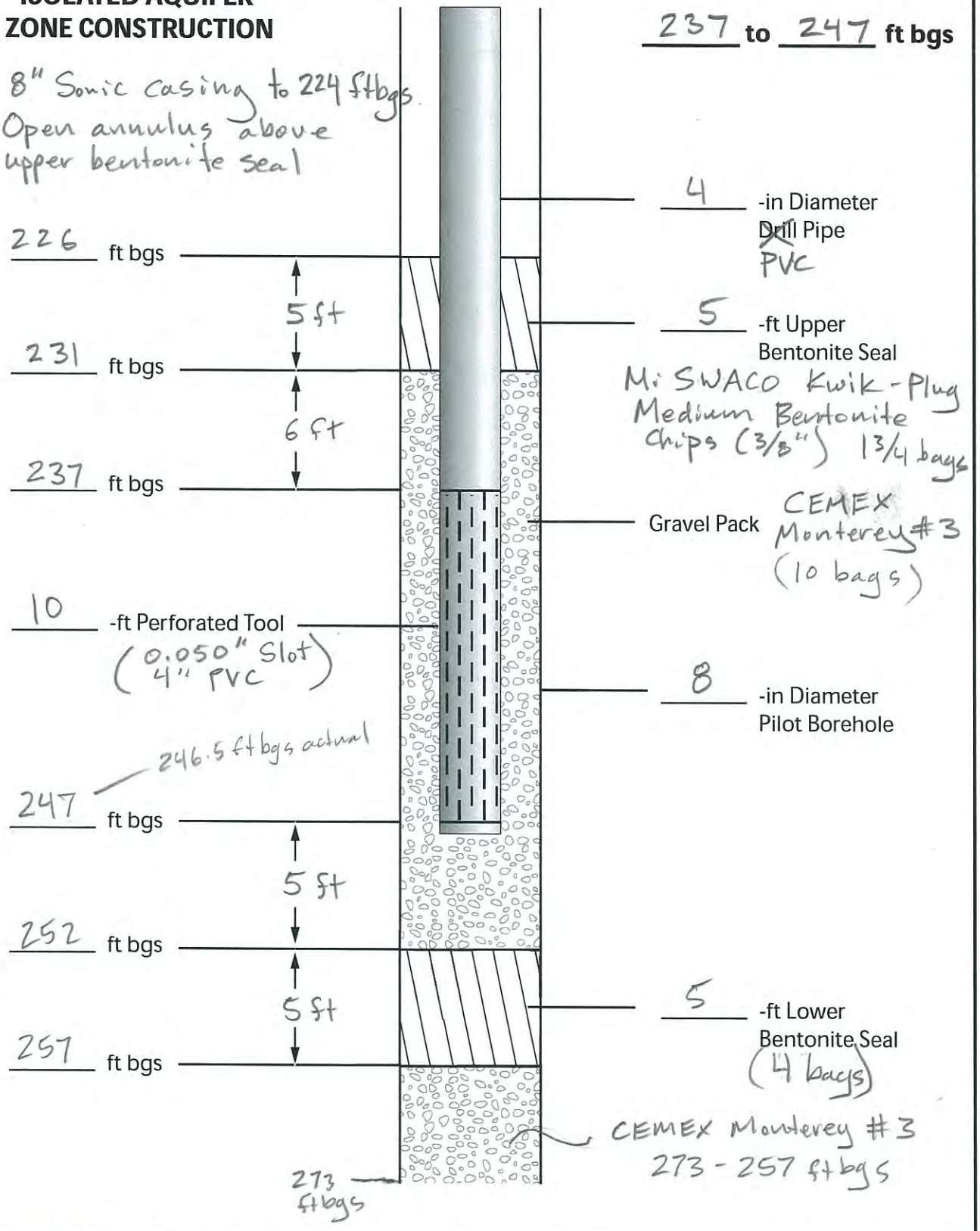
Date: 2-17-14 / Mon

Zone#2 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 2

237 to 247 ft bgs



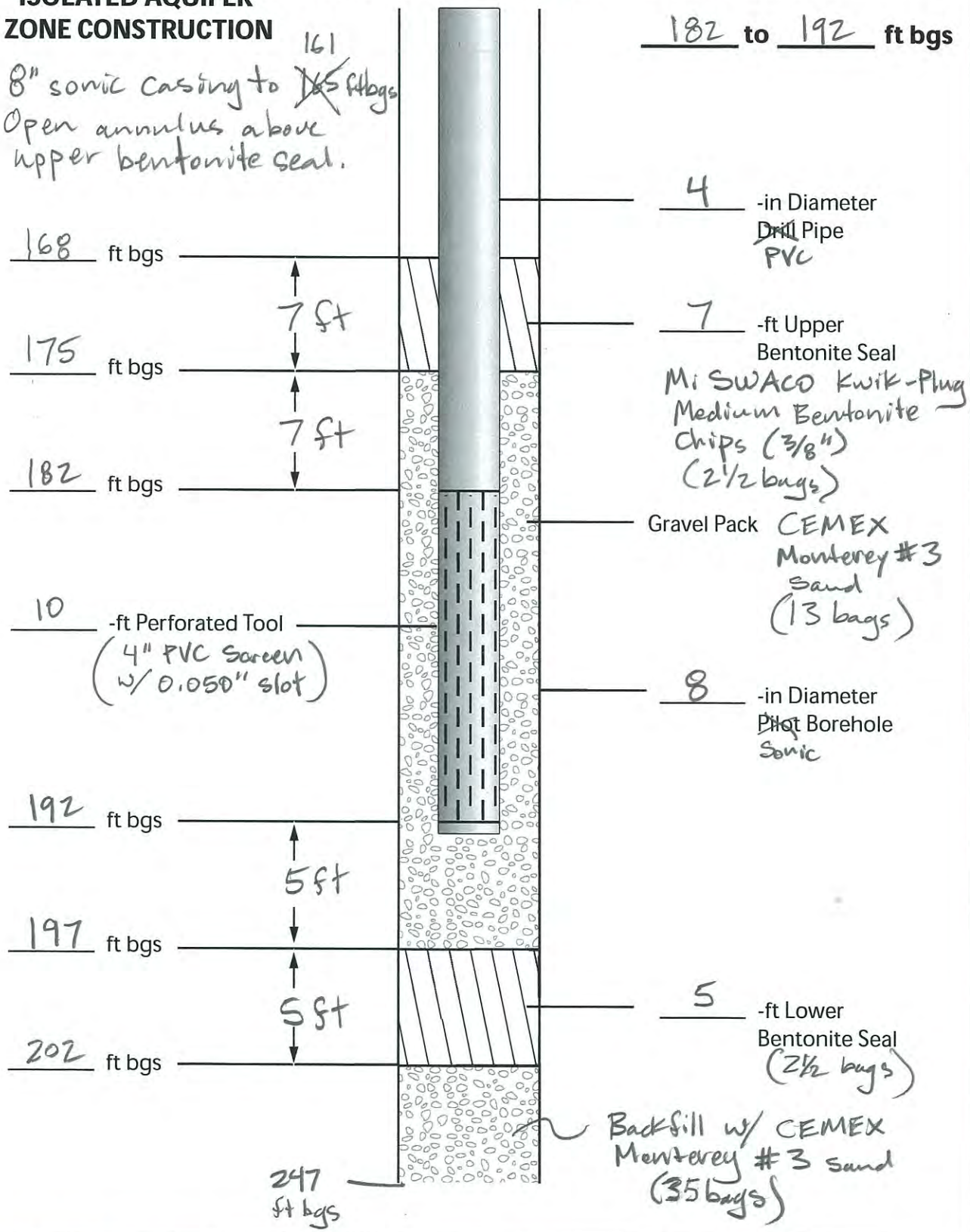
GEOSCIENCE GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Client: RBF Consulting Inc. Well Name/Number: MPWSP Exploratory Borehole CX-B1WQ Date: 2-19-14 / Wed

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone #3 As Built

Zone No. 3

182 to 192 ft bgs



GEOSCIENCE GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Client: RBF Consulting Inc. Well Name/Number: MPWSP Exploratory Borehole CX-B1WQ Date: 2-20-14 / Thu

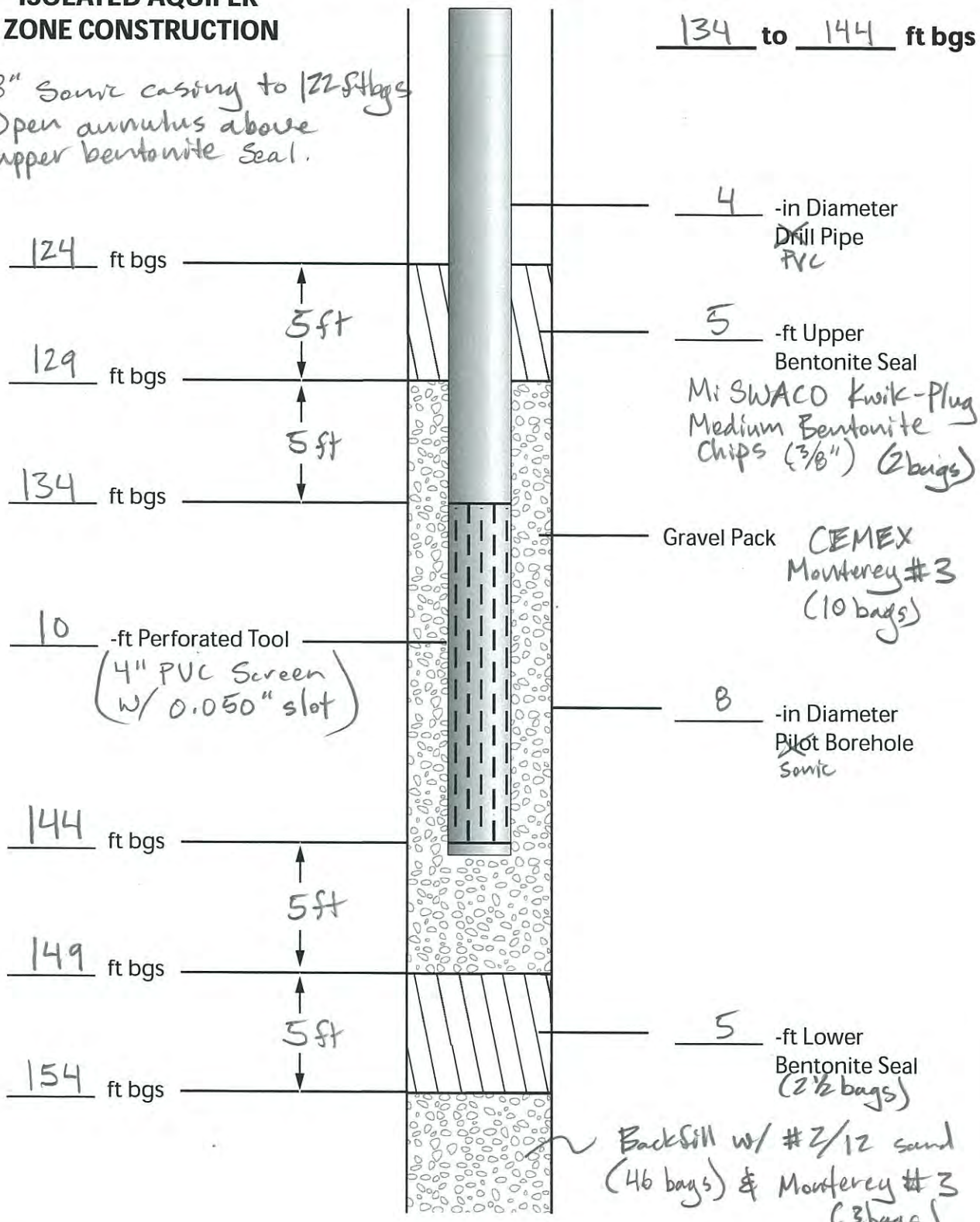
ISOLATED AQUIFER ZONE CONSTRUCTION

Zone #4 As Built

Zone No. 4

134 to 144 ft bgs

8" Sonic casing to 122 ft bgs
Open annulus above upper bentonite seal.



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GEOSCIENCE Support Services, Incorporated
P.O. Box 220, Claremont, CA 91711
Tel: (909) 451-6650 Fax: (909) 451-6638
www.gssiwater.com

Client: RBF Consulting Inc.
Well Name/Number: MPWSP Exploratory Borehole CX-B1WQ
Date: 2-22-14/Sat

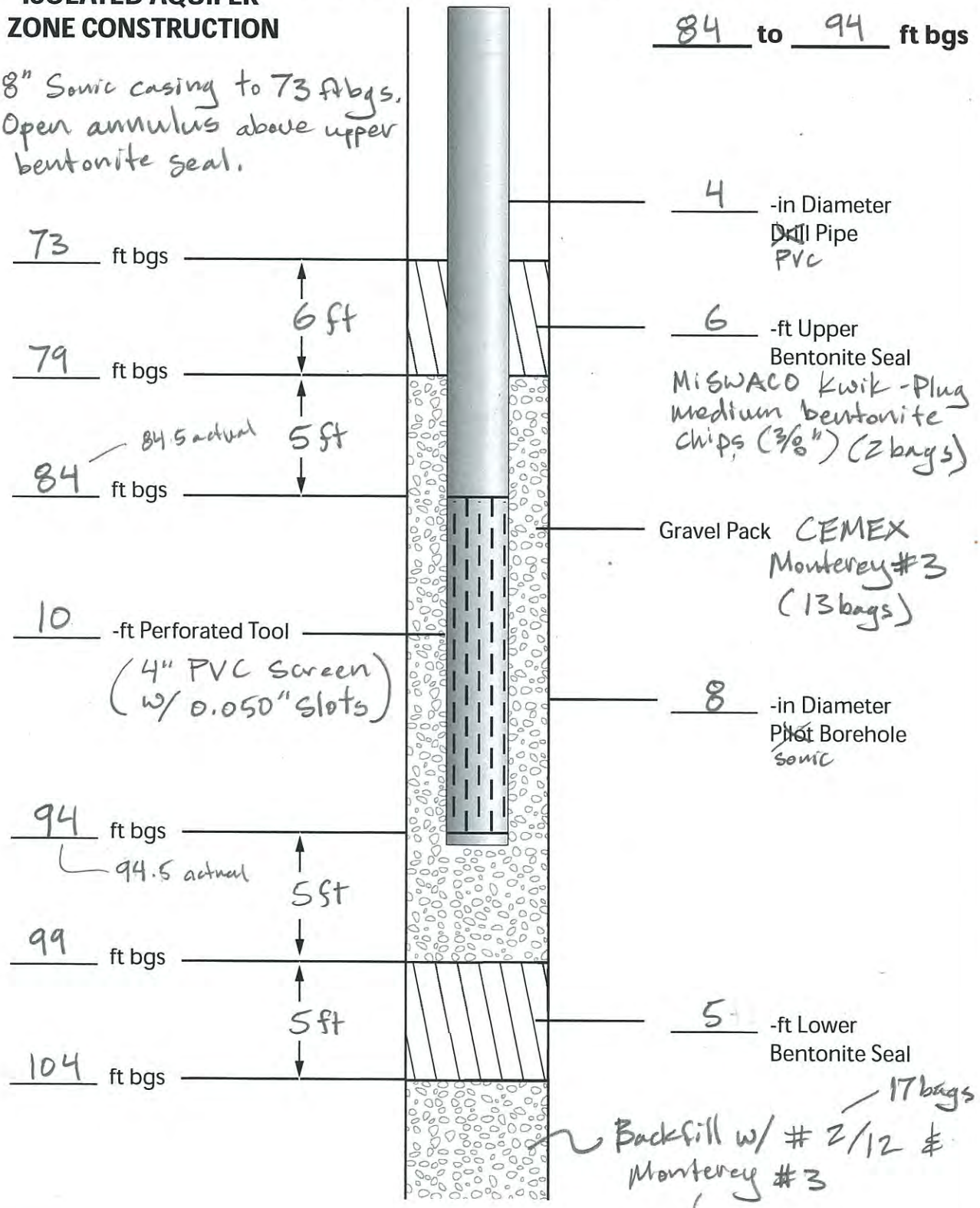
ISOLATED AQUIFER ZONE CONSTRUCTION

Zone #5 As Built

Zone No. 5

84 to 94 ft bgs

8" Sonic casing to 73 ft bgs. Open annulus above upper bentonite seal.



GEOSCIENCE	Client: RBF Consulting Inc.
GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Well Name/Number: MPWSP Exploratory Borehole CX-B1WQ
	Date: 2-23-14 / Sun

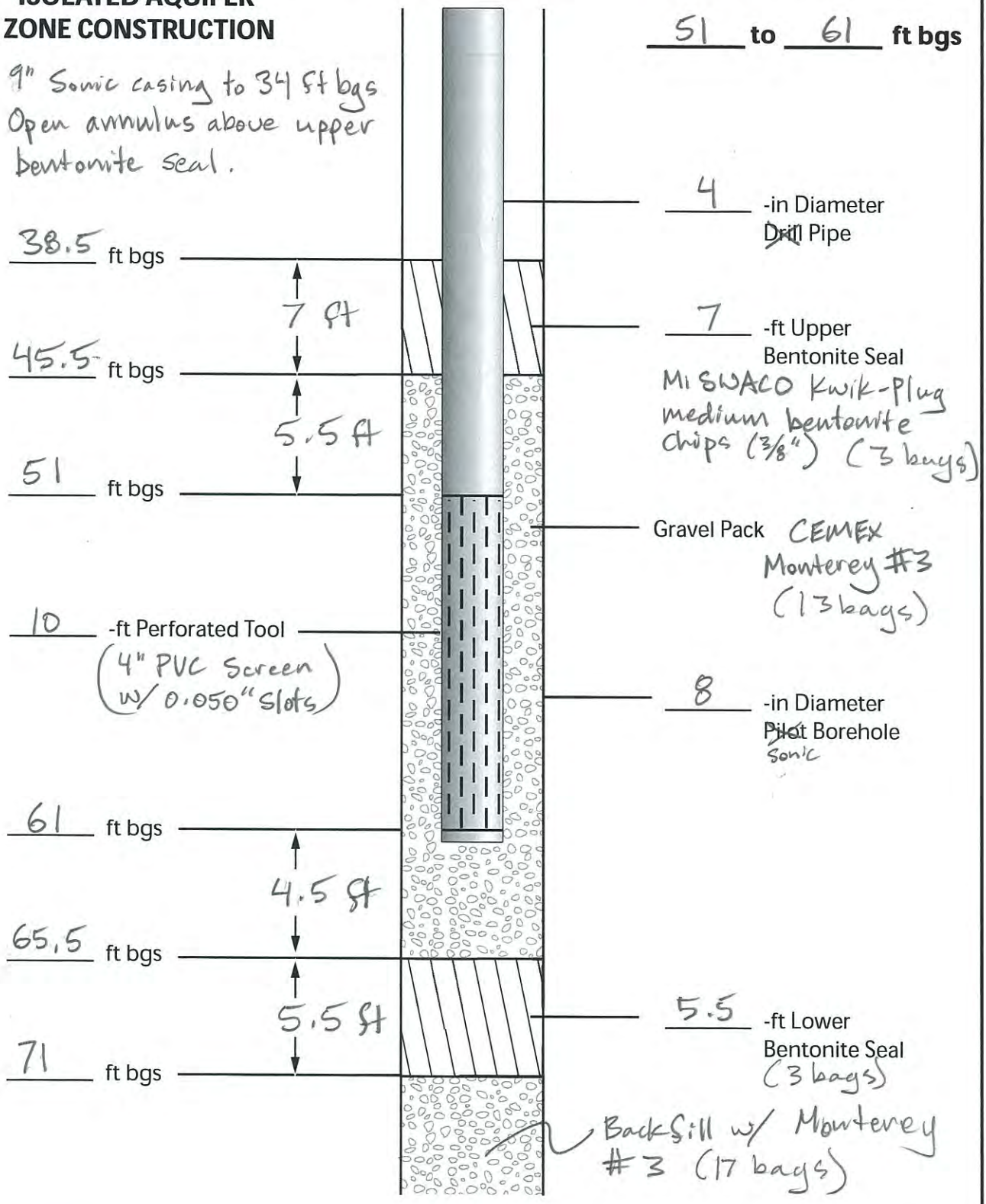
Zone #6 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 6

51 to 61 ft bgs

9" Sonic casing to 34 ft bgs
Open annulus above upper bentonite seal.



4 -in Diameter ~~Drill~~ Pipe

7 -ft Upper Bentonite Seal
MISWACO Kwik-Plug medium bentonite chips (3/8") (3 bags)

Gravel Pack CEMEX Monterey #3 (13 bags)

10 -ft Perforated Tool
(4" PVC Screen w/ 0.050" slots)

8 -in Diameter ~~Pilot~~ Sonic Borehole

5.5 -ft Lower Bentonite Seal (3 bags)

Backfill w/ Monterey #3 (17 bags)

GEOSCIENCE GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Client: RBF Consulting Inc. Well Name/Number: MPWSP Exploratory Borehole CX-B1WQ Date: 2-24-14/Mon

GEOSCIENCE

GEOSCIENCE Support Services, Inc.
P.O. Box 220, Claremont, CA 91711
Tel: (909) 451-6650 Fax: (909) 451-6638
www.gssiwater.com

CONFIDENTIAL DRAFT
Subject to Revision

ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 263 ft bgs
Static WL: 21.0 ft brp
RP: 8.0 ft ags (Top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling (W.L.'s)
Test Date: 2-17-14/Mon
Screened Interval: 274-284 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 212 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 Constant)	pH	ORP (mV)	Turbitity (NTU)
16:22:14	0	21.0	0	64079.5	Pump on ~7.1 gpm.								
16:25	3	57.0	36.0	↑Q to 11.5 gpm									very
16:30	8	72.3	51.3	64143.4	11.5	18.9	0.6	14000	12693	10111.6	7.13	-131.1	turbid
16:36	14	67.4	46.4		16:36:30 ↑Q to ~19.1 gpm, Turb improving some.								
16:40	18	↑Q slightly.		to 19.6 gpm									
16:43	21	90.0	69.0	64338.7	19.6	19.5	0.8	36690	32843	24996.8	6.66	-109.6	"over range"
16:49	27	88.7	67.7	64457.3	19.8	19.4	0.7	37156	33211	25268.8	6.62	-108.7	529
16:53:35	31	Pump off.		64546.0							water is aerated.		
		Total Volume pumped today = 466.5 gallons.											

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

GEOSCIENCE

GEOSCIENCE Support Services, Inc.
P.O. Box 220, Claremont, CA 91711
Tel: (909) 451-6650 Fax: (909) 451-6638
www.gssiwater.com

CONFIDENTIAL DRAFT
Subject to Revision

ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 263 ft bgs
Static WL: 34.0 ft brp
RP: 8.0 ft ags (top of 8" casing)

W.L.'s taken w/ an electronic W.L. indicator.

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-18-14 / Tue
Screened Interval: 274-284 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 212 ft bgs

W.L.'s

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
08:01:02	0	34.0	0	64545.1	Pump on @ 31.4 gpm								
08:03	2	88.6	54.6	↓Q to	21.5 gpm								
08:06	5	84.4	50.4										
08:27	26	85.0	51.0	65128.5	21.7								6.52
08:31:41	~31			↑Q to ~	38.5 gpm								
08:36	35	119.5	85.5		38.5	08:37	↑Q to	39.8 gpm					
08:41	40	119.5	85.5	65571.0	40.2								105
09:20	79	114.6	80.6	67147.8	40.4	19.0	2.5	36509	32312	24820	6.51	96.1	11.7
09:30	89	114.9	80.9	67553.5	40.6	19.0	1.0	36353	32175	24718	6.56	57.6	9.04
09:40	99	114.7	80.7	67959.8	40.6	19.0	1.0	36524	32331	24840.4	6.55	48.6	4.40
09:50	109	114.6	80.6	68365.5	40.6	19.0	1.0	36505	32317	24826.8	6.55	47.6	4.08
10:00	119	114.8	80.8	68771.4	40.6	19.0	1.0	36488	32336	24799.6	6.55	49.0	3.43
10:10	129	114.5	80.5	69177.0	40.6	19.0	1.0	36512	32357	24820.0	6.55	50.6	2.82
10:20	139	115.0	81.0	69583.0	40.6	19.0	1.0	36535	32367	24847.2	6.55	51.7	1.98
10:30	149	115.2	81.2	69990.6	40.8	19.0	1.0	36527	32377	24833.6	6.55	53.8	3.36
10:40	159	115.1	81.1	70398.1	40.8	19.0	1.0	36540	32335	24847.2	6.55	54.6	2.23
10:50	169	115.2	81.2	70805.6	40.8	19.0	1.0	36553	32365	24854	6.55	55.4	0.92
11:00	179	115.17	81.17	71213.3	40.8	19.0	1.0	36564	32364	24860.8	6.54	56.4	0.94
11:10	189	115.1	81.1	71621.8	40.9	19.0	1.0	36570	32374	24867.6	6.54	57.3	0.88
11:20	199	114.95	80.95	72029.2	40.7	19.0	1.0	36567	32379	24867.6	6.54	58.1	0.89

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow thru cell = 1548 mL/min

Form Created: 29-Sep-13

27 bottles MWAS 1 isotope

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1 W.L.'s

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 263 ft bgs
Static WL: 34.0 ft brp
RP: 8.0 ft agl

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-18-14 Tue
Screened Interval: 274-284 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 212 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp) (34.0)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
11:30	209	115.3	81.3	72436.6	40.7	19.0	1.0	36566	32377	24867.6	6.54	58.6	0.93
11:40	219	114.9	80.9	72844.4	40.8	19.0	1.0	36581	32394	24874.4	6.54	59.2	1.49
11:50	229	114.8	80.8	73251.8	40.7	18.9	1.0	36581	32350	24874.4	6.54	59.9	1.20
12:00	239	115.1	81.1	73659.1	40.7	18.9	1.0	36608	32359	24888.0	6.54	60.5	1.16
12:10	249	115.0	81.0	74066.2	40.7	18.9	1.0	36601	32361	24888.0	6.54	61.1	0.57
12:15	Begin collecting zone #1 WQ samples for lab analysis.												
12:39	278	114.72	80.72	75248.9	40.8	18.9	1.0	36635	32402	24908.4	6.54	62.2	0.56
12:42:07	281			75374.2	Pump off.								
		Total Volume pumped today =				10,829.1 gallons							
13:35	334	34.2	0.2	W.L. after pulling pump.									

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in
Sonic Casing Depth: 224 ft bgs
Static WL: _____ ft brp
RP: 6.0 ft ags (Top of 8" casing)

W.L.'s taken w/ an electronic W.L. indicator

Note: SWL was 45 tags prior to pumping. Recovered W.L. was not recorded by driller on 2-20-14. est. 6 ft bgs by driller

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-19-14 / Wed
Screened Interval: 237-247 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 199 ft bgs to pump intake

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Total Gallons
10:35:13	0			75374.1	Pump on @ 27 gpm. ↓Q @ 10:36:30 to 22gpm						↓Q@10:38 to 13			gpm
10:40	5	147.63			13.0	↓Q @ 10:41 to 10.3 gpm. Turbid.								
10:45	10	122.3		75520.7	~10.3								turbid	
10:55	20	108.6		75622.2	10.2	Discharge is aerated.							"over range"	
11:10	35	108.82		75778.8	10.4	"		"					530	
11:25	50	108.37		75936.1	10.5	"		"					196	
11:35	60	110.0		76042.4	10.6	18.9	1.1	21571	19051	14681.2	6.71	-13.9	150	
11:45	70	110.6		76150.7	10.8	18.9	1.1	21776	19254	14817.2	6.77	-54.6	81.4	
11:55	80	110.4		76259.0	10.8	18.9	1.1	22069	19503	15014.4	6.77	-58.8	53.6	884.9
12:05	90	110.3		76367.2	10.8	18.8	1.2	22241	19623	15130.0	6.78	-59.8	52.9	
12:16	101	109.82		76486.4	10.8	18.9	1.2	22432	19803	15252.4	6.77	-58.4	45.8	
12:25	110	109.47		76583.8	10.8	18.8	1.2	22544	19879	15327.2	6.77	-56.8	31.2	
12:35	120	109.6		76692.2	10.8	18.8	1.2	22658	19973	15415.6	6.77	-54.8	37.2	1318.1
12:45	130	108.83		76800.6	10.8	18.8	1.2	22769	20069	15483.6	6.77	-52.0	20.9	
12:55	140	108.4		76908.3	10.8	18.7	1.2	22840	20121	15531.2	6.77	-49.6	17.9	
13:05	150	107.95		77016.0	10.8	18.7	1.2	22922	20184	15585.6	6.77	-46.3	14.4	1641.9
13:15	160	106.95		77122.6	10.7	18.7	1.2	23007	20261	15640.0	6.77	-43.1	14.9	
13:25	170	106.83		77228.9	10.6	18.7	1.2	23068	20308	15687.3	6.77	-40.9	14.9	
13:35	180	106.8		77334.7	10.6	18.7	1.2	23143	20374	15742.0	6.76	-38.2	12.9	
13:45	190	107.0		77440.8	10.6	18.7	1.2	23210	20429	15789.6	6.76	-36.5	12.8	

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow thru cell = 1471 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2 W.L.'s

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 224 ft bgs
Static WL: _____ ft brp
RP: 6.0 ft ags

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-19-14 / Wed
Screened Interval: 237-247 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 199 ft bgs pump intake

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) 0.68 constant	pH	ORP (mV)	Turbitity (NTU)
13:55	200	107.0		77546.8	10.6	18.7	1.2	23243	20447	15810.0	6.76	-33.8	14.7
14:05	210	106.8		77652.8	10.6	18.7	1.2	23296	20485	15837.2	6.76	-31.6	14.5
14:15	220	106.6		77759.2	10.6	18.7	1.2	23326	20516	15864.4	6.76	-29.1	13.6
14:25	230	105.98		77865.7	10.7	18.7	1.2	23382	20555	15898.4	6.76	-26.3	11.6
14:35	240	106.5		77971.8	10.6	18.7	1.2	23406	20578	15912.0	6.76	-24.6	11.4
14:45	250	106.6		78078.2	10.6	18.7	1.2	23444	20606	15939.2	6.76	-22.5	10.7
14:55	260	105.7		78184.5	10.6	18.7	1.2	23466	20631	15952.8	6.76	-20.7	8.56
15:05	270	106.3		78290.7	10.6	18.7	1.2	23480	20644	15966.4	6.76	-18.8	9.23
15:15	280	106.1		78397.2	10.7	18.7	1.2	23516	20669	15986.8	6.76	-17.0	13.2
15:25	290	106.25		78503.6	10.6	18.7	1.2	23547	20700	16007.2	6.76	-15.7	13.1
15:38	303	106.2		78641.7	10.6	18.7	1.2	23592	20737	16041.2	6.76	-13.4	11.2
15:41:42	~307	↓Q to 6.3 gpm		; 15:44:24	↓Q to	5.1 gpm		; 15:46:53	↓Q to	3.3 gpm	3.08 NTU		
15:52	317	50.3		78727.2	~3.3	18.6	1.1	23639	20744	16075.2	6.77	-21.8	1.32
16:00	325	39.8		78745.6	2.3	18.6	1.1	23660	20779	16088.8	6.79	-29.1	1.21
16:05	330	39.88		78756.7	2.2	18.7	1.0	23705	20869	16122.8	6.79	-32.4	1.20
16:10	Collect WQ samples for lab analysis. Samples placed on ice.												
16:41	366	38.5		78831.8	2.1	19.0	1.0	23926	21194	16272.4	6.80	-40.1	0.91
16:46:13	371			78841.2	Pump off.								
		Total Volume pumped =		3,467.1 gallons									

2704.1

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3 W.L.'s

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 161 ft bgs
Static WL: 28.2 ft brp
RP: 8.67 ft ags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-21-14 / Fri
Screened Interval: 182-192 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 168 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Total Vol pumped
09:47:32	0	28.2	0	78841.1	Pump on ~ 3.1 gpm. discharge is aerated									
09:49	1	119.0	90.8	–	↓Q to 6.4 gpm	9:52 ↑Q			to 8.2	gpm, Turbid and aerated. ↑Q to 10.1 gpm				
10:00	12	88.6	60.4	78988.1	10.1	aerated discharge							52.3	
10:15	27	91.5	63.3	79140.1	10.1	18.5	0.1	45654	40030	31082.8	6.75	-183.7	20.8	
10:30	42	90.6	62.4	79292.7	10.2	18.5	0.1	46385	40680	31545.2	6.78	-264.8	10.7	
10:45	57	90.0	61.8	79444.0	10.1	18.5	0.1	46650	40865	31728.8	6.77	-284.2	17.6	602.9
11:00	72	89.9	61.7	79594.9	10.1	18.5	0.1	46900	41060	31892.0	6.77	-283.4	8.57	753.8
11:15	87	89.9	61.7	79745.8	10.1	18.3	0.1	46964	40963	31932.8	6.77	-280.7	6.70	904.7
11:30	102	89.9	61.7	79896.6	10.1	18.2	0.1	46992	40928	31953.2	6.77	-277.8	10.0	
11:45	117	89.85	61.65	80047.3	10.0	18.3	0.1	47016	41014	31973.6	6.77	-274.3	6.13	
12:00	132	89.75	61.55	80198.2	10.1	18.3	0.1	47036	40977	31987.2	6.77	-270.3	15.3	
12:15	147	89.80	61.60	80348.8	10.0	18.2	0.1	47051	40969	31994.0	6.77	-266.8	3.82	
12:30	162	89.65	61.45	80499.6	10.1	18.2	0.1	47059	40962	32000.8	6.77	-262.2	7.50	
12:34:38	167				↓Q to 4.6 gpm	; 12:37:19		↓Q to 3.2 gpm ~ 12:40 Turb = 4.29 Ntu						
12:45	177	47.45	19.25	80583.7	3.1	18.4	0.1	47074	41134	32014.4	6.79	-249.7	1.03	
12:55	187	46.5	18.3	80615.4	3.2	18.7	0.1	47103	41447	32028.0	6.79	-251.5	0.32	
13:05	197	46.1	17.9	80646.5	3.1	18.8	0.1	47112	41546	32034.8	6.79	-253.3	0.25	
13:10	Begin	collecting	WQ samples for lab	analysis. Samples placed on ice.										
13:33	225	44.75	16.55	80730.6	3.0	18.9	0.1	47122	41627	32041.6	6.80	-255.7	0.14	
13:41:20	233			80753.5	Pump off. Total volume pumped = 1,912.4 gallons									

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow thru cell = 1221.5 mL/min

14:24 276 31.95 3.75

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 4

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 122 ft bgs
Static WL: 22.9 ft brp 2/23 07:33 recovered W.L. = 21.5 ftbgs
RP: 8.0 ft ags (Top of 8" casing)

W.L.'s taken using an electronic WL indicator.

Logged By: N. Reynold (GSSI) & Cascade Drilling
Test Date: 2-22-14 / Sat
Screened Interval: 134-144 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 124 ft bgs

0.68 Constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Vol (gal)
2/22 10:49:49	0	22.9	0	80753.5	Pump	on @ 19.0 gpm.								
10:52	2	120.0	97.1		120	↓Q to 3.9 gpm							Silty turbid	
10:56	6	95.8	72.9		3.9									
11:00	10	82.0	59.1	80839.1	4.0					highly aerated discharge			157	
11:20	30	73.65	50.75	80923.2	4.2								73.6	
11:35	45	74.4	51.5	80987.1	4.3	18.2	2.8	38044	33127	25846.8	6.80	-149.9	3.42	
11:50	60	74.9	52.0	81052.4	4.4	18.3	3.0	38686	33712	26295.6	6.82	-127.5	1.55	
12:05	75	74.8	51.9	81117.8	4.4	18.2	3.3	38950	33868	26479.2	6.82	-113.0	1.65	364.3
12:20	90	74.8	51.9	81183.2	4.4	18.2	3.4	39056	33956	26560.8	6.82	-103.3	3.62	
12:40	110	74.5	51.6	81271.6	4.4	18.1	3.6	39201	34053	26656.0	6.82	-94.7	10.7	
12:55	125	74.6	51.7	81337.2	4.4	18.1	3.7	39344	34192	26751.2	6.81	-84.4	6.83	585.7
13:10	140	74.35	51.45	81402.6	4.4	18.2	3.8	39394	34270	26785.2	6.81	-77.5	7.13	
13:25	155	74.3	51.4	81468.2	4.4	18.2	3.8	39413	34300	26798.8	6.81	-72.1	10.5	714.7
13:40	170	74.3	51.4	81533.8	4.4	18.2	3.7	39432	34276	26798.8	6.81	-66.7	11.6	
13:55	185	74.35	51.45	81599.6	4.4	18.1	3.7	39481	34312	26846.2	6.81	-62.0	10.5	
13:59:13	189				↓Q to	2.1 gpm								
14:05	195	55.55	32.65	81630.2	2.1	18.5	3.6	39527	34305	26880.4	6.81	-61.5	5.41	
14:20	210	49.3	26.4	81662.3	2.1	18.6	3.6	39542	34731	26887.1	6.82	-58.4	0.18	
14:30	220	48.8	25.9	81683.8	2.2	18.7	3.6	39563	34822	26900.8	6.82	-58.0	0.20	
14:40	230	48.7	25.8	81705.1	2.1	18.8	3.6	39592	34907	26921.2	6.82	-56.6	0.24	

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow thru cell = 1062.3 mL/min
13:59 (↓Q) = 1012.1 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 4

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 122 ft bgs
Static WL: 22.9 ft brp
RP: 8.0 ft ags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-22-14 / Sat
Screened Interval: 134-144 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 124 ft bgs

	Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft) (22.9)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 constant)	pH	ORP (mV)	Turbitity (NTU)
2/22	14:45	235	Begin collecting WQ samples for				Lab analysis.		Samples placed on ice.					
	15:13	263	49.7	26.8	81782.0	2.3	18.9	3.6	39597	34467	26928.0	6.82	-55.3	0.39
	15:19:23	269				↑Q to 6.8 gpm; 15:21 ↑Q to 7.8 gpm; 15:22 ↑Q to 10.3 gpm								
	15:25	275	102.9	80.0	81842.7	10.3	18.4	2.4	35369	30732	23936	6.94	-148.0	overrange
	15:29:17	279				↓Q to 5.6 gpm (WL was approaching pump)								
	15:33	283	98.6	75.7	81904.3	5.6	17.9	3.6	39539	34214	26894.0	6.81	-68.3	19.4
	15:47	297	84.8	61.9	81982.7	5.6	17.8	3.8	39627	34163	26941.6	6.80	-41.4	15.6
	15:57	307	84.35	61.45	82039.2	5.7	17.8	3.9	39649	34194	26962.0	6.79	-37.1	1.09
	16:07	317	84.2	61.3	82095.7	5.7	17.9	3.9	39641	34252	26955.2	6.79	-33.6	0.75
	16:09:16	319	Pump off		82108.7									
			Total Volume pumped = 1355.2 gallons											
2/23	07:33		29.5	(21.5 ft bgs) Recovered water level.										

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 5

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 73 ft bgs
Static WL: 26.0 ft brp
RP: 7.0 ftags (top of 8" casing)

W.L.'s taken using an electronic w.l. indicator.

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-23-14 / Sun
Screened Interval: 84-94 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 74 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Vol Pumped (gals)
2/23 11:58:38	0	26.0	0	82108.7	Pump on @ ~19gpm.			↓Q to 11.1 gpm						
12:01	2	33.8	7.8		11.1					aerated discharge				
12:05	6	33.8	7.8	82187.8	11.2					"			137	
12:20	21	33.8	7.8	82355.5	11.2								6.09	
12:35	36	33.8	7.8	82523.2	11.2								4.24	
12:55	56	34.0	8.0	82748.2	11.3	17.3	3.5	40675	34656	27655.6	7.00	-21.5	3.45	639.5
13:10	71	34.05	8.05	82920.2	11.5	17.3	3.6	40881	34862	27805.2	7.04	-57.6	4.56	
13:25	86	34.0	8.0	83092.2	11.5	17.3	3.6	41062	35002	27920.8	7.05	-54.5	4.94	983.5
13:40	101	34.02	8.02	83264.5	11.5	17.3	3.6	41158	35069	27988.8	7.05	-44.8	4.67	
13:55	116	34.1	8.1	83436.8	11.5	17.3	3.6	41219	35124	28029.6	7.05	-34.7	3.76	
14:10	131	34.1	8.1	83609.5	11.5	17.3	3.6	41258	35155	28056.8	7.05	-25.0	4.00	
14:25	146	34.2	8.2	83782.1	11.5	17.3	3.7	41289	35178	28077.2	7.05	-16.2	4.17	
14:40	161	34.1	8.1	83954.9	11.5	17.3	3.6	41305	35193	28090.8	7.05	-9.0	4.39	1846.2
14:52	173	34.1	8.1	84093.1	11.5	17.2	3.7	41315	35193	28097.6	7.05	-4.4	4.38	
14:55	176				↓Q	to 5.8gpm; 14:58 ↓Q to 2.8 gpm								
15:02	183	28.27	2.27	84158.2	2.8	17.7	3.5	41317	35647	28097.6	7.06	-7.8	0.16	
15:12	193	28.25	2.25	84186.4	2.8	18.3	3.4	41304	36002	28084.0	7.06	-12.3	3.65	
15:22	203	28.2	2.2	84214.0	2.8	18.4	3.4	41288	36046	28077.2	7.07	-14.3	9.61	
15:32	213	28.2	2.2	84241.6	2.8	18.4	3.4	41270	36070	28063.6	7.07	-15.7	13.5	
15:42	223	28.15	2.15	84269.0	2.7	18.4	3.3	41262	36051	28056.8	7.07	-14.4	17.0	

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow thru cell = 1219.5 mL/min
= 1180.2 mL/min (↓Q @ 14:55)

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 5

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 73 ft bgs
Static WL: 26.0 ft brp
RP: 7.0 ft ags

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-23-14 / Sun
Screened Interval: 84-94 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 74 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft) (26.0)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 constant)	pH	ORP (mV)	Turbitity (NTU)
2/23 15:48	229				↑Q to	11.5 gpm					15:	50 →	3.05
15:55	236	34.0	8.0	84369.2	11.5	17.2	3.6	41312	35180	28090.8	7.06	-2.8	0.40
16:05	246	34.0	8.0	84485.0	11.6	17.2	3.6	41325	35170	28104.4	7.05	3.6	0.27
16:15	256	34.05	8.05	84600.5	11.6	17.2	3.6	41336	35167	28111.2	7.05	7.9	0.47
16:20	Collect WQ Samples for lab analysis. Samples placed on ice.												
16:43	284	34.1	8.1	84931.0	11.8	17.2	14.0	41346	35171	28118.0	7.05	12.7	0.12
16:50:24	291			85016.7	Pump off.		↑	? not stabilizing.					
		Total Volume pumped = 2908 gallons											
2/24 09:30		26.3	0.3	Recovered water level prior to pulling Zone tool.									

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 6

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 9 in Sonic Casing Depth: 34 ft bgs
Static WL: 25.25 ft brp
RP: 6.0 ft ags (top of 9" casing)

W.L.'s taken using an electronic W.L. indicator

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-24-14 / Mon
Screened Interval: 51-61 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 47 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Vol Pumped (gal)
14:01:32	0	25.25	0	85016.7	Pump on @ 10.4 gpm									
14:04	2		-		Pump off. PWL reaches pump.									
14:08:20	0			85048.4	Resume pumping @ 5.2 gpm.									
14:10	2	37.6	12.35		5.2									
14:15	7	38.55	13.30	85087.1	5.2				aerated discharge				684	
14:30	22	38.9	13.65	85166.0	5.3								151	
14:45	37	40.15	14.90	85246.5	5.4	17.7	3.0	32656	28069	22208.8	7.12	-174.7	62.0	
15:00	52	40.1	14.85	85330.5	5.6	17.6	3.1	33784	29013	22990.8	7.17	-159.3	13.4	313.8
15:15	67	40.25	15.00	85412.2	5.4	17.6	3.2	34309	29483	23330.8	7.18	-142.4	6.29	
15:30	82	40.35	15.10	85494.2	5.5	17.6	3.3	34701	29777	23589.2	7.18	-130.1	4.27	
15:45	97	40.4	15.15	85576.5	5.5	17.6	3.5	35076	30098	23847.6	7.18	-120.1	3.87	559.8
16:00	112	40.4	15.15	85658.6	5.5	17.5	3.6	35234	30194	23963.2	7.18	-113.5	4.26	641.9
16:15	127	40.4	15.15	85740.6	5.5	17.5	3.7	35355	30316	24051.6	7.18	-108.0	4.42	
16:30	142	40.7	15.45	85823.1	5.5	17.5	3.7	35451	30377	24099.2	7.18	-102.9	5.41	
16:45	157	40.8	15.55	85906.7	5.6	17.4	3.8	35658	30507	24242.0	7.17	-98.2	4.47	
16:52	164				↓Q to	4.1 gpm						16:55→	0.60	
17:00	172	36.25	11.0	85978.3	4.1	17.8	3.8	35644	30716	24242.0	7.17	-95.3	0.57	
17:10	182	36.35	11.1	86020.7	4.2	17.7	3.8	35703	30750	24282.8	7.17	-93.5	1.34	
17:20	192	36.33	11.08	86063.1	4.2	17.7	3.7	35736	30790	24303.2	7.17	-91.3	2.48	
17:24:32	197			86081.8	Pump off. Total Volume pumped = 1065.1 gallons									

Flow thru cell = 1,145.9 mL/min

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV

17:30 26.0 ftbrp

Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 6 (W.L.'s)

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B1WQ
Sonic Casing Dia: 9 in Sonic Casing Depth: 34 ft bgs
Static WL: 25.9 ft brp
RP: 6.0 ft ags (top of 9" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 2-25-14 / Tue
Screened Interval: 51-61 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 47 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Vol Pumped (gal)
07:49:48	0	25.9	0	86081.8	Pump on 9.2 gpm			0752 ↓Q to	4.1 gpm	0755 ↑Q to	5.7 gpm		22.6	
08:00	10	37.4	11.5	86141.1	5.8				discharge is aerated					
08:15	25	38.5	12.6	86231.7	6.0	17.4	3.3	35755	30568	24303.2	7.17	-59.3	5.09	
08:30	40	38.5	12.6	86322.3	6.0	17.5	3.4	35851	30693	24378.0	7.18	-68.6	1.56	240.5
08:45	55	38.6	12.7	86413.0	6.0	17.5	3.4	35906	30751	24425.6	7.18	-69.1	0.62	
08:55	65	38.65	12.75	86473.5	6.1	17.5	3.4	35926	30762	24439.2	7.18	-68.5	0.34	
09:05	75	38.7	12.8	86534.0	6.1	17.5	3.5	35952	30803	24452.8	7.18	-67.3	0.33	
09:10	80	Begin collecting WQ samples for lab analysis. samples placed on ice.												
09:31	101	38.8	12.9	86697.4	6.3	17.5	3.6	35999	30861	24493.6	7.18	-63.4	0.25	
09:36:56	107			86733.5										
		Total volume pumped today = 651.7 gallons												
10:15	145	25.8												

Flow thru cell = 1133.8 mL/min

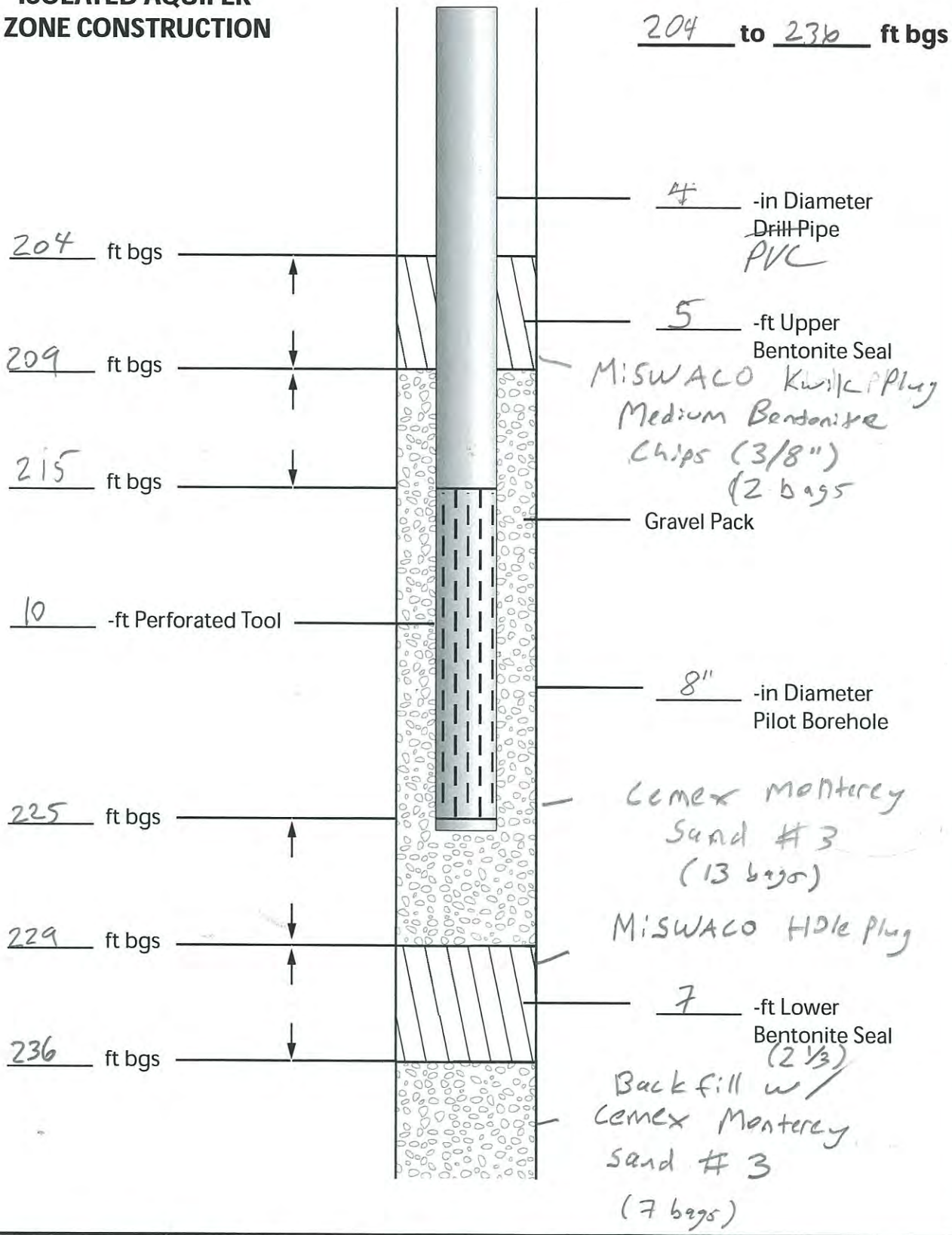
Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 1

204 to 236 ft bgs



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Client: RBF Consulting Inc.

Well Name/Number: CX-B2WQ

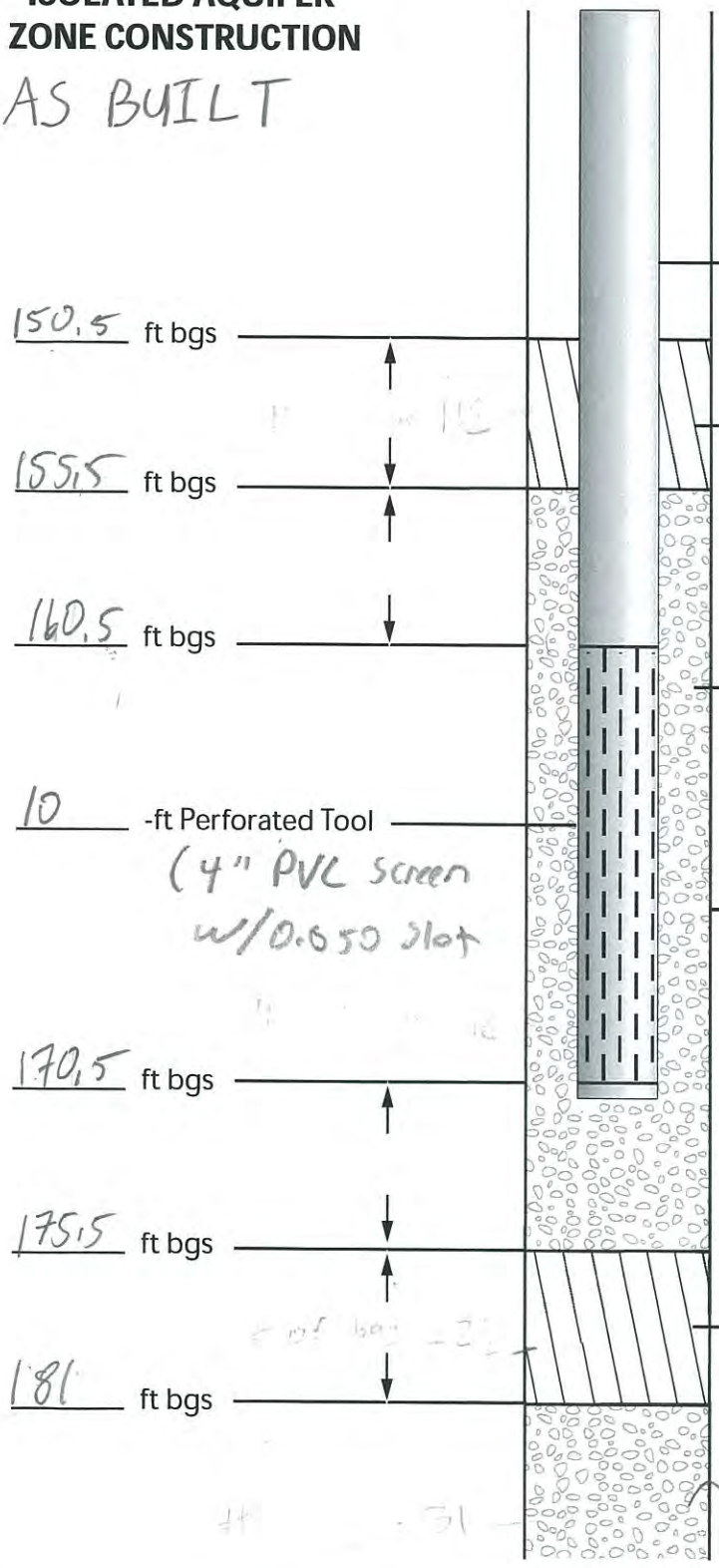
Date: 3/7/14

ISOLATED AQUIFER ZONE CONSTRUCTION

AS BUILT

Zone No. 2

160.5 **to** 170.5 **ft bgs**



4 -in Diameter ~~Drill~~ Pipe PVC

150.5 ft bgs

5 -ft Upper Bentonite Seal

MISWACO kwik Plug Medium Bentonite chips (3/8") (1½ bags)

155.5 ft bgs

160.5 ft bgs

Gravel Pack

Cemex Monterey #3 (12 bags)

10 -ft Perforated Tool (4" PVC screen w/0.050 slot

8 -in Diameter Pilot Borehole

170.5 ft bgs

175.5 ft bgs

5.5 -ft Lower Bentonite Seal (2½ bags

181 ft bgs

Back Fill w/ Monterey #3 Sand (31 bags)

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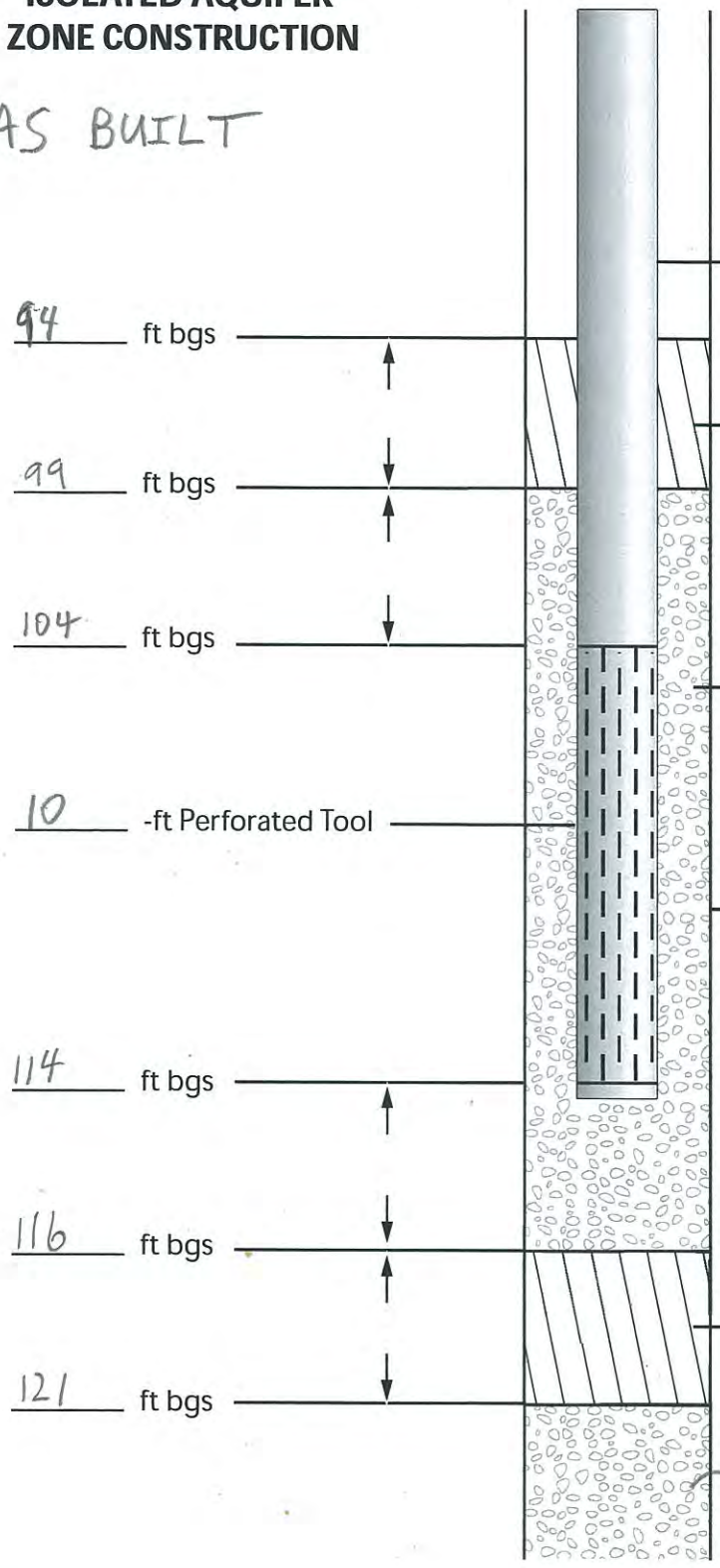
ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 3

104 to 114 ft bgs

AS BUILT



94 ft bgs

99 ft bgs

104 ft bgs

10 -ft Perforated Tool

114 ft bgs

116 ft bgs

121 ft bgs

4 -in Diameter Drill Pipe PVC

5 -ft Upper Bentonite Seal

MISWACO Kwik Plug Medium Bentonite Chips (3/8") (1 1/2 bags)

Gravel Pack

Cemex Monterey #3 (10½ bags)

8 -in Diameter Pilot Borehole

5 -ft Lower (2½ bags) Bentonite Seal

Backfill w/ Monterey #3 Sand (33 bags)

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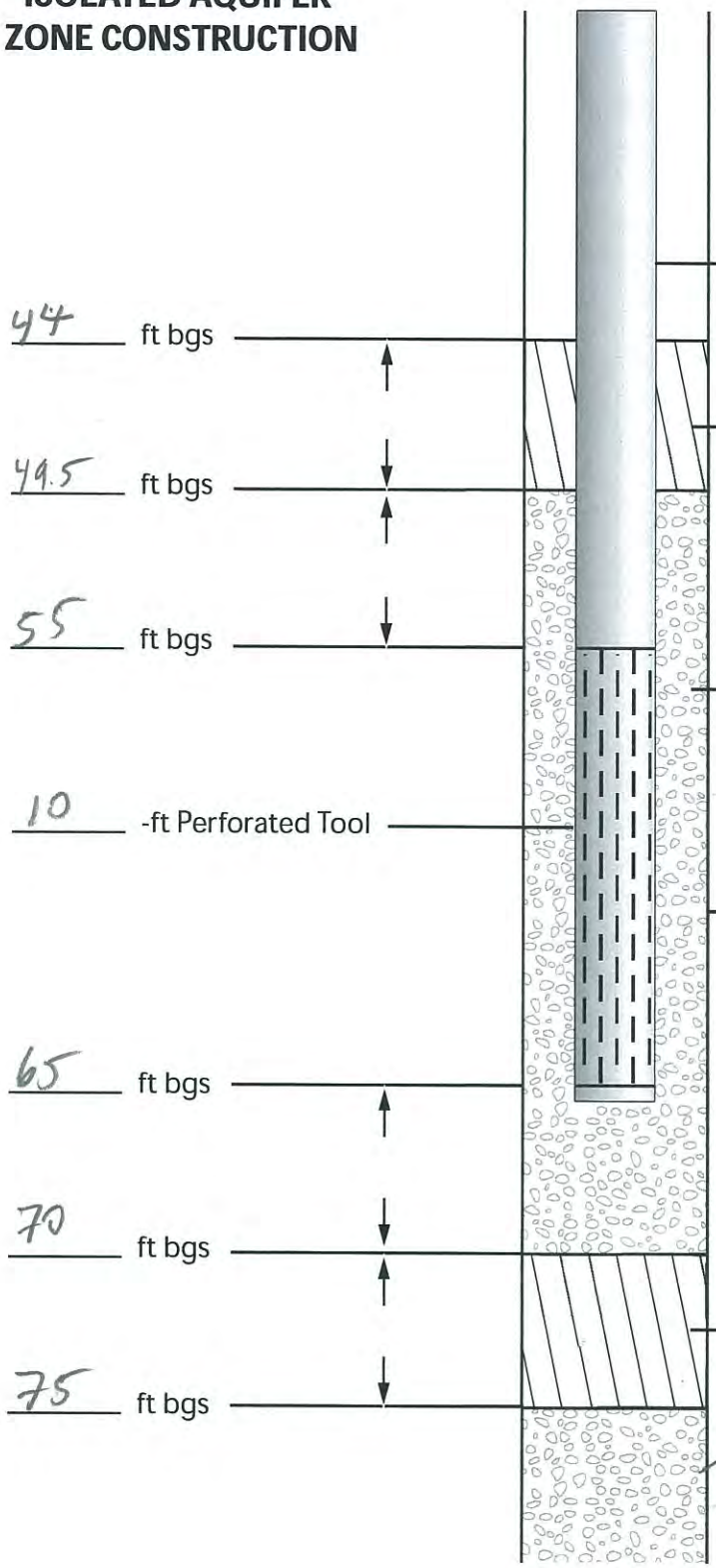
ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 4

55 to 65 ft bgs



4 -in Diameter ~~Drill Pipe~~ PVC

44 ft bgs

5.5 -ft Upper Bentonite Seal

MISWACO Kwik Plug Medium Bentonite Chips (3/8")

49.5 ft bgs

55 ft bgs

Gravel Pack (1½ bags)

10 -ft Perforated Tool

Cemex Monterey #3 (10½ bags)

8 -in Diameter Pilot Borehole

65 ft bgs

70 ft bgs

2½ bags

5 -ft Lower Bentonite Seal

75 ft bgs

Backfill w/ Monterey #3 Sand (14 bags)

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1 WLs

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B2WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 210 ft bgs
Static WL: 36.4 ft brp
RP: 8 ft

Logged By: J. Sebada (GSSI) & Cardoza
Test Date: 3/8/14 / Saturday
Screened Interval: 215-225 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 197 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal x10)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) 0.68 constant	pH	ORP (mV)	Turbitity (NTU)	Vol (gal)
0755	0	36.4	0	8678	Pump on @ 0755									
0757	2	46.2	9.8	8679.5	7.5									
Q↑. 0801	6	48.9	12.5	8683	8.75									
Q↑ 0805	10	51.5	15.1	8691.5	21.25									
0825	30	51.7	15.3	8730.5	19.5									
0840	45	51.85	15.45	8760.5	20									
0855	60	51.5	15.1	8790	19.66								24.0	
0910	75	52	15.6	8820	20	19°C	2.9	35366	31322	24058	6.64	103.9	3.98	1570
0925	90	52.2	15.8	8849.5	19.67	18.8	1.2	35364	31223	24051.6	6.70	79.2	2.85	
0940	105	52.3	15.9	8879.5	20	18.9	0.9	35254	31127	23970	6.71	71.1	2.47	
Q↓ 0955	120	52.35	15.95	8909	19.67	18.9	0.9	35159	31057	23908.7	6.71	67.7	1.90	
1010	135	43.6	7.2	8927.5	12.33	19.1	0.9	35318	31334	24010	6.72	57.5	1.47	
1025	150	43.55	7.15	8941.5	9.33	19.2	0.9	35319	31408	24017	6.72	52.1	1.45	
1040	165	43.50	7.10	8956	9.67	19.3	0.9	35311	31455	24010.8	6.72	48.7	0.91	
1050	175	43.55	7.15	8960	10	19.2	0.9	35319	31410	24010.8	6.73	45.1	0.78	
1100	185	43.50	7.10	8976.5	10.5	19.2	0.9	35342	31380	24030.2	6.74	43.4	1.45	
1115	200	43.55	7.15	8990.5	9.33	19.3	0.9	35349	31471	24058.0	6.74	41.6	1.62	
1130	215	43.55	7.15	9005.5	10	19.4	0.9	35337	31552	24024.1	6.77	36.0	2.09	
1145	230	43.60	7.20	9020.5	10	19.3	0.9	35297	31454	24004	6.83	30.3	3.09	
1200	245	43.60	7.20	9034.5	9.33	19.2	0.9	35259	31398	23997.2	6.72	37.6	3.15	

Stabilization Criteria:

~~3 to 5 minute~~ recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow thru cell = 940mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B2WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 210 ft bgs
Static WL: 36.4 ft brp
RP: 8 ft

Logged By: J. Sdoukas (GSSI) & Cascade - WL's
Test Date: 3/8/14 Saturday
Screened Interval: 215-225 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 197 ft bgs
0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal x10)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
1215	260	43.55	7.15	9049.5	10	19.2	0.9	35272	31384	23983.6	6.72	40.1	3.90
1230	275	43.55	7.15	9064.5	10	19.1	0.9	35269	31308	23976.8	6.71	39.3	2.44
1245	290	43.50	7.10	9078.5	9.33	19.2	0.9	35308	31417	24010.0	6.71	41.5	1.89
1300	305	43.50	7.10	9093.5	10	19.2	0.9	35305	31392	24004.0	6.71	43.4	3.6
1315	320	41.30	4.90	9106.5	9	19.2	0.8	35309	31382	24004	6.71	40.8	2.53
1330	350	43.80	7.40	9116.5	6.67	19.3	0.8	35413	31544	24072	6.71	35.4	4.29
1345	365	40.80	4.40	9129.0	8.33	19.1	0.8	35284	31347	23997	6.72	38.2	3.65
1400	380	40.70	4.30	9138.5	6.33	19.3	0.8	35335	31483	24031.2	6.72	32.1	5.43
1415	395	40.65	4.25	9147.5	6	19.3	0.8	35313	31470	24017.6	6.72	30.5	7.45
1430	410	40.85	4.45	9156.5	6	19.3	0.8	35310	31473	24010.8	6.72	28.3	11.0
1445	425	44.75	8.35	9170.9	9.6	19.0	0.8	35250	31202	23970.0	6.71	36.9	5.28
1500	440	44.85	8.44	9188.1	11.47	18.9	0.9	35238	31145	23963.2	6.71	42.5	5.86
1515	455	44.90	8.50	9206.4	12.2	18.8	0.9	35221	31059	23949.6	6.71	44.8	2.39
1530	470	44.90	8.50	9224.6	12.13	18.9	0.9	35212	31087	23942.8	6.71	46.2	1.29
1545	485	44.90	8.50	9242.8	12.13	18.8	0.9	35226	31097	23949.6	6.71	47.8	0.46
1555	495	44.95	8.55	9255.0	12.20	18.8	0.9	35210	31027	23942.8	6.71	48.5	0.69
1605	505	44.95	8.55	9267.1	12.10	18.8	0.9	35199	31029	23936.0	6.71	49.0	0.91
WQ Sampling @ 1606						Finished Sampling @ 1635							
1638	538	44.90	8.50	9307.5	12.42	18.8	0.9	35152	30993	23902	6.71	49.4	0.90
1645	545	44.90	8.50	9316.0	13.07	18.8	0.9	35143	30951	23895.2	6.71	49.4	0.70

Q↓ Q↓ Q↓ Q↑

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

final totalizer = 9319.20 gals

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2 (WL's)

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B2 WP
Sonic Casing Dia: 8 in Sonic Casing Depth: 147 ft bgs
Static WL: 34.25 ft brp
RP: 8 ft ags (Top of Casing)

Logged By: J. Sabolcs & Cascade Drilling
Test Date: 3/9/14 Sunday
Screened Interval: 161-171 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 151 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal x10)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	VOL (mL/min)
3/9 1454	0	34.25	Ø	9319	~10gpm									
1456	2	65.2	30.95	9321	~10gpm	} missed correct totalizer times								
1500	6	68.7	34.45	9325.7	~10gpm									
1504	10	69.0	34.75	9321.8	10.25								16.5	
1524	30	69.3	35.05	9350.0	10.6								7.38	
1539	45	69.35	35.10	9365.3	10.2								6.78	
1554	60	70.00	35.75	9380.7	10.27								2.90	
1609	75	69.80	35.55	9396.1	10.27	18.6	1.80	21420	18790	14572	6.86	-41.1	3.24	
1624	90	70.0	35.75	9411.8	10.96			21.34 mS/cm					4.63	
1639	105	69.20	34.95	9426.7	9.93								2.82	
1654	120	69.75	35.50	9442.3	10.40	18.4°C	2.2	21506	19800	14620	6.66	78.0	21.3	1,000
1659	125	70.1	35.85	9447.5	10.40	18.4	1.6	21545	18831	14660.8	6.73	37.5	5.17	
1704	130	70.00	35.75	9452.6	10.20	18.4	1.6	21582	18849	14654 7.2	6.74	21.8	3.22	
				9454.85	final totalizer									
3/10 0803	0	34.31	Ø	9454.85				3						
0805	2	51.6	17.23	9455.3	2.25			33.36 mS/cm						
0809	6	52.3	17.93	9458.8	8.75			36.03 mS/cm					Out of Range	
0813	10	55.1	20.79	9462.1	8.25			33.10 mS/cm					128	
0833	30	67.25	32.94	9483.5	10.7	18.2	1.5	25558	22238	17333.20	6.67	45.2	3.76	1,000
0848	45	67.1	32.79	9499.1		18.2	1.5	22493	19597	15293	6.79	32.0	2.24	

Flow through cell = 1,000 mL/min

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2 WL's

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B2 WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 142 ft bgs
Static WL: 34.31 ft brp
RP: 8ft ags (Top of casing)

Logged By: J. Sobolew & Cascade Drilling
Test Date: 3/10/14 Monday
Screened Interval: 161-171 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 151 ft bgs
0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal x10) 9499.1	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Vol mL/min
0903	60	67.45	33.14	9515.0	10.6	18.2	1.4	21701	18900	14762.8	6.70	25.1	2.03	1,100
0918	75	67.50	33.19	9530.8	10.53	18.3	1.4	21502	18739	14620.0	6.69	25.1	1.93	
0933	90	67.60	33.29	9546.6	10.53	18.3	1.4	21467	18755	14606.40	6.69	26.8	1.17	
0948	105	67.60	33.29	9563.7	11.40	18.3	1.5	21634	18887	14715.00	6.69	29.3	0.76	
0958	115	67.60	33.29	9573.0	9.30	18.3	1.4	21646	18879	14708.40	6.69	29.9	0.74	
1008	125	67.70	33.39	9583.60	10.6	18.3	1.4	21620	18875	14708.40	6.69	30.9	0.49	
1012	WQ	Sampling												
1044	161	67.85	33.54	9622.40	10.78	18.4	1.4	21681	18965	14779.2	6.68	35.8	0.29	1,000
1054	171	67.85	33.54	9633.0	10.60	18.4	1.4	21686	18960	14762.8	6.68	36.2	0.44	
1104	181	68.10	33.79	9643.5	10.50	18.4	1.4	21710	18952	14741.0	6.68	36.7	0.28	
1114	191	68.0	33.69	9654.1	10.50	18.4	1.4	21715	18996	14776.4	6.68	37.5	0.24	
1117	Final	totalizer		9656.8	pump off									
1220	WL	Recovery	= 35.30 ft brp											

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow through cell = 1,100 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B2WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 92 ft bgs
Static WL: 31.70 ft brp
RP: 8 ft ags (Top of Casing)

Logged By: J. Sdoble & Cascade WL's
Test Date: 3/10-11/14
Screened Interval: 104-114 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 91 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal x10)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	VOL (mL/min)
3/10 1627	0	31.70	~~0~~	9656.4		Myron L								
1629	2	47.00	15.30	9658.8	12.0	19.3		8632 uS/cm					047 offrange	
1633	6	47.00	15.30	9664.9	15.25	18.2		31.73 mS/cm						
1637	10	45.30	13.60	9668.2	8.25	17.9		32.52 mS/cm					291	
1642	15	45.70	14.0	9673.6	10.80	18.1		35.68 mS/cm					94.3	
1643	Pump	off	<	9674.2										
3/11 0754	0	32.30	~~0~~	9674.2										
0756	2	45.70	13.40	9676.7	12.50								81.60	
0800	6	45.65	13.35	9681.3	11.50								11.90	
high/ aerated 0804	10	45.85	13.55	9685.9	11.50	17.8	5.7	39363	33919	26751.2	6.69	127.3	5.29	
0824	30	45.90	13.60	9709.0	11.55	17.8	4.6	38170	32980	25976.0	7.01	8.1	5.26	1,400
0839	45	45.85	13.55	9726.3	11.53	17.8	4.6	38848	33526	26424.6	7.00	-3.3	5.05	
0854	60	45.90	13.60	9743.6	11.53	17.9	4.7	39263	33912	26696.0	6.98	2.9	2.39	
0909	75	45.95	13.65	9761.2	11.60	17.9	5.0	39662	34262	26975.6	6.98	12.6	2.45	
0924	90	45.95	13.65	9778.4	11.47	17.9	5.1	39796	34408	27057.2	6.97	21.2	2.69	
0939	105	45.95	13.65	9796.1	11.80	18.0	5.1	39821	34467	27077.6	6.97	27.9	2.65	1,000
0954	120	46.0	13.70	9813.1	11.33	18.0	5.3	39909	34539	27132.0	6.97	33.6	1.53	
1009	135	46.0	13.70	9830.6	11.66	18.0	5.3	39946	34607	27166.2	6.96	38.8	1.97	
1024	150	46.0	13.70	9848.0	11.60	18.0	5.4	39974	34662	27179.6	6.96	42.2	2.52	
1039	165	46.05	13.75	9865.4	11.60	18.0	5.4	33998	34666	27193.2	6.97	44.6	2.30	

F-27

Appendix F

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow through cell = 1,100 mL/min

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B2WQ
Sonic Casing Dia: 8 (3/10, 3/11) in Sonic Casing Depth: 92 ft bgs
Static WL: 31.7, 32.3 ft brp
RP: 8 ft ags (Top of casing)

Logged By: J. Sobolaw & Cascade Drilling (WL's)
Test Date: 3/10-11/14
Screened Interval: 104-114 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 91 ft bgs
0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal) 9865.4	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Vol (mL/min)
1054	180	46.00	13.70	9882.9	11.67	18.1	5.4	40044	34733	27234.2	6.96	46.5	1.25	1,050
1109	195	46.05	13.75	9900.3	11.60	18.1	5.3	40057	34741	27234.0	6.96	47.3	0.49	
1119	210	46.00	13.70	9912.0	11.70	18.1	5.3	40017	34769	27220.4	6.97	48.0	1.07	
1129	220	46.00	13.70	9923.6	11.60	18.1	5.4	40025	34769	27213.0	6.97	47.9	1.89	
1144	235	46.05	13.75	9941.1	11.66	18.1	5.3	40029	34781	27213.6	6.96	48.5	1.80	
1159	250	46.00	13.70	9958.4	11.53	18.1	5.3	40022	34794	27213.6	6.96	48.1	0.94	
1209	260	46.00	13.70	9970.1	11.70	18.2	5.3	40061	34807	27247.6	6.97	47.5	1.87	
1224	275	46.00	13.70	9987.5	11.60	18.1	5.3	40069	34712	27247.6	6.96	47.2	2.38	
1239	210	46.10	13.80	10004.9	11.60	18.2	5.3	40037	34710	27227.2	6.97	46.0	3.04	
1254	305	37.70	5.40	10016.0	7.4	18.7	5.2	40125	35342	27281.6	6.98	36.6	5.66	
1309	320	37.70	5.40	10023.5	5.0	18.8	5.2	40133	35319	27288.4	6.99	31.7	3.72	
1324	335	37.70	5.40	10031.0	5.0	18.9	5.2	40133	35432	27288.4	6.98	30.9	3.06	
1339	350	37.70	5.40	10038.4	4.93	18.8	5.2	40126	35380	27281.6	6.97	29.7	1.90	
1354	365	37.70	5.40	10045.86	4.97	18.7	5.2	40150	35342	27308.8	6.97	29.1	1.90	
1409	380	37.70	5.40	10053.32	4.97	18.7	5.3	40155	35332	27302.0	6.97	28.2	1.70	
1424	395	37.70	5.40	10060.78	4.97	18.6	5.2	40156	35279	27308.8	6.97	27.0	4.24	
1439	410	37.70	5.40	10068.23	4.97	18.6	5.3	40159	35288	27308.8	6.97	26.4	3.19	
1454	425	37.60	5.30	10075.57	4.89	18.6	5.3	40166	35265	27308.8	6.97	25.5	4.58	1,200
1509	440	51.35	19.05	10097.08	14.34	17.7	5.6	40159	34555	27308	6.96	39.8	0.86	
1524	455	51.4	19.1	10121.99	16.60	17.7	5.6	40166	34536	27315.6	6.95	44.2	0.69	

Q↓ Q↑

Flow through cell = 1,050 mL/min

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-BZ WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 92 ft bgs
Static WL: 31.7 (3/10), 32.3 (3/11) ft brp
RP: 8 ft ags (Top of casing)

Logged By: J. Sobolew & Cascade Drilling (WL's)
Test Date: 3/10-11/14
Screened Interval: 104-114 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 91 ft bgs
0.68 Constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal 10121.98)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
1534	465	51.40	19.10	10137.35	15.37	17.7	5.6	40170	34534	27315.6	6.96	45.1	0.73
1544	475	51.40	19.10	10193.56	16.21	17.6	5.7	40173	34532	27315.6	6.96	45.6	0.57
1545	* WQ Sampling												
1614	505	51.3	19.00	10203.05	16.50	17.7	5.6	40185	34550	27322.4	6.96	45.5	0.58
1624	515	51.40	19.10	10218.13	15.08	17.6	5.7	40188	34534	27329.2	6.96	45.9	0.45
1634	525	51.35	19.05	10234.26	16.13	17.6	5.6	40189	34534	27329.2	6.96	45.9	0.35
1637	pump	off	@	10237.43									
3/12 0745		32.60	WL Recovery										

VOL (mL/min) 1,200

Flow through Cell = 1,200 mL/min

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 4

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B2WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 44 ft bgs
Static WL: 29.75 ft brp 30,30 w/pump in
RP: 6.5 ft ags (top of casing)

Logged By: J. Sobolew & Cascade - WLs
Test Date: 3/12/14 Wednesday
Screened Interval: 55-65 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 54 ft bgs
0.68 Constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gals)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	VOL (mL/min)
1205	0	30.80	0	102374.2										
1207	2	34,80	4,00	102395,1	10,45								Out of Range	
1211	6	35,00	4,20	102424,4	7.33								Out of Range	
1215	10	35.00	4,20	102453.6	7,30								Out of Range	
1235	30	36,50	5,70	102634.7	9.06								71,5	1,100
1250	45	36,65	5,85	102781,7	9.80	18.3	4,4	39400	34377	26771.6	7.11	-34.7	9.59	
1305	60	36,65	5,85	102930.0	9,89	18.3	4,5	39553	34531	26914.4	7,11	-27,3	7,64	
1320	75	36.65	5,85	103078.4	9.89	18,3	4.6	39691	34643	26916.0	7.11	-20,1	6.52	
1335	90	37,90	7.10	103247.9	11,30	18.2	4,5	39727	34565	27016,4	7,12	-13,7	7,57	
1350	105	37,85	7,05	103427.8	11.99	18,2	4,6	39745	34616	27030,8	7.11	-9,1	5,30	1,100
1405	120	37.85	7,05	103607.8	12,00	18,2	4.6	39771	34581	27043.6	7,12	-6.6	5.64	
1420	135	37,85	7,05	103788,0	12,01	18,2	4.6	39762	34578	27043.6	7.12	-3.3	4,15	
1435	150	37,85	7,05	103968.2	12.01	18.1	4,7	39752	34555	27023.3	7.12	-0,5	3.04	
1450	165	37,85	7.05	104148,4	12,01	18,1	4,7	39725	34520	27016,4	7,12	2.1	2.63	1,000
1505	180	37.85	7,05	104328.7	12,02	17,9	4,8	39721	34358	27016.4	7.12	4.3	2,53	
1520	195	37.85	7.05	104508,9	12.01	17,8	4.8	39742	34309	27030.0	7.12	7.0	1.21	
1535	210	37,85	7,05	104689,3	12,03	17,8	4,7	39729	34273	27016,4	7,12	8,7	0,98	
1545	220	37.85	7.05	104809.5	12.02	17,8	4,7	39703	34233	27002.8	7,10	10,1	0.87	
1555	230	37,85	7.05	104939,8	12,97	17,8	4,8	39704	34240	27002,8	7,12	11,1	1,79	
1610	245	37.85	7.05	105110.0	11,35	17,9	4,7	39610	34276	26989.2	7.12	12,8	1.75	

QP
QT

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow Through Cell = 1,100 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 4

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B2WQ
Sonic Casing Dia: 8 in Sonic Casing Depth: 44 ft bgs
Static WL: 29.75 ft brp 30.80 w/pump in
RP: 6.5 ft ags (top of casing)

Logged By: J. Sobolew & Cascade Drilling - WL's
Test Date: 3/12/14 Wednesday
Screened Interval: 55-65 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 54 ft bgs
0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
1625	260	37.85	7.05	105290.5	12.03	17.7	4.7	39696	34194	26989.2	7.10	13.4	0.83
1635	270	37.85	7.05	105410.6	12.01	17.7	4.7	39694	34162	26996.0	7.12	13.9	1.22
1645	280	37.85	7.05	105530.7	12.01	17.7	4.7	39676	34155	26982.4	7.13	14.1	0.99
1655	290	37.85	7.05	105651.0	12.03	17.8	4.7	39666	34191	26975.6	7.12	15.7	0.42
1705	300	37.85	7.05	105771.2	12.02	17.8	4.7	39657	34162	26968.8	7.12	16.2	0.63
1715	WQ	Sampling											
1730	325	37.85	7.05	106071.9	12.03	17.7	4.7	39650	34100	26962.0	7.13	17.5	0.98
1740	335	37.85	7.05	106191.6	11.97	17.6	4.7	39642	34097	26962.0	7.13	18.3	0.85
				106219.3									
3/13 0735	Recovery	31.20 ft	brp										

VOL (mL/min) 1,000

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow through cell ≤ 1,000 mL/min

Form Created: 29-Sep-13

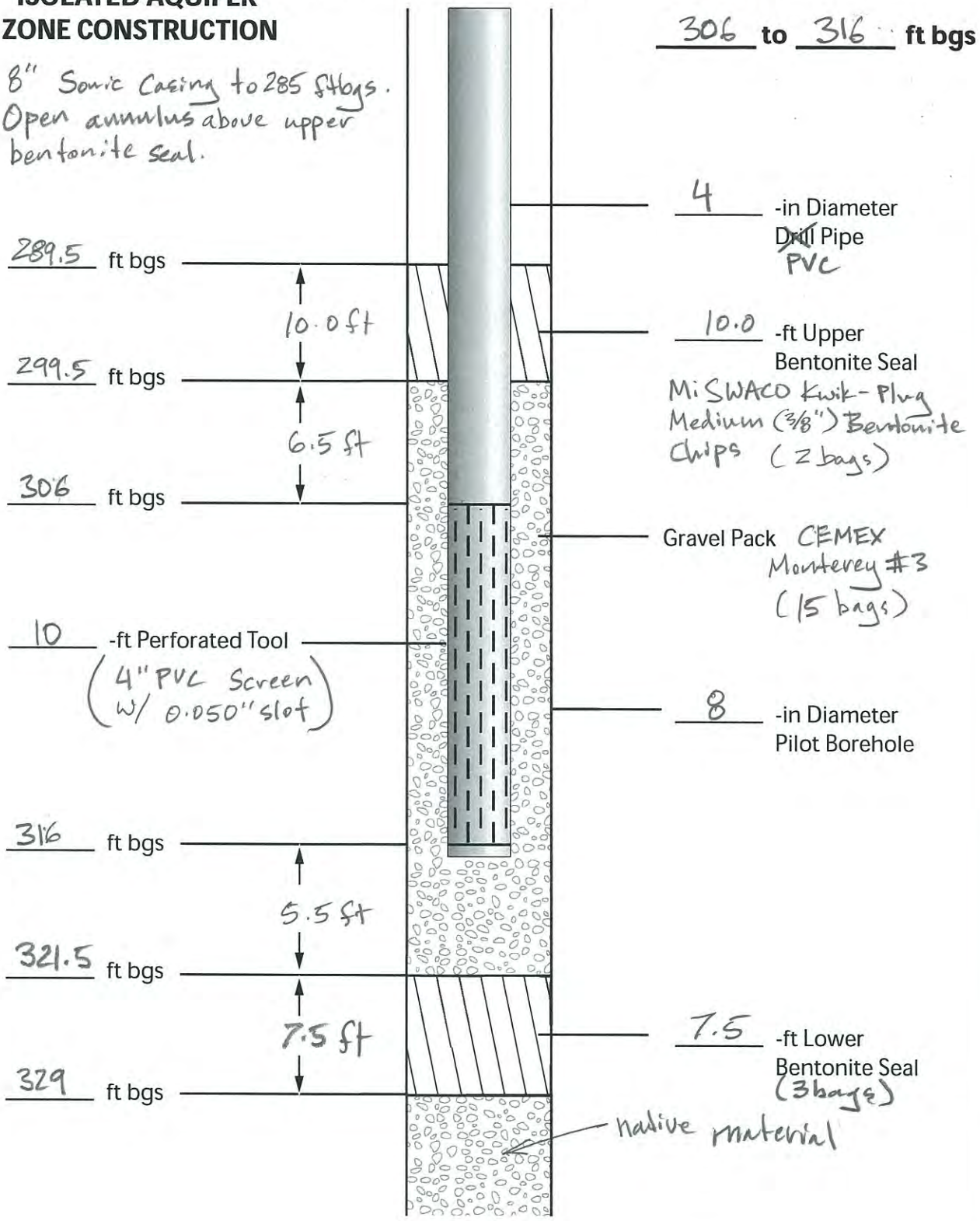
Zone #1 As Built

Zone No. 1

ISOLATED AQUIFER ZONE CONSTRUCTION

306 to 316 ft bgs

8" Sonic Casing to 285 ftbgs. Open annulus above upper bentonite seal.



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Client: RBF Consulting Inc.

Well Name/Number: MPWSP Exploratory Borehole CX-B4

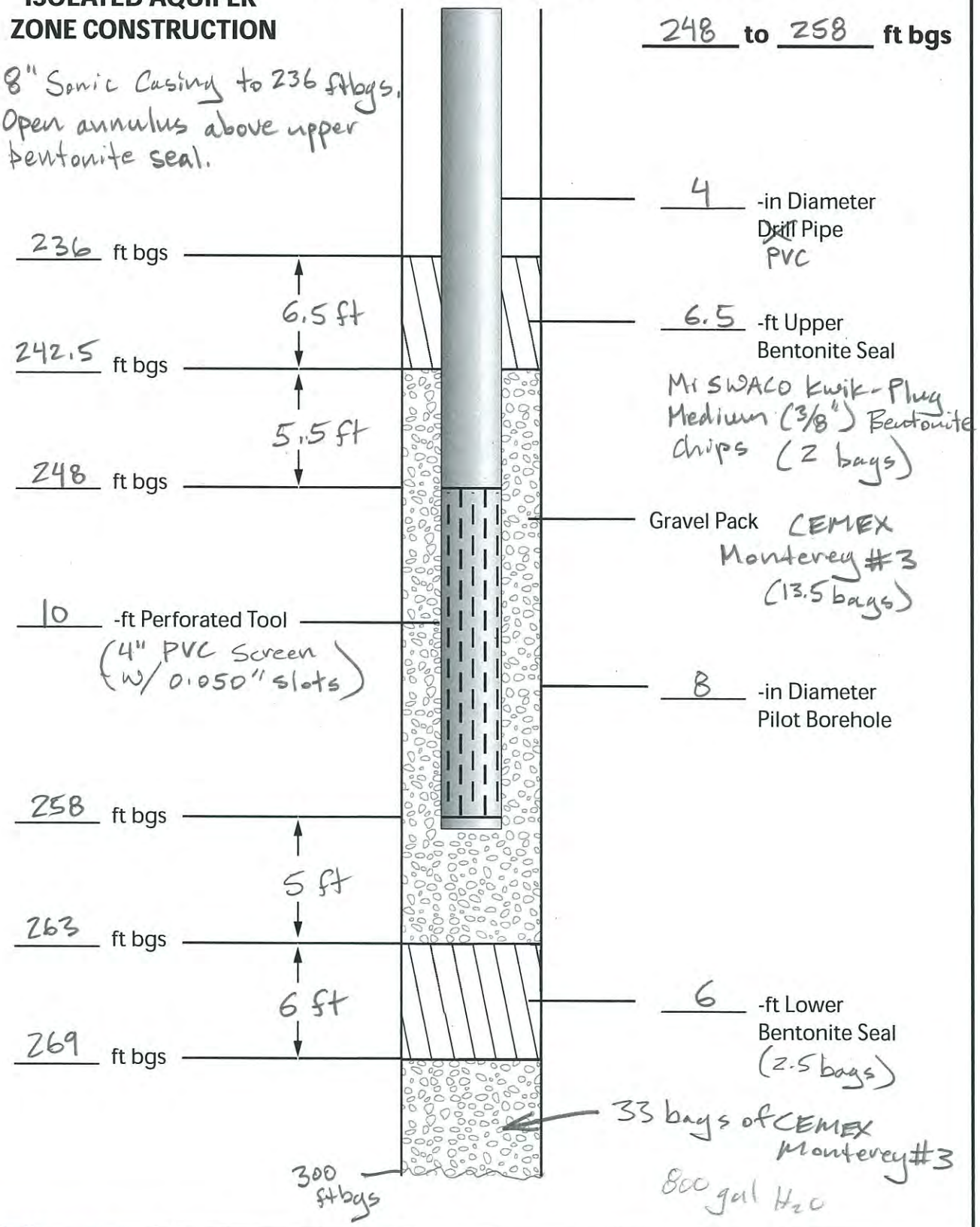
Date: 4-3-14 / Thu & 4-4-14 / Fri.

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone #2 As-Built

Zone No. 2

248 to 258 ft bgs



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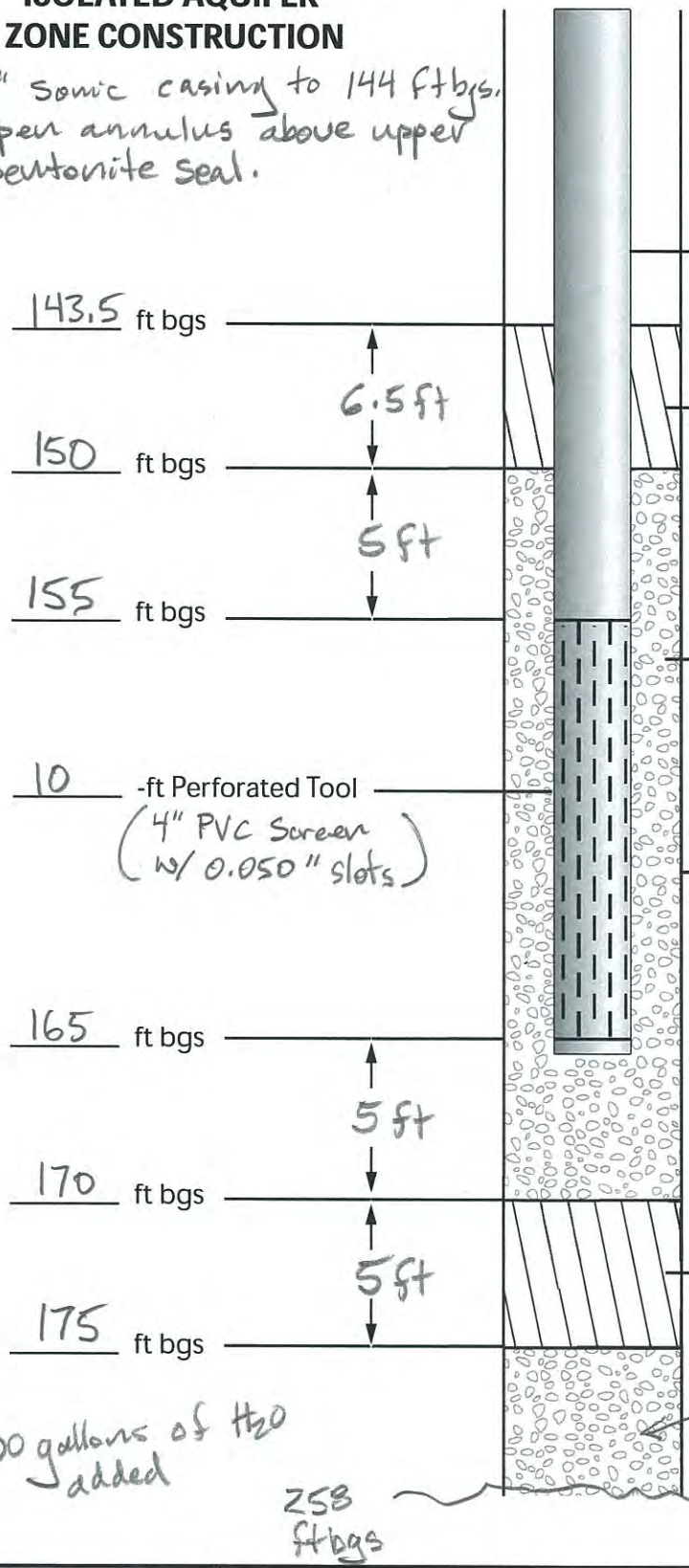
Zone#3 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 3

155 to 165 ft bgs

8" sonic casing to 144 ft bgs. Open annulus above upper bentonite seal.



4 -in Diameter Drill Pipe

6.5 -ft Upper Bentonite Seal – 1½ bags
MiSWACO Kwik-Plug Medium (3/8") Bentonite chips (1½ bags)

Gravel Pack CEMEX Monterey #3 (13 bags)

8 -in Diameter Pilot Borehole

5 -ft Lower Bentonite Seal (3 bags)

84 bags of CEMEX Monterey #3

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Client: RBF Consulting Inc.

Well Name/Number: MPWSP Exploratory Borehole CX-B4

Date: 4-7-14 / Mon

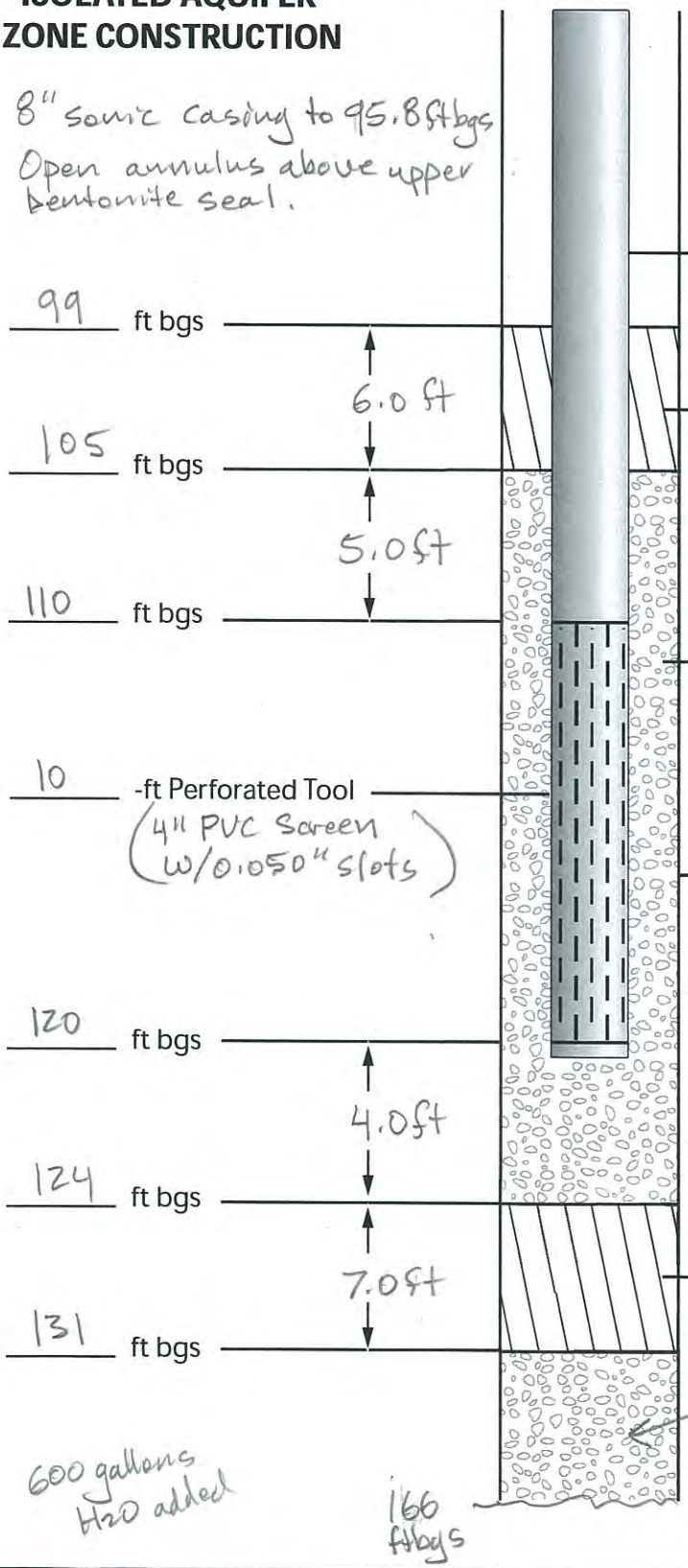
Zone #4 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 4

110 to 120 ft bgs

8" sonic casing to 95.8 ft bgs
Open annulus above upper bentonite seal.



4 -in Diameter Drill ~~Pipe~~ PVC

6 -ft Upper Bentonite Seal
MiSWACO Kwik-Plug Medium (3/8") Bentonite Chips (2½ bags)

Gravel Pack — CEMEX Monterey #3 (12 bags)

8 -in Diameter Pilot Borehole

7 -ft Lower Bentonite Seal (3 bags)

24 bags of Monterey #3

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	Date: 4-8-14 / Tue

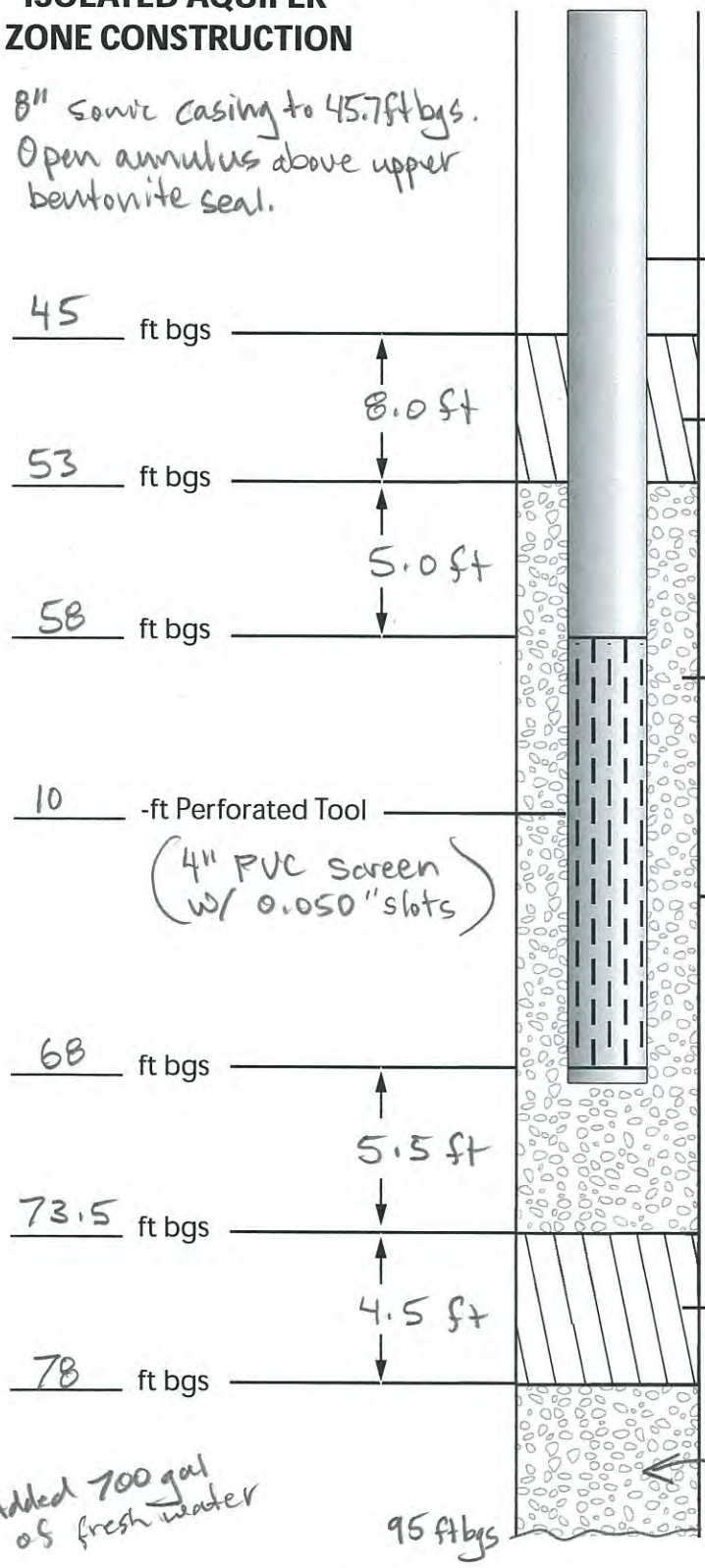
Zone #5 As-Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 5

58 to 68 ft bgs

8" sonic casing to 45.7ft bgs. Open annulus above upper bentonite seal.



4 -in Diameter ~~Drill~~ PVC

45 ft bgs

8.0 ft

8.0 -ft Upper Bentonite Seal

Mi SWACO Kwik-Plug Medium (3/8") Bentonite chips. (2 bags)

53 ft bgs

5.0 ft

58 ft bgs

Gravel Pack — CEMEX Monterey #3 (12 bags)

10 -ft Perforated Tool (4" PVC screen w/ 0.050" slots)

8 -in Diameter Pilot Borehole

68 ft bgs

5.5 ft

73.5 ft bgs

4.5 ft

4.5 -ft Lower Bentonite Seal (2 bags)

78 ft bgs

Added 700 gal of fresh water

95 ftbgs

21 bags of CEMEX Monterey #3

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Sheet 1 2

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 285 ft bgs
Static WL: 45.9 ft brp
RP: 7.5 ft ags (Top of 8" casing)

W.L.'s taken using an electronic W.L. indicator.

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 4-4-14 / Fri
Screened Interval: 306-316 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 193.3 ft bgs

W.L.'s
intake
stable
0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
12:44:15	0	45.9	0	106218.9	Pump on @~12 gpm.			12:46	↓Q to 9.2 gpm.				
12:50	6	138.0	92.1	—	9.2		↑Q to 9.8 gpm. Rate decreasing on it's own.						
13:05	21	175.8	129.9	—	9.3		Water	aerated & turbid.					Overrange
13:15	31	175.95	130.05	106513.0	9.5		Water	milky/aerated					257
13:30	46	175.45	129.55	106653.3	9.4		"	"					47.6
13:45	61	177.25	131.35	106794.6	9.4	21.0	0.6	34260	31679	23334.0	6.73	-32.0	35.7
14:00	76	178.1	132.2	106937.6	9.5	21.1	0.6	35603	32931	24214.8	6.69	-69.4	37.5
14:15	91	176.7	130.8	107080.5	9.5	21.0	0.7	36247	33452	24650.0	6.72	-79.1	29.7
14:30	106	177.5	131.6	107223.4	9.5	21.0	0.7	36662	33834	24935.6	6.66	-82.7	17.4
14:45	121	176.3	130.4	107366.3	9.5	20.9	0.7	37024	34156	25173.6	6.64	-83.2	14.6
15:00	136	177.6	131.7	107508.9	9.5	21.0	0.7	37222	34370	25309.6	6.67	-82.2	8.63
15:15	151	178.2	132.3	107651.2	9.5	21.0	0.7	37434	34581	25459.2	6.69	-80.6	9.05
15:30	166	179.0	133.1	107793.6	9.5	21.0	0.8	37445	34601	25466.0	6.69	-80.5	21.6
15:45	181	179.3	133.4	107936.0	9.5	20.9	0.8	37708	34804	25642.8	6.67	-79.3	5.09
16:00	196	179.1	133.2	108078.4	9.5	20.9	0.8	37807	34902	25704.0	6.65	-77.6	3.80
16:15	211	179.0	133.1	108220.6	9.5	20.9	0.7	37890	34963	25772	6.64	-75.6	3.61
16:30	226	177.7	131.8	108362.1	9.4	20.9	0.7	37977	35004	25826.4	6.63	-73.7	2.31
16:37:57	234			108437.2	Pump off.								
					Total Volume pumped today = 2,218.3 gallons								

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 285 ft bgs
Static WL: 50.25 ft brp
RP: 7.5 stags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling (W.L.'s)
Test Date: 4-5-14/Sat
Screened Interval: 306-316 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 193.3 ft bgs (intake)

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 constant)	pH	ORP (mV)	Turbitity (NTU)
7:48:43	0	50.25	0	108437.2	Pump on @ 9.8 gpm. 7:54 ↑Q to 8.0 gpm (Q dropping)								2.0
8:04	15	129.6	79.35	108566.6	7.7								31.2
8:19	30	133.35	83.10	108681.7	7.7								3.78
8:34	45	134.3	84.05	108796.2	7.6								1.10
8:49	60	134.4	84.15	108910.5	7.6								0.94
9:04	75	135.9	85.65	109026.0	7.7	20.9	1.0	37568	34576	25547.6	6.58	77.3	1.19
9:19	90	138.4	88.15	109145.5	8.0	20.9	0.6	37587	34620	25561.2	6.63	-9.1	0.91
9:34	105	138.85	88.60	109264.9	8.0	20.8	0.6	37654	34619	25602.0	6.62	-28.9	0.63
9:49	120	139.80	89.55	109384.4	8.0	20.9	0.6	37641	34702	25595.2	6.61	-36.4	0.50
9:59	130	139.50	89.25	109464.1	8.0	20.9	0.6	37688	34754	25629.2	6.61	-38.4	0.54
10:00	131	Begin collecting Water samples for laboratory analysis. Samples placed on ice,											
10:28	159	140.60	90.35	109699.1	8.1	21.0	0.6	37646	34755	25602.0	6.61	-38.5	0.43
10:35	166	–	–	109754.5	Pump off.								
					Total Volume pumped today = 1317.3 gallons								
11:25	216	48.35	-1.90	recovered	W.L. after pulling pump.								

Flow thru cell = 1480.8 mL/min

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 236 ft bgs
Static WL: 45.25 ft brp
RP: 6.7 ft ags (Top of 8" casing)

WL's taken using an electronic WL indicator.

Logged By: N. Reynolds (GSSI) & Cascade Drilling (W.L.'s)
Test Date: 4-6-14 / Sun
Screened Interval: 248 - 258 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 193.5 ft bgs (intake)

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Tot Vol (gals)
09:27	0	45.25	0	109754.5	Pump on @	8.7 gpm.	9:29 ↑Q to	14.4 gpm.	0932 ↑Q to 21.	3 gpm turbid				
09:35	8	74.25	29.00	109866.5	21.0					aerated.				
09:46	18	76.05	30.80	110076.5	21.0	Good	zone.	Higher	producing.	Aerated.			35.1	
09:50	23				↓Q to	11.8 gpm.	0951 ↓Q to 10.6 gpm							
09:55	28	60.5	15.25	110233.2	10.7								10.8	
10:10	43	60.7	15.45	110395.1	10.8								1.12	
10:25	58	60.8	15.55	110557.3	10.8								0.41	
10:40	73	60.95	15.70											
10:45	78	61.00	15.75	110773.7	10.8								0.67	
11:00	93	61.45	16.20	110936.5	10.9	19.8	3.0	35439	31916	24099.2	6.58	117.0	3.61	1182.0
11:10	103	61.50	16.25	111047.5	11.1	19.7	2.2	35705	32106	24282.8	6.68	47.1	2.35	1293.0
11:20	113	61.60	16.35	111158.5	11.1	19.7	2.2	35944	32340	24446.0	6.68	20.4	2.83	1404.0
11:30	123	61.60	16.35	111269.4	11.1	19.8	2.2	36168	32575	24595.6	6.68	9.7	2.36	
11:45	138	61.60	16.35	111435.6	11.1	19.8	2.2	36450	32845	24792.8	6.68	2.7	2.55	
12:00	153	61.70	16.45	111601.8	11.1	19.8	2.2	36688	33053	24956.0	6.69	-0.9	1.89	
12:15	168	61.70	16.45	111767.8	11.1	19.8	2.3	36915	33269	25105.6	6.68	-0.7	2.48	2013.3
12:30	183	61.75	16.50	111933.7	11.1	19.8	2.3	37081	33434	25214.4	6.68	0.4	1.80	
12:45	198	61.75	16.50	112099.6	11.1	19.8	2.3	37210	33528	25309.6	6.70	1.8	2.34	
13:00	213	61.80	16.55	112265.5	11.1	19.8	2.3	37564	33851	25540.8	6.69	5.0	1.72	
13:15	228	61.80	16.55	112431.5	11.1	19.8	2.3	37658	33967	25608.8	6.74	3.9	2.25	

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow thru cell = 1294.2 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 236 ft bgs
Static WL: 45.25 ft brp
RP: 6.7 ftags

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 4-6-14 / Sun
Screened Interval: 248-258 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 193.5 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft) (45.25)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Tot Vol (gal)
13:23	236	↓Q to 5.4 gpm							some fluctuation					
13:30	243	53.60	8.35	12559.8	5.3	20.1	2.3	37738	34247	25663	6.71	3.6	1.89	
13:45	258	53.55	8.30	12641.5	5.4	20.2	2.2	37844	34410	25731.2	6.72	4.9	1.00	
14:00	273	53.55	8.30	12723.0	5.4	20.2	2.2	37882	34414	25758.4	6.74	0.3	2.16	
14:15	288	53.55	8.30	12804.6	5.4	20.2	2.2	37937	34493	25799.2	6.74	0.0	2.98	
14:25	298	↑Q to 21.6 gpm												
14:30	303	77.60	32.35	12962.9	21.2	19.6	2.3	37703	33824	25663.2	6.74	2.3	4.17	
14:45	318	77.70	32.45	13282.4	21.3	19.4	2.3	37947	33924	25806.0	6.70	10.1	2.71	3527.9
15:00	333	77.90	32.65	13602.2	21.3	19.5	2.4	38122	34087	25928.4	6.67	21.7	2.26	
15:15	348	78.00	32.75	13922.2	21.3	19.4	2.4	38213	34164	25987.8	6.66	28.1	1.88	4167.7
15:30	363	78.20	32.95	14242.6	21.4	19.4	2.4	38278	34205	26030.4	6.66	30.6	1.96	
15:45	378	78.30	33.05	14563.5	21.4	19.4	2.4	38324	34231	26057.6	6.66	34.0	1.70	
16:00	393	78.30	33.05	14884.3	21.4	19.4	2.5	38354	34291	26084.8	6.66	36.8	1.46	
16:05	398	Begin collecting WQ samples for laboratory analysis. Samples placed on ice.												
16:33	426	78.50	33.25	15594.2	21.5	19.4	2.5	38426	34384	26132.4	6.66	41.7	1.18	
16:39:48	433			15749.5	Pump off.									
					Total Volume pumped = 5995.0 gallons									
4/7 7:30		47.15												

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3 (Day 1) W.L.'s

Client: RBF/MPWSP - Exploratory Borehole Drilling — WL's taken using an electronic WL indicator
Logged By: N. Reynolds (GSSI) & Cascade Drilling
Borehole Name/Number: CX-B4
Test Date: 4-7-14 / Mon
Sonic Casing Dia: 8 in — Sonic Casing Depth: 144 ft bgs
Screened Interval: 155-165 ft bgs
Static WL: 42.05 ft brp
Reference Point Elevation: _____ ft amsl
RP: 6.0 ft ags (top of 8" casing)
Pump Depth: 142.0 ft bgs (intake)

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 constant)	pH	ORP (mV)	Turbitity (NTU)	Total Vol (gal)
13:48:28	0	42.05	0	115749.5	Pump	on @ ~	10 gpm.	Turbid						
13:55	7	85.80	43.75	115815.2	9.9								overrange	
14:00	12	87.85	45.80	115864.7	9.9								466	
14:15	27	89.70	47.65	116011.9	9.8								148	
14:30	42	89.90	47.85	116159.5	9.8								143	
14:45	57	90.10	48.05	116307.0	9.8								18.1	
15:00	72	90.00	47.95	116454.7	9.8								3.97	
15:15	87	91.5	49.45	116603.6	9.9	19.1	4.7	27888	24761	18978.8	6.72	95.0	19.2	
15:30	102	91.6	49.55	116755.7	10.1	19.1	4.5	28361	25158	19284.8	6.77	46.6	2.90	1006.2
15:45	117	92.1	50.05	116908.1	10.2	19.1	4.6	28421	25214	19339.2	6.77	31.8	2.60	1158.6
16:00	132	92.05	50.00	117060.2	10.1	19.1	4.6	28527	25296	19400.4	6.78	25.1	3.36	1310.7
16:15	147	92.15	50.10	117212.3	10.1	19.1	4.6	28580	25347	19434.4	6.78	21.1	3.82	
16:30	162	92.10	50.05	117364.1	10.1	19.1	4.6	28609	25371	19454.8	6.78	17.9	2.71	
16:34:28	166			117419.2	Pump off.									
				Total Volume pumped today =				1669.7	gallons					

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

28.03 mS/cm 15:48

Flow thru cell = 1419.1 mL/min

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3 (Day 2) — WL's

Client: RBF/MPWSP - Exploratory Borehole Drilling — W.L.'s taken using an electronic WL indicator
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 144 ft bgs
Static WL: 43.3 ft brp
RP: 6.0 flags (top of 8" casing)

Logged By: N. Reynolds (GSI) & Cascade Drilling
Test Date: 4-8-14 (Tue)
Screened Interval: 155-165 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 142.0' ft bgs (intake)

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Tot Vol. (gal)
07:29:33	0	43.3	0	117419.2	Pump on @ 8.1 gpm. 7:32 ↑Q to 10.8 gpm					Some aeration.				
07:45	15	92.2	48.9	117577.9	10.5								16.4	
08:00	30	93.4	50.1	117735.1	10.5								15.9	
08:15	45	93.4	50.1	117891.7	10.5								11.2	
08:30	60	92.9	49.6	118050.6	10.5								24.5	
08:45	75	94.3	51.0	118210.2	10.6	18.8	4.9	28822	25407	19618.0	6.67	123.0	19.3	
09:00	90	94.4	51.1	118373.0	10.9	18.8	4.7	28984	25548	19713.2	6.72	85.3	3,89	953.8
09:15	105	94.55	51.25	118536.0	10.9	18.8	4.7	28927	25515	19672.4	6.73	69.4	3.84	
09:30	120	94.55	51.25	118698.4	10.8	18.8	4.6	28849	25424	19618.0	6.74	56.6	2.53	
09:46	136	94.65	51.35	118871.9	10.8	18.8	4.5	28766	25375	19556.0	6.74	44.4	4.77	
10:00	150	94.55	51.25	119023.8	10.9	18.9	4.5	28717	25354	19529.6	6.74	36.6	5.78	
10:15	165	94.65	51.35	119186.8	10.9	18.9	4.5	28657	25321	19488.8	6.74	31.3	3,89	1767.6
10:31	181	94.65	51.35	119360.6	10.9	19.0	4.5	28643	25335	19475.2	6.74	28.7	6.05	
10:45	195	94.70	51.40	119512.8	10.9	19.0	4.5	28609	25326	19454.8	6.74	27.6	3.51	
11:00	210	94.85	51.55	119675.9	10.9	19.0	4.5	28599	25310	19448.0	6.74	27.3	5.02	
11:15	225	94.90	51.60	119839.0	10.9	19.0	4.5	28585	25335	19434.4	6.75	28.0	5.24	
11:30	240	95.00	51.70	120002.0	10.9	19.0	4.6	28574	25304	19427.6	6.75	28.5	4.04	2582.8
11:44:32	254	↓Q to 5.5 gpm			5.5									
11:45	255	84.40	41.10	120163.5	5.5	19.0	4.6	28577	25329	19434.4	6.75	28.7	2.58	2744.3
12:00	270	68.00	24.70	120248.2	5.6	19.4	4.5	28690	25629	19509.2	6.75	28.9	0.25	

Flow thru cell = 1329.8 mL/min

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3 (Day 2)

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 144 ft bgs
Static WL: 43.3 ft brp
RP: 6.0 flags

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 4-8-14 / Tue
Screened Interval: 155-165 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 142.0 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 constant)	pH	ORP (mV)	Turbitity (NTU)
12:15	285	68.00	24.70	120330.6	5.5	19.4	4.5	28716	25672	19522.6	6.75	32.6	0.14
12:25	295	68.05	24.75	120385.5	5.5	19.4	4.5	28707	25663	19522.8	6.75	34.0	0.18
12:30	300	Begin collecting WQ samples for laboratory analysis. Samples placed on ice.											
12:50	320	68.20	24.90	120527.8	5.7	19.5	4.5	28695	25655	19509.2	6.74	36.1	0.15
12:53:04	323			120544.5	Pump off. Total volume pumped today = 3125.3 gallons								
13:27	357	43.85	0.55	← Recovered W.L. after pulling pump.									

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 4

Client: RBF/MPWSP - Exploratory Borehole Drilling

W.L.'s taken using an electronic W.L. indicator.

Logged By: N. Reynolds (GSSI) & Cascade Drilling

Borehole Name/Number: CX-B4

Test Date: 4-9-14 / Wed

Sonic Casing Dia: 8 in Sonic Casing Depth: 95.8 ft bgs

Screened Interval: 110-120 ft bgs

Static WL: 41.20 ft brp

Reference Point Elevation: _____ ft amsl

RP: 6.7 ft ags (top of 8" casing)

Pump Depth: 196 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Total Vol (gal)
7:59:56	0	41.20	0	120544.6	Pump on @ 10.4 gpm. Brown/turbid. Good yield.									
08:03	3	45.40	4.20		Turbid but improving.									
08:15	15	45.45	4.25	120706.1	10.0	Milky/aerated.							39.0	
08:30	30	45.50	4.30	120856.6	10.0	"							16.0	
08:37:50	~38			~120919.0	Pump off. Pump died.									
08:43	43	41.10	-0.10	Recovering W.L. 08:50 Begin pulling pump to check. Wires pinched.										
10:07:40	0	41.55	0.35	120913.1	Resume pumping @ 10.7 gpm. Q dropping slowly.									
10:15	7	44.50	3.30	120979.1	8.8								7.61	434.5
10:30	22	44.60	3.40	121110.7	8.8	19.0	4.8	29701	26333	20202.8	6.65	85.1	5.07	566.1
10:45	37	44.65	3.45	121243.2	8.8	19.0	4.9	29805	26405	20277.6	6.65	72.0	7.50	698.6
11:00	52	44.65	3.45	121375.8	8.8	19.0	5.0	29865	26428	20311.6	6.64	70.6	1.13	831.2
11:15	67	44.65	3.45	121508.7	8.9	19.0	5.0	29908	26473	20332.0	6.64	72.1	0.69	
11:25	77	44.65	3.45	121597.6	8.9	18.9	5.1	29926	26423	20352.4	6.64	72.8	0.58	
11:35	87	44.65	3.45	121686.3	8.9	18.9	5.1	29933	26466	20352.4	6.63	74.9	0.85	
11:40	92	Begin collecting WQ samples for lab analysis. Samples placed on ice.												
12:01	113	44.65	3.45	121922.3	9.1	18.9	5.1	29954	26471	20366.0	6.63	76.9	1.70	
12:07:04	119			121976.0	Pump off.									
					Total Volume pumped = 1431.4 gallons									
12:45	157	41.5	0.30	Recovered water level.										

Flow thru cell = 1306.6 mL/min

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 5 (Day 1)

W.L.'s taken using an electronic W.L. indicator.

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 45.7 ft bgs
Static WL: 42.20 ft brp
RP: 7.4 ft ags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 4-9-14 / Wed
Screened Interval: 58-68 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 57.5 ft bgs (intake)

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
16:18:15	0	42.20	0	121975.9	Pump	on @	7.5 gpm.	Turbid/brown.					
16:23	5	48.25	6.05	122019.0	7.5	Turbid but improving. Aerated.							
16:33	15	48.70	6.50	122094.2	7.5	19.8	3.3	5343	4828	3651.6	6.80	-33.8	130
16:48	30	48.80	6.60	122209.8	7.7	19.3	4.7	5834	5192	3978.0	7.02	-85.6	42.2
17:03	45	48.90	6.70	122324.9	7.7	19.1	5.5	6134	5442	4161.6	7.02	-70.8	23.8
17:07:05	49	-	-	122355.9	Pump	off.							
					Total	Volume	pumped =	380.0	gallons				

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Note: 700 gal fresh water added during construction.

Flow thru cell = 1173.7 mL/min

16:39 5641

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 5 (Day 2) W.L.'s

Client: RBF/MPWSP - Exploratory Borehole Drilling
WL's taken using an electronic WL indicator.
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 45.7 ft bgs
Static WL: 42.20 ft brp
RP: 7.4 ft ags (top of 8" casing) 602.1

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 4-10-14 / thru
Screened Interval: 58-68 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 57.5 ft bgs (intake)

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) 0.68 Constant	pH	ORP (mV)	Turbitity (NTU)	Total Vol. (gal)
07:14:11	0	42.20	0	122355.9	Pump on @		~5 gpm. 07:20 ↑Q to			~7 gpm	. Clear/aerated.			
07:19	5	46.05	3.85	122399.7	~5						aerated		30.1	
07:24	10	48.20	6.00	122432.7	7.4						aerated		14.1	
07:29	15	48.20	6.00	122469.0	7.3						"	"	8.90	
07:46	32	48.25	6.05	122592.1	7.2						"	"	5.29	
08:00	46	48.30	6.10	122693.6	7.3						"	"	4.34	
08:15	61	48.30	6.10	122802.6	7.3						"	"	2.62	446.7
08:30	76	48.30	6.10	122911.8	7.3		discharge is aerated				"	"	1.98	555.9
08:45	91	48.65	6.45	123024.8	7.5	18.6	6.1	6789	5959	4617.2	6.91	25.1	1.84	
09:00	106	48.65	6.45	123140.0	7.7	18.7	6.2	6848	6022	4664.8	6.92	9.2	1.61	
09:15	121	48.70	6.50	123254.2	7.6	18.6	6.3	6856	6023	4664.8	6.93	9.7	1.75	898.3
09:30	136	48.70	6.50	123368.6	7.6	18.6	6.4	6884	6045	4685.2	6.93	13.8	1.62	
09:36	142				↓Q to 4.8 gpm									
09:40	146	46.0	3.80	123433.4	4.8	19.0	6.4	6911	6116	4705.6	6.93	16.0	1.16	1077.5
09:50	156	46.0	3.80	123480.5	4.7	19.0	6.3	6914	6127	4705.6	6.94	17.6	1.31	
10:00	166	46.0	3.80	123527.4	4.7	19.1	6.3	6922	6139	4712.4	6.95	18.6	1.32	
10:10	176	46.0	3.80	123574.3	4.7	19.1	6.3	6932	6154	4719.2	6.94	20.2	1.21	1218.4
10:20	186	46.0	3.80	123621.1	4.7	19.1	6.3	6951	6168	4726.0	6.93	21.6	1.21	
10:30	196	46.0	3.80	123668.1	4.7	19.1	6.4	6946	6159	4726.0	6.92	23.7	1.23	
10:40	206	46.0	3.80	123714.9	4.7	19.1	6.4	6944	6170	4726.0	6.92	24.8	1.23	

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow thru cell = 1,400.6 mL/min

6708 8:50

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 5 (Day 2) WL's

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: CX-B4
Sonic Casing Dia: 8 in Sonic Casing Depth: 45.7 ft bgs
Static WL: 42.20 ft brp
RP: 7.4 ft ags

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 4-10-14 / Thu
Screened Interval: 58-68 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 57.5 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) 0.68 constant	pH	ORP (mV)	Turbitity (NTU)
10:50	216	46.0	3.80	123761.7	4.7	19.1	6.4	6978	6193	4732.8	6.92	25.7	1.17
11:00	226	46.0	3.80	123808.5	4.7	19.1	6.4	6970	6186	4732.8	6.92	26.5	1.24
11:07	233	Recalibrate Hach 2100Q. (3pt: 20, 100, & 800 NTU).											
11:15	241	46.0	3.80	123878.3	4.7	19.1	6.4	6967	6182	4739.6	6.92	27.7	1.21
11:25	251	46.0	3.80	123924.9	4.7	19.1	6.5	6988	6208	4760.0	6.92	28.3	1.12
11:30	256	Begin WQ sampling for lab analysis. Samples placed on ice.											
11:49	275	46.0	3.80	124042.5	4.9	19.1	6.6	7044	6258	4794.0	6.92	30.1	1.01
11:55:35	282			124073.2	Pump off.								
					Total volume pumped today =					1717.3 gallons			
12:26	312	42.25	0.05	Recovered water level.									

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

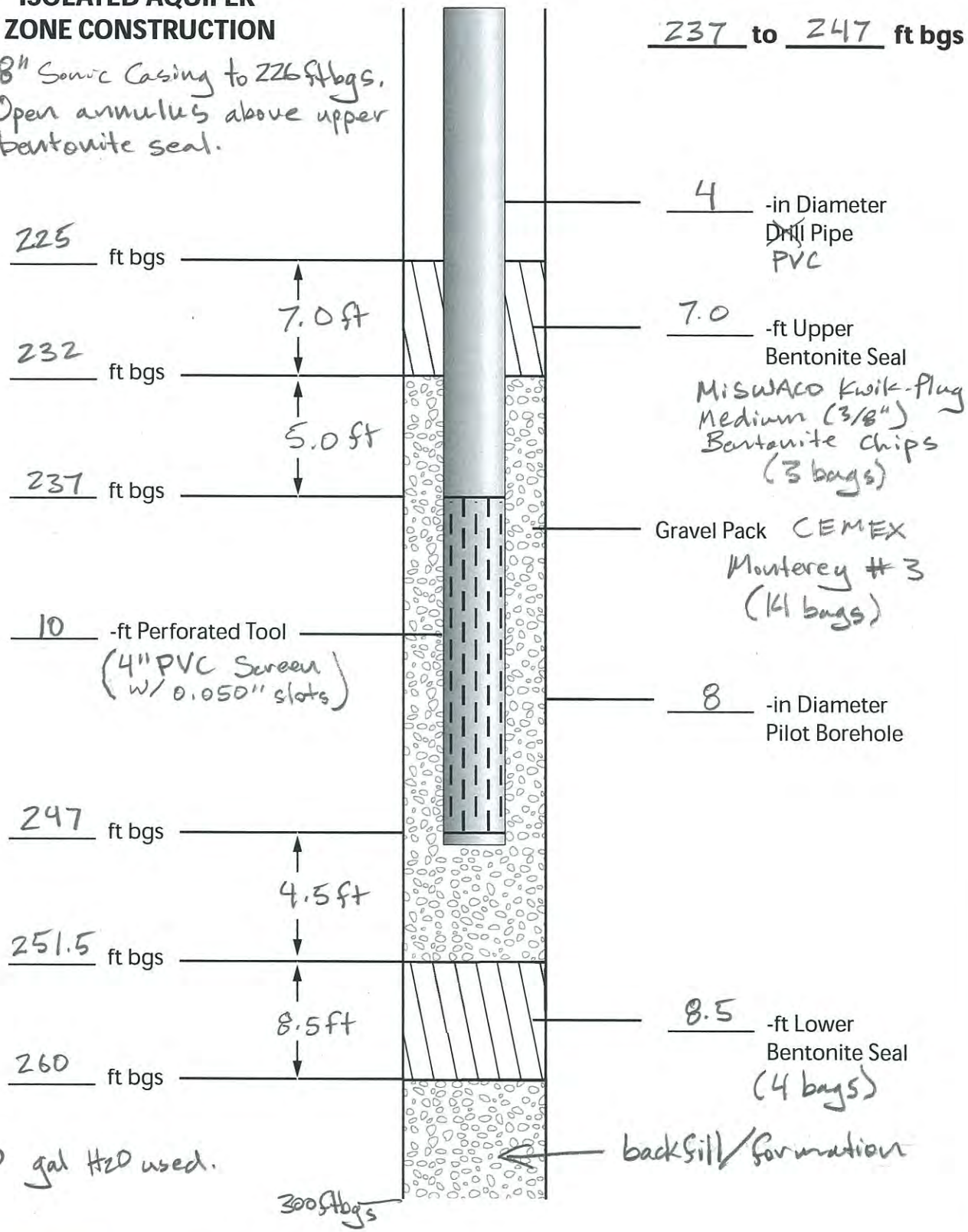
Zone #1 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 1

237 to **247** ft bgs

8" Sonic Casing to 226 ftbgs. Open annulus above upper bentonite seal.



1000 gal H2O used.

GEOSCIENCE	Client: RBF Consulting Inc.
GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Well Name/Number: MPWSP Exploratory Borehole MDW-1
	Date: 4-30-14 / Wed

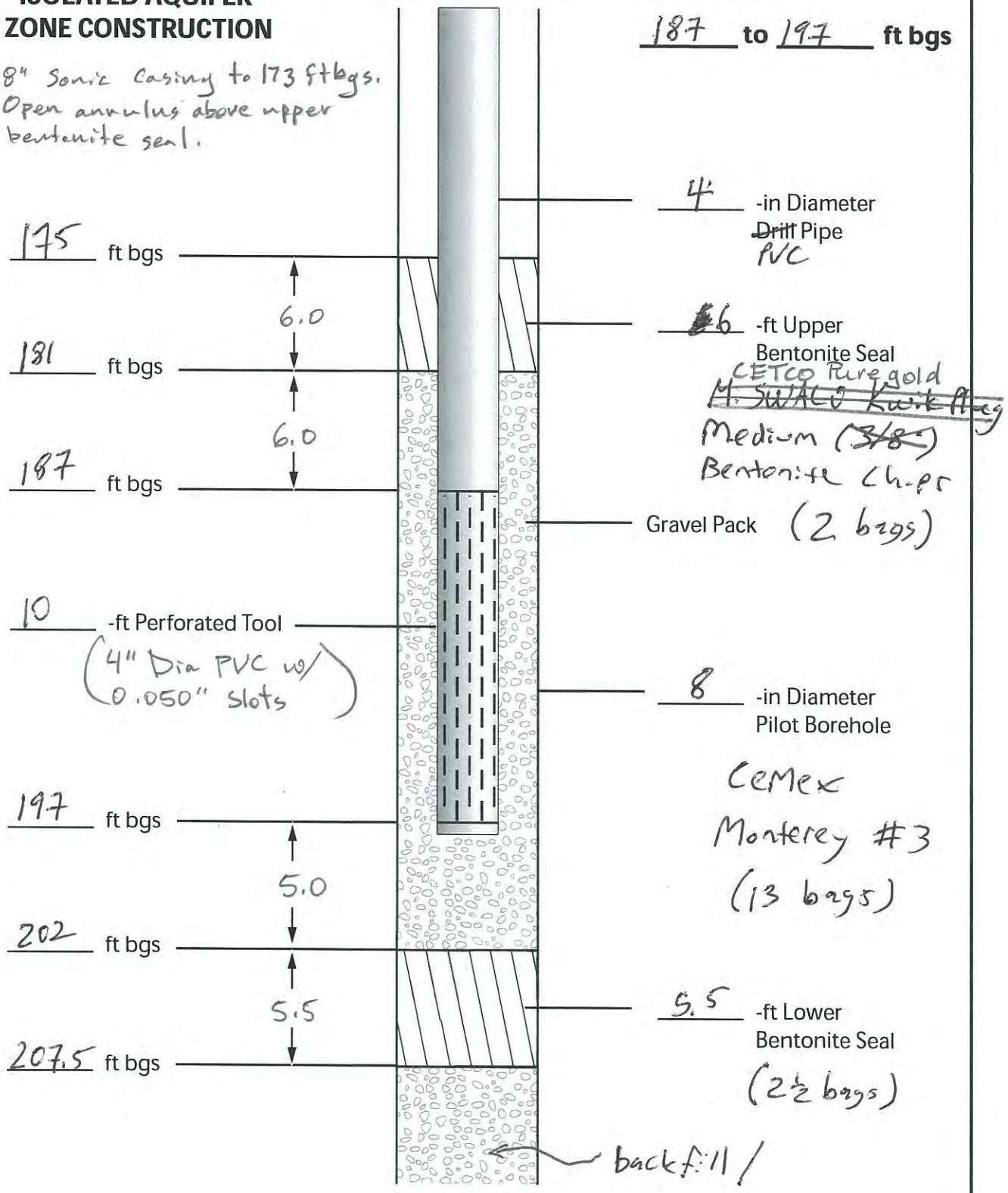
ISOLATED AQUIFER ZONE CONSTRUCTION

Zone #2 As Built

Zone No. 2

187 to 197 ft bgs

8" Sonic Casing to 173 ft bgs. Open annulus above upper bentonite seal.



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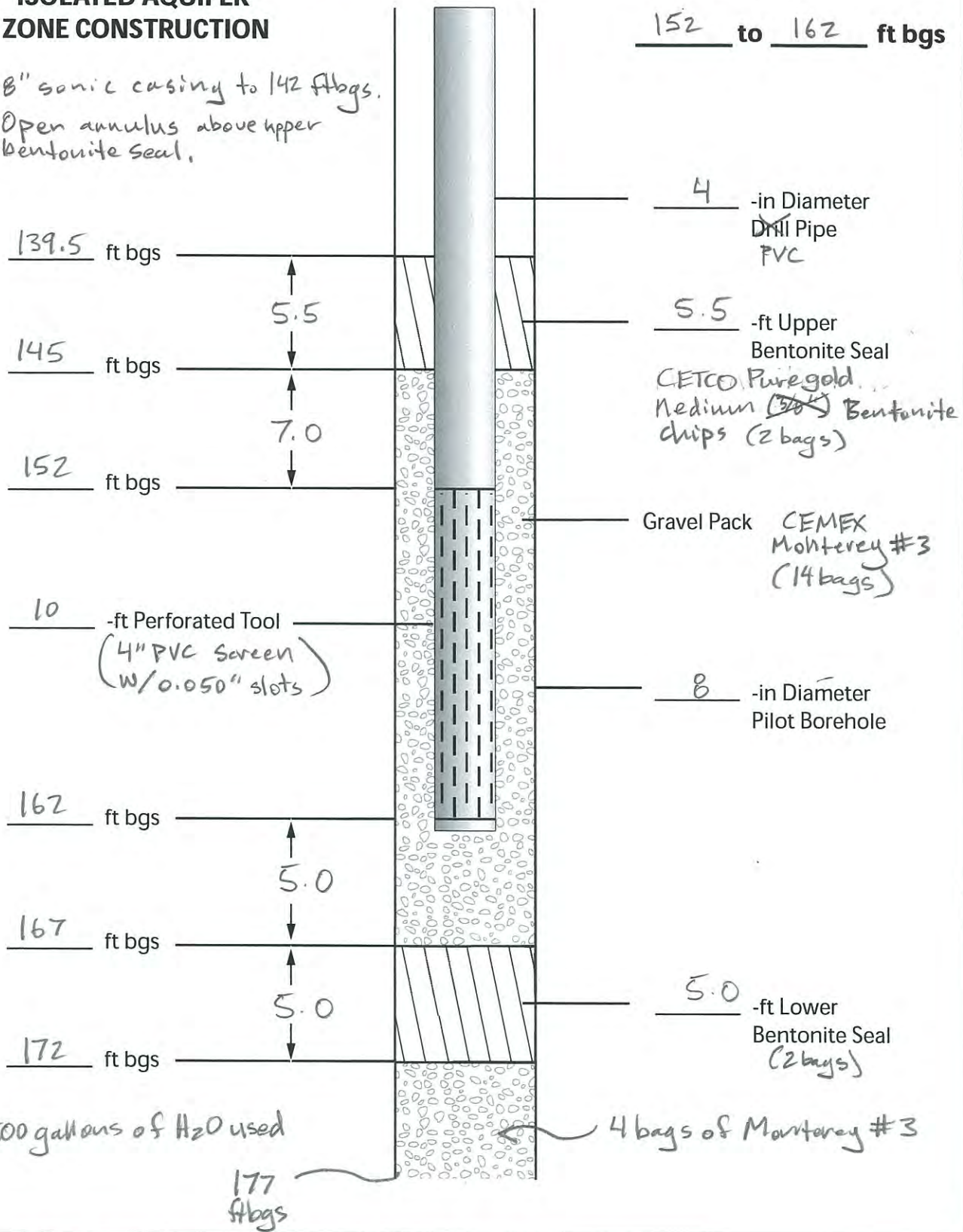
Zone #3 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 3

152 to 162 ft bgs

8" sonic casing to 142 ftbgs.
Open annulus above upper Bentonite seal.



GEOSCIENCE GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Client: RBF Consulting Inc. Well Name/Number: MPWSP Exploratory Borehole MDW-1 Date: 5-8-14 Thu

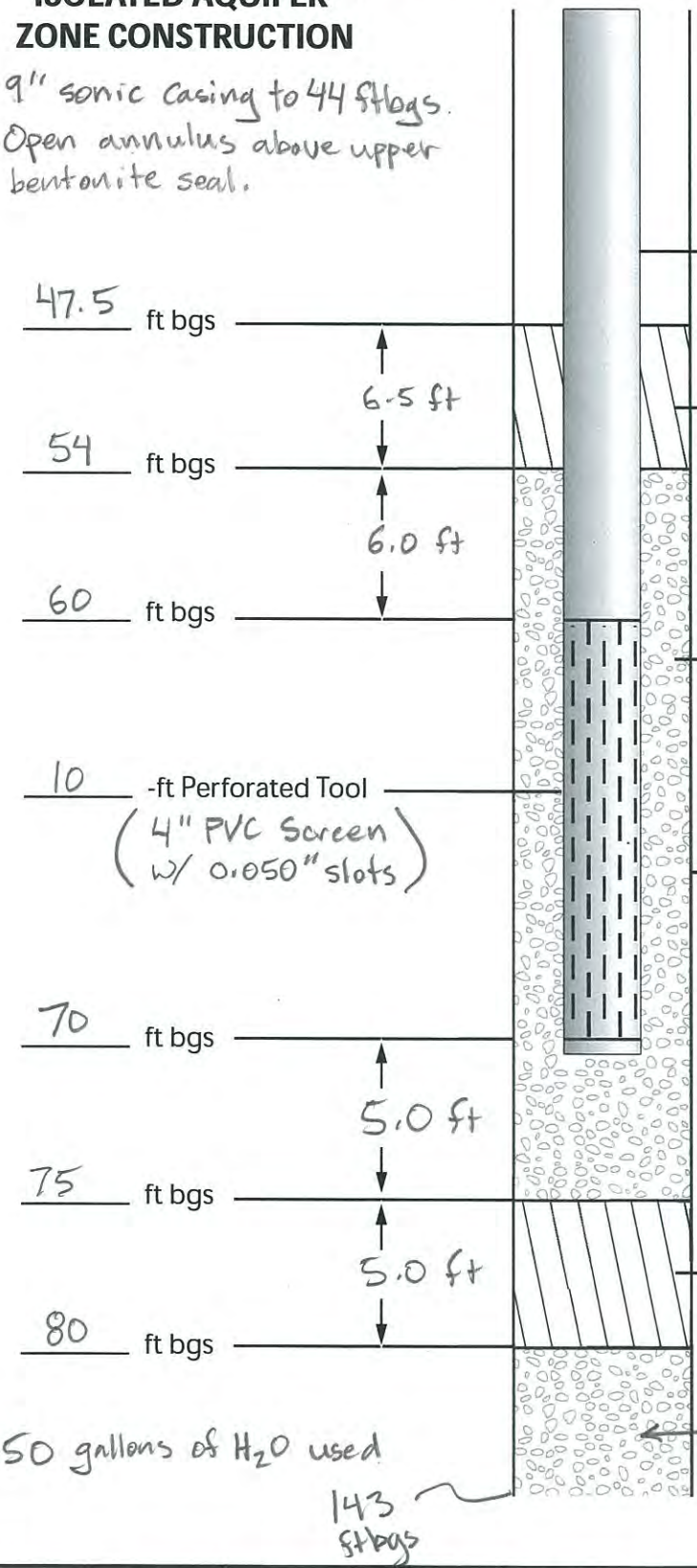
Zone # 4 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 4

60 to 70 ft bgs

9" sonic casing to 44 ftbgs. Open annulus above upper bentonite seal.



4 -in Diameter Drill Pipe PVC

47.5 ft bgs

6.5 ft

6.5 -ft Upper Bentonite Seal

54 ft bgs

MiSWACO Kwik Plug Medium (3/8") Bentonite chips (3 bags)

6.0 ft

60 ft bgs

Gravel Pack CEMEX Monterey #3 (13 bags)

10 -ft Perforated Tool (4" PVC Screen w/ 0.050" slots)

8 -in Diameter Pilot Borehole

70 ft bgs

5.0 ft

75 ft bgs

5.0 ft

5.0 -ft Lower Bentonite Seal (2.5 bags)

80 ft bgs

38 bags of Monterey #3

350 gallons of H_2O used

143 ftbgs

Sd pump

GEOSCIENCE	Client: RBF Consulting Inc.
GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Well Name/Number: MPWSP Exploratory Borehole MPW-1
	Date: 5-9-14 / Fri

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CONFIDENTIAL DRAFT
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Day 1

ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

W.L.'s taken w/ electronic W.L. indicator.

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: MDW-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 226 ft bgs
Static WL: 26.05 ft brp (falling slowly)
RP: 7.2 ft ags (Top 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 4-30-14 (Wed) (Day 1)
Screened Interval: 237-247 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 226 ft bgs (intake)

Myron L readings (Not YSI)

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. ~~(µS/cm)~~ mS/cm	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	
15:21:01	0	26.05	0	124073.1	Pump on @ ? gpm.			15:22	Pump off. Totalizer reversed.					
15:26:56	0	–	–	124054.6	Pump on @ 10.8 gpm									
15:29	2	34.9	8.85	–	10.8	15:30:13 ↑Q to								
15:33	6	45.0	18.95	124143.0	18.7	turbid / brown								
15:38	11	46.3	20.25	124249.8	21.4	Water clearing, aerated		15:39	:05 ↑Q. Valve wide open.					
15:41	14	56.8	30.75	–	31.5	turbid								
15:44	17	57.6	31.55	124427.4	31.5	Some	brown	fine sand.					229	
16:00	33	58.55	32.50	124731.0	31.5				41.20	tr fine sand			33.3	894.9
16:15	48	58.80	32.75	125403.2	31.5				41.57				21.0	
16:30	63	58.90	32.85	125875.6	31.5				42.09				18.1	1839.5
16:45	78	59.00	32.95	126347.9	31.5				42.30				14.0	
17:00	93	59.05	33.00	126820.2	31.5				42.48				14.0	
17:06	99			127011.2	Pump off.									
				Total volume pumped today = 2975.1 gallons										

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Form Created: 29-Sep-13

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CONFIDENTIAL DRAFT Day 2
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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1 W.L's

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: MDW-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 226 ft bgs
Static WL: 28.00 ft brp
RP: 7.2 ft ags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 5-1-14 / Thu
Screened Interval: 237-247 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 226 ft bgs (intake)

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
07:30:53	0	28.00	0	127010.6	Pump	on @	9.9 gpm						
07:34	3	35.40	7.40		9.9			Turbid. Aerated.					
07:45	14	35.25	7.25	127149.2	9.8								39.9
08:00	29	35.20	7.20	127295.4	9.7								17.6
08:15	44	35.15	7.15	127441.9	9.8								9.43
08:30	59	35.15	7.15	127588.3	9.8								5.76
08:45	74	35.15	7.15	127735.0	9.8								7.71
09:00	89	35.10	7.10	127882.1	9.8								5.83
09:15	104	35.10	7.10	128029.3	9.8								6.74
09:30	119	35.30	7.30	128180.1	10.1	17.4	0.2	42697	36454	29036.0	7.11	-13.9	6.84
09:45	134	35.25	7.25	128333.7	10.2	17.4	0.2	42742	36529	29063.2	7.14	-42.1	6.82
10:00	149	35.20	7.20	128486.7	10.2	17.3	0.2	42773	36481	29083.6	7.13	-57.2	6.33
10:15	164	35.10	7.10	128639.7	10.2	17.3	0.2	42789	36510	29097.2	7.13	-67.8	3.22
10:30	179	35.00	7.00	128792.9	10.2	17.3	0.2	42807	36496	29110.8	7.13	-75.5	5.65
10:45	194	34.95	6.95	128946.8	10.3	17.3	0.2	42817	36505	29117.6	7.12	-81.2	5.89
11:00	209	34.90	6.90	129100.1	10.2	17.3	0.2	42831	36556	29124.4	7.13	-85.6	4.42
11:15	224	34.85	6.85	129253.5	10.2	17.3	0.2	42840	36577	29131.2	7.13	-89.1	4.71
11:22:18	231	↑Q to	15.7 gpm.										
11:30	239	39.75	11.75	129438.6	15.7	17.1	0.2	42879	36414	29158.4	7.13	-91.7	12.1
11:45	254	39.90	11.90	129674.5	15.7	17.1	0.2	42868	36416	29151.6	7.13	-92.2	5.05

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Desired Flow Rate: 100 to 500 mL/min

Flow thru cell = 1498.5 mL/min

Form Created: 29-Sep-13

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CONFIDENTIAL DRAFT Day 2
Subject to Revision

ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1 W.L.'s

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: MDW-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 226 ft bgs
Static WL: 28.00 ft brp
RP: 7.2 ft ags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 5-1-14 / Thu
Screened Interval: 237-247 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 226 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) 0.68 constant	pH	ORP (mV)	Turbitity (NTU)
12:00	269	39.75	11.75	129909.8	15.7	17.1	0.2	42864	36394	29144.8	7.13	-94.1	3.66
12:15	284	39.65	11.65	130144.7	15.7	17.1	0.2	42862	36389	29144.8	7.12	-96.1	4.98
12:30	299	39.65	11.65	130380.6	15.7	17.1	0.2	42853	36383	29138.0	7.12	-98.0	3.26
12:45	314	39.60	11.60	130617.5	15.8	17.0	0.2	42856	36342	29144.8	7.11	-100.2	2.79
13:00	329	39.40	11.40	130853.5	15.7	17.1	0.2	42845	36382	29138.0	7.12	-101.4	2.35
13:15	344	39.35	11.35	131087.8	15.6	17.1	0.2	42841	36363	29131.2	7.12	-102.7	1.80
13:30	359	39.30	11.30	131322.5	15.6	17.1	0.2	42836	36397	29124.4	7.12	-103.9	1.50
13:45	374	39.45	11:45	131557.2	15.6	17.1	0.2	42826	36400	29124.4	7.12	-105.1	1.79
14:00	389	39.25	11.25	131793.1	15.7	17.1	0.2	42819	36386	29117.6	7.12	-106.2	1.53
14:15	404	39.40	11:40	132027.9	15.7	17.1	0.2	42813	36351	29110.8	7.12	-107.3	2.49
14:30	419	39.45	11.45	132264.8	15.8	17.1	0.2	42811	36322	29110.8	7.12	-108.0	2.28
14:45	434	39.45	11.45	132501.8	15.8	17.1	0.2	42802	36328	29104.0	7.12	-107.6	1.96
15:00	449	39.45	11.45	132738.8	15.8	17.0	0.2	42797	36307	29104.0	7.12	-107.6	2.22
15:15	464	39.45	11.45	132976.0	15.8	17.0	0.2	42787	36295	29097.2	7.12	-107.6	1.95
15:30	479	39.45	11.45	133212.5	15.8	17.1	0.2	42788	36308	29097.2	7.12	-107.5	2.33
15:45	494	39.50	11.50	133449.2	15.8	17.0	0.2	42787	36237	29097.2	7.12	-107.6	2.33
15:56	499	Begin collecting WQ samples for lab analysis. Samples placed on ice.											
16:15	524	39.45	11.45	133927.1	15.9	17.0	0.2	42777	36216	29090.4	7.11	-108.0	1.95
16:22:18	531			134041.7	Pump offs.								
					Total volume pumped today = 7031.1 gallons								

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Page 1

Zone No. 2 (187-197 ft bgs)

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: MDW-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 173 ft bgs
Static WL: 26.24 ft brp
RP: 7 ft ags

Logged By: J. Sobolew (GSSI) & Cascade Drilling + URS
Test Date: 5/6/14 / Tuesday
Screened Interval: 187-197 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 173 ft bgs

0.68 Constant

Time	Time Step (min)	Water Level (ft brp) Pump on	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Vol (mL/min)
1433	0	26.02	0	134041.7										
1435	2	27.70	1.68	134080.5	19.4									
Q1 1439	6	28.80	2.78	134136.2	13.93									
1443	10	29.10	3.08	134213.9	19.43								139/21	
1503	30	29.15	3.13	134618.4	20.23	16.5	0.4	43281	36227	24444	6.81	-53.5	12.2	1200
1518	45	29.15	3.13	134923.3	20.33	16.3	0.2	44131	36836	30015.20	6.82	-71.5	8.92	
1533	60	29.05	3.03	135228.4	20.34	16.3	0.3	44601	37196	30328	6.82	-79.6	7.01	
1548	75	29.00	2.98	135534.9	20.43	16.2	0.2	44797	37296	30464	6.82	-85.3	6.04	1000
1603	90	28.95	2.93	135841.2	20.42	16.2	0.1	44969	37378	30572.8	6.82	-90.6	4.90	1500
1618	105	28.90	2.88	136149.8	20.57	16.1	0.1	45152	37459	30702	6.83	-94.7	3.57	1360
1620	Pump off			136216.5										

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow through cell:

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2 (WL's Day 2)

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: MPW-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 173 ft bgs
Static WL: 26.20 ft brp
RP: 7.0 ft ags (top of 8" casing)

W.L.'s taken using an electronic WL indicator.

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 5-7-14 / Wed
Screened Interval: 187 - 197 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 173 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 constant)	pH	ORP (mV)	Turbitity (NTU)	Total Vol (gal)
7:50:35	0	26.20	0	136216.5	Pump on @		10.2 gpm						turbid	
7:55	5	-	-	136280.9	10:56	↓ Q slightly to		9.5 gpm					125	
8:05	15	27.30	1.10	136374.5	9.1	Aerated							3.96	
8:20	30	27.40	1.20	136511.1	9.1	"	"						3.11	
8:35	45	27.45	1.25	136648.2	9.1								3.80	
8:50	60	27.50	1.30	136785.5	9.2								3.04	
9:05	75	27.55	1.35	136922.6	9.1	16.3	1.7	45594	38005	31008.0	6.62	-14.7	1.95	706.1
9:20	90	27.65	1.45	137062.4	9.3	16.3	0.1	45626	38019	31028.4	6.78	-62.3	1.92	845.9
9:35	105	27.70	1.50	137202.8	9.4	16.3	0.1	45633	38044	31028.4	6.80	-79.7	1.98	
9:50	120	27.75	1.55	137343.5	9.4	16.3	0.1	45684	38094	31062.4	6.80	-86.9	1.84	
10:05	135	27.80	1.60	137483.6	9.3	16.3	0.1	45724	38136	31089.6	6.80	-91.0	1.50	
10:20	150	27.85	1.65	137623.6	9.3	16.3	0.1	45736	38180	31096.4	6.80	-93.9	2.57	
10:35	165	27.90	1.70	137763.8	9.3	16.3	0.1	45750	38166	31110.0	6.80	-96.0	1.72	
10:50	180	27.95	1.75	137903.9	9.3	16.3	0.1	45765	38171	31116.8	6.80	-97.7	1.68	
11:05	195	28.00	1.80	138044.1	9.3	16.3	0.1	45776	38221	31130.4	6.80	-99.0	1.87	
11:20	210	28.00	1.80	138184.4	9.4	16.3	0.1	45790	38227	31137.2	6.80	-100.1	1.80	
11:35	225	28.05	1.85	138324.7	9.4	16.3	0.1	45802	38239	31144.0	6.80	-101.1	1.58	2108.2
11:50	240	28.05	1.85	138465.0	9.4	16.4	0.1	45806	38281	31144.0	6.80	-102.1	1.68	
12:05	255	28.05	1.85	138605.2	9.3	16.4	0.1	45812	38278	31150.8	6.80	-103.1	1.61	
12:10:36	260				↓ Q to	5.4 gpm								

Flow thru cell = 1099.7 mL/min

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2 Day 2

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: MDW-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 173 ft bgs
Static WL: 26.20 ft brp
RP: 7.0 ftags

Logged By: N. Reynolds (GSSI)
Test Date: 3-7-14 / Thu
Screened Interval: 187-197 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 173 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 constant)	pH	ORP (mV)	Turbitity (NTU)	Total Vol (gal)
12:20	270	27.60	1.40	138712.8	5.4	16.7	0.1	45813	38609	31150.8	6.80	-105.3	2.59	
12:35	285	27.60	1.40	138791.6	5.3	16.8	0.1	45841	38653	31171.2	6.81	-105.6	2.84	
12:42:05	292	–	–	138828.1	Pump shuts off. Stop to fix generator.									
13:07:13	317	–	–	138828.1	Resume pumping @ 6.9 gpm.									
13:15	325	27.60	1.40	138888.5	7.2	16.7	0.1	45859	38636	31178.0	6.81	-99.4	3.85	
13:30	340	27.60	1.40	138996.5	7.2	16.8	0.1	45854	38686	31178.0	6.81	-102.0	2.40	
13:45	355	27.55	1.35	139104.5	7.2	16.8	0.1	45862	38716	31184.8	6.80	-103.9	2.37	
14:00	370	27.50	1.30	139212.2	7.2	16.8	0.1	45873	38728	31191.6	6.80	-104.9	0.68	
14:10	380	27.45	1.25	139284.1	7.2	16.8	0.1	45882	38735	31198.4	6.80	-105.5	0.51	
14:20	390	27.40	1.20	139356.0	7.2	16.8	0.2	45875	38793	31198.4	6.80	-106.0	0.64	
14:25	395	Begin collecting WQ samples for laboratory analysis. Samples placed on ice.												
14:44	414	27.30	1.10	139533.3	7.4	16.8	0.2	45896	38714	31205.2	6.80	-106.6	0.30	
14:48:26	418			139565.3	Pump off.									
					Total Volume pumped today = 3348.8 gallons									

Flow thru cell = 1191.4 mL/min (13:13)

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

14:48:26

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3 — W.L's

Client: RBF/MPWSP - Exploratory Borehole Drilling — W.L's taken w/ an electronic W.L. indicator

Logged By: N. Reynolds (GSSI) & Cascade Drilling

Borehole Name/Number: MPW-1

Test Date: 5-8-14 / Thu

Sonic Casing Dia: 8 in — Sonic Casing Depth: 142 ft bgs

Screened Interval: 152 - 162 ft bgs

Static WL: 28.25 ft brp

Reference Point Elevation: _____ ft amsl

RP: 7.9 flags (top of 8" casing)

Pump Depth: 142 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
11:40:28	0	28.25	0	139565.4	Pump	on @	12.1 gpm						
11:43	3	53.0	24.75	-	12.1	grey	turbid	11:45	:30 ↑Q	to 21.6 gpm			
11:48	8	77.00	48.75	-	21.6								
11:55	15	84.85	56.60	139827.7	21.5								107
12:12	32	86.05	57.80	140192.8	21.5		(W.L. @	12:10)					13.0
12:25	45	86.95	58.70	140472.1	21.5								9.02
12:40	60	87.30	59.05	140794.5	21.5								5.07
12:55	75	87.60	59.35	141116.7	21.5								3.91
13:10	90	88.00	59.75	141438.7	21.5								3.30
13:25	105	88.20	59.95	141760.3	21.4								2.40
13:40	120	88.90	60.65	142082.6	21.5	16.1	0.2	36220	30067	24629.6	6.84	-73.4	2.33
13:55	135	89.00	60.75	142406.6	21.6	16.1	0.2	36462	30250	24779.2	6.91	-102.4	1.77
14:05	145	-	-	142622.4	21.6	16.1	0.1	36521	30316	24867.6	6.91	-110.6	1.39
14:10	150	89.10	60.85	142730.3	21.6	16.1	0.1	36583	30336	24881.2	6.91	-113.2	1.35
14:25	165	89.10	60.85	143053.7	21.6	16.1	0.1	36728	30472	24969.6	6.91	-118.6	1.00
14:40	180	89.25	61.00	143378.0	21.6	16.1	0.1	36826	30554	25078.4	6.91	-122.1	1.05
14:55	195	89.20	60.95	143701.8	21.6	16.1	0.1	36953	30670	25119.2	6.91	-124.6	1.22
15:10	210	89.25	61.00	144025.6	21.6	16.0	0.1	37063	30733	25214.4	6.91	-126.4	0.95
15:20	220	89.30	61.05	144241.6	21.6	16.0	0.1	37132	30745	25228.0	6.91	-127.2	0.93
15:30	230	89.20	60.95	144457.6	21.6	16.0	0.1	37196	30803	25309.6	6.91	-128.1	1.14

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%

Flow thru cell = 1290.9 mL/min

36.36

got Mgyrant reading

Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 3

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: MDW-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 142 ft bgs
Static WL: 28.25 ft brp
RP: T.9 ft ags

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 5-8-14 / thru
Screened Interval: 152-162 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 142 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L) (0.68 constant)	pH	ORP (mV)	Turbitity (NTU)
15:40	240	89.25	61.00	144673.3	21.6	16.0	0.1	37247	30853	25323.2	6.91	-128.8	2.40
15:50	250	89.30	61.05	144889.2	21.6	16.0	0.1	37260	30885	25330.0	6.91	-129.3	1.70
16:00	260	89.35	61.10	145105.0	21.6	16.0	0.1	37344	30916	25377.6	6.91	-129.3	1.95
16:10	270	89.50	61.25	145320.7	21.6	16.0	0.1	37363	30928	25404.8	6.91	-129.2	0.98
16:20	280	89.25	61.00	145536.6	21.6	15.9	0.1	37414	30941	25432.0	6.91	-129.7	2.82
16:30	290	89.20	60.95	145752.3	21.6	15.9	0.1	37451	30928	25459.2	6.91	-130.4	1.30
16:40	300	89.30	61.05	145968.2	21.6	15.9	0.1	37515	30985	25479.6	6.90	-131.2	0.78
16:50	310	89.25	61.00	146184.0	21.6	15.9	0.1	37546	31014	25513.6	6.90	-131.8	0.84
16:55	315	Begin collecting WQ samples for lab analysis. Samples placed on ice.											
17:10	330	89.25	61.00	146618.1	21.7	15.9	0.1	37642	31053	25595.2	6.90	-132.4	1.37
17:15:45	336			146740.4	Pump off. Total volume pumped = 7,175 gallons								
5/9 07:30		28.80	0.55										

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Day 1

Zone No. 4

Client: RBF/MPWSP - Exploratory Borehole Drilling

W.L.'s taken w/an electronic W.L. indicator.

Borehole Name/Number: MDW-1

Sonic Casing Dia: 9 in Sonic Casing Depth: 44 ft bgs

Static WL: 20.70 ft brp

RP: 6.0 ft ags (top of 9" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling

Test Date: 5-9-14 / Fri

Screened Interval: 60 - 70 ft bgs

Reference Point Elevation: _____ ft amsl

Pump Depth: 59.0 ft bgs

Myron L (not YSI)

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (mS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Total Vol. (gal)
15:30:15	0	20.70	0	146740.3	Pump on @ 7.9	gpm.	Very turbid/gray.							
15:35	5	24.00	3.30	146785.8	7.9	Turbid but improving.								
15:40	10	24.10	3.40	146825.2	7.9	15:43:38 ↑Q to 16.7gpm (PWL = 28.4 ftbrp). 15:45:45 ↑Q to 20.4gpm (PWL = 30.1 ftbrp)							446	
15:50	20	35.40	14.70	146986.3	30.5	← max pump Q							250	246.0
16:00	30	35.65	14.95	147291.1	30.5				30.32				34.5	550.8
16:15	45	35.85	15.15	147748.5	30.5				30.70				11.2	1008.2
16:30	60	35.90	15.20	148207.2	30.6				31.00				7.11	
16:45	75	35.95	15.25	148666.0	30.6				31.26				4.95	
16:49:45	~80			148810.9	Pump off.									
					Total volume pumped today = 2070.6 gallons									

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Day 2

Zone No. 4

Client: RBF/MPWSP - Exploratory Borehole Drilling

Borehole Name/Number: MDW-1

Sonic Casing Dia: 9 in Sonic Casing Depth: 44 ft bgs

Static WL: 20.65 ft brp

RP: 6.0 ftags (top of 9" casing)

W.L.'s taken using an electronic W.L. indicator.

W.L.'s

Logged By: N. Reynolds (GSSI) & Cascade Drilling

Test Date: 5-10-14 / Sat

Screened Interval: 60-70 ft bgs

Reference Point Elevation: ___ ft amsl

Pump Depth: 59.0 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
8:58:16	0	20.65	0	148810.9	Pump on @ ~15.5 gpm.			Water clear.					
09:03	5	26.80	6.15	–	15.5								
09:08	10	26.80	6.15	148951.8	15.2	slightly aerated							14.0
09:23	25	26.80	6.15	149179.2	15.2	aerated sample							6.50
09:38	40	26.80	6.15	149407.1	15.2	"	"						4.34
09:53	55	26.80	6.15	149634.5	15.2	"	"						2.96
10:08	70	26.90	6.25	149863.0	15.2	16.0	2.4	31624	26190	21515.2	7.25	80.2	1.88
10:23	85	26.90	6.25	150094.3	15.4	16.0	2.4	31699	26270	21562.8	7.33	20.9	1.39
10:38	100	26.95	6.30	150325.7	15.4	16.0	2.4	31805	26336	21624.0	7.33	0.6	1.30
10:53	115	26.95	6.30	150557.1	15.4	16.0	2.4	31858	26393	21658.0	7.33	-5.5	1.23
11:08	130	26.95	6.30	150788.7	15.4	16.0	2.4	31930	26462	21719.2	7.33	-9.1	1.50
11:23	145	27.00	6.35	151020.2	15.4	16.0	2.4	32007	26526	21766.8	7.33	-10.5	1.20
11:38	160	27.00	6.35	151251.7	15.4	16.0	2.4	32065	26591	21814.4	7.33	-10.8	0.92
11:48	170	27.00	6.35	151406.4	15.5	16.0	2.4	32107	26619	21841.6	7.32	-10.6	0.85
11:58	180	27.00	6.35	151560.7	15.4	16.0	2.5	32173	26662	21875.1	7.32	-10.1	0.83
12:05	187	Begin collecting WQ samples for lab analysis. Samples placed on ice.											
12:25	207	27.05	6.40	151982.8	15.6	16.0	2.6	32301	26769	21970.8	7.32	-8.9	0.89
12:32:54	215			152104.7	Pump off.								
					Total Volume pumped today = 3293.8 gallons								
13:53	295	20.90	0.25										

Flow thru cell = 1239.7 mL/min

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

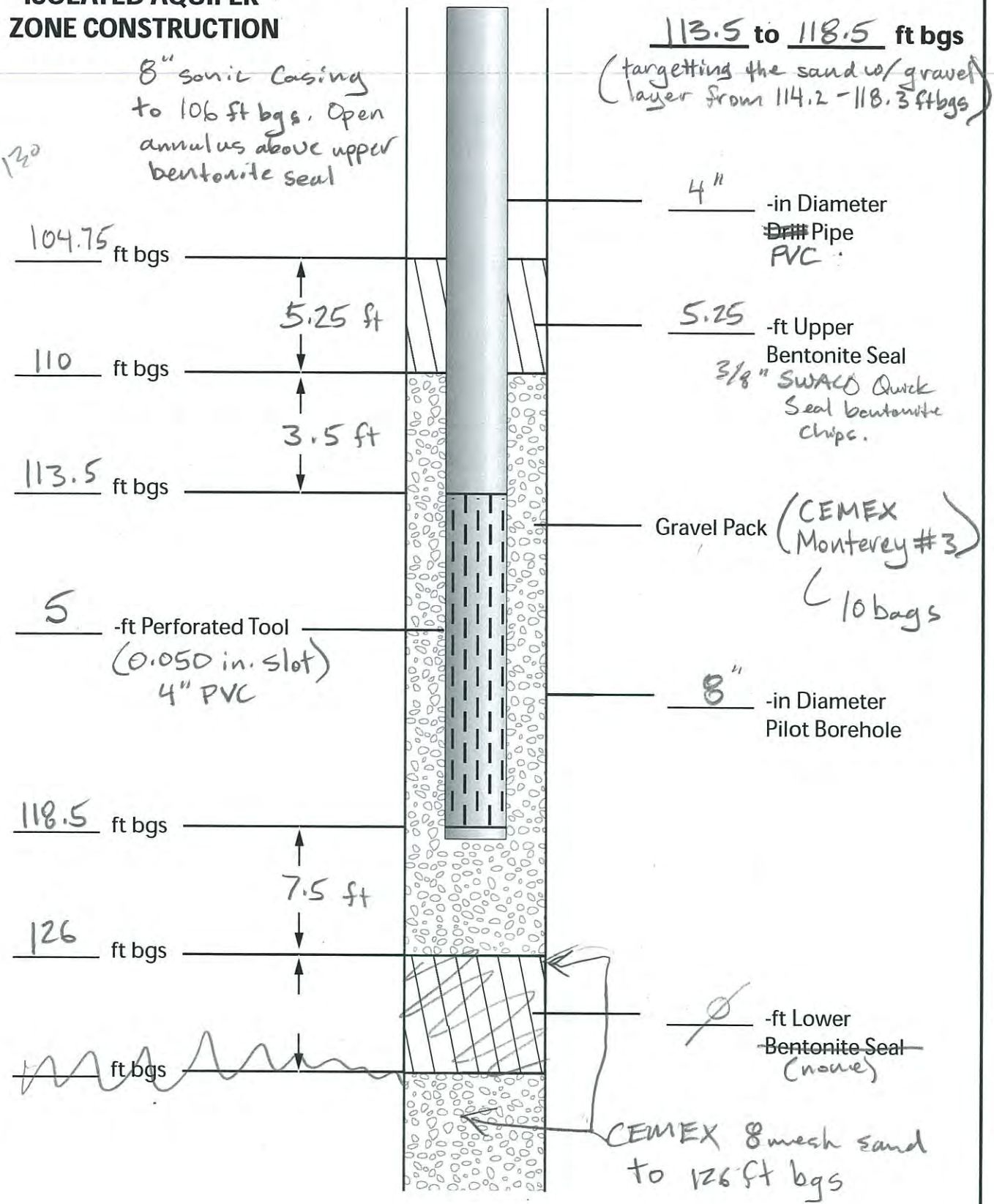
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone#1 As-built

Zone No. 1

113.5 to 118.5 ft bgs
(targetting the sand w/ gravel layer from 114.2 - 118.3 ftbgs)



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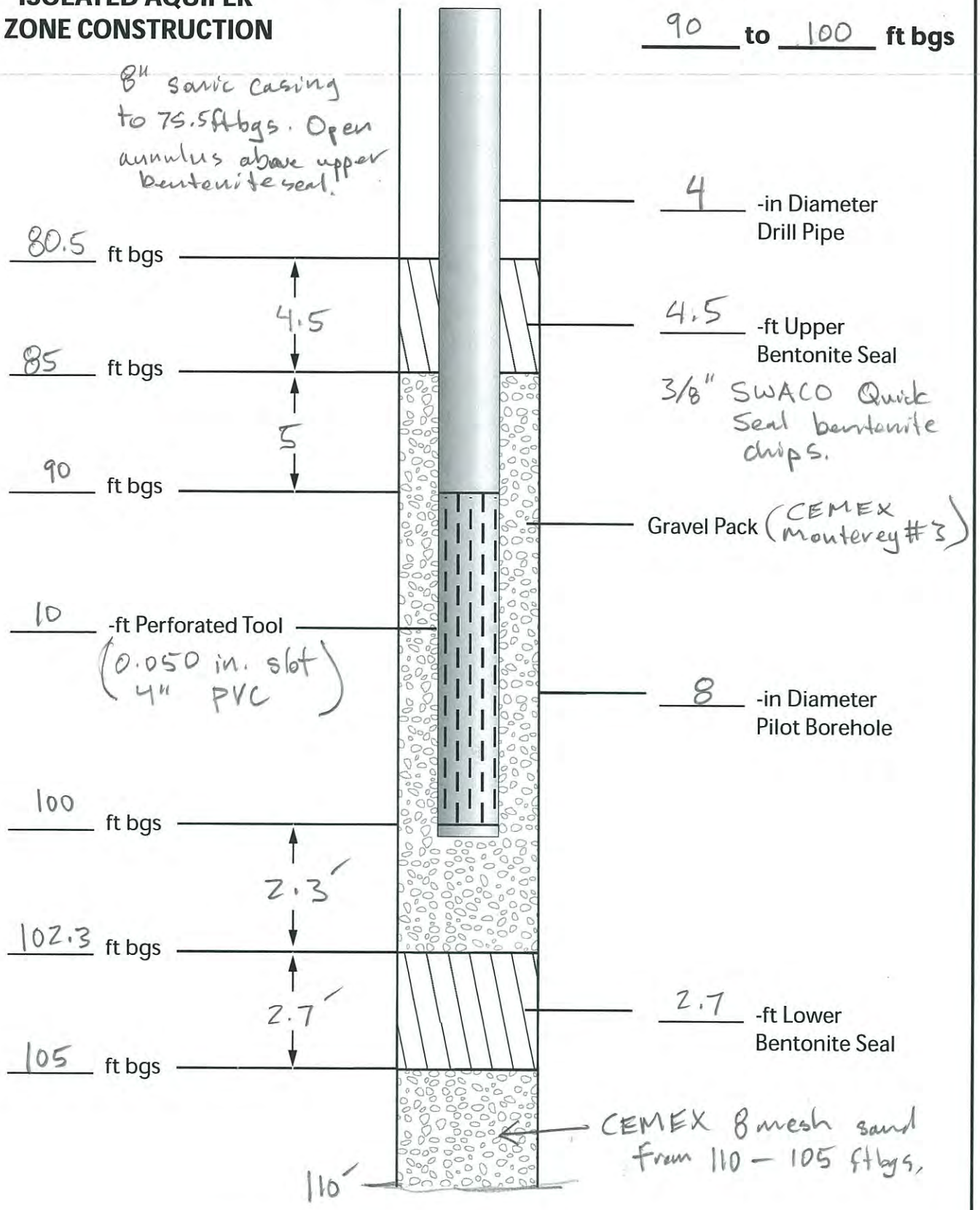
Client: RBF Consulting Inc.
Well Name/Number: MPWSP Exploratory Borehole ML-1
Date: 10-5-13 / Sat

Zone #2 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 2

90 to 100 ft bgs



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Client: RBF Consulting Inc.

Well Name/Number: MPWSP Exploratory Borehole ML-1

Date: 10-7-13/Mon

Zone #1 (113.5 - 118.5 ftbgs)

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 106 ft bgs
Static WL: 9.6 ft brp
RP: 7.1 ft agls

Logged By: N. Reynolds (GSSI); Cascade Drilling
Test Date: 10-5-13 / Sat
Screened Interval: 113.5 - 118.5 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 97 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal x 1)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
10:10	0	9.6	0	7597.6	0	start pumping @ 6gpm. turbid but not sandy							
10:15	5	58.6	49.0	7685.4	17	Turb improving							
10:20	10	59.0	49.4	7769.5	16.8	↑ Q							
10:22	12					↓ Q stability due to drawdown close to pump							
10:25	15			7920.1		Turbidity improving							
10:31	21					↓ Q. sucking air. Turb ok. No							
10:32	22	103.0	93.4	8101.2	22	No aeration							
10:38	26	102.1	92.5		20	↓ Q again. Turb ok							
10:50	40					↓ Q. sucking air. Lower pump 2 ft to 99 ftbgs							
11:12	63	sounder issues?				obstruction getting W.L. @ 97.9 ftbgs							
11:15	65			8978.5		Turn pump off							
11:20:40				8978.5		Pump on							
11:23	73	25.5	15.9		10.3	adjust sounder							
11:26	76				15.3	↑ Q to 15.3 gpm							
11:27	77				17.8	↑ Q to 17.8 gpm							
11:35	85	68.7	59.1			W.L. beginning to stabilize.							12.7
12:38:	18			9210.0	ø	Pump off. Cascade stop to install smaller pump.							
13:09		11.25	1.65		ø	SWL after pulling pump.							

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

See page 2 →

Zone # 1 (113.5 - 118.5 ft bgs)

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YSI Pro Series

ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1 (113.5 - 118.5 ft bgs)

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 106 ft bgs
Static WL: 11.7 ft brp ← 2nd static
RP: 7.1 ft agls
New static

Logged By: N. Reynolds (GSSI); Cascade Drilling
Test Date: 10-5-13 / Sat
Screened Interval: 113.5 - 118.5 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 105 ft bgs ← 2nd Pump (Small flow)

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal x 1)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L) sensor bad	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV) sensor bad	Turbitity (NTU)	Salinity (ppt)
14:00:50	0	11.7	0	9215.5			Pump on.							
14:01							↓Q							
14:04	3	34.5	22.8		12.7								70.0	
14:07	6				11.7		↑Q							
14:15	14	36.6	24.9		13.8									
14:23	22	38.7	27.0	9500.0	~14	17.0	—	35842	30358	23302.5	6.83	—	5.75	
14:31	30	39.3	27.6	9611.8	14.0	16.9	—	35793	30280	23270.0	6.87	—	3.26	22.63
14:40	39	40.15	28.45	9737.4	14.0	17.0	—	35729	30299	23231.0	6.87	—	2.80	22.60
14:50	49	40.05	28.35	9876.5	13.9	16.9	—	35758	30195	23231.5	6.88	—	1.74	22.60
15:00	59	40.33	28.63	10,015.8	13.9	16.9	—	35696	30156	23198.5	6.89	—	1.26	22.55
15:10	69	40.7	29.0	10,155.5	14.0	17.0	—	35615	30180	23140.0	6.89	—	1.14	22.51
15:20	79	40.84	29.14	10,294.2	13.9	17.0	—	35557	30114	23107.5	6.91	—	1.06	22.47
15:30	89	41.0	29.3	10,433.4	13.9	17.0	—	35497	30048	23075.0	6.91	—	1.16	22.41
15:40	99	41.2	29.5	10,572.5	13.9	17.0	—	35429	30002	23029.5	6.91	—	1.04	22.38
15:50	109	41.65	29.95	10,711.4	13.9	16.9	—	35362	29915	22984.0	6.91	—	1.21	22.33
16:00	119	41.6	29.9	10,850.3	13.9	17.0	—	35300	29875	22964.5	6.91	—	0.88	22.30
16:10	129	41.75	30.05	10,989.2	13.9	17.0	—	35270	29827	22919.0	6.91	—	0.75	22.26
16:27	146	41.95	30.25	11,225.1	13.9	16.9	—	35169	29716	22847.5	6.92	—	0.70	22.21
16:45	Water samples collected for laboratory analysis. Placed on ice.													
17:47	226	42.62	30.92	12,356.2	14.1	16.7	—	34707	29195	22561.5	6.91	—	0.42	21.87

Stabilization Criteria: 17:54:43 12,462.0 Turn pump off. 4864.4 gallons pumped total.

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2 (90-100 ft bgs)

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-1
Sonic Casing Dia: 8 in Sonic Casing Depth: 75.5 ft bgs
Static WL: 9.50 ft brp
RP: 7.1 ft agl

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 10-7-13 / Mon
Screened Interval: 90-100 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 80 ft bgs ← smaller pump

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal x 1)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Sal ppt
14:09:43	0	9.50	0	12,460.0	∅		pump on. Turbid, but not sandy. 15.8 gpm							
14:13	3	~63	53.5		15.8		↓Q W.L. dropping quickly							
14:15	5	61.5	52.0		11.0									
14:17	7						↑Q	14:18 ↑Q to 14.8 gpm						
14:27	17						↓Q	W.L. approaching pump 13 gpm						
14:55	45						sucking air. W.L @ pump. ↓Q. Sulfur smell to water.					10.9 gpm		
15:26	136	77.8	70.7	13,409.3	11.1	17.0	—	628	532	409.50	7.21	—	12.5	0.31
		Water is very		aerated/milky. Sulfer smell.										
15:41	151	78.9	69.4	13,573.3	10.9	17.0	—	630	534	409.50	7.22	—	10.0	
15:50	160	79.3	69.8	13,671.3	10.9	16.9		643	544	416.00	7.23		9.79	0.31
16:08	178	79.9	70.4	13,867.3	10.9	16.9		646	546	422.50	7.23		8.11	0.32
16:20	190	80.3	70.8	13,997.7	10.9	16.9		645	545	422.50	7.23		9.20	0.32
16:33	203	74.4	64.9	14,127.7	9.9	17.0		644	545	422.50	7.23		5.53	0.32
16:56	226	74.4	64.9	14,352.6	9.8	16.9		646	545	422.50	7.23		5.29	0.32
17:11	241	74.65	65.15	14,499.1	9.8	16.8		646	545	422.50	7.23		5.73	0.32
17.23	↓Q slightly													
17:40	270	64.15	54.65	14,755.0	7.9	16.8		645	545	422.50	7.23		1.82	0.32
18:04	294	64.00	54.50	14,946.8	8.0	16.8		645	544	422.50	7.24		2.06	0.32
18:20	310	64.20	54.70	15,074.5	8.0	16.8		647	545	422.50	7.24		2.52	0.32
19:01	351	64.8	55.30	15,410.1	8.2	16.9		646	546	422.50	7.24		4.48	0.32

19:14 Pump off. 15,551.0

18:25 Take WQ samples for lab analysis.

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

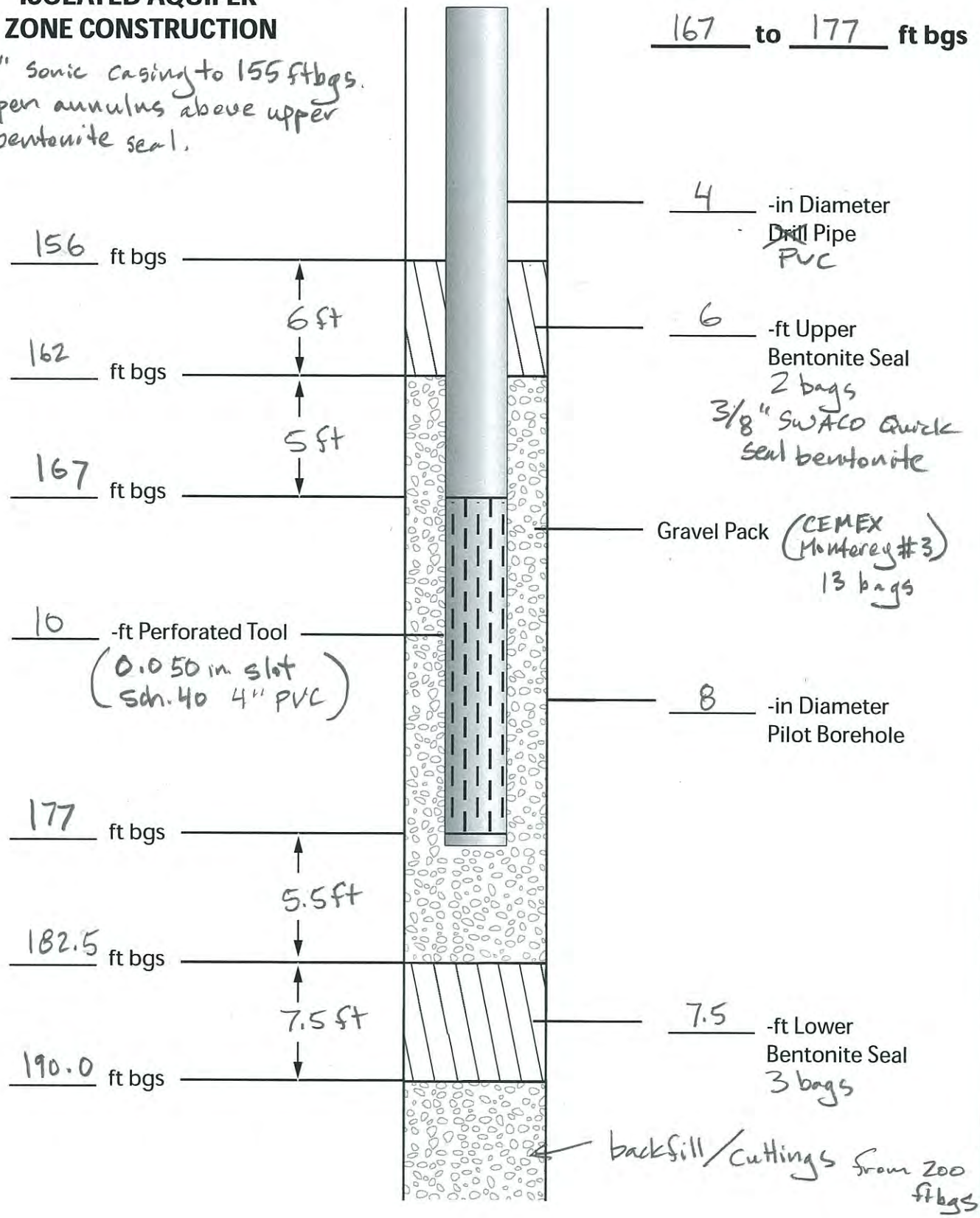
Zone #1 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 1

167 to 177 ft bgs

8" Sonic casing to 155 ftbgs. Open annulus above upper bentonite seal.



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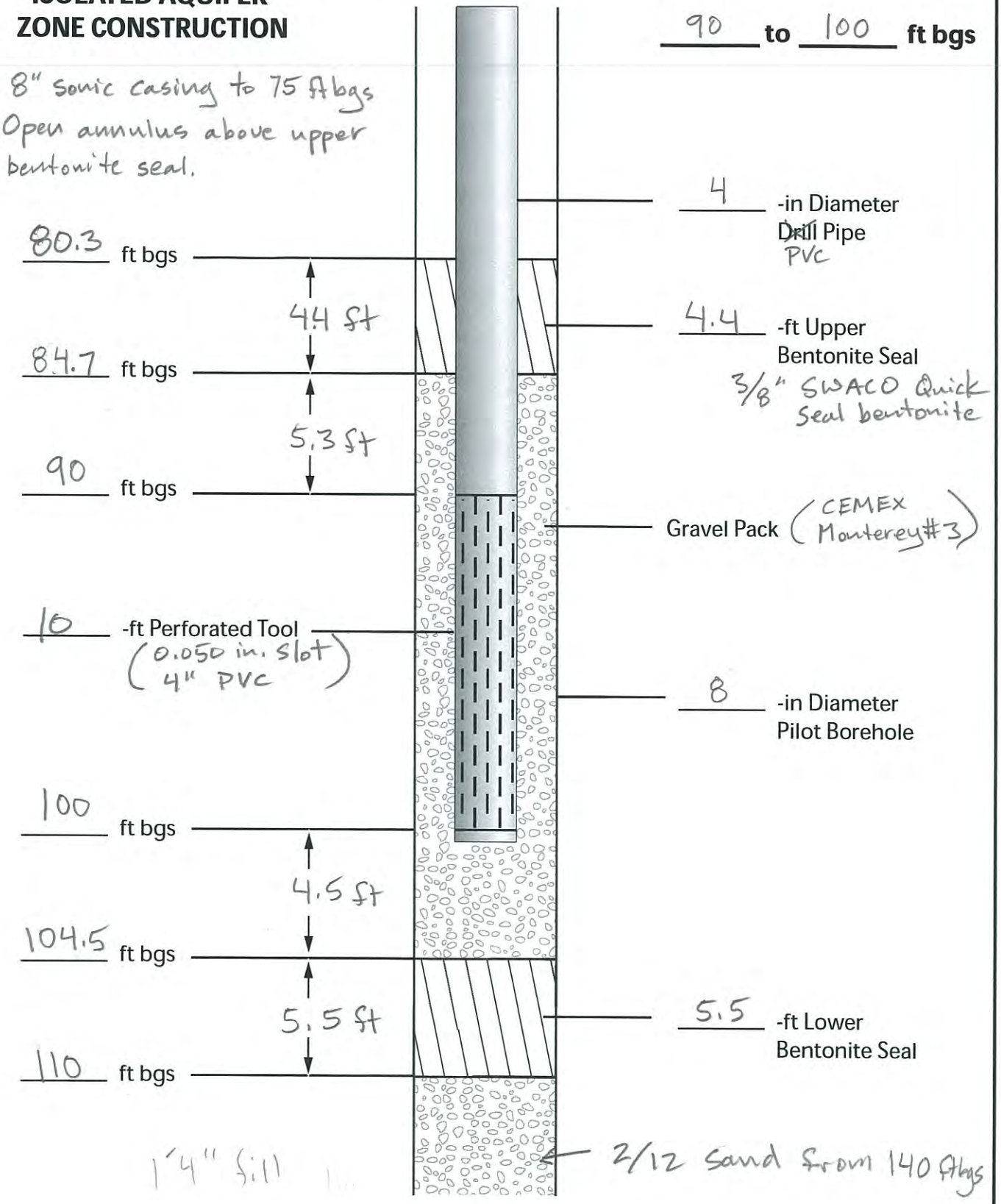
Zone#2 As-Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 2

90 **to** 100 **ft bgs**

8" sonic casing to 75 ft bgs
Open annulus above upper bentonite seal.



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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1 WCL.

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-2 (Pel Mar Fisheries)
Sonic Casing Dia: 8 in Sonic Casing Depth: 155 ft bgs
Static WL: 6.12 ft brp ← 2nd Static = 9.80 ft brp
RP: 6.0 ft ags (TOC)

Logged By: N. Reynolds (GSSI) & Cascade
Test Date: 12-17-13 Tue
Screened Interval: 167 - 177 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 165 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp) (9.8 ft)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
10:10:23	0	6.12	0	51134.6	Pump on to test polarity & DO determination.								
10:13	3	90.0	84.0		21.8								
10:17	7	138.0	132.0		~22	↓Q to 13 gpm							
10:23	13	123.5	117.5	Rolled back	14.3								
10:33	23			51489.0	Pump off. Switch to smaller pump.				354.4	gallons	pumped.		
13:08:10	0	9.80	new static	51461.9	Pump on @ 14.8 gpm								
13:11	3	59.3	49.5		14.8	some aeration to water.							
13:17	9	88.0	78.2		14.8								
13:20	12	91.2	81.4	51619.1	~14.8	17.8	0.2	34190	29464	23249.2	6.93	-28.3	12.4
13:24	Pump off to fix hose leak.			51666.5	~14.8								
13:32	Pump on. Adjust Q.			~13.3 gpm.									
13:38	6	94.8	85.0		15.6	↑Q to 17.1 gpm			13:43	↑Q to	18.1 gpm		
13:50	18	130.4	120.6	51982.6	17.8	17.6	1.2	34195	29420	23276.4	6.90	-76.7	21.2
14:00	28	133.3	123.5	52160.4	17.8	17.6	0.4	34484	29612	23453.2	6.92	-94.9	9.79
14:10	38	134.0	124.2	52337.8	17.7	17.6	0.2	34566	29656	23500.8	6.91	-99.0	8.12
14:20	48	134.6	124.8	52515.0	17.7	17.5	0.1	34591	29665	23521.2	6.91	-100.3	5.80
14:30	58	135.0	125.2	52692.1	17.7	17.5	0.1	34614	29682	23534.8	6.90	-100.5	5.80
14:40	68	135.4	125.6	52869.3	17.7	17.5	0.0	34638	29662	23562.0	6.89	-100.6	3.46
14:50	78	135.5	125.7	53046.2	17.7	17.4	0.0	34651	29655	23562.0	6.87	-100.7	2.81
15:00	88	135.7	125.9	53223.1	17.7	17.4	0.0	34672	29638	23575.6	6.87	-100.1	2.44

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow thru cell = 1081.5 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-2
Sonic Casing Dia: 8 in Sonic Casing Depth: 155 ft bgs
Static WL: 9.80 ft brp
RP: 6.0 ft ags

Logged By: N. Reynolds (GSSI) & Cascade WrL.
Test Date: 12-17-13 / Tue
Screened Interval: 167 - 177 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 165 ft bgs

0.68 Constant

Time	Time Step (min)	Water Level (ft brp) 9.8ft	Drawdown (ft)	Totalizer (gal) 53223.1	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
15:10	98	problem w/ sounder		53400.1	17.7	17.4	0.0	34688	29647	23589.2	6.86	-99.8	1.33
15:20	108	"	"	53577.1	17.7	17.4	0.0	34697	29650	23589.2	6.86	-99.8	3.50
15:30	118	136.7	126.9	53753.9	17.7	17.4	0.0	34716	29649	23602.8	6.86	-99.5	2.75
15:40	128	136.8	127.0	53930.8	17.7	17.4	0.0	34710	29643	23602.8	6.86	-98.9	1.94
15:50	138	136.9	127.1	54107.7	17.7	17.4	0.0	34717	29650	23609.6	6.86	-99.5	2.03
16:00	148	137.0	127.2	54284.5	17.7	17.4	0.0	34716	29646	23602.8	6.86	-99.2	1.70
16:10	158	137.2	127.4	54461.2	17.7	17.3	0.0	34729	29654	23616.4	6.86	-99.5	2.36
16:20	168	137.25	127.45	54638.1	17.7	17.4	0.0	34728	29657	23616.4	6.86	-99.2	2.78
16:30	178	137.24	127.44	54814.8	17.7	17.3	0.0	34734	29656	23616.4	6.86	-99.8	1.72
16:40	188	137.45	127.65	54991.6	17.7	17.3	0.0	34730	29650	23616.4	6.86	-99.2	1.68
16:45	193	Collect WQ samples for lab analysis.					Samples placed on ice.						
17:15	223	138.5	128.7	55615.9	17.8	17.3	0.0	34760	29660	23636.8	6.86	-95.7	3.40
17:26	234			55818.4	Pump off.								
							Total Volume pumped = 4683.8 gallons.						

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: MPWSP ML-2 (Del Mar Fisheries)
Sonic Casing Dia: 8 in Sonic Casing Depth: 75 ft bgs
Static WL: 9.6 ft brp (3.6 ft bgs)
RP: 6.0 ags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade
Test Date: 12-18-13 / Wed
Screened Interval: 90 - 100 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 80 ft bgs (intake)

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
15:45:19	0	9.6	0	55818.2	~28.2	Pump on.							
15:47	2	35.0	25.4		~28.2								
15:50	5	35.9	26.3	55964.6	~28.2								471
16:00	15	36.1	26.5	56246.2	28.2								25.2
16:10	25	36.2	26.6	56527.8	28.2								12.5
16:23	38	36.3	26.7	56893.9	28.2								5.12
16:25 &	16:26	↑ Q				Max possible rate w/ pump							
16:27	42	47.0	37.4		42.4	↑ Q	to ~48 gpm	50.6 ft brp W.L.			16:31 ↑ Q		
16:32	47	55.3	45.7	57258.7	50.4								
16:35	50	55.7	46.1	57408.1	49.8								81.5
16:40	55	56.6	47.0	57656.5	49.7								27.6
16:45	60	57.1	47.5	57904.4	49.6								20.7
16:50	65	57.6	48.0	58151.9	49.5								16.6
16:52	67			58242.0	Pump off.	Volume pumped = 2,423.8 gallons							

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2 W.L.'s

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-2 (Del Mar Fisheries)
Sonic Casing Dia: 8 in Sonic Casing Depth: 75 ft bgs
Static WL: 7.6 ft brp (1.6 ft bgs)
RP: 6.0' ags (top of 8" casing) high tide = 10:35 5.12'

Logged By: N. Reynolds (GSSI) & Cascade
Test Date: 12-19-13 / Thu
Screened Interval: 90 - 100 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 80 ft bgs 0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
8:22:10	0	7.6	0	58241.0	Pump on 19.6 gpm			08:24 ↑ Q to 25.1 gpm					
8:26	4	27.7	20.1	58324.8	25.1	water slightly aerated.							22.6
8:30	8	28.5	20.9	58426.0	25.3								5.03
9:15	53	29.5	21.9	59565.0	25.3	16.3	0.1	10573	8813	7208.0	6.68	73.3	1.95
9:25	63	29.62	22.02	59819.5	25.5	16.3	0.0	10705	8946	7289.6	6.68	63.5	1.43
9:35	73	29.57	21.97	60074.1	25.5	16.4	0.0	10834	9049	7364.4	6.67	55.4	1.35
9:45	83	29.54	21.94	60328.4	25.4	16.4	0.0	10937	9145	7439.2	6.67	49.9	1.22
9:55	93	29.53	21.93	60582.4	25.4	16.4	0.0	11079	9253	7534.4	6.67	44.6	1.03
10:05	103	29.62	22.02	60836.4	25.4	16.4	0.0	11151	9335	7582.0	6.67	40.7	0.77
10:15	113	29.60	22.00	61090.5	25.4	16.4	0.0	11240	9414	7643.2	6.67	37.4	0.63
10:25	123	29.62	22.02	61344.9	25.4	16.4	0.0	11317	9480	7711.2	6.67	34.7	0.52
10:35	133	29.64	22.04	61599.0	25.4	16.4	0.0	11413	9549	7772.4	6.67	32.3	0.50
10:45	143	29.72	22.12	61853.1	25.4	16.4	0.0	11508	9635	7826.8	6.67	30.1	0.72
10:45	Begin	collecting WQ	samples for	laboratory	analysis.	Samples	placed	on	ice.				
11:01	159												0.51
11:22	180	29.97	22.37	62802.6	25.7	16.5	0.0	11825	9896	8037.6	6.68	22.1	0.58
11:30:28	188			63017.3	25.4	Pump	off.	Total Volume	pumped	= 4776.3	gallons		
12:25	243	8.00	0.40	-	0								

rising tide

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow thru cell = 1148.5 mL/min

Form Created: 29-Sep-13

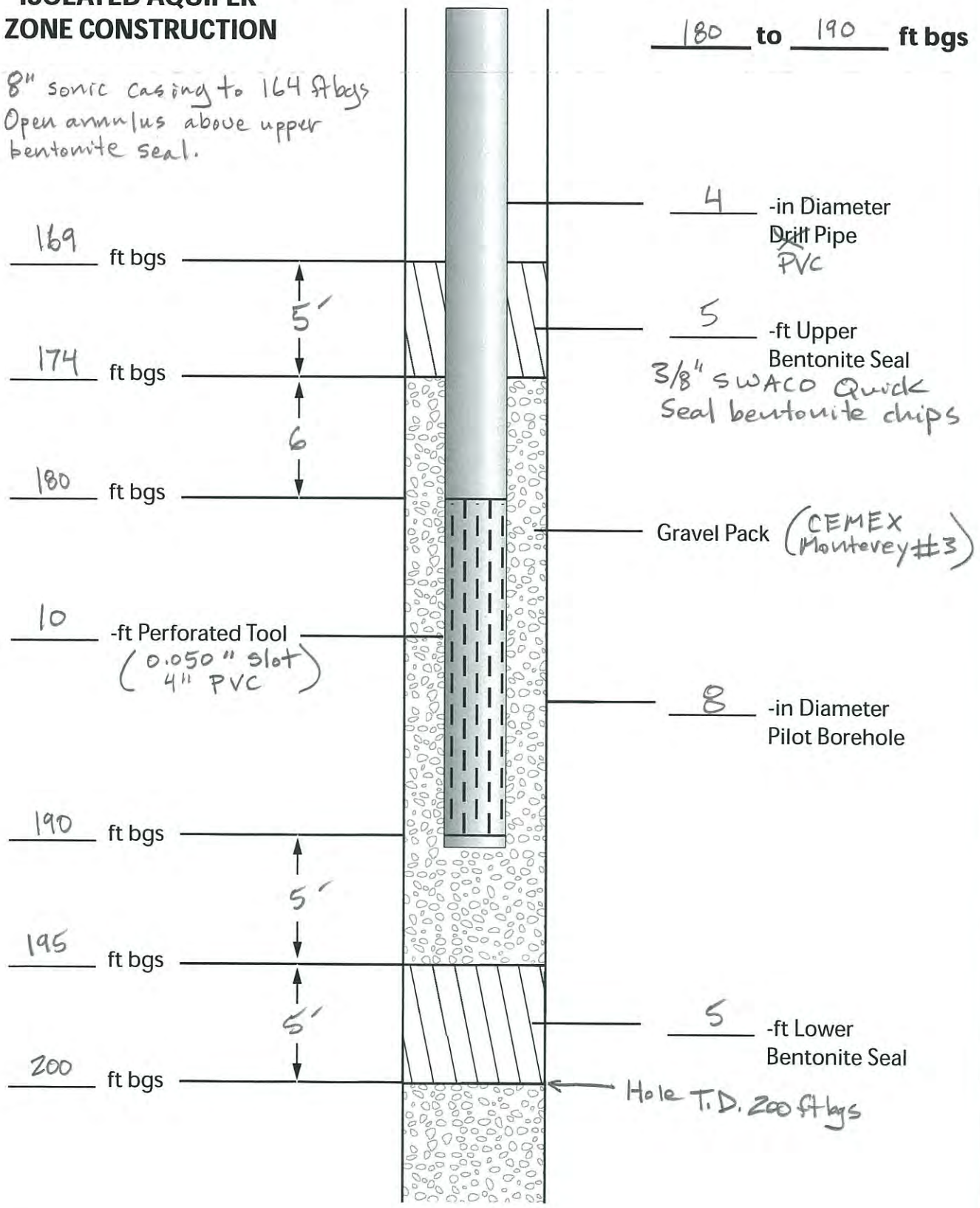
Zone #1 - As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 1

180 to 190 ft bgs

8" sonic casing to 164 ft bgs
Open annulus above upper bentonite seal.



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Client: RBF Consulting Inc.
Well Name/Number: MPWSP Exploratory Borehole ML-3
Date: 1-10-14 / Fri

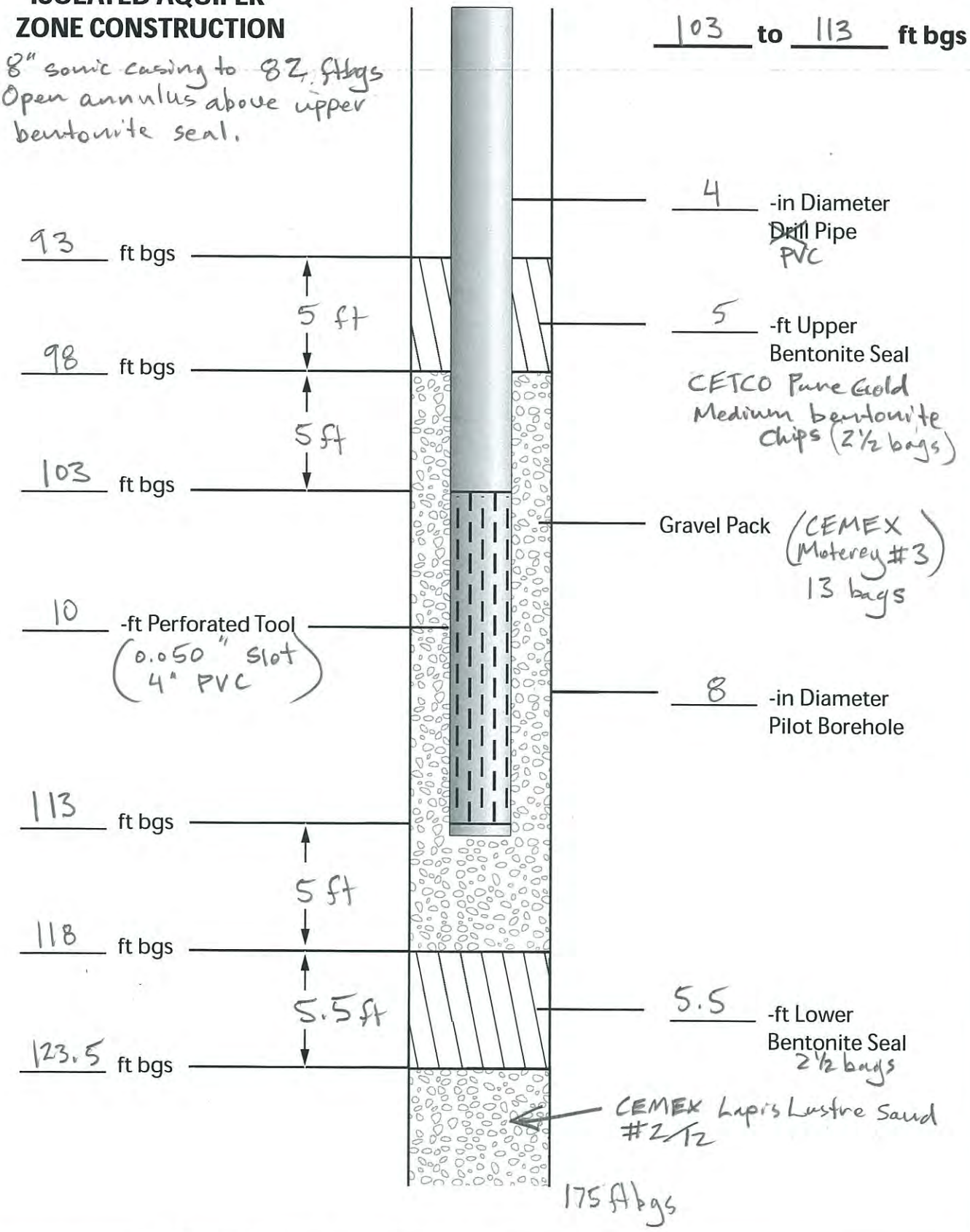
Zone #2 - As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 2

103 to 113 ft bgs

8" sonic casing to 82 ftbgs
Open annulus above upper bentonite seal.



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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-3 (Hwy 1 South)
Sonic Casing Dia: 8 in Sonic Casing Depth: 164 ft bgs
Static WL: 14.0 ft brp (8 ft bgs)
RP: 6.0 ft ags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 1-10-14 / Fri
Screened Interval: 180-190 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 164.0 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
14:41:21	0	14.0	0	63016.9	Pump on @ 2	3.5 gpm							
14:44	Stop pumping.	PWL reaches pump.											
14:54:52	0 Resume pumping			63057.9	@ ~2 gpm								
14:58	Stop pumping.	PWL reaches pump.			Recovery is slow. Crew pull pump and swab screen.								
16:56		38.7		63057.9	Recovering.	Reinstall pump to 184 ft bgs.							
16:57	Pump	on @ ~	3.5 gpm	. Turbid.									
17:00		138.0		8.9 gpm									
17:03	Stop pumping.			63113.5	PWL draws down to pump @ 2.5 gpm.								

0.68 constant

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

5/(33.84/60)

Form Created: 29-Sep-13

365 gallons = 3 well Vol.

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-3 (Hwy 1 South)
Sonic Casing Dia: 8 in Sonic Casing Depth: 164 ft bgs
Static WL: 18.57 ft brp (12.57 ft bgs)
RP: 6.0 ft ags (top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling (W.L.'s)
Test Date: 1-11-14 / Sat
Screened Interval: 180-190 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 184 & 174 ft bgs

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Total gallons
8:21:05	0	18.57	-	63083.3	Pump on @ ~3.8 gpm. Turbid.									
8:26	5	66.0	47.43											
8:31	10	99.0	80.43		3.2									
8:36	15	126.8	108.23		3.2				decreasing					
8:40	19	139.5	120.93	63147.3	silty. Aerated.									
8:45	24	175.0	156.43			19.8	0.6	7744	6955	5222.4	7.43	-332.1	turbid	
~8:46	25	Pump off.		63166.5	W.L. approaching pump intake.									
8:54:30	33	139.9	121.33	Recovering	W.L. (slowly recovering)									
10:54	153	65.7	47.13	Recovering	W.L. after swabbing. Raise/stall pump to 174 ft bgs (intake)									
12:20:20	0	41.2	22.63	63166.5	Pump on. 8.2 gpm.			12:21↓Q to 4.5 gpm		12:24↓Q to 2.8 gpm		Turbid.		
12:24	4	95.6	77.03		4.5									
12:30	10	sounder	stuck	63204.6	~2.8									
12:36	16			63215.0	Stop Pumping. PWL @ pump.									
12:37:30		Resume	pumping.											
12:39	19	139.7	121.13											
12:41	21	154.0	135.43	63222.2	2.2	19.7	5.4	9665	8678	6534	7.31	-97.9	turbid.	
12:45	25	169.0	150.43	63231.4	2.3	20.0	5.2	8976	8102	6038	7.31	-100.2	" "	64.9
12:46	26	Stop Pumping. PWL @ pump.												
13:04:15	44	Resume	pumping. ~2.0 gpm											
13:06	46			63233.0	2.0									

15:47 573
11:12 573

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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CONFIDENTIAL DRAFT
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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-3 (Hwy 1 South)
Sonic Casing Dia: 8 in Sonic Casing Depth: 164 ft bgs
Static WL: 18.57 ft brp
RP: 6.0 ftags

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 1-11-14/Sat
Screened Interval: 180-190 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 174 ft bgs

Time	Time Step (min) (12:20)	Water Level (ft brp) (18.57)	Drawdown (ft)	Totalizer ( ) (63166.5)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Total Gallons
13:07	47	151.6	133.03		2.0									
13:10	50	159.5	140.93	63240.7	1.9									
13:13:30	53	168.0	149.43	63247.7	Stop pumping. PWL approaching pump									81.2
14:00:30	100	95.7	77.13	63247.7	Resume pumping @ 3.1 gpm. 14:04 ↓ Q to								aerated/milky	
14:05	105	141.5	122.93	63261.9	2.8	19.3	4.8	11,483	10193	7799.6	7.29	-90.1	23.3	
14:10	110	149.0	130.43	63269.3	1.5	19.0	2.9	11,513	10189	7820.0	7.31	-103.9	58.1	
14:15	115	156.2	137.63	63276.2	1.4	19.4	2.5	11,346	10141	7684.0	7.31	-113.6	470	
14:20	120	162.4	143.83	63282.7	1.3	20.0	2.1	10,647	9640	7235.2	7.33	-123.4	432	
14:25	125	167.1	148.53	63288.8	1.2	20.8	1.7	10,578	9726	7194.4	7.32	-128.1	426	
14:28:15	128			63292.1	Stop Pumping. PWL approaching pump									125.6
14:53	153	116.0	97.43											
14:55:47	156			63292.1	Resume pumping @ 3.6 gpm. 14:58 ↓ Q									
15:00	160	145.1	126.53	63298.2	~2.1	20.6	3.1	11079	10282	7738.4	7.32	-118.6	23.0	
15:05	165	160.8	142.23	63308.8	2.1	19.9	1.9	11564	10439	7860.8	7.30	-120.9	31.9	
15:09	169	169.0	150.43	63316.2	2.1	Stop Pumping. PWL approaching pump								149.7
15:59:44	220			63316.2	Resume pumping. Recovering W.L. 96.6 ft brp							~2 gpm		
16:00	220	Begin	collecting	Water Samples for laboratory analysis										
16:02	222				~2 gpm	20.1	0.6	11848	10722	8058	7.31	-139.3	5.57	
16:05	225	148.5												
16:09:05	229			63348.0	Stop Pumping. PWL approaching pump									181.5

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-3 (Hwy 1 South)
Sonic Casing Dia: 8 in Sonic Casing Depth: 164 ft bgs
Static WL: 18.57 ft brp
RP: 6.0 ft ags

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 1-11-14 / Sat
Screened Interval: 180-190 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 174 ft bgs

Time	Time Step (min) (12:20)	Water Level (ft brp) (18.57)	Drawdown (ft)	Totalizer (gal) (63166.5)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)	Total gallons
16:22		126.2		63343.4	Recovering W.L. (Totalizer wound back)									
16:22:52	Pump on @		~1.9 gpm			20.2	5.0	11163	10253	7252	7.33	-108.5	24.5	
16:28:45				63357.5	Step Pumping: PWL approaching pump									191.0
16:48:11	Pump on @		~2.0 gpm											
16:54					~2.0	19.6	2.9	11438	10196	7697	7.33	-126		
16:57:10	Stop pumping.	PWL by pump		63380.0										213.5
17:15:06	Pump on @ ~2 gpm													
17:17						20.2	4.7	10952	9992	7656	7.35	-121.3	92.3	
17:20					1.5	20.3	4.1	11751	10694	7990	7.27	-99.7		
17:23		173.4				19.7	3.7	11704	10507	7942.4	7.28	-105.8	65.2	
17:25:42	Pump off. Complete sampling			63397.7										231.2

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2 W.L.'s

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-3 (Hwy 1 South)
Sonic Casing Dia: 8 in Sonic Casing Depth: 82 ft bgs
Static WL: 18.86 ft brp (10.86 ftbgs)
RP: 8.0 ft ags (Top of 8" casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 1-13-14/Mon
Screened Interval: 103-113 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 95 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
9:03:55	0	18.86	0	63473.0	Pump on @ 3.5 gpm. Water clear. 0906:50 ↓Q slightly								
9:11	7	49.9	31.04		2.2	9:11:34 ↑Q slightly to 2.4 gpm.							
9:15	11	57.1	38.24		2.4	↑Q slightly. Water aerated. No odor.							11.6
9:21	17	67.2	48.34		2.8								8.90
9:55	51	76.3	57.44	63618.0	3.1	19.8	1.3	7420	6687	5045.6	6.90	-116.4	2.91
10:05	61	78.3	59.44	63649.1	3.1	19.7	0.1	7385	6637	5018.4	6.96	-136.3	24.0
10:15	71	79.9	61.04	63680.4	3.1	19.7	0.1	7402	6653	5032.0	6.96	-142.1	4.56
10:25	81	79.8	60.94	63711.8	3.1	19.7	0.1	7394	6650	5025.2	6.95	-145.3	4.17
10:35	91	79.7	60.84	63743.0	3.1	19.8	0.1	7387	6648	5025.2	6.95	-148.0	1.88
10:45	101	79.9	61.04	63774.2	3.1	19.8	0.1	7363	6632	5011.6	6.95	-150.0	2.10
10:55	111	80.3	61.44	63805.5	3.1	19.8	0.1	7368	6629	5011.6	6.95	-151.0	2.03
11:05	121	80.3	61.44	63836.7	3.1	19.8	0.1	7458	6714	5072.8	6.94	-151.6	1.51
11:15	131	80.3	61.44	63867.9	3.1	19.8	0.1	7434	6696	5052.4	6.94	-151.5	1.02
11:25	141	80.3	61.44	63899.0	3.1	19.8	0.1	7447	6709	5066.0	6.94	-151.7	0.96
11:35	151	80.2	61.34	63930.1	3.1	19.8	0.1	7439	6701	5059.2	6.94	-151.4	0.99
11:45	Begin	collecting	WQ	samples for	lab analysis.		Samples placed on ice.						
12:05	181	78.9	60.04	64029.3	3.3	19.8	0.0	7473	6721	5079.6	6.93	-149.4	7.24
12:13	189												2.58
12:18:05	194			64079.7	Pump	off.	Total Volume pumped = 606.7 gallons						
13:41	277	20.7	1.84										

Flow thru cell = 1218.5 mL/min

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

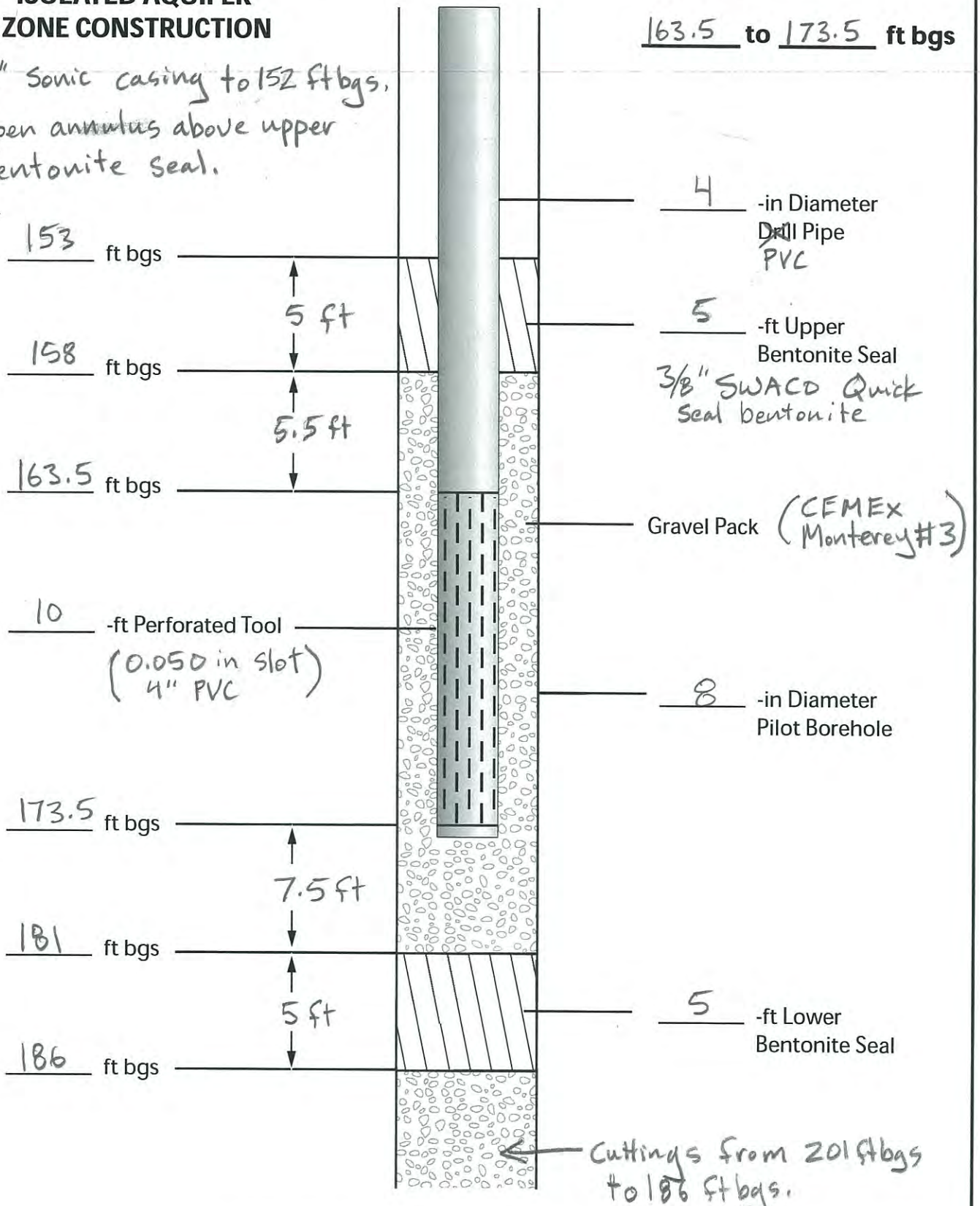
Zone #1 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 1

163.5 to 173.5 ft bgs

8" Sonic casing to 152 ft bgs. Open annulus above upper bentonite seal.



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Client: RBF Consulting Inc.

Well Name/Number: MPWSP ML-4 (Hwy 1 Middle)

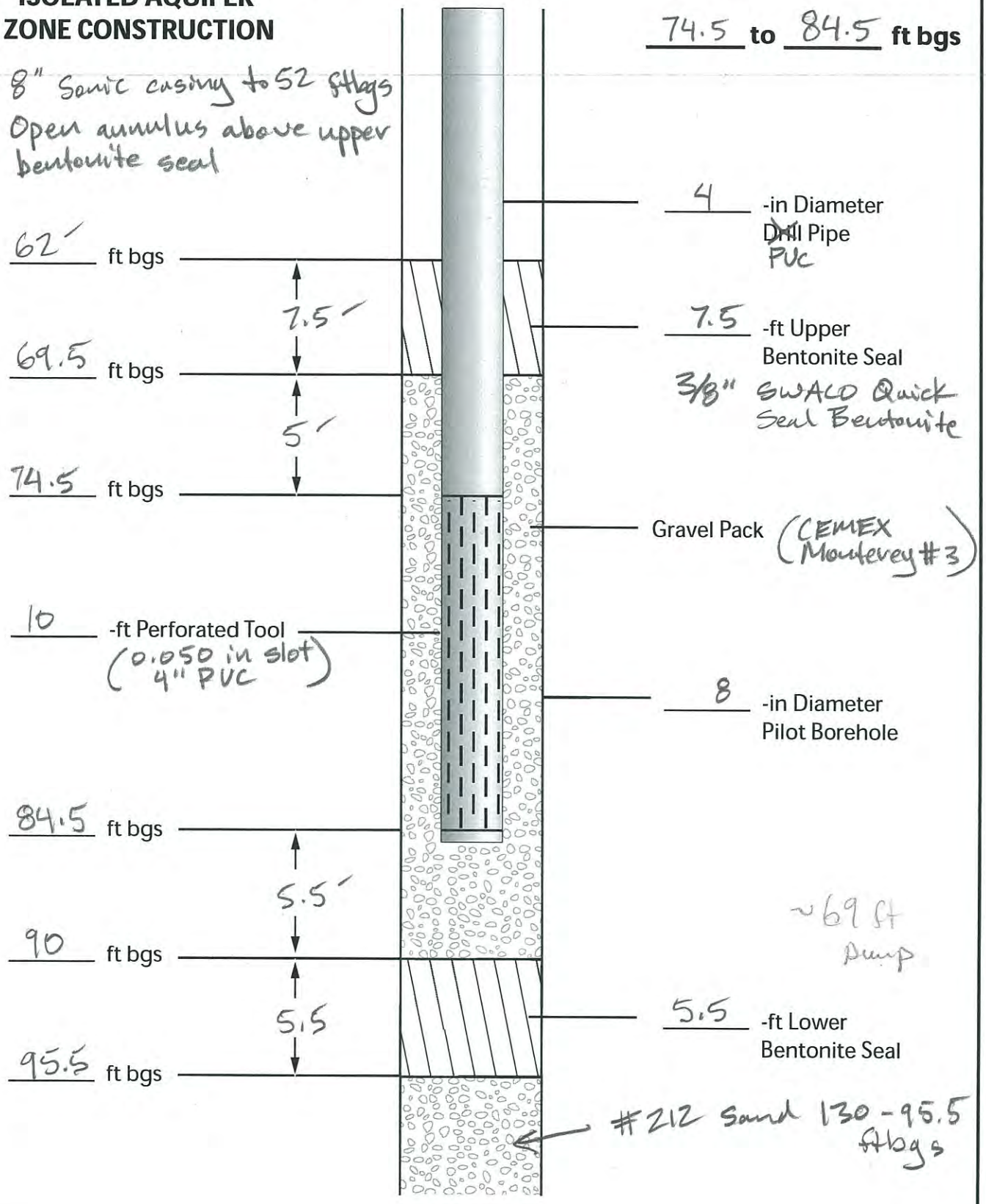
Date: 12-4-13 / Wed

Zone#2 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 2

74.5 to 84.5 ft bgs



GEOSCIENCE	Client: RBF Consulting Inc.
GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Well Name/Number: MPWSP ML-4 (Hwy 1 Middle) Date: 12-6-13 / Fri

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-4 (Hwy 1 Middle)
Sonic Casing Dia: 8 in Sonic Casing Depth: 152 ft bgs
Static WL: 35.0 ft brp (27.33 ftbgs)
RP: 7.67 ftags (top of casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 12-4-13 / Wed
Screened Interval: 163.5 - 173.5 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 153.5 ft bgs
Note: TDS constant Set to 0.68

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
14:21:33	0	35.0	0	36581.3	42.5	Pump on. ↓Q @ 14:23 (drawing down to pump)							
14:26		113.8	78.8	-	17.6								
14:29				↑Q to	18.4								
14:30		105.3	70.3	↑Q to	18.5								
14:35		108.6	73.6	↑Q to	20.2								
14:38		118.0 & dropping	83.0	↑Q to	22.7								
14:45		123.25	88.25		21.9								
14:58		123.4	88.40		22.0								
15:00		126.0	91.0	↑Q to	22.8								
15:17				↑Q to	~24								
15:35	73	135.2	100.2	38251.1	24.7	17.6	1.3	30316	26034	20617.60	6.74	49.6	5.13
15:45	83	133.8	98.8	38497.1	24.6	17.6	0.6	30410	26103	20678.8	6.75	17.2	5.63
15:55	93	136.9	101.9	38742.5	24.5	17.6	0.4	30298	26003	20746.8	6.76	-1.7	8.66
16:05	103	136.5	101.5	38993.7	25.1	17.6	0.1	30780	26410	20930.4	6.77	-10.8	5.11
16:15	113	136.2	101.2	39244.8	25.1	17.5	0.1	30802	26416	20944.8	6.77	-17.3	6.84
16:25	123	136.3	101.3	39495.8	25.1	17.5	0.0	30824	26422	20957.6	6.77	-24.3	4.67
16:35	133	135.6	100.6	39746.4	25.1	17.5	0.0	30832	26443	20964.4	6.77	-31.2	3.23
16:45	143	134.4	99.4	39996.0	25.0	17.5	0.0	30845	26438	20971.2	6.77	-37.4	5.16
16:55	153	135.5	100.5	40246.5	25.1	17.5	0.0	30853	26436	20978.0	6.78	-43.4	5.51
17:17	175	135.8	100.8	40799.8	25.2	17.5	0.1	30860	26445	20984.8	6.78	-53.8	3.89

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

762.5 mm Hg

Flow through cell 1190.5 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-4
Sonic Casing Dia: 8 in Sonic Casing Depth: 152 ft bgs
Static WL: 35.0 ft brp
RP: 7.67 ftags (Top of casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 12-4-13 / Wed
Screened Interval: 163.5 - 173.5 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 153.5 ft bgs

0.68 Constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
17:31	189	136.0	101.0	41152.8	25.2	17.5	0.1	30861	26473	20984.8	6.78	-60.1	3.20
17:40	198	136.2	101.2	41379.5	25.2	17.5	0.1	30865	26464	20984.8	6.78	-62.5	3.88
17:50	208	135.9	100.9	41631.9	25.2	17.5	0.1	30871	26469	20991.6	6.78	-64.8	3.77
18:00	218	136.2	101.2	41884.3	25.2	17.5	0.1	30856	26458	20984.8	6.78	-68.4	2.04
18:10	228	136.0	101.0	42136.2	25.2	17.5	0.1	30873	26468	20991.6	6.78	-70.1	2.94
18:20	238	135.7	100.7	42388.0	25.2	17.5	0.1	30873	26476	20991.6	6.78	-72.7	3.24
18:30	248	135.9	100.9	42640.0	25.2	17.5	0.1	30869	26467	20984.8	6.78	-75.3	4.05
18:40	258	135.2	100.2	42891.6	25.2	17.5	0.1	30865	26472	20984.8	6.78	-74.7	6.57
18:50	268	134.0	99.0	43142.5	25.1	17.5	0.1	30871	26478	20991.6	6.78	-76.5	5.45
19:00	278	133.7	98.7	43389.6	24.7	17.5	0.1	30865	26467	20991.6	6.78	-77.9	4.63
19:10	288	133.7	98.7	43637.1	24.8	17.5	0.1	30871	26437	20991.6	6.78	-80.0	9.43
19:20	298	134.1	99.1	43884.6	24.8	17.5	0.1	30867	26440	20991.6	6.78	-81.6	5.42
19:30	308	133.9	98.9	44131.9		17.5	0.1	30866	26451	20991.6	6.78	-83.1	9.59
19:37	315			44305.0	Turn off pump. Turbidity unstable. Will resume tomorrow.								
					7,724 gallons pumped								

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-4
Sonic Casing Dia: 8 in Sonic Casing Depth: 152 ft bgs
Static WL: 36.35 ft brp (28.68 ft bgs)
RP: 7.67 ft ags (top of casing)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 12-5-13 / thu
Screened Interval: 163.5 - 173.5 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 153.5 ft bgs

0.68 constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
7:56:04	0	36.35	0	44299.6	Pump on @		21.3 gpm.						
7:59	3	92.0	55.65										
8:13	17	93.2	56.85		17.9								
8:17	21			↑Q to	18.9								
8:19	23			↑Q to	19.6								
8:22	26	101.4	65.05	↑Q to	20.6								
9:00	64	103.1	66.75	45544.2	20.3	17.7	0.1				6.8	42.7	0.62
9:30	recalibrate YSI pH & Sp. Cond.												
09:40	104	103.5	67.15	46348.5	20.1	17.7	0.0	30680	26411	20855.6	6.77	16.8	0.39
09:50	114	103.3	66.95	46550.7	20.2	17.8	0.0	30678	26444	20855.6	6.76	2.8	0.50
10:00	124	103.7	67.35	46753.7	20.3	17.8	0.0	30674	26436	20855.6	6.76	-6.8	0.50
10:10	134	103.6	67.25	46956.7	20.3	17.8	0.0	30671	26437	20855.6	6.76	-13.8	0.48
10:25	Collect Water Quality samples for laboratory analysis. Place samples on ice.												
11:17	201	104.5	68.15	48324.1	20.4	17.8	0.0	30669	26448	20855.6	6.76	-39.5	0.63
11:24:40	~209			48479.1	Pump off.		Total Volume pumped today = 4179.5 gallons						

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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CONFIDENTIAL DRAFT
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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-4 (Hwy 1 Middle)
Sonic Casing Dia: 8 in Sonic Casing Depth: 52 ft bgs
Static WL: 35.8 ft brp (27.8 ftbgs)
RP: 8.0 ft ags (Top of 8")

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 12-6-13 / Fri
Screened Interval: 74.5 - 84.5 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 69 ft bgs

0.68 Constant

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
10:00	0	35.8	0	48465.4	9.5	Pump on.							
10:04	4	48.8	13.0	–	9.5								
10:07	7	49.6	13.8	–	9.1								
10:09	9	51.7	15.9	–	10.5	(↑Q @ 10:09)							
10:33	33	59.0	23.2	48855.7	14.4	17.4	0.7	11,694	9995	7962.8	6.65	-12.9	22.5
10:40	40	59.5	23.7	48956.3	14.4	17.4	0.5	12,042	10,295	8187.2	6.64	-34.4	15.5
11:15	75	61.1	25.3	49458.0	14.3	17.6	0.3	12,717	10,914	8649.6	6.59	-61.3	3.38
11:25	85	61.6	25.8	49601.5	14.4	17.6	0.2	12,780	10,965	8697.2	6.59	-64.6	2.75
11:35	95	62.0	26.2	49745.1	14.4	17.5	0.2	12,845	11,025	8731.2	6.58	-69.4	1.74
11:45	105	62.3	26.5	49888.5	14.3	17.6	0.1	12866	11,058	8765.2	6.57	-73.5	1.36
11:55	115	62.5	26.7	50031.9	14.3	17.7	0.1	12899	11,100	8765.2	6.57	-79.7	1.15
12:05	125	62.8	27.0	50175.2	14.3	17.7	0.1	12914	11,131	8792.4	6.57	-86.1	0.92
12:15	135	63.1	27.3	50318.7	14.4	17.7	0.1	12933	11,141	8799.2	6.57	-92.8	0.94
12:25	Collect WQ samples for laboratory analysis. Samples placed on ice. Note: water has sulfur odor.												
13:01	181	64.2	28.4	50986.1	14.5	17.7	0.1	12987	11,168	8840.0	6.56	-124.6	0.78
13:10	190	64.4	28.6										
13:11:56~192		Pump off.		51141.8									
				Total Volume pumped = 2,676.4 gallons									
13:51		40.75	4.95										
14:20		40.10	4.30										

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow Rate (YSI) = 1371 mL/min

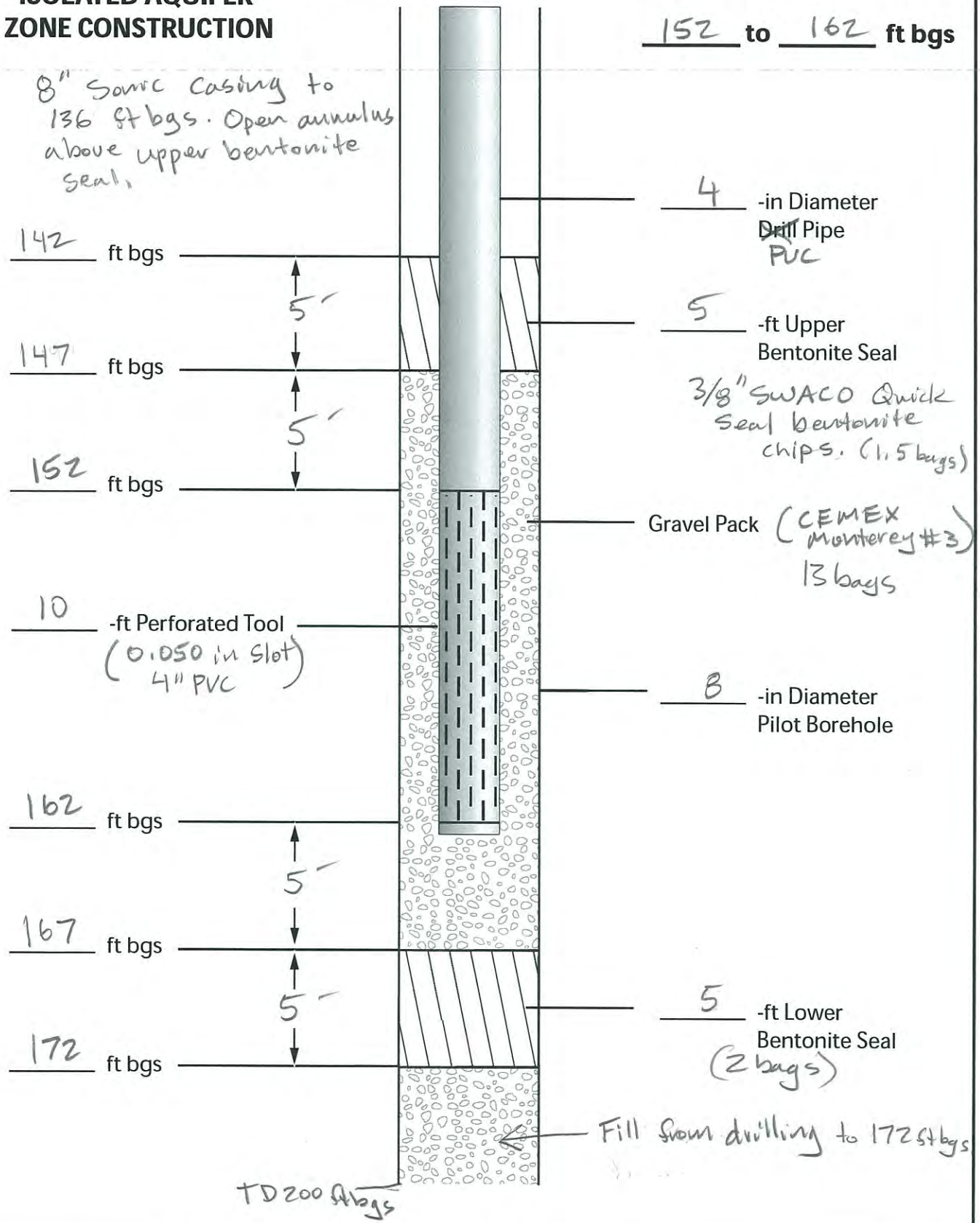
Form Created: 29-Sep-13

Zone#1 As Built

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. 1

152 to 162 ft bgs



GEOSCIENCE	
GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Client: RBF Consulting Inc. Well Name/Number: MPWSP Exploratory Borehole ML-6 Date: 11-21-13 / Thu

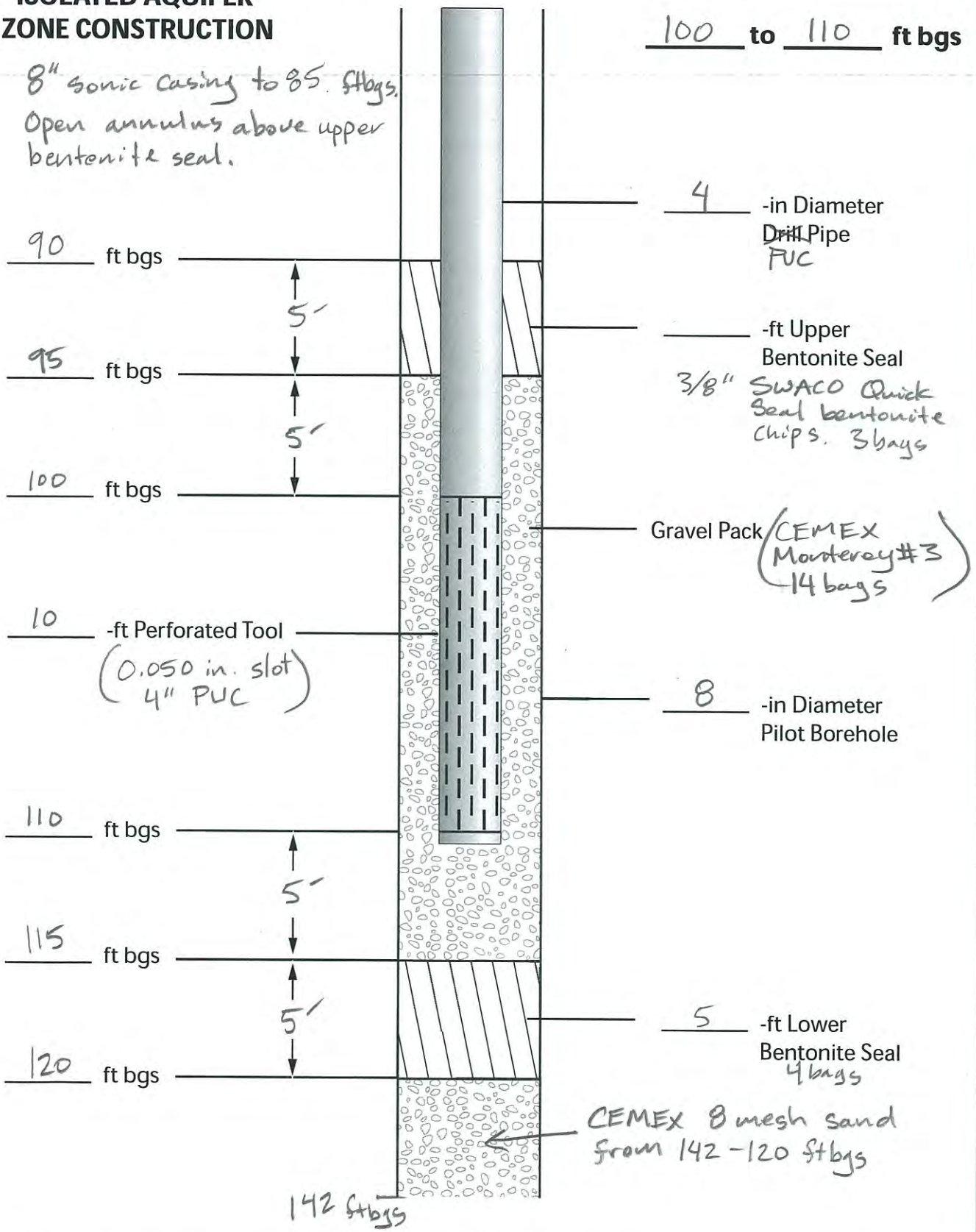
Zone #2 - As-Built

Zone No. 2

ISOLATED AQUIFER ZONE CONSTRUCTION

100 **to** 110 **ft bgs**

8" sonic casing to 85 ftbgs. Open annulus above upper bentonite seal.



GEOSCIENCE GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Client: RBF Consulting Inc Well Name/Number: MPWSP ML-6 (MBARI) Date: 11-22-13/Fri & 11-23-13/Sat

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CONFIDENTIAL DRAFT
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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-6 (MBARI)
Sonic Casing Dia: 8 in Sonic Casing Depth: 136 ft bgs
Static WL: 15.74 ft brp
RP: 7.65

Logged By: N. Reynolds (GSSI)
Test Date: 11-22-13 / Fri.
Screened Interval: 152-162 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 143 ft bgs

Note: TDS Constant is 0.65

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
12:26	193	120.2	104.46	22381.0	42.9	16.6	0.1	48043	40368	31226	6.63	-73.9	3.23
12:36	203	120.05	104.31	22810.0	42.9	16.5	0.1	48065	40302	31245.5	6.63	-77.4	1.71
12:46	213	120.2	104.46	23238.5	42.9	16.6	0.1	48074	40404	31245.5	6.63	-79.5	2.45
12:56	223	120.4	104.66	23666.4	42.8	16.6	0.1	48074	40377	31245.5	6.63	-81.6	1.48
13:06	233	120.4	104.66	24094.0	42.8	16.6	0.1	48095	40386	31258.5	6.64	-85.1	2.81
13:16	243	120.5	104.76	24521.5	42.8	16.5	0.1	48144	40356	31284.5	6.63	-88.0	2.24
13:26	253	120.4	104.66	24949.0	42.8	16.5	0.1	48132	40389	31284.5	6.63	-90.5	1.26
13:35	Sample for laboratory WQ analysis.												
14:16		120.70	104.96	27087.3	42.8	16.4	0.1	48218	40330	31343	6.62	-104.6	1.17
14:22:27				27358.0	Pump Off.								
							Total gallons pumped = 11,838.5						

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 1

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-6 (MBARI)
Sonic Casing Dia: 8 in Sonic Casing Depth: 136 ft bgs
Static WL: 15.74 ft brp 8.09 ftbgs taken by Cascade
RP: 7.65 ft ags

Logged By: N. Reynolds (GSSI) & Cascade
Test Date: 11-22-13 / Fri
Screened Interval: 152-162 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 143 ft bgs YSI Professional plus.
Note: TDS Constant is 0.65

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gal)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
09:13	0	15.74	0	15519.5		09:13	Pump on						
09:39		54.4	38.66		19.5								
09:54:35		63.1	47.36		~25.0	↑Q							
10:05		68.0	52.26		23.9								
10:06						↑Q							
10:10		76.0	60.26		~29	↑Q							
10:13						↑Q							
10:23	70	116.1	100.36		43.2								
10:26	73			17226.5	~43.2								
10:36	83	118.1	102.36	17658.0	43.2	16.7	0.1	47904	40276	31141.5	6.61	-8.6	11.6
10:46	93	118.8	103.06	18088.5	43.1	16.6	0.4	47463	39864	30849	6.62	-19.6	6.51
10:56	103	119.2	103.46	18518.5	43.0	16.6	0.3	47565	39992	30927	6.62	-34.1	5.73
11:06	113	119.6	103.86	18948.0	43.0	16.6	0.2	47726	40094	31031	6.62	-42.5	5.62
11:16	123	119.9	104.16	19377.3	42.9	16.6	0.2	47791	40169	31063.5	6.63	-49.1	7.49
11:26	133	120.0	104.26	19806.8	43.0	16.5	0.1	47894	40120	31135	6.63	-55.1	8.40
11:36	143	120.0	104.26	20236.4	43.0	16.5	0.1	47920	40161	31148	6.62	-59.2	3.53
11:46	153	120.2	104.46	20665.5	42.9	16.5	0.1	47975	40185	31180.5	6.62	-64.5	8.44
11:56	163	120.0	104.26	21094.5	42.9	16.5	0.1	47990	40231	31193.5	6.63	-64.6	4.55
12:06	173	120.0	104.26	21523.0	42.9	16.5	0.1	48024	40265	31219.5	6.63	-67.1	8.31
12:16	183	120.3	104.56	21952.0	42.9	16.6	0.1	48026	40279	31213.0	6.63	-70.1	2.35

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min 1230 mL/min through Flowthrucell.

Form Created: 29-Sep-13

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ISOLATED AQUIFER ZONE SAMPLING DATA SHEET

Zone No. 2

Client: RBF/MPWSP - Exploratory Borehole Drilling
Borehole Name/Number: ML-6 (MBARI)
Sonic Casing Dia: 8 in Sonic Casing Depth: 85 ft bgs
Static WL: 15.00 ft brp 9.58 ft bgs
RP: 5.42 ft agl (ToC)

Logged By: N. Reynolds (GSSI) & Cascade Drilling
Test Date: 11-23-13 / SAT
Screened Interval: 100 - 110 ft bgs
Reference Point Elevation: _____ ft amsl
Pump Depth: 90 ft bgs

Note: TDS Constant set to 0.68

Time	Time Step (min)	Water Level (ft brp)	Drawdown (ft)	Totalizer (gallons)	Pumping Rate (gpm)	Temp (°C)	DO (mg/L)	Specific Cond. (µS/cm)	Cond. (µS/cm)	TDS (mg/L)	pH	ORP (mV)	Turbitity (NTU)
10:19:54	0	15.00	—	27347.0	Pump on @ 36.4 gpm. ↓Q @ 10:21 to 32.0 gpm								
10:49:43	↑Q	to 31.8 gpm PWL= 35.6 ft brp											
10:52	↑Q	to 40.3 gpm PWL = 40.1 ft brp											
10:54:50	↑Q (valve all the way open)	to 49.6 gpm. PWL=		47.4 ft brp.									
11:00	40	48.6	33.6	28472.3	49.3								
11:10	50	49.2	34.2	28979.0	50.7								13.0
11:20	60	49.6	34.6	29464.5	48.6								7.75
11:30	70	49.8	34.8	29960.0	49.6	16.0	0.3	42484	35193	28893.2	6.56	75.3	5.03
11:40	80	49.9	34.9	30455.2	49.5	16.0	0.1	42490	35191	28920.4	6.57	67.8	3.24
11:50	90	50.1	35.1	30950.5	49.5	15.9	0.1	42523	35185	28927.2	6.58	69.0	2.98
12:00	100	50.2	35.2	31445.3	49.5	15.9	0.1	42557	35194	28947.6	6.58	69.1	3.58
12:10	110	50.3	35.3	31940.2	49.5	15.9	0.1	42601	35210	28961.2	6.58	68.8	3.59
12:20	120	50.4	35.4	32435.3	49.5	15.9	0.1	42616	35223	28981.6	6.58	67.4	2.48
12:30	130	50.5	35.5	32930.3	49.5	15.9	0.1	42626	35209	28988.4	6.58	65.6	1.80
12:40	140	50.6	35.6	33425.5	49.5	15.9	0.1	42651	35243	28988.4	6.57	63.5	1.86
12:51	151	50.5	35.5	33969.5	49.5	15.9	0.1	42650	35246	29002.0	6.58	60.6	1.73
13:00	Collect W.Q. samples for laboratory analysis, including MBARI's samples. Samples placed on ice.												
13:36	196	50.8	35.8	36194.4	49.4	15.9	0.1	42650	35274	29042.8	6.57	42.2	1.16
1344	204			36588.5	Pump off.	Total gallons pumped =				9241.5			
1445		16.8											

Stabilization Criteria:

3 to 5 minute recordings with 3 consecutive readings within:

pH: +/- 0.1 unit
Cond: +/- 3%
ORP: +/- 10 mV
Turb: +/- 10%
DO: +/- 10%
Desired Flow Rate: 100 to 500 mL/min

Flow through cell 1223.5 mL/min

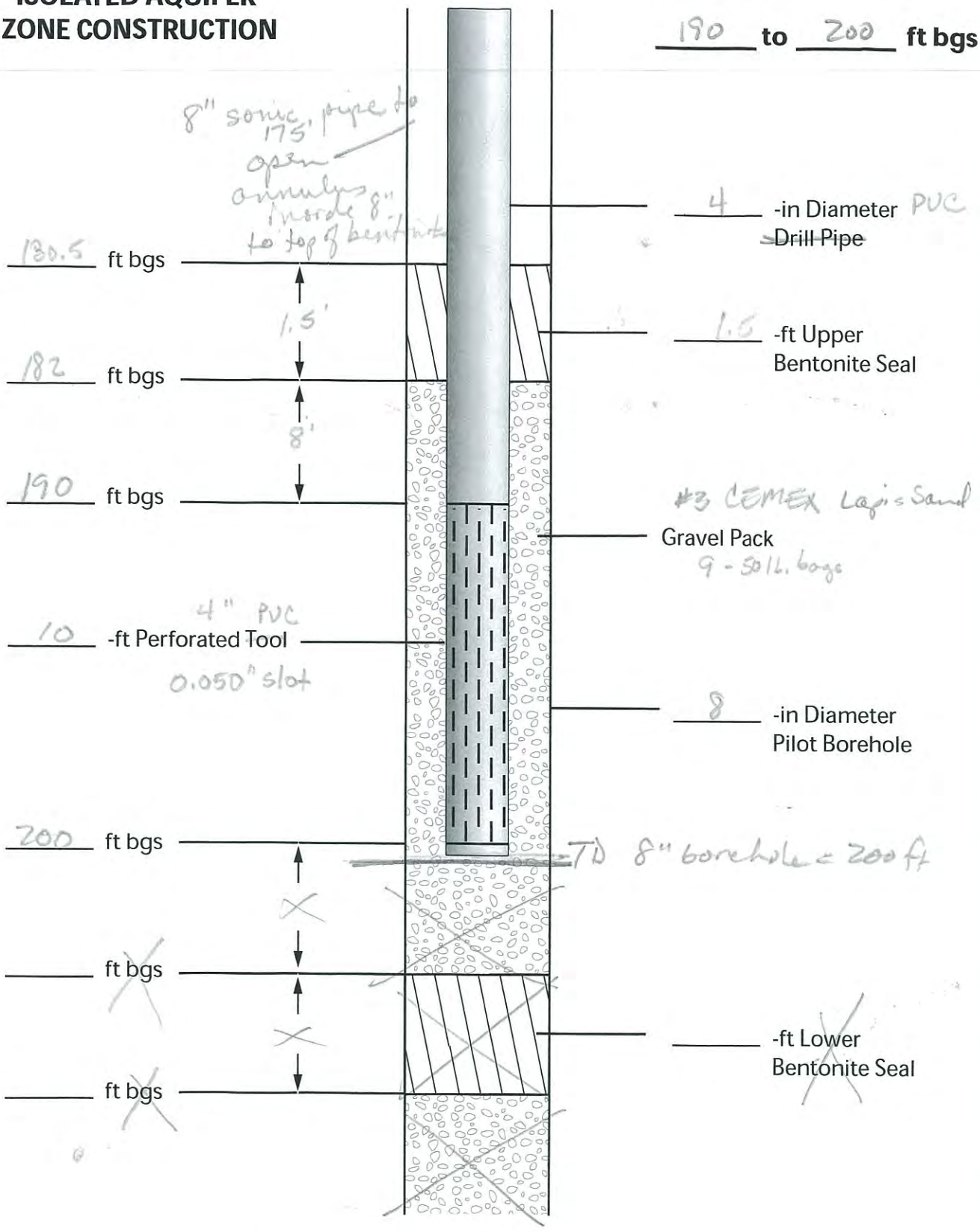
Form Created: 29-Sep-13

24-Sep-13

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. PR-1 Zone 1

190 **to** 200 **ft bgs**



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Client: RBF/MPWSP Expl Boreholes

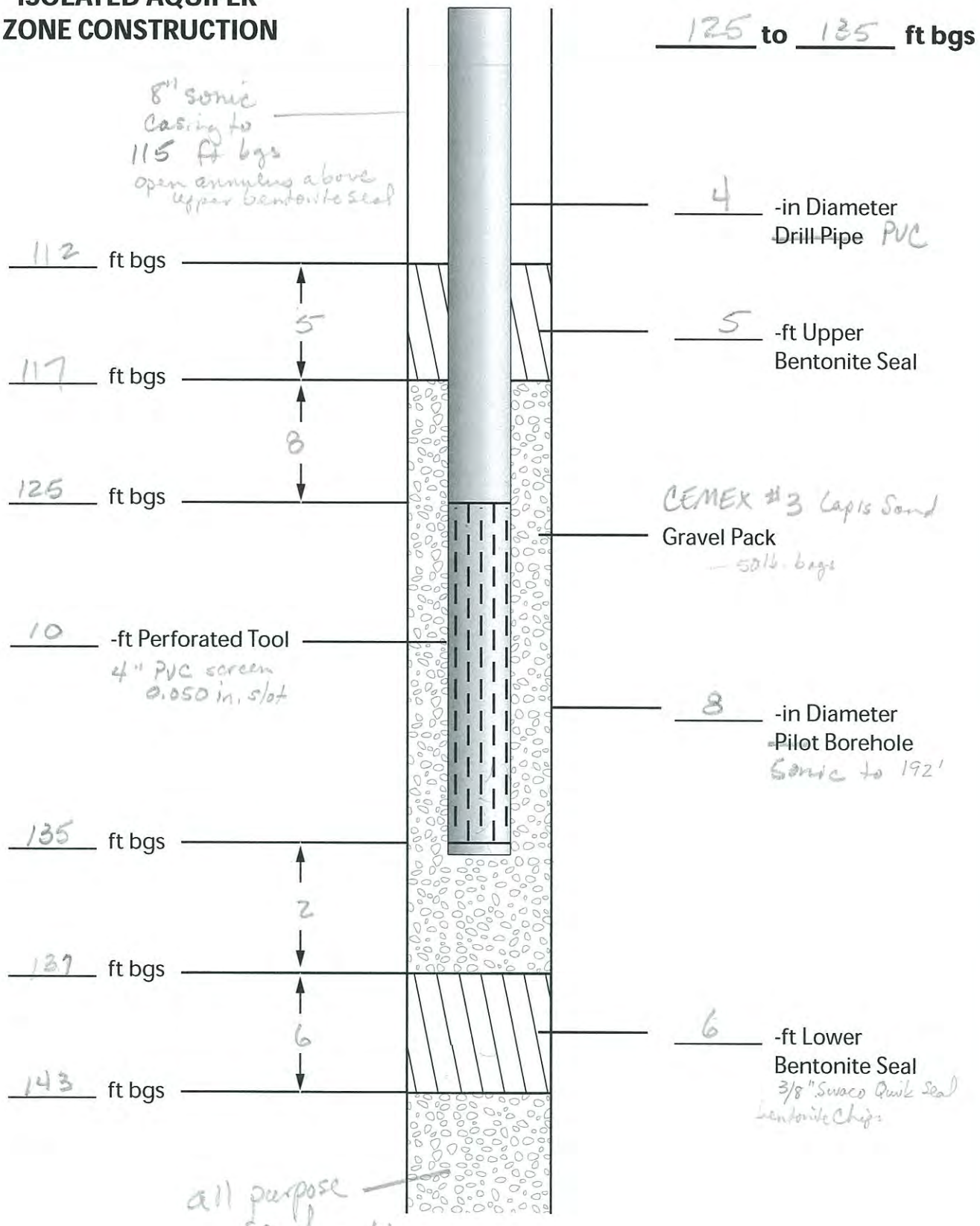
Well Name/Number: PR-1 Zone 1 (190'-200' Lgs)

Date: 24-Sep-13

ISOLATED AQUIFER ZONE CONSTRUCTION

Zone No. PR-1 Zone 2

125 to 135 ft bgs



GEOSCIENCE GEOSCIENCE Support Services, Incorporated P.O. Box 220, Claremont, CA 91711 Tel: (909) 451-6650 Fax: (909) 451-6638 www.gssiwater.com	Client: RBF / IRWSP Exp. Bore holes Well Name/Number: PR-1 Zone 2 (125'-135' bgs) Date: 25-Sep-13

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WELL SAMPLING DATA SHEET

Client: RBF / MAWSP
Well Name/Number: PR-1 Zone 1 (190-200' bgs)
Well Dia: 4 in Well Depth: 200 ft bgs
Static WL: 12 ft brp
RP: +6

8" Sonic casing to 175' bgs.

Logged By: Diane Smith
Test Date: 24-Sep-13
Screened Interval: 190-200 ft bgs
Reference Point Elevation: 15 ft amsl
Pump Depth: 120' ft bgs

Time	Water Level (ft brp)	Temp (°C)	Cond (µS/cm) sp cond cond	TDS (g/L)	Sal (ppt)	DO (mg/L)	pH	ORP (mV)	Turbitity (NTU)
4:12pm									
4:16		16.9	1416 1206	923	0.71	5.4	6.85	-45.3	5.73
4:24	see Pumping Test Data Sheet	16.4	1381 1158	897 (1.5%)	0.69	—	6.86	-45.2	5.52
4:30		16.3	1363 1136 (2%)	884	0.69	3.5	6.85	-62.2	3.66
4:45		16.3	1326 1115 (3%)	871	0.67	3.4	6.85	-52.9	1.80
5:05		16.6	1304 1095 (3%)	845	0.66		6.87	—	1.65
5:20		16.3	1296 1080	845	0.65		6.87	-50.5	0.89
	Filled sample bottles								
5:32	Pump off								

Sampling Method:
Casing Volume:
Tubing Volume:
Volume Pumped Before Sampling:
Flow Rate:

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit Turb: +/- 10%
Cond: +/- 3% DO: +/- 10%
ORP: +/- 10 mV Desired Flow Rate: 100 to 500 mL/min

Form Created: 17-Aug-10

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WELL SAMPLING DATA SHEET

8" Sonic casing to 115' bgs

Client: RBF / MPWSP
Well Name/Number: PR-1 Zone 2 (125-135' bgs)
Well Dia: 4 in Well Depth: 135 ft bgs
Static WL: 4.7 ft brp
RP: +7.2

Logged By: Diane Smythe
Test Date: 25-Sep-13
Screened Interval: 125-135 ft bgs
Reference Point Elevation: 16.2 ft amsl
Pump Depth: 105 ft bgs

Time	Water Level (ft brp)	Temp (°C)	Cond (µS/cm) sp cond / Cond	TDS (g/L) mg/L	Sal (ppt)	DO (mg/L)	pH	ORP (mV)	Turbitity (NTU)	
4:00	11.9									
4:07	Pump on									
4:10	–	15.5	53173 / 44279	34541	35.09	–	6.59	-130.1	4.20	
4:18	30.8	15.6	53490 / 44232	34833	35.49	–	6.62	-135	3.17	
4:23	31.0									
4:26	–	15.6	53625 / 43926	34853	35.43	–	6.64	-130.9	2.57	
4:34	31.3	15.6	53053 / 44111	34482	35.02	–	6.65	-88.0	2.37	
4:40	31.4	15.5	53449 / 44183	34736	35.32	–	6.66	-58.2	2.27	
4:45	31.6	15.4	53620 / 44440	34853	35.45	–	6.66	-110.8	1.56	
4:55	31.7	15.5	54148 / 44377	35204	35.83	–	6.65	-119.7	1.34	
5:00	31.8	15.4	53824 / 44074	34911	35.48		6.67	-28.0	1.17	
5:08	51.1	15.4	53854 / 44014	35002	35.60	–	6.65	-73.9	264	cloudy
5:15	56.5	15.3	53790 / 43988	34931	35.49	–	6.66	-62.4	75.8	
5:20	–	15.3	54040 / 44016	35119	35.73	–	6.65	-63.5	36.7	
5:25	53.3	15.3	53943 / 43827	35009	35.60	–	6.66	-34.1	26.4	
5:30	58.0	15.3	53669 / 43871	34768	35.30	–	6.66	-18.0	19.7	
5:35	59.1	15.3	53674 / 43862	34814	35.35	–	6.65	-46.8	14.7	
5:40	59.3	15.3	53739 / 43932	34918	35.50	–	6.64	-53.3	12.3	
5:45	59.7	15.3	53610 / 43875	34866	35.46	–	6.66	-19.4	10.2	
5:53	12.8	–	–	–	–	–	–	–	–	
6:00	12.8	–	–	–	–	–	–	–	–	

Sampling Method:
Casing Volume:
Tubing Volume:
Volume Pumped Before Sampling:
Flow Rate:

Stabilization Criteria:
3 to 5 minute recordings with 3 consecutive readings within:
pH: +/- 0.1 unit Turb: +/- 10%
Cond: +/- 3% DO: +/- 10%
ORP: +/- 10 mV Desired Flow Rate: 100 to 500 mL/min

Form Created: 17-Aug-10

Appendix F

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PUMPING TEST DATA SHEET

8" sonic casing to 115' bgs

Client: RBF
Logged By: Diane Smith
Well Name: PR-1 Zone 2
Test Date: 25-Sep-13

Circle Well Type: Pumping Observation (r = ft)
Circle Test Type: Step Drawdown Constant Rate Recovery Development
Reference Point Elevation: 47.2 ft
Pump Depth: 105 ft bgs
Static Water Level Depth: 4.7 ft bgs
Totalizer Units: gal

Time of Day	Time min Step	Time min Total	Depth to Water (ft brp)	Draw-down (ft)	Pumping Rate (gpm)	Sand Content Time Interval	Sand Content ppm	Totalizer (gal)	Remarks and other data
4:00	–		11.9	–	–			03790	
4:07	0		–		–			–	Pump On
4:10	3		–		–			–	cloudy, no odor
4:18	8		30.8	18.9	30		4:19	04150 +1min	clear, foams in cup
4:23	16		31.0	19.1	30			4260	initials
4:34	27		31.3	19.4	30			4610	
4:40	33		31.4	19.5	–			4800	
4:45	38		31.6	19.7	30			4952	
4:55	48		31.7	19.8	–			5220	
5:00	53		31.8	19.9	30			5380	
5:03	56								Incr Q to 50 gpm
5:08	61		51.1	39.2	50			5700	cloudy
5:15	68		56.5	44.6	50			–	
5:20	73		–	–	50			6320	sl. cloudy
5:25	78		53.3	41.4	–			6560	sl. cloudy
5:30	83		58.8	46.9	–			6780	
5:35	88		59.1	47.2	50			7080	
5:40	93		59.3	47.4	50			7310	
5:45	98		59.7	47.8	50			7560	v. sl. cloudy, Pump off
5:52	8		12.8	1.2	–			–	Recovery
6:00	15		12.8	1.2	–			–	"

Form Created: 5-Jar

APPENDIX G

Groundwater Quality Laboratory Reports

GEOSCIENCE

APPENDIX G:

GROUNDWATER QUALITY

LABORATORY REPORTS

CONTENTS

Description **Page**

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
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831.375.MBAS
montereybayanalytical@usa.net
ELAP Certification Number: 2385

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

Wednesday, February 26, 2014

Lab Number: AB12002

Collection Date/Time:	2/18/2014	12:15	Sample Collector:	NATHAN REYNOL	
Submittal Date/Time:	2/18/2014	14:37	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B1WQ Zone #1 (274-284 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**118**		2		2/24/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**77**		10	1000	2/20/2014	SM
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		2/25/2014	LH
Arsenic, Total	EPA200.8	ug/L	**38**		1	10	2/20/2014	SM
Barium, Dissolved	EPA200.8	ug/L	**138**		10		2/20/2014	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	**144**		10		2/25/2014	SM
Boron, Dissolved	EPA200.7	mg/L	**0.7**		0.05		2/21/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**41**		0.1		2/19/2014	DC
Calcium	EPA200.7	mg/L	**2718**		0.5		2/21/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**2718**		0.5		2/21/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Attached (ND)**	E			2/25/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		2/25/2014	SM
Chloride, Dissolved	EPA300.0	mg/L	**14184**		1		2/19/2014	DC
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Attached (ND)**	E			2/24/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**7**		3	15	2/19/2014	LRH
Copper, Total	EPA200.8	ug/L	**15**		4	1300	2/20/2014	SM
DBCP & EDB	EPA504.1	ug/L	**Attached (ND)**	E			2/20/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Attached (ND)**	E			2/22/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Attached (ND)**	E			2/25/2014	BSK
Endothall	EPA548.1	ug/L	**Attached (ND)**	E			2/20/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**0.2**		0.1		2/19/2014	DC
Glyphosate	EPA547	ug/L	**Attached (ND)**	E			2/25/2014	BSK
Hardness (as CaCO3)	SM2340B	mg/L	**11070**		10		2/24/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		2/25/2014	SM
Iodide	EPA9056M	ug/L	**Attached (ND)**	E	10		2/20/2014	WECK
Iron	EPA200.7	ug/L	**362**		10	300	2/21/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**362**		10	300	2/21/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**Not Detected**		0.5		2/19/2014	FS
Lithium	EPA200.8	ug/L	**218**		1		2/20/2014	SM
Magnesium	EPA200.7	mg/L	**1040**		0.5		2/21/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**1041**		1		2/21/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**127**		10	50	2/21/2014	DC
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	2/20/2014	DC
Nitrate as NO3	EPA300.0	mg/L	**Not Detected**		1	45	2/19/2014	DC
Nitrate+Nitrite as N	EPA300.0	mg/L	**Not Detected**		0.1		2/19/2014	DC
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**Not Detected**		0.1		2/19/2014	DC
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	2/19/2014	LRH
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**0.05**		0.1		2/24/2014	DH
pH (Field Test)	SM4500-H+B	pH	**6.54**				2/18/2014	NR

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Lab Number: AB12002

Appendix G

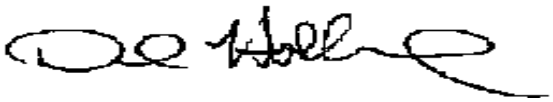
Collection Date/Time: 2/18/2014 12:15 Sample Collector: NATHAN REYNOL
Submittal Date/Time: 2/18/2014 14:37 Sample ID GEOSCIENCE Coliform Designation:

Sample Description: CX-B1WQ Zone #1 (274-284 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
pH (Laboratory)	SM4500-H+B	pH (H)	**6.7**				2/18/2014	HM
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Attached (ND)**	E			2/23/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**0.06**		0.03		2/24/2014	DH
Potassium, Dissolved	EPA200.7	mg/L	**53**		0.1		2/21/2014	DC
QC Anion Sum x 100	Calculation	%	**439.66**				2/25/2014	DH
QC Cation Sum x 100	Calculation	%	**423.27**				2/25/2014	DH
QC Ratio TDS/SEC	Calculation		**0.68**				2/26/2014	DH
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Attached (ND)**	E			2/22/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**34**		0.5		2/21/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**4612**		0.5		2/21/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**36940**		1	900	2/19/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**36601**		1		2/18/2014	NR
Strontium, Dissolved	EPA200.8	ug/L	**16834**		5		2/20/2014	SM
Sulfate	EPA300.0	mg/L	**1760**		1	250	2/19/2014	DC
Temperature (Field)	SM2550	° C	**18.9**				2/18/2014	NR
Total Diss. Solids	SM2540C	mg/L	**25200**		10	500	2/19/2014	HM
Turbidity	EPA180.1	NTU	**1.6**		0.05	5.0	2/19/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**0.57**		0.05		2/18/2014	NR
Volatile Org. Compounds (524)	EPA524	ug/L	**Attached (ND)**	E			2/19/2014	BSK
Zinc, Total	EPA200.8	ug/L	**99**		10	5000	2/20/2014	SM

Sample Comments: Ref AB11850

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12002**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	4612	0.04350	200.62
Potassium	53	0.02558	1.36
Calcium	2718	0.04990	135.63
Magnesium	1041	0.08229	85.66
NH3-N	0	0.07143	0.00
		SUM	423.27

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	118	0.02000	2.36
Sulfate	1760	0.02082	36.64
Chloride	14184	0.02821	400.13
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.2	0.05264	0.01
Bromide	41.0	0.01252	0.51
		SUM	439.66

ANION-CATION BALANCE: **-2** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	36940	
Cation Sum X 100	42327	**115%**
Anion Sum X 100	43966	**119%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**19.1**
Ca+Mg+Na	421.91
HCO3/Ca	0.02
dS/m	36.94
Value Table II	1.5
SAR adj	**30.4**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

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MontereyBayAnalytical@usa.net
http://www.MBASinc.com

pH QC Summary (SM 4500 H+)

Date Analyzed: 2/19/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.86	100.0	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB11937	7.5	7.5	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 2/19/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB11875	1125	1133	0.7%	10
AB11878	1542	1554	0.8%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Turbidity QC Summary (EPA 180.1)

Date Analyzed: 2/19/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.05	105.0	95-105
IPC	1.00	1.03	103.0	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB11866	0.15	0.15	0.7	10
AB11867	ND	ND	#VALUE!	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

Monterey Bay Analytical Services

QC Summary for 200.8

Spiked Sample
ID AB11636

Date Analyzed
Thursday, February 20, 2014 13:10:14

	IPC Blank	QCS 50	Prep Blank	LCS	LCSD	LCS/LCSD	Sample	Spiked	MS	MSD	MS-MSD	LFB	LFB	LFB-LFBD	IPC Blank
	ug/L	%Rec.	ug/L	% Rec	%Rec	%RPD	ug/L	ug/L	%Rec.	% Rec.	% RPD	% Rec	% Rec	% RPD	ug/L
		85-115%		70-130%	70-130%	20%			70-130%	70-130%	20%	85-115%	85-115%	20%	
Lithium	0.03	107.4	0.15	120.8	114.9	5.00	1.1	50	126.1	135.4	7.09	98.75	123.10	21.95	0.28
Beryllium	0.01	103.0	0.01	113.3	108.1	4.66	0.0	50	124.3	132.9	6.73	98.57	118.85	18.66	0.01
Aluminum	0.19	108.5	10.09	109.8	108.4	1.22	4.0	50	111.5	120.2	7.54	100.81	107.74	6.65	0.40
Vanadium	0.00	105.9	-1.35	108.8	108.3	0.46	0.6	50	103.1	109.1	5.69	99.61	100.81	1.19	-0.01
Chromium	-0.02	104.9	0.99	109.6	106.9	2.44	2.3	50	101.1	107.8	6.36	99.72	98.89	0.83	0.01
Iron 54	0.16	113.0	2.40	120.8	117.1	3.12	-19.8	100	111.9	120.7	7.60	106.89	103.40	3.32	-5.61
Manganese	0.02	103.5	0.09	107.7	104.3	3.19	0.1	50	102.2	110.9	8.21	98.19	100.55	2.37	0.02
Cobalt	0.01	103.1	0.01	106.8	104.1	2.59	0.0	50	99.7	108.1	8.11	99.12	97.05	2.11	0.01
Nickel	0.01	102.1	0.05	105.6	103.3	2.18	-0.1	50	96.7	105.1	8.26	98.54	95.62	3.01	0.01
Copper	0.01	101.6	0.59	109.2	105.7	3.23	0.2	50	100.2	107.0	6.57	102.00	98.81	3.18	0.01
Zinc	-0.03	113.8	25.50	123.6	108.1	13.30	31.4	50	103.1	116.2	11.94	100.37	102.62	2.22	0.05
Arsenic	0.00	102.1	0.09	106.1	102.9	3.11	0.5	50	102.8	108.7	5.58	97.34	93.69	3.83	0.10
Selenium	0.08	104.5	-0.06	106.9	104.4	2.42	1.4	250	112.1	117.0	4.27	100.45	100.79	0.34	0.12
Strontium	0.01	104.8	0.18	107.1	104.8	2.17	1.2	50	103.6	110.8	6.65	99.97	102.73	2.72	0.01
Molybdenum	0.06	99.4	0.04	106.8	105.0	1.70	0.0	50	99.6	107.8	7.95	99.04	98.13	0.92	0.05
Silver	0.16	104.8	0.11	102.5	104.0	1.50	0.0	50	100.9	110.6	9.20	102.19	101.26	0.91	0.21
Cadmium	0.02	103.8	0.08	107.5	105.5	1.92	0.0	50	103.9	109.9	5.59	98.56	100.34	1.79	0.02
Antimony	0.09	NA	0.06	106.6	105.0	1.50	0.0	50	103.6	112.0	7.73	98.44	99.82	1.40	0.07
Barium	0.01	104.1	0.08	108.8	106.9	1.69	0.2	50	102.9	111.1	7.65	100.49	101.40	0.90	0.01
Mercury	0.03	103.0	0.03	105.9	106.0	0.11	0.1	2.5	100.9	108.2	7.01	100.16	101.52	1.36	0.02
Thallium	0.01	103.1	0.08	106.4	106.2	0.14	0.0	50	101.4	108.4	6.74	99.03	99.57	0.54	0.01
Lead	0.01	107.5	0.15	110.3	107.7	2.34	0.0	50	102.1	109.2	6.79	100.67	100.58	0.09	0.01
Uranium	0.01	NA	0.00	110.2	105.9	3.99	0.0	50	102.5	109.4	6.45	99.84	100.07	0.23	0.01

MS = Matrix Spike MSD = Matrix Spike Duplicate; LFB = Laboratory Fortified Blank; LFBD = Laboratory Fortified Blank Duplicate RPD = Relative Percent Difference

ICP-OES EPA 200.7

Batch # 20140221

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.00	0.00	1.00	100.3%	1.04	104.1%	3.7%	1	0.98	98.4%	1	0.96	96.3%
B 249.772	0.05-5ppm	0.01	0.00	1.01	100.7%	1.04	103.6%	2.9%	1	0.99	98.9%	1	0.96	96.3%
Ca 317.933	50-300ppm	-6.23	-6.24	48.1	96.3%	49.6	99.2%	3.0%	50	48.2	96.5%	50	46.8	93.6%
Ca 396.847	0.5-50ppm	-0.23	-0.24	49.1	98.2%	51.4	102.8%	4.5%	50	49.1	98.2%	50	48.7	97.5%
Cu 324.754	10ppb-100ppm	-3.68	-2.80	997	99.7%	1038	103.8%	4.0%	1000	984	98.4%	1000	984	98.4%
Cu 327.395	10ppb-100ppm	-0.27	0.98	990	99.0%	1025	102.5%	3.5%	1000	980	98.0%	1000	983	98.3%
Fe 238.204	10ppb-100ppm	0.91	0.00	992	99.2%	1017	101.7%	2.5%	1000	984	98.4%	1000	965	96.5%
Fe 259.940	10ppb-100ppm	-0.38	0.60	992	99.2%	1025	102.5%	3.2%	1000	995	99.5%	1000	968	96.8%
K 766.491	0.1-750ppm	0.14	0.11	9.8	97.7%	10.2	101.8%	4.1%	10	9.8	97.7%	10	9.6	96.2%
Mg 202.582	50-1000ppm	-2.11	-2.13	49.1	98.2%	51.0	102.0%	3.8%	50	49.4	98.9%	50	48.6	97.3%
Mg 279.078	0.5-50ppm	0.01	-0.03	49.2	98.4%	50.9	101.8%	3.4%	50	49.3	98.6%	50	48.5	96.9%
Mn 257.610	10ppb-11ppm	-1.16	-1.87	994	99.4%	1022	102.2%	2.8%	1000	986	98.6%	1000	966	96.6%
Mn 260.568	10ppb-11ppm	-0.35	-1.41	990	99.0%	1020	102.0%	3.0%	1000	978	97.8%	1000	960	96.0%
Na 568.821	50-1000ppm	2.64	3.62	47.6	95.3%	48.8	97.5%	2.3%	50	47.9	95.7%	50	47.8	95.5%
Na 589.592	0.5-50ppm	0.11	0.05	49.3	98.6%	51.2	102.4%	3.8%	50	49.5	99.0%	50	48.3	96.7%
Si 251.611	0.5-200ppm	0.12	0.05	50.0	99.9%	51.1	102.2%	2.2%	50	49.3	98.6%	107	102.5	95.8%
Si 252.411	0.5-200ppm	0.13	0.04	50.2	100.4%	51.1	102.3%	1.8%	50	49.3	98.5%	107	102.7	96.0%
Zn 213.857	10ppb-50ppm	-1.25	-3.10	989	98.9%	1017	101.7%	2.9%	1000	989	98.9%	1000	958	95.8%

Matrix Spikes

Sample ID AB11636

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.18	1.17	98.1%	1.17	98.8%	0.6%	1	1.00	99.8%	1.4%	0.00
B 249.772	0.18	1.17	98.2%	1.17	98.2%	0.0%	1	1.00	100.0%	1.0%	0.00
Ca 317.933	-6.23	46.7	105.9%	47.0	106.4%	0.6%	50	47.9	95.7%	0.8%	-6.25
Ca 396.847	-0.23	48.9	98.2%	48.8	98.1%	0.2%	50	49.7	99.5%	1.3%	-0.25
Cu 324.754	-3.42	991	99.4%	998	100.1%	0.7%	1000	995	99.5%	1.2%	-2.54
Cu 327.395	2.88	990	98.7%	995	99.2%	0.5%	1000	997	99.7%	1.7%	0.99
Fe 238.204	-1.92	970	97.2%	972	97.4%	0.2%	1000	992	99.2%	0.8%	0.05
Fe 259.940	-2.92	970	97.3%	974	97.6%	0.4%	1000	993	99.3%	0.1%	0.37
K 766.491	0.63	10.2	95.9%	10.3	96.4%	0.4%	10	9.9	99.4%	1.7%	0.11
Mg 202.582	-2.18	49.1	102.5%	49.2	102.8%	0.3%	50	49.8	99.6%	0.7%	-2.12
Mg 279.078	-0.01	48.9	97.8%	48.9	97.8%	0.0%	50	49.6	99.2%	0.6%	-0.01
Mn 257.610	-2.30	976	97.8%	975	97.7%	0.1%	1000	990	99.0%	0.4%	-1.91
Mn 260.568	-0.84	972	97.3%	970	97.1%	0.2%	1000	988	98.8%	1.0%	-1.00
Na 568.821	5.30	53.0	95.5%	51.3	92.0%	3.3%	50	47.5	95.0%	0.8%	2.91
Na 589.592	4.81	53.6	97.6%	53.9	98.1%	0.5%	50	50.3	100.5%	1.5%	0.06
Si 251.611	0.32	49.4	98.2%	49.5	98.3%	0.2%	50	49.4	98.7%	0.2%	0.02
Si 252.411	0.34	49.3	98.0%	49.5	98.3%	0.3%	50	49.4	98.9%	0.3%	0.02
Zn 213.857	19.84	995	97.5%	995	97.5%	0.0%	1000	987	98.7%	0.2%	-2.05

Note: Italics indicates that the result is outside the calibration range.

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http://www.MBASinc.com

Alkalinity QC Summary (SM 2320B)

Date Analyzed: 2/24/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	40	39.1	97.75	95-105

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12018	118.9	118.3	0.5	10
AB12030	125.3	125.9	0.5	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Ortho Phosphate QC Summary (Hach 8190)

Date: 2/24/2004

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.213	106.5	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12030	0.068	0.200	0.289	0.295	110.5	113.5	2.1	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Phosphorus QC Summary (Hach 8190)

Date: 2/24/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.187	93.5	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12030	0.074	0.200	0.256	0.262	91	94	2.3	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
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831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 2/25/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC Low	0.050	0.049	98	90-110
IPC	0.500	0.453	90.6	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB11890	1.080	0.500	1.530	1.630	90	110	6.3	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check

RPD = Relative Percent Difference; Rec = Recovery

Date Analyzed: 20140219

4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

300.0 QC Summary

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
IPC		2.01	19.75	2.12	19.47	2.09	2.00	1.97
Recovery	90-110%	100.29	98.77	105.97	97.36	104.51	100.01	98.29
CCV1		2.03	19.83	2.14	19.55	2.10	2.00	1.98
Recovery	90-110%	101.26	99.16	106.88	97.74	104.95	100.07	98.96
RPD	10%	0.97	0.40	0.86	0.38	0.42	0.06	0.68

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
AB11882		0.57	137.88	0.10	69.99	0.00	8.01	4.80
AB11882+LFM		2.65	160.31	1.90	90.14	1.68	10.14	6.98
AB11882+LFMD		2.43	160.23	1.97	89.99	1.67	10.16	7.04
Average		2.54	160.27	1.93	90.06	1.68	10.15	7.01
Recovery	80-120%	98.66	111.99	91.96	100.35	83.78	107.13	110.30
RPD	10%	8.40	0.05	4.05	0.16	1.10	0.23	0.95

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

A4B1386

2/26/2014

Invoice: A404720

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4B1386 General

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 2/19/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	Cal Am	**Project PO#:**	-
Received:	2/19/2014 - 10:30		
Report Due:	2/26/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 4.0

Containers Intact
COC/Labels Agree
Packing Material - Bubble Wrap
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

B	Analyte exceeds laboratory acceptance limit for blank contamination.
B1.1	Analyte detected in associated method blank. No material impact on reported result as sample is ND for this parameter.
BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
BS3.0	BS/BSD RPD exceeded the acceptance limit. Recovery met acceptance criteria.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.

Report Distribution

Recipient(s)	Report Format
David Holland	Final.rpt

Certificate of Analysis

Sample ID: A4B1386-01
Sampled By: Nathan Reynolds
Sample Description: CX-B1WQ Zone #1 // 11850

Sample Date - Time: 02/18/14 - 12:15
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A402098	02/20/14	02/20/14	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A402098	02/20/14	02/20/14	
Surrogate: TCMX	EPA 504.1	98 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A402176	02/20/14	02/23/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A402176	02/20/14	02/23/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A402176	02/20/14	02/23/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A402176	02/20/14	02/23/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A402176	02/20/14	02/23/14	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A402176	02/20/14	02/23/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A402176	02/20/14	02/23/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A402176	02/20/14	02/23/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A402176	02/20/14	02/23/14	
Surrogate: DCPAA	EPA 515.3	82 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A402017	02/19/14	02/19/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A402017	02/19/14	02/19/14	BS1.0
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A402017	02/19/14	02/19/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A402017	02/19/14	02/19/14	
Acetone	EPA 524.2	ND	10	ug/L	1	A402017	02/19/14	02/19/14	BS1.0

Certificate of Analysis

Sample ID: A4B1386-01
Sampled By: Nathan Reynolds
Sample Description: CX-B1WQ Zone #1 // 11850

Sample Date - Time: 02/18/14 - 12:15
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Benzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	B1.1
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A402017	02/19/14	02/19/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A402017	02/19/14	02/19/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A402017	02/19/14	02/19/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A402017	02/19/14	02/19/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A402017	02/19/14	02/19/14	

Certificate of Analysis

Sample ID: A4B1386-01
Sampled By: Nathan Reynolds
Sample Description: CX-B1WQ Zone #1 // 11850

Sample Date - Time: 02/18/14 - 12:15
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	99 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	104 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A402247	02/21/14	02/22/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A402247	02/21/14	02/22/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A402247	02/21/14	02/22/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A402247	02/21/14	02/22/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A402247	02/21/14	02/22/14	
Bromacil	EPA 525.2	ND	10	ug/L	1	A402247	02/21/14	02/22/14	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A402247	02/21/14	02/22/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A402247	02/21/14	02/22/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A402247	02/21/14	02/22/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A402247	02/21/14	02/22/14	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A402247	02/21/14	02/22/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A402247	02/21/14	02/22/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A402247	02/21/14	02/22/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A402247	02/21/14	02/22/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A402247	02/21/14	02/22/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	103 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A402279	02/23/14	02/25/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A402279	02/23/14	02/25/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A402279	02/23/14	02/25/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A402279	02/23/14	02/25/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A402279	02/23/14	02/25/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A402279	02/23/14	02/25/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A402279	02/23/14	02/25/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A402279	02/23/14	02/25/14	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A402145	02/19/14	02/20/14	
Surrogate: AMPA	EPA 547	108 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A402157	02/19/14	02/20/14	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A402181	02/20/14	02/25/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A402098										Prepared: 02/20/2014	
Prep Method: EPA 504.1										Analyst: PYA	
Blank (A402098-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							02/20/14	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							02/20/14	
Surrogate: TCMX	*3.0*			*3.0*		*102*	*70-130*			02/20/14	
Blank Spike (A402098-BS1)											
Dibromochloropropane (DBCP)	0.12	0.010	ug/L	0.12		95	70-130			02/20/14	
Ethylene Dibromide (EDB)	0.10	0.020	ug/L	0.12		82	70-130			02/20/14	
Surrogate: TCMX	*2.7*			*3.0*		*90*	*70-130*			02/20/14	
Blank Spike Dup (A402098-BSD1)											
Dibromochloropropane (DBCP)	0.13	0.010	ug/L	0.12		100	70-130	5	20	02/21/14	
Ethylene Dibromide (EDB)	0.11	0.020	ug/L	0.12		85	70-130	4	20	02/21/14	
Surrogate: TCMX	*2.8*			*3.0*		*93*	*70-130*			02/21/14	
Matrix Spike (A402098-MS1), Source: A4B0914-01											
Dibromochloropropane (DBCP)	0.50	0.010	ug/L	0.12	0.36	107	65-135			02/20/14	
Ethylene Dibromide (EDB)	0.11	0.020	ug/L	0.12	ND	87	65-135			02/20/14	
Surrogate: TCMX	*2.7*			*3.0*		*93*	*70-130*			02/20/14	
EPA 515.3 - Quality Control											
Batch: A402176										Prepared: 02/20/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A402176-BLK1)											
2,4,5-T	ND	1.0	ug/L							02/22/14	
2,4,5-TP (Silvex)	ND	1.0	ug/L							02/22/14	
2,4-D	ND	10	ug/L							02/22/14	
Bentazon	ND	2.0	ug/L							02/22/14	
Dalapon	ND	10	ug/L							02/22/14	
Dicamba	ND	1.5	ug/L							02/22/14	
Dinoseb	ND	2.0	ug/L							02/22/14	
Pentachlorophenol	ND	0.20	ug/L							02/22/14	
Picloram	ND	1.0	ug/L							02/22/14	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			02/22/14	
Blank Spike (A402176-BS1)											
2,4,5-T	4.0	1.0	ug/L	4.0		99	70-130			02/22/14	
2,4,5-TP (Silvex)	0.80	1.0	ug/L	0.80		101	70-130			02/22/14	
2,4-D	0.40	10	ug/L	0.40		99	70-130			02/22/14	
Bentazon	8.1	2.0	ug/L	8.0		102	70-130			02/22/14	
Dalapon	3.4	10	ug/L	4.0		86	70-130			02/22/14	
Dicamba	5.7	1.5	ug/L	6.0		95	70-130			02/22/14	
Dinoseb	0.80	2.0	ug/L	0.80		100	70-130			02/22/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16		97	70-130			02/22/14	
Picloram	0.29	1.0	ug/L	0.40		72	70-130			02/22/14	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			02/22/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A402176										Prepared: 02/20/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A402176-BSD1)											
2,4,5-T	4.1	1.0	ug/L	4.0		102	70-130	3	20	02/23/14	
2,4,5-TP (Silvex)	0.85	1.0	ug/L	0.80		107	70-130	6	20	02/23/14	
2,4-D	0.41	10	ug/L	0.40		103	70-130	4	20	02/23/14	
Bentazon	6.7	2.0	ug/L	8.0		83	70-130	20	20	02/23/14	
Dalapon	3.9	10	ug/L	4.0		97	70-130	12	20	02/23/14	
Dicamba	6.0	1.5	ug/L	6.0		99	70-130	4	20	02/23/14	
Dinoseb	0.81	2.0	ug/L	0.80		101	70-130	2	20	02/23/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16		96	70-130	1	20	02/23/14	
Picloram	0.36	1.0	ug/L	0.40		90	70-130	22	20	02/23/14	BS3.0
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			02/23/14	
Matrix Spike (A402176-MS1), Source: A4B1147-01											
2,4,5-T	4.0	1.0	ug/L	4.0	ND	101	70-130			02/22/14	
2,4,5-TP (Silvex)	0.81	1.0	ug/L	0.80	ND	101	70-130			02/22/14	
2,4-D	0.41	10	ug/L	0.40	ND	102	70-130			02/22/14	
Bentazon	8.6	2.0	ug/L	8.0	ND	107	70-130			02/22/14	
Dalapon	3.8	10	ug/L	4.0	ND	94	70-130			02/22/14	
Dicamba	6.0	1.5	ug/L	6.0	ND	101	70-130			02/22/14	
Dinoseb	0.80	2.0	ug/L	0.80	ND	100	70-130			02/22/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	95	70-130			02/22/14	
Picloram	0.36	1.0	ug/L	0.40	ND	90	70-130			02/22/14	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			02/22/14	
Matrix Spike Dup (A402176-MSD1), Source: A4B1147-01											
2,4,5-T	4.0	1.0	ug/L	4.0	ND	100	70-130	1	20	02/22/14	
2,4,5-TP (Silvex)	0.80	1.0	ug/L	0.80	ND	100	70-130	1	20	02/22/14	
2,4-D	0.40	10	ug/L	0.40	ND	101	70-130	1	20	02/22/14	
Bentazon	9.6	2.0	ug/L	8.0	ND	120	70-130	11	20	02/22/14	
Dalapon	3.6	10	ug/L	4.0	ND	90	70-130	4	20	02/22/14	
Dicamba	5.9	1.5	ug/L	6.0	ND	99	70-130	2	20	02/22/14	
Dinoseb	0.80	2.0	ug/L	0.80	ND	99	70-130	1	20	02/22/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	94	70-130	1	20	02/22/14	
Picloram	0.33	1.0	ug/L	0.40	ND	81	70-130	10	20	02/22/14	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			02/22/14	
EPA 524.2 - Quality Control											
Batch: A402017										Prepared: 02/19/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402017-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							02/19/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							02/19/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							02/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							02/19/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							02/19/14	
1,1-Dichloroethane	ND	0.50	ug/L							02/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402017										Prepared: 02/19/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402017-BLK1)											
1,1-Dichloroethene	ND	0.50	ug/L							02/19/14	
1,1-Dichloropropene	ND	0.50	ug/L							02/19/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							02/19/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							02/19/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							02/19/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							02/19/14	
1,2-Dichloroethane	ND	0.50	ug/L							02/19/14	
1,2-Dichloropropane	ND	0.50	ug/L							02/19/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							02/19/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							02/19/14	
1,3-Dichloropropane	ND	0.50	ug/L							02/19/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							02/19/14	
2,2-Dichloropropane	ND	0.50	ug/L							02/19/14	
2-Butanone	ND	5.0	ug/L							02/19/14	
2-Chlorotoluene	ND	0.50	ug/L							02/19/14	
2-Hexanone	ND	10	ug/L							02/19/14	
4-Chlorotoluene	ND	0.50	ug/L							02/19/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							02/19/14	
Acetone	ND	10	ug/L							02/19/14	
Benzene	ND	0.50	ug/L							02/19/14	
Bromobenzene	ND	0.50	ug/L							02/19/14	
Bromochloromethane	ND	0.50	ug/L							02/19/14	
Bromodichloromethane	ND	0.50	ug/L							02/19/14	
Bromoform	ND	0.50	ug/L							02/19/14	
Bromomethane	ND	0.50	ug/L							02/19/14	
Carbon Tetrachloride	ND	0.50	ug/L							02/19/14	
Chlorobenzene	ND	0.50	ug/L							02/19/14	
Chloroethane	ND	0.50	ug/L							02/19/14	
Chloroform	ND	0.50	ug/L							02/19/14	
Chloromethane	ND	0.50	ug/L							02/19/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							02/19/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							02/19/14	
Dibromochloromethane	ND	0.50	ug/L							02/19/14	
Dibromomethane	ND	0.50	ug/L							02/19/14	
Dichlorodifluoromethane	ND	0.50	ug/L							02/19/14	
Dichloromethane	0.55	0.50	ug/L							02/19/14	B
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							02/19/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							02/19/14	
Ethylbenzene	ND	0.50	ug/L							02/19/14	
Hexachlorobutadiene	ND	0.50	ug/L							02/19/14	
Isopropylbenzene	ND	0.50	ug/L							02/19/14	
m,p-Xylenes	ND	0.50	ug/L							02/19/14	
Methyl-t-butyl ether	ND	0.50	ug/L							02/19/14	
Naphthalene	ND	0.50	ug/L							02/19/14	
n-Butylbenzene	ND	0.50	ug/L							02/19/14	
n-Propylbenzene	ND	0.50	ug/L							02/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402017										Prepared: 02/19/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402017-BLK1)											
o-Xylene	ND	0.50	ug/L							02/19/14	
p-Isopropyltoluene	ND	0.50	ug/L							02/19/14	
sec-Butylbenzene	ND	0.50	ug/L							02/19/14	
Styrene	ND	0.50	ug/L							02/19/14	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							02/19/14	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							02/19/14	
tert-Butylbenzene	ND	0.50	ug/L							02/19/14	
Tetrachloroethene (PCE)	ND	0.50	ug/L							02/19/14	
Toluene	ND	0.50	ug/L							02/19/14	
trans-1,2-Dichloroethene	ND	0.50	ug/L							02/19/14	
trans-1,3-Dichloropropene	ND	0.50	ug/L							02/19/14	
Trichloroethene (TCE)	ND	0.50	ug/L							02/19/14	
Trichlorofluoromethane	ND	5.0	ug/L							02/19/14	
Vinyl Chloride	ND	0.50	ug/L							02/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.9*			*5.0*		*98*	*70-130*			02/19/14	
Surrogate: Bromofluorobenzene	*51*			*50*		*102*	*70-130*			02/19/14	
Blank Spike (A402017-BS1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		104	70-130			02/19/14	
1,1,1-Trichloroethane	11	0.50	ug/L	10		106	70-130			02/19/14	
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		102	70-130			02/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		112	70-130			02/19/14	
1,1,2-Trichloroethane	10	0.50	ug/L	10		103	70-130			02/19/14	
1,1-Dichloroethane	10	0.50	ug/L	10		105	70-130			02/19/14	
1,1-Dichloroethene	12	0.50	ug/L	10		117	70-130			02/19/14	
1,1-Dichloropropene	11	0.50	ug/L	10		106	70-130			02/19/14	
1,2,3-Trichlorobenzene	9.7	0.50	ug/L	10		97	70-130			02/19/14	
1,2,4-Trichlorobenzene	10	0.50	ug/L	10		101	70-130			02/19/14	
1,2,4-Trimethylbenzene	9.5	0.50	ug/L	10		95	70-130			02/19/14	
1,2-Dichlorobenzene	10	0.50	ug/L	10		101	70-130			02/19/14	
1,2-Dichloroethane	10	0.50	ug/L	10		102	70-130			02/19/14	
1,2-Dichloropropane	10	0.50	ug/L	10		104	70-130			02/19/14	
1,3,5-Trimethylbenzene	10	0.50	ug/L	10		100	70-130			02/19/14	
1,3-Dichlorobenzene	11	0.50	ug/L	10		108	70-130			02/19/14	
1,3-Dichloropropane	10	0.50	ug/L	10		101	70-130			02/19/14	
1,4-Dichlorobenzene	10	0.50	ug/L	10		101	70-130			02/19/14	
2,2-Dichloropropane	11	0.50	ug/L	10		106	70-130			02/19/14	
2-Butanone	12	5.0	ug/L	10		119	70-130			02/19/14	
2-Chlorotoluene	10	0.50	ug/L	10		103	70-130			02/19/14	
2-Hexanone	11	10	ug/L	10		109	70-130			02/19/14	
4-Chlorotoluene	10	0.50	ug/L	10		104	70-130			02/19/14	
4-Methyl-2-pentanone	11	5.0	ug/L	10		112	70-130			02/19/14	
Acetone	13	10	ug/L	10		127	70-130			02/19/14	
Benzene	10	0.50	ug/L	10		104	70-130			02/19/14	
Bromobenzene	10	0.50	ug/L	10		101	70-130			02/19/14	
Bromochloromethane	11	0.50	ug/L	10		107	70-130			02/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402017										Prepared: 02/19/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A402017-BS1)											
Bromodichloromethane	11	0.50	ug/L	10		108	70-130			02/19/14	
Bromoform	11	0.50	ug/L	10		105	70-130			02/19/14	
Bromomethane	8.2	0.50	ug/L	10		82	70-130			02/19/14	
Carbon Tetrachloride	11	0.50	ug/L	10		108	70-130			02/19/14	
Chlorobenzene	10	0.50	ug/L	10		104	70-130			02/19/14	
Chloroethane	9.8	0.50	ug/L	10		98	70-130			02/19/14	
Chloroform	10	0.50	ug/L	10		102	70-130			02/19/14	
Chloromethane	10	0.50	ug/L	10		104	70-130			02/19/14	
cis-1,2-Dichloroethene	10	0.50	ug/L	10		101	70-130			02/19/14	
cis-1,3-Dichloropropene	9.6	0.50	ug/L	10		96	70-130			02/19/14	
Dibromochloromethane	10	0.50	ug/L	10		102	70-130			02/19/14	
Dibromomethane	10	0.50	ug/L	10		100	70-130			02/19/14	
Dichlorodifluoromethane	11	0.50	ug/L	10		113	70-130			02/19/14	
Dichloromethane	11	0.50	ug/L	10		109	70-130			02/19/14	
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		114	70-130			02/19/14	
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		111	70-130			02/19/14	
Ethylbenzene	11	0.50	ug/L	10		106	70-130			02/19/14	
Hexachlorobutadiene	11	0.50	ug/L	10		110	70-130			02/19/14	
Isopropylbenzene	10	0.50	ug/L	10		100	70-130			02/19/14	
m,p-Xylenes	20	0.50	ug/L	20		101	70-130			02/19/14	
Methyl-t-butyl ether	21	0.50	ug/L	20		105	70-130			02/19/14	
Naphthalene	9.6	0.50	ug/L	10		96	70-130			02/19/14	
n-Butylbenzene	10	0.50	ug/L	10		102	70-130			02/19/14	
n-Propylbenzene	11	0.50	ug/L	10		106	70-130			02/19/14	
o-Xylene	10	0.50	ug/L	10		101	70-130			02/19/14	
p-Isopropyltoluene	11	0.50	ug/L	10		106	70-130			02/19/14	
sec-Butylbenzene	10	0.50	ug/L	10		103	70-130			02/19/14	
Styrene	12	0.50	ug/L	10		118	70-130			02/19/14	
tert-Amyl Methyl Ether (TAME)	12	3.0	ug/L	10		116	70-130			02/19/14	
tert-Butyl alcohol (TBA)	12	2.0	ug/L	10		120	70-130			02/19/14	
tert-Butylbenzene	10	0.50	ug/L	10		105	70-130			02/19/14	
Tetrachloroethene (PCE)	11	0.50	ug/L	10		107	70-130			02/19/14	
Toluene	10	0.50	ug/L	10		102	70-130			02/19/14	
trans-1,2-Dichloroethene	11	0.50	ug/L	10		107	70-130			02/19/14	
trans-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130			02/19/14	
Trichloroethene (TCE)	9.7	0.50	ug/L	10		97	70-130			02/19/14	
Trichlorofluoromethane	11	5.0	ug/L	10		108	70-130			02/19/14	
Vinyl Chloride	11	0.50	ug/L	10		109	70-130			02/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*101*	*70-130*			02/19/14	
Surrogate: Bromofluorobenzene	*51*			*50*		*102*	*70-130*			02/19/14	
Blank Spike Dup (A402017-BSD1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		104	70-130	0	30	02/19/14	
1,1,1-Trichloroethane	10	0.50	ug/L	10		103	70-130	3	30	02/19/14	
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		106	70-130	4	30	02/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		107	70-130	4	30	02/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402017										Prepared: 02/19/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402017-BSD1)												
1,1,2-Trichloroethane	10	0.50	ug/L	10		104	70-130	1	30	02/19/14		
1,1-Dichloroethane	10	0.50	ug/L	10		102	70-130	3	30	02/19/14		
1,1-Dichloroethene	11	0.50	ug/L	10		108	70-130	8	30	02/19/14		
1,1-Dichloropropene	10	0.50	ug/L	10		103	70-130	3	30	02/19/14		
1,2,3-Trichlorobenzene	9.6	0.50	ug/L	10		96	70-130	1	30	02/19/14		
1,2,4-Trichlorobenzene	10	0.50	ug/L	10		100	70-130	1	30	02/19/14		
1,2,4-Trimethylbenzene	9.5	0.50	ug/L	10		95	70-130	0	30	02/19/14		
1,2-Dichlorobenzene	10	0.50	ug/L	10		100	70-130	0	30	02/19/14		
1,2-Dichloroethane	10	0.50	ug/L	10		101	70-130	1	30	02/19/14		
1,2-Dichloropropane	10	0.50	ug/L	10		102	70-130	2	30	02/19/14		
1,3,5-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130	2	30	02/19/14		
1,3-Dichlorobenzene	11	0.50	ug/L	10		108	70-130	0	30	02/19/14		
1,3-Dichloropropane	10	0.50	ug/L	10		102	70-130	0	30	02/19/14		
1,4-Dichlorobenzene	10	0.50	ug/L	10		100	70-130	1	30	02/19/14		
2,2-Dichloropropane	10	0.50	ug/L	10		102	70-130	4	30	02/19/14		
2-Butanone	13	5.0	ug/L	10		132	70-130	11	30	02/19/14	BS	***High***
2-Chlorotoluene	10	0.50	ug/L	10		101	70-130	2	30	02/19/14		
2-Hexanone	12	10	ug/L	10		120	70-130	10	30	02/19/14		
4-Chlorotoluene	10	0.50	ug/L	10		102	70-130	1	30	02/19/14		
4-Methyl-2-pentanone	12	5.0	ug/L	10		120	70-130	7	30	02/19/14		
Acetone	14	10	ug/L	10		139	70-130	9	30	02/19/14	BS	***High***
Benzene	10	0.50	ug/L	10		102	70-130	2	30	02/19/14		
Bromobenzene	10	0.50	ug/L	10		101	70-130	0	30	02/19/14		
Bromochloromethane	10	0.50	ug/L	10		103	70-130	4	30	02/19/14		
Bromodichloromethane	10	0.50	ug/L	10		105	70-130	3	30	02/19/14		
Bromoform	11	0.50	ug/L	10		110	70-130	4	30	02/19/14		
Bromomethane	8.6	0.50	ug/L	10		86	70-130	5	30	02/19/14		
Carbon Tetrachloride	10	0.50	ug/L	10		104	70-130	4	30	02/19/14		
Chlorobenzene	10	0.50	ug/L	10		102	70-130	3	30	02/19/14		
Chloroethane	9.6	0.50	ug/L	10		96	70-130	2	30	02/19/14		
Chloroform	9.8	0.50	ug/L	10		98	70-130	4	30	02/19/14		
Chloromethane	9.8	0.50	ug/L	10		98	70-130	5	30	02/19/14		
cis-1,2-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	3	30	02/19/14		
cis-1,3-Dichloropropene	9.6	0.50	ug/L	10		96	70-130	1	30	02/19/14		
Dibromochloromethane	10	0.50	ug/L	10		104	70-130	1	30	02/19/14		
Dibromomethane	10	0.50	ug/L	10		100	70-130	0	30	02/19/14		
Dichlorodifluoromethane	11	0.50	ug/L	10		106	70-130	6	30	02/19/14		
Dichloromethane	11	0.50	ug/L	10		106	70-130	3	30	02/19/14		
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		113	70-130	1	30	02/19/14		
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		112	70-130	0	30	02/19/14		
Ethylbenzene	10	0.50	ug/L	10		104	70-130	2	30	02/19/14		
Hexachlorobutadiene	11	0.50	ug/L	10		106	70-130	3	30	02/19/14		
Isopropylbenzene	9.8	0.50	ug/L	10		98	70-130	1	30	02/19/14		
m,p-Xylenes	20	0.50	ug/L	20		99	70-130	2	30	02/19/14		
Methyl-t-butyl ether	21	0.50	ug/L	20		107	70-130	2	30	02/19/14		
Naphthalene	9.9	0.50	ug/L	10		99	70-130	3	30	02/19/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402017										Prepared: 02/19/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A402017-BSD1)											
n-Butylbenzene	9.9	0.50	ug/L	10		99	70-130	3	30	02/19/14	
n-Propylbenzene	10	0.50	ug/L	10		104	70-130	2	30	02/19/14	
o-Xylene	9.9	0.50	ug/L	10		99	70-130	2	30	02/19/14	
p-Isopropyltoluene	10	0.50	ug/L	10		103	70-130	3	30	02/19/14	
sec-Butylbenzene	10	0.50	ug/L	10		100	70-130	3	30	02/19/14	
Styrene	12	0.50	ug/L	10		118	70-130	0	30	02/19/14	
tert-Amyl Methyl Ether (TAME)	12	3.0	ug/L	10		118	70-130	2	30	02/19/14	
tert-Butyl alcohol (TBA)	12	2.0	ug/L	10		115	70-130	4	30	02/19/14	
tert-Butylbenzene	10	0.50	ug/L	10		103	70-130	2	30	02/19/14	
Tetrachloroethene (PCE)	10	0.50	ug/L	10		103	70-130	4	30	02/19/14	
Toluene	10	0.50	ug/L	10		100	70-130	2	30	02/19/14	
trans-1,2-Dichloroethene	10	0.50	ug/L	10		103	70-130	4	30	02/19/14	
trans-1,3-Dichloropropene	11	0.50	ug/L	10		110	70-130	1	30	02/19/14	
Trichloroethene (TCE)	10	0.50	ug/L	10		104	70-130	8	30	02/19/14	
Trichlorofluoromethane	10	5.0	ug/L	10		104	70-130	3	30	02/19/14	
Vinyl Chloride	10	0.50	ug/L	10		104	70-130	4	30	02/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*101*	*70-130*			02/19/14	
Surrogate: Bromofluorobenzene	*51*			*50*		*102*	*70-130*			02/19/14	
EPA 525.2 - Quality Control											
Batch: A402247										Prepared: 02/21/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A402247-BLK1)											
Alachlor	ND	1.0	ug/L							02/22/14	
Atrazine	ND	0.50	ug/L							02/22/14	
Benzo(a)pyrene	ND	0.10	ug/L							02/22/14	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							02/22/14	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							02/22/14	
Bromacil	ND	10	ug/L							02/22/14	
Butachlor	ND	0.38	ug/L							02/22/14	
Diazinon	ND	0.25	ug/L							02/22/14	
Dimethoate	ND	10	ug/L							02/22/14	
Metolachlor	ND	0.50	ug/L							02/22/14	
Metribuzin	ND	0.50	ug/L							02/22/14	
Molinate	ND	2.0	ug/L							02/22/14	
Propachlor	ND	0.50	ug/L							02/22/14	
Simazine	ND	1.0	ug/L							02/22/14	
Thiobencarb	ND	1.0	ug/L							02/22/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.0*		*110*	*70-130*			02/22/14	
Blank Spike (A402247-BS1)											
Alachlor	0.60	1.0	ug/L	0.52		116	70-130			02/22/14	
Atrazine	0.60	0.50	ug/L	0.52		116	70-130			02/22/14	
Benzo(a)pyrene	0.13	0.10	ug/L	0.10		120	70-130			02/22/14	
Bis(2-ethylhexyl) adipate	3.9	3.0	ug/L	3.1		123	70-130			02/22/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A402247										Prepared: 02/21/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A402247-BS1)											
Bis(2-ethylhexyl) phthalate	3.6	3.0	ug/L	3.1		116	70-130			02/22/14	
Bromacil	2.5	10	ug/L	2.1		118	70-130			02/22/14	
Butachlor	1.4	0.38	ug/L	1.3		106	70-130			02/22/14	
Diazinon	0.052	0.25	ug/L	0.052		100	70-130			02/22/14	
Dimethoate	0.58	10	ug/L	0.52		110	70-130			02/22/14	
Metolachlor	3.4	0.50	ug/L	2.6		130	70-130			02/22/14	
Metribuzin	2.8	0.50	ug/L	2.6		107	70-130			02/22/14	
Molinate	2.9	2.0	ug/L	2.6		111	70-130			02/22/14	
Propachlor	3.0	0.50	ug/L	2.6		115	70-130			02/22/14	
Simazine	0.41	1.0	ug/L	0.37		113	70-130			02/22/14	
Thiobencarb	0.61	1.0	ug/L	0.52		117	70-130			02/22/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.2*		*105*	*70-130*			02/22/14	
Blank Spike Dup (A402247-BSD1)											
Alachlor	0.60	1.0	ug/L	0.51		117	70-130	1	30	02/22/14	
Atrazine	0.55	0.50	ug/L	0.51		108	70-130	9	30	02/22/14	
Benzo(a)pyrene	0.12	0.10	ug/L	0.10		119	70-130	3	30	02/22/14	
Bis(2-ethylhexyl) adipate	3.9	3.0	ug/L	3.1		128	70-130	1	30	02/22/14	
Bis(2-ethylhexyl) phthalate	3.7	3.0	ug/L	3.1		122	70-130	3	30	02/22/14	
Bromacil	2.7	10	ug/L	2.0		130	70-130	8	30	02/22/14	
Butachlor	1.5	0.38	ug/L	1.3		115	70-130	6	30	02/22/14	
Diazinon	0.047	0.25	ug/L	0.051		92	70-130	11	30	02/22/14	
Dimethoate	0.51	10	ug/L	0.51		100	70-130	12	30	02/22/14	
Metolachlor	3.1	0.50	ug/L	2.6		121	70-130	9	30	02/22/14	
Metribuzin	2.8	0.50	ug/L	2.6		108	70-130	1	30	02/22/14	
Molinate	2.8	2.0	ug/L	2.6		111	70-130	2	30	02/22/14	
Propachlor	2.9	0.50	ug/L	2.6		112	70-130	5	30	02/22/14	
Simazine	0.39	1.0	ug/L	0.36		109	70-130	6	30	02/22/14	
Thiobencarb	0.56	1.0	ug/L	0.51		110	70-130	9	30	02/22/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.9*			*5.1*		*116*	*70-130*			02/22/14	
Matrix Spike (A402247-MS1), Source: A4B1171-01											
Alachlor	0.57	1.0	ug/L	0.50	ND	116	70-130			02/22/14	
Atrazine	0.51	0.50	ug/L	0.50	ND	104	70-130			02/22/14	
Benzo(a)pyrene	0.11	0.10	ug/L	0.099	ND	115	70-130			02/22/14	
Bis(2-ethylhexyl) adipate	3.4	3.0	ug/L	3.0	ND	115	70-130			02/22/14	
Bis(2-ethylhexyl) phthalate	3.4	3.0	ug/L	3.0	ND	114	70-130			02/22/14	
Bromacil	2.5	10	ug/L	2.0	ND	124	70-130			02/22/14	
Butachlor	1.3	0.38	ug/L	1.2	ND	107	70-130			02/22/14	
Diazinon	0.048	0.25	ug/L	0.050	ND	96	70-130			02/22/14	
Dimethoate	0.47	10	ug/L	0.50	ND	96	70-130			02/22/14	
Metolachlor	3.0	0.50	ug/L	2.5	ND	122	70-130			02/22/14	
Metribuzin	2.7	0.50	ug/L	2.5	ND	109	70-130			02/22/14	
Molinate	2.8	2.0	ug/L	2.5	ND	113	70-130			02/22/14	
Propachlor	3.0	0.50	ug/L	2.5	ND	119	70-130			02/22/14	
Simazine	0.39	1.0	ug/L	0.35	ND	112	70-130			02/22/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A402247										Prepared: 02/21/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Matrix Spike (A402247-MS1), Source: A4B1171-01											
Thiobencarb	0.56	1.0	ug/L	0.50	ND	114	70-130			02/22/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.4*			*5.0*		*110*	*70-130*			02/22/14	
EPA 531.1 - Quality Control											
Batch: A402279										Prepared: 02/23/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A402279-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							02/25/14	
Aldicarb	ND	3.0	ug/L							02/25/14	
Aldicarb Sulfone	ND	2.0	ug/L							02/25/14	
Aldicarb Sulfoxide	ND	3.0	ug/L							02/25/14	
Carbaryl	ND	5.0	ug/L							02/25/14	
Carbofuran	ND	5.0	ug/L							02/25/14	
Methomyl	ND	2.0	ug/L							02/25/14	
Oxamyl	ND	20	ug/L							02/25/14	
Blank Spike (A402279-BS1)											
3-Hydroxycarbofuran	3.6	3.0	ug/L	4.0		89	80-120			02/25/14	
Aldicarb	4.5	3.0	ug/L	4.0		114	80-120			02/25/14	
Aldicarb Sulfone	4.2	2.0	ug/L	4.0		104	80-120			02/25/14	
Aldicarb Sulfoxide	4.1	3.0	ug/L	4.0		103	80-120			02/25/14	
Carbaryl	4.2	5.0	ug/L	4.0		104	80-120			02/25/14	
Carbofuran	4.2	5.0	ug/L	4.0		104	80-120			02/25/14	
Methomyl	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Oxamyl	4.1	20	ug/L	4.0		103	80-120			02/25/14	
Blank Spike Dup (A402279-BSD1)											
3-Hydroxycarbofuran	4.0	3.0	ug/L	4.0		99	80-120	11	20	02/25/14	
Aldicarb	4.3	3.0	ug/L	4.0		107	80-120	6	20	02/25/14	
Aldicarb Sulfone	4.1	2.0	ug/L	4.0		103	80-120	1	20	02/25/14	
Aldicarb Sulfoxide	4.0	3.0	ug/L	4.0		101	80-120	2	20	02/25/14	
Carbaryl	4.0	5.0	ug/L	4.0		101	80-120	3	20	02/25/14	
Carbofuran	4.0	5.0	ug/L	4.0		99	80-120	5	20	02/25/14	
Methomyl	4.0	2.0	ug/L	4.0		101	80-120	2	20	02/25/14	
Oxamyl	4.0	20	ug/L	4.0		101	80-120	2	20	02/25/14	
Matrix Spike (A402279-MS1), Source: A4B1162-01											
3-Hydroxycarbofuran	4.3	3.0	ug/L	4.0	ND	103	65-135			02/25/14	
Aldicarb	4.5	3.0	ug/L	4.0	ND	112	65-135			02/25/14	
Aldicarb Sulfone	4.4	2.0	ug/L	4.0	ND	109	65-135			02/25/14	
Aldicarb Sulfoxide	4.4	3.0	ug/L	4.0	ND	109	65-135			02/25/14	
Carbaryl	4.4	5.0	ug/L	4.0	ND	109	65-135			02/25/14	
Carbofuran	4.2	5.0	ug/L	4.0	ND	106	65-135			02/25/14	
Methomyl	4.3	2.0	ug/L	4.0	ND	108	65-135			02/25/14	
Oxamyl	4.2	20	ug/L	4.0	ND	106	65-135			02/25/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A402145										Prepared: 02/19/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A402145-BLK1)											
Glyphosate	ND	5.0	ug/L							02/20/14	
Surrogate: AMPA	*120*			*100*		*120*	*70-130*			02/20/14	
Blank Spike (A402145-BS1)											
Glyphosate	120	5.0	ug/L	100		118	70-130			02/20/14	
Surrogate: AMPA	*120*			*100*		*121*	*70-130*			02/20/14	
Blank Spike Dup (A402145-BSD1)											
Glyphosate	120	5.0	ug/L	100		119	70-130	1	30	02/20/14	
Surrogate: AMPA	*110*			*100*		*111*	*70-130*			02/20/14	
Matrix Spike (A402145-MS1), Source: A4B1154-01											
Glyphosate	110	5.0	ug/L	100	ND	105	70-130			02/20/14	
Surrogate: AMPA	*110*			*100*		*109*	*70-130*			02/20/14	
Matrix Spike Dup (A402145-MSD1), Source: A4B1154-01											
Glyphosate	110	5.0	ug/L	100	ND	107	70-130	2	30	02/20/14	
Surrogate: AMPA	*120*			*100*		*116*	*70-130*			02/20/14	
EPA 548.1 - Quality Control											
Batch: A402157										Prepared: 02/19/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A402157-BLK1)											
Endothall	ND	45	ug/L							02/20/14	
Blank Spike (A402157-BS1)											
Endothall	16	45	ug/L	20		79	60-111			02/20/14	
Blank Spike Dup (A402157-BSD1)											
Endothall	15	45	ug/L	20		75	60-111	5	46	02/20/14	
Matrix Spike (A402157-MS1), Source: A4B1005-07											
Endothall	ND	45	ug/L	20	ND	0	10-122			02/20/14	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A402181										Prepared: 02/20/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A402181-BLK1)											
Diquat	ND	4.0	ug/L							02/25/14	
Blank Spike (A402181-BS1)											
Diquat	3.5	4.0	ug/L	4.0		87	70-130			02/25/14	
Blank Spike Dup (A402181-BSD1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A402181										Prepared: 02/20/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank Spike Dup (A402181-BSD1)											
Diquat	3.3	4.0	ug/L	4.0		83	70-130	5	30	02/25/14	
Matrix Spike (A402181-MS1), Source: A4B1386-01											
Diquat	3.7	4.0	ug/L	4.0	ND	92	70-130			02/25/14	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters:

A4B1386

Monterey Bay Analytical

Monte6227

02192014

Turnaround: Standard
Due Date: 2/26/2014

Printed: 2/19/2014 4:54:45PM
Page 1 of 1

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

TEMP: 4.0

* Required Fields

Client/Company Name *:	Report Attention *:	Phone * #: (831)-357-6227 FAX * #(831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Project Information: Cal Am
PO #
Quote # 464

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Regulatory Compliance Electronic Data Transfer: Y ☐ N ☑ System No. *

Sampler Name Printed / Signature: Nathan Renolds

QC Request: ☑ STD ☐ Level II

Result Request ** Surcharge: ☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

ANALYSIS REQUESTED

Matrix Types: RSW = Raw Surface Water CFW = Clorinated Finished Water CWW = Chorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 plus oxygenates	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549	
1		2/18	12:15	CX-B1WQ Zone #1	RGW	11850	✓	✓	✓	✓	✓	✓	✓	✓	✓
				5 day TAT please											
				Conductivity 36,000 uS/cm											

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	2/18	1600		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received by Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	
		2/19/14	1020		

Shipping Method: CAC UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material: Bubble Foam/Airbag

SR-FL-0012-00 (Analytical)

Sample Integrity

BSK Bottles: Yes No Page 2 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received — "—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 548	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C, 3A
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	7V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: RC @ 1505 Labels checked by: G-33 @ 1538 RUSH Paged by:

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

February 24, 2014 Ceres ID: 10262

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on February 19, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. Rush 5 day turn-around time was provided for this work.

This work was authorized under M.B.A.'s Project # 11850.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10262-001	CX-B1WQ Zone #1 (274-284 ft bags)	2/19/2014	2/18/2014	12:15

Section II: Data Summary

Sample ID:	**Method Blank**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001
Project:	11850	Sample Size:	1.000 L	QC Batch #:	1156
Date Collected:	NA			ZB-5 MS Analysis Date:	22-Feb-14
Time Collected:	NA			Date Received:	NA
				Date Extracted:	21-Feb-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	3.66		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	110	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	119	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	11850	Sample Size:	1.000 L	QC Batch #:	1156	Date Extracted:	21-Feb-14
Date Collected:	NA			ZB-5 MS Analysis Date:	22-Feb-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.88	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	98.3	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	10.1	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B1WQ Zone #1 (274-284 ft bags)**						
Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	10262-001	Date Received:	19-Feb-14
Project:	11850	Sample Size:	1.058 L	QC Batch #:	1156	Date Extracted:	21-Feb-14
Date Collected:	18-Feb-14			ZB-5 MS Analysis Date:	22-Feb-14		
Time Collected:	12:15						

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.98		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	99.3	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	103	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Chain of Custody

Please Print in Pen

Ceres Use Only

Ceres Project ID:_____
Temperature: _____ °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information (if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days) 5
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous	S: Soil	AS: Ash	DW: Drinking Water
E: Effluent	SD: Sediment	C: Clay	SO: Solid
I: Influent	SL: Sludge	CS: Clay Slurry	O: Other (please comment)

	Sample ID	Sample Collection Date	Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other — Comments
1	CX-B1WQ Zone #1 (274-284 ft bags)	2/18/2014	12:15	Aq	2	X						11850
2												(2,3,7,8 TCDD only)
3												5 day Rush Please
4												
5												
6												
7												
8												
9												
10												
11												
12												

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (signature and Printed Name)	Date	Time
David Holland	2/18/2014	16:00	James M. Hedin	2/19/14	09:28

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

SEC = 36,000 uS/cm

Sample Receipt Check List

Ceres ID: 10262	Date/Time: 2/19/14 09:28
Client Project ID: 11850	Received Temperature: 2.1°C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present? No Residual Cl	Y / N / (NA)
List COC discrepancies: 2/19/14	
List Damaged Samples: 2/19/14	

Ceres Analytical Laboratory — Process Request

Ceres ID: 10262 PB: 1156 Sample #s: 1 Due Date: 2/25/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☐ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10262-1	1564.35	506.44	1,058L

Chemist: _____ Date: 2/21/14

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1156-MB001	Method Blank		1.000L	(A) 2/21/14 MK	2/22/14 MK	NA	2/22/14	NA	2/22/14 MK
0-1156-OPR001	OPR		1.000L	↓	↓	↓	↓	↓	↓
10262-1156-001	CX-B1WQ Zone #1	✓	1.058L	↓	↓	↓	↓	↓	↓

Comments: (A) Spiked w/NSS

Soxhlet Start: 14:00 2/21/14

Soxhlet Stop: 06:25 2/22/14

Samples Logged out by: 2/21/14 11:30

Samples Returned by: NA

Note samples Depleted: "A"

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 09:20 2/22/14

Extracts returned to Storage Location: 09:30 2/24/14

Form M1.0 rev4

Chemist: G-45

Effective Date: 7/12/13

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory
Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	503121 2A	100	3/12/14
NSS	503121 2B	10 ml	3/12/14
CSS	503121 2C	10 ml	3/12/14
RSS	503121 2D	20 ml	3/12/12

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450 ml	B4020	6/10/14
Sigel	4 g	P020514A	8/5/14
Hexane	30, 30, 100, 20	136735	6/10/14
Basiogel	4 g	P012014A	7/20/14
Acid gel	8 g	P012014B	7/20/14
Acid Al	6 g	P020414A	8/4/14
Na2SO4	1.5 g	P120412A	6/4/14
20% DCM Hex	30 ml	L021914A	8/19/14

Chemist : [signature] G-46

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	**Report Date:**	02/26/14 15:54
		Received Date:	02/19/14 08:45
		Turn Around:	5 workdays
Attention:	David Holland	**Client Project:**	Cal Am
Phone:	(831) 375-6227		
Fax:	(831) 641-0734		
Work Order(s):	4B19035		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear David Holland :

Enclosed are the results of analyses for samples received 02/19/14 08:45 with the Chain of Custody document. The samples were received in good condition, at 5.2 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/19/14 08:45
Date Reported: 02/26/14 15:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
CX-B1WQ Zone #1 (274-284)	Nathan Reynolds	11146	4B19035-01	Water	02/18/14 12:15

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

www.wecklabs.com

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/19/14 08:45
Date Reported: 02/26/14 15:54

4B19035-01 **CX-B1WQ Zone #1 (274-284)**

Sampled: 02/18/14 12:15 **Sampled By:** Nathan Reynolds **Matrix:** Water

Sample Note: 11146

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 9056A | Batch: W4B0889 | Prepared: 02/20/14 09:30 | Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Iodide	ND	250	ug/l	25	02/20/14 15:41	M-05

Chlorinated Pesticides and/or PCBs

Method: EPA 508 | Batch: W4B0898 | Prepared: 02/20/14 14:56 | Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND		0.010	ug/l	1	02/24/14 18:28	
4,4´-DDE	ND		0.010	ug/l	1	02/24/14 18:28	
4,4´-DDT	ND		0.010	ug/l	1	02/24/14 18:28	
Aldrin	ND		0.010	ug/l	1	02/24/14 18:28	
alpha-BHC	ND		0.010	ug/l	1	02/24/14 18:28	
Aroclor 1016	ND		0.10	ug/l	1	02/24/14 18:28	
Aroclor 1221	ND		0.10	ug/l	1	02/24/14 18:28	
Aroclor 1232	ND		0.10	ug/l	1	02/24/14 18:28	
Aroclor 1242	ND		0.10	ug/l	1	02/24/14 18:28	
Aroclor 1248	ND		0.10	ug/l	1	02/24/14 18:28	
Aroclor 1254	ND		0.10	ug/l	1	02/24/14 18:28	
Aroclor 1260	ND		0.10	ug/l	1	02/24/14 18:28	
beta-BHC	ND		0.010	ug/l	1	02/24/14 18:28	
Chlordane (tech)	ND		0.10	ug/l	1	02/24/14 18:28	
Chlorothalonil	ND		0.050	ug/l	1	02/24/14 18:28	
delta-BHC	ND		0.010	ug/l	1	02/24/14 18:28	
Dieldrin	ND		0.010	ug/l	1	02/24/14 18:28	
Endosulfan I	ND		0.010	ug/l	1	02/24/14 18:28	
Endosulfan II	ND		0.010	ug/l	1	02/24/14 18:28	
Endosulfan sulfate	ND		0.010	ug/l	1	02/24/14 18:28	
Endrin	ND		0.010	ug/l	1	02/24/14 18:28	
Endrin aldehyde	ND		0.010	ug/l	1	02/24/14 18:28	
gamma-BHC (Lindane)	ND		0.010	ug/l	1	02/24/14 18:28	
Heptachlor	ND		0.010	ug/l	1	02/24/14 18:28	
Heptachlor epoxide	ND		0.010	ug/l	1	02/24/14 18:28	
Hexachlorobenzene	ND		0.010	ug/l	1	02/24/14 18:28	
Hexachlorocyclopentadiene	ND		0.050	ug/l	1	02/24/14 18:28	
Methoxychlor	ND		0.010	ug/l	1	02/24/14 18:28	
PCBs, Total	ND		0.50	ug/l	1	02/24/14 18:28	
Propachlor	ND		0.050	ug/l	1	02/24/14 18:28	
Toxaphene	ND		1.0	ug/l	1	02/24/14 18:28	
Trifluralin	ND		0.010	ug/l	1	02/24/14 18:28	
Surr: Decachlorobiphenyl	*8 %*	Conc:*0.00769*	*70-130*	%			*S-GC*
Surr: Tetrachloro-meta-xylene	*71 %*	Conc:*0.0677*	*70-130*	%			

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/19/14 08:45
Date Reported: 02/26/14 15:54

4B19035-01 **CX-B1WQ Zone #1 (274-284)**

Sampled: 02/18/14 12:15 **Sampled By:** Nathan Reynolds **Matrix:** Water

Sample Note: 11146

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/19/14 08:45
Date Reported: 02/26/14 15:54

QUALITY CONTROL SECTION

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/19/14 08:45
Date Reported: 02/26/14 15:54

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4B0889 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0889-BLK1)				Analyzed: 02/20/14 15:41						
Iodide	ND	10	ug/l							
LCS (W4B0889-BS1)				Analyzed: 02/20/14 15:41						
Iodide	40.0	10	ug/l	40.0		100	85-115			
Duplicate (W4B0889-DUP1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide	63.0	25	ug/l		63.9			1	20	
Matrix Spike (W4B0889-MS1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide	176	25	ug/l	100	63.9	112	80-120			
Matrix Spike Dup (W4B0889-MSD1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide	149	25	ug/l	100	63.9	85	80-120	17	20	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B0898 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0898-BLK1)				Analyzed: 02/24/14 16:56						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/19/14 08:45
Date Reported: 02/26/14 15:54

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B0898 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0898-BLK1)				Analyzed: 02/24/14 16:56						
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.0779*		*ug/l*	*0.100*		*78*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0735*		*ug/l*	*0.100*		*74*	*70-130*			
LCS (W4B0898-BS1)				Analyzed: 02/24/14 17:27						
4,4´-DDD	0.0795	0.010	ug/l	0.100		80	55-142			
4,4´-DDE	0.0817	0.010	ug/l	0.100		82	49-129			
4,4´-DDT	0.0894	0.010	ug/l	0.100		89	54-160			
Aldrin	0.0689	0.010	ug/l	0.100		69	29-115			
alpha-BHC	0.0784	0.010	ug/l	0.100		78	59-131			
beta-BHC	0.0788	0.010	ug/l	0.100		79	63-136			
delta-BHC	0.0876	0.010	ug/l	0.100		88	59-137			
Dieldrin	0.0830	0.010	ug/l	0.100		83	59-135			
Endosulfan I	0.0700	0.010	ug/l	0.100		70	28-138			
Endosulfan II	0.0744	0.010	ug/l	0.100		74	53-133			
Endosulfan sulfate	0.0822	0.010	ug/l	0.100		82	58-155			
Endrin	0.0710	0.010	ug/l	0.100		71	57-148			
Endrin aldehyde	0.0676	0.010	ug/l	0.100		68	45-139			
gamma-BHC (Lindane)	0.0802	0.010	ug/l	0.100		80	59-129			
Heptachlor	0.0783	0.010	ug/l	0.100		78	42-136			
Heptachlor epoxide	0.0805	0.010	ug/l	0.100		80	59-134			
Methoxychlor	0.0770	0.010	ug/l	0.100		77	56-167			
Surr: Decachlorobiphenyl	*0.0839*		*ug/l*	*0.100*		*84*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0742*		*ug/l*	*0.100*		*74*	*70-130*			
LCS Dup (W4B0898-BSD1)				Analyzed: 02/25/14 09:31						
4,4´-DDD	0.0977	0.010	ug/l	0.100		98	55-142	21	25	
4,4´-DDE	0.0993	0.010	ug/l	0.100		99	49-129	20	25	
4,4´-DDT	0.101	0.010	ug/l	0.100		101	54-160	13	25	
Aldrin	0.0774	0.010	ug/l	0.100		77	29-115	12	25	
alpha-BHC	0.0891	0.010	ug/l	0.100		89	59-131	13	25	
beta-BHC	0.0918	0.010	ug/l	0.100		92	63-136	15	25	
delta-BHC	0.103	0.010	ug/l	0.100		103	59-137	16	25	
Dieldrin	0.0977	0.010	ug/l	0.100		98	59-135	16	25	
Endosulfan I	0.0821	0.010	ug/l	0.100		82	28-138	16	25	
Endosulfan II	0.0892	0.010	ug/l	0.100		89	53-133	18	25	
Endosulfan sulfate	0.0953	0.010	ug/l	0.100		95	58-155	15	25	
Endrin	0.0853	0.010	ug/l	0.100		85	57-148	18	25	
Endrin aldehyde	0.0835	0.010	ug/l	0.100		84	45-139	21	25	
gamma-BHC (Lindane)	0.0909	0.010	ug/l	0.100		91	59-129	12	25	
Heptachlor	0.0845	0.010	ug/l	0.100		85	42-136	8	25	
Heptachlor epoxide	0.0950	0.010	ug/l	0.100		95	59-134	17	25	

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Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/19/14 08:45
Date Reported: 02/26/14 15:54

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B0898 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4B0898-BSD1)				Analyzed: 02/25/14 09:31						
Methoxychlor	0.0862	0.010	ug/l	0.100		86	56-167	11	25	
Surr: Decachlorobiphenyl	*0.0979*		*ug/l*	*0.100*		*98*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0763*		*ug/l*	*0.100*		*76*	*70-130*			

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/19/14 08:45
Date Reported: 02/26/14 15:54

Notes and Definitions

S-GC	Surrogate recovery outside of control limits due to a possible matrix effect . The data was accepted based on valid recovery of the remaining surrogate.
M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

AB12002

SAMPLE ID **Zone 1 Total**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	4646	0.04350	202.10
Potassium	54	0.02558	1.38
Calcium	2718	0.04990	135.63
Magnesium	1040	0.08229	85.58
NH3-N	0	0.07143	0.00
		SUM	424.69

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	118	0.02000	2.36
Sulfate	1760	0.02082	36.64
Chloride	14184	0.02821	400.13
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.2	0.05264	0.01
Bromide	41.0	0.01252	0.51
		SUM	439.66

ANION-CATION BALANCE: **-2** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	36940	
Cation Sum X 100	42469	**115%**
Anion Sum X 100	43966	**119%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**19.2**
Ca+Mg+Na	423.31
HCO3/Ca	0.02
dS/m	36.94
Value Table II	1.5
SAR adj	**30.6**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net
ELAP Certification Number: 2385

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

Friday, February 28, 2014

Lab Number: **AB11965**

Collection Date/Time:	2/19/2014	16:10	Sample Collector:	REYNOLDS, N	
Submittal Date/Time:	2/19/2014	17:33	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-BIWQ Zone #2 (237-247 ft bgs)

Analyte	Method	Unit	**Result**	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**132**		2		2/20/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**Not Detected**	E	10	1000	2/27/2014	MC LAB
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		2/25/2014	DH
Arsenic, Total	EPA200.8	ug/L	**Not Detected**	E	1	10	2/27/2014	MC LAB
Barium, Dissolved	EPA200.8	ug/L	**210**	E	10		2/27/2014	MC LAB
Bicarbonate (as HCO3-)	SM2320B	mg/L	**161**		10		2/21/2014	SM
Boron, Dissolved	EPA200.7	mg/L	**0.73**		0.05		2/21/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**24**		0.1		2/20/2014	DC
Calcium	EPA200.7	mg/L	**1581**		0.5		2/21/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**1558**		0.5		2/21/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Not Detected**	E			2/25/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		2/21/2014	SM
Chloride, Dissolved	EPA300.0	mg/L	**8796**		1		2/20/2014	DC
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Attached (ND)**	E			2/25/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**14**		3	15	2/20/2014	LRH
Copper, Total	EPA200.8	ug/L	**Not Detected**	E	4	1300	2/27/2014	MC LAB
DBCP & EDB	EPA504.1	ug/L	**Not Detected**	E			2/26/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Attached (ND)**	E			2/22/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Not Detected**	E			2/25/2014	BSK
Endothall	EPA548.1	ug/L	**Not Detected**	E			2/26/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**0.1**		0.1		2/20/2014	DC
Glyphosate	EPA547	ug/L	**Not Detected**	E			2/22/2014	BSK
Hardness (as CaCO3)	SM2340B	mg/L	**6723**		10		2/26/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		2/21/2014	SM
Iodide	EPA9056M	ug/L	**Attached (ND)**	E	10		2/22/2014	WECK
Iron	EPA200.7	ug/L	**2643**		10	300	2/21/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**2539**		10	300	2/21/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**0.4**	J	0.5		2/25/2014	HM
Lithium	EPA200.8	ug/L	**120**	E	1		2/27/2014	MC LAB
Magnesium	EPA200.7	mg/L	**674**		0.5		2/21/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**683**		1		2/21/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**166**		10	50	2/21/2014	DC
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	2/20/2014	DC
Nitrate as NO3	EPA300.0	mg/L	**Not Detected**		1	45	2/20/2014	DC
Nitrate+Nitrite as N	EPA300.0	mg/L	**0.2**		0.1		2/20/2014	DC
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**Not Detected**		0.1		2/20/2014	DC
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	2/20/2014	LRH
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**0.09**		0.1		2/24/2014	DH
pH (Field Test)	SM4500-H+B	pH	**6.79**				2/19/2014	NR

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Lab Number: AB11965

Appendix G

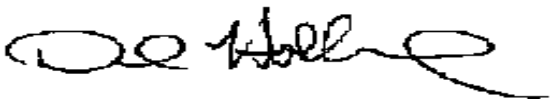
Collection Date/Time: 2/19/2014 16:10 Sample Collector: REYNOLDS, N
Submittal Date/Time: 2/19/2014 17:33 Sample ID GEOSCIENCE Coliform Designation:

Sample Description: CX-BIWQ Zone #2 (237-247 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
pH (Laboratory)	SM4500-H+B	pH (H)	**6.9**				2/20/2014	HM
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Not Detected**	E			2/26/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**0.10**		0.03		2/24/2014	DH
Potassium, Dissolved	EPA200.7	mg/L	**35**		0.1		2/21/2014	DC
QC Ratio TDS/SEC	Calculation		**0.59**				2/24/2014	DH
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Not Detected**	E			2/26/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**Not Detected**		0.5		2/21/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**2914**		0.5		2/21/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**24570**		1	900	2/20/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**23705**		1		2/19/2014	NR
Strontium, Dissolved	EPA200.8	ug/L	**11,000**	E	5		2/27/2014	MC LAB
Sulfate	EPA300.0	mg/L	**991**		1	250	2/20/2014	DC
Temperature (Field)	SM2550	° C	**18.7**				2/19/2014	NR
Total Diss. Solids	SM2540C	mg/L	**14600**		10	500	2/20/2014	HM
Turbidity	EPA180.1	NTU	**2.9**		0.05	5.0	2/20/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**1.20**		0.05		2/19/2014	NR
Volatile Org. Compounds (524)	EPA524	ug/L	**Not Detected**	E			2/25/2014	BSK
Zinc, Total	EPA200.8	ug/L	**Not Detected**	E	10	5000	2/27/2014	MC LAB

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB11965 Cal Am**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	2914	0.04350	126.76
Potassium	35	0.02558	0.90
Calcium	1558	0.04990	77.74
Magnesium	683	0.08229	56.20
NH3-N	0	0.07143	0.00
		SUM	261.60

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	132	0.02000	2.64
Sulfate	991	0.02082	20.63
Chloride	8796	0.02821	248.14
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.1	0.05264	0.01
Bromide	24.0	0.01252	0.30
		SUM	271.71

ANION-CATION BALANCE: **-2** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	24570	
Cation Sum X 100	26160	**106%**
Anion Sum X 100	27171	**111%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**15.5**
Ca+Mg+Na	260.71
HCO3/Ca	0.03
dS/m	24.57
Value Table II	1.5
SAR adj	**23.6**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	ĀÀ !"#"$%23$%34$!5634%7"#856"9 +%:;9!5 %&Ä;#!(%7;5!"%< ĀÀ !"#"$%&'(%)*)+,	**Report Date:**	,-.-@./+%/,0+B
		Received Date:	,-.-/./+%,)0+1
		Turn Around:	1%EÀ#F=3$9
Attention:	<385=%>À443 =	**Client Project:**	&34%
Phone:	?@*/A%*B1CD--B		
Fax:	?@*/A%D+/C,B*+		
Work Order(s):	+2-/,,@		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

<"3#%<385=%>À443 =%0

H 64Ä9"=%3#"%!I"%#"9;4!9%ÀJ%3 34$9"9%JÄ#%93GK4"9%#"6"%8)9+%,%E5!I%!I"%&I35 %ÀJ%&;9!Ä=$%=Ä6;G" !L%MI"%93GK4"9% E"#"%#"6"58"=%5 %NÀÄ=%6Ä =5!5Ä (%3!%DLB%O&%3 =%4$9596%C3%!I"%4%3 !Ä=%6#5!"#53%"P6"K!%39% Ä!"=%Q"4ÀÄ%5 %!I"%# E5!I%=3!3%R;345J5"#9L

Case Narrative:

Reviewed by:

2#3 =Ä %U""
S#ÄT"6!%Ã3 3N"#

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

ĀÀ !"#" $%2$%34 $!5634%7"#856"9
+%:;9!5 %&À;#!(%7;5!"%<
ĀÀ !"#"$%&'(%)*)+,

Date Received: ,-.-/./+%,)0+1
Date Reported: ,-.-@./+%/,0+B

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
&ZC2/V\%]À "%^-%?-B+C-@+A	_3!I3 %`"$ Ä4=9	/ /)D1	+2-/,,@C,/	V 3!"#	,-./)./+%/D0/,

ANALYSES

' 5À 9%Q$%X&(%[illegible]!IÄ=%*,,L,.*,,L/.*-D

&I4À#5 3!"=%S"9!565="9%3 =.À#%S&29

S3N"%-%ÄJ%)

ĀÀ !"#" $%2$3%34 $!5634%7"#856"9
+%:;9!5 %&À;#!(%7;5!"%<
ĀÀ !"#"$%&'(%)*)+,

Date Received: ,-.-/./+%,)0+1
Date Reported: ,-.-@./+%/,0+B

4B21008-01 CX-B1WQ Zone #2 (274-284)

Sampled: ,-./)./+%/D0/, **Sampled By:** _3!I3 %`"$ À4=9 **Matrix:** V3 !" #

Sample Note: 11965

Anions by IC, EPA Method 300.0/300.1/326

Ā"!IÀ=0%HS%,1D' 23!6I0%V+2/-+) S#"K3#"=0%,-.--./+%,@0*, ' 34$9!0%3!4

' 34$!"	`"9;4!	Ā<W	Ā`W	a 5!9	<54	' 34$["=	\;345J5"#
XÀ=5="	_<	1L-	/-,	;N.4	/-L1	,-.--./+%/*0/D	ĀC,1

Chlorinated Pesticides and/or PCBs

Ā"!IÀ=0%HS%,@ 23!6I0%V+2,))D S#"K3#"=0%,-.--./+%,@01@ ' 34$9!0%GPE

' 34$!"	`"9;4!		Ā`W	a 5!9	<54	' 34$["=	\;345J5"#
+(+bC<<<	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
+(+bC<<H	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
+(+bC<<M	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
'4=#5	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
34KI3C2>&	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
'#À64À#%/,/D	_<		,L/,	;N.4	/	,-.-1./+%/,0*-	
'#À64À#%/--/	_<		,L/,	;N.4	/	,-.-1./+%/,0*-	
'#À64À#%/-*-	_<		,L/,	;N.4	/	,-.-1./+%/,0*-	
'#À64À#%/-+-	_<		,L/,	;N.4	/	,-.-1./+%/,0*-	
'#À64À#%/-+@	_<		,L/,	;N.4	/	,-.-1./+%/,0*-	
'#À64À#%/-1+	_<		,L/,	;N.4	/	,-.-1./+%/,0*-	
'#À64À#%/-D,	_<		,L/,	;N.4	/	,-.-1./+%/,0*-	
Q"!3C2>&	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
&I4À#=3 "%?!"6IA	_<		,L/,	;N.4	/	,-.-1./+%/,0*-	
&I4À#À!I34À 54	_<		,L,1,	;N.4	/	,-.-1./+%/,0*-	
="4!3C2>&	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
<5"4=#5	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
H =À9;4J3 %X	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
H =À9;4J3 %XX	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
H =À9;4J3 %9;4J3!"	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
H =#5	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
H =#5 %34="I$="	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
N3GG3C2>&%?W5 =3 "A	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
>"K!36I4À#	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
>"K!36I4À#%"KÀP5="	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
>"P36I4À#ÀQ" [" "	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
>"P36I4À#À6$64ÀK" !3=5" "	_<		,L,1,	;N.4	/	,-.-1./+%/,0*-	
Ā"!IÀP$6I4À#	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
S&29(%MÀ!34	_<		,L1,	;N.4	/	,-.-1./+%/,0*-	
S#ÀK36I4À#	_<		,L,1,	;N.4	/	,-.-1./+%/,0*-	
MÀP3KI" "	_<		/L,	;N.4	/	,-.-1./+%/,0*-	
M#5J4;#345	_<		,L,/,	;N.4	/	,-.-1./+%/,0*-	
Surr: Decachlorobiphenyl	*70 %*	&À 600.0667	*70-130*	c			
Surr: Tetrachloro-meta-xylene	*115 %*	&À 600.110	*70-130*	c			

S3N"%*%ÀJ%)

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Analytical Laboratory Service - Since 1964

ĀÀ !"#" $%2$%34 $!5634%7"#856"9
+%:;9!5 %&À;#!(%7;5!"%<
ĀÀ !"#"$%&'(%)*)+,

Date Received: ,-.-/./+%,)0+1
Date Reported: ,-.-@./+%/,0+B

4B21008-01 CX-B1WQ Zone #2 (274-284)

Sampled: ,-./).+%/D0/, **Sampled By:** _3!I3 %`"$ Ä4=9 **Matrix:** V3 !"#

Sample Note: 11965

Chlorinated Pesticides and/or PCBs

S3N"%+%ÀJ%)

WECK LABORATORIES, INC.
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ĀÀ !"#" $%2$%34 $!5634%7"#856"9
+%:;9!5 %&À;#!(%7;5!"%<
ĀÀ !"#"$%&'(%)*)+,

Date Received: ,-.-/./+%,)0+1
Date Reported: ,-.-@./+%/,0+B

\a'WXMd %%%&e_M`ẽẘW
7H&MXe_

S3N"%1%ÄJ%)

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

ĀÀ !"#" $%2$%34 $!5634%7"#856"9
+%:;9!5 %&À;#!(%7;5!"%<
ĀÀ !"#"$%&'(%)*)+,

Date Received: ,-.-/./+%,)0+1
Date Reported: ,-.-@./+%/,0+B

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4B1249 - EPA 9056A

%34$!"	`"9;4!	`"KÄ#!5 N% W5G5!	a 5!9	7K5F"% W"8"4	7Ä;#6"% `"9;4!	c`H&	c%`H& W5G5!9	`S<	`S< W5G5!	<3!3 \;345J5"#9%
Blank (W4B1249-BLK1)				%34$["=0%,-.--./+%/*0/D						
XÄ=5="	_<	/,	;N.4							
LCS (W4B1249-BS1)				%34$["=0%,-.--./+%/*0/D						
XÄ=5="	*)LB	/,	;N.4	+,L,		))	@1C1			
Matrix Spike (W4B1249-MS1)	**Source: 4B21008-01**			%34$["=0%,-.--./+%/*0/D						
XÄ=5="	+1)	/-,	;N.4	1,,	_<	)-	@,C/-,			
Matrix Spike Dup (W4B1249-MSD1)	**Source: 4B21008-01**			%34$["=0%,-.--./+%/*0/D						
XÄ=5="	+*+	/-,	;N.4	1,,	_<	@B	@,C/-,	D	-,	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B0996 - EPA 508

%34$!"	`"9;4!	`"KÄ#!5 N% W5G5!	a 5!9	7K5F"% W"8"4	7Ä;#6"% `"9;4!	c`H&	c%`H& W5G5!9	`S<	`S< W5G5!	<3!3 \;345J5"#9%
Blank (W4B0996-BLK1)				%34$["=0%,-.-+./+%/)0-)						
+(+bC<<<	_<	,L,/,	;N.4							
+(+bC<<H	_<	,L,/,	;N.4							
+(+bC<<M	_<	,L,/,	;N.4							
'4=#5	_<	,L,/,	;N.4							
34KI3C2>&	_<	,L,/,	;N.4							
'#Ä64À#%/,/D	_<	,L/,	;N.4							
'#Ä64À#%/--/	_<	,L/,	;N.4							
'#Ä64À#%/-*-	_<	,L/,	;N.4							
'#Ä64À#%/-+-	_<	,L/,	;N.4							
'#Ä64À#%/-+@	_<	,L/,	;N.4							
'#Ä64À#%/-1+	_<	,L/,	;N.4							
'#Ä64À#%/-D,	_<	,L/,	;N.4							
Q"!3C2>&	_<	,L,/,	;N.4							
&I4À#=3 "%?!"6IA	_<	,L/,	;N.4							
&I4À#À!I34À 54	_<	,L,1,	;N.4							
="4!3C2>&	_<	,L,/,	;N.4							
<5"4=#5	_<	,L,/,	;N.4							
H =Ä9;4J3 %X	_<	,L,/,	;N.4							
H =Ä9;4J3 %XX	_<	,L,/,	;N.4							
H =Ä9;4J3 %9;4J3!"	_<	,L,/,	;N.4							
H =#5	_<	,L,/,	;N.4							
H =#5 %34="I$="	_<	,L,/,	;N.4							
N3GG3C2>&%?W5 =3 "A	_<	,L,/,	;N.4							
>"K!36I4À#	_<	,L,/,	;N.4							
>"K!36I4À#%"KÀP5="	_<	,L,/,	;N.4							
>"P36I4À#ÀQ" [" "	_<	,L,/,	;N.4							
>"P36I4À#Ä6$64ÀK" !3=5" "	_<	,L,1,	;N.4							
Ā"!IÀP$6I4À#	_<	,L,/,	;N.4							
S&29(%Ä!34	_<	,L1,	;N.4							

S3N"%D%ÀJ%)

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ĀÀ !"#" $%2$%34 $!5634%7"#856"9
+%:;9!5 %&Ä;#!(%7;5!"%<
ĀÀ !"#"$%&'(%)*)+,

Date Received: ,-.-/./+%,)0+1
Date Reported: ,-.-@./+%/,0+B

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B0996 - EPA 508

%34$!"	`"9;4!	`"KÄ#!5 N% W5G5!	a 5!9	7K5F"% W"8"4	7Ä;#6"% `"9;4!	c`H&	c%`H& W5G5!9	`S<	`S< W5G5!	<3!3 \;345J5"#9%
Blank (W4B0996-BLK1)				%34$["=0%,-.-+./+%/)0-)						
S#ÄK36I4Ä#	_<	,L,1,	;N.4							
MÄP3KI" "	_<	/L,	;N.4							
M#5J4;#345	_<	,L,/,	;N.4							
Surr: Decachlorobiphenyl	*0.0822*		*ug/l*	*0.100*		*82*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0845*		*ug/l*	*0.100*		*84*	*70-130*			
LCS (W4B0996-BS1)				%34$["=0%,-.-+./+%/)01)						
+(+bC<<<	,L,@,B	,L,/,	;N.4	,L/,,		@/	11C/+-			
+(+bC<<H	,L,@-1	,L,/,	;N.4	,L/,,		@-	+)C/-)			
+(+bC<<M	,L,)/+	,L,/,	;N.4	,L/,,		)/	1+C/D,			
'4=#5	,L,B/*	,L,/,	;N.4	,L/,,		B/	-)C/ /1			
34KI3C2>&	,L,@,+	,L,/,	;N.4	,L/,,		@,	1)C/*/			
Q"!3C2>&	,L,BBD	,L,/,	;N.4	,L/,,		B@	D*C/*D			
="4!3C2>&	,L,@@-	,L,/,	;N.4	,L/,,		@@	1)C/*B			
<5"4=#5	,L,@/1	,L,/,	;N.4	,L/,,		@/	1)C/*1			
H =Ä9;4J3 %X	,L,D@D	,L,/,	;N.4	,L/,,		D)	-@C/*@			
H =Ä9;4J3 %XX	,L,B+/	,L,/,	;N.4	,L/,,		B+	1*C/**			
H =Ä9;4J3 %9;4J3!"	,L,@++	,L,/,	;N.4	,L/,,		@+	1@C/11			
H =#5	,L,B/@	,L,/,	;N.4	,L/,,		B-	1BC/+@			
H =#5 %34="I$="	,L,B+B	,L,/,	;N.4	,L/,,		B1	+1C/*)			
N3GG3C2>&%?W5 =3 "A	,L,@,@	,L,/,	;N.4	,L/,,		@/	1)C/-)			
>"K!36I4Ä#	,L,B)B	,L,/,	;N.4	,L/,,		@,	+-C/*D			
>"K!36I4Ä#%"KÄP5="	,L,B)*	,L,/,	;N.4	,L/,,		B)	1)C/*+			
Ā"!IÄP$6I4Ä#	,L,@/)	,L,/,	;N.4	,L/,,		@-	1DC/DB			
Surr: Decachlorobiphenyl	*0.0892*		*ug/l*	*0.100*		*89*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0867*		*ug/l*	*0.100*		*87*	*70-130*			
LCS Dup (W4B0996-BSD1)				%34$["=0%,-.-+./+%-,0*,						
+(+bC<<<	,L,B)+	,L,/,	;N.4	,L/,,		B)	11C/+-	-	-1	
+(+bC<<H	,L,@-@	,L,/,	;N.4	,L/,,		@*	+)C/-)	,L+	-1	
+(+bC<<M	,L,)/-	,L,/,	;N.4	,L/,,		)/	1+C/D,	,L*	-1	
'4=#5	,L,B,)	,L,/,	;N.4	,L/,,		B/	-)C/ /1	,LD	-1	
34KI3C2>&	,L,@,+	,L,/,	;N.4	,L/,,		@,	1)C/*/	,L,*	-1	
Q"!3C2>&	,L,B)1	,L,/,	;N.4	,L/,,		@,	D*C/*D	-	-1	
="4!3C2>&	,L,@@/	,L,/,	;N.4	,L/,,		@@	1)C/*B	,L,D	-1	
<5"4=#5	,L,@*+	,L,/,	;N.4	,L/,,		@*	1)C/*1	-	-1	
H =Ä9;4J3 %X	,L,B,-	,L,/,	;N.4	,L/,,		B,	-@C/*@	-	-1	
H =Ä9;4J3 %XX	,L,B+*	,L,/,	;N.4	,L/,,		B+	1*C/**	,L-	-1	
H =Ä9;4J3 %9;4J3!"	,L,@**	,L,/,	;N.4	,L/,,		@*	1@C/11	/	-1	
H =#5	,L,B*,	,L,/,	;N.4	,L/,,		B*	1BC/+@	-	-1	
H =#5 %34="I$="	,L,B)1	,L,/,	;N.4	,L/,,		B)	+1C/*)	D	-1	
N3GG3C2>&%?W5 =3 "A	,L,@-*	,L,/,	;N.4	,L/,,		@-	1)C/-)	-	-1	
>"K!36I4Ä#	,L,@,/	,L,/,	;N.4	,L/,,		@,	+-C/*D	,L1	-1	
>"K!36I4Ä#%"KÄP5="	,L,@/-	,L,/,	;N.4	,L/,,		@/	1)C/*+	-	-1	
Ā"!IÄP$6I4Ä#	,L,@--	,L,/,	;N.4	,L/,,		@-	1DC/DB	,L+	-1	
Surr: Decachlorobiphenyl	*0.0834*		*ug/l*	*0.100*		*83*	*70-130*			

S3N"%B%ÀJ%)

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ĀÀ !"#" $%2$%34 $!5634%7"#856"9
+%:;9!5 %&À;#!(%7;5!"%<
ĀÀ !"#"$%&'(%)*)+,

Date Received: ,-.-/./+%,)0+1
Date Reported: ,-.-@./+%/,0+B

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B0996 - EPA 508

%34$!"	`"9;4!	`"KÄ#!5 N% W5G5!	a 5!9	7K5F"% W"8"4	7Ä;#6"% `"9;4!	c`H&	c%`H& W5G5!9	`S<	`S< W5G5!	<3!3 \;345J5"#9%
LCS Dup (W4B0996-BSD1)				%34$["=0%,-.-+./+%-,0*,						
Surr: Tetrachloro-meta-xylene	*0.0867*		*ug/l*	*0.100*		*87*	*70-130*			

S3N"%@%ÀJ%)

V "6F%W3QÄ#3!Ä#5"%6%%%#H@1%&43#B%," (%&5!$%ÀJ%N$(%&345JÄ# 53%)/B+1C/*)D%%%%%?D-DX%%%CD-DX%%
MI"%#"9;4!9%5 %!I59%#"KÄ#!%3KK4$%!Ä%!I"%93GK4"9%3Ä#3[=%5%366"%6I35 %ÄJ%6;9!Ä=$%=Ä6;G" !L%MI59%3 3Ä#56349%#"%#"K#Ä=;6"=%5 %5!9%" !5#"!$

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ĀÀ !"#" $%2$%34 $!5634%7"#856"9
+%:;9!5 %&Ä;#!(%7;5!"%<
ĀÀ !"#"$%&'(%)*)+,

Date Received: ,-.-/./+%,)0+1
Date Reported: ,-.-@./+%/,0+B

Notes and Definitions

M-05 <;"%!Ä%!I"% 3!;#"%ÀJ%G3!#5P%5 !"#J"#" 6"9(%93GK4"%E3[illegible]

ND _eM %<HMH&MH<%3!%À#%3QÀ8"%!I"%`"KÄ#![illegible] _eM %<HMH&MH<%3!%À#%3QÀ8"%!I"%Ā"!IÄ=%<"!"6!5Ä %W5G5!%

NR _Ä!%`"KÄ#!3Q4"

Dil <54;!5Ä

dry 73GK4"%#"9;4!9%#"KÄ#!"=%Ä %3%=#$%E"5NI!%Q3959

RPD `"43!58"%S"#6" !%<5"#" 6"

% Rec S"#6" !%`"6Ä8"#$

Sub 7;Q6Ä !#36!"=%3 34$959(%Ä#5N5 34%#"KÄ#!%383543Q4"%;KÄ %#"R;"9!

MDL Ā"!IÄ=%<"!"6!5Ä %W5G5!

MDA Ā5 5G;G%<"!"6!3Q4"%585!$

MRL Ā"!IÄ=%`"KÄ#!5 N%W5G5!

' $%#"G35 5 N%93GK4"?9A%E544%Q"%=59KÄ9"=%ÄJ%Ä "%G3[illegible]

' %'Q9" 6"%ÄJ%Ä!34%&Ä45JÄ#G%G""!9%!I"%=#5 F5 N%E3!"#[illegible]

MI"%`"KÄ#!5 N%W5G5!%?`WA%59%#"J"#" 6"=%39%!I"%W3[illegible]

?<W`AL

'44%93GK4"9%6Ä44"6!"=[illegible]

S3N"%)%ÄJ%)

BSK Associates Engineers & Laboratories

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4B1697 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 2/21/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	-	**Project PO#:**	-
Received:	2/21/2014 - 10:30		
Report Due:	2/28/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 1.2

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
MS1.1	Matrix spike recovery exceeds upper control limit. Reported results for parent matrix may be biased high due to matrix interferences.

Report Distribution

Recipient(s)	Report Format
David Holland	Final.rpt

Certificate of Analysis

Sample ID: A4B1697-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #2 // 11965

Sample Date - Time: 02/19/14 - 16:10
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A402381	02/25/14	02/26/14	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A402381	02/25/14	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	110 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A402334	02/24/14	02/26/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A402334	02/24/14	02/26/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A402334	02/24/14	02/26/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A402334	02/24/14	02/26/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A402334	02/24/14	02/26/14	BS1.0, CV0.0
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A402334	02/24/14	02/26/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A402334	02/24/14	02/26/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A402334	02/24/14	02/26/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A402334	02/24/14	02/26/14	
Surrogate: DCPAA	EPA 515.3	87 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A402178	02/24/14	02/25/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A402178	02/24/14	02/25/14	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A402178	02/24/14	02/25/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A402178	02/24/14	02/25/14	
Acetone	EPA 524.2	ND	10	ug/L	1	A402178	02/24/14	02/25/14	

Certificate of Analysis

Sample ID: A4B1697-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #2 // 11965

Sample Date - Time: 02/19/14 - 16:10
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Benzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A402178	02/24/14	02/25/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A402178	02/24/14	02/25/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A402178	02/24/14	02/25/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A402178	02/24/14	02/25/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A402178	02/24/14	02/25/14	

Certificate of Analysis

Sample ID: A4B1697-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #2 // 11965

Sample Date - Time: 02/19/14 - 16:10
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	96 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	101 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A402368	02/25/14	02/26/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A402368	02/25/14	02/26/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A402368	02/25/14	02/26/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A402368	02/25/14	02/26/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A402368	02/25/14	02/26/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A402368	02/25/14	02/26/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	108 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A402279	02/23/14	02/25/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A402279	02/23/14	02/25/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A402279	02/23/14	02/25/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A402279	02/23/14	02/25/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A402279	02/23/14	02/25/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A402279	02/23/14	02/25/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A402279	02/23/14	02/25/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A402279	02/23/14	02/25/14	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A402275	02/22/14	02/22/14	
Surrogate: AMPA	EPA 547	101 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A402387	02/25/14	02/26/14	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A402327	02/24/14	02/25/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 504.1 - Quality Control

Batch: A402381 Prepared: 02/25/2014
Prep Method: EPA 505 Analyst: GAK

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank (A402381-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							02/26/14	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.8*			*3.4*		*110*	*70-130*			02/26/14	
Blank Spike (A402381-BS1)											
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20		118	70-130			02/26/14	
Ethylene Dibromide (EDB)	0.23	0.020	ug/L	0.20		113	70-130			02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.6*			*3.4*		*104*	*70-130*			02/26/14	
Blank Spike Dup (A402381-BSD1)											
Dibromochloropropane (DBCP)	0.25	0.010	ug/L	0.20		125	70-130	5	20	02/26/14	
Ethylene Dibromide (EDB)	0.24	0.020	ug/L	0.20		122	70-130	7	20	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.7*			*3.4*		*109*	*70-130*			02/26/14	
Matrix Spike (A402381-MS1), Source: A4B1641-01											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	111	65-135			02/26/14	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20	ND	109	65-135			02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.3*			*3.4*		*99*	*70-130*			02/26/14	
Matrix Spike Dup (A402381-MSD1), Source: A4B1641-01											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	114	65-135	3	20	02/26/14	
Ethylene Dibromide (EDB)	0.23	0.020	ug/L	0.20	ND	115	65-135	5	20	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.4*			*3.4*		*101*	*70-130*			02/26/14	

EPA 515.3 - Quality Control

Batch: A402334 Prepared: 02/24/2014
Prep Method: EPA 515.3 Analyst: GAK

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank (A402334-BLK1)											
2,4,5-T	ND	1.0	ug/L							02/25/14	
2,4,5-TP (Silvex)	ND	1.0	ug/L							02/25/14	
2,4-D	ND	10	ug/L							02/25/14	
Bentazon	ND	2.0	ug/L							02/25/14	
Dalapon	ND	10	ug/L							02/25/14	
Dicamba	ND	1.5	ug/L							02/25/14	
Dinoseb	ND	2.0	ug/L							02/25/14	
Pentachlorophenol	ND	0.20	ug/L							02/25/14	
Picloram	ND	1.0	ug/L							02/25/14	
Surrogate: DCPAA	*47*			*58*		*82*	*70-130*			02/25/14	
Blank Spike (A402334-BS1)											
2,4,5-T	3.9	1.0	ug/L	4.0		98	70-130			02/25/14	
2,4,5-TP (Silvex)	0.79	1.0	ug/L	0.80		99	70-130			02/25/14	
2,4-D	0.41	10	ug/L	0.40		102	70-130			02/25/14	
Bentazon	8.2	2.0	ug/L	8.0		102	70-130			02/25/14	
Dalapon	4.4	10	ug/L	4.0		109	70-130			02/25/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 515.3 - Quality Control												
Batch: A402334										Prepared: 02/24/2014		
Prep Method: EPA 515.3										Analyst: GAK		
Blank Spike (A402334-BS1)												
Dicamba	6.1	1.5	ug/L	6.0		101	70-130			02/25/14		
Dinoseb	0.80	2.0	ug/L	0.80		100	70-130			02/25/14		
Pentachlorophenol	0.16	0.20	ug/L	0.16		100	70-130			02/25/14		
Picloram	0.38	1.0	ug/L	0.40		94	70-130			02/25/14		
Surrogate: DCPAA	*48*			*58*		*82*	*70-130*			02/25/14		
Blank Spike Dup (A402334-BSD1)												
2,4,5-T	4.0	1.0	ug/L	4.0		100	70-130	2	20	02/26/14		
2,4,5-TP (Silvex)	0.79	1.0	ug/L	0.80		99	70-130	0	20	02/26/14		
2,4-D	0.43	10	ug/L	0.40		107	70-130	5	20	02/26/14		
Bentazon	8.1	2.0	ug/L	8.0		102	70-130	0	20	02/26/14		
Dalapon	5.4	10	ug/L	4.0		135	70-130	21	20	02/26/14	BS	***High***
Dicamba	6.1	1.5	ug/L	6.0		102	70-130	1	20	02/26/14		
Dinoseb	0.82	2.0	ug/L	0.80		103	70-130	3	20	02/26/14		
Pentachlorophenol	0.16	0.20	ug/L	0.16		99	70-130	1	20	02/26/14		
Picloram	0.39	1.0	ug/L	0.40		98	70-130	5	20	02/26/14		
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			02/26/14		
Matrix Spike (A402334-MS1), Source: A4B1537-03												
2,4,5-T	4.0	1.0	ug/L	4.0	ND	100	70-130			02/25/14		
2,4,5-TP (Silvex)	0.81	1.0	ug/L	0.80	ND	102	70-130			02/25/14		
2,4-D	0.42	10	ug/L	0.40	ND	105	70-130			02/25/14		
Bentazon	8.5	2.0	ug/L	8.0	ND	106	70-130			02/25/14		
Dalapon	5.8	10	ug/L	4.0	ND	145	70-130			02/25/14	MS1.1	***High***
Dicamba	6.3	1.5	ug/L	6.0	ND	105	70-130			02/25/14		
Dinoseb	0.80	2.0	ug/L	0.80	ND	100	70-130			02/25/14		
Pentachlorophenol	0.16	0.20	ug/L	0.16	ND	100	70-130			02/25/14		
Picloram	0.39	1.0	ug/L	0.40	ND	98	70-130			02/25/14		
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			02/25/14		
Matrix Spike Dup (A402334-MSD1), Source: A4B1537-03												
2,4,5-T	4.0	1.0	ug/L	4.0	ND	101	70-130	1	20	02/25/14		
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80	ND	103	70-130	1	20	02/25/14		
2,4-D	0.43	10	ug/L	0.40	ND	108	70-130	2	20	02/25/14		
Bentazon	8.0	2.0	ug/L	8.0	ND	99	70-130	7	20	02/25/14		
Dalapon	4.9	10	ug/L	4.0	ND	123	70-130	17	20	02/25/14		
Dicamba	6.2	1.5	ug/L	6.0	ND	103	70-130	1	20	02/25/14		
Dinoseb	0.79	2.0	ug/L	0.80	ND	98	70-130	2	20	02/25/14		
Pentachlorophenol	0.16	0.20	ug/L	0.16	ND	99	70-130	1	20	02/25/14		
Picloram	0.40	1.0	ug/L	0.40	ND	100	70-130	1	20	02/25/14		
Surrogate: DCPAA	*48*			*58*		*83*	*70-130*			02/25/14		
EPA 524.2 - Quality Control												
Batch: A402178										Prepared: 02/24/2014		
Prep Method: EPA 524.2										Analyst: JGB		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402178										Prepared: 02/24/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402178-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							02/24/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							02/24/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							02/24/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							02/24/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							02/24/14	
1,1-Dichloroethane	ND	0.50	ug/L							02/24/14	
1,1-Dichloroethene	ND	0.50	ug/L							02/24/14	
1,1-Dichloropropene	ND	0.50	ug/L							02/24/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							02/24/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							02/24/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							02/24/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							02/24/14	
1,2-Dichloroethane	ND	0.50	ug/L							02/24/14	
1,2-Dichloropropane	ND	0.50	ug/L							02/24/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							02/24/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							02/24/14	
1,3-Dichloropropane	ND	0.50	ug/L							02/24/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							02/24/14	
2,2-Dichloropropane	ND	0.50	ug/L							02/24/14	
2-Butanone	ND	5.0	ug/L							02/24/14	
2-Chlorotoluene	ND	0.50	ug/L							02/24/14	
2-Hexanone	ND	10	ug/L							02/24/14	
4-Chlorotoluene	ND	0.50	ug/L							02/24/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							02/24/14	
Acetone	ND	10	ug/L							02/24/14	
Benzene	ND	0.50	ug/L							02/24/14	
Bromobenzene	ND	0.50	ug/L							02/24/14	
Bromochloromethane	ND	0.50	ug/L							02/24/14	
Bromodichloromethane	ND	0.50	ug/L							02/24/14	
Bromoform	ND	0.50	ug/L							02/24/14	
Bromomethane	ND	0.50	ug/L							02/24/14	
Carbon Tetrachloride	ND	0.50	ug/L							02/24/14	
Chlorobenzene	ND	0.50	ug/L							02/24/14	
Chloroethane	ND	0.50	ug/L							02/24/14	
Chloroform	ND	0.50	ug/L							02/24/14	
Chloromethane	ND	0.50	ug/L							02/24/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							02/24/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							02/24/14	
Dibromochloromethane	ND	0.50	ug/L							02/24/14	
Dibromomethane	ND	0.50	ug/L							02/24/14	
Dichlorodifluoromethane	ND	0.50	ug/L							02/24/14	
Dichloromethane	ND	0.50	ug/L							02/24/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							02/24/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							02/24/14	
Ethylbenzene	ND	0.50	ug/L							02/24/14	
Hexachlorobutadiene	ND	0.50	ug/L							02/24/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402178										Prepared: 02/24/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402178-BLK1)											
Isopropylbenzene	ND	0.50	ug/L							02/24/14	
m,p-Xylenes	ND	0.50	ug/L							02/24/14	
Methyl-t-butyl ether	ND	0.50	ug/L							02/24/14	
Naphthalene	ND	0.50	ug/L							02/24/14	
n-Butylbenzene	ND	0.50	ug/L							02/24/14	
n-Propylbenzene	ND	0.50	ug/L							02/24/14	
o-Xylene	ND	0.50	ug/L							02/24/14	
p-Isopropyltoluene	ND	0.50	ug/L							02/24/14	
sec-Butylbenzene	ND	0.50	ug/L							02/24/14	
Styrene	ND	0.50	ug/L							02/24/14	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							02/24/14	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							02/24/14	
tert-Butylbenzene	ND	0.50	ug/L							02/24/14	
Tetrachloroethene (PCE)	ND	0.50	ug/L							02/24/14	
Toluene	ND	0.50	ug/L							02/24/14	
trans-1,2-Dichloroethene	ND	0.50	ug/L							02/24/14	
trans-1,3-Dichloropropene	ND	0.50	ug/L							02/24/14	
Trichloroethene (TCE)	ND	0.50	ug/L							02/24/14	
Trichlorofluoromethane	ND	5.0	ug/L							02/24/14	
Vinyl Chloride	ND	0.50	ug/L							02/24/14	
Surrogate: 1,2-Dichlorobenzene-d4	*5.5*			*5.0*		*109*	*70-130*			02/24/14	
Surrogate: Bromofluorobenzene	*55*			*50*		*111*	*70-130*			02/24/14	
Blank Spike (A402178-BS1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		102	70-130			02/24/14	
1,1,1-Trichloroethane	10	0.50	ug/L	10		102	70-130			02/24/14	
1,1,2,2-Tetrachloroethane	9.9	0.50	ug/L	10		99	70-130			02/24/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	10	10	ug/L	10		102	70-130			02/24/14	
1,1,2-Trichloroethane	10	0.50	ug/L	10		102	70-130			02/24/14	
1,1-Dichloroethane	10	0.50	ug/L	10		104	70-130			02/24/14	
1,1-Dichloroethene	10	0.50	ug/L	10		102	70-130			02/24/14	
1,1-Dichloropropene	9.6	0.50	ug/L	10		96	70-130			02/24/14	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		101	70-130			02/24/14	
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		105	70-130			02/24/14	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		105	70-130			02/24/14	
1,2-Dichlorobenzene	9.9	0.50	ug/L	10		99	70-130			02/24/14	
1,2-Dichloroethane	10	0.50	ug/L	10		102	70-130			02/24/14	
1,2-Dichloropropane	10	0.50	ug/L	10		103	70-130			02/24/14	
1,3,5-Trimethylbenzene	10	0.50	ug/L	10		104	70-130			02/24/14	
1,3-Dichlorobenzene	10	0.50	ug/L	10		104	70-130			02/24/14	
1,3-Dichloropropane	10	0.50	ug/L	10		103	70-130			02/24/14	
1,4-Dichlorobenzene	10	0.50	ug/L	10		104	70-130			02/24/14	
2,2-Dichloropropane	10	0.50	ug/L	10		104	70-130			02/24/14	
2-Butanone	10	5.0	ug/L	10		104	70-130			02/24/14	
2-Chlorotoluene	10	0.50	ug/L	10		104	70-130			02/24/14	
2-Hexanone	10	10	ug/L	10		104	70-130			02/24/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402178										Prepared: 02/24/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A402178-BS1)											
4-Chlorotoluene	10	0.50	ug/L	10		104	70-130			02/24/14	
4-Methyl-2-pentanone	10	5.0	ug/L	10		104	70-130			02/24/14	
Acetone	9.8	10	ug/L	10		98	70-130			02/24/14	
Benzene	9.9	0.50	ug/L	10		99	70-130			02/24/14	
Bromobenzene	10	0.50	ug/L	10		102	70-130			02/24/14	
Bromochloromethane	10	0.50	ug/L	10		103	70-130			02/24/14	
Bromodichloromethane	9.7	0.50	ug/L	10		97	70-130			02/24/14	
Bromoform	10	0.50	ug/L	10		102	70-130			02/24/14	
Bromomethane	12	0.50	ug/L	10		118	70-130			02/24/14	
Carbon Tetrachloride	9.5	0.50	ug/L	10		95	70-130			02/24/14	
Chlorobenzene	10	0.50	ug/L	10		104	70-130			02/24/14	
Chloroethane	9.9	0.50	ug/L	10		99	70-130			02/24/14	
Chloroform	10	0.50	ug/L	10		101	70-130			02/24/14	
Chloromethane	10	0.50	ug/L	10		104	70-130			02/24/14	
cis-1,2-Dichloroethene	10	0.50	ug/L	10		105	70-130			02/24/14	
cis-1,3-Dichloropropene	11	0.50	ug/L	10		106	70-130			02/24/14	
Dibromochloromethane	9.7	0.50	ug/L	10		97	70-130			02/24/14	
Dibromomethane	9.7	0.50	ug/L	10		97	70-130			02/24/14	
Dichlorodifluoromethane	9.8	0.50	ug/L	10		98	70-130			02/24/14	
Dichloromethane	10	0.50	ug/L	10		104	70-130			02/24/14	
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		106	70-130			02/24/14	
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		108	70-130			02/24/14	
Ethylbenzene	10	0.50	ug/L	10		103	70-130			02/24/14	
Hexachlorobutadiene	10	0.50	ug/L	10		100	70-130			02/24/14	
Isopropylbenzene	10	0.50	ug/L	10		104	70-130			02/24/14	
m,p-Xylenes	19	0.50	ug/L	20		94	70-130			02/24/14	
Methyl-t-butyl ether	21	0.50	ug/L	20		104	70-130			02/24/14	
Naphthalene	11	0.50	ug/L	10		106	70-130			02/24/14	
n-Butylbenzene	10	0.50	ug/L	10		100	70-130			02/24/14	
n-Propylbenzene	10	0.50	ug/L	10		103	70-130			02/24/14	
o-Xylene	10	0.50	ug/L	10		105	70-130			02/24/14	
p-Isopropyltoluene	10	0.50	ug/L	10		104	70-130			02/24/14	
sec-Butylbenzene	10	0.50	ug/L	10		102	70-130			02/24/14	
Styrene	10	0.50	ug/L	10		104	70-130			02/24/14	
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		105	70-130			02/24/14	
tert-Butyl alcohol (TBA)	12	2.0	ug/L	10		122	70-130			02/24/14	
tert-Butylbenzene	10	0.50	ug/L	10		103	70-130			02/24/14	
Tetrachloroethene (PCE)	10	0.50	ug/L	10		103	70-130			02/24/14	
Toluene	10	0.50	ug/L	10		104	70-130			02/24/14	
trans-1,2-Dichloroethene	10	0.50	ug/L	10		104	70-130			02/24/14	
trans-1,3-Dichloropropene	11	0.50	ug/L	10		106	70-130			02/24/14	
Trichloroethene (TCE)	10	0.50	ug/L	10		105	70-130			02/24/14	
Trichlorofluoromethane	10	5.0	ug/L	10		102	70-130			02/24/14	
Vinyl Chloride	10	0.50	ug/L	10		103	70-130			02/24/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.9*			*5.0*		*99*	*70-130*			02/24/14	
Surrogate: Bromofluorobenzene	*49*			*50*		*99*	*70-130*			02/24/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402178										Prepared: 02/24/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A402178-BSD1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		100	70-130	1	30	02/24/14	
1,1,1-Trichloroethane	10	0.50	ug/L	10		100	70-130	2	30	02/24/14	
1,1,2,2-Tetrachloroethane	9.9	0.50	ug/L	10		99	70-130	0	30	02/24/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.9	10	ug/L	10		99	70-130	3	30	02/24/14	
1,1,2-Trichloroethane	10	0.50	ug/L	10		101	70-130	1	30	02/24/14	
1,1-Dichloroethane	10	0.50	ug/L	10		101	70-130	2	30	02/24/14	
1,1-Dichloroethene	9.9	0.50	ug/L	10		99	70-130	3	30	02/24/14	
1,1-Dichloropropene	10	0.50	ug/L	10		105	70-130	9	30	02/24/14	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		101	70-130	0	30	02/24/14	
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		105	70-130	0	30	02/24/14	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		103	70-130	2	30	02/24/14	
1,2-Dichlorobenzene	10	0.50	ug/L	10		102	70-130	3	30	02/24/14	
1,2-Dichloroethane	9.4	0.50	ug/L	10		94	70-130	8	30	02/24/14	
1,2-Dichloropropane	10	0.50	ug/L	10		101	70-130	2	30	02/24/14	
1,3,5-Trimethylbenzene	10	0.50	ug/L	10		103	70-130	1	30	02/24/14	
1,3-Dichlorobenzene	10	0.50	ug/L	10		101	70-130	4	30	02/24/14	
1,3-Dichloropropane	10	0.50	ug/L	10		102	70-130	1	30	02/24/14	
1,4-Dichlorobenzene	10	0.50	ug/L	10		103	70-130	1	30	02/24/14	
2,2-Dichloropropane	10	0.50	ug/L	10		100	70-130	4	30	02/24/14	
2-Butanone	10	5.0	ug/L	10		104	70-130	0	30	02/24/14	
2-Chlorotoluene	10	0.50	ug/L	10		102	70-130	2	30	02/24/14	
2-Hexanone	10	10	ug/L	10		105	70-130	0	30	02/24/14	
4-Chlorotoluene	10	0.50	ug/L	10		103	70-130	1	30	02/24/14	
4-Methyl-2-pentanone	10	5.0	ug/L	10		103	70-130	1	30	02/24/14	
Acetone	9.6	10	ug/L	10		96	70-130	3	30	02/24/14	
Benzene	8.5	0.50	ug/L	10		85	70-130	15	30	02/24/14	
Bromobenzene	10	0.50	ug/L	10		102	70-130	1	30	02/24/14	
Bromochloromethane	10	0.50	ug/L	10		103	70-130	0	30	02/24/14	
Bromodichloromethane	9.6	0.50	ug/L	10		96	70-130	1	30	02/24/14	
Bromoform	10	0.50	ug/L	10		100	70-130	1	30	02/24/14	
Bromomethane	11	0.50	ug/L	10		111	70-130	6	30	02/24/14	
Carbon Tetrachloride	10	0.50	ug/L	10		104	70-130	8	30	02/24/14	
Chlorobenzene	10	0.50	ug/L	10		100	70-130	3	30	02/24/14	
Chloroethane	9.6	0.50	ug/L	10		96	70-130	3	30	02/24/14	
Chloroform	10	0.50	ug/L	10		100	70-130	0	30	02/24/14	
Chloromethane	10	0.50	ug/L	10		100	70-130	3	30	02/24/14	
cis-1,2-Dichloroethene	10	0.50	ug/L	10		103	70-130	2	30	02/24/14	
cis-1,3-Dichloropropene	10	0.50	ug/L	10		104	70-130	2	30	02/24/14	
Dibromochloromethane	9.7	0.50	ug/L	10		97	70-130	1	30	02/24/14	
Dibromomethane	11	0.50	ug/L	10		108	70-130	11	30	02/24/14	
Dichlorodifluoromethane	10	0.50	ug/L	10		104	70-130	6	30	02/24/14	
Dichloromethane	10	0.50	ug/L	10		103	70-130	1	30	02/24/14	
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		104	70-130	2	30	02/24/14	
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		103	70-130	5	30	02/24/14	
Ethylbenzene	10	0.50	ug/L	10		101	70-130	2	30	02/24/14	
Hexachlorobutadiene	10	0.50	ug/L	10		100	70-130	0	30	02/24/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402178										Prepared: 02/24/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A402178-BSD1)											
Isopropylbenzene	10	0.50	ug/L	10		101	70-130	2	30	02/24/14	
m,p-Xylenes	19	0.50	ug/L	20		93	70-130	1	30	02/24/14	
Methyl-t-butyl ether	20	0.50	ug/L	20		102	70-130	2	30	02/24/14	
Naphthalene	11	0.50	ug/L	10		106	70-130	0	30	02/24/14	
n-Butylbenzene	10	0.50	ug/L	10		100	70-130	1	30	02/24/14	
n-Propylbenzene	10	0.50	ug/L	10		100	70-130	3	30	02/24/14	
o-Xylene	10	0.50	ug/L	10		100	70-130	4	30	02/24/14	
p-Isopropyltoluene	10	0.50	ug/L	10		103	70-130	1	30	02/24/14	
sec-Butylbenzene	10	0.50	ug/L	10		101	70-130	1	30	02/24/14	
Styrene	10	0.50	ug/L	10		101	70-130	4	30	02/24/14	
tert-Amyl Methyl Ether (TAME)	9.9	3.0	ug/L	10		99	70-130	6	30	02/24/14	
tert-Butyl alcohol (TBA)	11	2.0	ug/L	10		113	70-130	7	30	02/24/14	
tert-Butylbenzene	10	0.50	ug/L	10		103	70-130	1	30	02/24/14	
Tetrachloroethene (PCE)	9.9	0.50	ug/L	10		99	70-130	4	30	02/24/14	
Toluene	10	0.50	ug/L	10		102	70-130	2	30	02/24/14	
trans-1,2-Dichloroethene	10	0.50	ug/L	10		102	70-130	2	30	02/24/14	
trans-1,3-Dichloropropene	10	0.50	ug/L	10		104	70-130	2	30	02/24/14	
Trichloroethene (TCE)	9.8	0.50	ug/L	10		98	70-130	7	30	02/24/14	
Trichlorofluoromethane	9.9	5.0	ug/L	10		99	70-130	3	30	02/24/14	
Vinyl Chloride	10	0.50	ug/L	10		104	70-130	1	30	02/24/14	
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			02/24/14	
Surrogate: Bromofluorobenzene	*50*			*50*		*99*	*70-130*			02/24/14	
EPA 525.2 - Quality Control											
Batch: A402368										Prepared: 02/25/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A402368-BLK1)											
Alachlor	ND	1.0	ug/L							02/26/14	
Atrazine	ND	0.50	ug/L							02/26/14	
Benzo(a)pyrene	ND	0.10	ug/L							02/26/14	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							02/26/14	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							02/26/14	
Bromacil	ND	10	ug/L							02/26/14	
Butachlor	ND	0.38	ug/L							02/26/14	
Diazinon	ND	0.25	ug/L							02/26/14	
Dimethoate	ND	10	ug/L							02/26/14	
Metolachlor	ND	0.50	ug/L							02/26/14	
Metribuzin	ND	0.50	ug/L							02/26/14	
Molinate	ND	2.0	ug/L							02/26/14	
Propachlor	ND	0.50	ug/L							02/26/14	
Simazine	ND	1.0	ug/L							02/26/14	
Thiobencarb	ND	1.0	ug/L							02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*6.0*			*5.0*		*119*	*70-130*			02/26/14	
Blank Spike (A402368-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A402368										Prepared: 02/25/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank Spike (A402368-BS1)												
Alachlor	0.60	1.0	ug/L	0.50		119	70-130			02/26/14		
Atrazine	0.55	0.50	ug/L	0.50		111	70-130			02/26/14		
Benzo(a)pyrene	0.12	0.10	ug/L	0.10		119	70-130			02/26/14		
Bis(2-ethylhexyl) adipate	3.6	3.0	ug/L	3.0		120	70-130			02/26/14		
Bis(2-ethylhexyl) phthalate	4.3	3.0	ug/L	3.0		142	70-130			02/26/14	BS	***High***
Bromacil	2.6	10	ug/L	2.0		132	70-130			02/26/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2		110	70-130			02/26/14		
Diazinon	0.038	0.25	ug/L	0.050		76	70-130			02/26/14		
Dimethoate	0.35	10	ug/L	0.50		71	70-130			02/26/14		
Metolachlor	3.3	0.50	ug/L	2.5		131	70-130			02/26/14	BS	***High***
Metribuzin	3.0	0.50	ug/L	2.5		120	70-130			02/26/14		
Molinate	2.9	2.0	ug/L	2.5		117	70-130			02/26/14		
Propachlor	2.9	0.50	ug/L	2.5		117	70-130			02/26/14		
Simazine	0.40	1.0	ug/L	0.35		116	70-130			02/26/14		
Thiobencarb	0.59	1.0	ug/L	0.50		119	70-130			02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.0*		*109*	*70-130*			02/26/14		
Blank Spike Dup (A402368-BSD1)												
Alachlor	0.58	1.0	ug/L	0.49		118	70-130	3	30	02/26/14		
Atrazine	0.53	0.50	ug/L	0.49		107	70-130	5	30	02/26/14		
Benzo(a)pyrene	0.11	0.10	ug/L	0.098		116	70-130	4	30	02/26/14		
Bis(2-ethylhexyl) adipate	3.6	3.0	ug/L	2.9		122	70-130	0	30	02/26/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	2.9		140	70-130	3	30	02/26/14	BS	***High***
Bromacil	2.6	10	ug/L	2.0		132	70-130	2	30	02/26/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2		111	70-130	1	30	02/26/14		
Diazinon	0.040	0.25	ug/L	0.049		82	70-130	6	30	02/26/14		
Dimethoate	0.34	10	ug/L	0.49		70	70-130	3	30	02/26/14		
Metolachlor	3.2	0.50	ug/L	2.5		132	70-130	1	30	02/26/14	BS	***High***
Metribuzin	3.0	0.50	ug/L	2.5		121	70-130	1	30	02/26/14		
Molinate	2.7	2.0	ug/L	2.5		109	70-130	9	30	02/26/14		
Propachlor	2.7	0.50	ug/L	2.5		109	70-130	8	30	02/26/14		
Simazine	0.37	1.0	ug/L	0.34		108	70-130	9	30	02/26/14		
Thiobencarb	0.57	1.0	ug/L	0.49		116	70-130	3	30	02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*4.9*		*101*	*70-130*			02/26/14		
Matrix Spike (A402368-MS1), Source: A4B1490-02												
Alachlor	0.54	1.0	ug/L	0.49	ND	110	70-130			02/26/14		
Atrazine	0.52	0.50	ug/L	0.49	ND	105	70-130			02/26/14		
Benzo(a)pyrene	0.13	0.10	ug/L	0.099	ND	134	70-130			02/26/14	MS1.0	***High***
Bis(2-ethylhexyl) adipate	3.7	3.0	ug/L	3.0	ND	124	70-130			02/26/14		
Bis(2-ethylhexyl) phthalate	4.4	3.0	ug/L	3.0	ND	129	70-130			02/26/14		
Bromacil	2.5	10	ug/L	2.0	ND	126	70-130			02/26/14		
Butachlor	1.3	0.38	ug/L	1.2	ND	106	70-130			02/26/14		
Diazinon	0.056	0.25	ug/L	0.049	ND	114	70-130			02/26/14		
Dimethoate	0.32	10	ug/L	0.49	ND	64	70-130			02/26/14	MS1.0	***Low***
Metolachlor	2.9	0.50	ug/L	2.5	ND	119	70-130			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A402368										Prepared: 02/25/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Matrix Spike (A402368-MS1), Source: A4B1490-02											
Metribuzin	2.6	0.50	ug/L	2.5	ND	104	70-130			02/26/14	
Molinate	2.7	2.0	ug/L	2.5	ND	110	70-130			02/26/14	
Propachlor	2.6	0.50	ug/L	2.5	ND	107	70-130			02/26/14	
Simazine	0.38	1.0	ug/L	0.35	ND	109	70-130			02/26/14	
Thiobencarb	0.57	1.0	ug/L	0.49	ND	116	70-130			02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.2*			*4.9*		*106*	*70-130*			02/26/14	
EPA 531.1 - Quality Control											
Batch: A402279										Prepared: 02/23/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A402279-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							02/25/14	
Aldicarb	ND	3.0	ug/L							02/25/14	
Aldicarb Sulfone	ND	2.0	ug/L							02/25/14	
Aldicarb Sulfoxide	ND	3.0	ug/L							02/25/14	
Carbaryl	ND	5.0	ug/L							02/25/14	
Carbofuran	ND	5.0	ug/L							02/25/14	
Methomyl	ND	2.0	ug/L							02/25/14	
Oxamyl	ND	20	ug/L							02/25/14	
Blank Spike (A402279-BS1)											
3-Hydroxycarbofuran	3.6	3.0	ug/L	4.0		89	80-120			02/25/14	
Aldicarb	4.5	3.0	ug/L	4.0		114	80-120			02/25/14	
Aldicarb Sulfone	4.2	2.0	ug/L	4.0		104	80-120			02/25/14	
Aldicarb Sulfoxide	4.1	3.0	ug/L	4.0		103	80-120			02/25/14	
Carbaryl	4.2	5.0	ug/L	4.0		104	80-120			02/25/14	
Carbofuran	4.2	5.0	ug/L	4.0		104	80-120			02/25/14	
Methomyl	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Oxamyl	4.1	20	ug/L	4.0		103	80-120			02/25/14	
Blank Spike Dup (A402279-BSD1)											
3-Hydroxycarbofuran	4.0	3.0	ug/L	4.0		99	80-120	11	20	02/25/14	
Aldicarb	4.3	3.0	ug/L	4.0		107	80-120	6	20	02/25/14	
Aldicarb Sulfone	4.1	2.0	ug/L	4.0		103	80-120	1	20	02/25/14	
Aldicarb Sulfoxide	4.0	3.0	ug/L	4.0		101	80-120	2	20	02/25/14	
Carbaryl	4.0	5.0	ug/L	4.0		101	80-120	3	20	02/25/14	
Carbofuran	4.0	5.0	ug/L	4.0		99	80-120	5	20	02/25/14	
Methomyl	4.0	2.0	ug/L	4.0		101	80-120	2	20	02/25/14	
Oxamyl	4.0	20	ug/L	4.0		101	80-120	2	20	02/25/14	
Matrix Spike (A402279-MS1), Source: A4B1162-01											
3-Hydroxycarbofuran	4.3	3.0	ug/L	4.0	ND	103	65-135			02/25/14	
Aldicarb	4.5	3.0	ug/L	4.0	ND	112	65-135			02/25/14	
Aldicarb Sulfone	4.4	2.0	ug/L	4.0	ND	109	65-135			02/25/14	
Aldicarb Sulfoxide	4.4	3.0	ug/L	4.0	ND	109	65-135			02/25/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A402279										Prepared: 02/23/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Matrix Spike (A402279-MS1), Source: A4B1162-01											
Carbaryl	4.4	5.0	ug/L	4.0	ND	109	65-135			02/25/14	
Carbofuran	4.2	5.0	ug/L	4.0	ND	106	65-135			02/25/14	
Methomyl	4.3	2.0	ug/L	4.0	ND	108	65-135			02/25/14	
Oxamyl	4.2	20	ug/L	4.0	ND	106	65-135			02/25/14	
EPA 547 - Quality Control											
Batch: A402275										Prepared: 02/22/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A402275-BLK1)											
Glyphosate	ND	25	ug/L							02/22/14	
Surrogate: AMPA	*100*			*100*		*101*	*70-130*			02/22/14	
Blank Spike (A402275-BS1)											
Glyphosate	110	25	ug/L	100		105	70-130			02/22/14	
Surrogate: AMPA	*110*			*100*		*106*	*70-130*			02/22/14	
Blank Spike Dup (A402275-BSD1)											
Glyphosate	110	25	ug/L	100		110	70-130	5	30	02/22/14	
Surrogate: AMPA	*110*			*100*		*107*	*70-130*			02/22/14	
Matrix Spike (A402275-MS1), Source: A4B1537-01											
Glyphosate	110	25	ug/L	100	ND	106	70-130			02/22/14	
Surrogate: AMPA	*110*			*100*		*112*	*70-130*			02/22/14	
Matrix Spike Dup (A402275-MSD1), Source: A4B1537-01											
Glyphosate	110	25	ug/L	100	ND	108	70-130	2	30	02/22/14	
Surrogate: AMPA	*100*			*100*		*100*	*70-130*			02/22/14	
EPA 548.1 - Quality Control											
Batch: A402387										Prepared: 02/25/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A402387-BLK1)											
Endothall	ND	45	ug/L							02/26/14	
Blank Spike (A402387-BS1)											
Endothall	17	45	ug/L	20		83	60-111			02/26/14	
Blank Spike Dup (A402387-BSD1)											
Endothall	15	45	ug/L	20		73	60-111	13	46	02/26/14	
Matrix Spike (A402387-MS1), Source: A4B1489-04											
Endothall	4.3	45	ug/L	20	ND	22	10-122			02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A402327										Prepared: 02/24/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A402327-BLK1)											
Diquat	ND	4.0	ug/L							02/25/14	
Blank Spike (A402327-BS1)											
Diquat	3.1	4.0	ug/L	4.0		76	70-130			02/25/14	
Blank Spike Dup (A402327-BSD1)											
Diquat	3.2	4.0	ug/L	4.0		80	70-130	4	30	02/25/14	
Matrix Spike (A402327-MS1), Source: A4B1666-05											
Diquat	2.1	4.0	ug/L	4.0	ND	52	70-130			02/25/14	MS1.0 ***Low***

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters:

A4B1697

Monterey Bay Analytical

Monte6227

02212014

Turnaround: Standard

Due Date: 2/28/2014

Printed: 2/21/2014 3:01:39PM

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

A4B1697
Monte6227

Appendix G 02/12/2014
5

TEMP: 1.2

* Required Fields

Client/Company Name *:	Report Attention *:	Phone * #: (831)-357-6227 FAX * #(831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Project Information: Cal Am

PO #

Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Sampler Name Printed / Signature: Nathan Reynolds

QC Request: ☑ STD ☐ Level II

Result Request ** Surcharge: ☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Regulatory Compliance: Electronic Data Transfer: Y ☐ N ☑ System No. *

ANALYSIS REQUESTED

Matrix Types: RSW = Raw Surface Water CFW = Chlorinated Finished Water CWW = Chorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 plus oxygenates	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549	
1		2/19	16:10	CX-BIWQ Zone #2	RGW	11965	✓	✓	✓	✓	✓	✓	✓	✓	
				5 day TAT please											
				Conductivity 23,705 uS/cm											

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	2/20	1200		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name) John Her		Date 2/20/14	Time 10:30	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material: Bin

Notice: Payment for services rendered as noted herein are due in full within 30 days from when invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service/re-billing charges and interest calculated at 1 1/2 % per month, 18% per annum. BSK & Associates shall be entitled to recover on delinquent accounts, costs of collections, including attorneys' fees incurred prior to or in litigation whether concluded by judgement, settlement, compromise or otherwise. The person signing for the client/Company expressley acknowledges that they are either the Client or authorized agent to the Client, and the Client agrees to be responsible for payment for analytical services on this Chain of Custody. Any modification of the analysis requested, either type or quantities, will be noted and agreed upon this Chain of Custody. The turn around time for any samples received after 3:00 pm will begin the next business day.

SR-FL-0012-00 (Analytical)

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C 1.2	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun? wet	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No (NA)
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes (No)
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received ("—" means preservation/chlorine checks are either N/A or are performed in the lab)

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1					
Bacti $Na_2S_2O_3$	—	—						
None (P) White Cap	—	—						
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N						
HNO_3 (P) Red Cap	—	—						
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N						
NaOH (P) Green Cap	Cl, pH ≥12	Y N			1H			
NaOH + ZnAc (P)	pH ≥ 9	Y N			2H	IV		
Dissolved Oxygen 300ml (g)	—	—						
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—						
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—						
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C					
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2A, 2C					
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—						
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	4V					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	(Y) N	1V					
NH_4Cl (AG) Purple Label 552	—	—						
EDA (AG) Brown Label DBPs	—	—						
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—						
HCL (CG) 524.2;BTEX,Gas, MTBE, 8260/624	—	—	3V					
Buffer pH 4 (CG)	—	—						
None (CG)	—	—						
H_3PO_4 (CG) Salmon Label	—	—						
Other:								
Asbestos 1Liter Plastic w/ Foil	—	—						
Low Level Hg / Metals Double Baggie	—	—						
Bottled Water	—	—						
Clear Glass Jar: 250 / 500 / 1 Liter	—	—						
Soil Tube Brass / Steel / Plastic	—	—						
Tedlar Bag / Plastic Bag	—	—						

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: NC @ 1457 Labels checked by: G-89 @ 14:57 RUSH Paged by:

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

February 24, 2014 Ceres ID: 10263

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on February 21, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

This work was authorized under M.B.A.'s Project # 11965.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10263-001	CX-B1WQ Z#2 (274-284 ft bags)	2/21/2014	2/19/2014	16:10

Section II: Data Summary

Sample ID:	**Method Blank**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001
Project:	11850	Sample Size:	1.000 L	QC Batch #:	1156
Date Collected:	NA			ZB-5 MS Analysis Date:	22-Feb-14
Time Collected:	NA			Date Received:	NA
				Date Extracted:	21-Feb-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	3.66		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	110	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	119	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	11850	Sample Size:	1.000 L	QC Batch #:	1156	Date Extracted:	21-Feb-14
Date Collected:	NA			ZB-5 MS Analysis Date:	22-Feb-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.88	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	98.3	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	10.1	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B1WQ Zone #2 (274-284 ft bags)**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	10263-001
Project:	11850	Sample Size:	1.049 L	QC Batch #:	1156
Date Collected:	19-Feb-14			ZB-5 MS Analysis Date:	22-Feb-14
Time Collected:	16:10				

Date Received:	21-Feb-14
Date Extracted:	21-Feb-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.47		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	104	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	110	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Chain of Custody

Please Print in Pen

Ceres Use Only

Ceres Project ID: _____
Temperature: _____ °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information(if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days)
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous	S: Soil	AS: Ash	DW: Drinking Water
E: Effluent	SD: Sediment	C: Clay	SO: Solid
I: Influent	SL: Sludge	CS: Clay Slurry	O: Other (please comment)

	Sample ID	Sample Collection Date	Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other	Comments
1	CX-B1WQ Zone #2 (274-284 ft bags)	2/19/2014	16:10	Aq	2	X							11965
2													(2,3,7,8 TCDD only)
3													5 day Rush Please
4													
5													
6													
7													
8													
9													
10													
11													
12													

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: *(Signature and Printed Name)*	Date	Time	Received by: *(signature and Printed Name)*	Date	Time
David Holland	2/20/2014	12:00	J.M Hedin	2/21/14	09:45
J.M Hedin	2/21/14	09:45			

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10263		Date/Time: 2/21/14 9:40am
Client Project ID: ~~2/21/14~~ AO1965		Received Temperature: 1.4 Acceptable: (Y) / N
Chain of Custody Relinquished by signed?		(Y) / N
Custody Seals?	Present?	Y / N
	Intact?	Y / N
	NA:	(NA)
Unlabeled / Illegible Samples		Y / (N)
Proper Containers:		(Y) / N
Preservation Acceptable (Chemical or Temperature)?		Y / N
Drinking Water, Sodium Thiosulfate present?		Y / N / (NA)
List COC discrepancies: 10aN 2/21/14		
List Damaged Samples: 10aN 2/21/14		

Ceres Analytical Laboratory — Process Request

Ceres ID: 10263 PB: 1156 Sample #s: 1 Due Date: 2/26/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☒ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10263-1	1557.02	507.87	1.049L

Chemist: _____ Date: 2/21/14

Method: 1613
SOP #: 3541.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1156-MB001	Method Blank		1.000L	2/21/14	2/22/14	NA	2/22/14	NA	2/22/14
0-1156-OPR001	OPR		1.000L	(A)					
10263-1156-001	CX-B1 WQ Zone #2	✓	1.049L						

Comments: (A) Spiked w/ NSS.

Soxhlet Start: 14:00 2/21/14

Soxhlet Stop: 06:25 2/22/14

Samples Logged out by: 2/21/14 11:20

Samples Returned by: NA

Note samples Depleted: "A"

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 09:20 2/22/14

Extracts returned to Storage Location: 09:20 2/24/14

Chemist: G-101

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory
Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	50312 12A	100	3/12/14
NSS	50312 12B	100	3/12/14
CSS	50312 12C	100	3/12/17
RSS	50312 12D	20	3/12/12

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450 ml	B4020	6/10/14
Sigel	4 g	P020514A	8/5/14
Hexane	30, 70, 100, 20	136735	6/10/14
Basigel	4 g	P012014A	7/20/14
Acid gel	8 g	P012014B	7/20/14
Acid Al	6 g	P020414A	8/4/14
Na2SO4	1.5 g	P120412A	6/4/14
20% DCM Hex	30 ml	L021914A	8/19/14

Chemist : J G-102

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

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Alkalinity QC Summary (SM 2320B)

Date Analyzed: 2/20/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	40	40.1	100.25	95-105
IPC	40	39.3	98.25	95-105

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB11873	179.7	179.1	0.3	10
AB11950	188.5	187.5	0.5	10
AB11960	157.5	156.9	0.4	10
AB11971	271.1	271.9	0.3	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

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pH QC Summary (SM 4500 H+)

Date Analyzed: 2/20/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.83	99.6	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB11965	6.9	6.9	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 2/20/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB11953	496	496	0.0%	10
AB11963	339	339	0.0%	10
AB11974	751	746	0.7%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Turbidity QC Summary (EPA 180.1)

Date Analyzed: 2/20/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.03	103.0	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB11965	2.77	2.87	3.5	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

Date Analyzed: 20140220

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300.0 QC Summary

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
IPC		2.01	19.95	2.11	19.43	2.06	1.99	1.95
Recovery	90-110%	100.45	99.77	105.63	97.16	103.01	99.50	97.65
CCV1		2.01	20.04	2.13	19.59	2.06	2.00	1.99
Recovery	90-110%	100.49	100.22	106.51	97.94	103.08	100.07	99.63
RPD	10%	0.05	0.45	0.83	0.80	0.08	0.57	2.01
CCV2		2.03	20.10	2.14	19.61	2.05	2.00	2.01
Recovery	90-110%	101.25	100.51	107.00	98.04	102.65	100.15	100.50
RPD	10%	0.80	0.73	1.29	0.90	0.34	0.65	2.88
CCV3		2.01	20.00	2.12	19.50	2.04	1.99	1.94
Recovery	90-110%	100.28	100.01	105.92	97.50	101.83	99.60	97.05
RPD	10%	0.17	0.24	0.27	0.35	1.15	0.10	0.61
CCV4		2.03	20.14	2.13	19.56	2.05	1.99	1.94
Recovery	90-110%	101.52	100.71	106.31	97.80	102.46	99.66	97.02
RPD	10%	1.06	0.93	0.64	0.66	0.53	0.16	0.65

	F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
	2	20	2	20	2	2	2
AB11955	0.23	10.65	0.48	15.87	0.13	1.58	0.07
AB11955+LFM	2.29	30.70	2.35	35.38	1.82	3.59	1.84
AB11955+LFMD	2.30	30.84	2.36	35.45	1.81	3.60	1.88
Average	2.30	30.77	2.36	35.42	1.81	3.60	1.86
Recovery 80-120%	103.49	100.59	93.81	97.75	83.91	100.88	89.38
RPD 10%	0.76	0.48	0.17	0.18	0.54	0.24	2.42

ICP-OES EPA 200.7

Batch # 20140221

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.00	0.00	1.00	100.3%	1.04	104.1%	3.7%	1	0.98	98.4%	1	0.96	96.3%
B 249.772	0.05-5ppm	0.01	0.00	1.01	100.7%	1.04	103.6%	2.9%	1	0.99	98.9%	1	0.96	96.3%
Ca 317.933	50-300ppm	-6.23	-6.24	48.1	96.3%	49.6	99.2%	3.0%	50	48.2	96.5%	50	46.8	93.6%
Ca 396.847	0.5-50ppm	-0.23	-0.24	49.1	98.2%	51.4	102.8%	4.5%	50	49.1	98.2%	50	48.7	97.5%
Cu 324.754	10ppb-100ppm	-3.68	-2.80	997	99.7%	1038	103.8%	4.0%	1000	984	98.4%	1000	984	98.4%
Cu 327.395	10ppb-100ppm	-0.27	0.98	990	99.0%	1025	102.5%	3.5%	1000	980	98.0%	1000	983	98.3%
Fe 238.204	10ppb-100ppm	0.91	0.00	992	99.2%	1017	101.7%	2.5%	1000	984	98.4%	1000	965	96.5%
Fe 259.940	10ppb-100ppm	-0.38	0.60	992	99.2%	1025	102.5%	3.2%	1000	995	99.5%	1000	968	96.8%
K 766.491	0.1-750ppm	0.14	0.11	9.8	97.7%	10.2	101.8%	4.1%	10	9.8	97.7%	10	9.6	96.2%
Mg 202.582	50-1000ppm	-2.11	-2.13	49.1	98.2%	51.0	102.0%	3.8%	50	49.4	98.9%	50	48.6	97.3%
Mg 279.078	0.5-50ppm	0.01	-0.03	49.2	98.4%	50.9	101.8%	3.4%	50	49.3	98.6%	50	48.5	96.9%
Mn 257.610	10ppb-11ppm	-1.16	-1.87	994	99.4%	1022	102.2%	2.8%	1000	986	98.6%	1000	966	96.6%
Mn 260.568	10ppb-11ppm	-0.35	-1.41	990	99.0%	1020	102.0%	3.0%	1000	978	97.8%	1000	960	96.0%
Na 568.821	50-1000ppm	2.64	3.62	47.6	95.3%	48.8	97.5%	2.3%	50	47.9	95.7%	50	47.8	95.5%
Na 589.592	0.5-50ppm	0.11	0.05	49.3	98.6%	51.2	102.4%	3.8%	50	49.5	99.0%	50	48.3	96.7%
Si 251.611	0.5-200ppm	0.12	0.05	50.0	99.9%	51.1	102.2%	2.2%	50	49.3	98.6%	107	102.5	95.8%
Si 252.411	0.5-200ppm	0.13	0.04	50.2	100.4%	51.1	102.3%	1.8%	50	49.3	98.5%	107	102.7	96.0%
Zn 213.857	10ppb-50ppm	-1.25	-3.10	989	98.9%	1017	101.7%	2.9%	1000	989	98.9%	1000	958	95.8%

Matrix Spikes

Sample ID AB11636

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.18	1.17	98.1%	1.17	98.8%	0.6%	1	1.00	99.8%	1.4%	0.00
B 249.772	0.18	1.17	98.2%	1.17	98.2%	0.0%	1	1.00	100.0%	1.0%	0.00
Ca 317.933	-6.23	46.7	105.9%	47.0	106.4%	0.6%	50	47.9	95.7%	0.8%	-6.25
Ca 396.847	-0.23	48.9	98.2%	48.8	98.1%	0.2%	50	49.7	99.5%	1.3%	-0.25
Cu 324.754	-3.42	991	99.4%	998	100.1%	0.7%	1000	995	99.5%	1.2%	-2.54
Cu 327.395	2.88	990	98.7%	995	99.2%	0.5%	1000	997	99.7%	1.7%	0.99
Fe 238.204	-1.92	970	97.2%	972	97.4%	0.2%	1000	992	99.2%	0.8%	0.05
Fe 259.940	-2.92	970	97.3%	974	97.6%	0.4%	1000	993	99.3%	0.1%	0.37
K 766.491	0.63	10.2	95.9%	10.3	96.4%	0.4%	10	9.9	99.4%	1.7%	0.11
Mg 202.582	-2.18	49.1	102.5%	49.2	102.8%	0.3%	50	49.8	99.6%	0.7%	-2.12
Mg 279.078	-0.01	48.9	97.8%	48.9	97.8%	0.0%	50	49.6	99.2%	0.6%	-0.01
Mn 257.610	-2.30	976	97.8%	975	97.7%	0.1%	1000	990	99.0%	0.4%	-1.91
Mn 260.568	-0.84	972	97.3%	970	97.1%	0.2%	1000	988	98.8%	1.0%	-1.00
Na 568.821	5.30	53.0	95.5%	51.3	92.0%	3.3%	50	47.5	95.0%	0.8%	2.91
Na 589.592	4.81	53.6	97.6%	53.9	98.1%	0.5%	50	50.3	100.5%	1.5%	0.06
Si 251.611	0.32	49.4	98.2%	49.5	98.3%	0.2%	50	49.4	98.7%	0.2%	0.02
Si 252.411	0.34	49.3	98.0%	49.5	98.3%	0.3%	50	49.4	98.9%	0.3%	0.02
Zn 213.857	19.84	995	97.5%	995	97.5%	0.0%	1000	987	98.7%	0.2%	-2.05

Note: Italics indicates that the result is outside the calibration range.

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http://www.MBASinc.com

Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 2/25/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC Low	0.050	0.049	98	90-110
IPC	0.500	0.453	90.6	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB11890	1.080	0.500	1.530	1.630	90	110	6.3	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check

RPD = Relative Percent Difference; Rec = Recovery

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

AB11965

SAMPLE ID **Zone 2 Total**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	2913	0.04350	126.72
Potassium	36	0.02558	0.92
Calcium	1581	0.04990	78.89
Magnesium	674	0.08229	55.46
NH3-N	0	0.07143	0.00
		SUM	261.99

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	132	0.02000	2.64
Sulfate	991	0.02082	20.63
Chloride	8796	0.02821	248.14
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.1	0.05264	0.01
Bromide	41.0	0.01252	0.51
		SUM	271.93

ANION-CATION BALANCE: **-2** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	24570	
Cation Sum X 100	26199	**107%**
Anion Sum X 100	27193	**111%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**15.5**
Ca+Mg+Na	261.07
HCO3/Ca	0.03
dS/m	24.57
Value Table II	1.5
SAR adj	**23.7**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

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ELAP Certification Number: 2385

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

Thursday, March 06, 2014

Lab Number: AB12015

Collection Date/Time:	2/21/2014	13:10	Sample Collector:	REYNOLDS N.	
Submittal Date/Time:	2/21/2014	16:55	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-BIWQ Zone #3 (182-192 ftbgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**167**		2		2/24/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**Not Detected**	E	10	1000	2/27/2014	MC LAB
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		2/25/2014	DH
Arsenic, Total	EPA200.8	ug/L	**Not Detected**	E	1	10	2/27/2014	MC LAB
Barium, Dissolved	EPA200.8	ug/L	**Not Detected**	E	10		2/27/2014	MC LAB
Bicarbonate (as HCO3-)	SM2320B	mg/L	**204**		10		2/25/2014	SM
Boron, Dissolved	EPA200.7	mg/L	**1.54**		0.05		2/25/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**49.6**		0.1		2/21/2014	DC
Calcium	EPA200.7	mg/L	**2090**		0.5		2/25/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**2018**		0.5		2/25/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Not Detected**	E			2/26/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		2/25/2014	SM
Chloride, Dissolved	EPA300.0	mg/L	**17995**		1		2/21/2014	DC
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Not Detected**	E			2/28/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**Not Detected**		3	15	2/23/2014	DH
Copper, Total	EPA200.8	ug/L	**Not Detected**	E	4	1300	2/27/2014	MC LAB
DBCP & EDB	EPA504.1	ug/L	**Not Detected**	E			2/26/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Not Detected**	E			2/28/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Not Detected**	E			2/28/2014	BSK
Dissolved Anions		Meq/L	**567.6**				3/6/2014	DH
Dissolved Cations		Meq/L	**564.9**				3/6/2014	DH
Endothall	EPA548.1	ug/L	**Not Detected**	E			2/26/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**Not Detected**		0.1		2/21/2014	DC
Glyphosate	EPA547	ug/L	**Not Detected**	E			3/1/2014	BSK
Hardness (as CaCO3)	SM2340B	mg/L	**9880**		10		2/26/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		2/25/2014	SM
Iodide	EPA9056M	ug/L	**190**	E	10		3/1/2014	WECK
Iron	EPA200.7	ug/L	**1928**		10	300	2/25/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**1780**		10	300	2/25/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**0.3**	J	0.5		2/25/2014	HM
Lithium	EPA200.8	ug/L	**140**	E	1		2/27/2014	MC LAB
Magnesium	EPA200.7	mg/L	**1132**		0.5		2/25/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**1078**		1		2/25/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**361**		10	50	2/25/2014	DC
Manganese, Total	EPA200.7	ug/L	**382**		10	50	2/25/2014	DC
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	2/23/2014	DH
Nitrate as NO3	EPA300.0	mg/L	**Not Detected**		1	45	2/21/2014	DC
Nitrate+Nitrite as N	EPA300.0	mg/L	**Not Detected**		0.1		2/21/2014	DC
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**Not Detected**		0.1		2/21/2014	DC

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Lab Number: AB12015

Appendix G

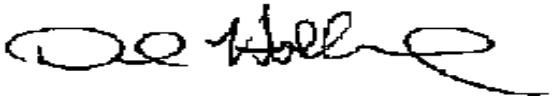
Collection Date/Time: 2/21/2014 13:10 Sample Collector: REYNOLDS N.
Submittal Date/Time: 2/21/2014 16:55 Sample ID GEOSCIENCE Coliform Designation:

Sample Description: CX-BIWQ Zone #3 (182-192 ftbgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	2/23/2014	DH
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**0.08**		0.1		2/24/2014	DH
pH (Field Test)	SM4500-H+B	pH	**6.79**				2/21/2014	NR
pH (Laboratory)	SM4500-H+B	pH (H)	**6.9**				2/21/2014	HM
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Not Detected**	E			3/4/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**0.08**		0.03		2/24/2014	DH
Potassium	EPA200.7	mg/L	**36**		0.5		2/25/2014	DC
Potassium, Dissolved	EPA200.7	mg/L	**34**		0.1		2/25/2014	DC
QC Ratio TDS/SEC	Calculation		**0.73**				2/27/2014	SM
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Not Detected**	E			2/26/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**25**		0.5		2/25/2014	DC
Sodium	EPA200.7	mg/L	**9146**		0.5		2/25/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**8612**		0.5		2/25/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**48770**		1	900	2/26/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**47112**		1		2/21/2014	NR
Strontium, Dissolved	EPA200.8	ug/L	**12000**	E	5		2/27/2014	MC LAB
Sulfate	EPA300.0	mg/L	**2688**		1	250	2/21/2014	DC
Temperature (Field)	SM2550	° C	**18.8**				2/21/2014	NR
Total Cations		Meq/L	**596.2**				3/6/2014	DH
Total Diss. Solids	SM2540C	mg/L	**35600**		10	500	2/25/2014	HM
Turbidity	EPA180.1	NTU	**0.70**		0.05	5.0	2/21/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**0.25**		0.05		2/21/2014	NR
Volatile Org. Compounds (524)	EPA524	ug/L	**Not Detected**	E			2/26/2014	BSK
Zinc, Total	EPA200.8	ug/L	**Not Detected**	E	10	5000	2/27/2014	MC LAB

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12015 Zone #3**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	8612	0.04350	374.62
Potassium	34	0.02558	0.87
Calcium	2018	0.04990	100.70
Magnesium	1078	0.08229	88.71
NH3-N	0	0.07143	0.00
		SUM	564.90

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	167	0.02000	3.34
Sulfate	2688	0.02082	55.96
Chloride	17995	0.02821	507.64
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.0	0.05264	0.00
Bromide	49.6	0.01252	0.62
		SUM	567.56

ANION-CATION BALANCE **0** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	48770	
Cation Sum X 100	56490	**116%**
Anion Sum X 100	56756	**116%**

Note: In Natural Waters, Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (S	**38.5**
Ca+Mg+Na	564.03
HCO3/Ca	0.03
dS/m	48.77
Value Table II	1.5
SAR adj	**55.8**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

12015 Zone 3

SAMPLE ID **Total**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	9146	0.04350	397.85
Potassium	36	0.02558	0.92
Calcium	2090	0.04990	104.29
Magnesium	1132	0.08229	93.15
NH3-N	0	0.07143	0.00
		SUM	596.22

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	167	0.02000	3.34
Sulfate	2688	0.02082	55.96
Chloride	17995	0.02821	507.64
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.0	0.05264	0.00
Bromide	49.6	0.01252	0.62
		SUM	567.56

ANION-CATION BALANCE: **2** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	48770	
Cation Sum X 100	59622	**122%**
Anion Sum X 100	56756	**116%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**40.0**
Ca+Mg+Na	595.29
HCO3/Ca	0.03
dS/m	48.77
Value Table II	1.5
SAR adj	**57.8**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4B1813 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 2/25/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	-	**Project PO#:**	-
Received:	2/25/2014 - 10:00		
Report Due:	3/04/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 1.0

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.

Report Distribution

Recipient(s)	Report Format
David Holland	Final.rpt

Certificate of Analysis

Sample ID: A4B1813-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone#3 (182-192 ft bgs) // 12015

Sample Date - Time: 02/21/14 - 13:10
Matrix: Water
Sample Type: Grab

Field Data: Cond.=47000 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A402381	02/25/14	02/26/14	CV0.0
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A402381	02/25/14	02/26/14	CV0.0
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	113 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A402617	03/04/14	03/04/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A402617	03/04/14	03/04/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A402617	03/04/14	03/04/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A402617	03/04/14	03/04/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A402617	03/04/14	03/04/14	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A402617	03/04/14	03/04/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A402617	03/04/14	03/04/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A402617	03/04/14	03/04/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A402617	03/04/14	03/04/14	
Surrogate: DCPAA	EPA 515.3	72 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	BS1.0
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	

Certificate of Analysis

Sample ID: A4B1813-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone#3 (182-192 ft bgs) // 12015

Sample Date - Time: 02/21/14 - 13:10
Matrix: Water
Sample Type: Grab

Field Data: Cond.=47000 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Acetone	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	BS1.0, CV0.0
Benzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A402390	02/26/14	02/26/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	BS1.0, CV0.0
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A402390	02/26/14	02/26/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A402390	02/26/14	02/26/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	

Certificate of Analysis

Sample ID: A4B1813-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone#3 (182-192 ft bgs) // 12015

Sample Date - Time: 02/21/14 - 13:10
Matrix: Water
Sample Type: Grab

Field Data: Cond.=47000 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	98 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 524.2	102 %	*Acceptable range:*		*70-130 %*				
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A402368	02/25/14	02/26/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A402368	02/25/14	02/26/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A402368	02/25/14	02/26/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A402368	02/25/14	02/26/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A402368	02/25/14	02/26/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A402368	02/25/14	02/26/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	116 %	*Acceptable range:*		*70-130 %*				
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A402388	02/25/14	02/26/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A402388	02/25/14	02/26/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A402388	02/25/14	02/26/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A402388	02/25/14	02/26/14	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A402555	03/01/14	03/01/14	
Surrogate: AMPA	EPA 547	104 %	*Acceptable range:*		*70-130 %*				
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A402387	02/25/14	02/26/14	

Certificate of Analysis

Sample ID: A4B1813-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone#3 (182-192 ft bgs) // 12015

Sample Date - Time: 02/21/14 - 13:10
Matrix: Water
Sample Type: Grab

Field Data: Cond.=47000 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A402367	02/25/14	02/28/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A402381										Prepared: 02/25/2014	
Prep Method: EPA 505										Analyst: GAK	
Blank (A402381-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							02/26/14	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.8*			*3.4*		*110*	*70-130*			02/26/14	
Blank Spike (A402381-BS1)											
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20		118	70-130			02/26/14	
Ethylene Dibromide (EDB)	0.23	0.020	ug/L	0.20		113	70-130			02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.6*			*3.4*		*104*	*70-130*			02/26/14	
Blank Spike Dup (A402381-BSD1)											
Dibromochloropropane (DBCP)	0.25	0.010	ug/L	0.20		125	70-130	5	20	02/26/14	
Ethylene Dibromide (EDB)	0.24	0.020	ug/L	0.20		122	70-130	7	20	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.7*			*3.4*		*109*	*70-130*			02/26/14	
Matrix Spike (A402381-MS1), Source: A4B1641-01											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	111	65-135			02/26/14	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20	ND	109	65-135			02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.3*			*3.4*		*99*	*70-130*			02/26/14	
Matrix Spike Dup (A402381-MSD1), Source: A4B1641-01											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	114	65-135	3	20	02/26/14	
Ethylene Dibromide (EDB)	0.23	0.020	ug/L	0.20	ND	115	65-135	5	20	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.4*			*3.4*		*101*	*70-130*			02/26/14	
EPA 515.3 - Quality Control											
Batch: A402617										Prepared: 03/04/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A402617-BLK1)											
2,4,5-T	ND	1.0	ug/L							03/04/14	
2,4,5-TP (Silvex)	ND	1.0	ug/L							03/04/14	
2,4-D	ND	10	ug/L							03/04/14	
Bentazon	ND	2.0	ug/L							03/04/14	
Dalapon	ND	10	ug/L							03/04/14	
Dicamba	ND	1.5	ug/L							03/04/14	
Dinoseb	ND	2.0	ug/L							03/04/14	
Pentachlorophenol	ND	0.20	ug/L							03/04/14	
Picloram	ND	1.0	ug/L							03/04/14	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			03/04/14	
Blank Spike (A402617-BS1)											
2,4,5-T	3.8	1.0	ug/L	4.0		95	70-130			03/04/14	
2,4,5-TP (Silvex)	0.79	1.0	ug/L	0.80		99	70-130			03/04/14	
2,4-D	0.39	10	ug/L	0.40		97	70-130			03/04/14	
Bentazon	7.6	2.0	ug/L	8.0		95	70-130			03/04/14	
Dalapon	3.1	10	ug/L	4.0		78	70-130			03/04/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A402617										Prepared: 03/04/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike (A402617-BS1)											
Dicamba	5.7	1.5	ug/L	6.0		95	70-130			03/04/14	
Dinoseb	0.77	2.0	ug/L	0.80		97	70-130			03/04/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16		97	70-130			03/04/14	
Picloram	0.32	1.0	ug/L	0.40		80	70-130			03/04/14	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			03/04/14	
Blank Spike Dup (A402617-BSD1)											
2,4,5-T	3.9	1.0	ug/L	4.0		97	70-130	1	20	03/04/14	
2,4,5-TP (Silvex)	0.79	1.0	ug/L	0.80		98	70-130	1	20	03/04/14	
2,4-D	0.39	10	ug/L	0.40		97	70-130	1	20	03/04/14	
Bentazon	7.6	2.0	ug/L	8.0		95	70-130	0	20	03/04/14	
Dalapon	3.5	10	ug/L	4.0		87	70-130	10	20	03/04/14	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130	2	20	03/04/14	
Dinoseb	0.76	2.0	ug/L	0.80		96	70-130	1	20	03/04/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16		96	70-130	1	20	03/04/14	
Picloram	0.36	1.0	ug/L	0.40		90	70-130	11	20	03/04/14	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			03/04/14	
Matrix Spike (A402617-MS1), Source: A4B1813-01											
2,4,5-T	4.1	1.0	ug/L	4.0	ND	103	70-130			03/04/14	
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80	ND	104	70-130			03/04/14	
2,4-D	0.40	10	ug/L	0.40	ND	101	70-130			03/04/14	
Bentazon	7.9	2.0	ug/L	8.0	ND	98	70-130			03/04/14	
Dalapon	3.0	10	ug/L	4.0	ND	75	70-130			03/04/14	
Dicamba	6.1	1.5	ug/L	6.0	ND	102	70-130			03/04/14	
Dinoseb	0.78	2.0	ug/L	0.80	ND	98	70-130			03/04/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	96	70-130			03/04/14	
Picloram	0.37	1.0	ug/L	0.40	ND	93	70-130			03/04/14	
Surrogate: DCPAA	*43*			*58*		*74*	*70-130*			03/04/14	
Matrix Spike Dup (A402617-MSD1), Source: A4B1813-01											
2,4,5-T	4.2	1.0	ug/L	4.0	ND	104	70-130	1	20	03/04/14	
2,4,5-TP (Silvex)	0.84	1.0	ug/L	0.80	ND	105	70-130	1	20	03/04/14	
2,4-D	0.40	10	ug/L	0.40	ND	99	70-130	2	20	03/04/14	
Bentazon	8.0	2.0	ug/L	8.0	ND	99	70-130	1	20	03/04/14	
Dalapon	3.3	10	ug/L	4.0	ND	82	70-130	9	20	03/04/14	
Dicamba	6.1	1.5	ug/L	6.0	ND	102	70-130	0	20	03/04/14	
Dinoseb	0.79	2.0	ug/L	0.80	ND	99	70-130	1	20	03/04/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	96	70-130	1	20	03/04/14	
Picloram	0.39	1.0	ug/L	0.40	ND	98	70-130	5	20	03/04/14	
Surrogate: DCPAA	*40*			*58*		*70*	*70-130*			03/04/14	
EPA 524.2 - Quality Control											
Batch: A402390										Prepared: 02/26/2014	
Prep Method: EPA 524.2										Analyst: JGB	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402390										Prepared: 02/26/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402390-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							02/26/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							02/26/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							02/26/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							02/26/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							02/26/14	
1,1-Dichloroethane	ND	0.50	ug/L							02/26/14	
1,1-Dichloroethene	ND	0.50	ug/L							02/26/14	
1,1-Dichloropropene	ND	0.50	ug/L							02/26/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							02/26/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2-Dichloroethane	ND	0.50	ug/L							02/26/14	
1,2-Dichloropropane	ND	0.50	ug/L							02/26/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							02/26/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
1,3-Dichloropropane	ND	0.50	ug/L							02/26/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
2,2-Dichloropropane	ND	0.50	ug/L							02/26/14	
2-Butanone	ND	5.0	ug/L							02/26/14	
2-Chlorotoluene	ND	0.50	ug/L							02/26/14	
2-Hexanone	ND	10	ug/L							02/26/14	
4-Chlorotoluene	ND	0.50	ug/L							02/26/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							02/26/14	
Acetone	ND	10	ug/L							02/26/14	
Benzene	ND	0.50	ug/L							02/26/14	
Bromobenzene	ND	0.50	ug/L							02/26/14	
Bromochloromethane	ND	0.50	ug/L							02/26/14	
Bromodichloromethane	ND	0.50	ug/L							02/26/14	
Bromoform	ND	0.50	ug/L							02/26/14	
Bromomethane	ND	0.50	ug/L							02/26/14	
Carbon Tetrachloride	ND	0.50	ug/L							02/26/14	
Chlorobenzene	ND	0.50	ug/L							02/26/14	
Chloroethane	ND	0.50	ug/L							02/26/14	
Chloroform	ND	0.50	ug/L							02/26/14	
Chloromethane	ND	0.50	ug/L							02/26/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							02/26/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							02/26/14	
Dibromochloromethane	ND	0.50	ug/L							02/26/14	
Dibromomethane	ND	0.50	ug/L							02/26/14	
Dichlorodifluoromethane	ND	0.50	ug/L							02/26/14	
Dichloromethane	ND	0.50	ug/L							02/26/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							02/26/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							02/26/14	
Ethylbenzene	ND	0.50	ug/L							02/26/14	
Hexachlorobutadiene	ND	0.50	ug/L							02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank (A402390-BLK1)												
Isopropylbenzene	ND	0.50	ug/L							02/26/14		
m,p-Xylenes	ND	0.50	ug/L							02/26/14		
Methyl-t-butyl ether	ND	0.50	ug/L							02/26/14		
Naphthalene	ND	0.50	ug/L							02/26/14		
n-Butylbenzene	ND	0.50	ug/L							02/26/14		
n-Propylbenzene	ND	0.50	ug/L							02/26/14		
o-Xylene	ND	0.50	ug/L							02/26/14		
p-Isopropyltoluene	ND	0.50	ug/L							02/26/14		
sec-Butylbenzene	ND	0.50	ug/L							02/26/14		
Styrene	ND	0.50	ug/L							02/26/14		
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							02/26/14		
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							02/26/14		
tert-Butylbenzene	ND	0.50	ug/L							02/26/14		
Tetrachloroethene (PCE)	ND	0.50	ug/L							02/26/14		
Toluene	ND	0.50	ug/L							02/26/14		
trans-1,2-Dichloroethene	ND	0.50	ug/L							02/26/14		
trans-1,3-Dichloropropene	ND	0.50	ug/L							02/26/14		
Trichloroethene (TCE)	ND	0.50	ug/L							02/26/14		
Trichlorofluoromethane	ND	5.0	ug/L							02/26/14		
Vinyl Chloride	ND	0.50	ug/L							02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*95*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*101*	*70-130*			02/26/14		
Blank Spike (A402390-BS1)												
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		108	70-130			02/26/14		
1,1,1-Trichloroethane	11	0.50	ug/L	10		106	70-130			02/26/14		
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		107	70-130			02/26/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		106	70-130			02/26/14		
1,1,2-Trichloroethane	11	0.50	ug/L	10		107	70-130			02/26/14		
1,1-Dichloroethane	10	0.50	ug/L	10		105	70-130			02/26/14		
1,1-Dichloroethene	10	0.50	ug/L	10		103	70-130			02/26/14		
1,1-Dichloropropene	11	0.50	ug/L	10		108	70-130			02/26/14		
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
1,2-Dichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,2-Dichloroethane	10	0.50	ug/L	10		101	70-130			02/26/14		
1,2-Dichloropropane	10	0.50	ug/L	10		105	70-130			02/26/14		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,3-Dichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,3-Dichloropropane	11	0.50	ug/L	10		108	70-130			02/26/14		
1,4-Dichlorobenzene	11	0.50	ug/L	10		105	70-130			02/26/14		
2,2-Dichloropropane	11	0.50	ug/L	10		108	70-130			02/26/14		
2-Butanone	14	5.0	ug/L	10		139	70-130			02/26/14	BS	***High***
2-Chlorotoluene	10	0.50	ug/L	10		104	70-130			02/26/14		
2-Hexanone	12	10	ug/L	10		115	70-130			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike (A402390-BS1)												
4-Chlorotoluene	11	0.50	ug/L	10		106	70-130			02/26/14		
4-Methyl-2-pentanone	12	5.0	ug/L	10		119	70-130			02/26/14		
Acetone	22	10	ug/L	10		221	70-130			02/26/14	BS	***High***
Benzene	10	0.50	ug/L	10		101	70-130			02/26/14		
Bromobenzene	11	0.50	ug/L	10		107	70-130			02/26/14		
Bromochloromethane	10	0.50	ug/L	10		104	70-130			02/26/14		
Bromodichloromethane	8.5	0.50	ug/L	10		85	70-130			02/26/14		
Bromoform	11	0.50	ug/L	10		115	70-130			02/26/14		
Bromomethane	9.5	0.50	ug/L	10		95	70-130			02/26/14		
Carbon Tetrachloride	11	0.50	ug/L	10		110	70-130			02/26/14		
Chlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
Chloroethane	10	0.50	ug/L	10		100	70-130			02/26/14		
Chloroform	10	0.50	ug/L	10		102	70-130			02/26/14		
Chloromethane	9.6	0.50	ug/L	10		96	70-130			02/26/14		
cis-1,2-Dichloroethene	10	0.50	ug/L	10		104	70-130			02/26/14		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130			02/26/14		
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130			02/26/14		
Dibromomethane	11	0.50	ug/L	10		114	70-130			02/26/14		
Dichlorodifluoromethane	9.9	0.50	ug/L	10		99	70-130			02/26/14		
Dichloromethane	11	0.50	ug/L	10		106	70-130			02/26/14		
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		107	70-130			02/26/14		
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		111	70-130			02/26/14		
Ethylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Hexachlorobutadiene	10	0.50	ug/L	10		104	70-130			02/26/14		
Isopropylbenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
m,p-Xylenes	19	0.50	ug/L	20		96	70-130			02/26/14		
Methyl-t-butyl ether	22	0.50	ug/L	20		108	70-130			02/26/14		
Naphthalene	11	0.50	ug/L	10		109	70-130			02/26/14		
n-Butylbenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
n-Propylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
o-Xylene	10	0.50	ug/L	10		104	70-130			02/26/14		
p-Isopropyltoluene	11	0.50	ug/L	10		106	70-130			02/26/14		
sec-Butylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Styrene	13	0.50	ug/L	10		129	70-130			02/26/14		
tert-Amyl Methyl Ether (TAME)	11	3.0	ug/L	10		111	70-130			02/26/14		
tert-Butyl alcohol (TBA)	11	2.0	ug/L	10		107	70-130			02/26/14		
tert-Butylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Tetrachloroethene (PCE)	10	0.50	ug/L	10		104	70-130			02/26/14		
Toluene	11	0.50	ug/L	10		106	70-130			02/26/14		
trans-1,2-Dichloroethene	10	0.50	ug/L	10		105	70-130			02/26/14		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130			02/26/14		
Trichloroethene (TCE)	9.4	0.50	ug/L	10		94	70-130			02/26/14		
Trichlorofluoromethane	11	5.0	ug/L	10		107	70-130			02/26/14		
Vinyl Chloride	9.9	0.50	ug/L	10		99	70-130			02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*100*	*70-130*			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402390-BSD1)												
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		109	70-130	1	30	02/26/14		
1,1,1-Trichloroethane	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		109	70-130	2	30	02/26/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		110	70-130	3	30	02/26/14		
1,1,2-Trichloroethane	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
1,1-Dichloroethane	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
1,1-Dichloroethene	11	0.50	ug/L	10		108	70-130	5	30	02/26/14		
1,1-Dichloropropene	11	0.50	ug/L	10		110	70-130	1	30	02/26/14		
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		105	70-130	2	30	02/26/14		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
1,2,4-Trimethylbenzene	11	0.50	ug/L	10		110	70-130	6	30	02/26/14		
1,2-Dichlorobenzene	11	0.50	ug/L	10		106	70-130	0	30	02/26/14		
1,2-Dichloroethane	11	0.50	ug/L	10		107	70-130	6	30	02/26/14		
1,2-Dichloropropane	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		111	70-130	5	30	02/26/14		
1,3-Dichlorobenzene	11	0.50	ug/L	10		107	70-130	1	30	02/26/14		
1,3-Dichloropropane	11	0.50	ug/L	10		109	70-130	1	30	02/26/14		
1,4-Dichlorobenzene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
2,2-Dichloropropane	11	0.50	ug/L	10		112	70-130	4	30	02/26/14		
2-Butanone	14	5.0	ug/L	10		139	70-130	0	30	02/26/14	BS	***High***
2-Chlorotoluene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
2-Hexanone	12	10	ug/L	10		115	70-130	0	30	02/26/14		
4-Chlorotoluene	11	0.50	ug/L	10		110	70-130	4	30	02/26/14		
4-Methyl-2-pentanone	11	5.0	ug/L	10		114	70-130	4	30	02/26/14		
Acetone	22	10	ug/L	10		221	70-130	0	30	02/26/14	BS	***High***
Benzene	10	0.50	ug/L	10		104	70-130	3	30	02/26/14		
Bromobenzene	11	0.50	ug/L	10		109	70-130	2	30	02/26/14		
Bromochloromethane	10	0.50	ug/L	10		104	70-130	0	30	02/26/14		
Bromodichloromethane	9.8	0.50	ug/L	10		98	70-130	14	30	02/26/14		
Bromoform	11	0.50	ug/L	10		115	70-130	0	30	02/26/14		
Bromomethane	9.4	0.50	ug/L	10		94	70-130	1	30	02/26/14		
Carbon Tetrachloride	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
Chlorobenzene	11	0.50	ug/L	10		110	70-130	3	30	02/26/14		
Chloroethane	10	0.50	ug/L	10		100	70-130	0	30	02/26/14		
Chloroform	11	0.50	ug/L	10		105	70-130	3	30	02/26/14		
Chloromethane	9.1	0.50	ug/L	10		91	70-130	6	30	02/26/14		
cis-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130	2	30	02/26/14		
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130	0	30	02/26/14		
Dibromomethane	10	0.50	ug/L	10		101	70-130	12	30	02/26/14		
Dichlorodifluoromethane	10	0.50	ug/L	10		104	70-130	5	30	02/26/14		
Dichloromethane	11	0.50	ug/L	10		108	70-130	1	30	02/26/14		
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		110	70-130	2	30	02/26/14		
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		112	70-130	1	30	02/26/14		
Ethylbenzene	11	0.50	ug/L	10		108	70-130	4	30	02/26/14		
Hexachlorobutadiene	11	0.50	ug/L	10		108	70-130	4	30	02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402390-BSD1)												
Isopropylbenzene	11	0.50	ug/L	10		107	70-130	4	30	02/26/14		
m,p-Xylenes	20	0.50	ug/L	20		99	70-130	4	30	02/26/14		
Methyl-t-butyl ether	22	0.50	ug/L	20		109	70-130	1	30	02/26/14		
Naphthalene	11	0.50	ug/L	10		111	70-130	2	30	02/26/14		
n-Butylbenzene	11	0.50	ug/L	10		107	70-130	4	30	02/26/14		
n-Propylbenzene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
o-Xylene	11	0.50	ug/L	10		106	70-130	2	30	02/26/14		
p-Isopropyltoluene	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
sec-Butylbenzene	11	0.50	ug/L	10		107	70-130	3	30	02/26/14		
Styrene	14	0.50	ug/L	10		140	70-130	9	30	02/26/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	11	3.0	ug/L	10		115	70-130	4	30	02/26/14		
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		105	70-130	2	30	02/26/14		
tert-Butylbenzene	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
Tetrachloroethene (PCE)	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
Toluene	11	0.50	ug/L	10		110	70-130	4	30	02/26/14		
trans-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130	2	30	02/26/14		
Trichloroethene (TCE)	11	0.50	ug/L	10		108	70-130	14	30	02/26/14		
Trichlorofluoromethane	11	5.0	ug/L	10		109	70-130	2	30	02/26/14		
Vinyl Chloride	10	0.50	ug/L	10		104	70-130	4	30	02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*101*	*70-130*			02/26/14		
EPA 525.2 - Quality Control												
Batch: A402368										Prepared: 02/25/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank (A402368-BLK1)												
Alachlor	ND	1.0	ug/L							02/26/14		
Atrazine	ND	0.50	ug/L							02/26/14		
Benzo(a)pyrene	ND	0.10	ug/L							02/26/14		
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							02/26/14		
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							02/26/14		
Bromacil	ND	10	ug/L							02/26/14		
Butachlor	ND	0.38	ug/L							02/26/14		
Diazinon	ND	0.25	ug/L							02/26/14		
Dimethoate	ND	10	ug/L							02/26/14		
Metolachlor	ND	0.50	ug/L							02/26/14		
Metribuzin	ND	0.50	ug/L							02/26/14		
Molinate	ND	2.0	ug/L							02/26/14		
Propachlor	ND	0.50	ug/L							02/26/14		
Simazine	ND	1.0	ug/L							02/26/14		
Thiobencarb	ND	1.0	ug/L							02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*6.0*			*5.0*		*119*	*70-130*			02/26/14		
Blank Spike (A402368-BS1)												

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A402368										Prepared: 02/25/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank Spike (A402368-BS1)												
Alachlor	0.60	1.0	ug/L	0.50		119	70-130			02/26/14		
Atrazine	0.55	0.50	ug/L	0.50		111	70-130			02/26/14		
Benzo(a)pyrene	0.12	0.10	ug/L	0.10		119	70-130			02/26/14		
Bis(2-ethylhexyl) adipate	3.6	3.0	ug/L	3.0		120	70-130			02/26/14		
Bis(2-ethylhexyl) phthalate	4.3	3.0	ug/L	3.0		142	70-130			02/26/14	BS	***High***
Bromacil	2.6	10	ug/L	2.0		132	70-130			02/26/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2		110	70-130			02/26/14		
Diazinon	0.038	0.25	ug/L	0.050		76	70-130			02/26/14		
Dimethoate	0.35	10	ug/L	0.50		71	70-130			02/26/14		
Metolachlor	3.3	0.50	ug/L	2.5		131	70-130			02/26/14	BS	***High***
Metribuzin	3.0	0.50	ug/L	2.5		120	70-130			02/26/14		
Molinate	2.9	2.0	ug/L	2.5		117	70-130			02/26/14		
Propachlor	2.9	0.50	ug/L	2.5		117	70-130			02/26/14		
Simazine	0.40	1.0	ug/L	0.35		116	70-130			02/26/14		
Thiobencarb	0.59	1.0	ug/L	0.50		119	70-130			02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.0*		*109*	*70-130*			02/26/14		
Blank Spike Dup (A402368-BSD1)												
Alachlor	0.58	1.0	ug/L	0.49		118	70-130	3	30	02/26/14		
Atrazine	0.53	0.50	ug/L	0.49		107	70-130	5	30	02/26/14		
Benzo(a)pyrene	0.11	0.10	ug/L	0.098		116	70-130	4	30	02/26/14		
Bis(2-ethylhexyl) adipate	3.6	3.0	ug/L	2.9		122	70-130	0	30	02/26/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	2.9		140	70-130	3	30	02/26/14	BS	***High***
Bromacil	2.6	10	ug/L	2.0		132	70-130	2	30	02/26/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2		111	70-130	1	30	02/26/14		
Diazinon	0.040	0.25	ug/L	0.049		82	70-130	6	30	02/26/14		
Dimethoate	0.34	10	ug/L	0.49		70	70-130	3	30	02/26/14		
Metolachlor	3.2	0.50	ug/L	2.5		132	70-130	1	30	02/26/14	BS	***High***
Metribuzin	3.0	0.50	ug/L	2.5		121	70-130	1	30	02/26/14		
Molinate	2.7	2.0	ug/L	2.5		109	70-130	9	30	02/26/14		
Propachlor	2.7	0.50	ug/L	2.5		109	70-130	8	30	02/26/14		
Simazine	0.37	1.0	ug/L	0.34		108	70-130	9	30	02/26/14		
Thiobencarb	0.57	1.0	ug/L	0.49		116	70-130	3	30	02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*4.9*		*101*	*70-130*			02/26/14		
Matrix Spike (A402368-MS1), Source: A4B1490-02												
Alachlor	0.54	1.0	ug/L	0.49	ND	110	70-130			02/26/14		
Atrazine	0.52	0.50	ug/L	0.49	ND	105	70-130			02/26/14		
Benzo(a)pyrene	0.13	0.10	ug/L	0.099	ND	134	70-130			02/26/14	MS1.0	***High***
Bis(2-ethylhexyl) adipate	3.7	3.0	ug/L	3.0	ND	124	70-130			02/26/14		
Bis(2-ethylhexyl) phthalate	4.4	3.0	ug/L	3.0	ND	129	70-130			02/26/14		
Bromacil	2.5	10	ug/L	2.0	ND	126	70-130			02/26/14		
Butachlor	1.3	0.38	ug/L	1.2	ND	106	70-130			02/26/14		
Diazinon	0.056	0.25	ug/L	0.049	ND	114	70-130			02/26/14		
Dimethoate	0.32	10	ug/L	0.49	ND	64	70-130			02/26/14	MS1.0	***Low***
Metolachlor	2.9	0.50	ug/L	2.5	ND	119	70-130			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A402368										Prepared: 02/25/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Matrix Spike (A402368-MS1), Source: A4B1490-02											
Metribuzin	2.6	0.50	ug/L	2.5	ND	104	70-130			02/26/14	
Molinate	2.7	2.0	ug/L	2.5	ND	110	70-130			02/26/14	
Propachlor	2.6	0.50	ug/L	2.5	ND	107	70-130			02/26/14	
Simazine	0.38	1.0	ug/L	0.35	ND	109	70-130			02/26/14	
Thiobencarb	0.57	1.0	ug/L	0.49	ND	116	70-130			02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.2*			*4.9*		*106*	*70-130*			02/26/14	
EPA 531.1 - Quality Control											
Batch: A402388										Prepared: 02/25/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A402388-BLK1)											
3-Hydroxycarbofuran	ND	2.0	ug/L							02/25/14	
Aldicarb	ND	2.0	ug/L							02/25/14	
Aldicarb Sulfone	ND	2.0	ug/L							02/25/14	
Aldicarb Sulfoxide	ND	2.0	ug/L							02/25/14	
Carbaryl	ND	2.0	ug/L							02/25/14	
Carbofuran	ND	2.0	ug/L							02/25/14	
Methomyl	ND	2.0	ug/L							02/25/14	
Oxamyl	ND	2.0	ug/L							02/25/14	
Blank Spike (A402388-BS1)											
3-Hydroxycarbofuran	4.2	2.0	ug/L	4.0		105	80-120			02/25/14	
Aldicarb	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Aldicarb Sulfone	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Aldicarb Sulfoxide	4.1	2.0	ug/L	4.0		104	80-120			02/25/14	
Carbaryl	4.2	2.0	ug/L	4.0		104	80-120			02/25/14	
Carbofuran	4.1	2.0	ug/L	4.0		102	80-120			02/25/14	
Methomyl	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Oxamyl	4.1	2.0	ug/L	4.0		102	80-120			02/25/14	
Blank Spike Dup (A402388-BSD1)											
3-Hydroxycarbofuran	4.1	2.0	ug/L	4.0		103	80-120	1	20	02/26/14	
Aldicarb	4.1	2.0	ug/L	4.0		102	80-120	1	20	02/26/14	
Aldicarb Sulfone	4.2	2.0	ug/L	4.0		106	80-120	3	20	02/26/14	
Aldicarb Sulfoxide	4.2	2.0	ug/L	4.0		105	80-120	1	20	02/26/14	
Carbaryl	4.1	2.0	ug/L	4.0		101	80-120	3	20	02/26/14	
Carbofuran	4.1	2.0	ug/L	4.0		103	80-120	2	20	02/26/14	
Methomyl	4.3	2.0	ug/L	4.0		109	80-120	5	20	02/26/14	
Oxamyl	4.2	2.0	ug/L	4.0		104	80-120	2	20	02/26/14	
Matrix Spike (A402388-MS1), Source: A4B1177-01											
3-Hydroxycarbofuran	3.3	2.0	ug/L	4.0	ND	82	65-135			02/26/14	
Aldicarb	3.1	2.0	ug/L	4.0	ND	72	65-135			02/26/14	
Aldicarb Sulfone	3.5	2.0	ug/L	4.0	ND	79	65-135			02/26/14	
Aldicarb Sulfoxide	3.5	2.0	ug/L	4.0	ND	87	65-135			02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A402388										Prepared: 02/25/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Matrix Spike (A402388-MS1), Source: A4B1177-01											
Carbaryl	10	2.0	ug/L	4.0	8.8	31	65-135			02/26/14	MS1.0 ***Low***
Carbofuran	3.3	2.0	ug/L	4.0	ND	83	65-135			02/26/14	
Methomyl	3.5	2.0	ug/L	4.0	ND	87	65-135			02/26/14	
Oxamyl	3.3	2.0	ug/L	4.0	ND	84	65-135			02/26/14	
EPA 547 - Quality Control											
Batch: A402555										Prepared: 03/01/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A402555-BLK1)											
Glyphosate	ND	25	ug/L							03/01/14	
Surrogate: AMPA	*95*			*100*		*95*	*70-130*			03/01/14	
Blank Spike (A402555-BS1)											
Glyphosate	100	25	ug/L	100		103	70-130			03/01/14	
Surrogate: AMPA	*100*			*100*		*102*	*70-130*			03/01/14	
Blank Spike Dup (A402555-BSD1)											
Glyphosate	120	25	ug/L	100		116	70-130	12	30	03/01/14	
Surrogate: AMPA	*97*			*100*		*97*	*70-130*			03/01/14	
Matrix Spike (A402555-MS1), Source: A4B1780-01											
Glyphosate	97	25	ug/L	100	ND	95	70-130			03/01/14	
Surrogate: AMPA	*89*			*100*		*87*	*70-130*			03/01/14	
Matrix Spike Dup (A402555-MSD1), Source: A4B1780-01											
Glyphosate	93	25	ug/L	100	ND	91	70-130	4	30	03/01/14	
Surrogate: AMPA	*86*			*100*		*84*	*70-130*			03/01/14	
EPA 548.1 - Quality Control											
Batch: A402387										Prepared: 02/25/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A402387-BLK1)											
Endothall	ND	45	ug/L							02/26/14	
Blank Spike (A402387-BS1)											
Endothall	17	45	ug/L	20		83	60-111			02/26/14	
Blank Spike Dup (A402387-BSD1)											
Endothall	15	45	ug/L	20		73	60-111	13	46	02/26/14	
Matrix Spike (A402387-MS1), Source: A4B1489-04											
Endothall	4.3	45	ug/L	20	ND	22	10-122			02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A402367										Prepared: 02/25/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A402367-BLK1)											
Diquat	ND	4.0	ug/L							02/28/14	
Blank Spike (A402367-BS1)											
Diquat	3.0	4.0	ug/L	4.0		76	70-130			02/28/14	
Blank Spike Dup (A402367-BSD1)											
Diquat	2.9	4.0	ug/L	4.0		72	70-130	6	30	02/28/14	
Matrix Spike (A402367-MS1), Source: A4B1780-01											
Diquat	2.2	4.0	ug/L	4.0	ND	54	70-130			02/28/14	MS1.0 ***Low***

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters:

A4B1813

Monterey Bay Analytical

Monte6227

02252014

Turnaround: Standard
Due Date: 03/04/2014

Printed: 02/25/2014 12:06:21
Page 1 of 1

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

A4B1813
Monte6227

* Required Fields

TEMP: 1.0

Client/Company Name *:	Report Attention *:	Phone * # (831)-357-6227 FAX * # (831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Project Information: Cal Am
PO # / Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Sampler Name Printed / Signature: Nathan Reynolds

QC Request: ☑ STD ☐ Level II

Result Request ** Surcharge: ☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Regulatory Compliance: Electronic Data Transfer: Y ☐ N ☑ System No. *

ANALYSIS REQUESTED

Matrix Types: RSW = Raw Surface Water CFW = Clorinated Finished Water CWW = Chorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 inc MTBE	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549	
1		2/21	13:10	CX-BIWQ Zone #3 (182-192 ft bgs)	RGW	12015	✓	✓	✓	✓	✓	✓	✓	✓	
				5 day TAT please											
				Conductivity 47,000 uS/cm											

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	2/24	1600		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	
		2/25/14	1000		

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material: BN

SR-FL-0012-00 (Analytical)

BSK Associates SR-FL-0002-09

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	1
None (P) White Cap	—	—	
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C, 3A
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	7V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2 BTEX Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

2/25/14

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: WM @ 1124 Labels checked by: G-1 @ 1151 RUSH Paged by:

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

March 3, 2014

Ceres ID: 10265

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on February 25, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

This work was authorized under M.B.A.'s Project # 12015.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10265-001	CX-B1WQ Zone #3 (182-192ft bags)	2/25/2014	2/21/2014	13:10

Section II: Data Summary

Sample ID:	**Method Blank**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001
Project:	12015	Sample Size:	1.000 L	QC Batch #:	1158
Date Collected:	NA			ZB-5 MS Analysis Date:	1-Mar-14
Time Collected:	NA			Date Received:	NA
				Date Extracted:	28-Feb-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.15		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	103	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	109	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	12015	Sample Size:	1.000 L	QC Batch #:	1158	Date Extracted:	28-Feb-14
Date Collected:	NA			ZB-5 MS Analysis Date:	1-Mar-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.90	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	98.3	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	10.1	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B1WQ Zone #3 (182-192ft bags)**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	10265-001
Project:	12015	Sample Size:	1.058 L	QC Batch #:	1158
Date Collected:	21-Feb-14			ZB-5 MS Analysis Date:	1-Mar-14
Time Collected:	13:10				

Date Received:	25-Feb-14
Date Extracted:	28-Feb-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.44		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	89.8	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	91.3	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Chain of Custody

Please Print in Pen

Ceres Use Only

Ceres Project ID: 10265

Temperature: 1.4 °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information (if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days)
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous S: Soil AS: Ash DW: Drinking Water
E: Effluent SD: Sediment C: Clay SO: Solid
I: Influent SL: Sludge CS: Clay Slurry O: Other (please comment)

	Sample ID	Sample Collection Date	Sample Collection Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other — Comments
1	CX-B1WQ Zone #3 (182-192ft bags)	2/21/2014	13:10	Aq	2	X						12015
2												(2,3,7,8 TCDD only)
3												5 day Rush Please
4												
5												
6												
7												
8												
9												
10												
11												
12												

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (signature and Printed Name)	Date	Time
David Holland	2/24/2014	16:00	Jasmin Hedin	2/25/14	10:55

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10265	Date/Time: 2/25/14 10:55
Client Project ID: 12015	Received Temperature: 1.4°C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present? no Residual Cl	Y / (N) / NA
List COC discrepancies: 2/25/14	
List Damaged Samples: 2/25/14	

Ceres Analytical Laboratory

Process Request

Ceres ID: 10265 PB: 1158 Sample #s: 1 Due Date: 3/3/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☒ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10265-1	1568.37	506.44	1.062L

Chemist: _____ Date: 2/28/14

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1158-MB001	Method Blank		1.000 L	JK 2/28/14 MM	JK 3/1/14 MM	NA	JK 3/1/14	NA	JK 3/1/14 MM
0-1158-OPR001	OPR		1.000L	(A) ↓	↓	↓	↓	↓	↓
10265-1158-001	CX-B1WQ Zone #3	✓	1.062L	↓	↓	↓	↓	↓	↓

Comments: (A) Spiked w/ NSS

Soxhlet Start: 14:30 2/28/14

Soxhlet Stop: 06:33 3/1/14

Samples Logged out by: JK 2/28/14 16:00

Samples Returned by: NA

Note samples Depleted: 1A

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 11:00 3/1/14 JK

Extracts returned to Storage Location: 08:00 3/3/14 JK

Chemist: G-140

Method: 1613
SOP #: 201.1

Ceres Analytical Laboratory
Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	50J1212A	10ul	3/12/14
NSS	50J1212B	10ul	3/12/14
CSS	50J1212C	10ul	3/12/14
RSS	50J1212D	20ul	3/12/17

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	PB005A0TOL	8/17/14
Hexane	30,30,100,20	136735	6/10/14
Sigel	4g	P0245 14A	8/5/14
Basic Gel	4g	P0120 14A	7/20/14
Acid Gel	8g	P0120 14B	7/20/14
Acid Al	6g	P0204 14A	8/4/14
Na_2SO_4	1.5g	P120413A	6/4/14
20% DCM/Hex	30ml	L021914A	8/19/14

Chemist : _____ G-150

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	**Report Date:**	03/04/14 21:16
		Received Date:	02/25/14 09:40
		Turn Around:	5 workdays
Attention:	David Holland	**Client Project:**	Cal Am
Phone:	(831) 375-6227		
Fax:	(831) 641-0734		
Work Order(s):	4B25018		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear David Holland :

Enclosed are the results of analyses for samples received 02/25/14 09:40 with the Chain of Custody document. The samples were received in good condition, at 4.9 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
CX-B1WQ Zone #3 (182-192 ft bgs)	Nathan Reynolds	12015	4B25018-01	Water	02/21/14 13:10

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

4B25018-01 **CX-B1WQ Zone #3 (182-192 ft bgs)**

Sampled: 02/21/14 13:10 **Sampled By:** Nathan Reynolds **Matrix:** Water

Sample Note: 12015

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 9056A | Batch: W4C0014 | Prepared: 03/01/14 11:00 | Analyst: atl

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Iodide	**190**	21	500	ug/l	50	03/01/14 18:00	M-05, J

Chlorinated Pesticides and/or PCBs

Method: EPA 508 | Batch: W4B1139 | Prepared: 02/26/14 08:25 | Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND		0.010	ug/l	1	02/28/14 21:46	
4,4´-DDE	ND		0.010	ug/l	1	02/28/14 21:46	
4,4´-DDT	ND		0.010	ug/l	1	02/28/14 21:46	
Aldrin	ND		0.010	ug/l	1	02/28/14 21:46	
alpha-BHC	ND		0.010	ug/l	1	02/28/14 21:46	
Aroclor 1016	ND		0.10	ug/l	1	02/28/14 21:46	
Aroclor 1221	ND		0.10	ug/l	1	02/28/14 21:46	
Aroclor 1232	ND		0.10	ug/l	1	02/28/14 21:46	
Aroclor 1242	ND		0.10	ug/l	1	02/28/14 21:46	
Aroclor 1248	ND		0.10	ug/l	1	02/28/14 21:46	
Aroclor 1254	ND		0.10	ug/l	1	02/28/14 21:46	
Aroclor 1260	ND		0.10	ug/l	1	02/28/14 21:46	
beta-BHC	ND		0.010	ug/l	1	02/28/14 21:46	
Chlordane (tech)	ND		0.10	ug/l	1	02/28/14 21:46	
Chlorothalonil	ND		0.050	ug/l	1	02/28/14 21:46	
delta-BHC	ND		0.010	ug/l	1	02/28/14 21:46	
Dieldrin	ND		0.010	ug/l	1	02/28/14 21:46	
Endosulfan I	ND		0.010	ug/l	1	02/28/14 21:46	
Endosulfan II	ND		0.010	ug/l	1	02/28/14 21:46	
Endosulfan sulfate	ND		0.010	ug/l	1	02/28/14 21:46	
Endrin	ND		0.010	ug/l	1	02/28/14 21:46	
Endrin aldehyde	ND		0.010	ug/l	1	02/28/14 21:46	
gamma-BHC (Lindane)	ND		0.010	ug/l	1	02/28/14 21:46	
Heptachlor	ND		0.010	ug/l	1	02/28/14 21:46	
Heptachlor epoxide	ND		0.010	ug/l	1	02/28/14 21:46	
Hexachlorobenzene	ND		0.010	ug/l	1	02/28/14 21:46	
Hexachlorocyclopentadiene	ND		0.050	ug/l	1	02/28/14 21:46	
Methoxychlor	ND		0.010	ug/l	1	02/28/14 21:46	
PCBs, Total	ND		0.50	ug/l	1	02/28/14 21:46	
Propachlor	ND		0.050	ug/l	1	02/28/14 21:46	
Toxaphene	ND		1.0	ug/l	1	02/28/14 21:46	
Trifluralin	ND		0.010	ug/l	1	02/28/14 21:46	
Surr: Decachlorobiphenyl	*16 %*	Conc:*0.0149*	*70-130*	%			*S-GC*
Surr: Tetrachloro-meta-xylene	*79 %*	Conc:*0.0753*	*70-130*	%			

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

4B25018-01 **CX-B1WQ Zone #3 (182-192 ft bgs)**

Sampled: 02/21/14 13:10 **Sampled By:** Nathan Reynolds **Matrix:** Water

Sample Note: 12015

Chlorinated Pesticides and/or PCBs

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Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

QUALITY CONTROL SECTION

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4C0014 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0014-BLK1)				Analyzed: 03/01/14 18:00						
Iodide	ND	10	ug/l							
LCS (W4C0014-BS1)				Analyzed: 03/01/14 18:00						
Iodide	45.0	10	ug/l	40.0		113	85-115			
Matrix Spike (W4C0014-MS1)	**Source: 4B25020-01**			Analyzed: 03/01/14 18:00						
Iodide	836	250	ug/l	1000	161	68	80-120			MS-01
Matrix Spike Dup (W4C0014-MSD1)	**Source: 4B25020-01**			Analyzed: 03/01/14 18:00						
Iodide	984	250	ug/l	1000	161	82	80-120	16	20	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B1139-BLK1)				Analyzed: 02/28/14 16:10						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							

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Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B1139-BLK1)				Analyzed: 02/28/14 16:10						
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.0947*		*ug/l*	*0.100*		*95*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0904*		*ug/l*	*0.100*		*90*	*70-130*			
LCS (W4B1139-BS1)				Analyzed: 02/28/14 17:42						
4,4´-DDD	0.0801	0.010	ug/l	0.100		80	55-142			
4,4´-DDE	0.0848	0.010	ug/l	0.100		85	49-129			
4,4´-DDT	0.0979	0.010	ug/l	0.100		98	54-160			
Aldrin	0.0759	0.010	ug/l	0.100		76	29-115			
alpha-BHC	0.0802	0.010	ug/l	0.100		80	59-131			
beta-BHC	0.0789	0.010	ug/l	0.100		79	63-136			
delta-BHC	0.0881	0.010	ug/l	0.100		88	59-137			
Dieldrin	0.0832	0.010	ug/l	0.100		83	59-135			
Endosulfan I	0.0689	0.010	ug/l	0.100		69	28-138			
Endosulfan II	0.0754	0.010	ug/l	0.100		75	53-133			
Endosulfan sulfate	0.0877	0.010	ug/l	0.100		88	58-155			
Endrin	0.0585	0.010	ug/l	0.100		59	57-148			
Endrin aldehyde	0.0597	0.010	ug/l	0.100		60	45-139			
gamma-BHC (Lindane)	0.0802	0.010	ug/l	0.100		80	59-129			
Heptachlor	0.0817	0.010	ug/l	0.100		82	42-136			
Heptachlor epoxide	0.0809	0.010	ug/l	0.100		81	59-134			
Methoxychlor	0.0870	0.010	ug/l	0.100		87	56-167			
Surr: Decachlorobiphenyl	*0.0903*		*ug/l*	*0.100*		*90*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0827*		*ug/l*	*0.100*		*83*	*70-130*			
LCS Dup (W4B1139-BSD1)				Analyzed: 02/28/14 17:11						
4,4´-DDD	0.0789	0.010	ug/l	0.100		79	55-142	2	25	
4,4´-DDE	0.0850	0.010	ug/l	0.100		85	49-129	0.2	25	
4,4´-DDT	0.0947	0.010	ug/l	0.100		95	54-160	3	25	
Aldrin	0.0777	0.010	ug/l	0.100		78	29-115	2	25	
alpha-BHC	0.0813	0.010	ug/l	0.100		81	59-131	1	25	
beta-BHC	0.0799	0.010	ug/l	0.100		80	63-136	1	25	
delta-BHC	0.0883	0.010	ug/l	0.100		88	59-137	0.3	25	
Dieldrin	0.0844	0.010	ug/l	0.100		84	59-135	1	25	
Endosulfan I	0.0700	0.010	ug/l	0.100		70	28-138	2	25	
Endosulfan II	0.0756	0.010	ug/l	0.100		76	53-133	0.3	25	
Endosulfan sulfate	0.0871	0.010	ug/l	0.100		87	58-155	0.7	25	
Endrin	0.0740	0.010	ug/l	0.100		74	57-148	23	25	
Endrin aldehyde	0.0748	0.010	ug/l	0.100		75	45-139	22	25	
gamma-BHC (Lindane)	0.0813	0.010	ug/l	0.100		81	59-129	1	25	
Heptachlor	0.0828	0.010	ug/l	0.100		83	42-136	1	25	
Heptachlor epoxide	0.0816	0.010	ug/l	0.100		82	59-134	0.8	25	
Methoxychlor	0.0835	0.010	ug/l	0.100		84	56-167	4	25	
Surr: Decachlorobiphenyl	*0.172*		*ug/l*	*0.200*		*86*	*70-130*			

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Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4B1139-BSD1)				Analyzed: 02/28/14 17:11						
Surr: Tetrachloro-meta-xylene	*0.161*		*ug/l*	*0.200*		*81*	*70-130*			

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

Notes and Definitions

S-GC	Surrogate recovery outside of control limits due to a possible matrix effect . The data was accepted based on valid recovery of the remaining surrogate.
MS-01	The spike recovery for this QC sample is outside of established control limits possibly due to sample matrix interference.
M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
J	Estimated conc. detected <MRL and >MDL.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1402896

Report Created for: Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940

Project Contact: David Holland
Project P.O.:
Project Name: CalAm

Project Received: 02/26/2014

Analytical Report reviewed & approved for release on 02/28/2014 by:

Question about your data?

Click here to email McCampbell

Angela Rydelius,
Laboratory Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical
Project: CalAm
WorkOrder: 1402896

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

Analytical Qualifier

a1	sample diluted due to matrix interference

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method:**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #2 (237-247 ft bgs) (dissol	**1402896-002A**	**Water/DISS.**	**02/19/2014 16:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**210**	100	20	02/27/2014 19:31
Strontium	**11,000**	400	20	02/27/2014 19:31

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #3 (182-192 ft bgs) (dissol	**1402896-004A**	**Water/DISS.**	**02/21/2014 13:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	ND	100	20	02/27/2014 14:48
Strontium	**12,000**	400	20	02/27/2014 14:48

Analytical Comments: a1

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #4 (134-144 ft bgs) (dissol	**1402896-006A**	**Water/DISS.**	**02/22/2014 14:45**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**120**	100	20	02/27/2014 19:37
Strontium	**9400**	400	20	02/27/2014 19:37

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #5 (84-94 ft bgs) (dissolve	**1402896-008A**	**Water/DISS.**	**02/23/2014 16:20**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	ND	100	20	02/27/2014 19:43
Strontium	**10,000**	400	20	02/27/2014 19:43

Analytical Comments: a1

(Cont.)

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method:**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #6 (51-61 ft bgs) (dissolve	**1402896-010A**	**Water/DISS.**	**02/25/2014 09:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**100**	100	20	02/27/2014 19:48
Strontium	**9500**	400	20	02/27/2014 19:48

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Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #2 (237-247 ft bgs)	**1402896-001A**	**Water/TOTAL**	**02/19/2014 16:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:23
Arsenic	ND	10	20	02/27/2014 15:23
Copper	ND	10	20	02/27/2014 15:23
Lithium	**120**	100	20	02/27/2014 15:23
Zinc	ND	100	20	02/27/2014 15:23

Surrogates	REC (%)	Limits	Analytical Comments: a1
Tb 350.917	104	70-130	02/27/2014 15:23

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #3 (182-192 ft bgs)	**1402896-003A**	**Water/TOTAL**	**02/21/2014 13:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:28
Arsenic	ND	10	20	02/27/2014 15:28
Copper	ND	10	20	02/27/2014 15:28
Lithium	**140**	100	20	02/27/2014 15:28
Zinc	ND	100	20	02/27/2014 15:28

Surrogates	REC (%)	Limits	Analytical Comments: a1
Tb 350.917	111	70-130	02/27/2014 15:28

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #4 (134-144 ft bgs)	**1402896-005A**	**Water/TOTAL**	**02/22/2014 14:45**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:34
Arsenic	ND	10	20	02/27/2014 15:34
Copper	ND	10	20	02/27/2014 15:34
Lithium	**120**	100	20	02/27/2014 15:34
Zinc	ND	100	20	02/27/2014 15:34

Surrogates	REC (%)	Limits	Analytical Comments: a1
Tb 350.917	104	70-130	02/27/2014 15:34

(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP DB Analyst's Initial Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #5 (84-94 ft bgs)	**1402896-007A**	**Water/TOTAL**	**02/23/2014 16:20**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:40
Arsenic	ND	10	20	02/27/2014 15:40
Copper	ND	10	20	02/27/2014 15:40
Lithium	**170**	100	20	02/27/2014 15:40
Zinc	ND	100	20	02/27/2014 15:40

Surrogates	REC (%)	Limits	Analytical Comments: a1
Tb 350.917	109	70-130	02/27/2014 15:40

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #6 (51-61 ft bgs)	**1402896-009A**	**Water/TOTAL**	**02/25/2014 09:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:45
Arsenic	ND	10	20	02/27/2014 15:45
Copper	ND	10	20	02/27/2014 15:45
Lithium	**140**	100	20	02/27/2014 15:45
Zinc	ND	100	20	02/27/2014 15:45

Surrogates	REC (%)	Limits	Analytical Comments: a1
Tb 350.917	110	70-130	02/27/2014 15:45

Quality Control Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Date Prepared:	2/26/14	**BatchID:**	87508
Date Analyzed:	2/27/14	**Extraction Method:**	E200.8
Instrument:	ICP-MS1	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	CalAm	**Sample ID:**	MB/LCS-87508 1402903-004CMS/MSD

QC Summary Report for E200.8

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aluminum	ND	475.4	50	500	-	95.1	85-115
Arsenic	ND	46.74	0.50	50	-	93.5	85-115
Barium	ND	451.9	5.0	500	-	90.4	85-115
Copper	ND	48.31	0.50	50	-	96.6	85-115
Lithium	ND	47.95	5.0	50	-	95.9	85-115
Strontium	ND	496	20	500	-	99.2	85-115
Zinc	ND	489.9	5.0	500	-	98	85-115
Surrogate Recovery							
Tb 350.917	695.7	710.9		750	93	95	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aluminum	1373	1438	500	863.6	102	115	70-130	4.62	20
Arsenic	47.91	48.87	50	0.84	94.1	96.1	70-130	1.98	20
Barium	473.2	485.6	500	18	91	93.5	70-130	2.59	20
Copper	60.61	62.62	50	13.01	95.2	99.2	70-130	3.26	20
Lithium	49.57	51.07	50	ND	99.1	102	70-130	2.98	20
Strontium	532.9	553	500	36	99.4	103	70-130	3.70	20
Zinc	632.5	641.6	500	118.4	103	105	70-130	1.43	20
Surrogate Recovery									
Tb 350.917	712.5	731	750		95	97	70-130	2.56	20

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402896 **ClientCode: MBAS**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
David Holland
Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940
831-375-6227 FAX: 831-641-0734

Email: 4mbas@sbcglobal.net
cc:
PO:
ProjectNo: CalAm

Bill to:
Accounts Payable
Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940

Requested TAT: 3 days

Date Received: **02/26/2014**
Date Printed: **02/26/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1402896-001	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	2/19/2014 16:10	☐		A										
1402896-002	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	2/19/2014 16:10	☐	A											
1402896-003	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	2/21/2014 13:10	☐		A										
1402896-004	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	2/21/2014 13:10	☐	A											
1402896-005	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	2/22/2014 14:45	☐		A										
1402896-006	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	2/22/2014 14:45	☐	A											
1402896-007	CX-BIWQ Zone #5 (84-94 ft bgs)	Water	2/23/2014 16:20	☐		A										
1402896-008	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	Water	2/23/2014 16:20	☐	A											
1402896-009	CX-BIWQ Zone #6 (51-61 ft bgs)	Water	2/25/2014 9:10	☐		A										
1402896-010	CX-BIWQ Zone #6 (51-61 ft bgs) (dissolved)	Water	2/25/2014 9:10	☐	A											

Test Legend:

1	METALSMS_DISS	2	METALSMS_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Jena Alfaro

Comments: Needs analysts initials for all reports per D.H. 4/5/13

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: MONTEREY BAY ANALYTICAL
QC Level: LEVEL 2
Work Order: 1402896
Project: CalAm
Client Contact: David Holland
Date Received: 2/26/2014
Comments: Needs analysts initials for all reports per D.H. 4/5/13
Contact's Email: 4mbas@sbcglobal.net

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1402896-001A	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/19/2014 16:10	3 days	None	☐	
1402896-002A	CX-BIWQ Zone #2 (237-247 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/19/2014 16:10	3 days	None	☐	
1402896-003A	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/21/2014 13:10	3 days	None	☐	
1402896-004A	CX-BIWQ Zone #3 (182-192 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/21/2014 13:10	3 days	None	☐	
1402896-005A	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/22/2014 14:45	3 days	None	☐	
1402896-006A	CX-BIWQ Zone #4 (134-144 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/22/2014 14:45	3 days	None	☐	
1402896-007A	CX-BIWQ Zone #5 (84-94 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/23/2014 16:20	3 days	None	☐	
1402896-008A	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/23/2014 16:20	3 days	None	☐	
1402896-009A	CX-BIWQ Zone #6 (51-61 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/25/2014 9:10	3 days	None	☐	
1402896-010A	CX-BIWQ Zone #6 (51-61 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/25/2014 9:10	3 days	None	☐	

*** NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

Bottle Legend:

125mL HDPE w/ HNO3 = 125mL HDPE Bottle w/ Nitric Acid
250mL HDPE w/ HNO3 = 250mL HDPE Bottle w/ HNO3

RUSH

14028896

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☒ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

Report To: David Holland	**Bill To:**
Company: Monterey Bay Analytical Services	
4 Justin Ct. Suite D	
Monterey, Ca 93940	E-Mail: 4mbas@sbcglobal.net
Tele: (831) 375 - 6227	Fax: (831) 641-0734
Project #:	Project Name: CalAm
Project Location:	
Sampler Signature: Nathan Reynolds	

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Arocolors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other: Al, As, Cu, Li, Zn	Other: Ba, Sr	Other	Comments
	CX-BIWQ Zone #2 (237-247 ft bgs)	2/19/14	16:10	1	p	X					X		X																		X			11965
	CX-BIWQ Zone #2 (237-247 ft bgs) (dissolved)	2/19/14	16:10	1	p	X					X		X																			X		11965 (dissolved)
	CX-BIWQ Zone #3 (182-192 ft bgs)	2/21/14	13:10	1	p	X					X		X																		X			12015
	CX-BIWQ Zone #3 (182-192 ft bgs) (dissolved)	2/21/14	13:10	1	p	X					X		X																			X		12015 (dissolved)
	CX-BIWQ Zone #4 (134-144 ft bgs)	2/22/14	14:45	1	p	X					X		X																		X			12029
	CX-BIWQ Zone #4 (134-144 ft bgs) (dissolved)	2/22/14	14:45	1	p	X					X		X																			X		12029 (dissolved)
	CX-BIWQ Zone #5 (84-94 ft bgs)	2/23/14	16:20	1	P	X					X		X																		X			12030
	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	2/23/14	16:20	1	P	X					X		X																			X		12030 (dissolved)
	CX-BIWQ Zone #6 (51-61 ft bgs)	2/25/14	09:10	1	p	X					X		X																		X			12148
	CX-BIWQ Zone #6 (51-61 ft bgs) (Dissolved)	2/25/14	09:10	1	p	X					X		X																			X		12148 (dissolved)

REC'D SEALED & INTACT VIA UPS On Ice

Relinquished By: David Holland	**Date:** 2/25/14	**Time:** 1200	**Received By:**	2/26/14 9:15
Relinquished By:	**Date:**	**Time:**	**Received By:**	

ICE/t°_____
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____

COMMENTS: The sample conductivity ranges from 25,000 uS/cm to 40,000 uS/cm

G-170

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **Monterey Bay Analytical** Date and Time Received: **2/26/2014 11:35:12 AM**

Project Name: **CalAm** LogIn Reviewed by: Jena Alfaro

WorkOrder N°: **1402896** Matrix: Water Carrier: UPS

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	NA ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Comments:

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4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

pH QC Summary (SM 4500 H+)

Date Analyzed: 2/21/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.86	100.0	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB12021	7.0	7.0	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Turbidity QC Summary (EPA 180.1)

Date Analyzed: 2/21/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.05	105.0	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB12015	0.74	0.69	7.5	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

300.0 QC Summary

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
IPC		1.99	20.09	2.12	19.60	2.09	2.00	1.91
Recovery	90-110%	99.51	100.43	106.17	98.01	104.71	100.14	95.56
CCV1		1.97	20.92	2.03	19.43	2.03	1.96	1.71
Recovery	90-110%	98.69	104.61	101.34	97.13	101.26	98.09	85.25
RPD	10%	0.82	4.07	4.66	0.90	3.35	2.06	11.40
CCV2		1.98	19.93	2.11	19.44	2.06	1.98	1.80
Recovery	90-110%	99.05	99.67	105.32	97.18	103.13	98.76	89.86
RPD	10%	0.46	0.76	0.80	0.85	1.52	1.38	6.15
		F	**Cl**	**NO2-N**	**SO4**	**Br**	**NO3-N**	**PO4-P**
		2	20	2	20	2	2	2
AB12018		0.00	10605.35	0.00	1411.32	34.01	9.38	0.03
AB12018+LFM		1.40	10697.24	0.07	1443.73	34.15	11.33	0.29
AB12018+LFMD		1.39	10782.09	0.00	1447.52	34.98	11.51	0.07
Average		1.40	10739.66	0.03	1445.62	34.56	11.42	0.18
Recovery	80-120%	69.87	671.58	1.66	171.52	27.90	102.00	7.64
RPD	10%	0.71	0.79	200.00	0.26	2.40	1.57	118.84

Batch # 20140225

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.00	0.00	1.03	103.3%	1.04	104.1%	0.7%	1	1.01	100.8%	1	0.99	99.3%
B 249.772	0.05-5ppm	0.00	0.00	1.03	102.7%	1.04	103.9%	1.2%	1	1.00	99.5%	1	0.99	99.1%
Ca 317.933	50-300ppm	-4.32	-4.33	49.6	99.3%	50.9	101.7%	2.4%	50	49.1	98.3%	50	48.7	97.4%
Ca 396.847	0.5-50ppm	-0.23	-0.24	50.1	100.3%	51.1	102.3%	2.0%	50	49.7	99.5%	50	49.5	99.1%
Cu 324.754	10ppb-100ppm	-7.83	-9.32	1008	100.8%	1031	103.1%	2.3%	1000	989	98.9%	1000	1002	100.2%
Cu 327.395	10ppb-100ppm	-3.71	-2.81	1018	101.8%	1037	103.7%	1.8%	1000	989	98.9%	1000	1005	100.5%
Fe 238.204	10ppb-100ppm	-0.01	0.65	998	99.8%	1008	100.8%	1.1%	1000	985	98.5%	1000	980	98.0%
Fe 259.940	10ppb-100ppm	-1.92	-2.32	1008	100.8%	1025	102.5%	1.6%	1000	992	99.2%	1000	995	99.5%
K 766.491	0.5-750ppm	0.06	0.04	9.9	99.2%	10.2	101.9%	2.7%	10	9.9	98.6%	10	9.9	98.9%
Mg 202.582	50-1000ppm	-1.92	-1.95	51.3	102.7%	51.9	103.8%	1.1%	50	50.1	100.3%	50	50.2	100.3%
Mg 279.078	0.5-50ppm	0.04	0.01	50.3	100.5%	50.8	101.6%	1.1%	50	49.3	98.7%	50	49.1	98.2%
Mn 257.610	10ppb-11ppm	-6.24	-6.61	1005	100.5%	1021	102.1%	1.5%	1000	988	98.8%	1000	978	97.8%
Mn 260.568	10ppb-11ppm	-6.06	-6.71	1006	100.6%	1015	101.5%	0.9%	1000	986	98.6%	1000	974	97.4%
Na 568.821	50-1000ppm	8.44	6.58	51.4	102.7%	54.1	108.1%	5.1%	50	50.7	101.3%	50	51.1	102.2%
Na 589.592	0.5-50ppm	0.11	0.04	49.9	99.9%	51.4	102.8%	2.9%	50	49.7	99.4%	50	49.6	99.1%
Si 251.611	0.5-200ppm	0.03	-0.03	51.1	102.3%	51.4	102.7%	0.4%	50	49.4	98.8%	107	105.0	98.2%
Si 252.411	0.5-200ppm	0.07	-0.01	50.9	101.8%	51.3	102.5%	0.7%	50	49.2	98.5%	107	105.0	98.1%
Zn 213.857	10ppb-50ppm	-12.44	-12.72	999	99.9%	1008	100.8%	0.9%	1000	974	97.4%	1000	967	96.7%

Matrix Spikes

Sample ID AB12040

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.09	1.12	102.9%	1.09	100.2%	2.5%	1	1.04	104.1%	3.3%	0.00
B 249.772	0.09	1.13	103.9%	1.11	101.8%	1.8%	1	1.06	105.6%	5.9%	0.00
Ca 317.933	136.6	186.1	99.0%	184.0	94.8%	1.1%	50	50.3	100.6%	2.3%	-4.35
Ca 396.847	*115.2*	*149.6*	*68.7%*	*148.1*	*65.8%*	*1.0%*	50	50.4	100.9%	1.4%	-0.25
Cu 324.754	31	1071	104.0%	1053	102.2%	1.7%	1000	1012	101.2%	2.3%	-7.80
Cu 327.395	34	1106	107.2%	1085	105.1%	1.9%	1000	1037	103.7%	4.8%	-7.04
Fe 238.204	761	1738	97.7%	1717	95.6%	1.2%	1000	1004	100.4%	1.9%	-2.79
Fe 259.940	775	1772	99.7%	1754	97.9%	1.0%	1000	1007	100.7%	1.4%	-1.97
K 766.491	3.6	13.9	103.1%	13.7	100.5%	1.9%	10	10.1	100.9%	2.2%	0.07

Mg 202.582	23.1	77.8	109.6%	76.7	107.4%	1.4%	50	52.5	105.0%	4.6%	-1.95
Mg 279.078	22.7	73.2	101.0%	72.2	99.0%	1.4%	50	50.3	100.6%	1.9%	0.01
Mn 257.610	87	1104	101.7%	1090	100.3%	1.3%	1000	1011	101.1%	2.3%	-7.07
Mn 260.568	89	1111	102.2%	1097	100.8%	1.3%	1000	1017	101.7%	3.1%	-7.40
Na 568.821	96.9	149.1	104.3%	145.2	96.5%	2.7%	50	55.1	110.2%	8.4%	6.53
Na 589.592	*90.0*	*140.9*	*101.7%*	*138.3*	*96.6%*	*1.8%*	50	51.5	103.0%	3.6%	0.44
Si 251.611	31.0	81.6	101.1%	80.6	99.0%	1.3%	50	52.4	104.8%	5.9%	-0.08
Si 252.411	30.5	79.8	98.4%	78.6	96.2%	1.4%	50	51.2	102.3%	3.8%	-0.02
Zn 213.857	22	1051	102.9%	1040	101.8%	1.0%	1000	1013	101.3%	3.9%	-16.83

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831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 2/24/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB12170	2780	2782	0.1%	10
AB12203	118	118	0.0%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Ortho Phosphate QC Summary (Hach 8190)

Date: 3/2/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.220	110	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12155	0.052	0.200	0.241	0.243	94.5	95.5	0.8	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Total Phosphorus QC Summary (Hach 8190)

Date: 3/2/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.214	107	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12148	0.010	0.200	0.200	0.206	95	98	3.0	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

MBAS
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PRECISION • ACCURACY • DEPENDABILITY

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ELAP Certification Number: 2385

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

Thursday, March 06, 2014

Lab Number: **AB12029**

Collection Date/Time:	2/22/2014	14:45	Sample Collector:	NATHAN REYNOL	
Submittal Date/Time:	2/22/2014	17:00	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B1WQ Zone # 4 (134-144 ft bgs)

Analyte	Method	Unit	**Result**	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**96**		2		2/24/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**Not Detected**	E	10	1000	2/27/2014	MC LAB
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		3/5/2014	DH
Arsenic, Total	EPA200.8	ug/L	**Not Detected**		1	10	2/27/2014	MC LAB
Barium, Dissolved	EPA200.8	ug/L	**120**		10		2/27/2014	MC LAB
Bicarbonate (as HCO3-)	SM2320B	mg/L	**117**		10		2/25/2014	SM
Boron, Dissolved	EPA200.7	mg/L	**2.88**		0.05		2/25/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**38**		0.1		2/23/2014	DH
Calcium	EPA200.7	mg/L	**505**		0.5		2/25/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**502**		0.5		2/25/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Not Detected**	E			2/26/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		2/25/2014	SM
Chloride, Dissolved	EPA300.0	mg/L	**14050**		1		2/23/2014	DH
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Not Detected**	E			2/28/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**10**		3	15	2/23/2014	DH
Copper, Total	EPA200.8	ug/L	**Not Detected**		4	1300	2/27/2014	MC LAB
DBCP & EDB	EPA504.1	ug/L	**Not Detected**	E			2/26/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Not Detected**				2/28/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Not Detected**	E			2/28/2014	BSK
Dissolved Anions		Meq/L	**436.9**				3/6/2014	DH
Dissolved Cations		Meq/L	**458.9**				3/6/2014	DH
Endothall	EPA548.1	ug/L	**Not Detected**	E			2/26/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**Not Detected**		0.1		2/23/2014	DH
Glyphosate	EPA547	ug/L	**Not Detected**	E			3/1/2014	BSK
Hardness (as CaCO3)	SM2340B	mg/L	**5350**		10		3/6/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		2/25/2014	SM
Iodide	EPA9056M	ug/L	**Not Detected**	E	10		3/1/2014	WECK
Iron	EPA200.7	ug/L	**922**		10	300	2/25/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**814**		10	300	2/25/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**0.4**	J	0.5		2/25/2014	HM
Lithium	EPA200.8	ug/L	**120**		1		2/27/2014	MC LAB
Magnesium	EPA200.7	mg/L	**993**		0.5		2/25/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**981**		1		2/25/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**349**		10	50	2/25/2014	DC
Manganese, Total	EPA200.7	ug/L	**387**		10	50	2/25/2014	DC
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	2/23/2014	DH
Nitrate as NO3	EPA300.0	mg/L	**2**		1	45	2/23/2014	DH
Nitrate+Nitrite as N	EPA300.0	mg/L	**0.4**		0.1		2/23/2014	DH
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**Not Detected**		0.1		2/23/2014	DH

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Lab Number: AB12029

Appendix G

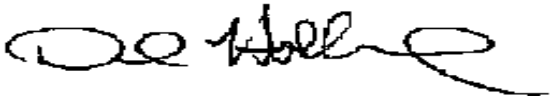
Collection Date/Time: 2/22/2014 14:45 Sample Collector: NATHAN REYNOL
Submittal Date/Time: 2/22/2014 17:00 Sample ID GEOSCIENCE Coliform Designation:

Sample Description: CX-B1WQ Zone # 4 (134-144 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	2/23/2014	DH
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**0.07**		0.1		2/24/2014	DH
pH (Field Test)	SM4500-H+B	pH	**6.82**				2/22/2014	NR
pH (Laboratory)	SM4500-H+B	pH (H)	**6.9**				2/22/2014	DH
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Not Detected**	E			3/2/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**0.07**		0.03		2/24/2014	DH
Potassium	EPA200.7	mg/L	**261**		0.5		2/25/2014	DC
Potassium, Dissolved	EPA200.7	mg/L	**256**		0.1		2/25/2014	DC
QC Ratio TDS/SEC	Calculation		**0.67**				2/27/2014	SM
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Not Detected**	E			2/26/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**27**		0.5		2/25/2014	DC
Sodium	EPA200.7	mg/L	**8045**		0.5		2/25/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**7968**		0.5		2/25/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**39610**		1	900	2/24/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**39592**		1		2/22/2014	NR
Strontium, Dissolved	EPA200.8	ug/L	**9400**		5		2/27/2014	MC LAB
Sulfate	EPA300.0	mg/L	**1832**		1	250	2/23/2014	DH
Temperature (Field)	SM2550	° C	**18.8**				2/22/2014	NR
Total Cations		Meq/L	**463.6**				3/6/2014	DH
Total Diss. Solids	SM2540C	mg/L	**26500**		10	500	2/25/2014	HM
Turbidity	EPA180.1	NTU	**4.6**		0.05	5.0	2/24/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**0.24**		0.05		2/22/2014	NR
Volatile Org. Compounds (524)	EPA524	ug/L	**Not Detected**	E			2/26/2014	BSK
Zinc, Total	EPA200.8	ug/L	**Not Detected**		10	5000	2/27/2014	MC LAB

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **\B12029 Zone #4 Total**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	8045	0.04350	349.96
Potassium	256	0.02558	6.55
Calcium	505	0.04990	25.20
Magnesium	993	0.08229	81.71
NH3-N	0	0.07143	0.00
		SUM	463.42

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	96	0.02000	1.92
Sulfate	1832	0.02082	38.14
Chloride	14050	0.02821	396.35
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.4	0.07138	0.03
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.0	0.05264	0.00
Bromide	38.0	0.01252	0.48
		SUM	436.92

ANION-CATION BALANCE **3** (% DIFFERENCE)
Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	39610	
Cation Sum X 100	46342	**117%**
Anion Sum X 100	43692	**110%**

Note: In Natural Waters, Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (S	**47.9**
Ca+Mg+Na	456.87
HCO3/Ca	0.08
dS/m	39.61
Value Table II	1.5
SAR adj	**54.3**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **12029 Zone #4 Dissolved**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	7968	0.04350	346.61
Potassium	256	0.02558	6.55
Calcium	502	0.04990	25.05
Magnesium	981	0.08229	80.73
NH3-N	0	0.07143	0.00
		SUM	458.93

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	96	0.02000	1.92
Sulfate	1832	0.02082	38.14
Chloride	14050	0.02821	396.35
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.4	0.07138	0.03
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.0	0.05264	0.00
Bromide	38.0	0.01252	0.48
		SUM	436.92

ANION-CATION BALANCE **2** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	39610	
Cation Sum X 100	45893	**116%**
Anion Sum X 100	43692	**110%**

Note: In Natural Waters, Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (S	**47.7**
Ca+Mg+Na	452.38
HCO3/Ca	0.08
dS/m	39.61
Value Table II	1.5
SAR adj	**54.1**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

BSK Associates Engineers & Laboratories

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4B1781 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 2/25/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	-	**Project PO#:**	-
Received:	2/25/2014 - 09:30		
Report Due:	3/04/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 3.1

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.

Report Distribution

Recipient(s)	Report Format
David Holland	Final.rpt

Certificate of Analysis

Sample ID: A4B1781-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #4 (134-144 ft bgs) // 12029

Sample Date - Time: 02/22/14 - 14:45
Matrix: Drinking Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A402381	02/25/14	02/26/14	CV0.0
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A402381	02/25/14	02/26/14	CV0.0
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	111 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A402552	02/28/14	03/02/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A402552	02/28/14	03/02/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A402552	02/28/14	03/02/14	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A402552	02/28/14	03/02/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A402552	02/28/14	03/02/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A402552	02/28/14	03/02/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
Surrogate: DCPAA	EPA 515.3	74 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	BS1.0
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	
Acetone	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	BS1.0, CV0.0

Certificate of Analysis

Sample ID: A4B1781-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #4 (134-144 ft bgs) // 12029

Sample Date - Time: 02/22/14 - 14:45
Matrix: Drinking Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Benzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A402390	02/26/14	02/26/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	BS1.0, CV0.0
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A402390	02/26/14	02/26/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A402390	02/26/14	02/26/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	

Certificate of Analysis

Sample ID: A4B1781-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #4 (134-144 ft bgs) // 12029

Sample Date - Time: 02/22/14 - 14:45
Matrix: Drinking Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	100 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	104 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A402368	02/25/14	02/26/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A402368	02/25/14	02/26/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A402368	02/25/14	02/26/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A402368	02/25/14	02/26/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A402368	02/25/14	02/26/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A402368	02/25/14	02/26/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	105 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A402388	02/25/14	02/26/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A402388	02/25/14	02/26/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A402388	02/25/14	02/26/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A402388	02/25/14	02/26/14	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A402555	03/01/14	03/01/14	
Surrogate: AMPA	EPA 547	97 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A402387	02/25/14	02/26/14	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A402367	02/25/14	02/28/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A402381										Prepared: 02/25/2014	
Prep Method: EPA 505										Analyst: GAK	
Blank (A402381-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							02/26/14	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.8*			*3.4*		*110*	*70-130*			02/26/14	
Blank Spike (A402381-BS1)											
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20		118	70-130			02/26/14	
Ethylene Dibromide (EDB)	0.23	0.020	ug/L	0.20		113	70-130			02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.6*			*3.4*		*104*	*70-130*			02/26/14	
Blank Spike Dup (A402381-BSD1)											
Dibromochloropropane (DBCP)	0.25	0.010	ug/L	0.20		125	70-130	5	20	02/26/14	
Ethylene Dibromide (EDB)	0.24	0.020	ug/L	0.20		122	70-130	7	20	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.7*			*3.4*		*109*	*70-130*			02/26/14	
Matrix Spike (A402381-MS1), Source: A4B1641-01											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	111	65-135			02/26/14	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20	ND	109	65-135			02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.3*			*3.4*		*99*	*70-130*			02/26/14	
Matrix Spike Dup (A402381-MSD1), Source: A4B1641-01											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	114	65-135	3	20	02/26/14	
Ethylene Dibromide (EDB)	0.23	0.020	ug/L	0.20	ND	115	65-135	5	20	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.4*			*3.4*		*101*	*70-130*			02/26/14	
EPA 515.3 - Quality Control											
Batch: A402552										Prepared: 02/28/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A402552-BLK1)											
2,4,5-T	ND	1.0	ug/L							03/02/14	
2,4,5-TP (Silvex)	ND	1.0	ug/L							03/02/14	
2,4-D	ND	10	ug/L							03/02/14	
Bentazon	ND	2.0	ug/L							03/02/14	
Dalapon	ND	10	ug/L							03/02/14	
Dicamba	ND	1.5	ug/L							03/02/14	
Dinoseb	ND	2.0	ug/L							03/02/14	
Pentachlorophenol	ND	0.20	ug/L							03/02/14	
Picloram	ND	1.0	ug/L							03/02/14	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			03/02/14	
Blank Spike (A402552-BS1)											
2,4,5-T	4.1	1.0	ug/L	4.0		103	70-130			03/02/14	
2,4,5-TP (Silvex)	0.84	1.0	ug/L	0.80		105	70-130			03/02/14	
2,4-D	0.46	10	ug/L	0.40		115	70-130			03/02/14	
Bentazon	8.9	2.0	ug/L	8.0		111	70-130			03/02/14	
Dalapon	4.1	10	ug/L	4.0		101	70-130			03/02/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A402552										Prepared: 02/28/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike (A402552-BS1)											
Dicamba	6.2	1.5	ug/L	6.0		103	70-130			03/02/14	
Dinoseb	0.82	2.0	ug/L	0.80		102	70-130			03/02/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16		100	70-130			03/02/14	
Picloram	0.41	1.0	ug/L	0.40		104	70-130			03/02/14	
Surrogate: DCPAA	*47*			*58*		*80*	*70-130*			03/02/14	
Blank Spike Dup (A402552-BSD1)											
2,4,5-T	4.2	1.0	ug/L	4.0		105	70-130	2	20	03/02/14	
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80		103	70-130	2	20	03/02/14	
2,4-D	0.47	10	ug/L	0.40		118	70-130	2	20	03/02/14	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130	2	20	03/02/14	
Dalapon	4.2	10	ug/L	4.0		106	70-130	4	20	03/02/14	
Dicamba	6.1	1.5	ug/L	6.0		101	70-130	2	20	03/02/14	
Dinoseb	0.81	2.0	ug/L	0.80		102	70-130	1	20	03/02/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16		98	70-130	2	20	03/02/14	
Picloram	0.43	1.0	ug/L	0.40		107	70-130	4	20	03/02/14	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			03/02/14	
Matrix Spike (A402552-MS1), Source: A4B1782-01											
2,4,5-T	4.2	1.0	ug/L	4.0	ND	104	70-130			03/02/14	
2,4,5-TP (Silvex)	0.85	1.0	ug/L	0.80	ND	106	70-130			03/02/14	
2,4-D	0.47	10	ug/L	0.40	ND	117	70-130			03/02/14	
Bentazon	8.8	2.0	ug/L	8.0	ND	110	70-130			03/02/14	
Dalapon	4.2	10	ug/L	4.0	ND	105	70-130			03/02/14	
Dicamba	6.0	1.5	ug/L	6.0	ND	101	70-130			03/02/14	
Dinoseb	0.82	2.0	ug/L	0.80	ND	102	70-130			03/02/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	97	70-130			03/02/14	
Picloram	0.41	1.0	ug/L	0.40	ND	103	70-130			03/02/14	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			03/02/14	
Matrix Spike Dup (A402552-MSD1), Source: A4B1782-01											
2,4,5-T	4.1	1.0	ug/L	4.0	ND	103	70-130	1	20	03/02/14	
2,4,5-TP (Silvex)	0.84	1.0	ug/L	0.80	ND	105	70-130	1	20	03/02/14	
2,4-D	0.51	10	ug/L	0.40	ND	127	70-130	9	20	03/02/14	
Bentazon	8.8	2.0	ug/L	8.0	ND	110	70-130	0	20	03/02/14	
Dalapon	4.1	10	ug/L	4.0	ND	102	70-130	3	20	03/02/14	
Dicamba	6.0	1.5	ug/L	6.0	ND	100	70-130	1	20	03/02/14	
Dinoseb	0.80	2.0	ug/L	0.80	ND	101	70-130	2	20	03/02/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	97	70-130	0	20	03/02/14	
Picloram	0.40	1.0	ug/L	0.40	ND	99	70-130	4	20	03/02/14	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			03/02/14	
EPA 524.2 - Quality Control											
Batch: A402390										Prepared: 02/26/2014	
Prep Method: EPA 524.2										Analyst: JGB	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402390										Prepared: 02/26/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402390-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							02/26/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							02/26/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							02/26/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							02/26/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							02/26/14	
1,1-Dichloroethane	ND	0.50	ug/L							02/26/14	
1,1-Dichloroethene	ND	0.50	ug/L							02/26/14	
1,1-Dichloropropene	ND	0.50	ug/L							02/26/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							02/26/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2-Dichloroethane	ND	0.50	ug/L							02/26/14	
1,2-Dichloropropane	ND	0.50	ug/L							02/26/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							02/26/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
1,3-Dichloropropane	ND	0.50	ug/L							02/26/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
2,2-Dichloropropane	ND	0.50	ug/L							02/26/14	
2-Butanone	ND	5.0	ug/L							02/26/14	
2-Chlorotoluene	ND	0.50	ug/L							02/26/14	
2-Hexanone	ND	10	ug/L							02/26/14	
4-Chlorotoluene	ND	0.50	ug/L							02/26/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							02/26/14	
Acetone	ND	10	ug/L							02/26/14	
Benzene	ND	0.50	ug/L							02/26/14	
Bromobenzene	ND	0.50	ug/L							02/26/14	
Bromochloromethane	ND	0.50	ug/L							02/26/14	
Bromodichloromethane	ND	0.50	ug/L							02/26/14	
Bromoform	ND	0.50	ug/L							02/26/14	
Bromomethane	ND	0.50	ug/L							02/26/14	
Carbon Tetrachloride	ND	0.50	ug/L							02/26/14	
Chlorobenzene	ND	0.50	ug/L							02/26/14	
Chloroethane	ND	0.50	ug/L							02/26/14	
Chloroform	ND	0.50	ug/L							02/26/14	
Chloromethane	ND	0.50	ug/L							02/26/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							02/26/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							02/26/14	
Dibromochloromethane	ND	0.50	ug/L							02/26/14	
Dibromomethane	ND	0.50	ug/L							02/26/14	
Dichlorodifluoromethane	ND	0.50	ug/L							02/26/14	
Dichloromethane	ND	0.50	ug/L							02/26/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							02/26/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							02/26/14	
Ethylbenzene	ND	0.50	ug/L							02/26/14	
Hexachlorobutadiene	ND	0.50	ug/L							02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank (A402390-BLK1)												
Isopropylbenzene	ND	0.50	ug/L							02/26/14		
m,p-Xylenes	ND	0.50	ug/L							02/26/14		
Methyl-t-butyl ether	ND	0.50	ug/L							02/26/14		
Naphthalene	ND	0.50	ug/L							02/26/14		
n-Butylbenzene	ND	0.50	ug/L							02/26/14		
n-Propylbenzene	ND	0.50	ug/L							02/26/14		
o-Xylene	ND	0.50	ug/L							02/26/14		
p-Isopropyltoluene	ND	0.50	ug/L							02/26/14		
sec-Butylbenzene	ND	0.50	ug/L							02/26/14		
Styrene	ND	0.50	ug/L							02/26/14		
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							02/26/14		
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							02/26/14		
tert-Butylbenzene	ND	0.50	ug/L							02/26/14		
Tetrachloroethene (PCE)	ND	0.50	ug/L							02/26/14		
Toluene	ND	0.50	ug/L							02/26/14		
trans-1,2-Dichloroethene	ND	0.50	ug/L							02/26/14		
trans-1,3-Dichloropropene	ND	0.50	ug/L							02/26/14		
Trichloroethene (TCE)	ND	0.50	ug/L							02/26/14		
Trichlorofluoromethane	ND	5.0	ug/L							02/26/14		
Vinyl Chloride	ND	0.50	ug/L							02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*95*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*101*	*70-130*			02/26/14		
Blank Spike (A402390-BS1)												
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		108	70-130			02/26/14		
1,1,1-Trichloroethane	11	0.50	ug/L	10		106	70-130			02/26/14		
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		107	70-130			02/26/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		106	70-130			02/26/14		
1,1,2-Trichloroethane	11	0.50	ug/L	10		107	70-130			02/26/14		
1,1-Dichloroethane	10	0.50	ug/L	10		105	70-130			02/26/14		
1,1-Dichloroethene	10	0.50	ug/L	10		103	70-130			02/26/14		
1,1-Dichloropropene	11	0.50	ug/L	10		108	70-130			02/26/14		
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
1,2-Dichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,2-Dichloroethane	10	0.50	ug/L	10		101	70-130			02/26/14		
1,2-Dichloropropane	10	0.50	ug/L	10		105	70-130			02/26/14		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,3-Dichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,3-Dichloropropane	11	0.50	ug/L	10		108	70-130			02/26/14		
1,4-Dichlorobenzene	11	0.50	ug/L	10		105	70-130			02/26/14		
2,2-Dichloropropane	11	0.50	ug/L	10		108	70-130			02/26/14		
2-Butanone	14	5.0	ug/L	10		139	70-130			02/26/14	BS	***High***
2-Chlorotoluene	10	0.50	ug/L	10		104	70-130			02/26/14		
2-Hexanone	12	10	ug/L	10		115	70-130			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike (A402390-BS1)												
4-Chlorotoluene	11	0.50	ug/L	10		106	70-130			02/26/14		
4-Methyl-2-pentanone	12	5.0	ug/L	10		119	70-130			02/26/14		
Acetone	22	10	ug/L	10		221	70-130			02/26/14	BS	***High***
Benzene	10	0.50	ug/L	10		101	70-130			02/26/14		
Bromobenzene	11	0.50	ug/L	10		107	70-130			02/26/14		
Bromochloromethane	10	0.50	ug/L	10		104	70-130			02/26/14		
Bromodichloromethane	8.5	0.50	ug/L	10		85	70-130			02/26/14		
Bromoform	11	0.50	ug/L	10		115	70-130			02/26/14		
Bromomethane	9.5	0.50	ug/L	10		95	70-130			02/26/14		
Carbon Tetrachloride	11	0.50	ug/L	10		110	70-130			02/26/14		
Chlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
Chloroethane	10	0.50	ug/L	10		100	70-130			02/26/14		
Chloroform	10	0.50	ug/L	10		102	70-130			02/26/14		
Chloromethane	9.6	0.50	ug/L	10		96	70-130			02/26/14		
cis-1,2-Dichloroethene	10	0.50	ug/L	10		104	70-130			02/26/14		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130			02/26/14		
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130			02/26/14		
Dibromomethane	11	0.50	ug/L	10		114	70-130			02/26/14		
Dichlorodifluoromethane	9.9	0.50	ug/L	10		99	70-130			02/26/14		
Dichloromethane	11	0.50	ug/L	10		106	70-130			02/26/14		
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		107	70-130			02/26/14		
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		111	70-130			02/26/14		
Ethylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Hexachlorobutadiene	10	0.50	ug/L	10		104	70-130			02/26/14		
Isopropylbenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
m,p-Xylenes	19	0.50	ug/L	20		96	70-130			02/26/14		
Methyl-t-butyl ether	22	0.50	ug/L	20		108	70-130			02/26/14		
Naphthalene	11	0.50	ug/L	10		109	70-130			02/26/14		
n-Butylbenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
n-Propylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
o-Xylene	10	0.50	ug/L	10		104	70-130			02/26/14		
p-Isopropyltoluene	11	0.50	ug/L	10		106	70-130			02/26/14		
sec-Butylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Styrene	13	0.50	ug/L	10		129	70-130			02/26/14		
tert-Amyl Methyl Ether (TAME)	11	3.0	ug/L	10		111	70-130			02/26/14		
tert-Butyl alcohol (TBA)	11	2.0	ug/L	10		107	70-130			02/26/14		
tert-Butylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Tetrachloroethene (PCE)	10	0.50	ug/L	10		104	70-130			02/26/14		
Toluene	11	0.50	ug/L	10		106	70-130			02/26/14		
trans-1,2-Dichloroethene	10	0.50	ug/L	10		105	70-130			02/26/14		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130			02/26/14		
Trichloroethene (TCE)	9.4	0.50	ug/L	10		94	70-130			02/26/14		
Trichlorofluoromethane	11	5.0	ug/L	10		107	70-130			02/26/14		
Vinyl Chloride	9.9	0.50	ug/L	10		99	70-130			02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*100*	*70-130*			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402390-BSD1)												
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		109	70-130	1	30	02/26/14		
1,1,1-Trichloroethane	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		109	70-130	2	30	02/26/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		110	70-130	3	30	02/26/14		
1,1,2-Trichloroethane	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
1,1-Dichloroethane	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
1,1-Dichloroethene	11	0.50	ug/L	10		108	70-130	5	30	02/26/14		
1,1-Dichloropropene	11	0.50	ug/L	10		110	70-130	1	30	02/26/14		
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		105	70-130	2	30	02/26/14		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
1,2,4-Trimethylbenzene	11	0.50	ug/L	10		110	70-130	6	30	02/26/14		
1,2-Dichlorobenzene	11	0.50	ug/L	10		106	70-130	0	30	02/26/14		
1,2-Dichloroethane	11	0.50	ug/L	10		107	70-130	6	30	02/26/14		
1,2-Dichloropropane	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		111	70-130	5	30	02/26/14		
1,3-Dichlorobenzene	11	0.50	ug/L	10		107	70-130	1	30	02/26/14		
1,3-Dichloropropane	11	0.50	ug/L	10		109	70-130	1	30	02/26/14		
1,4-Dichlorobenzene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
2,2-Dichloropropane	11	0.50	ug/L	10		112	70-130	4	30	02/26/14		
2-Butanone	14	5.0	ug/L	10		139	70-130	0	30	02/26/14	BS	***High***
2-Chlorotoluene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
2-Hexanone	12	10	ug/L	10		115	70-130	0	30	02/26/14		
4-Chlorotoluene	11	0.50	ug/L	10		110	70-130	4	30	02/26/14		
4-Methyl-2-pentanone	11	5.0	ug/L	10		114	70-130	4	30	02/26/14		
Acetone	22	10	ug/L	10		221	70-130	0	30	02/26/14	BS	***High***
Benzene	10	0.50	ug/L	10		104	70-130	3	30	02/26/14		
Bromobenzene	11	0.50	ug/L	10		109	70-130	2	30	02/26/14		
Bromochloromethane	10	0.50	ug/L	10		104	70-130	0	30	02/26/14		
Bromodichloromethane	9.8	0.50	ug/L	10		98	70-130	14	30	02/26/14		
Bromoform	11	0.50	ug/L	10		115	70-130	0	30	02/26/14		
Bromomethane	9.4	0.50	ug/L	10		94	70-130	1	30	02/26/14		
Carbon Tetrachloride	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
Chlorobenzene	11	0.50	ug/L	10		110	70-130	3	30	02/26/14		
Chloroethane	10	0.50	ug/L	10		100	70-130	0	30	02/26/14		
Chloroform	11	0.50	ug/L	10		105	70-130	3	30	02/26/14		
Chloromethane	9.1	0.50	ug/L	10		91	70-130	6	30	02/26/14		
cis-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130	2	30	02/26/14		
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130	0	30	02/26/14		
Dibromomethane	10	0.50	ug/L	10		101	70-130	12	30	02/26/14		
Dichlorodifluoromethane	10	0.50	ug/L	10		104	70-130	5	30	02/26/14		
Dichloromethane	11	0.50	ug/L	10		108	70-130	1	30	02/26/14		
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		110	70-130	2	30	02/26/14		
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		112	70-130	1	30	02/26/14		
Ethylbenzene	11	0.50	ug/L	10		108	70-130	4	30	02/26/14		
Hexachlorobutadiene	11	0.50	ug/L	10		108	70-130	4	30	02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402390-BSD1)												
Isopropylbenzene	11	0.50	ug/L	10		107	70-130	4	30	02/26/14		
m,p-Xylenes	20	0.50	ug/L	20		99	70-130	4	30	02/26/14		
Methyl-t-butyl ether	22	0.50	ug/L	20		109	70-130	1	30	02/26/14		
Naphthalene	11	0.50	ug/L	10		111	70-130	2	30	02/26/14		
n-Butylbenzene	11	0.50	ug/L	10		107	70-130	4	30	02/26/14		
n-Propylbenzene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
o-Xylene	11	0.50	ug/L	10		106	70-130	2	30	02/26/14		
p-Isopropyltoluene	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
sec-Butylbenzene	11	0.50	ug/L	10		107	70-130	3	30	02/26/14		
Styrene	14	0.50	ug/L	10		140	70-130	9	30	02/26/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	11	3.0	ug/L	10		115	70-130	4	30	02/26/14		
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		105	70-130	2	30	02/26/14		
tert-Butylbenzene	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
Tetrachloroethene (PCE)	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
Toluene	11	0.50	ug/L	10		110	70-130	4	30	02/26/14		
trans-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130	2	30	02/26/14		
Trichloroethene (TCE)	11	0.50	ug/L	10		108	70-130	14	30	02/26/14		
Trichlorofluoromethane	11	5.0	ug/L	10		109	70-130	2	30	02/26/14		
Vinyl Chloride	10	0.50	ug/L	10		104	70-130	4	30	02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*101*	*70-130*			02/26/14		
EPA 525.2 - Quality Control												
Batch: A402368										Prepared: 02/25/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank (A402368-BLK1)												
Alachlor	ND	1.0	ug/L							02/26/14		
Atrazine	ND	0.50	ug/L							02/26/14		
Benzo(a)pyrene	ND	0.10	ug/L							02/26/14		
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							02/26/14		
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							02/26/14		
Bromacil	ND	10	ug/L							02/26/14		
Butachlor	ND	0.38	ug/L							02/26/14		
Diazinon	ND	0.25	ug/L							02/26/14		
Dimethoate	ND	10	ug/L							02/26/14		
Metolachlor	ND	0.50	ug/L							02/26/14		
Metribuzin	ND	0.50	ug/L							02/26/14		
Molinate	ND	2.0	ug/L							02/26/14		
Propachlor	ND	0.50	ug/L							02/26/14		
Simazine	ND	1.0	ug/L							02/26/14		
Thiobencarb	ND	1.0	ug/L							02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*6.0*			*5.0*		*119*	*70-130*			02/26/14		
Blank Spike (A402368-BS1)												

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A402368										Prepared: 02/25/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank Spike (A402368-BS1)												
Alachlor	0.60	1.0	ug/L	0.50		119	70-130			02/26/14		
Atrazine	0.55	0.50	ug/L	0.50		111	70-130			02/26/14		
Benzo(a)pyrene	0.12	0.10	ug/L	0.10		119	70-130			02/26/14		
Bis(2-ethylhexyl) adipate	3.6	3.0	ug/L	3.0		120	70-130			02/26/14		
Bis(2-ethylhexyl) phthalate	4.3	3.0	ug/L	3.0		142	70-130			02/26/14	BS	***High***
Bromacil	2.6	10	ug/L	2.0		132	70-130			02/26/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2		110	70-130			02/26/14		
Diazinon	0.038	0.25	ug/L	0.050		76	70-130			02/26/14		
Dimethoate	0.35	10	ug/L	0.50		71	70-130			02/26/14		
Metolachlor	3.3	0.50	ug/L	2.5		131	70-130			02/26/14	BS	***High***
Metribuzin	3.0	0.50	ug/L	2.5		120	70-130			02/26/14		
Molinate	2.9	2.0	ug/L	2.5		117	70-130			02/26/14		
Propachlor	2.9	0.50	ug/L	2.5		117	70-130			02/26/14		
Simazine	0.40	1.0	ug/L	0.35		116	70-130			02/26/14		
Thiobencarb	0.59	1.0	ug/L	0.50		119	70-130			02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.0*		*109*	*70-130*			02/26/14		
Blank Spike Dup (A402368-BSD1)												
Alachlor	0.58	1.0	ug/L	0.49		118	70-130	3	30	02/26/14		
Atrazine	0.53	0.50	ug/L	0.49		107	70-130	5	30	02/26/14		
Benzo(a)pyrene	0.11	0.10	ug/L	0.098		116	70-130	4	30	02/26/14		
Bis(2-ethylhexyl) adipate	3.6	3.0	ug/L	2.9		122	70-130	0	30	02/26/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	2.9		140	70-130	3	30	02/26/14	BS	***High***
Bromacil	2.6	10	ug/L	2.0		132	70-130	2	30	02/26/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2		111	70-130	1	30	02/26/14		
Diazinon	0.040	0.25	ug/L	0.049		82	70-130	6	30	02/26/14		
Dimethoate	0.34	10	ug/L	0.49		70	70-130	3	30	02/26/14		
Metolachlor	3.2	0.50	ug/L	2.5		132	70-130	1	30	02/26/14	BS	***High***
Metribuzin	3.0	0.50	ug/L	2.5		121	70-130	1	30	02/26/14		
Molinate	2.7	2.0	ug/L	2.5		109	70-130	9	30	02/26/14		
Propachlor	2.7	0.50	ug/L	2.5		109	70-130	8	30	02/26/14		
Simazine	0.37	1.0	ug/L	0.34		108	70-130	9	30	02/26/14		
Thiobencarb	0.57	1.0	ug/L	0.49		116	70-130	3	30	02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*4.9*		*101*	*70-130*			02/26/14		
Matrix Spike (A402368-MS1), Source: A4B1490-02												
Alachlor	0.54	1.0	ug/L	0.49	ND	110	70-130			02/26/14		
Atrazine	0.52	0.50	ug/L	0.49	ND	105	70-130			02/26/14		
Benzo(a)pyrene	0.13	0.10	ug/L	0.099	ND	134	70-130			02/26/14	MS1.0	***High***
Bis(2-ethylhexyl) adipate	3.7	3.0	ug/L	3.0	ND	124	70-130			02/26/14		
Bis(2-ethylhexyl) phthalate	4.4	3.0	ug/L	3.0	ND	129	70-130			02/26/14		
Bromacil	2.5	10	ug/L	2.0	ND	126	70-130			02/26/14		
Butachlor	1.3	0.38	ug/L	1.2	ND	106	70-130			02/26/14		
Diazinon	0.056	0.25	ug/L	0.049	ND	114	70-130			02/26/14		
Dimethoate	0.32	10	ug/L	0.49	ND	64	70-130			02/26/14	MS1.0	***Low***
Metolachlor	2.9	0.50	ug/L	2.5	ND	119	70-130			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A402368										Prepared: 02/25/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Matrix Spike (A402368-MS1), Source: A4B1490-02											
Metribuzin	2.6	0.50	ug/L	2.5	ND	104	70-130			02/26/14	
Molinate	2.7	2.0	ug/L	2.5	ND	110	70-130			02/26/14	
Propachlor	2.6	0.50	ug/L	2.5	ND	107	70-130			02/26/14	
Simazine	0.38	1.0	ug/L	0.35	ND	109	70-130			02/26/14	
Thiobencarb	0.57	1.0	ug/L	0.49	ND	116	70-130			02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.2*			*4.9*		*106*	*70-130*			02/26/14	
EPA 531.1 - Quality Control											
Batch: A402388										Prepared: 02/25/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A402388-BLK1)											
3-Hydroxycarbofuran	ND	2.0	ug/L							02/25/14	
Aldicarb	ND	2.0	ug/L							02/25/14	
Aldicarb Sulfone	ND	2.0	ug/L							02/25/14	
Aldicarb Sulfoxide	ND	2.0	ug/L							02/25/14	
Carbaryl	ND	2.0	ug/L							02/25/14	
Carbofuran	ND	2.0	ug/L							02/25/14	
Methomyl	ND	2.0	ug/L							02/25/14	
Oxamyl	ND	2.0	ug/L							02/25/14	
Blank Spike (A402388-BS1)											
3-Hydroxycarbofuran	4.2	2.0	ug/L	4.0		105	80-120			02/25/14	
Aldicarb	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Aldicarb Sulfone	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Aldicarb Sulfoxide	4.1	2.0	ug/L	4.0		104	80-120			02/25/14	
Carbaryl	4.2	2.0	ug/L	4.0		104	80-120			02/25/14	
Carbofuran	4.1	2.0	ug/L	4.0		102	80-120			02/25/14	
Methomyl	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Oxamyl	4.1	2.0	ug/L	4.0		102	80-120			02/25/14	
Blank Spike Dup (A402388-BSD1)											
3-Hydroxycarbofuran	4.1	2.0	ug/L	4.0		103	80-120	1	20	02/26/14	
Aldicarb	4.1	2.0	ug/L	4.0		102	80-120	1	20	02/26/14	
Aldicarb Sulfone	4.2	2.0	ug/L	4.0		106	80-120	3	20	02/26/14	
Aldicarb Sulfoxide	4.2	2.0	ug/L	4.0		105	80-120	1	20	02/26/14	
Carbaryl	4.1	2.0	ug/L	4.0		101	80-120	3	20	02/26/14	
Carbofuran	4.1	2.0	ug/L	4.0		103	80-120	2	20	02/26/14	
Methomyl	4.3	2.0	ug/L	4.0		109	80-120	5	20	02/26/14	
Oxamyl	4.2	2.0	ug/L	4.0		104	80-120	2	20	02/26/14	
Matrix Spike (A402388-MS1), Source: A4B1177-01											
3-Hydroxycarbofuran	3.3	2.0	ug/L	4.0	ND	82	65-135			02/26/14	
Aldicarb	3.1	2.0	ug/L	4.0	ND	72	65-135			02/26/14	
Aldicarb Sulfone	3.5	2.0	ug/L	4.0	ND	79	65-135			02/26/14	
Aldicarb Sulfoxide	3.5	2.0	ug/L	4.0	ND	87	65-135			02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A402388										Prepared: 02/25/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Matrix Spike (A402388-MS1), Source: A4B1177-01											
Carbaryl	10	2.0	ug/L	4.0	8.8	31	65-135			02/26/14	MS1.0 ***Low***
Carbofuran	3.3	2.0	ug/L	4.0	ND	83	65-135			02/26/14	
Methomyl	3.5	2.0	ug/L	4.0	ND	87	65-135			02/26/14	
Oxamyl	3.3	2.0	ug/L	4.0	ND	84	65-135			02/26/14	
EPA 547 - Quality Control											
Batch: A402555										Prepared: 03/01/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A402555-BLK1)											
Glyphosate	ND	25	ug/L							03/01/14	
Surrogate: AMPA	*95*			*100*		*95*	*70-130*			03/01/14	
Blank Spike (A402555-BS1)											
Glyphosate	100	25	ug/L	100		103	70-130			03/01/14	
Surrogate: AMPA	*100*			*100*		*102*	*70-130*			03/01/14	
Blank Spike Dup (A402555-BSD1)											
Glyphosate	120	25	ug/L	100		116	70-130	12	30	03/01/14	
Surrogate: AMPA	*97*			*100*		*97*	*70-130*			03/01/14	
Matrix Spike (A402555-MS1), Source: A4B1780-01											
Glyphosate	97	25	ug/L	100	ND	95	70-130			03/01/14	
Surrogate: AMPA	*89*			*100*		*87*	*70-130*			03/01/14	
Matrix Spike Dup (A402555-MSD1), Source: A4B1780-01											
Glyphosate	93	25	ug/L	100	ND	91	70-130	4	30	03/01/14	
Surrogate: AMPA	*86*			*100*		*84*	*70-130*			03/01/14	
EPA 548.1 - Quality Control											
Batch: A402387										Prepared: 02/25/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A402387-BLK1)											
Endothall	ND	45	ug/L							02/26/14	
Blank Spike (A402387-BS1)											
Endothall	17	45	ug/L	20		83	60-111			02/26/14	
Blank Spike Dup (A402387-BSD1)											
Endothall	15	45	ug/L	20		73	60-111	13	46	02/26/14	
Matrix Spike (A402387-MS1), Source: A4B1489-04											
Endothall	4.3	45	ug/L	20	ND	22	10-122			02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A402367										Prepared: 02/25/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A402367-BLK1)											
Diquat	ND	4.0	ug/L							02/28/14	
Blank Spike (A402367-BS1)											
Diquat	3.0	4.0	ug/L	4.0		76	70-130			02/28/14	
Blank Spike Dup (A402367-BSD1)											
Diquat	2.9	4.0	ug/L	4.0		72	70-130	6	30	02/28/14	
Matrix Spike (A402367-MS1), Source: A4B1780-01											
Diquat	2.2	4.0	ug/L	4.0	ND	54	70-130			02/28/14	MS1.0 ***Low***

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters:

A4B1781

Monterey Bay Analytical

Monte6227

02252014

Turnaround: Standard

Due Date: 03/04/2014

Printed: 02/25/2014 12:07:10

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

A4B1781 02/25/2014
Monte6227 5

TEMP: 3.1

* Required Fields

Client/Company Name *:	Report Attention *:	Phone * #: (831)-357-6227 FAX * #(831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

ANALYSIS REQUESTED

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Project Information: Cal Am

PO # Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Regulatory Compliance Electronic Data Transfer: Y ☐ N ☑ System No. *

Sampler Name Printed / Signature: Nathan Reynolds

QC Request: ☑ STD ☐ Level II

Result Request ** Surcharge: ☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Matrix Types: RSW = Raw Surface Water CFW = Clorinated Finished Water CWW = Chorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 inc MTBE	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549
1		2/22	14:45	CX-BIWQ Zone #4 (134-144 ft bgs)	RGW	12029	✓	✓	✓	✓	✓	✓	✓	✓
				5 day TAT please										
				Conductivity 36,000 uS/cm										

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	2/24	1600		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name) John Hom		Date 2/25/14	Time 9:30	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	

Shipping Method: (CAC) UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: (WET) BLUE NONE

Packing Material: Bin

SR-FL-0012-00 (Analytical)

G-202

BSK Associates SR-FL-0002-09

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C 3.1	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun? w-et	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes (No) NA
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes (No)
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received — "—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1
Bacti $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	3A, 2C
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	7V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	(Y) N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: MC @ 1020 Labels checked by: G-203 @ 1154 RUSH Paged by:

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

March 3, 2014 Ceres ID: 10266

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on February 25, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

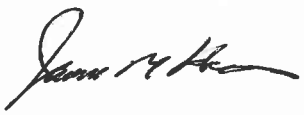
This work was authorized under M.B.A.'s Project # 12029.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,



James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10266-001	CX-B1WQ Zone #4 (134-144ft bags)	2/25/2014	2/22/2014	14:45

Section II: Data Summary

Sample ID:	**Method Blank**						
Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001	Date Received:	NA
Project:	12029	Sample Size:	1.000 L	QC Batch #:	1158	Date Extracted:	28-Feb-14
Date Collected:	NA			ZB-5 MS Analysis Date:	1-Mar-14		
Time Collected:	NA						

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.15		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	103	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	109	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	12029	Sample Size:	1.000 L	QC Batch #:	1158	Date Extracted:	28-Feb-14
Date Collected:	NA			ZB-5 MS Analysis Date:	1-Mar-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.90	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	98.3	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	10.1	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B1WQ Zone #4 (134-144ft bags)**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	10266-001
Project:	12029	Sample Size:	1.052 L	QC Batch #:	1158
Date Collected:	22-Feb-14			ZB-5 MS Analysis Date:	1-Mar-14
Time Collected:	14:45				

Date Received:	25-Feb-14
Date Extracted:	28-Feb-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.89		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	97.1	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	107	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

Chain of Custody

Ceres Use Only

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Please Print in Pen

Ceres Project ID: 10266
Temperature: 1.4 °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information (if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days)
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous	S: Soil	AS: Ash	DW: Drinking Water
E: Effluent	SD: Sediment	C: Clay	SO: Solid
I: Influent	SL: Sludge	CS: Clay Slurry	O: Other (please comment)

TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other

	Sample ID	Sample Collection Date	Sample Collection Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	Comments
1	CX-B1WQ Zone #4 (134-144ft bags)	2/22/2014	14:45	Aq	2	X						12029
2												(2,3,7,8 TCDD only)
3												5 day Rush Please
4												
5												
6												
7												
8												
9												
10												
11												
12												

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: *(Signature and Printed Name)*	Date	Time	Received by: *(signature and Printed Name)*	Date	Time
David Holland	2/24/2014	16:00	I M Hodin	2/25/14	10:55

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10266	Date/Time: 2/25/14 10:55
Client Project ID: 12029	Received Temperature: 1.4°C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present? no Residual Cl	Y / (N) / NA
List COC discrepancies: 2/25/14	
List Damaged Samples: 2/25/14	

Ceres Analytical Laboratory — Process Request

Ceres ID: 18266 PB: 1158 Sample #s: 1 Due Date: 2/3/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☒ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10266-1	1559.02	507.35	1.052 L

Chemist: _____ Date: 2/20/14

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1158-MB001	Method Blank		1.000L	(A) 2/28/14	3/1/14	NA	3/1/14	NA	3/1/14
0-1158-OPR001	OPR		1.008L	(A)					
10266-1158-001	CX-B1WQ Zone #4	✓	1.052L						

Comments: (A) Spiked W/NSS

Soxhlet Start: 14:30 2/28/14

Soxhlet Stop: 06:33 3/1/14

Samples Logged out by: 2/28/14 11:00

Samples Returned by: NA

Note samples Depleted: 1A

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 11:00 3/1/14

Extracts returned to Storage Location: 08:00 3/3/14

Form M1.0 rev4

Chemist: G-215

Effective Date: 7/12/13

Method: 1613
SOP #: 2011

Ceres Analytical Laboratory
Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	SO21212A	10ul	3/12/14
NSS	SO31212B	10ul	3/12/14
CSS	SO31212C	10ul	3/12/14
RSS	SO31212D	20ul	3/12/17

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	PB005AOTOL	8/7/14
Hexane	30,30,100,20	137735	6/10/14
Sigel	4g	P0215141	8/5/14
Basic Gel	4g	P012014A	7/20/14
Acid Gel	8g	P012014B	7/20/14
Acid Al	6g	P020414A	8/4/14
Na_2SO_4	1.5g	P120413A	6/4/14
20% DCM/Hex	30ml	L021914A	8/19/14

Chemist : G-216

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	**Report Date:**	03/04/14 21:16
		Received Date:	02/25/14 09:40
		Turn Around:	5 workdays
Attention:	David Holland	**Client Project:**	Cal Am
Phone:	(831) 375-6227		
Fax:	(831) 641-0734		
Work Order(s):	4B25019		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear David Holland :

Enclosed are the results of analyses for samples received 02/25/14 09:40 with the Chain of Custody document. The samples were received in good condition, at 4.9 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
CX-B1WQ Zone #4 (134-144 ft bgs)	Nathan Reynolds	12029	4B25019-01	Water	02/22/14 14:45

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

4B25019-01 **CX-B1WQ Zone #4 (134-144 ft bgs)**

Sampled: 02/22/14 14:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Sample Note: 12029

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 9056A | Batch: W4C0014 | Prepared: 03/01/14 11:00 | Analyst: atl

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Iodide	ND	10	250	ug/l	25	03/01/14 18:00	M-05

Chlorinated Pesticides and/or PCBs

Method: EPA 508 | Batch: W4B1139 | Prepared: 02/26/14 08:25 | Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND		0.010	ug/l	1	02/28/14 22:17	
4,4´-DDE	ND		0.010	ug/l	1	02/28/14 22:17	
4,4´-DDT	ND		0.010	ug/l	1	02/28/14 22:17	
Aldrin	ND		0.010	ug/l	1	02/28/14 22:17	
alpha-BHC	ND		0.010	ug/l	1	02/28/14 22:17	
Aroclor 1016	ND		0.10	ug/l	1	02/28/14 22:17	
Aroclor 1221	ND		0.10	ug/l	1	02/28/14 22:17	
Aroclor 1232	ND		0.10	ug/l	1	02/28/14 22:17	
Aroclor 1242	ND		0.10	ug/l	1	02/28/14 22:17	
Aroclor 1248	ND		0.10	ug/l	1	02/28/14 22:17	
Aroclor 1254	ND		0.10	ug/l	1	02/28/14 22:17	
Aroclor 1260	ND		0.10	ug/l	1	02/28/14 22:17	
beta-BHC	ND		0.010	ug/l	1	02/28/14 22:17	
Chlordane (tech)	ND		0.10	ug/l	1	02/28/14 22:17	
Chlorothalonil	ND		0.050	ug/l	1	02/28/14 22:17	
delta-BHC	ND		0.010	ug/l	1	02/28/14 22:17	
Dieldrin	ND		0.010	ug/l	1	02/28/14 22:17	
Endosulfan I	ND		0.010	ug/l	1	02/28/14 22:17	
Endosulfan II	ND		0.010	ug/l	1	02/28/14 22:17	
Endosulfan sulfate	ND		0.010	ug/l	1	02/28/14 22:17	
Endrin	ND		0.010	ug/l	1	02/28/14 22:17	
Endrin aldehyde	ND		0.010	ug/l	1	02/28/14 22:17	
gamma-BHC (Lindane)	ND		0.010	ug/l	1	02/28/14 22:17	
Heptachlor	ND		0.010	ug/l	1	02/28/14 22:17	
Heptachlor epoxide	ND		0.010	ug/l	1	02/28/14 22:17	
Hexachlorobenzene	ND		0.010	ug/l	1	02/28/14 22:17	
Hexachlorocyclopentadiene	ND		0.050	ug/l	1	02/28/14 22:17	
Methoxychlor	ND		0.010	ug/l	1	02/28/14 22:17	
PCBs, Total	ND		0.50	ug/l	1	02/28/14 22:17	
Propachlor	ND		0.050	ug/l	1	02/28/14 22:17	
Toxaphene	ND		1.0	ug/l	1	02/28/14 22:17	
Trifluralin	ND		0.010	ug/l	1	02/28/14 22:17	
Surr: Decachlorobiphenyl	*72 %*	Conc:*0.0690*	*70-130*	%			
Surr: Tetrachloro-meta-xylene	*79 %*	Conc:*0.0752*	*70-130*	%			

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4B25019-01 **CX-B1WQ Zone #4 (134-144 ft bgs)**

Sampled: 02/22/14 14:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Sample Note: 12029

Chlorinated Pesticides and/or PCBs

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QUALITY CONTROL SECTION

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:16

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4C0014 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0014-BLK1)				Analyzed: 03/01/14 18:00						
Iodide	ND	10	ug/l							
LCS (W4C0014-BS1)				Analyzed: 03/01/14 18:00						
Iodide	45.0	10	ug/l	40.0		113	85-115			
Matrix Spike (W4C0014-MS1)	**Source: 4B25020-01**			Analyzed: 03/01/14 18:00						
Iodide	836	250	ug/l	1000	161	68	80-120			MS-01
Matrix Spike Dup (W4C0014-MSD1)	**Source: 4B25020-01**			Analyzed: 03/01/14 18:00						
Iodide	984	250	ug/l	1000	161	82	80-120	16	20	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B1139-BLK1)				Analyzed: 02/28/14 16:10						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							

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Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B1139-BLK1)				Analyzed: 02/28/14 16:10						
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.0947*		*ug/l*	*0.100*		*95*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0904*		*ug/l*	*0.100*		*90*	*70-130*			
LCS (W4B1139-BS1)				Analyzed: 02/28/14 17:42						
4,4´-DDD	0.0801	0.010	ug/l	0.100		80	55-142			
4,4´-DDE	0.0848	0.010	ug/l	0.100		85	49-129			
4,4´-DDT	0.0979	0.010	ug/l	0.100		98	54-160			
Aldrin	0.0759	0.010	ug/l	0.100		76	29-115			
alpha-BHC	0.0802	0.010	ug/l	0.100		80	59-131			
beta-BHC	0.0789	0.010	ug/l	0.100		79	63-136			
delta-BHC	0.0881	0.010	ug/l	0.100		88	59-137			
Dieldrin	0.0832	0.010	ug/l	0.100		83	59-135			
Endosulfan I	0.0689	0.010	ug/l	0.100		69	28-138			
Endosulfan II	0.0754	0.010	ug/l	0.100		75	53-133			
Endosulfan sulfate	0.0877	0.010	ug/l	0.100		88	58-155			
Endrin	0.0585	0.010	ug/l	0.100		59	57-148			
Endrin aldehyde	0.0597	0.010	ug/l	0.100		60	45-139			
gamma-BHC (Lindane)	0.0802	0.010	ug/l	0.100		80	59-129			
Heptachlor	0.0817	0.010	ug/l	0.100		82	42-136			
Heptachlor epoxide	0.0809	0.010	ug/l	0.100		81	59-134			
Methoxychlor	0.0870	0.010	ug/l	0.100		87	56-167			
Surr: Decachlorobiphenyl	*0.0903*		*ug/l*	*0.100*		*90*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0827*		*ug/l*	*0.100*		*83*	*70-130*			
LCS Dup (W4B1139-BSD1)				Analyzed: 02/28/14 17:11						
4,4´-DDD	0.0789	0.010	ug/l	0.100		79	55-142	2	25	
4,4´-DDE	0.0850	0.010	ug/l	0.100		85	49-129	0.2	25	
4,4´-DDT	0.0947	0.010	ug/l	0.100		95	54-160	3	25	
Aldrin	0.0777	0.010	ug/l	0.100		78	29-115	2	25	
alpha-BHC	0.0813	0.010	ug/l	0.100		81	59-131	1	25	
beta-BHC	0.0799	0.010	ug/l	0.100		80	63-136	1	25	
delta-BHC	0.0883	0.010	ug/l	0.100		88	59-137	0.3	25	
Dieldrin	0.0844	0.010	ug/l	0.100		84	59-135	1	25	
Endosulfan I	0.0700	0.010	ug/l	0.100		70	28-138	2	25	
Endosulfan II	0.0756	0.010	ug/l	0.100		76	53-133	0.3	25	
Endosulfan sulfate	0.0871	0.010	ug/l	0.100		87	58-155	0.7	25	
Endrin	0.0740	0.010	ug/l	0.100		74	57-148	23	25	
Endrin aldehyde	0.0748	0.010	ug/l	0.100		75	45-139	22	25	
gamma-BHC (Lindane)	0.0813	0.010	ug/l	0.100		81	59-129	1	25	
Heptachlor	0.0828	0.010	ug/l	0.100		83	42-136	1	25	
Heptachlor epoxide	0.0816	0.010	ug/l	0.100		82	59-134	0.8	25	
Methoxychlor	0.0835	0.010	ug/l	0.100		84	56-167	4	25	
Surr: Decachlorobiphenyl	*0.172*		*ug/l*	*0.200*		*86*	*70-130*			

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Date Reported: 03/04/14 21:16

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4B1139-BSD1)				Analyzed: 02/28/14 17:11						
Surr: Tetrachloro-meta-xylene	*0.161*		*ug/l*	*0.200*		*81*	*70-130*			

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Notes and Definitions

MS-01	The spike recovery for this QC sample is outside of established control limits possibly due to sample matrix interference.
M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

MONTEREY BAY ANALYTICAL SERVICES
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4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

pH QC Summary (SM 4500 H+)

Date Analyzed: 2/22/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.87	100.1	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB12029	6.9	6.9	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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http://www.MBASinc.com

MBAS QC Summary (SM 5540C)

Date Analyzed: 2/23/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	0.100	0.087	87	80-120

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

300.0 QC Summary

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
IPC		1.96	19.40	2.07	19.27	2.02	1.90	1.70
Recovery	90-110%	97.88	97.02	103.50	96.34	100.94	95.24	85.13
CCV1		1.93	19.49	2.08	19.43	2.03	1.92	1.79
Recovery	90-110%	96.57	97.43	104.18	97.15	101.47	95.84	89.38
RPD	10%	1.34	0.42	0.65	0.84	0.52	0.63	4.87

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
AB12026		0.11	70.57	0.24	35.16	0.02	7.60	0.00
AB12026+LFM		2.07	90.75	1.93	54.67	1.78	9.82	1.32
AB12026+LFMD		2.03	90.42	1.90	54.28	1.75	9.80	1.31
Average		2.05	90.59	1.91	54.48	1.76	9.81	1.31
Recovery	80-120%	96.94	100.07	83.77	96.59	87.18	110.54	65.65
RPD	10%	1.62	0.36	1.66	0.72	1.62	0.20	0.57

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http://www.MBASinc.com

Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 2/24/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB12170	2780	2782	0.1%	10
AB12203	118	118	0.0%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Turbidity QC Summary (EPA 180.1)

Date Analyzed: 2/24/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.01	101.0	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB12030	0.77	0.78	0.9	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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TDS/TSS QC Summary (SM 2540C/D)

Date Analyzed: 2/25/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC 100	100	106	106	80-120
IPC 500	500	500	100	90-110

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12141	186	191	2.7	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Differer

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Kjehldahl Nitrogen QC Summary (SM 4500-NH3)

Date: 2/25/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	5.0	4.820	96.4	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB11639	29.800	5.000	34.800	35.200	100	108	1.1	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

Batch # 20140225

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.00	0.00	1.03	103.3%	1.04	104.1%	0.7%	1	1.01	100.8%	1	0.99	99.3%
B 249.772	0.05-5ppm	0.00	0.00	1.03	102.7%	1.04	103.9%	1.2%	1	1.00	99.5%	1	0.99	99.1%
Ca 317.933	50-300ppm	-4.32	-4.33	49.6	99.3%	50.9	101.7%	2.4%	50	49.1	98.3%	50	48.7	97.4%
Ca 396.847	0.5-50ppm	-0.23	-0.24	50.1	100.3%	51.1	102.3%	2.0%	50	49.7	99.5%	50	49.5	99.1%
Cu 324.754	10ppb-100ppm	-7.83	-9.32	1008	100.8%	1031	103.1%	2.3%	1000	989	98.9%	1000	1002	100.2%
Cu 327.395	10ppb-100ppm	-3.71	-2.81	1018	101.8%	1037	103.7%	1.8%	1000	989	98.9%	1000	1005	100.5%
Fe 238.204	10ppb-100ppm	-0.01	0.65	998	99.8%	1008	100.8%	1.1%	1000	985	98.5%	1000	980	98.0%
Fe 259.940	10ppb-100ppm	-1.92	-2.32	1008	100.8%	1025	102.5%	1.6%	1000	992	99.2%	1000	995	99.5%
K 766.491	0.5-750ppm	0.06	0.04	9.9	99.2%	10.2	101.9%	2.7%	10	9.9	98.6%	10	9.9	98.9%
Mg 202.582	50-1000ppm	-1.92	-1.95	51.3	102.7%	51.9	103.8%	1.1%	50	50.1	100.3%	50	50.2	100.3%
Mg 279.078	0.5-50ppm	0.04	0.01	50.3	100.5%	50.8	101.6%	1.1%	50	49.3	98.7%	50	49.1	98.2%
Mn 257.610	10ppb-11ppm	-6.24	-6.61	1005	100.5%	1021	102.1%	1.5%	1000	988	98.8%	1000	978	97.8%
Mn 260.568	10ppb-11ppm	-6.06	-6.71	1006	100.6%	1015	101.5%	0.9%	1000	986	98.6%	1000	974	97.4%
Na 568.821	50-1000ppm	8.44	6.58	51.4	102.7%	54.1	108.1%	5.1%	50	50.7	101.3%	50	51.1	102.2%
Na 589.592	0.5-50ppm	0.11	0.04	49.9	99.9%	51.4	102.8%	2.9%	50	49.7	99.4%	50	49.6	99.1%
Si 251.611	0.5-200ppm	0.03	-0.03	51.1	102.3%	51.4	102.7%	0.4%	50	49.4	98.8%	107	105.0	98.2%
Si 252.411	0.5-200ppm	0.07	-0.01	50.9	101.8%	51.3	102.5%	0.7%	50	49.2	98.5%	107	105.0	98.1%
Zn 213.857	10ppb-50ppm	-12.44	-12.72	999	99.9%	1008	100.8%	0.9%	1000	974	97.4%	1000	967	96.7%

Matrix Spikes

Sample ID AB12040

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.09	1.12	102.9%	1.09	100.2%	2.5%	1	1.04	104.1%	3.3%	0.00
B 249.772	0.09	1.13	103.9%	1.11	101.8%	1.8%	1	1.06	105.6%	5.9%	0.00
Ca 317.933	136.6	186.1	99.0%	184.0	94.8%	1.1%	50	50.3	100.6%	2.3%	-4.35
Ca 396.847	*115.2*	*149.6*	*68.7%*	*148.1*	*65.8%*	*1.0%*	50	50.4	100.9%	1.4%	-0.25
Cu 324.754	31	1071	104.0%	1053	102.2%	1.7%	1000	1012	101.2%	2.3%	-7.80
Cu 327.395	34	1106	107.2%	1085	105.1%	1.9%	1000	1037	103.7%	4.8%	-7.04
Fe 238.204	761	1738	97.7%	1717	95.6%	1.2%	1000	1004	100.4%	1.9%	-2.79
Fe 259.940	775	1772	99.7%	1754	97.9%	1.0%	1000	1007	100.7%	1.4%	-1.97
K 766.491	3.6	13.9	103.1%	13.7	100.5%	1.9%	10	10.1	100.9%	2.2%	0.07

Mg 202.582	23.1	77.8	109.6%	76.7	107.4%	1.4%	50	52.5	105.0%	4.6%	-1.95
Mg 279.078	22.7	73.2	101.0%	72.2	99.0%	1.4%	50	50.3	100.6%	1.9%	0.01
Mn 257.610	87	1104	101.7%	1090	100.3%	1.3%	1000	1011	101.1%	2.3%	-7.07
Mn 260.568	89	1111	102.2%	1097	100.8%	1.3%	1000	1017	101.7%	3.1%	-7.40
Na 568.821	96.9	149.1	104.3%	145.2	96.5%	2.7%	50	55.1	110.2%	8.4%	6.53
Na 589.592	*90.0*	*140.9*	*101.7%*	*138.3*	*96.6%*	*1.8%*	50	51.5	103.0%	3.6%	0.44
Si 251.611	31.0	81.6	101.1%	80.6	99.0%	1.3%	50	52.4	104.8%	5.9%	-0.08
Si 252.411	30.5	79.8	98.4%	78.6	96.2%	1.4%	50	51.2	102.3%	3.8%	-0.02
Zn 213.857	22	1051	102.9%	1040	101.8%	1.0%	1000	1013	101.3%	3.9%	-16.83

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 3/5/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC Low	0.050	0.043	86	90-110
IPC	0.500	0.462	92.4	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12148	0.020	0.500	0.536	0.550	103.2	106	2.6	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check

RPD = Relative Percent Difference; Rec = Recovery

McCampbell Analytical, Inc.

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Analytical Report

WorkOrder: 1402896

Report Created for: Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940

Project Contact: David Holland
Project P.O.:
Project Name: CalAm

Project Received: 02/26/2014

Analytical Report reviewed & approved for release on 02/28/2014 by:

Question about your data?

Click here to email McCampbell

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com

NELAP: 4033ORELAP ♦ ELAP: 1644 ♦ ISO/IEC: 17025:2005 ♦ WSDE: C972-11 ♦ ADEC: UST-098 ♦ UCMR3

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical
Project: CalAm
WorkOrder: 1402896

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

Analytical Qualifier

a1	sample diluted due to matrix interference

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Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method:**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #2 (237-247 ft bgs) (dissol	**1402896-002A**	**Water/DISS.**	**02/19/2014 16:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**210**	100	20	02/27/2014 19:31
Strontium	**11,000**	400	20	02/27/2014 19:31

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #3 (182-192 ft bgs) (dissol	**1402896-004A**	**Water/DISS.**	**02/21/2014 13:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	ND	100	20	02/27/2014 14:48
Strontium	**12,000**	400	20	02/27/2014 14:48

Analytical Comments: a1

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #4 (134-144 ft bgs) (dissol	**1402896-006A**	**Water/DISS.**	**02/22/2014 14:45**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**120**	100	20	02/27/2014 19:37
Strontium	**9400**	400	20	02/27/2014 19:37

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #5 (84-94 ft bgs) (dissolve	**1402896-008A**	**Water/DISS.**	**02/23/2014 16:20**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	ND	100	20	02/27/2014 19:43
Strontium	**10,000**	400	20	02/27/2014 19:43

Analytical Comments: a1

(Cont.)

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Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method:**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #6 (51-61 ft bgs) (dissolve	**1402896-010A**	**Water/DISS.**	**02/25/2014 09:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**100**	100	20	02/27/2014 19:48
Strontium	**9500**	400	20	02/27/2014 19:48

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Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #2 (237-247 ft bgs)	**1402896-001A**	**Water/TOTAL**	**02/19/2014 16:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:23
Arsenic	ND	10	20	02/27/2014 15:23
Copper	ND	10	20	02/27/2014 15:23
Lithium	**120**	100	20	02/27/2014 15:23
Zinc	ND	100	20	02/27/2014 15:23

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	104	70-130		02/27/2014 15:23

CX-BIWQ Zone #3 (182-192 ft bgs)	1402896-003A	Water/TOTAL	02/21/2014 13:10	ICP-MS2	87508

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:28
Arsenic	ND	10	20	02/27/2014 15:28
Copper	ND	10	20	02/27/2014 15:28
Lithium	**140**	100	20	02/27/2014 15:28
Zinc	ND	100	20	02/27/2014 15:28

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	111	70-130		02/27/2014 15:28

CX-BIWQ Zone #4 (134-144 ft bgs)	1402896-005A	Water/TOTAL	02/22/2014 14:45	ICP-MS2	87508

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:34
Arsenic	ND	10	20	02/27/2014 15:34
Copper	ND	10	20	02/27/2014 15:34
Lithium	**120**	100	20	02/27/2014 15:34
Zinc	ND	100	20	02/27/2014 15:34

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	104	70-130		02/27/2014 15:34

(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP DB Analyst's Initial Angela Rydelius, Lab Manager

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Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #5 (84-94 ft bgs)	**1402896-007A**	**Water/TOTAL**	**02/23/2014 16:20**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:40
Arsenic	ND	10	20	02/27/2014 15:40
Copper	ND	10	20	02/27/2014 15:40
Lithium	**170**	100	20	02/27/2014 15:40
Zinc	ND	100	20	02/27/2014 15:40

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	109	70-130		02/27/2014 15:40

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #6 (51-61 ft bgs)	**1402896-009A**	**Water/TOTAL**	**02/25/2014 09:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:45
Arsenic	ND	10	20	02/27/2014 15:45
Copper	ND	10	20	02/27/2014 15:45
Lithium	**140**	100	20	02/27/2014 15:45
Zinc	ND	100	20	02/27/2014 15:45

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	110	70-130		02/27/2014 15:45

Quality Control Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Date Prepared:	2/26/14	**BatchID:**	87508
Date Analyzed:	2/27/14	**Extraction Method:**	E200.8
Instrument:	ICP-MS1	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	CalAm	**Sample ID:**	MB/LCS-87508 1402903-004CMS/MSD

QC Summary Report for E200.8

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aluminum	ND	475.4	50	500	-	95.1	85-115
Arsenic	ND	46.74	0.50	50	-	93.5	85-115
Barium	ND	451.9	5.0	500	-	90.4	85-115
Copper	ND	48.31	0.50	50	-	96.6	85-115
Lithium	ND	47.95	5.0	50	-	95.9	85-115
Strontium	ND	496	20	500	-	99.2	85-115
Zinc	ND	489.9	5.0	500	-	98	85-115
Surrogate Recovery							
Tb 350.917	695.7	710.9		750	93	95	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aluminum	1373	1438	500	863.6	102	115	70-130	4.62	20
Arsenic	47.91	48.87	50	0.84	94.1	96.1	70-130	1.98	20
Barium	473.2	485.6	500	18	91	93.5	70-130	2.59	20
Copper	60.61	62.62	50	13.01	95.2	99.2	70-130	3.26	20
Lithium	49.57	51.07	50	ND	99.1	102	70-130	2.98	20
Strontium	532.9	553	500	36	99.4	103	70-130	3.70	20
Zinc	632.5	641.6	500	118.4	103	105	70-130	1.43	20
Surrogate Recovery									
Tb 350.917	712.5	731	750		95	97	70-130	2.56	20

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402896 **ClientCode: MBAS**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ■ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
David Holland
Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940
831-375-6227 FAX: 831-641-0734

Email: 4mbas@sbcglobal.net
cc:
PO:
ProjectNo: CalAm

Bill to:
Accounts Payable
Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940

Requested TAT: 3 days

Date Received: **02/26/2014**
Date Printed: **02/26/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1402896-001	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	2/19/2014 16:10	☐		A										
1402896-002	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	2/19/2014 16:10	☐	A											
1402896-003	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	2/21/2014 13:10	☐		A										
1402896-004	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	2/21/2014 13:10	☐	A											
1402896-005	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	2/22/2014 14:45	☐		A										
1402896-006	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	2/22/2014 14:45	☐	A											
1402896-007	CX-BIWQ Zone #5 (84-94 ft bgs)	Water	2/23/2014 16:20	☐		A										
1402896-008	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	Water	2/23/2014 16:20	☐	A											
1402896-009	CX-BIWQ Zone #6 (51-61 ft bgs)	Water	2/25/2014 9:10	☐		A										
1402896-010	CX-BIWQ Zone #6 (51-61 ft bgs) (dissolved)	Water	2/25/2014 9:10	☐	A											

Test Legend:

1	METALSMS_DISS	2	METALSMS_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Jena Alfaro

Comments: Needs analysts initials for all reports per D.H. 4/5/13

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: MONTEREY BAY ANALYTICAL
Project: CalAm
Comments: Needs analysts initials for all reports per D.H. 4/5/13

QC Level: LEVEL 2
Client Contact: David Holland
Contact's Email: 4mbas@sbcglobal.net

Work Order: 1402896
Date Received: 2/26/2014

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1402896-001A	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/19/2014 16:10	3 days	None	☐	
1402896-002A	CX-BIWQ Zone #2 (237-247 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/19/2014 16:10	3 days	None	☐	
1402896-003A	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/21/2014 13:10	3 days	None	☐	
1402896-004A	CX-BIWQ Zone #3 (182-192 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/21/2014 13:10	3 days	None	☐	
1402896-005A	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/22/2014 14:45	3 days	None	☐	
1402896-006A	CX-BIWQ Zone #4 (134-144 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/22/2014 14:45	3 days	None	☐	
1402896-007A	CX-BIWQ Zone #5 (84-94 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/23/2014 16:20	3 days	None	☐	
1402896-008A	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/23/2014 16:20	3 days	None	☐	
1402896-009A	CX-BIWQ Zone #6 (51-61 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/25/2014 9:10	3 days	None	☐	
1402896-010A	CX-BIWQ Zone #6 (51-61 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/25/2014 9:10	3 days	None	☐	

*** NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

Bottle Legend:

125mL HDPE w/ HNO3 = 125mL HDPE Bottle w/ Nitric Acid
250mL HDPE w/ HNO3 = 250mL HDPE Bottle w/ HNO3

RUSH

14028896

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☒ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

Report To: David Holland	**Bill To:**
Company: Monterey Bay Analytical Services	
4 Justin Ct. Suite D	
Monterey, Ca 93940	E-Mail: 4mbas@sbcglobal.net
Tele: (831) 375 - 6227	**Fax:** (831) 641-0734
Project #:	**Project Name:** CalAm
Project Location:	
Sampler Signature: Nathan Reynolds	

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request	Other	Comments
	CX-BIWQ Zone #2 (237-247 ft bgs)	2/19/14	16:10	1	p	X					X		X			Al, As, Cu, Li, Zn: X	11965
	CX-BIWQ Zone #2 (237-247 ft bgs) (dissolved)	2/19/14	16:10	1	p	X					X		X			Ba, Sr: X	11965 (dissolved)
	CX-BIWQ Zone #3 (182-192 ft bgs)	2/21/14	13:10	1	p	X					X		X			Al, As, Cu, Li, Zn: X	12015
	CX-BIWQ Zone #3 (182-192 ft bgs) (dissolved)	2/21/14	13:10	1	p	X					X		X			Ba, Sr: X	12015 (dissolved)
	CX-BIWQ Zone #4 (134-144 ft bgs)	2/22/14	14:45	1	p	X					X		X			Al, As, Cu, Li, Zn: X	12029
	CX-BIWQ Zone #4 (134-144 ft bgs) (dissolved)	2/22/14	14:45	1	p	X					X		X			Ba, Sr: X	12029 (dissolved)
	CX-BIWQ Zone #5 (84-94 ft bgs)	2/23/14	16:20	1	P	X					X		X			Al, As, Cu, Li, Zn: X	12030
	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	2/23/14	16:20	1	P	X					X		X			Ba, Sr: X	12030 (dissolved)
	CX-BIWQ Zone #6 (51-61 ft bgs)	2/25/14	09:10	1	p	X					X		X			Al, As, Cu, Li, Zn: X	12148
	CX-BIWQ Zone #6 (51-61 ft bgs) (Dissolved)	2/25/14	09:10	1	p	X					X		X			Ba, Sr: X	12148 (dissolved)

REC'D SEALED & INTACT VIA UPS ONTRAC

Relinquished By: David Holland	**Date:** 2/25/14	**Time:** 1200	**Received By:**	2/26/14 9:15
Relinquished By:	**Date:**	**Time:**	**Received By:**	

ICE/t°_____
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____

COMMENTS: The sample conductivity ranges from 25,000 uS/cm to 40,000 uS/cm

Filter Samples for Metals analysis: Yes / No

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **Monterey Bay Analytical** Date and Time Received: **2/26/2014 11:35:12 AM**

Project Name: **CalAm** LogIn Reviewed by: Jena Alfaro

WorkOrder N°: **1402896** Matrix: Water Carrier: UPS

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	NA ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Comments:

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net
ELAP Certification Number: 2385

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

Thursday, March 06, 2014

Lab Number: **AB12030**

Collection Date/Time:	2/23/2014	16:20	Sample Collector:	NATHAN REYNOL	
Submittal Date/Time:	2/23/2014	17:42	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B1WQ Zone # 5 (84 - 94 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**126**		2		2/24/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**Not Detected**		10	1000	2/27/2014	MC LAB
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		3/5/2014	DH
Arsenic, Total	EPA200.8	ug/L	**Not Detected**		1	10	2/27/2014	MC LAB
Barium, Dissolved	EPA200.8	ug/L	**Not Detected**		10		2/27/2014	MC LAB
Bicarbonate (as HCO3-)	SM2320B	mg/L	**154**		10		2/25/2014	SM
Boron, Dissolved	EPA200.7	mg/L	**2.80**		0.05		2/25/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**41**		0.1		2/23/2014	DH
Calcium	EPA200.7	mg/L	**674**		0.5		2/25/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**656**		0.5		2/25/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Not Detected**	E			2/26/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		2/25/2014	SM
Chloride, Dissolved	EPA300.0	mg/L	**14755**		1		2/23/2014	DH
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Not Detected**	E			2/28/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**5**		3	15	2/23/2014	DH
Copper, Total	EPA200.8	ug/L	**Not Detected**		4	1300	2/27/2014	MC LAB
DBCP & EDB	EPA504.1	ug/L	**Not Detected**	E			2/26/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Not Detected**				2/28/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Not Detected**	E			2/28/2014	BSK
Dissolved Anions		Meq/L	**458.5**				3/6/2014	DH
Dissolved Cations		Meq/L	**464.6**				3/6/2014	DH
Endothall	EPA548.1	ug/L	**Not Detected**	E			2/26/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**0.4**		0.1		2/23/2014	DH
Glyphosate	EPA547	ug/L	**Not Detected**	E			3/1/2014	BSK
Hardness (as CaCO3)	SM2340B	mg/L	**6748**		10		3/6/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		2/25/2014	SM
Iodide	EPA9056M	ug/L	**160**	E	10		3/1/2014	WECK
Iron	EPA200.7	ug/L	**178**		10	300	2/25/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**171**		10	300	2/25/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**0.5**	J	0.5		2/25/2014	HM
Lithium	EPA200.8	ug/L	**170**		1		2/27/2014	MC LAB
Magnesium	EPA200.7	mg/L	**1230**		0.5		2/25/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**1215**		1		2/25/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**Not Detected**		10	50	2/25/2014	DC
Manganese, Total	EPA200.7	ug/L	**78**		10	50	2/25/2014	DC
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	2/23/2014	DH
Nitrate as NO3	EPA300.0	mg/L	**2**		1	45	2/23/2014	DH
Nitrate+Nitrite as N	EPA300.0	mg/L	**0.4**		0.1		2/23/2014	DH
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**Not Detected**		0.1		2/23/2014	DH

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Lab Number: AB12030

Appendix G

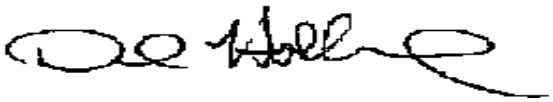
Collection Date/Time: 2/23/2014 16:20 Sample Collector: NATHAN REYNOL
Submittal Date/Time: 2/23/2014 17:42 Sample ID GEOSCIENCE Coliform Designation:

Sample Description: CX-B1WQ Zone # 5 (84 - 94 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	2/23/2014	DH
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**0.07**		0.1		2/24/2014	DH
pH (Field Test)	SM4500-H+B	pH	**7.05**				2/23/2014	NR
pH (Laboratory)	SM4500-H+B	pH (H)	**7.2**				2/23/2014	DH
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Not Detected**	E			3/2/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**0.07**		0.03		2/24/2014	DH
Potassium	EPA200.7	mg/L	**261**		0.5		2/25/2014	DC
Potassium, Dissolved	EPA200.7	mg/L	**221**		0.1		2/25/2014	DC
QC Ratio TDS/SEC	Calculation		**0.67**				2/27/2014	SM
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Not Detected**	E			2/26/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**19**		0.5		2/25/2014	DC
Sodium	EPA200.7	mg/L	**8444**		0.5		2/25/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**7500**		0.5		3/5/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**40900**		1	900	2/24/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**41336**		1		2/23/2014	NR
Strontium, Dissolved	EPA200.8	ug/L	**10000**		5		2/27/2014	MC LAB
Sulfate	EPA300.0	mg/L	**1882**		1	250	2/23/2014	DH
Temperature (Field)	SM2550	° C	**17.2**				2/23/2014	NR
Total Cations		Meq/L	**463.4**				3/6/2014	DH
Total Diss. Solids	SM2540C	mg/L	**27400**		10	500	2/25/2014	HM
Turbidity	EPA180.1	NTU	**0.75**		0.05	5.0	2/24/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**0.47**		0.05		2/23/2014	NR
Volatile Org. Compounds (524)	EPA524	ug/L	**Not Detected**	E			2/26/2014	BSK
Zinc, Total	EPA200.8	ug/L	**Not Detected**		10	5000	2/27/2014	MC LAB

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12030 Zone #5 Dissolved**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	7500	0.04350	326.25
Potassium	221	0.02558	5.65
Calcium	656	0.04990	32.73
Magnesium	1215	0.08229	99.98
NH3-N	0	0.07143	0.00
		SUM	464.62

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	126	0.02000	2.52
Sulfate	1882	0.02082	39.18
Chloride	14755	0.02821	416.24
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.4	0.07138	0.03
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.4	0.05264	0.02
Bromide	41.0	0.01252	0.51
		SUM	458.51

ANION-CATION BALANCE **1** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	40900	
Cation Sum X 100	46462	**114%**
Anion Sum X 100	45851	**112%**

Note: In Natural Waters, Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (S	**40.1**
Ca+Mg+Na	458.97
HCO3/Ca	0.08
dS/m	40.90
Value Table II	1.5
SAR adj	**45.8**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12030 Zone #5 Total**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	8444	0.04350	367.31
Potassium	261	0.02558	6.68
Calcium	674	0.04990	33.63
Magnesium	1230	0.08229	101.22
NH3-N	0	0.07143	0.00
		SUM	508.84

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	126	0.02000	2.52
Sulfate	1882	0.02082	39.18
Chloride	14755	0.02821	416.24
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.4	0.07138	0.03
Phosphate-P	0.1	0.01031	0.00
Fluoride	0.4	0.05264	0.02
Bromide	41.0	0.01252	0.51
		SUM	458.51

ANION-CATION BALANCE **5** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	40900	
Cation Sum X 100	50884	**124%**
Anion Sum X 100	45851	**112%**

Note: In Natural Waters, Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (S	**44.7**
Ca+Mg+Na	502.16
HCO3/Ca	0.07
dS/m	40.90
Value Table II	1.5
SAR adj	**51.3**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

BSK Associates Engineers & Laboratories

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4B1780 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 2/25/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	-	**Project PO#:**	-
Received:	2/25/2014 - 09:20		
Report Due:	3/04/2014		

Sample Receipt Conditions

Cooler: Default Cooler

Temperature on Receipt ºC: 3.2

Containers Intact
COC/Labels Agree
Preservation Confirmed
Received On Wet Ice
Received On Blue Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.

Report Distribution

Recipient(s)	Report Format
David Holland	Final.rpt

Certificate of Analysis

Sample ID: A4B1780-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #5 (84-94 ft bgs) // 12030

Sample Date - Time: 02/23/14 - 16:20
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A402381	02/25/14	02/26/14	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A402381	02/25/14	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	114 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A402552	02/28/14	03/02/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A402552	02/28/14	03/02/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A402552	02/28/14	03/02/14	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A402552	02/28/14	03/02/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A402552	02/28/14	03/02/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A402552	02/28/14	03/02/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
Surrogate: DCPAA	EPA 515.3	77 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	BS1.0
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	
Acetone	EPA 524.2	ND	10	ug/L	1	A402390	02/26/14	02/26/14	BS1.0, CV0.0

Certificate of Analysis

Sample ID: A4B1780-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #5 (84-94 ft bgs) // 12030

Sample Date - Time: 02/23/14 - 16:20
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Benzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A402390	02/26/14	02/26/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	BS1.0, CV0.0
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A402390	02/26/14	02/26/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A402390	02/26/14	02/26/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A402390	02/26/14	02/26/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A402390	02/26/14	02/26/14	

Certificate of Analysis

Sample ID: A4B1780-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #5 (84-94 ft bgs) // 12030

Sample Date - Time: 02/23/14 - 16:20
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	96 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	100 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A402368	02/25/14	02/26/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A402368	02/25/14	02/26/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A402368	02/25/14	02/26/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A402368	02/25/14	02/26/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A402368	02/25/14	02/26/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	BS1.0
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A402368	02/25/14	02/26/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A402368	02/25/14	02/26/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A402368	02/25/14	02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	115 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A402388	02/25/14	02/26/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A402388	02/25/14	02/26/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A402388	02/25/14	02/26/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A402388	02/25/14	02/26/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A402388	02/25/14	02/26/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A402388	02/25/14	02/26/14	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A402555	03/01/14	03/01/14	
Surrogate: AMPA	EPA 547	89 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A402387	02/25/14	02/26/14	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A402367	02/25/14	02/28/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A402381										Prepared: 02/25/2014	
Prep Method: EPA 505										Analyst: GAK	
Blank (A402381-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							02/26/14	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.8*			*3.4*		*110*	*70-130*			02/26/14	
Blank Spike (A402381-BS1)											
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20		118	70-130			02/26/14	
Ethylene Dibromide (EDB)	0.23	0.020	ug/L	0.20		113	70-130			02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.6*			*3.4*		*104*	*70-130*			02/26/14	
Blank Spike Dup (A402381-BSD1)											
Dibromochloropropane (DBCP)	0.25	0.010	ug/L	0.20		125	70-130	5	20	02/26/14	
Ethylene Dibromide (EDB)	0.24	0.020	ug/L	0.20		122	70-130	7	20	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.7*			*3.4*		*109*	*70-130*			02/26/14	
Matrix Spike (A402381-MS1), Source: A4B1641-01											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	111	65-135			02/26/14	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20	ND	109	65-135			02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.3*			*3.4*		*99*	*70-130*			02/26/14	
Matrix Spike Dup (A402381-MSD1), Source: A4B1641-01											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	114	65-135	3	20	02/26/14	
Ethylene Dibromide (EDB)	0.23	0.020	ug/L	0.20	ND	115	65-135	5	20	02/26/14	
Surrogate: 1-Br-2-Nitrobenzene	*3.4*			*3.4*		*101*	*70-130*			02/26/14	
EPA 515.3 - Quality Control											
Batch: A402552										Prepared: 02/28/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A402552-BLK1)											
2,4,5-T	ND	1.0	ug/L							03/02/14	
2,4,5-TP (Silvex)	ND	1.0	ug/L							03/02/14	
2,4-D	ND	10	ug/L							03/02/14	
Bentazon	ND	2.0	ug/L							03/02/14	
Dalapon	ND	10	ug/L							03/02/14	
Dicamba	ND	1.5	ug/L							03/02/14	
Dinoseb	ND	2.0	ug/L							03/02/14	
Pentachlorophenol	ND	0.20	ug/L							03/02/14	
Picloram	ND	1.0	ug/L							03/02/14	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			03/02/14	
Blank Spike (A402552-BS1)											
2,4,5-T	4.1	1.0	ug/L	4.0		103	70-130			03/02/14	
2,4,5-TP (Silvex)	0.84	1.0	ug/L	0.80		105	70-130			03/02/14	
2,4-D	0.46	10	ug/L	0.40		115	70-130			03/02/14	
Bentazon	8.9	2.0	ug/L	8.0		111	70-130			03/02/14	
Dalapon	4.1	10	ug/L	4.0		101	70-130			03/02/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A402552										Prepared: 02/28/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike (A402552-BS1)											
Dicamba	6.2	1.5	ug/L	6.0		103	70-130			03/02/14	
Dinoseb	0.82	2.0	ug/L	0.80		102	70-130			03/02/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16		100	70-130			03/02/14	
Picloram	0.41	1.0	ug/L	0.40		104	70-130			03/02/14	
Surrogate: DCPAA	*47*			*58*		*80*	*70-130*			03/02/14	
Blank Spike Dup (A402552-BSD1)											
2,4,5-T	4.2	1.0	ug/L	4.0		105	70-130	2	20	03/02/14	
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80		103	70-130	2	20	03/02/14	
2,4-D	0.47	10	ug/L	0.40		118	70-130	2	20	03/02/14	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130	2	20	03/02/14	
Dalapon	4.2	10	ug/L	4.0		106	70-130	4	20	03/02/14	
Dicamba	6.1	1.5	ug/L	6.0		101	70-130	2	20	03/02/14	
Dinoseb	0.81	2.0	ug/L	0.80		102	70-130	1	20	03/02/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16		98	70-130	2	20	03/02/14	
Picloram	0.43	1.0	ug/L	0.40		107	70-130	4	20	03/02/14	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			03/02/14	
Matrix Spike (A402552-MS1), Source: A4B1782-01											
2,4,5-T	4.2	1.0	ug/L	4.0	ND	104	70-130			03/02/14	
2,4,5-TP (Silvex)	0.85	1.0	ug/L	0.80	ND	106	70-130			03/02/14	
2,4-D	0.47	10	ug/L	0.40	ND	117	70-130			03/02/14	
Bentazon	8.8	2.0	ug/L	8.0	ND	110	70-130			03/02/14	
Dalapon	4.2	10	ug/L	4.0	ND	105	70-130			03/02/14	
Dicamba	6.0	1.5	ug/L	6.0	ND	101	70-130			03/02/14	
Dinoseb	0.82	2.0	ug/L	0.80	ND	102	70-130			03/02/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	97	70-130			03/02/14	
Picloram	0.41	1.0	ug/L	0.40	ND	103	70-130			03/02/14	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			03/02/14	
Matrix Spike Dup (A402552-MSD1), Source: A4B1782-01											
2,4,5-T	4.1	1.0	ug/L	4.0	ND	103	70-130	1	20	03/02/14	
2,4,5-TP (Silvex)	0.84	1.0	ug/L	0.80	ND	105	70-130	1	20	03/02/14	
2,4-D	0.51	10	ug/L	0.40	ND	127	70-130	9	20	03/02/14	
Bentazon	8.8	2.0	ug/L	8.0	ND	110	70-130	0	20	03/02/14	
Dalapon	4.1	10	ug/L	4.0	ND	102	70-130	3	20	03/02/14	
Dicamba	6.0	1.5	ug/L	6.0	ND	100	70-130	1	20	03/02/14	
Dinoseb	0.80	2.0	ug/L	0.80	ND	101	70-130	2	20	03/02/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	97	70-130	0	20	03/02/14	
Picloram	0.40	1.0	ug/L	0.40	ND	99	70-130	4	20	03/02/14	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			03/02/14	
EPA 524.2 - Quality Control											
Batch: A402390										Prepared: 02/26/2014	
Prep Method: EPA 524.2										Analyst: JGB	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402390										Prepared: 02/26/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402390-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							02/26/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							02/26/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							02/26/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							02/26/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							02/26/14	
1,1-Dichloroethane	ND	0.50	ug/L							02/26/14	
1,1-Dichloroethene	ND	0.50	ug/L							02/26/14	
1,1-Dichloropropene	ND	0.50	ug/L							02/26/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							02/26/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
1,2-Dichloroethane	ND	0.50	ug/L							02/26/14	
1,2-Dichloropropane	ND	0.50	ug/L							02/26/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							02/26/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
1,3-Dichloropropane	ND	0.50	ug/L							02/26/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							02/26/14	
2,2-Dichloropropane	ND	0.50	ug/L							02/26/14	
2-Butanone	ND	5.0	ug/L							02/26/14	
2-Chlorotoluene	ND	0.50	ug/L							02/26/14	
2-Hexanone	ND	10	ug/L							02/26/14	
4-Chlorotoluene	ND	0.50	ug/L							02/26/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							02/26/14	
Acetone	ND	10	ug/L							02/26/14	
Benzene	ND	0.50	ug/L							02/26/14	
Bromobenzene	ND	0.50	ug/L							02/26/14	
Bromochloromethane	ND	0.50	ug/L							02/26/14	
Bromodichloromethane	ND	0.50	ug/L							02/26/14	
Bromoform	ND	0.50	ug/L							02/26/14	
Bromomethane	ND	0.50	ug/L							02/26/14	
Carbon Tetrachloride	ND	0.50	ug/L							02/26/14	
Chlorobenzene	ND	0.50	ug/L							02/26/14	
Chloroethane	ND	0.50	ug/L							02/26/14	
Chloroform	ND	0.50	ug/L							02/26/14	
Chloromethane	ND	0.50	ug/L							02/26/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							02/26/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							02/26/14	
Dibromochloromethane	ND	0.50	ug/L							02/26/14	
Dibromomethane	ND	0.50	ug/L							02/26/14	
Dichlorodifluoromethane	ND	0.50	ug/L							02/26/14	
Dichloromethane	ND	0.50	ug/L							02/26/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							02/26/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							02/26/14	
Ethylbenzene	ND	0.50	ug/L							02/26/14	
Hexachlorobutadiene	ND	0.50	ug/L							02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank (A402390-BLK1)												
Isopropylbenzene	ND	0.50	ug/L							02/26/14		
m,p-Xylenes	ND	0.50	ug/L							02/26/14		
Methyl-t-butyl ether	ND	0.50	ug/L							02/26/14		
Naphthalene	ND	0.50	ug/L							02/26/14		
n-Butylbenzene	ND	0.50	ug/L							02/26/14		
n-Propylbenzene	ND	0.50	ug/L							02/26/14		
o-Xylene	ND	0.50	ug/L							02/26/14		
p-Isopropyltoluene	ND	0.50	ug/L							02/26/14		
sec-Butylbenzene	ND	0.50	ug/L							02/26/14		
Styrene	ND	0.50	ug/L							02/26/14		
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							02/26/14		
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							02/26/14		
tert-Butylbenzene	ND	0.50	ug/L							02/26/14		
Tetrachloroethene (PCE)	ND	0.50	ug/L							02/26/14		
Toluene	ND	0.50	ug/L							02/26/14		
trans-1,2-Dichloroethene	ND	0.50	ug/L							02/26/14		
trans-1,3-Dichloropropene	ND	0.50	ug/L							02/26/14		
Trichloroethene (TCE)	ND	0.50	ug/L							02/26/14		
Trichlorofluoromethane	ND	5.0	ug/L							02/26/14		
Vinyl Chloride	ND	0.50	ug/L							02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*95*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*101*	*70-130*			02/26/14		
Blank Spike (A402390-BS1)												
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		108	70-130			02/26/14		
1,1,1-Trichloroethane	11	0.50	ug/L	10		106	70-130			02/26/14		
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		107	70-130			02/26/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		106	70-130			02/26/14		
1,1,2-Trichloroethane	11	0.50	ug/L	10		107	70-130			02/26/14		
1,1-Dichloroethane	10	0.50	ug/L	10		105	70-130			02/26/14		
1,1-Dichloroethene	10	0.50	ug/L	10		103	70-130			02/26/14		
1,1-Dichloropropene	11	0.50	ug/L	10		108	70-130			02/26/14		
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
1,2-Dichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,2-Dichloroethane	10	0.50	ug/L	10		101	70-130			02/26/14		
1,2-Dichloropropane	10	0.50	ug/L	10		105	70-130			02/26/14		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,3-Dichlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
1,3-Dichloropropane	11	0.50	ug/L	10		108	70-130			02/26/14		
1,4-Dichlorobenzene	11	0.50	ug/L	10		105	70-130			02/26/14		
2,2-Dichloropropane	11	0.50	ug/L	10		108	70-130			02/26/14		
2-Butanone	14	5.0	ug/L	10		139	70-130			02/26/14	BS	***High***
2-Chlorotoluene	10	0.50	ug/L	10		104	70-130			02/26/14		
2-Hexanone	12	10	ug/L	10		115	70-130			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike (A402390-BS1)												
4-Chlorotoluene	11	0.50	ug/L	10		106	70-130			02/26/14		
4-Methyl-2-pentanone	12	5.0	ug/L	10		119	70-130			02/26/14		
Acetone	22	10	ug/L	10		221	70-130			02/26/14	BS	***High***
Benzene	10	0.50	ug/L	10		101	70-130			02/26/14		
Bromobenzene	11	0.50	ug/L	10		107	70-130			02/26/14		
Bromochloromethane	10	0.50	ug/L	10		104	70-130			02/26/14		
Bromodichloromethane	8.5	0.50	ug/L	10		85	70-130			02/26/14		
Bromoform	11	0.50	ug/L	10		115	70-130			02/26/14		
Bromomethane	9.5	0.50	ug/L	10		95	70-130			02/26/14		
Carbon Tetrachloride	11	0.50	ug/L	10		110	70-130			02/26/14		
Chlorobenzene	11	0.50	ug/L	10		106	70-130			02/26/14		
Chloroethane	10	0.50	ug/L	10		100	70-130			02/26/14		
Chloroform	10	0.50	ug/L	10		102	70-130			02/26/14		
Chloromethane	9.6	0.50	ug/L	10		96	70-130			02/26/14		
cis-1,2-Dichloroethene	10	0.50	ug/L	10		104	70-130			02/26/14		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130			02/26/14		
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130			02/26/14		
Dibromomethane	11	0.50	ug/L	10		114	70-130			02/26/14		
Dichlorodifluoromethane	9.9	0.50	ug/L	10		99	70-130			02/26/14		
Dichloromethane	11	0.50	ug/L	10		106	70-130			02/26/14		
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		107	70-130			02/26/14		
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		111	70-130			02/26/14		
Ethylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Hexachlorobutadiene	10	0.50	ug/L	10		104	70-130			02/26/14		
Isopropylbenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
m,p-Xylenes	19	0.50	ug/L	20		96	70-130			02/26/14		
Methyl-t-butyl ether	22	0.50	ug/L	20		108	70-130			02/26/14		
Naphthalene	11	0.50	ug/L	10		109	70-130			02/26/14		
n-Butylbenzene	10	0.50	ug/L	10		103	70-130			02/26/14		
n-Propylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
o-Xylene	10	0.50	ug/L	10		104	70-130			02/26/14		
p-Isopropyltoluene	11	0.50	ug/L	10		106	70-130			02/26/14		
sec-Butylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Styrene	13	0.50	ug/L	10		129	70-130			02/26/14		
tert-Amyl Methyl Ether (TAME)	11	3.0	ug/L	10		111	70-130			02/26/14		
tert-Butyl alcohol (TBA)	11	2.0	ug/L	10		107	70-130			02/26/14		
tert-Butylbenzene	10	0.50	ug/L	10		104	70-130			02/26/14		
Tetrachloroethene (PCE)	10	0.50	ug/L	10		104	70-130			02/26/14		
Toluene	11	0.50	ug/L	10		106	70-130			02/26/14		
trans-1,2-Dichloroethene	10	0.50	ug/L	10		105	70-130			02/26/14		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130			02/26/14		
Trichloroethene (TCE)	9.4	0.50	ug/L	10		94	70-130			02/26/14		
Trichlorofluoromethane	11	5.0	ug/L	10		107	70-130			02/26/14		
Vinyl Chloride	9.9	0.50	ug/L	10		99	70-130			02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*100*	*70-130*			02/26/14		

Organics Quality Control Report

EPA 524.2 - Quality Control

Batch: A402390 Prepared: 02/26/2014

Prep Method: EPA 524.2 Analyst: JGB

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
Blank Spike Dup (A402390-BSD1)												
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		109	70-130	1	30	02/26/14		
1,1,1-Trichloroethane	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		109	70-130	2	30	02/26/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		110	70-130	3	30	02/26/14		
1,1,2-Trichloroethane	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
1,1-Dichloroethane	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
1,1-Dichloroethene	11	0.50	ug/L	10		108	70-130	5	30	02/26/14		
1,1-Dichloropropene	11	0.50	ug/L	10		110	70-130	1	30	02/26/14		
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		105	70-130	2	30	02/26/14		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
1,2,4-Trimethylbenzene	11	0.50	ug/L	10		110	70-130	6	30	02/26/14		
1,2-Dichlorobenzene	11	0.50	ug/L	10		106	70-130	0	30	02/26/14		
1,2-Dichloroethane	11	0.50	ug/L	10		107	70-130	6	30	02/26/14		
1,2-Dichloropropane	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		111	70-130	5	30	02/26/14		
1,3-Dichlorobenzene	11	0.50	ug/L	10		107	70-130	1	30	02/26/14		
1,3-Dichloropropane	11	0.50	ug/L	10		109	70-130	1	30	02/26/14		
1,4-Dichlorobenzene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
2,2-Dichloropropane	11	0.50	ug/L	10		112	70-130	4	30	02/26/14		
2-Butanone	14	5.0	ug/L	10		139	70-130	0	30	02/26/14	BS	***High***
2-Chlorotoluene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
2-Hexanone	12	10	ug/L	10		115	70-130	0	30	02/26/14		
4-Chlorotoluene	11	0.50	ug/L	10		110	70-130	4	30	02/26/14		
4-Methyl-2-pentanone	11	5.0	ug/L	10		114	70-130	4	30	02/26/14		
Acetone	22	10	ug/L	10		221	70-130	0	30	02/26/14	BS	***High***
Benzene	10	0.50	ug/L	10		104	70-130	3	30	02/26/14		
Bromobenzene	11	0.50	ug/L	10		109	70-130	2	30	02/26/14		
Bromochloromethane	10	0.50	ug/L	10		104	70-130	0	30	02/26/14		
Bromodichloromethane	9.8	0.50	ug/L	10		98	70-130	14	30	02/26/14		
Bromoform	11	0.50	ug/L	10		115	70-130	0	30	02/26/14		
Bromomethane	9.4	0.50	ug/L	10		94	70-130	1	30	02/26/14		
Carbon Tetrachloride	11	0.50	ug/L	10		108	70-130	2	30	02/26/14		
Chlorobenzene	11	0.50	ug/L	10		110	70-130	3	30	02/26/14		
Chloroethane	10	0.50	ug/L	10		100	70-130	0	30	02/26/14		
Chloroform	11	0.50	ug/L	10		105	70-130	3	30	02/26/14		
Chloromethane	9.1	0.50	ug/L	10		91	70-130	6	30	02/26/14		
cis-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130	2	30	02/26/14		
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130	0	30	02/26/14		
Dibromomethane	10	0.50	ug/L	10		101	70-130	12	30	02/26/14		
Dichlorodifluoromethane	10	0.50	ug/L	10		104	70-130	5	30	02/26/14		
Dichloromethane	11	0.50	ug/L	10		108	70-130	1	30	02/26/14		
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		110	70-130	2	30	02/26/14		
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		112	70-130	1	30	02/26/14		
Ethylbenzene	11	0.50	ug/L	10		108	70-130	4	30	02/26/14		
Hexachlorobutadiene	11	0.50	ug/L	10		108	70-130	4	30	02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402390										Prepared: 02/26/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402390-BSD1)												
Isopropylbenzene	11	0.50	ug/L	10		107	70-130	4	30	02/26/14		
m,p-Xylenes	20	0.50	ug/L	20		99	70-130	4	30	02/26/14		
Methyl-t-butyl ether	22	0.50	ug/L	20		109	70-130	1	30	02/26/14		
Naphthalene	11	0.50	ug/L	10		111	70-130	2	30	02/26/14		
n-Butylbenzene	11	0.50	ug/L	10		107	70-130	4	30	02/26/14		
n-Propylbenzene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
o-Xylene	11	0.50	ug/L	10		106	70-130	2	30	02/26/14		
p-Isopropyltoluene	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
sec-Butylbenzene	11	0.50	ug/L	10		107	70-130	3	30	02/26/14		
Styrene	14	0.50	ug/L	10		140	70-130	9	30	02/26/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	11	3.0	ug/L	10		115	70-130	4	30	02/26/14		
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		105	70-130	2	30	02/26/14		
tert-Butylbenzene	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
Tetrachloroethene (PCE)	11	0.50	ug/L	10		109	70-130	4	30	02/26/14		
Toluene	11	0.50	ug/L	10		110	70-130	4	30	02/26/14		
trans-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130	3	30	02/26/14		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130	2	30	02/26/14		
Trichloroethene (TCE)	11	0.50	ug/L	10		108	70-130	14	30	02/26/14		
Trichlorofluoromethane	11	5.0	ug/L	10		109	70-130	2	30	02/26/14		
Vinyl Chloride	10	0.50	ug/L	10		104	70-130	4	30	02/26/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			02/26/14		
Surrogate: Bromofluorobenzene	*50*			*50*		*101*	*70-130*			02/26/14		
EPA 525.2 - Quality Control												
Batch: A402368										Prepared: 02/25/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank (A402368-BLK1)												
Alachlor	ND	1.0	ug/L							02/26/14		
Atrazine	ND	0.50	ug/L							02/26/14		
Benzo(a)pyrene	ND	0.10	ug/L							02/26/14		
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							02/26/14		
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							02/26/14		
Bromacil	ND	10	ug/L							02/26/14		
Butachlor	ND	0.38	ug/L							02/26/14		
Diazinon	ND	0.25	ug/L							02/26/14		
Dimethoate	ND	10	ug/L							02/26/14		
Metolachlor	ND	0.50	ug/L							02/26/14		
Metribuzin	ND	0.50	ug/L							02/26/14		
Molinate	ND	2.0	ug/L							02/26/14		
Propachlor	ND	0.50	ug/L							02/26/14		
Simazine	ND	1.0	ug/L							02/26/14		
Thiobencarb	ND	1.0	ug/L							02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*6.0*			*5.0*		*119*	*70-130*			02/26/14		
Blank Spike (A402368-BS1)												

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A402368										Prepared: 02/25/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank Spike (A402368-BS1)												
Alachlor	0.60	1.0	ug/L	0.50		119	70-130			02/26/14		
Atrazine	0.55	0.50	ug/L	0.50		111	70-130			02/26/14		
Benzo(a)pyrene	0.12	0.10	ug/L	0.10		119	70-130			02/26/14		
Bis(2-ethylhexyl) adipate	3.6	3.0	ug/L	3.0		120	70-130			02/26/14		
Bis(2-ethylhexyl) phthalate	4.3	3.0	ug/L	3.0		142	70-130			02/26/14	BS	***High***
Bromacil	2.6	10	ug/L	2.0		132	70-130			02/26/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2		110	70-130			02/26/14		
Diazinon	0.038	0.25	ug/L	0.050		76	70-130			02/26/14		
Dimethoate	0.35	10	ug/L	0.50		71	70-130			02/26/14		
Metolachlor	3.3	0.50	ug/L	2.5		131	70-130			02/26/14	BS	***High***
Metribuzin	3.0	0.50	ug/L	2.5		120	70-130			02/26/14		
Molinate	2.9	2.0	ug/L	2.5		117	70-130			02/26/14		
Propachlor	2.9	0.50	ug/L	2.5		117	70-130			02/26/14		
Simazine	0.40	1.0	ug/L	0.35		116	70-130			02/26/14		
Thiobencarb	0.59	1.0	ug/L	0.50		119	70-130			02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.0*		*109*	*70-130*			02/26/14		
Blank Spike Dup (A402368-BSD1)												
Alachlor	0.58	1.0	ug/L	0.49		118	70-130	3	30	02/26/14		
Atrazine	0.53	0.50	ug/L	0.49		107	70-130	5	30	02/26/14		
Benzo(a)pyrene	0.11	0.10	ug/L	0.098		116	70-130	4	30	02/26/14		
Bis(2-ethylhexyl) adipate	3.6	3.0	ug/L	2.9		122	70-130	0	30	02/26/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	2.9		140	70-130	3	30	02/26/14	BS	***High***
Bromacil	2.6	10	ug/L	2.0		132	70-130	2	30	02/26/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2		111	70-130	1	30	02/26/14		
Diazinon	0.040	0.25	ug/L	0.049		82	70-130	6	30	02/26/14		
Dimethoate	0.34	10	ug/L	0.49		70	70-130	3	30	02/26/14		
Metolachlor	3.2	0.50	ug/L	2.5		132	70-130	1	30	02/26/14	BS	***High***
Metribuzin	3.0	0.50	ug/L	2.5		121	70-130	1	30	02/26/14		
Molinate	2.7	2.0	ug/L	2.5		109	70-130	9	30	02/26/14		
Propachlor	2.7	0.50	ug/L	2.5		109	70-130	8	30	02/26/14		
Simazine	0.37	1.0	ug/L	0.34		108	70-130	9	30	02/26/14		
Thiobencarb	0.57	1.0	ug/L	0.49		116	70-130	3	30	02/26/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*4.9*		*101*	*70-130*			02/26/14		
Matrix Spike (A402368-MS1), Source: A4B1490-02												
Alachlor	0.54	1.0	ug/L	0.49	ND	110	70-130			02/26/14		
Atrazine	0.52	0.50	ug/L	0.49	ND	105	70-130			02/26/14		
Benzo(a)pyrene	0.13	0.10	ug/L	0.099	ND	134	70-130			02/26/14	MS1.0	***High***
Bis(2-ethylhexyl) adipate	3.7	3.0	ug/L	3.0	ND	124	70-130			02/26/14		
Bis(2-ethylhexyl) phthalate	4.4	3.0	ug/L	3.0	ND	129	70-130			02/26/14		
Bromacil	2.5	10	ug/L	2.0	ND	126	70-130			02/26/14		
Butachlor	1.3	0.38	ug/L	1.2	ND	106	70-130			02/26/14		
Diazinon	0.056	0.25	ug/L	0.049	ND	114	70-130			02/26/14		
Dimethoate	0.32	10	ug/L	0.49	ND	64	70-130			02/26/14	MS1.0	***Low***
Metolachlor	2.9	0.50	ug/L	2.5	ND	119	70-130			02/26/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A402368										Prepared: 02/25/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Matrix Spike (A402368-MS1), Source: A4B1490-02											
Metribuzin	2.6	0.50	ug/L	2.5	ND	104	70-130			02/26/14	
Molinate	2.7	2.0	ug/L	2.5	ND	110	70-130			02/26/14	
Propachlor	2.6	0.50	ug/L	2.5	ND	107	70-130			02/26/14	
Simazine	0.38	1.0	ug/L	0.35	ND	109	70-130			02/26/14	
Thiobencarb	0.57	1.0	ug/L	0.49	ND	116	70-130			02/26/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.2*			*4.9*		*106*	*70-130*			02/26/14	
EPA 531.1 - Quality Control											
Batch: A402388										Prepared: 02/25/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A402388-BLK1)											
3-Hydroxycarbofuran	ND	2.0	ug/L							02/25/14	
Aldicarb	ND	2.0	ug/L							02/25/14	
Aldicarb Sulfone	ND	2.0	ug/L							02/25/14	
Aldicarb Sulfoxide	ND	2.0	ug/L							02/25/14	
Carbaryl	ND	2.0	ug/L							02/25/14	
Carbofuran	ND	2.0	ug/L							02/25/14	
Methomyl	ND	2.0	ug/L							02/25/14	
Oxamyl	ND	2.0	ug/L							02/25/14	
Blank Spike (A402388-BS1)											
3-Hydroxycarbofuran	4.2	2.0	ug/L	4.0		105	80-120			02/25/14	
Aldicarb	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Aldicarb Sulfone	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Aldicarb Sulfoxide	4.1	2.0	ug/L	4.0		104	80-120			02/25/14	
Carbaryl	4.2	2.0	ug/L	4.0		104	80-120			02/25/14	
Carbofuran	4.1	2.0	ug/L	4.0		102	80-120			02/25/14	
Methomyl	4.1	2.0	ug/L	4.0		103	80-120			02/25/14	
Oxamyl	4.1	2.0	ug/L	4.0		102	80-120			02/25/14	
Blank Spike Dup (A402388-BSD1)											
3-Hydroxycarbofuran	4.1	2.0	ug/L	4.0		103	80-120	1	20	02/26/14	
Aldicarb	4.1	2.0	ug/L	4.0		102	80-120	1	20	02/26/14	
Aldicarb Sulfone	4.2	2.0	ug/L	4.0		106	80-120	3	20	02/26/14	
Aldicarb Sulfoxide	4.2	2.0	ug/L	4.0		105	80-120	1	20	02/26/14	
Carbaryl	4.1	2.0	ug/L	4.0		101	80-120	3	20	02/26/14	
Carbofuran	4.1	2.0	ug/L	4.0		103	80-120	2	20	02/26/14	
Methomyl	4.3	2.0	ug/L	4.0		109	80-120	5	20	02/26/14	
Oxamyl	4.2	2.0	ug/L	4.0		104	80-120	2	20	02/26/14	
Matrix Spike (A402388-MS1), Source: A4B1177-01											
3-Hydroxycarbofuran	3.3	2.0	ug/L	4.0	ND	82	65-135			02/26/14	
Aldicarb	3.1	2.0	ug/L	4.0	ND	72	65-135			02/26/14	
Aldicarb Sulfone	3.5	2.0	ug/L	4.0	ND	79	65-135			02/26/14	
Aldicarb Sulfoxide	3.5	2.0	ug/L	4.0	ND	87	65-135			02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A402388										Prepared: 02/25/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Matrix Spike (A402388-MS1), Source: A4B1177-01											
Carbaryl	10	2.0	ug/L	4.0	8.8	31	65-135			02/26/14	MS1.0 ***Low***
Carbofuran	3.3	2.0	ug/L	4.0	ND	83	65-135			02/26/14	
Methomyl	3.5	2.0	ug/L	4.0	ND	87	65-135			02/26/14	
Oxamyl	3.3	2.0	ug/L	4.0	ND	84	65-135			02/26/14	
EPA 547 - Quality Control											
Batch: A402555										Prepared: 03/01/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A402555-BLK1)											
Glyphosate	ND	25	ug/L							03/01/14	
Surrogate: AMPA	*95*			*100*		*95*	*70-130*			03/01/14	
Blank Spike (A402555-BS1)											
Glyphosate	100	25	ug/L	100		103	70-130			03/01/14	
Surrogate: AMPA	*100*			*100*		*102*	*70-130*			03/01/14	
Blank Spike Dup (A402555-BSD1)											
Glyphosate	120	25	ug/L	100		116	70-130	12	30	03/01/14	
Surrogate: AMPA	*97*			*100*		*97*	*70-130*			03/01/14	
Matrix Spike (A402555-MS1), Source: A4B1780-01											
Glyphosate	97	25	ug/L	100	ND	95	70-130			03/01/14	
Surrogate: AMPA	*89*			*100*		*87*	*70-130*			03/01/14	
Matrix Spike Dup (A402555-MSD1), Source: A4B1780-01											
Glyphosate	93	25	ug/L	100	ND	91	70-130	4	30	03/01/14	
Surrogate: AMPA	*86*			*100*		*84*	*70-130*			03/01/14	
EPA 548.1 - Quality Control											
Batch: A402387										Prepared: 02/25/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A402387-BLK1)											
Endothall	ND	45	ug/L							02/26/14	
Blank Spike (A402387-BS1)											
Endothall	17	45	ug/L	20		83	60-111			02/26/14	
Blank Spike Dup (A402387-BSD1)											
Endothall	15	45	ug/L	20		73	60-111	13	46	02/26/14	
Matrix Spike (A402387-MS1), Source: A4B1489-04											
Endothall	4.3	45	ug/L	20	ND	22	10-122			02/26/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A402367										Prepared: 02/25/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A402367-BLK1)											
Diquat	ND	4.0	ug/L							02/28/14	
Blank Spike (A402367-BS1)											
Diquat	3.0	4.0	ug/L	4.0		76	70-130			02/28/14	
Blank Spike Dup (A402367-BSD1)											
Diquat	2.9	4.0	ug/L	4.0		72	70-130	6	30	02/28/14	
Matrix Spike (A402367-MS1), Source: A4B1780-01											
Diquat	2.2	4.0	ug/L	4.0	ND	54	70-130			02/28/14	MS1.0 ***Low***

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters:

A4B1780

Monterey Bay Analytical

Monte6227

02252014

Turnaround: Standard

Due Date: 03/04/2014

Printed: 02/25/2014 12:07:12

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

A4B1780
Monte6227

02/25/2014
5

* Required Fields

TEMP: 3.2

Client/Company Name *:	Report Attention *:	Phone * #: (831)-357-6227 FAX * #(831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

ANALYSIS REQUESTED

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Project Information:	PO # / Quote #
Cal Am	Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Regulatory Compliance Electronic Data Transfer: Y ☐ N ☑ System No. *

Sampler Name Printed / Signature	QC Request	Result Request ** Surcharge
Nathan Reynolds	☑ STD ☐ Level II	☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Matrix Types: RSW = Raw Surface Water CFW = Clorinated Finished Water CWW = Chorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 inc MTBE	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549	
1		2/23	16:20	CX-BIWQ Zone #5 (84-94 ft bgs)	RGW	12030	✓	✓	✓	✓	✓	✓	✓	✓	
				5 day TAT please											
				Conductivity 41,000 uS/cm											

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	2/24	1600		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	
		2/25/14	0920		

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material: Airbag Bubble Wrap

Notice: Payment for services rendered as noted herein are due in full within 30 days from when invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service/re-billing charges and interest calculated at 1 1/2 % per month, 18% per annum. BSK & Associates shall be entitled to recover on delinquent accounts, costs of collections, including attorneys' fees incurred prior to or in litigation whether concluded by judgement, settlement, compromise or otherwise. The person signing for the client/Company expressley acknowledges that they are either the Client or authorized agent to the Client, and the Client agrees to be responsible for payment for analytical services on this Chain of Custody. Any modification of the analysis requested, either type or quantities, will be noted and agreed upon this Chain of Custody. The turn around time for any samples received after 3.00 pm will begin the next business day

SR-FL-0012-00 (Anal/Mod)

G-270

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"|" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?
Bacti $Na_2S_2O_3$	—	—
None (P) White Cap	—	—
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N
HNO_3 (P) Red Cap	—	—
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N
NaOH (P) Green Cap	Cl, pH ≥12	Y N
NaOH + ZnAc (P)	pH ≥ 9	Y N
Dissolved Oxygen 300ml (g)	—	—
None (AG) 608/8081/8082, 625, 632/8321, 8151 8270	—	—
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH ≈ 3	Y N
NH_4Cl (AG) Purple Label 552	—	—
EDA (AG) Brown Label DBPs	—	—
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—
Buffer pH 4 (CG)	—	—
None (CG)	—	—
H_3PO_4 (CG) Salmon Label	—	—
Other:		
Asbestos 1Liter Plastic w/ Foil	—	—
Low Level Hg / Metals Double Baggie	—	—
Bottled Water	—	—
Clear Glass Jar: 250 / 500 / 1 Liter	—	—
Soil Tube Brass / Steel / Plastic	—	—
Tedlar Bag / Plastic Bag	—	—

1C
3A, 2C
7V
1V
3V
2/28/14

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: MA @ 1019 Labels checked by: G-2/1 @ 1027 RUSH Paged by:

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

March 3, 2014 Ceres ID: 10267

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on February 25, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

This work was authorized under M.B.A.'s Project # 12030.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10267-001	CX-B1WQ #5 (84-94ft bags)	2/25/2014	2/23/2014	16:20

Section II: Data Summary

Sample ID:	**Method Blank**						
Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001	Date Received:	NA
Project:	12030	Sample Size:	1.000 L	QC Batch #:	1158	Date Extracted:	28-Feb-14
Date Collected:	NA			ZB-5 MS Analysis Date:	1-Mar-14		
Time Collected:	NA						

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.15		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	103	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	109	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	12030	Sample Size:	1.000 L	QC Batch #:	1158	Date Extracted:	28-Feb-14
Date Collected:	NA			ZB-5 MS Analysis Date:	1-Mar-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.90	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	98.3	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	10.1	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B1WQ Zone #5 (84-94ft bags)**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	10267-001
Project:	12030	Sample Size:	1.061 L	QC Batch #:	1158
Date Collected:	23-Feb-14			ZB-5 MS Analysis Date:	1-Mar-14
Time Collected:	16:20				

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.96		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	95.2	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	91.2	42 - 164	

Date Received:	25-Feb-14
Date Extracted:	28-Feb-14

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Chain of Custody

Please Print in Pen

Ceres Use Only

Ceres Project ID: 10267
Temperature: 1.4 °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information (if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days)
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous S: Soil AS: Ash DW: Drinking Water
E: Effluent SD: Sediment C: Clay SO: Solid
I: Influent SL: Sludge CS: Clay Slurry O: Other (please comment)

	Sample ID	Sample Collection Date	Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other — Comments
1	CX-B1WQ Zone #5 (84-94ft bags)	2/23/2014	16:20	Aq	2	X						~~12023~~ 12030
2												(2,3,7,8 TCDD only)
3												5 day Rush Please
4												
5												
6												
7												
8												
9												
10												
11												
12												

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: *(Signature and Printed Name)*	Date	Time	Received by: *(signature and Printed Name)*	Date	Time
David Holland	2/24/2014	16:00	Jm Hedin	2/25/14	10:55

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10267	Date/Time: 2/25/14 10:55
Client Project ID: 12030	Received Temperature: 1.4°C Acceptable: (Y) / N
Chain of Custody Relinquished by signed? Printed, NOT Signed.	Y / (N)
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present? no Res. dual Cl	Y / (N) / NA
List COC discrepancies: 2/25/14	
List Damaged Samples: 2/25/14	

Ceres Analytical Laboratory — Process Request

Ceres ID: 10267 PB: 1158 Sample #s: 1 Due Date: 3/3/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one): (□ 1613 2,3,7,8-TCDD)

□ 1613 2,3,7,8-TCDD/F

□1613 Cl_4-Cl_8

□ 8290 2,3,7,8-TCDD

□ 8290 2,3,7,8-TCDD/F

□ 8290 Cl_4-Cl_8

□ 8280 2,3,7,8-TCDD

□ 8280 2,3,7,8-TCDD/F

□ 8280 Appendix IX

□ 8280 Cl_4-Cl_8

□ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10267-1	1567.93	507.38	1.061 L

Chemist: _____ Date: 2/28/14

Method: 1613
SOP #: 3016.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1158-MB001	Method Blank		1.000L	(A) 2/28/14 NL	3/1/14 NL	NA	3/1/14	NA	3/1/14 NL
0-1158-OPR001	OPR		1.000L	↓ ↓	↓ ↓	↓	↓	↓	↓ ↓
10267-1158-001	CX-B1WQ #5	✓	1.061L	↓ ↓	↓ ↓	↓	↓	↓	↓ ↓

Comments : (A) Spiked w/NSS

Soxhlet Start: 14:30 2/28/14

Soxhlet Stop: 08:33 3/1/14

Samples Logged out by: 2/28/14 11:00

Samples Returned by: NA

Note samples Depleted: 1A

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 11:00 3/1/14

Extracts returned to Storage Location: 08:00 3/3/14

Chemist: G-283

Method: 1613
SOP #: 201.1

Ceres Analytical Laboratory
Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	50J1212A	10ml	3/12/14
NSS	50J1212B	10ml	3/12/14
CSS	50J1212C	10ml	3/12/14
RSS	50J1212D	20ml	3/12/17

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	PB005A0TOL	8/17/14
Hexane	30,30,100,20	136735	6/10/14
Silica Gel	4g	P0215 14A	8/5/14
Basic Gel	4g	P0120 14A	7/20/14
Acid Gel	8g	P0120 14B	7/20/14
Acid Al	6g	P0204 14A	8/4/14
Na_2SO_4	1.5g	P1204 13A	6/4/14
20% DCM/Hex	30ml	L021914A	8/19/14

Chemist : G-284

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	**Report Date:**	03/04/14 21:17
		Received Date:	02/25/14 09:40
		Turn Around:	5 workdays
Attention:	David Holland	**Client Project:**	Cal Am
Phone:	(831) 375-6227		
Fax:	(831) 641-0734		
Work Order(s):	4B25020		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear David Holland :

Enclosed are the results of analyses for samples received 02/25/14 09:40 with the Chain of Custody document. The samples were received in good condition, at 4.9 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
CX-B1WQ Zone #5 (84-94 ft bgs)	Nathan Reynolds	12030	4B25020-01	Water	02/23/14 16:20

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:17

4B25020-01 CX-B1WQ Zone #5 (84-94 ft bgs)

Sampled: 02/23/14 16:20 **Sampled By:** Nathan Reynolds **Matrix:** Water

Sample Note: 12030

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 9056A Batch: W4C0014 Prepared: 03/01/14 11:00 Analyst: atl

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Iodide	**160**	10	250	ug/l	25	03/01/14 18:00	M-05, J

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W4B1139 Prepared: 02/26/14 08:25 Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND		0.010	ug/l	1	02/28/14 22:48	
4,4´-DDE	ND		0.010	ug/l	1	02/28/14 22:48	
4,4´-DDT	ND		0.010	ug/l	1	02/28/14 22:48	
Aldrin	ND		0.010	ug/l	1	02/28/14 22:48	
alpha-BHC	ND		0.010	ug/l	1	02/28/14 22:48	
Aroclor 1016	ND		0.10	ug/l	1	02/28/14 22:48	
Aroclor 1221	ND		0.10	ug/l	1	02/28/14 22:48	
Aroclor 1232	ND		0.10	ug/l	1	02/28/14 22:48	
Aroclor 1242	ND		0.10	ug/l	1	02/28/14 22:48	
Aroclor 1248	ND		0.10	ug/l	1	02/28/14 22:48	
Aroclor 1254	ND		0.10	ug/l	1	02/28/14 22:48	
Aroclor 1260	ND		0.10	ug/l	1	02/28/14 22:48	
beta-BHC	ND		0.010	ug/l	1	02/28/14 22:48	
Chlordane (tech)	ND		0.10	ug/l	1	02/28/14 22:48	
Chlorothalonil	ND		0.050	ug/l	1	02/28/14 22:48	
delta-BHC	ND		0.010	ug/l	1	02/28/14 22:48	
Dieldrin	ND		0.010	ug/l	1	02/28/14 22:48	
Endosulfan I	ND		0.010	ug/l	1	02/28/14 22:48	
Endosulfan II	ND		0.010	ug/l	1	02/28/14 22:48	
Endosulfan sulfate	ND		0.010	ug/l	1	02/28/14 22:48	
Endrin	ND		0.010	ug/l	1	02/28/14 22:48	
Endrin aldehyde	ND		0.010	ug/l	1	02/28/14 22:48	
gamma-BHC (Lindane)	ND		0.010	ug/l	1	02/28/14 22:48	
Heptachlor	ND		0.010	ug/l	1	02/28/14 22:48	
Heptachlor epoxide	ND		0.010	ug/l	1	02/28/14 22:48	
Hexachlorobenzene	ND		0.010	ug/l	1	02/28/14 22:48	
Hexachlorocyclopentadiene	ND		0.050	ug/l	1	02/28/14 22:48	
Methoxychlor	ND		0.010	ug/l	1	02/28/14 22:48	
PCBs, Total	ND		0.50	ug/l	1	02/28/14 22:48	
Propachlor	ND		0.050	ug/l	1	02/28/14 22:48	
Toxaphene	ND		1.0	ug/l	1	02/28/14 22:48	
Trifluralin	ND		0.010	ug/l	1	02/28/14 22:48	
Surr: Decachlorobiphenyl	*76 %*	Conc:*0.0727*	*70-130*	%			
Surr: Tetrachloro-meta-xylene	*84 %*	Conc:*0.0796*	*70-130*	%			

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:17

4B25020-01 **CX-B1WQ Zone #5 (84-94 ft bgs)**

Sampled: 02/23/14 16:20 **Sampled By:** Nathan Reynolds **Matrix:** Water

Sample Note: 12030

Chlorinated Pesticides and/or PCBs

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:17

QUALITY CONTROL SECTION

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:17

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4C0014 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0014-BLK1)				Analyzed: 03/01/14 18:00						
Iodide	ND	10	ug/l							
LCS (W4C0014-BS1)				Analyzed: 03/01/14 18:00						
Iodide	45.0	10	ug/l	40.0		113	85-115			
Matrix Spike (W4C0014-MS1)	**Source: 4B25020-01**			Analyzed: 03/01/14 18:00						
Iodide	836	250	ug/l	1000	161	68	80-120			MS-01
Matrix Spike Dup (W4C0014-MSD1)	**Source: 4B25020-01**			Analyzed: 03/01/14 18:00						
Iodide	984	250	ug/l	1000	161	82	80-120	16	20	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B1139-BLK1)				Analyzed: 02/28/14 16:10						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:17

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B1139-BLK1)				Analyzed: 02/28/14 16:10						
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.0947*		*ug/l*	*0.100*		*95*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0904*		*ug/l*	*0.100*		*90*	*70-130*			
LCS (W4B1139-BS1)				Analyzed: 02/28/14 17:42						
4,4´-DDD	0.0801	0.010	ug/l	0.100		80	55-142			
4,4´-DDE	0.0848	0.010	ug/l	0.100		85	49-129			
4,4´-DDT	0.0979	0.010	ug/l	0.100		98	54-160			
Aldrin	0.0759	0.010	ug/l	0.100		76	29-115			
alpha-BHC	0.0802	0.010	ug/l	0.100		80	59-131			
beta-BHC	0.0789	0.010	ug/l	0.100		79	63-136			
delta-BHC	0.0881	0.010	ug/l	0.100		88	59-137			
Dieldrin	0.0832	0.010	ug/l	0.100		83	59-135			
Endosulfan I	0.0689	0.010	ug/l	0.100		69	28-138			
Endosulfan II	0.0754	0.010	ug/l	0.100		75	53-133			
Endosulfan sulfate	0.0877	0.010	ug/l	0.100		88	58-155			
Endrin	0.0585	0.010	ug/l	0.100		59	57-148			
Endrin aldehyde	0.0597	0.010	ug/l	0.100		60	45-139			
gamma-BHC (Lindane)	0.0802	0.010	ug/l	0.100		80	59-129			
Heptachlor	0.0817	0.010	ug/l	0.100		82	42-136			
Heptachlor epoxide	0.0809	0.010	ug/l	0.100		81	59-134			
Methoxychlor	0.0870	0.010	ug/l	0.100		87	56-167			
Surr: Decachlorobiphenyl	*0.0903*		*ug/l*	*0.100*		*90*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0827*		*ug/l*	*0.100*		*83*	*70-130*			
LCS Dup (W4B1139-BSD1)				Analyzed: 02/28/14 17:11						
4,4´-DDD	0.0789	0.010	ug/l	0.100		79	55-142	2	25	
4,4´-DDE	0.0850	0.010	ug/l	0.100		85	49-129	0.2	25	
4,4´-DDT	0.0947	0.010	ug/l	0.100		95	54-160	3	25	
Aldrin	0.0777	0.010	ug/l	0.100		78	29-115	2	25	
alpha-BHC	0.0813	0.010	ug/l	0.100		81	59-131	1	25	
beta-BHC	0.0799	0.010	ug/l	0.100		80	63-136	1	25	
delta-BHC	0.0883	0.010	ug/l	0.100		88	59-137	0.3	25	
Dieldrin	0.0844	0.010	ug/l	0.100		84	59-135	1	25	
Endosulfan I	0.0700	0.010	ug/l	0.100		70	28-138	2	25	
Endosulfan II	0.0756	0.010	ug/l	0.100		76	53-133	0.3	25	
Endosulfan sulfate	0.0871	0.010	ug/l	0.100		87	58-155	0.7	25	
Endrin	0.0740	0.010	ug/l	0.100		74	57-148	23	25	
Endrin aldehyde	0.0748	0.010	ug/l	0.100		75	45-139	22	25	
gamma-BHC (Lindane)	0.0813	0.010	ug/l	0.100		81	59-129	1	25	
Heptachlor	0.0828	0.010	ug/l	0.100		83	42-136	1	25	
Heptachlor epoxide	0.0816	0.010	ug/l	0.100		82	59-134	0.8	25	
Methoxychlor	0.0835	0.010	ug/l	0.100		84	56-167	4	25	
Surr: Decachlorobiphenyl	*0.172*		*ug/l*	*0.200*		*86*	*70-130*			

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:17

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4B1139 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4B1139-BSD1)				Analyzed: 02/28/14 17:11						
Surr: Tetrachloro-meta-xylene	*0.161*		*ug/l*	*0.200*		*81*	*70-130*			

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 02/25/14 09:40
Date Reported: 03/04/14 21:17

Notes and Definitions

MS-01	The spike recovery for this QC sample is outside of established control limits possibly due to sample matrix interference.
M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
J	Estimated conc. detected <MRL and >MDL.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1402896

Report Created for: Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940

Project Contact: David Holland
Project P.O.:
Project Name: CalAm

Project Received: 02/26/2014

Analytical Report reviewed & approved for release on 02/28/2014 by:

Question about your data?

Click here to email McCampbell

Angela Rydelius,
Laboratory Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical
Project: CalAm
WorkOrder: 1402896

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

Analytical Qualifier

a1	sample diluted due to matrix interference

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method:**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #2 (237-247 ft bgs) (dissol	**1402896-002A**	**Water/DISS.**	**02/19/2014 16:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**210**	100	20	02/27/2014 19:31
Strontium	**11,000**	400	20	02/27/2014 19:31

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #3 (182-192 ft bgs) (dissol	**1402896-004A**	**Water/DISS.**	**02/21/2014 13:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	ND	100	20	02/27/2014 14:48
Strontium	**12,000**	400	20	02/27/2014 14:48

Analytical Comments: a1

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #4 (134-144 ft bgs) (dissol	**1402896-006A**	**Water/DISS.**	**02/22/2014 14:45**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**120**	100	20	02/27/2014 19:37
Strontium	**9400**	400	20	02/27/2014 19:37

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #5 (84-94 ft bgs) (dissolve	**1402896-008A**	**Water/DISS.**	**02/23/2014 16:20**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	ND	100	20	02/27/2014 19:43
Strontium	**10,000**	400	20	02/27/2014 19:43

Analytical Comments: a1

(Cont.)

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method:**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #6 (51-61 ft bgs) (dissolve	**1402896-010A**	**Water/DISS.**	**02/25/2014 09:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**100**	100	20	02/27/2014 19:48
Strontium	**9500**	400	20	02/27/2014 19:48

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #2 (237-247 ft bgs)	**1402896-001A**	**Water/TOTAL**	**02/19/2014 16:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:23
Arsenic	ND	10	20	02/27/2014 15:23
Copper	ND	10	20	02/27/2014 15:23
Lithium	**120**	100	20	02/27/2014 15:23
Zinc	ND	100	20	02/27/2014 15:23

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	104	70-130		02/27/2014 15:23

CX-BIWQ Zone #3 (182-192 ft bgs)	1402896-003A	Water/TOTAL	02/21/2014 13:10	ICP-MS2	87508

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:28
Arsenic	ND	10	20	02/27/2014 15:28
Copper	ND	10	20	02/27/2014 15:28
Lithium	**140**	100	20	02/27/2014 15:28
Zinc	ND	100	20	02/27/2014 15:28

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	111	70-130		02/27/2014 15:28

CX-BIWQ Zone #4 (134-144 ft bgs)	1402896-005A	Water/TOTAL	02/22/2014 14:45	ICP-MS2	87508

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:34
Arsenic	ND	10	20	02/27/2014 15:34
Copper	ND	10	20	02/27/2014 15:34
Lithium	**120**	100	20	02/27/2014 15:34
Zinc	ND	100	20	02/27/2014 15:34

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	104	70-130		02/27/2014 15:34

(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP DB Analyst's Initial Angela Rydelius, Lab Manager

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #5 (84-94 ft bgs)	**1402896-007A**	**Water/TOTAL**	**02/23/2014 16:20**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:40
Arsenic	ND	10	20	02/27/2014 15:40
Copper	ND	10	20	02/27/2014 15:40
Lithium	**170**	100	20	02/27/2014 15:40
Zinc	ND	100	20	02/27/2014 15:40

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	109	70-130		02/27/2014 15:40

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #6 (51-61 ft bgs)	**1402896-009A**	**Water/TOTAL**	**02/25/2014 09:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:45
Arsenic	ND	10	20	02/27/2014 15:45
Copper	ND	10	20	02/27/2014 15:45
Lithium	**140**	100	20	02/27/2014 15:45
Zinc	ND	100	20	02/27/2014 15:45

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	110	70-130		02/27/2014 15:45

Quality Control Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Date Prepared:	2/26/14	**BatchID:**	87508
Date Analyzed:	2/27/14	**Extraction Method:**	E200.8
Instrument:	ICP-MS1	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	CalAm	**Sample ID:**	MB/LCS-87508 1402903-004CMS/MSD

QC Summary Report for E200.8

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aluminum	ND	475.4	50	500	-	95.1	85-115
Arsenic	ND	46.74	0.50	50	-	93.5	85-115
Barium	ND	451.9	5.0	500	-	90.4	85-115
Copper	ND	48.31	0.50	50	-	96.6	85-115
Lithium	ND	47.95	5.0	50	-	95.9	85-115
Strontium	ND	496	20	500	-	99.2	85-115
Zinc	ND	489.9	5.0	500	-	98	85-115
Surrogate Recovery							
Tb 350.917	695.7	710.9		750	93	95	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aluminum	1373	1438	500	863.6	102	115	70-130	4.62	20
Arsenic	47.91	48.87	50	0.84	94.1	96.1	70-130	1.98	20
Barium	473.2	485.6	500	18	91	93.5	70-130	2.59	20
Copper	60.61	62.62	50	13.01	95.2	99.2	70-130	3.26	20
Lithium	49.57	51.07	50	ND	99.1	102	70-130	2.98	20
Strontium	532.9	553	500	36	99.4	103	70-130	3.70	20
Zinc	632.5	641.6	500	118.4	103	105	70-130	1.43	20
Surrogate Recovery									
Tb 350.917	712.5	731	750		95	97	70-130	2.56	20

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1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402896 **ClientCode: MBAS**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
David Holland
Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940
831-375-6227 FAX: 831-641-0734

Email: 4mbas@sbcglobal.net
cc:
PO:
ProjectNo: CalAm

Bill to:
Accounts Payable
Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940

Requested TAT: 3 days

Date Received: **02/26/2014**
Date Printed: **02/26/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1402896-001	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	2/19/2014 16:10	☐		A										
1402896-002	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	2/19/2014 16:10	☐	A											
1402896-003	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	2/21/2014 13:10	☐		A										
1402896-004	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	2/21/2014 13:10	☐	A											
1402896-005	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	2/22/2014 14:45	☐		A										
1402896-006	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	2/22/2014 14:45	☐	A											
1402896-007	CX-BIWQ Zone #5 (84-94 ft bgs)	Water	2/23/2014 16:20	☐		A										
1402896-008	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	Water	2/23/2014 16:20	☐	A											
1402896-009	CX-BIWQ Zone #6 (51-61 ft bgs)	Water	2/25/2014 9:10	☐		A										
1402896-010	CX-BIWQ Zone #6 (51-61 ft bgs) (dissolved)	Water	2/25/2014 9:10	☐	A											

Test Legend:

1	METALSMS_DISS	2	METALSMS_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Jena Alfaro

Comments: Needs analysts initials for all reports per D.H. 4/5/13

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: MONTEREY BAY ANALYTICAL **QC Level:** LEVEL 2 **Work Order:** 1402896
Project: CalAm **Client Contact:** David Holland **Date Received:** 2/26/2014
Comments: Needs analysts initials for all reports per D.H. 4/5/13 **Contact's Email:** 4mbas@sbcglobal.net

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1402896-001A	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/19/2014 16:10	3 days	None	☐	
1402896-002A	CX-BIWQ Zone #2 (237-247 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/19/2014 16:10	3 days	None	☐	
1402896-003A	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/21/2014 13:10	3 days	None	☐	
1402896-004A	CX-BIWQ Zone #3 (182-192 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/21/2014 13:10	3 days	None	☐	
1402896-005A	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/22/2014 14:45	3 days	None	☐	
1402896-006A	CX-BIWQ Zone #4 (134-144 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/22/2014 14:45	3 days	None	☐	
1402896-007A	CX-BIWQ Zone #5 (84-94 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/23/2014 16:20	3 days	None	☐	
1402896-008A	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/23/2014 16:20	3 days	None	☐	
1402896-009A	CX-BIWQ Zone #6 (51-61 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/25/2014 9:10	3 days	None	☐	
1402896-010A	CX-BIWQ Zone #6 (51-61 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/25/2014 9:10	3 days	None	☐	

*** NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

Bottle Legend:

125mL HDPE w/ HNO3 = 125mL HDPE Bottle w/ Nitric Acid
250mL HDPE w/ HNO3 = 250mL HDPE Bottle w/ HNO3

RUSH

14028896

McCAMPBELL ANALYTICAL, INC.

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Website: www.mccampbell.com Email: main@mccampbell.com
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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☒ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

Report To: David Holland Bill To:

Company: Monterey Bay Analytical Services

4 Justin Ct. Suite D

Monterey, Ca 93940 E-Mail: 4mbas@sbcglobal.net

Tele: (831) 375 - 6227 Fax: (831) 641-0734

Project #: Project Name: CalAm

Project Location:

Sampler Signature: Nathan Reynolds

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request	Other	Comments
	CX-BIWQ Zone #2 (237-247 ft bgs)	2/19/14	16:10	1	p	X					X		X			Al, As, Cu, Li, Zn: X	11965
	CX-BIWQ Zone #2 (237-247 ft bgs) (dissolved)	2/19/14	16:10	1	p	X					X		X			Ba, Sr: X	11965 (dissolved)
	CX-BIWQ Zone #3 (182-192 ft bgs)	2/21/14	13:10	1	p	X					X		X			Al, As, Cu, Li, Zn: X	12015
	CX-BIWQ Zone #3 (182-192 ft bgs) (dissolved)	2/21/14	13:10	1	p	X					X		X			Ba, Sr: X	12015 (dissolved)
	CX-BIWQ Zone #4 (134-144 ft bgs)	2/22/14	14:45	1	p	X					X		X			Al, As, Cu, Li, Zn: X	12029
	CX-BIWQ Zone #4 (134-144 ft bgs) (dissolved)	2/22/14	14:45	1	p	X					X		X			Ba, Sr: X	12029 (dissolved)
	CX-BIWQ Zone #5 (84-94 ft bgs)	2/23/14	16:20	1	P	X					X		X			Al, As, Cu, Li, Zn: X	12030
	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	2/23/14	16:20	1	P	X					X		X			Ba, Sr: X	12030 (dissolved)
	CX-BIWQ Zone #6 (51-61 ft bgs)	2/25/14	09:10	1	p	X					X		X			Al, As, Cu, Li, Zn: X	12148
	CX-BIWQ Zone #6 (51-61 ft bgs) (Dissolved)	2/25/14	09:10	1	p	X					X		X			Ba, Sr: X	12148 (dissolved)

REC'D SEALED & INTACT VIA UPS GATE

Relinquished By:	Date:	Time:	Received By:	
David Holland	2/25/14	1200		2/26/14 9:15
Relinquished By:	Date:	Time:	Received By:	

ICE/t°_____
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____

COMMENTS: The sample conductivity ranges from 25,000 uS/cm to 40,000 uS/cm

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **Monterey Bay Analytical** Date and Time Received: **2/26/2014 11:35:12 AM**

Project Name: **CalAm** LogIn Reviewed by: Jena Alfaro

WorkOrder N°: **1402896** Matrix: Water Carrier: UPS

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	NA ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Comments:

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

pH QC Summary (SM 4500 H+)

Date Analyzed: 2/23/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.88	100.3	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB12030	7.2	7.2	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

MBAS QC Summary (SM 5540C)

Date Analyzed: 2/23/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	0.100	0.087	87	80-120

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

300.0 QC Summary

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
IPC		1.96	19.40	2.07	19.27	2.02	1.90	1.70
Recovery	90-110%	97.88	97.02	103.50	96.34	100.94	95.24	85.13
CCV1		1.93	19.49	2.08	19.43	2.03	1.92	1.79
Recovery	90-110%	96.57	97.43	104.18	97.15	101.47	95.84	89.38
RPD	10%	1.34	0.42	0.65	0.84	0.52	0.63	4.87

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
AB12026		0.11	70.57	0.24	35.16	0.02	7.60	0.00
AB12026+LFM		2.07	90.75	1.93	54.67	1.78	9.82	1.32
AB12026+LFMD		2.03	90.42	1.90	54.28	1.75	9.80	1.31
Average		2.05	90.59	1.91	54.48	1.76	9.81	1.31
Recovery	80-120%	96.94	100.07	83.77	96.59	87.18	110.54	65.65
RPD	10%	1.62	0.36	1.66	0.72	1.62	0.20	0.57

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831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 2/24/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB12170	2780	2782	0.1%	10
AB12203	118	118	0.0%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Turbidity QC Summary (EPA 180.1)

Date Analyzed: 2/24/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.01	101.0	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB12030	0.77	0.78	0.9	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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PRECISION • ACCURACY • DEPENDABILITY
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http://www.MBASinc.com

TDS/TSS QC Summary (SM 2540C/D)

Date Analyzed: 2/25/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC 100	100	106	106	80-120
IPC 500	500	500	100	90-110

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12141	186	191	2.7	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Differer

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831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Kjehldahl Nitrogen QC Summary (SM 4500-NH3)

Date: 2/25/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	5.0	4.820	96.4	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB11639	29.800	5.000	34.800	35.200	100	108	1.1	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

Batch # 20140225

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.00	0.00	1.03	103.3%	1.04	104.1%	0.7%	1	1.01	100.8%	1	0.99	99.3%
B 249.772	0.05-5ppm	0.00	0.00	1.03	102.7%	1.04	103.9%	1.2%	1	1.00	99.5%	1	0.99	99.1%
Ca 317.933	50-300ppm	-4.32	-4.33	49.6	99.3%	50.9	101.7%	2.4%	50	49.1	98.3%	50	48.7	97.4%
Ca 396.847	0.5-50ppm	-0.23	-0.24	50.1	100.3%	51.1	102.3%	2.0%	50	49.7	99.5%	50	49.5	99.1%
Cu 324.754	10ppb-100ppm	-7.83	-9.32	1008	100.8%	1031	103.1%	2.3%	1000	989	98.9%	1000	1002	100.2%
Cu 327.395	10ppb-100ppm	-3.71	-2.81	1018	101.8%	1037	103.7%	1.8%	1000	989	98.9%	1000	1005	100.5%
Fe 238.204	10ppb-100ppm	-0.01	0.65	998	99.8%	1008	100.8%	1.1%	1000	985	98.5%	1000	980	98.0%
Fe 259.940	10ppb-100ppm	-1.92	-2.32	1008	100.8%	1025	102.5%	1.6%	1000	992	99.2%	1000	995	99.5%
K 766.491	0.5-750ppm	0.06	0.04	9.9	99.2%	10.2	101.9%	2.7%	10	9.9	98.6%	10	9.9	98.9%
Mg 202.582	50-1000ppm	-1.92	-1.95	51.3	102.7%	51.9	103.8%	1.1%	50	50.1	100.3%	50	50.2	100.3%
Mg 279.078	0.5-50ppm	0.04	0.01	50.3	100.5%	50.8	101.6%	1.1%	50	49.3	98.7%	50	49.1	98.2%
Mn 257.610	10ppb-11ppm	-6.24	-6.61	1005	100.5%	1021	102.1%	1.5%	1000	988	98.8%	1000	978	97.8%
Mn 260.568	10ppb-11ppm	-6.06	-6.71	1006	100.6%	1015	101.5%	0.9%	1000	986	98.6%	1000	974	97.4%
Na 568.821	50-1000ppm	8.44	6.58	51.4	102.7%	54.1	108.1%	5.1%	50	50.7	101.3%	50	51.1	102.2%
Na 589.592	0.5-50ppm	0.11	0.04	49.9	99.9%	51.4	102.8%	2.9%	50	49.7	99.4%	50	49.6	99.1%
Si 251.611	0.5-200ppm	0.03	-0.03	51.1	102.3%	51.4	102.7%	0.4%	50	49.4	98.8%	107	105.0	98.2%
Si 252.411	0.5-200ppm	0.07	-0.01	50.9	101.8%	51.3	102.5%	0.7%	50	49.2	98.5%	107	105.0	98.1%
Zn 213.857	10ppb-50ppm	-12.44	-12.72	999	99.9%	1008	100.8%	0.9%	1000	974	97.4%	1000	967	96.7%

Matrix Spikes

Sample ID AB12040

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.09	1.12	102.9%	1.09	100.2%	2.5%	1	1.04	104.1%	3.3%	0.00
B 249.772	0.09	1.13	103.9%	1.11	101.8%	1.8%	1	1.06	105.6%	5.9%	0.00
Ca 317.933	136.6	186.1	99.0%	184.0	94.8%	1.1%	50	50.3	100.6%	2.3%	-4.35
Ca 396.847	*115.2*	*149.6*	*68.7%*	*148.1*	*65.8%*	*1.0%*	50	50.4	100.9%	1.4%	-0.25
Cu 324.754	31	1071	104.0%	1053	102.2%	1.7%	1000	1012	101.2%	2.3%	-7.80
Cu 327.395	34	1106	107.2%	1085	105.1%	1.9%	1000	1037	103.7%	4.8%	-7.04
Fe 238.204	761	1738	97.7%	1717	95.6%	1.2%	1000	1004	100.4%	1.9%	-2.79
Fe 259.940	775	1772	99.7%	1754	97.9%	1.0%	1000	1007	100.7%	1.4%	-1.97
K 766.491	3.6	13.9	103.1%	13.7	100.5%	1.9%	10	10.1	100.9%	2.2%	0.07

Mg 202.582	23.1	77.8	109.6%	76.7	107.4%	1.4%	50	52.5	105.0%	4.6%	-1.95
Mg 279.078	22.7	73.2	101.0%	72.2	99.0%	1.4%	50	50.3	100.6%	1.9%	0.01
Mn 257.610	87	1104	101.7%	1090	100.3%	1.3%	1000	1011	101.1%	2.3%	-7.07
Mn 260.568	89	1111	102.2%	1097	100.8%	1.3%	1000	1017	101.7%	3.1%	-7.40
Na 568.821	96.9	149.1	104.3%	145.2	96.5%	2.7%	50	55.1	110.2%	8.4%	6.53
Na 589.592	*90.0*	*140.9*	*101.7%*	*138.3*	*96.6%*	*1.8%*	50	51.5	103.0%	3.6%	0.44
Si 251.611	31.0	81.6	101.1%	80.6	99.0%	1.3%	50	52.4	104.8%	5.9%	-0.08
Si 252.411	30.5	79.8	98.4%	78.6	96.2%	1.4%	50	51.2	102.3%	3.8%	-0.02
Zn 213.857	22	1051	102.9%	1040	101.8%	1.0%	1000	1013	101.3%	3.9%	-16.83

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 3/5/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC Low	0.050	0.043	86	90-110
IPC	0.500	0.462	92.4	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12148	0.020	0.500	0.536	0.550	103.2	106	2.6	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check

RPD = Relative Percent Difference; Rec = Recovery

MONTEREY BAY ANALYTICAL SERVICES
PRECISION ● ACCURACY ● DEPENDABILITY
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net
ELAP Certification Number: 2385

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

Wednesday, March 12, 2014

Lab Number: AB12148

Collection Date/Time:	2/25/2014	9:10	Sample Collector:	REYNOLDS, N	
Submittal Date/Time:	2/25/2014	12:40	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-BIWQ Zone #6 (51-61 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**103**		2		2/26/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**Not Detected**		10	1000	2/27/2014	MC LAB
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		3/5/2014	DH
Arsenic, Total	EPA200.8	ug/L	**Not Detected**		1	10	2/27/2014	MC LAB
Barium, Dissolved	EPA200.8	ug/L	**100**		10		2/27/2014	MC LAB
Bicarbonate (as HCO3-)	SM2320B	mg/L	**126**		10		2/26/2014	DH
Boron, Dissolved	EPA200.7	mg/L	**2.40**		0.05		3/5/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**38**		10		2/26/2014	DC
Calcium	EPA200.7	mg/L	**710**		0.5		3/5/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**709**		0.5		3/5/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Not Detected**	E			2/25/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		2/26/2014	DH
Chloride, Dissolved	EPA300.0	mg/L	**13675**		100		2/26/2014	DC
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Not Detected**	E			3/4/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**4**		3	15	2/25/2014	LRH
Copper, Total	EPA200.8	ug/L	**Not Detected**		4	1300	2/27/2014	MC LAB
DBCP & EDB	EPA504.1	ug/L	**Not Detected**	E			2/20/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Not Detected**	E			3/9/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Not Detected**	E			2/25/2014	BSK
Dissolved Anions		Meq/L	**424.8**				3/6/2014	DH
Dissolved Cations		Meq/L	**387.0**				3/6/2014	DH
Endothall	EPA548.1	ug/L	**Not Detected**	E			2/20/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**0.3**		0.1		2/26/2014	DC
Glyphosate	EPA547	ug/L	**Not Detected**	E			2/20/2014	BSK
Hardness (as CaCO3)	SM2340B	mg/L	**5561**		10		3/12/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		2/26/2014	DH
Iodide	EPA9056M	ug/L	**Not Detected**	E	10		3/1/2014	WECK
Iron	EPA200.7	ug/L	**162**		10	300	3/5/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**57**		10	300	3/5/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**Not Detected**		0.5		3/3/2014	HM
Lithium	EPA200.8	ug/L	**140**		1		2/27/2014	MC LAB
Magnesium	EPA200.7	mg/L	**920**		0.5		3/5/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**928**		1		3/5/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**172**		10	50	3/5/2014	DC
Manganese, Total	EPA200.7	ug/L	**131**		10	50	2/25/2014	DC

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments T = Temperature Exceedance

Lab Number: **AB12148**

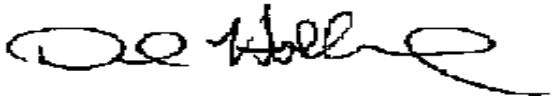
Collection Date/Time:	2/25/2014	9:10	Sample Collector:	REYNOLDS, N	
Submittal Date/Time:	2/25/2014	12:40	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-BIWQ Zone #6 (51-61 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**	H	0.05	0.50	2/28/2014	DC
Nitrate as NO3	EPA300.0	mg/L	**3**		1	45	2/26/2014	DC
Nitrate+Nitrite as N	EPA300.0	mg/L	**0.8**		0.1		2/26/2014	DC
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**Not Detected**		0.1		2/26/2014	DC
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	2/25/2014	LRH
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**Not Detected**		0.1		2/26/2014	DC
pH (Field Test)	SM4500-H+B	pH	**7.18**				2/25/2014	NR
pH (Laboratory)	SM4500-H+B	pH (H)	**7.3**				2/25/2014	HM
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Not Detected**	E			2/23/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**Not Detected**		0.03		3/2/2014	DH
Potassium	EPA200.7	mg/L	**187**		0.5		2/25/2014	DC
Potassium, Dissolved	EPA200.7	mg/L	**186**		0.1		3/5/2014	DC
QC Ratio TDS/SEC	Calculation		**0.67**				2/28/2014	DH
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Not Detected**	E			2/22/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**18.0**		0.5		3/5/2014	DC
Sodium	EPA200.7	mg/L	**6253**		0.5		2/25/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**6219**		0.5		3/5/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**37260**		1	900	2/25/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**35952**		1		2/25/2014	NR
Strontium, Dissolved	EPA200.8	ug/L	**9500**		5		2/27/2014	MC LAB
Sulfate	EPA300.0	mg/L	**1748**		1	250	2/26/2014	DC
Temperature (Field)	SM2550	° C	**17.5**				2/25/2014	NR
Total Cations		Meq/L	**387.9**				3/6/2014	DH
Total Diss. Solids	SM2540C	mg/L	**24800**		10	500	2/26/2014	HM
Turbidity	EPA180.1	NTU	**0.45**		0.05	5.0	2/25/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**0.33**		0.05		2/25/2014	NR
Volatile Org. Compounds (524)	EPA524	ug/L	**Not Detected**	E			2/19/2014	BSK
Zinc, Total	EPA200.8	ug/L	**Not Detected**		10	5000	2/27/2014	MC LAB

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments T = Temperature Exceedance

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12148 Zone 6 Diss**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	6219	0.04350	270.53
Potassium	186	0.02558	4.76
Calcium	709	0.04990	35.38
Magnesium	928	0.08229	76.37
NH3-N	0	0.07143	0.00
		SUM	387.03

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	103	0.02000	2.06
Sulfate	1748	0.02082	36.39
Chloride	13675	0.02821	385.77
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.8	0.07138	0.06
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.0	0.05264	0.00
Bromide	38.0	0.01252	0.48
		SUM	424.76

ANION-CATION BALANCE **-5** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	37260	
Cation Sum X 100	38703	**104%**
Anion Sum X 100	42476	**114%**

Note: In Natural Waters, Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (S	**36.2**
Ca+Mg+Na	382.27
HCO3/Ca	0.06
dS/m	37.26
Value Table II	1.5
SAR adj	**43.4**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12148 Zone 6 Total**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	6253	0.04350	272.01
Potassium	187	0.02558	4.78
Calcium	710	0.04990	35.43
Magnesium	920	0.08229	75.71
NH3-N	0	0.07143	0.00
		SUM	387.92

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	103	0.02000	2.06
Sulfate	1748	0.02082	36.39
Chloride	13675	0.02821	385.77
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.8	0.07138	0.06
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.0	0.05264	0.00
Bromide	38.0	0.01252	0.48
		SUM	424.76

ANION-CATION BALANCE **-5** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	37260	
Cation Sum X 100	38792	**104%**
Anion Sum X 100	42476	**114%**

Note: In Natural Waters, Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (S	**36.5**
Ca+Mg+Na	383.14
HCO3/Ca	0.06
dS/m	37.26
Value Table II	1.5
SAR adj	**43.8**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4B1898 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 2/26/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	-	**Project PO#:**	-
Received:	2/26/2014 - 10:30		
Report Due:	3/05/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 3.8

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
BS6.0	BS/BSD RPD exceeded method acceptance limits
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.

Report Distribution

Recipient(s)	Report Format
David Holland	Final.rpt

Certificate of Analysis

Sample ID: A4B1898-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #6 (51-61 ft bgs) // 12148

Sample Date - Time: 02/25/14 - 09:10
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A402472	02/27/14	02/28/14	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A402472	02/27/14	02/28/14	
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	97 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A402552	02/28/14	03/02/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A402552	02/28/14	03/02/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A402552	02/28/14	03/02/14	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A402552	02/28/14	03/02/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A402552	02/28/14	03/02/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A402552	02/28/14	03/02/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A402552	02/28/14	03/02/14	
Surrogate: DCPAA	EPA 515.3	71 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A402445	02/28/14	02/28/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A402445	02/28/14	02/28/14	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A402445	02/28/14	02/28/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A402445	02/28/14	02/28/14	
Acetone	EPA 524.2	ND	10	ug/L	1	A402445	02/28/14	02/28/14	

Certificate of Analysis

Sample ID: A4B1898-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #6 (51-61 ft bgs) // 12148

Sample Date - Time: 02/25/14 - 09:10
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Benzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	BS1.0, CV0.0
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A402445	02/28/14	02/28/14	BS1.0
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	BS1.0
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	BS1.0, CV0.0
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A402445	02/28/14	02/28/14	BS1.0
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A402445	02/28/14	02/28/14	BS1.0, CV0.0
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A402445	02/28/14	02/28/14	

Certificate of Analysis

Sample ID: A4B1898-01
Sampled By: Nathan Reynolds
Sample Description: CX-BIWQ Zone #6 (51-61 ft bgs) // 12148

Sample Date - Time: 02/25/14 - 09:10
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A402445	02/28/14	02/28/14	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	96 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	96 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A402556	03/01/14	03/03/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A402556	03/01/14	03/03/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A402556	03/01/14	03/03/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A402556	03/01/14	03/03/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A402556	03/01/14	03/03/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A402556	03/01/14	03/03/14	BS1.0
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A402556	03/01/14	03/03/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A402556	03/01/14	03/03/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A402556	03/01/14	03/03/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A402556	03/01/14	03/03/14	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A402556	03/01/14	03/03/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A402556	03/01/14	03/03/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A402556	03/01/14	03/03/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A402556	03/01/14	03/03/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A402556	03/01/14	03/03/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	114 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A402440	02/26/14	02/27/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A402440	02/26/14	02/27/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A402440	02/26/14	02/27/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A402440	02/26/14	02/27/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A402440	02/26/14	02/27/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A402440	02/26/14	02/27/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A402440	02/26/14	02/27/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A402440	02/26/14	02/27/14	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A402555	03/01/14	03/01/14	
Surrogate: AMPA	EPA 547	109 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A402503	02/27/14	02/28/14	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A402584	03/03/14	03/03/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A402472										Prepared: 02/27/2014	
Prep Method: EPA 504.1										Analyst: PYA	
Blank (A402472-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							02/28/14	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							02/28/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.2*			*2.3*		*97*	*70-130*			02/28/14	
Blank Spike (A402472-BS1)											
Dibromochloropropane (DBCP)	0.13	0.010	ug/L	0.12		105	70-130			02/28/14	
Ethylene Dibromide (EDB)	0.12	0.020	ug/L	0.12		96	70-130			02/28/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.2*			*2.3*		*98*	*70-130*			02/28/14	
Blank Spike Dup (A402472-BSD1)											
Dibromochloropropane (DBCP)	0.13	0.010	ug/L	0.12		104	70-130	1	20	02/28/14	
Ethylene Dibromide (EDB)	0.12	0.020	ug/L	0.12		96	70-130	0	20	02/28/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.2*			*2.3*		*97*	*70-130*			02/28/14	
Matrix Spike (A402472-MS1), Source: A4B1302-02											
Dibromochloropropane (DBCP)	0.13	0.010	ug/L	0.12	ND	105	65-135			02/28/14	
Ethylene Dibromide (EDB)	0.12	0.020	ug/L	0.12	ND	95	65-135			02/28/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.2*			*2.3*		*96*	*70-130*			02/28/14	
EPA 515.3 - Quality Control											
Batch: A402552										Prepared: 02/28/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A402552-BLK1)											
2,4,5-T	ND	1.0	ug/L							03/02/14	
2,4,5-TP (Silvex)	ND	1.0	ug/L							03/02/14	
2,4-D	ND	10	ug/L							03/02/14	
Bentazon	ND	2.0	ug/L							03/02/14	
Dalapon	ND	10	ug/L							03/02/14	
Dicamba	ND	1.5	ug/L							03/02/14	
Dinoseb	ND	2.0	ug/L							03/02/14	
Pentachlorophenol	ND	0.20	ug/L							03/02/14	
Picloram	ND	1.0	ug/L							03/02/14	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			03/02/14	
Blank Spike (A402552-BS1)											
2,4,5-T	4.1	1.0	ug/L	4.0		103	70-130			03/02/14	
2,4,5-TP (Silvex)	0.84	1.0	ug/L	0.80		105	70-130			03/02/14	
2,4-D	0.46	10	ug/L	0.40		115	70-130			03/02/14	
Bentazon	8.9	2.0	ug/L	8.0		111	70-130			03/02/14	
Dalapon	4.1	10	ug/L	4.0		101	70-130			03/02/14	
Dicamba	6.2	1.5	ug/L	6.0		103	70-130			03/02/14	
Dinoseb	0.82	2.0	ug/L	0.80		102	70-130			03/02/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16		100	70-130			03/02/14	
Picloram	0.41	1.0	ug/L	0.40		104	70-130			03/02/14	
Surrogate: DCPAA	*47*			*58*		*80*	*70-130*			03/02/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A402552										Prepared: 02/28/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A402552-BSD1)											
2,4,5-T	4.2	1.0	ug/L	4.0		105	70-130	2	20	03/02/14	
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80		103	70-130	2	20	03/02/14	
2,4-D	0.47	10	ug/L	0.40		118	70-130	2	20	03/02/14	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130	2	20	03/02/14	
Dalapon	4.2	10	ug/L	4.0		106	70-130	4	20	03/02/14	
Dicamba	6.1	1.5	ug/L	6.0		101	70-130	2	20	03/02/14	
Dinoseb	0.81	2.0	ug/L	0.80		102	70-130	1	20	03/02/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16		98	70-130	2	20	03/02/14	
Picloram	0.43	1.0	ug/L	0.40		107	70-130	4	20	03/02/14	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			03/02/14	
Matrix Spike (A402552-MS1), Source: A4B1782-01											
2,4,5-T	4.2	1.0	ug/L	4.0	ND	104	70-130			03/02/14	
2,4,5-TP (Silvex)	0.85	1.0	ug/L	0.80	ND	106	70-130			03/02/14	
2,4-D	0.47	10	ug/L	0.40	ND	117	70-130			03/02/14	
Bentazon	8.8	2.0	ug/L	8.0	ND	110	70-130			03/02/14	
Dalapon	4.2	10	ug/L	4.0	ND	105	70-130			03/02/14	
Dicamba	6.0	1.5	ug/L	6.0	ND	101	70-130			03/02/14	
Dinoseb	0.82	2.0	ug/L	0.80	ND	102	70-130			03/02/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	97	70-130			03/02/14	
Picloram	0.41	1.0	ug/L	0.40	ND	103	70-130			03/02/14	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			03/02/14	
Matrix Spike Dup (A402552-MSD1), Source: A4B1782-01											
2,4,5-T	4.1	1.0	ug/L	4.0	ND	103	70-130	1	20	03/02/14	
2,4,5-TP (Silvex)	0.84	1.0	ug/L	0.80	ND	105	70-130	1	20	03/02/14	
2,4-D	0.51	10	ug/L	0.40	ND	127	70-130	9	20	03/02/14	
Bentazon	8.8	2.0	ug/L	8.0	ND	110	70-130	0	20	03/02/14	
Dalapon	4.1	10	ug/L	4.0	ND	102	70-130	3	20	03/02/14	
Dicamba	6.0	1.5	ug/L	6.0	ND	100	70-130	1	20	03/02/14	
Dinoseb	0.80	2.0	ug/L	0.80	ND	101	70-130	2	20	03/02/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	97	70-130	0	20	03/02/14	
Picloram	0.40	1.0	ug/L	0.40	ND	99	70-130	4	20	03/02/14	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			03/02/14	
EPA 524.2 - Quality Control											
Batch: A402445										Prepared: 02/28/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402445-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							02/28/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							02/28/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							02/28/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							02/28/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							02/28/14	
1,1-Dichloroethane	ND	0.50	ug/L							02/28/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 524.2 - Quality Control

Batch: A402445 Prepared: 02/28/2014

Prep Method: EPA 524.2 Analyst: JGB

Blank (A402445-BLK1)											
1,1-Dichloroethene	ND	0.50	ug/L							02/28/14	
1,1-Dichloropropene	ND	0.50	ug/L							02/28/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							02/28/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							02/28/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							02/28/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							02/28/14	
1,2-Dichloroethane	ND	0.50	ug/L							02/28/14	
1,2-Dichloropropane	ND	0.50	ug/L							02/28/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							02/28/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							02/28/14	
1,3-Dichloropropane	ND	0.50	ug/L							02/28/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							02/28/14	
2,2-Dichloropropane	ND	0.50	ug/L							02/28/14	
2-Butanone	ND	5.0	ug/L							02/28/14	
2-Chlorotoluene	ND	0.50	ug/L							02/28/14	
2-Hexanone	ND	10	ug/L							02/28/14	
4-Chlorotoluene	ND	0.50	ug/L							02/28/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							02/28/14	
Acetone	ND	10	ug/L							02/28/14	
Benzene	ND	0.50	ug/L							02/28/14	
Bromobenzene	ND	0.50	ug/L							02/28/14	
Bromochloromethane	ND	0.50	ug/L							02/28/14	
Bromodichloromethane	ND	0.50	ug/L							02/28/14	
Bromoform	ND	0.50	ug/L							02/28/14	
Bromomethane	ND	0.50	ug/L							02/28/14	
Carbon Tetrachloride	ND	0.50	ug/L							02/28/14	
Chlorobenzene	ND	0.50	ug/L							02/28/14	
Chloroethane	ND	0.50	ug/L							02/28/14	
Chloroform	ND	0.50	ug/L							02/28/14	
Chloromethane	ND	0.50	ug/L							02/28/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							02/28/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							02/28/14	
Dibromochloromethane	ND	0.50	ug/L							02/28/14	
Dibromomethane	ND	0.50	ug/L							02/28/14	
Dichlorodifluoromethane	ND	0.50	ug/L							02/28/14	
Dichloromethane	ND	0.50	ug/L							02/28/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							02/28/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							02/28/14	
Ethylbenzene	ND	0.50	ug/L							02/28/14	
Hexachlorobutadiene	ND	0.50	ug/L							02/28/14	
Isopropylbenzene	ND	0.50	ug/L							02/28/14	
m,p-Xylenes	ND	0.50	ug/L							02/28/14	
Methyl-t-butyl ether	ND	0.50	ug/L							02/28/14	
Naphthalene	ND	0.50	ug/L							02/28/14	
n-Butylbenzene	ND	0.50	ug/L							02/28/14	
n-Propylbenzene	ND	0.50	ug/L							02/28/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402445										Prepared: 02/28/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402445-BLK1)											
o-Xylene	ND	0.50	ug/L							02/28/14	
p-Isopropyltoluene	ND	0.50	ug/L							02/28/14	
sec-Butylbenzene	ND	0.50	ug/L							02/28/14	
Styrene	ND	0.50	ug/L							02/28/14	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							02/28/14	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							02/28/14	
tert-Butylbenzene	ND	0.50	ug/L							02/28/14	
Tetrachloroethene (PCE)	ND	0.50	ug/L							02/28/14	
Toluene	ND	0.50	ug/L							02/28/14	
trans-1,2-Dichloroethene	ND	0.50	ug/L							02/28/14	
trans-1,3-Dichloropropene	ND	0.50	ug/L							02/28/14	
Trichloroethene (TCE)	ND	0.50	ug/L							02/28/14	
Trichlorofluoromethane	ND	5.0	ug/L							02/28/14	
Vinyl Chloride	ND	0.50	ug/L							02/28/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.7*			*5.0*		*94*	*70-130*			02/28/14	
Surrogate: Bromofluorobenzene	*47*			*50*		*94*	*70-130*			02/28/14	
Blank Spike (A402445-BS1)											
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		107	70-130			02/28/14	
1,1,1-Trichloroethane	11	0.50	ug/L	10		107	70-130			02/28/14	
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		104	70-130			02/28/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	12	10	ug/L	10		116	70-130			02/28/14	
1,1,2-Trichloroethane	11	0.50	ug/L	10		107	70-130			02/28/14	
1,1-Dichloroethane	11	0.50	ug/L	10		108	70-130			02/28/14	
1,1-Dichloroethene	11	0.50	ug/L	10		108	70-130			02/28/14	
1,1-Dichloropropene	11	0.50	ug/L	10		113	70-130			02/28/14	
1,2,3-Trichlorobenzene	11	0.50	ug/L	10		106	70-130			02/28/14	
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		109	70-130			02/28/14	
1,2,4-Trimethylbenzene	11	0.50	ug/L	10		106	70-130			02/28/14	
1,2-Dichlorobenzene	11	0.50	ug/L	10		112	70-130			02/28/14	
1,2-Dichloroethane	10	0.50	ug/L	10		105	70-130			02/28/14	
1,2-Dichloropropane	11	0.50	ug/L	10		108	70-130			02/28/14	
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		108	70-130			02/28/14	
1,3-Dichlorobenzene	10	0.50	ug/L	10		105	70-130			02/28/14	
1,3-Dichloropropane	11	0.50	ug/L	10		107	70-130			02/28/14	
1,4-Dichlorobenzene	11	0.50	ug/L	10		108	70-130			02/28/14	
2,2-Dichloropropane	11	0.50	ug/L	10		107	70-130			02/28/14	
2-Butanone	11	5.0	ug/L	10		106	70-130			02/28/14	
2-Chlorotoluene	11	0.50	ug/L	10		106	70-130			02/28/14	
2-Hexanone	10	10	ug/L	10		104	70-130			02/28/14	
4-Chlorotoluene	11	0.50	ug/L	10		106	70-130			02/28/14	
4-Methyl-2-pentanone	10	5.0	ug/L	10		103	70-130			02/28/14	
Acetone	10	10	ug/L	10		101	70-130			02/28/14	
Benzene	10	0.50	ug/L	10		104	70-130			02/28/14	
Bromobenzene	10	0.50	ug/L	10		105	70-130			02/28/14	
Bromochloromethane	11	0.50	ug/L	10		112	70-130			02/28/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402445										Prepared: 02/28/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike (A402445-BS1)												
Bromodichloromethane	9.6	0.50	ug/L	10		96	70-130			02/28/14		
Bromoform	10	0.50	ug/L	10		103	70-130			02/28/14		
Bromomethane	7.6	0.50	ug/L	10		76	70-130			02/28/14		
Carbon Tetrachloride	11	0.50	ug/L	10		112	70-130			02/28/14		
Chlorobenzene	11	0.50	ug/L	10		107	70-130			02/28/14		
Chloroethane	10	0.50	ug/L	10		103	70-130			02/28/14		
Chloroform	10	0.50	ug/L	10		103	70-130			02/28/14		
Chloromethane	12	0.50	ug/L	10		124	70-130			02/28/14		
cis-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130			02/28/14		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		107	70-130			02/28/14		
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130			02/28/14		
Dibromomethane	10	0.50	ug/L	10		103	70-130			02/28/14		
Dichlorodifluoromethane	19	0.50	ug/L	10		187	70-130			02/28/14	BS	***High***
Dichloromethane	11	0.50	ug/L	10		108	70-130			02/28/14		
Di-isopropyl ether (DIPE)	11	3.0	ug/L	10		114	70-130			02/28/14		
Ethyl tert-Butyl Ether (ETBE)	11	0.50	ug/L	10		113	70-130			02/28/14		
Ethylbenzene	11	0.50	ug/L	10		106	70-130			02/28/14		
Hexachlorobutadiene	11	0.50	ug/L	10		110	70-130			02/28/14		
Isopropylbenzene	11	0.50	ug/L	10		107	70-130			02/28/14		
m,p-Xylenes	19	0.50	ug/L	20		96	70-130			02/28/14		
Methyl-t-butyl ether	21	0.50	ug/L	20		104	70-130			02/28/14		
Naphthalene	11	0.50	ug/L	10		107	70-130			02/28/14		
n-Butylbenzene	11	0.50	ug/L	10		105	70-130			02/28/14		
n-Propylbenzene	11	0.50	ug/L	10		106	70-130			02/28/14		
o-Xylene	10	0.50	ug/L	10		104	70-130			02/28/14		
p-Isopropyltoluene	11	0.50	ug/L	10		109	70-130			02/28/14		
sec-Butylbenzene	11	0.50	ug/L	10		107	70-130			02/28/14		
Styrene	14	0.50	ug/L	10		138	70-130			02/28/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	12	3.0	ug/L	10		116	70-130			02/28/14		
tert-Butyl alcohol (TBA)	14	2.0	ug/L	10		135	70-130			02/28/14	BS	***High***
tert-Butylbenzene	11	0.50	ug/L	10		106	70-130			02/28/14		
Tetrachloroethene (PCE)	11	0.50	ug/L	10		111	70-130			02/28/14		
Toluene	11	0.50	ug/L	10		109	70-130			02/28/14		
trans-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130			02/28/14		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		107	70-130			02/28/14		
Trichloroethene (TCE)	11	0.50	ug/L	10		110	70-130			02/28/14		
Trichlorofluoromethane	12	5.0	ug/L	10		122	70-130			02/28/14		
Vinyl Chloride	13	0.50	ug/L	10		127	70-130			02/28/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*99*	*70-130*			02/28/14		
Surrogate: Bromofluorobenzene	*49*			*50*		*98*	*70-130*			02/28/14		
Blank Spike Dup (A402445-BSD1)												
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		109	70-130	2	30	02/28/14		
1,1,1-Trichloroethane	11	0.50	ug/L	10		108	70-130	1	30	02/28/14		
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		108	70-130	4	30	02/28/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	12	10	ug/L	10		118	70-130	2	30	02/28/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402445										Prepared: 02/28/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402445-BSD1)												
1,1,2-Trichloroethane	11	0.50	ug/L	10		111	70-130	3	30	02/28/14		
1,1-Dichloroethane	11	0.50	ug/L	10		111	70-130	2	30	02/28/14		
1,1-Dichloroethene	11	0.50	ug/L	10		109	70-130	1	30	02/28/14		
1,1-Dichloropropene	12	0.50	ug/L	10		116	70-130	3	30	02/28/14		
1,2,3-Trichlorobenzene	11	0.50	ug/L	10		108	70-130	1	30	02/28/14		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		110	70-130	1	30	02/28/14		
1,2,4-Trimethylbenzene	11	0.50	ug/L	10		108	70-130	2	30	02/28/14		
1,2-Dichlorobenzene	11	0.50	ug/L	10		112	70-130	1	30	02/28/14		
1,2-Dichloroethane	10	0.50	ug/L	10		103	70-130	2	30	02/28/14		
1,2-Dichloropropane	11	0.50	ug/L	10		111	70-130	3	30	02/28/14		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		111	70-130	3	30	02/28/14		
1,3-Dichlorobenzene	10	0.50	ug/L	10		103	70-130	1	30	02/28/14		
1,3-Dichloropropane	11	0.50	ug/L	10		110	70-130	2	30	02/28/14		
1,4-Dichlorobenzene	11	0.50	ug/L	10		109	70-130	1	30	02/28/14		
2,2-Dichloropropane	11	0.50	ug/L	10		108	70-130	2	30	02/28/14		
2-Butanone	11	5.0	ug/L	10		114	70-130	7	30	02/28/14		
2-Chlorotoluene	11	0.50	ug/L	10		107	70-130	1	30	02/28/14		
2-Hexanone	11	10	ug/L	10		110	70-130	6	30	02/28/14		
4-Chlorotoluene	11	0.50	ug/L	10		108	70-130	2	30	02/28/14		
4-Methyl-2-pentanone	11	5.0	ug/L	10		110	70-130	6	30	02/28/14		
Acetone	11	10	ug/L	10		106	70-130	5	30	02/28/14		
Benzene	10	0.50	ug/L	10		101	70-130	3	30	02/28/14		
Bromobenzene	11	0.50	ug/L	10		107	70-130	2	30	02/28/14		
Bromochloromethane	11	0.50	ug/L	10		111	70-130	0	30	02/28/14		
Bromodichloromethane	9.7	0.50	ug/L	10		97	70-130	1	30	02/28/14		
Bromoform	11	0.50	ug/L	10		112	70-130	9	30	02/28/14		
Bromomethane	8.5	0.50	ug/L	10		85	70-130	11	30	02/28/14		
Carbon Tetrachloride	12	0.50	ug/L	10		115	70-130	3	30	02/28/14		
Chlorobenzene	11	0.50	ug/L	10		108	70-130	1	30	02/28/14		
Chloroethane	11	0.50	ug/L	10		106	70-130	3	30	02/28/14		
Chloroform	10	0.50	ug/L	10		105	70-130	2	30	02/28/14		
Chloromethane	10	0.50	ug/L	10		103	70-130	18	30	02/28/14		
cis-1,2-Dichloroethene	11	0.50	ug/L	10		111	70-130	2	30	02/28/14		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130	2	30	02/28/14		
Dibromochloromethane	10	0.50	ug/L	10		101	70-130	3	30	02/28/14		
Dibromomethane	11	0.50	ug/L	10		113	70-130	9	30	02/28/14		
Dichlorodifluoromethane	17	0.50	ug/L	10		172	70-130	8	30	02/28/14	BS	***High***
Dichloromethane	11	0.50	ug/L	10		109	70-130	1	30	02/28/14		
Di-isopropyl ether (DIPE)	13	3.0	ug/L	10		134	70-130	16	30	02/28/14	BS	***High***
Ethyl tert-Butyl Ether (ETBE)	14	0.50	ug/L	10		135	70-130	18	30	02/28/14	BS	***High***
Ethylbenzene	11	0.50	ug/L	10		107	70-130	2	30	02/28/14		
Hexachlorobutadiene	11	0.50	ug/L	10		112	70-130	1	30	02/28/14		
Isopropylbenzene	11	0.50	ug/L	10		109	70-130	1	30	02/28/14		
m,p-Xylenes	20	0.50	ug/L	20		98	70-130	2	30	02/28/14		
Methyl-t-butyl ether	23	0.50	ug/L	20		116	70-130	11	30	02/28/14		
Naphthalene	11	0.50	ug/L	10		111	70-130	4	30	02/28/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402445										Prepared: 02/28/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402445-BSD1)												
n-Butylbenzene	11	0.50	ug/L	10		106	70-130	1	30	02/28/14		
n-Propylbenzene	11	0.50	ug/L	10		108	70-130	2	30	02/28/14		
o-Xylene	11	0.50	ug/L	10		107	70-130	2	30	02/28/14		
p-Isopropyltoluene	11	0.50	ug/L	10		110	70-130	1	30	02/28/14		
sec-Butylbenzene	11	0.50	ug/L	10		108	70-130	1	30	02/28/14		
Styrene	14	0.50	ug/L	10		141	70-130	2	30	02/28/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	14	3.0	ug/L	10		136	70-130	16	30	02/28/14	BS	***High***
tert-Butyl alcohol (TBA)	22	2.0	ug/L	10		219	70-130	48	30	02/28/14	BS, BS6.0	***High***
tert-Butylbenzene	11	0.50	ug/L	10		108	70-130	2	30	02/28/14		
Tetrachloroethene (PCE)	11	0.50	ug/L	10		113	70-130	2	30	02/28/14		
Toluene	11	0.50	ug/L	10		112	70-130	2	30	02/28/14		
trans-1,2-Dichloroethene	11	0.50	ug/L	10		110	70-130	2	30	02/28/14		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130	2	30	02/28/14		
Trichloroethene (TCE)	11	0.50	ug/L	10		113	70-130	3	30	02/28/14		
Trichlorofluoromethane	12	5.0	ug/L	10		124	70-130	2	30	02/28/14		
Vinyl Chloride	12	0.50	ug/L	10		118	70-130	8	30	02/28/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			02/28/14		
Surrogate: Bromofluorobenzene	*49*			*50*		*98*	*70-130*			02/28/14		
EPA 525.2 - Quality Control												
Batch: A402556										Prepared: 03/01/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank (A402556-BLK1)												
Alachlor	ND	1.0	ug/L							03/03/14		
Atrazine	ND	0.50	ug/L							03/03/14		
Benzo(a)pyrene	ND	0.10	ug/L							03/03/14		
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							03/03/14		
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							03/03/14		
Bromacil	ND	10	ug/L							03/03/14		
Butachlor	ND	0.38	ug/L							03/03/14		
Diazinon	ND	0.25	ug/L							03/03/14		
Dimethoate	ND	10	ug/L							03/03/14		
Metolachlor	ND	0.50	ug/L							03/03/14		
Metribuzin	ND	0.50	ug/L							03/03/14		
Molinate	ND	2.0	ug/L							03/03/14		
Propachlor	ND	0.50	ug/L							03/03/14		
Simazine	ND	1.0	ug/L							03/03/14		
Thiobencarb	ND	1.0	ug/L							03/03/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.9*			*5.0*		*118*	*70-130*			03/03/14		
Blank Spike (A402556-BS1)												
Alachlor	0.59	1.0	ug/L	0.51		115	70-130			03/03/14		
Atrazine	0.57	0.50	ug/L	0.51		111	70-130			03/03/14		
Benzo(a)pyrene	0.098	0.10	ug/L	0.10		95	70-130			03/03/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A402556										Prepared: 03/01/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank Spike (A402556-BS1)												
Bis(2-ethylhexyl) adipate	3.8	3.0	ug/L	3.1		124	70-130			03/03/14		
Bis(2-ethylhexyl) phthalate	4.2	3.0	ug/L	3.1		137	70-130			03/03/14	BS	***High***
Bromacil	2.6	10	ug/L	2.1		128	70-130			03/03/14		
Butachlor	1.4	0.38	ug/L	1.3		111	70-130			03/03/14		
Diazinon	0.040	0.25	ug/L	0.051		78	70-130			03/03/14		
Dimethoate	0.51	10	ug/L	0.51		99	70-130			03/03/14		
Metolachlor	3.3	0.50	ug/L	2.6		128	70-130			03/03/14		
Metribuzin	3.1	0.50	ug/L	2.6		122	70-130			03/03/14		
Molinate	2.9	2.0	ug/L	2.6		112	70-130			03/03/14		
Propachlor	2.8	0.50	ug/L	2.6		108	70-130			03/03/14		
Simazine	0.40	1.0	ug/L	0.36		110	70-130			03/03/14		
Thiobencarb	0.58	1.0	ug/L	0.51		113	70-130			03/03/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*6.1*			*5.1*		*118*	*70-130*			03/03/14		
Blank Spike Dup (A402556-BSD1)												
Alachlor	0.60	1.0	ug/L	0.51		117	70-130	1	30	03/03/14		
Atrazine	0.59	0.50	ug/L	0.51		114	70-130	2	30	03/03/14		
Benzo(a)pyrene	0.095	0.10	ug/L	0.10		93	70-130	3	30	03/03/14		
Bis(2-ethylhexyl) adipate	3.9	3.0	ug/L	3.1		127	70-130	2	30	03/03/14		
Bis(2-ethylhexyl) phthalate	4.4	3.0	ug/L	3.1		144	70-130	4	30	03/03/14	BS	***High***
Bromacil	2.7	10	ug/L	2.1		131	70-130	2	30	03/03/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.3		107	70-130	4	30	03/03/14		
Diazinon	0.052	0.25	ug/L	0.051		102	70-130	26	30	03/03/14		
Dimethoate	0.45	10	ug/L	0.51		88	70-130	12	30	03/03/14		
Metolachlor	3.3	0.50	ug/L	2.6		129	70-130	0	30	03/03/14		
Metribuzin	3.0	0.50	ug/L	2.6		118	70-130	3	30	03/03/14		
Molinate	2.8	2.0	ug/L	2.6		109	70-130	3	30	03/03/14		
Propachlor	2.7	0.50	ug/L	2.6		107	70-130	1	30	03/03/14		
Simazine	0.42	1.0	ug/L	0.36		117	70-130	5	30	03/03/14		
Thiobencarb	0.58	1.0	ug/L	0.51		114	70-130	0	30	03/03/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.7*			*5.1*		*111*	*70-130*			03/03/14		
Matrix Spike (A402556-MS1), Source: A4B2037-04												
Alachlor	0.57	1.0	ug/L	0.49	ND	116	70-130			03/03/14		
Atrazine	0.56	0.50	ug/L	0.49	ND	113	70-130			03/03/14		
Benzo(a)pyrene	0.11	0.10	ug/L	0.099	ND	110	70-130			03/03/14		
Bis(2-ethylhexyl) adipate	3.7	3.0	ug/L	3.0	ND	126	70-130			03/03/14		
Bis(2-ethylhexyl) phthalate	4.3	3.0	ug/L	3.0	ND	120	70-130			03/03/14		
Bromacil	2.6	10	ug/L	2.0	ND	131	70-130			03/03/14	BS	***High***
Butachlor	1.4	0.38	ug/L	1.2	ND	111	70-130			03/03/14		
Diazinon	0.048	0.25	ug/L	0.049	ND	98	70-130			03/03/14		
Dimethoate	0.49	10	ug/L	0.49	ND	100	70-130			03/03/14		
Metolachlor	3.1	0.50	ug/L	2.5	ND	127	70-130			03/03/14		
Metribuzin	2.9	0.50	ug/L	2.5	ND	116	70-130			03/03/14		
Molinate	2.6	2.0	ug/L	2.5	ND	104	70-130			03/03/14		
Propachlor	2.6	0.50	ug/L	2.5	ND	107	70-130			03/03/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A402556										Prepared: 03/01/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Matrix Spike (A402556-MS1), Source: A4B2037-04											
Simazine	0.39	1.0	ug/L	0.35	ND	113	70-130			03/03/14	
Thiobencarb	0.54	1.0	ug/L	0.49	ND	110	70-130			03/03/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.4*			*4.9*		*109*	*70-130*			03/03/14	
EPA 531.1 - Quality Control											
Batch: A402440										Prepared: 02/26/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A402440-BLK1)											
3-Hydroxycarbofuran	ND	2.0	ug/L							02/26/14	
Aldicarb	ND	2.0	ug/L							02/26/14	
Aldicarb Sulfone	ND	2.0	ug/L							02/26/14	
Aldicarb Sulfoxide	ND	2.0	ug/L							02/26/14	
Carbaryl	ND	2.0	ug/L							02/26/14	
Carbofuran	ND	2.0	ug/L							02/26/14	
Methomyl	ND	2.0	ug/L							02/26/14	
Oxamyl	ND	2.0	ug/L							02/26/14	
Blank Spike (A402440-BS1)											
3-Hydroxycarbofuran	3.8	2.0	ug/L	4.0		95	80-120			02/26/14	
Aldicarb	4.0	2.0	ug/L	4.0		100	80-120			02/26/14	
Aldicarb Sulfone	4.0	2.0	ug/L	4.0		99	80-120			02/26/14	
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.0		100	80-120			02/26/14	
Carbaryl	3.8	2.0	ug/L	4.0		96	80-120			02/26/14	
Carbofuran	3.9	2.0	ug/L	4.0		98	80-120			02/26/14	
Methomyl	4.1	2.0	ug/L	4.0		103	80-120			02/26/14	
Oxamyl	3.9	2.0	ug/L	4.0		98	80-120			02/26/14	
Blank Spike Dup (A402440-BSD1)											
3-Hydroxycarbofuran	4.0	2.0	ug/L	4.0		101	80-120	6	20	02/27/14	
Aldicarb	4.3	2.0	ug/L	4.0		107	80-120	7	20	02/27/14	
Aldicarb Sulfone	4.2	2.0	ug/L	4.0		104	80-120	5	20	02/27/14	
Aldicarb Sulfoxide	4.2	2.0	ug/L	4.0		105	80-120	5	20	02/27/14	
Carbaryl	4.2	2.0	ug/L	4.0		104	80-120	8	20	02/27/14	
Carbofuran	4.1	2.0	ug/L	4.0		104	80-120	5	20	02/27/14	
Methomyl	4.3	2.0	ug/L	4.0		108	80-120	5	20	02/27/14	
Oxamyl	4.1	2.0	ug/L	4.0		103	80-120	4	20	02/27/14	
Matrix Spike (A402440-MS1), Source: A4B1898-01											
3-Hydroxycarbofuran	4.2	2.0	ug/L	4.0	ND	106	65-135			02/27/14	
Aldicarb	4.4	2.0	ug/L	4.0	ND	103	65-135			02/27/14	
Aldicarb Sulfone	4.4	2.0	ug/L	4.0	ND	107	65-135			02/27/14	
Aldicarb Sulfoxide	4.3	2.0	ug/L	4.0	ND	108	65-135			02/27/14	
Carbaryl	4.3	2.0	ug/L	4.0	ND	107	65-135			02/27/14	
Carbofuran	4.2	2.0	ug/L	4.0	ND	105	65-135			02/27/14	
Methomyl	4.5	2.0	ug/L	4.0	ND	111	65-135			02/27/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A402440										Prepared: 02/26/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Matrix Spike (A402440-MS1), Source: A4B1898-01											
Oxamyl	4.3	2.0	ug/L	4.0	ND	108	65-135			02/27/14	
EPA 547 - Quality Control											
Batch: A402555										Prepared: 03/01/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A402555-BLK1)											
Glyphosate	ND	25	ug/L							03/01/14	
Surrogate: AMPA	*95*			*100*		*95*	*70-130*			03/01/14	
Blank Spike (A402555-BS1)											
Glyphosate	100	25	ug/L	100		103	70-130			03/01/14	
Surrogate: AMPA	*100*			*100*		*102*	*70-130*			03/01/14	
Blank Spike Dup (A402555-BSD1)											
Glyphosate	120	25	ug/L	100		116	70-130	12	30	03/01/14	
Surrogate: AMPA	*97*			*100*		*97*	*70-130*			03/01/14	
Matrix Spike (A402555-MS1), Source: A4B1780-01											
Glyphosate	97	25	ug/L	100	ND	95	70-130			03/01/14	
Surrogate: AMPA	*89*			*100*		*87*	*70-130*			03/01/14	
Matrix Spike Dup (A402555-MSD1), Source: A4B1780-01											
Glyphosate	93	25	ug/L	100	ND	91	70-130	4	30	03/01/14	
Surrogate: AMPA	*86*			*100*		*84*	*70-130*			03/01/14	
EPA 548.1 - Quality Control											
Batch: A402503										Prepared: 02/27/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A402503-BLK1)											
Endothall	ND	45	ug/L							02/28/14	
Blank Spike (A402503-BS1)											
Endothall	17	45	ug/L	20		84	60-111			02/28/14	
Blank Spike Dup (A402503-BSD1)											
Endothall	15	45	ug/L	20		77	60-111	10	46	02/28/14	
Matrix Spike (A402503-MS1), Source: A4B1920-01											
Endothall	4.4	45	ug/L	20	ND	22	10-122			02/28/14	
EPA 549.2 - Quality Control											
Batch: A402584										Prepared: 03/03/2014	
Prep Method: EPA 549.2										Analyst: PYA	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A402584										Prepared: 03/03/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A402584-BLK1)											
Diquat	ND	4.0	ug/L							03/03/14	
Blank Spike (A402584-BS1)											
Diquat	3.1	4.0	ug/L	4.0		78	70-130			03/03/14	
Blank Spike Dup (A402584-BSD1)											
Diquat	3.3	4.0	ug/L	4.0		83	70-130	6	30	03/03/14	
Matrix Spike (A402584-MS1), Source: A4B1898-01											
Diquat	2.1	4.0	ug/L	4.0	ND	46	70-130			03/03/14	MS1.0 ***Low***

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters:

A4B1898

Monterey Bay Analytical

Monte6227

02262014

Turnaround: Standard

Due Date: 3/5/2014

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

A4B1898 02/26/2014
Monte6227 5

* Required Fields

TEMP: 3.8

Client/Company Name *:	Report Attention *:	Phone * #: (831)-357-6227 FAX * #(831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

ANALYSIS REQUESTED

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Project Information:	PO # / Quote #
Cal Am	Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Regulatory Compliance Electronic Data Transfer: Y ☐ N ☑ System No. *

Sampler Name Printed / Signature	QC Request	Result Request ** Surcharge
Nathan Reynolds	☑ STD ☐ Level II	☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Matrix Types: RSW = Raw Surface Water CFW = Chlorinated Finished Water CWW = Chlorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 inc MTBE	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549
1		2/25	09:10	CX-BIWQ Zone #6 (51-61 ft bgs)	RGW	12148	✓	✓	✓	✓	✓	✓	✓	✓
				5 day TAT please ✳										
				Conductivity 35,952 uS/cm										

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	~~2/24~~ 2/25/14	1600		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery:	
				Date: Amount: Check/Cash/Card PIA # Init.	

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material: BW

SR-FL-0012-00 (Analytical)

G-338

Sample Integrity

BSK Bottles: (Yes*) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C 3.8	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?							
Bacti $Na_2S_2O_3$	—	—							
None (P) White Cap	—	—							
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N							
HNO_3 (P) Red Cap	—	—							
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N							
NaOH (P) Green Cap	Cl, pH ≥12	Y N							
NaOH + ZnAc (P)	pH ≥ 9	Y N							
Dissolved Oxygen 300ml (g)	—	—							
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—							
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—							
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C						
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C,2a						
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—							
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	4V						
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	(Y) N	4V						
NH_4Cl (AG) Purple Label 552	—	—							
EDA (AG) Brown Label DBPs	—	—							
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—							
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V						
Buffer pH 4 (CG)	—	—							
None (CG)	—	—							
H_3PO_4 (CG) Salmon Label	—	—							
Other:									
Asbestos 1Liter Plastic w/ Foil	—	—							
Low Level Hg / Metals Double Baggie	—	—							
Bottled Water	—	—							
Clear Glass Jar: 250 / 500 / 1 Liter	—	—							
Soil Tube Brass / Steel / Plastic	—	—							
Tedlar Bag / Plastic Bag	—	—							

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: @ Labels checked by: @ RUSH Paged by:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1402896

Report Created for: Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940

Project Contact: David Holland
Project P.O.:
Project Name: CalAm

Project Received: 02/26/2014

Analytical Report reviewed & approved for release on 02/28/2014 by:

Question about your data?

Click here to email McCampbell

Angela Rydelius,
Laboratory Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical
Project: CalAm
WorkOrder: 1402896

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

Analytical Qualifier

a1	sample diluted due to matrix interference

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method:**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #2 (237-247 ft bgs) (dissol	**1402896-002A**	**Water/DISS.**	**02/19/2014 16:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**210**	100	20	02/27/2014 19:31
Strontium	**11,000**	400	20	02/27/2014 19:31

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #3 (182-192 ft bgs) (dissol	**1402896-004A**	**Water/DISS.**	**02/21/2014 13:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	ND	100	20	02/27/2014 14:48
Strontium	**12,000**	400	20	02/27/2014 14:48

Analytical Comments: a1

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #4 (134-144 ft bgs) (dissol	**1402896-006A**	**Water/DISS.**	**02/22/2014 14:45**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**120**	100	20	02/27/2014 19:37
Strontium	**9400**	400	20	02/27/2014 19:37

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #5 (84-94 ft bgs) (dissolve	**1402896-008A**	**Water/DISS.**	**02/23/2014 16:20**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	ND	100	20	02/27/2014 19:43
Strontium	**10,000**	400	20	02/27/2014 19:43

Analytical Comments: a1

(Cont.)

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method:**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #6 (51-61 ft bgs) (dissolve	**1402896-010A**	**Water/DISS.**	**02/25/2014 09:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Barium	**100**	100	20	02/27/2014 19:48
Strontium	**9500**	400	20	02/27/2014 19:48

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Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #2 (237-247 ft bgs)	**1402896-001A**	**Water/TOTAL**	**02/19/2014 16:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:23
Arsenic	ND	10	20	02/27/2014 15:23
Copper	ND	10	20	02/27/2014 15:23
Lithium	**120**	100	20	02/27/2014 15:23
Zinc	ND	100	20	02/27/2014 15:23

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	104	70-130		02/27/2014 15:23

CX-BIWQ Zone #3 (182-192 ft bgs)	1402896-003A	Water/TOTAL	02/21/2014 13:10	ICP-MS2	87508

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:28
Arsenic	ND	10	20	02/27/2014 15:28
Copper	ND	10	20	02/27/2014 15:28
Lithium	**140**	100	20	02/27/2014 15:28
Zinc	ND	100	20	02/27/2014 15:28

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	111	70-130		02/27/2014 15:28

CX-BIWQ Zone #4 (134-144 ft bgs)	1402896-005A	Water/TOTAL	02/22/2014 14:45	ICP-MS2	87508

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:34
Arsenic	ND	10	20	02/27/2014 15:34
Copper	ND	10	20	02/27/2014 15:34
Lithium	**120**	100	20	02/27/2014 15:34
Zinc	ND	100	20	02/27/2014 15:34

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	104	70-130		02/27/2014 15:34

(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP DB Analyst's Initial Angela Rydelius, Lab Manager

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Analytical Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Project:	CalAm	**Extraction Method**	E200.8
Date Received:	2/26/14 11:35	**Analytical Method:**	E200.8
Date Prepared:	2/26/14	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #5 (84-94 ft bgs)	**1402896-007A**	**Water/TOTAL**	**02/23/2014 16:20**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:40
Arsenic	ND	10	20	02/27/2014 15:40
Copper	ND	10	20	02/27/2014 15:40
Lithium	**170**	100	20	02/27/2014 15:40
Zinc	ND	100	20	02/27/2014 15:40

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	109	70-130		02/27/2014 15:40

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
CX-BIWQ Zone #6 (51-61 ft bgs)	**1402896-009A**	**Water/TOTAL**	**02/25/2014 09:10**	**ICP-MS2**	**87508**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	ND	1000	20	02/27/2014 15:45
Arsenic	ND	10	20	02/27/2014 15:45
Copper	ND	10	20	02/27/2014 15:45
Lithium	**140**	100	20	02/27/2014 15:45
Zinc	ND	100	20	02/27/2014 15:45

Surrogates	REC (%)	Limits	Analytical Comments: a1	
Tb 350.917	110	70-130		02/27/2014 15:45

Quality Control Report

Client:	Monterey Bay Analytical	**WorkOrder:**	1402896
Date Prepared:	2/26/14	**BatchID:**	87508
Date Analyzed:	2/27/14	**Extraction Method:**	E200.8
Instrument:	ICP-MS1	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	CalAm	**Sample ID:**	MB/LCS-87508 1402903-004CMS/MSD

QC Summary Report for E200.8

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aluminum	ND	475.4	50	500	-	95.1	85-115
Arsenic	ND	46.74	0.50	50	-	93.5	85-115
Barium	ND	451.9	5.0	500	-	90.4	85-115
Copper	ND	48.31	0.50	50	-	96.6	85-115
Lithium	ND	47.95	5.0	50	-	95.9	85-115
Strontium	ND	496	20	500	-	99.2	85-115
Zinc	ND	489.9	5.0	500	-	98	85-115
Surrogate Recovery							
Tb 350.917	695.7	710.9		750	93	95	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aluminum	1373	1438	500	863.6	102	115	70-130	4.62	20
Arsenic	47.91	48.87	50	0.84	94.1	96.1	70-130	1.98	20
Barium	473.2	485.6	500	18	91	93.5	70-130	2.59	20
Copper	60.61	62.62	50	13.01	95.2	99.2	70-130	3.26	20
Lithium	49.57	51.07	50	ND	99.1	102	70-130	2.98	20
Strontium	532.9	553	500	36	99.4	103	70-130	3.70	20
Zinc	632.5	641.6	500	118.4	103	105	70-130	1.43	20
Surrogate Recovery									
Tb 350.917	712.5	731	750		95	97	70-130	2.56	20

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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1402896 **ClientCode: MBAS**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ■ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
David Holland
Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940
831-375-6227 FAX: 831-641-0734

Email: 4mbas@sbcglobal.net
cc:
PO:
ProjectNo: CalAm

Bill to:
Accounts Payable
Monterey Bay Analytical
4 Justin Court, Suite D
Monterey, CA 93940

Requested TAT: 3 days

Date Received: **02/26/2014**
Date Printed: **02/26/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1402896-001	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	2/19/2014 16:10	☐		A										
1402896-002	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	2/19/2014 16:10	☐	A											
1402896-003	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	2/21/2014 13:10	☐		A										
1402896-004	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	2/21/2014 13:10	☐	A											
1402896-005	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	2/22/2014 14:45	☐		A										
1402896-006	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	2/22/2014 14:45	☐	A											
1402896-007	CX-BIWQ Zone #5 (84-94 ft bgs)	Water	2/23/2014 16:20	☐		A										
1402896-008	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	Water	2/23/2014 16:20	☐	A											
1402896-009	CX-BIWQ Zone #6 (51-61 ft bgs)	Water	2/25/2014 9:10	☐		A										
1402896-010	CX-BIWQ Zone #6 (51-61 ft bgs) (dissolved)	Water	2/25/2014 9:10	☐	A											

Test Legend:

1	METALSMS_DISS	2	METALSMS_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Jena Alfaro

Comments: Needs analysts initials for all reports per D.H. 4/5/13

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: MONTEREY BAY ANALYTICAL
QC Level: LEVEL 2
Work Order: 1402896
Project: CalAm
Client Contact: David Holland
Date Received: 2/26/2014
Comments: Needs analysts initials for all reports per D.H. 4/5/13
Contact's Email: 4mbas@sbcglobal.net

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1402896-001A	CX-BIWQ Zone #2 (237-247 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/19/2014 16:10	3 days	None	☐	
1402896-002A	CX-BIWQ Zone #2 (237-247 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/19/2014 16:10	3 days	None	☐	
1402896-003A	CX-BIWQ Zone #3 (182-192 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/21/2014 13:10	3 days	None	☐	
1402896-004A	CX-BIWQ Zone #3 (182-192 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/21/2014 13:10	3 days	None	☐	
1402896-005A	CX-BIWQ Zone #4 (134-144 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/22/2014 14:45	3 days	None	☐	
1402896-006A	CX-BIWQ Zone #4 (134-144 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/22/2014 14:45	3 days	None	☐	
1402896-007A	CX-BIWQ Zone #5 (84-94 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/23/2014 16:20	3 days	None	☐	
1402896-008A	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/23/2014 16:20	3 days	None	☐	
1402896-009A	CX-BIWQ Zone #6 (51-61 ft bgs)	Water	E200.8 (Metals) <Aluminum, Arsenic, Copper, Lithium, Zinc>	1	125mL HDPE w/ HNO3	☐	2/25/2014 9:10	3 days	None	☐	
1402896-010A	CX-BIWQ Zone #6 (51-61 ft bgs) (dissolved)	Water	E200.8 (Metals) (Dissolved) <Barium, Strontium>	1	250mL HDPE w/ HNO3	☐	2/25/2014 9:10	3 days	None	☐	

*** NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

Bottle Legend:

125mL HDPE w/ HNO3 = 125mL HDPE Bottle w/ Nitric Acid
250mL HDPE w/ HNO3 = 250mL HDPE Bottle w/ HNO3

14028896

RUSH

McCAMPBELL ANALYTICAL, INC.

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☒ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

Report To: David Holland **Bill To:**

Company: Monterey Bay Analytical Services

4 Justin Ct. Suite D

Monterey, Ca 93940 E-Mail: 4mbas@sbcglobal.net

Tele: (831) 375 - 6227 **Fax:** (831) 641-0734

Project #: **Project Name:** CalAm

Project Location:

Sampler Signature: Nathan Reynolds

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request	Other	Comments
	CX-BIWQ Zone #2 (237-247 ft bgs)	2/19/14	16:10	1	p	X					X		X			X	11965
	CX-BIWQ Zone #2 (237-247 ft bgs) (dissolved)	2/19/14	16:10	1	p	X					X		X			X	11965 (dissolved)
	CX-BIWQ Zone #3 (182-192 ft bgs)	2/21/14	13:10	1	p	X					X		X			X	12015
	CX-BIWQ Zone #3 (182-192 ft bgs) (dissolved)	2/21/14	13:10	1	p	X					X		X			X	12015 (dissolved)
	CX-BIWQ Zone #4 (134-144 ft bgs)	2/22/14	14:45	1	p	X					X		X			X	12029
	CX-BIWQ Zone #4 (134-144 ft bgs) (dissolved)	2/22/14	14:45	1	p	X					X		X			X	12029 (dissolved)
	CX-BIWQ Zone #5 (84-94 ft bgs)	2/23/14	16:20	1	P	X					X		X			X	12030
	CX-BIWQ Zone #5 (84-94 ft bgs) (dissolved)	2/23/14	16:20	1	P	X					X		X			X	12030 (dissolved)
	CX-BIWQ Zone #6 (51-61 ft bgs)	2/25/14	09:10	1	p	X					X		X			X	12148
	CX-BIWQ Zone #6 (51-61 ft bgs) (Dissolved)	2/25/14	09:10	1	p	X					X		X			X	12148 (dissolved)

Analysis Request: MTBE / BTEX & TPH as Gas (602 / 8021 + 8015); MTBE / BTEX ONLY (EPA 602 / 8021); TPH as Diesel / Motor Oil (8015); Total Petroleum Oil & Grease (1664 / 5520 E/B&F); Total Petroleum Hydrocarbons (418.1); EPA 502.2 / 601 / 8010 / 8021 (HVOCs); EPA 505/ 608 / 8081 (Cl Pesticides); EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners; EPA 507 / 8141 (NP Pesticides); EPA 515 / 8151 (Acidic Cl Herbicides); EPA 524.2 / 624 / 8260 (VOCs); EPA 525.2 / 625 / 8270 (SVOCs); EPA 8270 SIM / 8310 (PAHs / PNAs); CAM 17 Metals (200.7 / 200.8 / 6010 / 6020); LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020); Lead (200.7 / 200.8 / 6010 / 6020)

Other: Al, As, Cu, Li, Zn; Ba, Sr

Comments: Filter Samples for Metals analysis: Yes / No

Relinquished By:	Date:	Time:	Received By:
David Holland	2/25/14	1200	2/26/14 9:15
Relinquished By:	Date:	Time:	Received By:

REC'D SEALED & INTACT VIA UPS Ontrac

ICE/t°_____
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____

COMMENTS: The sample conductivity ranges from 25,000 uS/cm to 40,000 uS/cm

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Sample Receipt Checklist

Client Name: **Monterey Bay Analytical** Date and Time Received: **2/26/2014 11:35:12 AM**

Project Name: **CalAm** LogIn Reviewed by: Jena Alfaro

WorkOrder N°: **1402896** Matrix: Water Carrier: UPS

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	NA ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Comments:

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

pH QC Summary (SM 4500 H+)

Date Analyzed: 2/25/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.86	100.0	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB12148	7.3	7.3	0.0	10
AB12177	7.4	7.4	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Kjehldahl Nitrogen QC Summary (SM 4500-NH3)

Date: 2/25/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	5.0	4.820	96.4	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB11639	29.800	5.000	34.800	35.200	100	108	1.1	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Turbidity QC Summary (EPA 180.1)

Date Analyzed: 2/25/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.03	103.0	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB12088	None Detected	None Detected		10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Alkalinity QC Summary (SM 2320B)

Date Analyzed: 2/26/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	40	40.7	101.75	95-105

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12173	179.7	179.5	0.1	10
AB12235	295.5	295.7	0.1	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

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831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 2/26/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB12170	2780	2782	0.1%	10
AB12203	118	118	0.0%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

300.0 QC Summary 2/26/2014

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
IPC		2.12	19.92	2.11	19.44	2.11	2.01	1.88
Recovery	90-110%	105.78	99.58	105.57	97.22	105.27	100.28	94.23
CCV1		2.10	19.77	2.11	19.29	2.07	1.99	1.84
Recovery	90-110%	104.80	98.86	105.37	96.46	103.39	99.56	91.99
RPD	10%	0.93	0.73	0.19	0.78	1.80	0.72	2.40
CCV2		2.09	19.75	2.12	19.30	2.07	1.99	1.83
Recovery	90-110%	104.57	98.73	105.80	96.51	103.48	99.70	91.50
RPD	10%	1.15	0.86	0.22	0.72	1.72	0.58	2.94
CCV3		2.08	19.68	2.10	19.15	2.06	1.98	1.69
Recovery	90-110%	103.90	98.38	104.76	95.73	103.22	98.76	84.71
RPD	10%	1.79	1.22	0.77	1.54	1.97	1.52	10.64

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
AB12158		0.38	52.14	0.17	91.66	0.00	0.03	0.00
AB12158+LFM		2.55	71.11	2.17	109.53	1.55	1.95	1.70
AB12158+LFMD		2.57	71.51	2.17	110.06	1.54	1.94	1.77
Average		2.56	71.31	2.17	109.79	1.54	1.95	1.73
Recovery	80-120%	109.34	95.86	99.75	90.68	77.11	95.98	86.75
RPD	10%	0.94	0.57	0.01	0.49	0.61	0.33	4.17
AB12174		0.16	12.22	0.54	30.13	0.00	0.00	0.00
AB12174+LFM		2.31	32.05	2.31	49.19	1.73	1.90	1.48
AB12174+LFMD		2.31	32.14	2.31	49.28	1.72	1.91	1.53
Average		2.31	32.10	2.31	49.24	1.72	1.91	1.50
Recovery	80-120%	107.28	99.39	88.39	95.52	86.24	95.27	75.24
RPD	10%	0.04	0.29	0.05	0.19	0.07	0.23	2.76

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

MBAS QC Summary (SM 5540C)

Date Analyzed: 2/28/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	0.050	0.052	104	80-120

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

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http://www.MBASinc.com

Ortho Phosphate QC Summary (Hach 8190)

Date: 3/2/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.220	110	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12155	0.052	0.200	0.241	0.243	94.5	95.5	0.8	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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http://www.MBASinc.com

Total Phosphorus QC Summary (Hach 8190)

Date: 3/2/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.214	107	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12148	0.010	0.200	0.200	0.206	95	98	3.0	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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http://www.MBASinc.com

Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 3/5/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC Low	0.050	0.043	86	90-110
IPC	0.500	0.462	92.4	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12148	0.020	0.500	0.536	0.550	103.2	106	2.6	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check

RPD = Relative Percent Difference; Rec = Recovery

QC EPA 200.7

Batch # 20140305

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.00	0.00	1.00	100.0%	1.00	100.3%	0.3%	1	1.00	100.5%	1	1.00	99.7%
B 249.772	0.05-5ppm	0.01	0.00	1.00	100.2%	1.02	101.6%	1.3%	1	1.00	100.2%	1	1.00	99.8%
Ca 317.933	50-300ppm	-4.59	-4.59	49.3	98.5%	49.3	98.6%	0.1%	50	49.2	98.5%	50	48.2	96.4%
Ca 396.847	0.5-50ppm	-0.27	-0.26	50.3	100.6%	50.4	100.9%	0.3%	50	50.4	100.9%	50	49.6	99.2%
Fe 238.204	10ppb-100ppm	-4.46	-3.96	991	99.1%	1005	100.5%	1.3%	1000	1000	100.0%	1000	993	99.3%
Fe 259.940	10ppb-100ppm	-2.27	-2.47	993	99.3%	1001	100.1%	0.9%	1000	1004	100.4%	1000	1000	100.0%
K 766.491	0.5-750ppm	0.28	0.24	10.0	99.5%	9.9	99.2%	0.3%	10	9.9	99.3%	10	9.7	96.9%
Mg 202.582	50-1000ppm	-0.85	-0.83	50.0	100.0%	50.6	101.2%	1.2%	50	50.3	100.6%	50	50.5	100.9%
Mg 279.078	0.5-50ppm	0.02	0.00	49.5	99.1%	50.0	100.0%	0.9%	50	50.1	100.3%	50	49.7	99.4%
Mn 257.610	10ppb-11ppm	-1.56	-2.13	995	99.5%	1007	100.7%	1.2%	1000	1002	100.2%	1000	989	98.9%
Mn 260.568	10ppb-11ppm	-0.36	-0.92	996	99.6%	1006	100.6%	1.0%	1000	1002	100.2%	1000	991	99.1%
Na 568.821	50-1000ppm	8.10	9.30	51.8	103.6%	53.0	106.0%	2.3%	50	52.1	104.2%	50	50.6	101.1%
Na 589.592	0.5-50ppm	0.17	0.10	50.5	100.9%	50.5	101.0%	0.1%	50	50.1	100.3%	50	49.0	98.0%
Si 251.611	0.5-200ppm	0.02	-0.04	49.7	99.3%	50.1	100.3%	1.0%	50	50.1	100.2%	107	106.1	99.2%
Si 252.411	0.5-200ppm	0.01	-0.04	49.5	99.0%	50.0	100.0%	1.0%	50	50.1	100.1%	107	105.8	98.8%

Matrix Spikes

Sample ID AB12170

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.06	2.02	97.9%	2.03	98.6%	0.7%	1	0.98	98.4%	2.1%	0.00
B 249.772	0.06	2.04	99.4%	2.04	99.1%	0.3%	1	1.00	100.1%	0.1%	0.00
Ca 317.933	191.3	291.2	99.9%	289.4	98.1%	0.6%	50	49.3	98.6%	0.1%	-4.63
Ca 396.847	*175.9*	*238.1*	*62.2%*	*236.9*	*61.0%*	*0.5%*	50	50.1	100.1%	0.7%	-0.30
Cu 324.754	-8.6	1955	98.2%	1947	97.8%	0.4%	1000	993	99.3%	0.7%	-3.46
Cu 327.395	-2.0	1969	98.6%	1955	97.9%	0.7%	1000	996	99.6%	0.3%	-1.13
Fe 238.204	5.17	1988	99.1%	1977	98.6%	0.6%	1000	994	99.4%	0.6%	-4.53
Fe 259.940	6.77	1995	99.4%	1994	99.4%	0.0%	1000	1005	100.5%	0.1%	-3.24
K 766.491	4.89	24.3	97.2%	24.2	96.7%	0.5%	10	9.8	98.2%	1.1%	0.19
Mg 202.582	142.8	242.4	99.6%	241.4	98.6%	0.4%	50	50.3	100.5%	0.1%	-0.90

Mg 279.078	*140.1*	*236.9*	*96.8%*	*236.3*	*96.2%*	*0.2%*	50	49.9	99.7%	0.5%	-0.02
Mn 257.610	-4.11	1958	98.1%	1946	97.5%	0.6%	1000	998	99.8%	0.4%	-2.01
Mn 260.568	3.14	1969	98.3%	1959	97.8%	0.5%	1000	1000	100.0%	0.2%	-1.46
Na 568.821	164.1	256.2	92.1%	255.1	91.0%	0.4%	50	51.7	103.4%	0.8%	8.83
Na 589.592	*162.4*	*258.0*	*95.5%*	*256.9*	*94.5%*	*0.4%*	50	50.3	100.5%	0.2%	0.11
Si 251.611	36.9	135.6	98.7%	134.4	97.5%	0.9%	50	50.0	100.0%	0.2%	-0.07
Si 252.411	36.6	134.7	98.1%	134.2	97.7%	0.3%	50	49.7	99.4%	0.7%	-0.05

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

March 10, 2014 Ceres ID: 10276

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on March 6, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

This work was authorized under M.B.A.'s Project # 12148.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10276-001	CX-B1WQ Zone #6 (51-61 ft bags)	3/6/2014	2/25/2014	9:10

Section II: Data Summary

Sample ID:	**Method Blank**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001
Project:	12148	Sample Size:	1.000 L	QC Batch #:	1163
Date Collected:	NA			ZB-5 MS Analysis Date:	9-Mar-14
Time Collected:	NA			Date Received:	NA
				Date Extracted:	7-Mar-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.40		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	106	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	105	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	12148	Sample Size:	1.000 L	QC Batch #:	1163	Date Extracted:	7-Mar-14
Date Collected:	NA			ZB-5 MS Analysis Date:	9-Mar-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.23	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	105	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	10.0	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B1WQ Zone #6 (51-61 ft bags)**		
Client Data	**Sample Data**	**Laboratory Data**	
Name: Monterey Bay Analytical	Matrix: Aqueous	Lab Sample ID: 10276-001	Date Received: 6-Mar-14
Project: 12148	Sample Size: 1.059 L	QC Batch #: 1163	Date Extracted: 7-Mar-14
Date Collected: 25-Feb-14		ZB-5 MS Analysis Date: 9-Mar-14	
Time Collected: 9:10			

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.26		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	98.1	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	96.3	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

Chain of Custody 10276

Ceres Use Only

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Please Print in Pen

Ceres Project ID:_____
Temperature: _____ °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information(if different from Client Info)	Project Information
Company Name:_____ Monterey Bay Analytical	Company Name:_____ Same	Ceres Quote #:_____
Contact Name:_____ David Holland	Contact Name:_____	P.O. # _____
Address: 4 Justin Court Ste D Monterey CA 93940	Address:_____	Project ID: _____
Ph:_ 831-375-6227	Ph:_____ Fx:_____	**TAT** (business days)_____
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous	S: Soil	AS: Ash	DW: Drinking Water
E: Effluent	SD: Sediment	C: Clay	SO: Solid
I: Influent	SL: Sludge	CS: Clay Slurry	O: Other (please comment)

	Sample ID	Sample Collection Date	Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other — Comments
1	CX-B1WQ Zone #6 (51-61 ft bags)	2/25/2014	9:10	Aq	2	X						12148
2												(2,3,7,8 TCDD only)
3												5 day Rush Please
4												
5												
6												
7												
8												
9												
10												
11												
12												

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: *(Signature and Printed Name)*	Date	Time	Received by: *(signature and Printed Name)*	Date	Time
David Holland	2/25/2014	16:00	J M Hedin	3/6/14	10:28

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10276	Date/Time: 3/6/14 10:28
Client Project ID: 12148	Received Temperature: 14.3°C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / N / (NA)
List COC discrepancies: JA 3/6/14	
List Damaged Samples: 3/6/14	

Ceres Analytical Laboratory

Process Request

Ceres ID: 10276 PB: 1163 Sample #s: 1 Due Date: ASAP

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☐ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10276-1	1566.78	507.93	1.059L

Chemist: _____ Date: 3/7/14

Method: 1613
SOP #: 3021

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1163-MB001	Method Blank		1.000L	JK 3/7/14 MH	JK 3/8/14 MH	NA	JK 3/8/14	NA	JK 3/8/14 MH
0-1163-OPR001	OPR		1.000L	(A) ↓ ↓	↓ ↓	↓	↓	↓	↓ ↓
10276-1163-001	CX-B1WQ Zone #6 (51-61 ft bags)	✓	1.059L	↓ ↓	↓ ↓	↓	↓	↓	↓ ↓

Comments: (A) Spiked w/ NSS

Soxhlet Start: 14:00 3/7/14

Soxhlet Stop: 06:15 3/8/14

Samples Logged out by: JK 11:00 3/7/14

Samples Returned by: NA

Note samples Depleted: NA

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 3/8/14 13:00 JK

Extracts returned to Storage Location: 08:05 3/10/14 JK

Form M1.0 rev4

Chemist: G-375 JK

Effective Date: 7/12/13

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory
Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	503121 2A	10 µl	3/12/17
NSS	503121 2B	10 µl	3/12/17
CSS	503121 2C	10 µl	3/12/17
RSS	503121 2D	20 µl	3/12/17

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	PB005770TOL	8/17/14
Hexanes	30,30,100,20	136735	6/10/14
Sigel	4g	P020514A	8/5/14
Basic gel	4g	P012014A	7/20/14
Acid gel	8g	P012014B	7/20/14
Acid Al	6g	P123113C	6/30/14
Na2SO4	1.5g	P120413A	6/4/14
20% DCM/Hex	30ml	L021914A	8/19/14

Form M1.0 rev4

Chemist : G-376

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

MBAS
MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net
ELAP Certification Number: 2385

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

Monday, March 17, 2014

Lab Number: **AB12621**

Collection Date/Time:	3/8/2014	14:00	Sample Collector:	SOBOLEW J	
Submittal Date/Time:	3/9/2014	11:06	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B2WQ Zone #1 (215-225 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**147**		2		3/13/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**84**	J	200	1000	3/17/2014	SM
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		3/11/2014	LRH
Arsenic, Total	EPA200.8	ug/L	**46**		20	10	3/17/2014	SM
Barium, Dissolved	EPA200.8	ug/L	**109**	J	200		3/17/2014	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	**179**		10		3/14/2014	DH
Boron, Dissolved	EPA200.7	mg/L	**1.54**		0.5		3/13/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**38**		10		3/9/2014	DH
Calcium	EPA200.7	mg/L	**1961**		5		3/13/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**1948**		5		3/13/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Not Detected**	E			3/13/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		3/14/2014	DH
Chloride, Dissolved	EPA300.0	mg/L	**13026**		100		3/9/2014	DH
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Not Detected**	E			3/14/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**21**	H	3	15	3/10/2014	LRH
Copper, Total	EPA200.8	ug/L	**Not Detected**		4	1300	3/17/2014	SM
DBCP & EDB	EPA504.1	ug/L	**Not Detected**	E			3/13/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Not Detected**	E			3/14/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Not Detected**	E			3/14/2014	BSK
Dissolved Anions		Meq/L	**405.7**				3/17/2014	DH
Dissolved Cations		Meq/L	**399.0**				3/17/2014	DH
Endothall	EPA548.1	ug/L	**Not Detected**	E			3/13/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**Not Detected**		0.2		3/9/2014	DH
Glyphosate	EPA547	ug/L	**Not Detected**	E			3/12/2014	BSK
Hardness (as CaCO3)	SM2340B	mg/L	**8776**		10		3/14/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		3/14/2014	DH
Iodide	EPA9056M	ug/L	**Not Detected**	E	10		3/15/2014	WECK
Iron	EPA200.7	ug/L	**367**		100	300	3/13/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**246**		100	300	3/13/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**Not Detected**		0.5		3/17/2014	HM
Lithium	EPA200.8	ug/L	**149**		1		3/17/2014	SM
Magnesium	EPA200.7	mg/L	**942**		5		3/13/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**936**		10		3/13/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**Not Detected**		100	50	3/13/2014	DC
Manganese, Total	EPA200.7	ug/L	**Not Detected**		100	50	3/13/2014	DC
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	3/10/2014	DC
Nitrate as NO3	EPA300.0	mg/L	**Not Detected**		2	45	3/9/2014	DH
Nitrate+Nitrite as N	EPA300.0	mg/L	**Not Detected**		0.2		3/9/2014	DH

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments T = Temperature Exceedance

Appendix G

Lab Number: AB12621

Collection Date/Time: 3/8/2014 14:00 Sample Collector: SOBOLEW J
Submittal Date/Time: 3/9/2014 11:06 Sample ID GEOSCIENCE Coliform Designation:

Sample Description: CX-B2WQ Zone #1 (215-225 ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**0.4**		0.2		3/9/2014	DH
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	3/9/2014	DH
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**Not Detected**		0.2		3/14/2014	HC
pH (Field Test)	SM4500-H+B	pH	**6.71**				3/9/2014	JS
pH (Laboratory)	SM4500-H+B	pH (H)	**7.0**				3/9/2014	FS
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Not Detected**	E			3/14/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**Not Detected**		0.03		3/14/2014	HC
Potassium	EPA200.7	mg/L	**54**		5		3/13/2014	DC
Potassium, Dissolved	EPA200.7	mg/L	**55**		1		3/13/2014	DC
QC Ratio TDS/SEC	Calculation		**0.72**				3/14/2014	DH
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Not Detected**	E			3/16/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**34**		5		3/13/2014	DC
Sodium	EPA200.7	mg/L	**5273**		5		3/13/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**5135**		5		3/13/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**36680**		1	900	3/9/2014	FS
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**35189**		1		3/9/2014	JS
Strontium, Dissolved	EPA200.8	ug/L	**13328**		100		3/17/2014	SM
Sulfate	EPA300.0	mg/L	**1674**		100	250	3/9/2014	DH
Temperature (Field)	SM2550	° C	**18.8**				3/9/2014	JS
Total Cations		Meq/L	**406.1**				3/17/2014	DH
Total Diss. Solids	SM2540C	mg/L	**26500**		10	500	3/13/2014	HM
Turbidity	EPA180.1	NTU	**0.40**		0.05	5.0	3/9/2014	DH
Turbidity (Field)	EPA180.1	NTU	**0.91**		0.05		3/9/2014	JS
Volatile Org. Compounds (524)	EPA524	ug/L	**Not Detected**	E			3/12/2014	BSK
Zinc, Total	EPA200.8	ug/L	**218**		200	5000	3/17/2014	SM

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments T = Temperature Exceedance

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12621 Dissolved B2WQ Zone 1**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	5135	0.04350	223.37
Potassium	55	0.02558	1.41
Calcium	1948	0.04990	97.21
Magnesium	936	0.08229	77.02
NH3-N	0	0.07143	0.00
		SUM	399.01

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	147	0.02000	2.94
Sulfate	1674	0.02082	34.85
Chloride	13026	0.02821	367.46
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.0	0.05264	0.00
Bromide	38.0	0.01252	0.48
		SUM	405.73

ANION-CATION BALANCE: **-1** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	36680	
Cation Sum X 100	39901	**109%**
Anion Sum X 100	40573	**111%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**23.9**
Ca+Mg+Na	397.60
HCO3/Ca	0.03
dS/m	36.68
Value Table II	1.5
SAR adj	**35.6**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12621 Total Ion B2WQ Zone 1**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	5273	0.04350	229.38
Potassium	54	0.02558	1.38
Calcium	1961	0.04990	97.85
Magnesium	942	0.08229	77.52
NH3-N	0	0.07143	0.00
		SUM	406.13

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	147	0.02000	2.94
Sulfate	1674	0.02082	34.85
Chloride	13026	0.02821	367.46
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.0	0.05264	0.00
Bromide	38.0	0.01252	0.48
		SUM	405.73

ANION-CATION BALANCE: **0** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	36680	
Cation Sum X 100	40613	**111%**
Anion Sum X 100	40573	**111%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**24.5**
Ca+Mg+Na	404.75
HCO3/Ca	0.03
dS/m	36.68
Value Table II	1.5
SAR adj	**36.5**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

BSK Associates Engineers & Laboratories

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

A4C0828

3/17/2014

Invoice: A406485

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4C0828 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 3/11/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	12621	**Project PO#:**	-
Received:	3/11/2014 - 10:45		
Report Due:	3/18/2014		

Sample Receipt Conditions

Cooler: Default Cooler

Temperature on Receipt ºC: 2.2

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.

Report Distribution

Recipient(s)	Report Format
David Holland	Final.rpt

Certificate of Analysis

Sample ID: A4C0828-01
Sampled By: Josh Soboleu
Sample Description: CX-B2WQ Zone #1 (215-225 ft bgs) // 12621

Sample Date - Time: 03/08/14 - 16:00
Matrix: Water
Sample Type: Grab

Field Data: Cond.=35194 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A403016	03/12/14	03/13/14	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A403016	03/12/14	03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	105 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A403008	03/13/14	03/14/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A403008	03/13/14	03/14/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A403008	03/13/14	03/14/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A403008	03/13/14	03/14/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A403008	03/13/14	03/14/14	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A403008	03/13/14	03/14/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A403008	03/13/14	03/14/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A403008	03/13/14	03/14/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A403008	03/13/14	03/14/14	
Surrogate: DCPAA	EPA 515.3	77 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A402993	03/12/14	03/12/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A402993	03/12/14	03/12/14	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A402993	03/12/14	03/12/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A402993	03/12/14	03/12/14	

Certificate of Analysis

Sample ID: A4C0828-01
Sampled By: Josh Soboleu
Sample Description: CX-B2WQ Zone #1 (215-225 ft bgs) // 12621

Sample Date - Time: 03/08/14 - 16:00
Matrix: Water
Sample Type: Grab

Field Data: Cond.=35194 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Acetone	EPA 524.2	ND	10	ug/L	1	A402993	03/12/14	03/12/14	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A402993	03/12/14	03/12/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	BS1.0, CV0.0
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A402993	03/12/14	03/12/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A402993	03/12/14	03/12/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	

Certificate of Analysis

Sample ID: A4C0828-01
Sampled By: Josh Soboleu
Sample Description: CX-B2WQ Zone #1 (215-225 ft bgs) // 12621

Sample Date - Time: 03/08/14 - 16:00
Matrix: Water
Sample Type: Grab

Field Data: Cond.=35194 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A402993	03/12/14	03/12/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	100 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 524.2	103 %	*Acceptable range:*		*70-130 %*				
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Prometryn	EPA 525.2	ND	2.0	ug/L	1	A403148	03/14/14	03/16/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	106 %	*Acceptable range:*		*70-130 %*				
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A403148	03/14/14	03/16/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A403148	03/14/14	03/16/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A403148	03/14/14	03/16/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A403148	03/14/14	03/16/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A403148	03/14/14	03/16/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A403148	03/14/14	03/16/14	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A403148	03/14/14	03/16/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A403148	03/14/14	03/16/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A403148	03/14/14	03/16/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A403148	03/14/14	03/16/14	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A403148	03/14/14	03/16/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A403148	03/14/14	03/16/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A403148	03/14/14	03/16/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A403148	03/14/14	03/16/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A403148	03/14/14	03/16/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	106 %	*Acceptable range:*		*70-130 %*				
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A403040	03/12/14	03/13/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A403040	03/12/14	03/13/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A403040	03/12/14	03/13/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A403040	03/12/14	03/13/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A403040	03/12/14	03/13/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A403040	03/12/14	03/13/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A403040	03/12/14	03/13/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A403040	03/12/14	03/13/14	
Carbamates by HPLC									
Methiocarb	EPA 531.1	ND	2.0	ug/L	1	A403040	03/12/14	03/13/14	
Propoxur	EPA 531.1	ND	2.0	ug/L	1	A403040	03/12/14	03/13/14	

Certificate of Analysis

Sample ID: A4C0828-01
Sampled By: Josh Soboleu
Sample Description: CX-B2WQ Zone #1 (215-225 ft bgs) // 12621

Sample Date - Time: 03/08/14 - 16:00
Matrix: Water
Sample Type: Grab

Field Data: Cond.=35194 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A403000	03/12/14	03/12/14	
Surrogate: AMPA	EPA 547	114 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A403056	03/12/14	03/13/14	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A403100	03/13/14	03/14/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A403016										Prepared: 03/12/2014	
Prep Method: EPA 504.1										Analyst: PYA	
Blank (A403016-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							03/13/14	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.3*			*2.3*		*102*	*70-130*			03/13/14	
Blank Spike (A403016-BS1)											
Dibromochloropropane (DBCP)	0.13	0.010	ug/L	0.12		103	70-130			03/13/14	
Ethylene Dibromide (EDB)	0.11	0.020	ug/L	0.12		85	70-130			03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.3*			*2.3*		*102*	*70-130*			03/13/14	
Blank Spike Dup (A403016-BSD1)											
Dibromochloropropane (DBCP)	0.13	0.010	ug/L	0.12		103	70-130	0	20	03/13/14	
Ethylene Dibromide (EDB)	0.11	0.020	ug/L	0.12		91	70-130	6	20	03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.3*			*2.3*		*99*	*70-130*			03/13/14	
Matrix Spike (A403016-MS1), Source: A4C0705-09											
Dibromochloropropane (DBCP)	0.28	0.010	ug/L	0.13	0.16	99	65-135			03/13/14	
Ethylene Dibromide (EDB)	0.11	0.020	ug/L	0.13	ND	84	65-135			03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.3*			*2.3*		*100*	*70-130*			03/13/14	
EPA 515.3 - Quality Control											
Batch: A403008										Prepared: 03/13/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A403008-BLK1)											
2,4,5-T	ND	1.0	ug/L							03/13/14	
2,4,5-TP (Silvex)	ND	1.0	ug/L							03/13/14	
2,4-D	ND	10	ug/L							03/13/14	
Bentazon	ND	2.0	ug/L							03/13/14	
Dalapon	ND	10	ug/L							03/13/14	
Dicamba	ND	1.5	ug/L							03/13/14	
Dinoseb	ND	2.0	ug/L							03/13/14	
Pentachlorophenol	ND	0.20	ug/L							03/13/14	
Picloram	ND	1.0	ug/L							03/13/14	
Surrogate: DCPAA	*57*			*58*		*99*	*70-130*			03/13/14	
Blank Spike (A403008-BS1)											
2,4,5-T	3.6	1.0	ug/L	4.0		89	70-130			03/13/14	
2,4,5-TP (Silvex)	0.77	1.0	ug/L	0.80		96	70-130			03/13/14	
2,4-D	0.38	10	ug/L	0.40		94	70-130			03/13/14	
Bentazon	7.6	2.0	ug/L	8.0		95	70-130			03/13/14	
Dalapon	4.2	10	ug/L	4.0		104	70-130			03/13/14	
Dicamba	5.8	1.5	ug/L	6.0		97	70-130			03/13/14	
Dinoseb	0.73	2.0	ug/L	0.80		92	70-130			03/13/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16		93	70-130			03/13/14	
Picloram	0.36	1.0	ug/L	0.40		91	70-130			03/13/14	
Surrogate: DCPAA	*58*			*58*		*99*	*70-130*			03/13/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A403008										Prepared: 03/13/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A403008-BSD1)											
2,4,5-T	3.5	1.0	ug/L	4.0		89	70-130	1	20	03/14/14	
2,4,5-TP (Silvex)	0.76	1.0	ug/L	0.80		95	70-130	1	20	03/14/14	
2,4-D	0.38	10	ug/L	0.40		94	70-130	0	20	03/14/14	
Bentazon	7.6	2.0	ug/L	8.0		95	70-130	1	20	03/14/14	
Dalapon	4.8	10	ug/L	4.0		121	70-130	15	20	03/14/14	
Dicamba	5.8	1.5	ug/L	6.0		97	70-130	0	20	03/14/14	
Dinoseb	0.77	2.0	ug/L	0.80		97	70-130	5	20	03/14/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16		95	70-130	2	20	03/14/14	
Picloram	0.36	1.0	ug/L	0.40		90	70-130	1	20	03/14/14	
Surrogate: DCPAA	*57*			*58*		*99*	*70-130*			03/14/14	
Matrix Spike (A403008-MS1), Source: A4C0587-01											
2,4,5-T	5.0	1.0	ug/L	4.0	ND	118	70-130			03/13/14	
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80	ND	104	70-130			03/13/14	
2,4-D	0.47	10	ug/L	0.40	ND	119	70-130			03/13/14	
Bentazon	8.4	2.0	ug/L	8.0	ND	105	70-130			03/13/14	
Dalapon	7.8	10	ug/L	4.0	ND	107	70-130			03/13/14	
Dicamba	6.4	1.5	ug/L	6.0	ND	106	70-130			03/13/14	
Dinoseb	0.86	2.0	ug/L	0.80	ND	107	70-130			03/13/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16	ND	97	70-130			03/13/14	
Picloram	0.41	1.0	ug/L	0.40	ND	104	70-130			03/13/14	
Surrogate: DCPAA	*55*			*58*		*94*	*70-130*			03/13/14	
Matrix Spike Dup (A403008-MSD1), Source: A4C0587-01											
2,4,5-T	5.0	1.0	ug/L	4.0	ND	118	70-130	0	20	03/14/14	
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80	ND	104	70-130	0	20	03/14/14	
2,4-D	0.47	10	ug/L	0.40	ND	117	70-130	2	20	03/14/14	
Bentazon	8.4	2.0	ug/L	8.0	ND	105	70-130	0	20	03/14/14	
Dalapon	7.9	10	ug/L	4.0	ND	110	70-130	2	20	03/14/14	
Dicamba	6.4	1.5	ug/L	6.0	ND	106	70-130	0	20	03/14/14	
Dinoseb	0.86	2.0	ug/L	0.80	ND	107	70-130	0	20	03/14/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16	ND	97	70-130	0	20	03/14/14	
Picloram	0.42	1.0	ug/L	0.40	ND	105	70-130	2	20	03/14/14	
Surrogate: DCPAA	*55*			*58*		*95*	*70-130*			03/14/14	
EPA 524.2 - Quality Control											
Batch: A402993										Prepared: 03/12/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402993-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							03/12/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							03/12/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							03/12/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							03/12/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							03/12/14	
1,1-Dichloroethane	ND	0.50	ug/L							03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402993										Prepared: 03/12/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402993-BLK1)											
1,1-Dichloroethene	ND	0.50	ug/L							03/12/14	
1,1-Dichloropropene	ND	0.50	ug/L							03/12/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							03/12/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							03/12/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							03/12/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							03/12/14	
1,2-Dichloroethane	ND	0.50	ug/L							03/12/14	
1,2-Dichloropropane	ND	0.50	ug/L							03/12/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							03/12/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							03/12/14	
1,3-Dichloropropane	ND	0.50	ug/L							03/12/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							03/12/14	
2,2-Dichloropropane	ND	0.50	ug/L							03/12/14	
2-Butanone	ND	5.0	ug/L							03/12/14	
2-Chlorotoluene	ND	0.50	ug/L							03/12/14	
2-Hexanone	ND	10	ug/L							03/12/14	
4-Chlorotoluene	ND	0.50	ug/L							03/12/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							03/12/14	
Acetone	ND	10	ug/L							03/12/14	
Benzene	ND	0.50	ug/L							03/12/14	
Bromobenzene	ND	0.50	ug/L							03/12/14	
Bromochloromethane	ND	0.50	ug/L							03/12/14	
Bromodichloromethane	ND	0.50	ug/L							03/12/14	
Bromoform	ND	0.50	ug/L							03/12/14	
Bromomethane	ND	0.50	ug/L							03/12/14	
Carbon Tetrachloride	ND	0.50	ug/L							03/12/14	
Chlorobenzene	ND	0.50	ug/L							03/12/14	
Chloroethane	ND	0.50	ug/L							03/12/14	
Chloroform	ND	0.50	ug/L							03/12/14	
Chloromethane	ND	0.50	ug/L							03/12/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							03/12/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							03/12/14	
Dibromochloromethane	ND	0.50	ug/L							03/12/14	
Dibromomethane	ND	0.50	ug/L							03/12/14	
Dichlorodifluoromethane	ND	0.50	ug/L							03/12/14	
Dichloromethane	ND	0.50	ug/L							03/12/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							03/12/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							03/12/14	
Ethylbenzene	ND	0.50	ug/L							03/12/14	
Hexachlorobutadiene	ND	0.50	ug/L							03/12/14	
Isopropylbenzene	ND	0.50	ug/L							03/12/14	
m,p-Xylenes	ND	0.50	ug/L							03/12/14	
Methyl-t-butyl ether	ND	0.50	ug/L							03/12/14	
Naphthalene	ND	0.50	ug/L							03/12/14	
n-Butylbenzene	ND	0.50	ug/L							03/12/14	
n-Propylbenzene	ND	0.50	ug/L							03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402993										Prepared: 03/12/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402993-BLK1)											
o-Xylene	ND	0.50	ug/L							03/12/14	
p-Isopropyltoluene	ND	0.50	ug/L							03/12/14	
sec-Butylbenzene	ND	0.50	ug/L							03/12/14	
Styrene	ND	0.50	ug/L							03/12/14	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							03/12/14	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							03/12/14	
tert-Butylbenzene	ND	0.50	ug/L							03/12/14	
Tetrachloroethene (PCE)	ND	0.50	ug/L							03/12/14	
Toluene	ND	0.50	ug/L							03/12/14	
trans-1,2-Dichloroethene	ND	0.50	ug/L							03/12/14	
trans-1,3-Dichloropropene	ND	0.50	ug/L							03/12/14	
Trichloroethene (TCE)	ND	0.50	ug/L							03/12/14	
Trichlorofluoromethane	ND	5.0	ug/L							03/12/14	
Vinyl Chloride	ND	0.50	ug/L							03/12/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*97*	*70-130*			03/12/14	
Surrogate: Bromofluorobenzene	*51*			*50*		*101*	*70-130*			03/12/14	
Blank Spike (A402993-BS1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		101	70-130			03/12/14	
1,1,1-Trichloroethane	10	0.50	ug/L	10		102	70-130			03/12/14	
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		102	70-130			03/12/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	10	10	ug/L	10		104	70-130			03/12/14	
1,1,2-Trichloroethane	10	0.50	ug/L	10		100	70-130			03/12/14	
1,1-Dichloroethane	10	0.50	ug/L	10		102	70-130			03/12/14	
1,1-Dichloroethene	10	0.50	ug/L	10		103	70-130			03/12/14	
1,1-Dichloropropene	10	0.50	ug/L	10		102	70-130			03/12/14	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		100	70-130			03/12/14	
1,2,4-Trichlorobenzene	9.9	0.50	ug/L	10		99	70-130			03/12/14	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14	
1,2-Dichlorobenzene	10	0.50	ug/L	10		100	70-130			03/12/14	
1,2-Dichloroethane	10	0.50	ug/L	10		101	70-130			03/12/14	
1,2-Dichloropropane	10	0.50	ug/L	10		101	70-130			03/12/14	
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		111	70-130			03/12/14	
1,3-Dichlorobenzene	10	0.50	ug/L	10		101	70-130			03/12/14	
1,3-Dichloropropane	10	0.50	ug/L	10		100	70-130			03/12/14	
1,4-Dichlorobenzene	10	0.50	ug/L	10		101	70-130			03/12/14	
2,2-Dichloropropane	10	0.50	ug/L	10		102	70-130			03/12/14	
2-Butanone	11	5.0	ug/L	10		114	70-130			03/12/14	
2-Chlorotoluene	10	0.50	ug/L	10		101	70-130			03/12/14	
2-Hexanone	10	10	ug/L	10		103	70-130			03/12/14	
4-Chlorotoluene	10	0.50	ug/L	10		102	70-130			03/12/14	
4-Methyl-2-pentanone	10	5.0	ug/L	10		102	70-130			03/12/14	
Acetone	11	10	ug/L	10		109	70-130			03/12/14	
Benzene	10	0.50	ug/L	10		101	70-130			03/12/14	
Bromobenzene	9.9	0.50	ug/L	10		99	70-130			03/12/14	
Bromochloromethane	9.9	0.50	ug/L	10		99	70-130			03/12/14	

Organics Quality Control Report

EPA 524.2 - Quality Control

Batch: A402993 Prepared: 03/12/2014

Prep Method: EPA 524.2 Analyst: JGB

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
Blank Spike (A402993-BS1)												
Bromodichloromethane	10	0.50	ug/L	10		102	70-130			03/12/14		
Bromoform	9.6	0.50	ug/L	10		96	70-130			03/12/14		
Bromomethane	8.0	0.50	ug/L	10		80	70-130			03/12/14		
Carbon Tetrachloride	10	0.50	ug/L	10		104	70-130			03/12/14		
Chlorobenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
Chloroethane	10	0.50	ug/L	10		102	70-130			03/12/14		
Chloroform	10	0.50	ug/L	10		102	70-130			03/12/14		
Chloromethane	9.9	0.50	ug/L	10		99	70-130			03/12/14		
cis-1,2-Dichloroethene	10	0.50	ug/L	10		101	70-130			03/12/14		
cis-1,3-Dichloropropene	9.7	0.50	ug/L	10		97	70-130			03/12/14		
Dibromochloromethane	10	0.50	ug/L	10		100	70-130			03/12/14		
Dibromomethane	9.9	0.50	ug/L	10		99	70-130			03/12/14		
Dichlorodifluoromethane	10	0.50	ug/L	10		103	70-130			03/12/14		
Dichloromethane	10	0.50	ug/L	10		102	70-130			03/12/14		
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		101	70-130			03/12/14		
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		100	70-130			03/12/14		
Ethylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
Hexachlorobutadiene	10	0.50	ug/L	10		101	70-130			03/12/14		
Isopropylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
m,p-Xylenes	20	0.50	ug/L	20		102	70-130			03/12/14		
Methyl-t-butyl ether	20	0.50	ug/L	20		100	70-130			03/12/14		
Naphthalene	10	0.50	ug/L	10		100	70-130			03/12/14		
n-Butylbenzene	10	0.50	ug/L	10		100	70-130			03/12/14		
n-Propylbenzene	10	0.50	ug/L	10		102	70-130			03/12/14		
o-Xylene	10	0.50	ug/L	10		101	70-130			03/12/14		
p-Isopropyltoluene	10	0.50	ug/L	10		101	70-130			03/12/14		
sec-Butylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
Styrene	15	0.50	ug/L	10		147	70-130			03/12/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		103	70-130			03/12/14		
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		104	70-130			03/12/14		
tert-Butylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
Tetrachloroethene (PCE)	10	0.50	ug/L	10		102	70-130			03/12/14		
Toluene	10	0.50	ug/L	10		101	70-130			03/12/14		
trans-1,2-Dichloroethene	10	0.50	ug/L	10		102	70-130			03/12/14		
trans-1,3-Dichloropropene	9.7	0.50	ug/L	10		97	70-130			03/12/14		
Trichloroethene (TCE)	10	0.50	ug/L	10		101	70-130			03/12/14		
Trichlorofluoromethane	10	5.0	ug/L	10		105	70-130			03/12/14		
Vinyl Chloride	10	0.50	ug/L	10		102	70-130			03/12/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*103*	*70-130*			03/12/14		
Surrogate: Bromofluorobenzene	*51*			*50*		*102*	*70-130*			03/12/14		
Blank Spike Dup (A402993-BSD1)												
1,1,1,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14		
1,1,1-Trichloroethane	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
1,1,2,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	10	10	ug/L	10		100	70-130	3	30	03/12/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402993										Prepared: 03/12/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A402993-BSD1)											
1,1,2-Trichloroethane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,1-Dichloroethane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,1-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	5	30	03/12/14	
1,1-Dichloropropene	9.8	0.50	ug/L	10		98	70-130	5	30	03/12/14	
1,2,3-Trichlorobenzene	9.7	0.50	ug/L	10		97	70-130	2	30	03/12/14	
1,2,4-Trichlorobenzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/12/14	
1,2,4-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,2-Dichlorobenzene	9.8	0.50	ug/L	10		98	70-130	2	30	03/12/14	
1,2-Dichloroethane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,2-Dichloropropane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		107	70-130	4	30	03/12/14	
1,3-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130	3	30	03/12/14	
1,3-Dichloropropane	9.8	0.50	ug/L	10		98	70-130	2	30	03/12/14	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130	3	30	03/12/14	
2,2-Dichloropropane	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14	
2-Butanone	10	5.0	ug/L	10		101	70-130	12	30	03/12/14	
2-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
2-Hexanone	9.4	10	ug/L	10		94	70-130	9	30	03/12/14	
4-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
4-Methyl-2-pentanone	9.4	5.0	ug/L	10		94	70-130	9	30	03/12/14	
Acetone	9.5	10	ug/L	10		95	70-130	14	30	03/12/14	
Benzene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14	
Bromobenzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/12/14	
Bromochloromethane	9.8	0.50	ug/L	10		98	70-130	1	30	03/12/14	
Bromodichloromethane	9.9	0.50	ug/L	10		99	70-130	2	30	03/12/14	
Bromoform	9.4	0.50	ug/L	10		94	70-130	3	30	03/12/14	
Bromomethane	8.7	0.50	ug/L	10		87	70-130	9	30	03/12/14	
Carbon Tetrachloride	10	0.50	ug/L	10		100	70-130	4	30	03/12/14	
Chlorobenzene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
Chloroethane	9.8	0.50	ug/L	10		98	70-130	5	30	03/12/14	
Chloroform	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14	
Chloromethane	9.0	0.50	ug/L	10		90	70-130	9	30	03/12/14	
cis-1,2-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
cis-1,3-Dichloropropene	9.5	0.50	ug/L	10		95	70-130	2	30	03/12/14	
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130	2	30	03/12/14	
Dibromomethane	9.8	0.50	ug/L	10		98	70-130	2	30	03/12/14	
Dichlorodifluoromethane	9.8	0.50	ug/L	10		98	70-130	5	30	03/12/14	
Dichloromethane	9.9	0.50	ug/L	10		99	70-130	3	30	03/12/14	
Di-isopropyl ether (DIPE)	9.7	3.0	ug/L	10		97	70-130	3	30	03/12/14	
Ethyl tert-Butyl Ether (ETBE)	9.7	0.50	ug/L	10		97	70-130	3	30	03/12/14	
Ethylbenzene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14	
Hexachlorobutadiene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
Isopropylbenzene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
m,p-Xylenes	20	0.50	ug/L	20		98	70-130	4	30	03/12/14	
Methyl-t-butyl ether	20	0.50	ug/L	20		98	70-130	2	30	03/12/14	
Naphthalene	9.6	0.50	ug/L	10		96	70-130	4	30	03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402993										Prepared: 03/12/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402993-BSD1)												
n-Butylbenzene	9.6	0.50	ug/L	10		96	70-130	4	30	03/12/14		
n-Propylbenzene	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
o-Xylene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14		
p-Isopropyltoluene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14		
sec-Butylbenzene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14		
Styrene	14	0.50	ug/L	10		144	70-130	2	30	03/12/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		100	70-130	3	30	03/12/14		
tert-Butyl alcohol (TBA)	9.2	2.0	ug/L	10		92	70-130	13	30	03/12/14		
tert-Butylbenzene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14		
Tetrachloroethene (PCE)	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
Toluene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14		
trans-1,2-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
trans-1,3-Dichloropropene	9.5	0.50	ug/L	10		95	70-130	2	30	03/12/14		
Trichloroethene (TCE)	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14		
Trichlorofluoromethane	10	5.0	ug/L	10		101	70-130	4	30	03/12/14		
Vinyl Chloride	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*103*	*70-130*			03/12/14		
Surrogate: Bromofluorobenzene	*51*			*50*		*102*	*70-130*			03/12/14		
EPA 525.2 - Quality Control												
Batch: A403148										Prepared: 03/14/2014		
Prep Method: EPA 525.2										Analyst: GAK		
Blank (A403148-BLK1)												
Alachlor	ND	1.0	ug/L							03/16/14		
Atrazine	ND	0.50	ug/L							03/16/14		
Benzo(a)pyrene	ND	0.10	ug/L							03/16/14		
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							03/16/14		
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							03/16/14		
Bromacil	ND	10	ug/L							03/16/14		
Butachlor	ND	0.38	ug/L							03/16/14		
Diazinon	ND	0.25	ug/L							03/16/14		
Dimethoate	ND	10	ug/L							03/16/14		
Metolachlor	ND	0.50	ug/L							03/16/14		
Metribuzin	ND	0.50	ug/L							03/16/14		
Molinate	ND	2.0	ug/L							03/16/14		
Prometryn	ND	2.0	ug/L							03/16/14		
Propachlor	ND	0.50	ug/L							03/16/14		
Simazine	ND	1.0	ug/L							03/16/14		
Thiobencarb	ND	1.0	ug/L							03/16/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.8*			*5.0*		*117*	*70-130*			03/16/14		
Blank Spike (A403148-BS1)												
Alachlor	0.51	1.0	ug/L	0.51		100	70-130			03/16/14		
Atrazine	0.53	0.50	ug/L	0.51		103	70-130			03/16/14		
Benzo(a)pyrene	0.093	0.10	ug/L	0.10		90	70-130			03/16/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A403148										Prepared: 03/14/2014		
Prep Method: EPA 525.2										Analyst: GAK		
Blank Spike (A403148-BS1)												
Bis(2-ethylhexyl) adipate	3.3	3.0	ug/L	3.1		106	70-130			03/16/14		
Bis(2-ethylhexyl) phthalate	4.2	3.0	ug/L	3.1		138	70-130			03/16/14	BS	***High***
Bromacil	2.6	10	ug/L	2.1		126	70-130			03/16/14		
Butachlor	1.4	0.38	ug/L	1.3		106	70-130			03/16/14		
Diazinon	0.047	0.25	ug/L	0.051		92	70-130			03/16/14		
Dimethoate	0.57	10	ug/L	0.51		111	70-130			03/16/14		
Metolachlor	2.8	0.50	ug/L	2.6		107	70-130			03/16/14		
Metribuzin	2.9	0.50	ug/L	2.6		114	70-130			03/16/14		
Molinate	2.9	2.0	ug/L	2.6		112	70-130			03/16/14		
Prometryn	0.63	0.50	ug/L	0.51		123	70-130			03/16/14		
Propachlor	3.0	0.50	ug/L	2.6		116	70-130			03/16/14		
Simazine	0.39	1.0	ug/L	0.36		109	70-130			03/16/14		
Thiobencarb	0.59	1.0	ug/L	0.51		114	70-130			03/16/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.1*		*107*	*70-130*			03/16/14		
Blank Spike Dup (A403148-BSD1)												
Alachlor	0.54	1.0	ug/L	0.54		100	70-130	5	30	03/16/14		
Atrazine	0.58	0.50	ug/L	0.54		108	70-130	9	30	03/16/14		
Benzo(a)pyrene	0.11	0.10	ug/L	0.11		100	70-130	15	30	03/16/14		
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.2		109	70-130	7	30	03/16/14		
Bis(2-ethylhexyl) phthalate	4.8	3.0	ug/L	3.2		148	70-130	12	30	03/16/14	BS	***High***
Bromacil	2.7	10	ug/L	2.1		124	70-130	3	30	03/16/14		
Butachlor	1.4	0.38	ug/L	1.3		108	70-130	6	30	03/16/14		
Diazinon	0.057	0.25	ug/L	0.054		106	70-130	18	30	03/16/14		
Dimethoate	0.56	10	ug/L	0.54		104	70-130	3	30	03/16/14		
Metolachlor	2.8	0.50	ug/L	2.7		104	70-130	1	30	03/16/14		
Metribuzin	3.1	0.50	ug/L	2.7		114	70-130	4	30	03/16/14		
Molinate	3.2	2.0	ug/L	2.7		118	70-130	9	30	03/16/14		
Prometryn	0.65	0.50	ug/L	0.54		121	70-130	3	30	03/16/14		
Propachlor	3.2	0.50	ug/L	2.7		119	70-130	7	30	03/16/14		
Simazine	0.41	1.0	ug/L	0.38		110	70-130	5	30	03/16/14		
Thiobencarb	0.63	1.0	ug/L	0.54		117	70-130	7	30	03/16/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.7*			*5.4*		*107*	*70-130*			03/16/14		
Matrix Spike (A403148-MS1), Source: A4C0755-02												
Alachlor	0.52	1.0	ug/L	0.52	ND	99	70-130			03/16/14		
Atrazine	0.52	0.50	ug/L	0.52	ND	99	70-130			03/16/14		
Benzo(a)pyrene	0.13	0.10	ug/L	0.10	ND	95	70-130			03/16/14		
Bis(2-ethylhexyl) adipate	3.4	3.0	ug/L	3.1	ND	109	70-130			03/16/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	3.1	ND	110	70-130			03/16/14		
Bromacil	2.5	10	ug/L	2.1	ND	122	70-130			03/16/14		
Butachlor	1.4	0.38	ug/L	1.3	ND	105	70-130			03/16/14		
Diazinon	0.055	0.25	ug/L	0.052	ND	106	70-130			03/16/14		
Dimethoate	0.59	10	ug/L	0.52	ND	113	70-130			03/16/14		
Metolachlor	2.7	0.50	ug/L	2.6	ND	103	70-130			03/16/14		
Metribuzin	2.7	0.50	ug/L	2.6	ND	103	70-130			03/16/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A403148										Prepared: 03/14/2014	
Prep Method: EPA 525.2										Analyst: GAK	
Matrix Spike (A403148-MS1), Source: A4C0755-02											
Molinate	2.9	2.0	ug/L	2.6	ND	110	70-130			03/16/14	
Prometryn	0.53	0.50	ug/L	0.52	ND	101	70-130			03/16/14	
Propachlor	2.9	0.50	ug/L	2.6	ND	111	70-130			03/16/14	
Simazine	0.34	1.0	ug/L	0.36	ND	93	70-130			03/16/14	
Thiobencarb	0.55	1.0	ug/L	0.52	ND	105	70-130			03/16/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.6*			*5.2*		*108*	*70-130*			03/16/14	
EPA 531.1 - Quality Control											
Batch: A403040										Prepared: 03/12/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A403040-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							03/12/14	
Aldicarb	ND	3.0	ug/L							03/12/14	
Aldicarb Sulfone	ND	2.0	ug/L							03/12/14	
Aldicarb Sulfoxide	ND	3.0	ug/L							03/12/14	
Carbaryl	ND	5.0	ug/L							03/12/14	
Carbofuran	ND	5.0	ug/L							03/12/14	
Methiocarb	ND	2.0	ug/L							03/12/14	
Methomyl	ND	2.0	ug/L							03/12/14	
Oxamyl	ND	20	ug/L							03/12/14	
Propoxur	ND	2.0	ug/L							03/12/14	
Blank Spike (A403040-BS1)											
3-Hydroxycarbofuran	4.2	3.0	ug/L	4.0		106	80-120			03/12/14	
Aldicarb	4.1	3.0	ug/L	4.0		103	80-120			03/12/14	
Aldicarb Sulfone	4.3	2.0	ug/L	4.0		107	80-120			03/12/14	
Aldicarb Sulfoxide	4.3	3.0	ug/L	4.0		106	80-120			03/12/14	
Carbaryl	4.2	5.0	ug/L	4.0		104	80-120			03/12/14	
Carbofuran	4.2	5.0	ug/L	4.0		105	80-120			03/12/14	
Methiocarb	4.5	2.0	ug/L	4.0		112	80-120			03/12/14	
Methomyl	4.4	2.0	ug/L	4.0		109	80-120			03/12/14	
Oxamyl	4.2	20	ug/L	4.0		106	80-120			03/12/14	
Propoxur	4.3	2.0	ug/L	4.0		107	80-120			03/12/14	
Blank Spike Dup (A403040-BSD1)											
3-Hydroxycarbofuran	4.3	3.0	ug/L	4.0		108	80-120	2	20	03/12/14	
Aldicarb	4.1	3.0	ug/L	4.0		103	80-120	0	20	03/12/14	
Aldicarb Sulfone	4.3	2.0	ug/L	4.0		107	80-120	1	20	03/12/14	
Aldicarb Sulfoxide	4.3	3.0	ug/L	4.0		107	80-120	0	20	03/12/14	
Carbaryl	4.2	5.0	ug/L	4.0		106	80-120	1	20	03/12/14	
Carbofuran	4.2	5.0	ug/L	4.0		105	80-120	0	20	03/12/14	
Methiocarb	4.2	2.0	ug/L	4.0		104	80-120	7	20	03/12/14	
Methomyl	4.3	2.0	ug/L	4.0		107	80-120	2	20	03/12/14	
Oxamyl	4.2	20	ug/L	4.0		106	80-120	0	20	03/12/14	
Propoxur	4.1	2.0	ug/L	4.0		102	80-120	6	20	03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A403040										Prepared: 03/12/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Matrix Spike (A403040-MS1), Source: A4C0825-01											
3-Hydroxycarbofuran	4.1	3.0	ug/L	4.0	ND	103	65-135			03/13/14	
Aldicarb	3.9	3.0	ug/L	4.0	ND	99	65-135			03/13/14	
Aldicarb Sulfone	4.1	2.0	ug/L	4.0	ND	102	65-135			03/13/14	
Aldicarb Sulfoxide	4.1	3.0	ug/L	4.0	ND	103	65-135			03/13/14	
Carbaryl	4.1	5.0	ug/L	4.0	ND	103	65-135			03/13/14	
Carbofuran	4.1	5.0	ug/L	4.0	ND	101	65-135			03/13/14	
Methiocarb	4.1	2.0	ug/L	4.0	ND	96	65-135			03/13/14	
Methomyl	4.2	2.0	ug/L	4.0	ND	105	65-135			03/13/14	
Oxamyl	4.1	20	ug/L	4.0	ND	102	65-135			03/13/14	
Propoxur	4.0	2.0	ug/L	4.0	ND	101	65-135			03/13/14	
EPA 547 - Quality Control											
Batch: A403000										Prepared: 03/12/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A403000-BLK1)											
Glyphosate	ND	25	ug/L							03/12/14	
Surrogate: AMPA	*110*			*100*		*113*	*70-130*			03/12/14	
Blank Spike (A403000-BS1)											
Glyphosate	100	25	ug/L	100		105	70-130			03/12/14	
Surrogate: AMPA	*110*			*100*		*107*	*70-130*			03/12/14	
Blank Spike Dup (A403000-BSD1)											
Glyphosate	120	25	ug/L	100		118	70-130	12	30	03/12/14	
Surrogate: AMPA	*120*			*100*		*119*	*70-130*			03/12/14	
Matrix Spike (A403000-MS1), Source: A4C0880-01											
Glyphosate	120	25	ug/L	100	ND	115	70-130			03/12/14	
Surrogate: AMPA	*130*			*100*		*125*	*70-130*			03/12/14	
Matrix Spike Dup (A403000-MSD1), Source: A4C0880-01											
Glyphosate	110	25	ug/L	100	ND	109	70-130	5	30	03/12/14	
Surrogate: AMPA	*120*			*100*		*117*	*70-130*			03/12/14	
EPA 548.1 - Quality Control											
Batch: A403056										Prepared: 03/12/2014	
Prep Method: EPA 548.1										Analyst: GAK	
Blank (A403056-BLK1)											
Endothall	ND	45	ug/L							03/13/14	
Blank Spike (A403056-BS1)											
Endothall	17	45	ug/L	20		85	60-111			03/13/14	
Blank Spike Dup (A403056-BSD1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 548.1 - Quality Control											
Batch: A403056										Prepared: 03/12/2014	
Prep Method: EPA 548.1										Analyst: GAK	
Blank Spike Dup (A403056-BSD1)											
Endothall	14	45	ug/L	20		71	60-111	18	46	03/13/14	
Matrix Spike (A403056-MS1), Source: A4C0610-01											
Endothall	ND	45	ug/L	20	ND	0	10-122			03/13/14	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A403100										Prepared: 03/13/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A403100-BLK1)											
Diquat	ND	4.0	ug/L							03/14/14	
Blank Spike (A403100-BS1)											
Diquat	3.3	4.0	ug/L	4.0		83	70-130			03/14/14	
Blank Spike Dup (A403100-BSD1)											
Diquat	3.2	4.0	ug/L	4.0		79	70-130	5	30	03/14/14	
Matrix Spike (A403100-MS1), Source: A4C0537-01											
Diquat	3.0	4.0	ug/L	4.0	ND	75	70-130			03/14/14	
Matrix Spike (A403100-MS2), Source: A4C0537-02											
Diquat	3.4	4.0	ug/L	4.0	ND	85	70-130			03/14/14	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters:

A4C0828

Monterey Bay Analytical

Monte6227

03112014

Turnaround: Standard
Due Date: 3/18/2014

Printed: 3/11/2014 5:51:21PM

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

A4C0828 03/11/2014
Monte6227 5

* Required Fields

TEMP: 2.2

Client/Company Name *:	Report Attention *:	Phone * #: (831)-357-6227 FAX * #(831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Project Information:	PO #
Cal Am	Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Regulatory Compliance Electronic Data Transfer: Y☐ N☑ System No. *

Sampler Name Printed / Signature	QC Request	Result Request ** Surcharge
Josh Soboleu	☑ STD ☐ Level II	☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Matrix Types: RSW = Raw Surface Water CFW = Clorinated Finished Water CWW = Chorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

ANALYSIS REQUESTED

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 inc MTBE	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549
		3/8/14	16:00	CX-B2WQ Zone #1 (215-225 ft bgs)	RGW	12621	✓	✓	✓	✓	✓	✓	✓	✓
				5 day TAT please										
				Conductivity 35194 uS/cm										

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	3/10/14 ~~3/9/14~~	1200		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name)		Date 3/11/14	Time 1020	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material:

Notice: Payment for services rendered as noted herein are due in full within 30 days from when invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service/re-billing charges and interest calculated at 1 1/2 % per month, 18% per annum. BSK & Associates shall be entitled to recover on delinquent accounts, costs of collections, including attorneys' fees incurred prior to or in litigation whether concluded by judgement, settlement, compromise or otherwise. The person signing for the client/Company expressley acknowledges that they are either the Client or authorized agent to the Client, and the Client agrees to be responsible for payment for analytical services on this Chain of Custody. Any modification of the analysis requested, either type or quantities, will be noted and agreed upon this Chain of Custody. The turn around time for any samples received after 3:00 pm will begin the next business day.

SR-FL-0012-00 (Analytical)

BSK Associates SR-FL-0002-09

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes (No) NA
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes (No)
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received ("—" means preservation/chlorine checks are either N/A or are performed in the lab)

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?
Bacti $Na_2S_2O_3$	—	—
None (P) White Cap	—	—
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N
HNO_3 (P) Red Cap	—	—
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N
NaOH (P) Green Cap	Cl, pH ≥12	Y N
NaOH + ZnAc (P)	pH ≥ 9	Y N
Dissolved Oxygen 300ml (g)	—	—
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	(Y) N
NH_4Cl (AG) Purple Label 552	—	—
EDA (AG) Brown Label DBPs	—	—
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—
Buffer pH 4 (CG)	—	—
None (CG)	—	—
H_3PO_4 (CG) Salmon Label	—	—
Other:		
Asbestos 1Liter Plastic w/ Foil	—	—
Low Level Hg / Metals Double Baggie	—	—
Bottled Water	—	—
Clear Glass Jar: 250 / 500 / 1 Liter	—	—
Soil Tube Brass / Steel / Plastic	—	—
Tedlar Bag / Plastic Bag	—	—

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: SRA @ 1711 Labels checked by: G-402 @ 17:23 RUSH Paged by:

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

March 15, 2014

Ceres ID: 10286

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on March 11, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

This work was authorized under M.B.A.'s Project # 12621.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10286-001	CX-B2WQ Zone #1 (215-225ft bags)	3/11/2014	3/8/2014	16:00

Section II: Data Summary

Sample ID:	**Method Blank**						
Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001	Date Received:	NA
Project:	12621	Sample Size:	1.000 L	QC Batch #:	1165	Date Extracted:	13-Mar-14
Date Collected:	NA			ZB-5 MS Analysis Date:	14-Mar-14		
Time Collected:	NA						

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	3.25		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	104	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	104	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	12621	Sample Size:	1.000 L	QC Batch #:	1165	Date Extracted:	13-Mar-14
Date Collected:	NA			ZB-5 MS Analysis Date:	14-Mar-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.24	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	104	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	9.88	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID: **CX-B2WQ Zone #1 (215-225 ft bags)**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	10286-001	Date Received:	11-Mar-14
Project:	12621	Sample Size:	1.046 L	QC Batch #:	1165	Date Extracted:	13-Mar-14
Date Collected:	8-Mar-14			ZB-5 MS Analysis Date:	14-Mar-14		
Time Collected:	16:00						

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.96		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	93.6	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	93.1	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Chain of Custody

Please Print in Pen

Ceres Use Only

Ceres Project ID:_____
Temperature: _____ °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information (if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days)
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous	S: Soil	AS: Ash	DW: Drinking Water
E: Effluent	SD: Sediment	C: Clay	SO: Solid
I: Influent	SL: Sludge	CS: Clay Slurry	O: Other (please comment)

TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other

	Sample ID	Sample Collection Date	Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	Comments
1	CX-B2WQ Zone #1 (215-225 ft bags)	3/8/2014	16:00	Aq	2	X						12621
2												(2,3,7,8 TCDD only)
3												5 day Rush Please
4												
5												
6												
7												
8												
9												
10												
11												
12												

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: *(Signature and Printed Name)*	Date	Time	Received by: *(signature and Printed Name)*	Date	Time
David Holland	3/10/2014	12:00	Deborah A Neidich Debbie Heidin	3/11/14	1021

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10286	Date/Time: 3/11/14 1052
Client Project ID: 12621	Received Temperature: 0.2 Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / N / (NA)
List COC discrepancies: yeah 3/11/14	
List Damaged Samples: yeah 3/11/14	

Ceres Analytical Laboratory — Process Request

Ceres ID: 10286 PB: 1165 Sample #s: 1 Due Date: 3/16/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☐ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10286-1	1558.38	512.60	1.046 L

Chemist: _____ Date: 3/13/14

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1165-MB001	Method Blank		1.000 L	JR 3/13/14	JR 3/14/14	NA	JR 3/14/14	NA	JR 3/14/14
0-1165-OPR001	OPR		1.000 L	(A)					
10286-1165-001	CX-B2WQ Zone#1 (215-225 ft)	✓	1.046 L	"	"	"	"	"	"

Comments: (A) Spiked w/ RSS

Soxhlet Start: 15:00 3/13/14

Soxhlet Stop: 07:15 3/14/14

Samples Logged out by: JR 11:00 3/13/14

Samples Returned by: NA

Note samples Depleted: 1 A

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 10:20 3/14/14 JR

Extracts returned to Storage Location: 09:00 3/15/14 JR

Form M1.0 rev4

Chemist: G-414

Effective Date: 7/12/13

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory
Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	S031212A	10 µl	3/12/17
NSS	S031212B	10 µl	3/12/17
CSS	S031212C	10 µl	3/12/17
RSS	S031212D	20 µl	3/12/17

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	PB0057705TOL	8/17/14
Hexane	30,30,100,200	5323	8/11/14
Sigel	4g	P020514A	8/5/14
Basicgel	4g	P012014A	7/20/14
Acid gel	8g	P031114A	9/11/14
Acid Al	6g	P031114B	9/11/14
Na_2SO_4	1.5g	P120413A	6/4/14
20% DCM Hex	30ml	L031214A	9/12/14

Chemist : G-415

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	**Report Date:**	03/17/14 13:53
		Received Date:	03/11/14 09:20
		Turn Around:	5 workdays
Attention:	David Holland	**Client Project:**	Cal Am
Phone:	(831) 375-6227		
Fax:	(831) 641-0734		
Work Order(s):	4C11005		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear David Holland :

Enclosed are the results of analyses for samples received 03/ 11/14 09:20 with the Chain of Custody document. The samples were received in good condition, at 4.8 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
CX-B2WQ Zone #1 (215-225 ft bgs)	Josh Soboleu	12621	4C11005-01	Water	03/08/14 16:00

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:53

4C11005-01 **CX-B2WQ Zone #1 (215-225 ft bgs)**

Sampled: 03/08/14 16:00 **Sampled By:** Josh Soboleu **Matrix:** Water

Sample Note: 12621

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 9056A | Batch: W4C0833 | Prepared: 03/15/14 10:30 | Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Iodide	ND	250	ug/l	25	03/15/14 15:05	M-02

Chlorinated Pesticides and/or PCBs

Method: EPA 508 | Batch: W4C0665 | Prepared: 03/12/14 14:41 | Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND		0.010	ug/l	1	03/14/14 01:44	
4,4´-DDE	ND		0.010	ug/l	1	03/14/14 01:44	
4,4´-DDT	ND		0.010	ug/l	1	03/14/14 01:44	
Aldrin	ND		0.010	ug/l	1	03/14/14 01:44	
alpha-BHC	ND		0.010	ug/l	1	03/14/14 01:44	
Aroclor 1016	ND		0.10	ug/l	1	03/14/14 01:44	
Aroclor 1221	ND		0.10	ug/l	1	03/14/14 01:44	
Aroclor 1232	ND		0.10	ug/l	1	03/14/14 01:44	
Aroclor 1242	ND		0.10	ug/l	1	03/14/14 01:44	
Aroclor 1248	ND		0.10	ug/l	1	03/14/14 01:44	
Aroclor 1254	ND		0.10	ug/l	1	03/14/14 01:44	
Aroclor 1260	ND		0.10	ug/l	1	03/14/14 01:44	
beta-BHC	ND		0.010	ug/l	1	03/14/14 01:44	
Chlordane (tech)	ND		0.10	ug/l	1	03/14/14 01:44	
Chlorothalonil	ND		0.050	ug/l	1	03/14/14 01:44	
delta-BHC	ND		0.010	ug/l	1	03/14/14 01:44	
Dieldrin	ND		0.010	ug/l	1	03/14/14 01:44	
Endosulfan I	ND		0.010	ug/l	1	03/14/14 01:44	
Endosulfan II	ND		0.010	ug/l	1	03/14/14 01:44	
Endosulfan sulfate	ND		0.010	ug/l	1	03/14/14 01:44	
Endrin	ND		0.010	ug/l	1	03/14/14 01:44	
Endrin aldehyde	ND		0.010	ug/l	1	03/14/14 01:44	
gamma-BHC (Lindane)	ND		0.010	ug/l	1	03/14/14 01:44	
Heptachlor	ND		0.010	ug/l	1	03/14/14 01:44	
Heptachlor epoxide	ND		0.010	ug/l	1	03/14/14 01:44	
Hexachlorobenzene	ND		0.010	ug/l	1	03/14/14 01:44	
Hexachlorocyclopentadiene	ND		0.050	ug/l	1	03/14/14 01:44	
Methoxychlor	ND		0.010	ug/l	1	03/14/14 01:44	
PCBs, Total	ND		0.50	ug/l	1	03/14/14 01:44	
Propachlor	ND		0.050	ug/l	1	03/14/14 01:44	
Toxaphene	ND		1.0	ug/l	1	03/14/14 01:44	
Trifluralin	ND		0.010	ug/l	1	03/14/14 01:44	
Surr: Decachlorobiphenyl	*29 %*	Conc:*0.0277*	*70-130*	%			*S-GC*
Surr: Tetrachloro-meta-xylene	*117 %*	Conc:*0.112*	*70-130*	%			

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4 Justin Court, Suite D
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Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:53

4C11005-01 **CX-B2WQ Zone #1 (215-225 ft bgs)**

Sampled: 03/08/14 16:00 **Sampled By:** Josh Soboleu **Matrix:** Water

Sample Note: 12621

Chlorinated Pesticides and/or PCBs

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Date Received: 03/11/14 09:20
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QUALITY CONTROL SECTION

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:53

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4C0833 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0833-BLK1)				Analyzed: 03/15/14 15:05						
Iodide	ND	10	ug/l							
LCS (W4C0833-BS1)				Analyzed: 03/15/14 15:05						
Iodide	40.2	10	ug/l	40.0		101	85-115			
Matrix Spike (W4C0833-MS1)	**Source: 4C11006-01**			Analyzed: 03/15/14 15:05						
Iodide	1090	250	ug/l	1000	ND	109	80-120			
Matrix Spike Dup (W4C0833-MSD1)	**Source: 4C11006-01**			Analyzed: 03/15/14 15:05						
Iodide	931	250	ug/l	1000	ND	93	80-120	15	20	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0665 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0665-BLK1)				Analyzed: 03/14/14 00:12						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							

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Date Received: 03/11/14 09:20
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Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0665 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0665-BLK1)				Analyzed: 03/14/14 00:12						
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.108*		*ug/l*	*0.100*		*108*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.106*		*ug/l*	*0.100*		*106*	*70-130*			
LCS (W4C0665-BS1)				Analyzed: 03/14/14 00:43						
4,4´-DDD	0.0745	0.010	ug/l	0.100		75	55-142			
4,4´-DDE	0.0830	0.010	ug/l	0.100		83	49-129			
4,4´-DDT	0.0919	0.010	ug/l	0.100		92	54-160			
Aldrin	0.0782	0.010	ug/l	0.100		78	29-115			
alpha-BHC	0.0801	0.010	ug/l	0.100		80	59-131			
beta-BHC	0.0723	0.010	ug/l	0.100		72	63-136			
delta-BHC	0.0874	0.010	ug/l	0.100		87	59-137			
Dieldrin	0.0773	0.010	ug/l	0.100		77	59-135			
Endosulfan I	0.0659	0.010	ug/l	0.100		66	28-138			
Endosulfan II	0.0673	0.010	ug/l	0.100		67	53-133			
Endosulfan sulfate	0.0716	0.010	ug/l	0.100		72	58-155			
Endrin	0.0725	0.010	ug/l	0.100		72	57-148			
Endrin aldehyde	0.0706	0.010	ug/l	0.100		71	45-139			
gamma-BHC (Lindane)	0.0595	0.010	ug/l	0.100		60	59-129			
Heptachlor	0.0879	0.010	ug/l	0.100		88	42-136			
Heptachlor epoxide	0.0757	0.010	ug/l	0.100		76	59-134			
Methoxychlor	0.0727	0.010	ug/l	0.100		73	56-167			
Surr: Decachlorobiphenyl	*0.0947*		*ug/l*	*0.100*		*95*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0986*		*ug/l*	*0.100*		*99*	*70-130*			
LCS Dup (W4C0665-BSD1)				Analyzed: 03/14/14 01:13						
4,4´-DDD	0.0865	0.010	ug/l	0.100		87	55-142	15	25	
4,4´-DDE	0.0904	0.010	ug/l	0.100		90	49-129	9	25	
4,4´-DDT	0.102	0.010	ug/l	0.100		102	54-160	10	25	
Aldrin	0.0841	0.010	ug/l	0.100		84	29-115	7	25	
alpha-BHC	0.0886	0.010	ug/l	0.100		89	59-131	10	25	
beta-BHC	0.0835	0.010	ug/l	0.100		84	63-136	14	25	
delta-BHC	0.0960	0.010	ug/l	0.100		96	59-137	9	25	
Dieldrin	0.0883	0.010	ug/l	0.100		88	59-135	13	25	
Endosulfan I	0.0704	0.010	ug/l	0.100		70	28-138	7	25	
Endosulfan II	0.0754	0.010	ug/l	0.100		75	53-133	11	25	
Endosulfan sulfate	0.0870	0.010	ug/l	0.100		87	58-155	19	25	
Endrin	0.0802	0.010	ug/l	0.100		80	57-148	10	25	
Endrin aldehyde	0.0736	0.010	ug/l	0.100		74	45-139	4	25	
gamma-BHC (Lindane)	0.0873	0.010	ug/l	0.100		87	59-129	38	25	Q-12
Heptachlor	0.0945	0.010	ug/l	0.100		95	42-136	7	25	
Heptachlor epoxide	0.0844	0.010	ug/l	0.100		84	59-134	11	25	
Methoxychlor	0.0923	0.010	ug/l	0.100		92	56-167	24	25	
Surr: Decachlorobiphenyl	*0.105*		*ug/l*	*0.100*		*105*	*70-130*			

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Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:53

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0665 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4C0665-BSD1)				Analyzed: 03/14/14 01:13						
Surr: Tetrachloro-meta-xylene	*0.107*		*ug/l*	*0.100*		*107*	*70-130*			

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Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:53

Notes and Definitions

S-GC	Surrogate recovery outside of control limits due to a possible matrix effect . The data was accepted based on valid recovery of the remaining surrogate.
Q-12	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on the percent recoveries and/or other acceptable QC data.
M-02	Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

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4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Turbidity QC Summary (EPA 180.1)

Date Analyzed: 3/9/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	0.97	97.0	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB12621	0.400	0.402	0.00	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 3/9/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1413	100.1%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB12621	36590	36770	0.5%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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pH QC Summary (SM 4500 H+)

Date Analyzed: 3/9/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.88	100.3	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB12621	7	7.1	1.4	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Color QC Summary (SM 2120B)

Date Analyzed: 3/10/2014

	Value (Color Units)	Result (Color Units)	% Rec	Acceptance Criteria %Rec
IPC	5	5	100.0	95-105

Sample ID	Sample (Color Units)	Sample Dup (Color Units)	% RPD	Acceptance Criteria % RPD
AB12658	1	1	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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http://www.MBASinc.com

Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 3/11/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC (Low)	0.050	0.046	92	90-110
IPC (High)	0.500	0.494	98.8	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12237	0.014	0.500	0.486	0.499	94.46	97.06	2.6	85-120	10
AB12621	0.014	0.500	0.360	0.362	69.26	69.66	0.6	85-124	10

Note: The MS and MSD for the sample ID AB12621, does not meet the the acceptance criteria for the rec %. Data is accepted due IPC (Low) and IPC (High) rec %.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check
RPD = Relative Percent Difference; Rec = Recovery

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http://www.MBASinc.com

Alkalinity QC Summary (SM 2320B)

Date Analyzed: 3/13/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	40	41.1	102.75	95-105
IPC	40	38.5	96.25	95-105

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12682	253.1	256.7	1.4	10
AB12692	230.1	231.5	0.6	10
AB12765	292.9	292.3	0.2	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

EPA 200.7 QC

Batch # 20140313

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.01	0.00	1.00	100.4%	1.03	103.1%	2.7%	1	1.02	101.5%	1	0.98	97.8%
B 249.772	0.05-5ppm	0.01	0.01	1.01	100.7%	1.03	103.0%	2.3%	1	1.02	102.0%	1	0.99	98.6%
Ca 317.933	50-300ppm	-5.25	-5.24	49.3	98.5%	50.3	100.7%	2.2%	50	49.5	99.0%	50	48.7	97.4%
Ca 396.847	0.5-50ppm	-0.15	-0.14	49.8	99.7%	50.3	100.6%	0.9%	50	50.2	100.4%	50	48.8	97.6%
Cu 324.754	10ppb-100ppm	-8.02	-6.70	995	99.5%	1024	102.4%	2.8%	1000	1010	101.0%	1000	1000	100.0%
Cu 327.395	10ppb-100ppm	-3.00	-4.11	990	99.0%	1017	101.7%	2.7%	1000	1006	100.6%	1000	995	99.5%
Fe 238.204	10ppb-100ppm	-0.64	0.19	998	99.8%	1014	101.4%	1.6%	1000	1003	100.3%	1000	992	99.2%
Fe 259.940	10ppb-100ppm	0.30	-0.50	995	99.5%	1013	101.3%	1.8%	1000	1001	100.1%	1000	993	99.3%
K 766.491	0.5-750ppm	0.20	0.13	9.9	98.6%	10.0	100.4%	1.8%	10	10.0	100.5%	10	9.8	98.0%
Mg 202.582	50-1000ppm	-1.81	-1.83	50.2	100.4%	51.3	102.5%	2.2%	50	50.8	101.6%	50	49.7	99.4%
Mg 279.078	0.5-50ppm	0.04	0.02	48.9	97.8%	50.2	100.4%	2.6%	50	49.8	99.7%	50	49.0	97.9%
Mn 257.610	10ppb-11ppm	-4.82	-5.60	995	99.5%	1016	101.6%	2.1%	1000	1001	100.1%	1000	979	97.9%
Mn 260.568	10ppb-11ppm	-5.16	-5.50	993	99.3%	1012	101.2%	1.9%	1000	999	99.9%	1000	978	97.8%
Na 568.821	50-1000ppm	4.56	4.98	48.4	96.9%	48.9	97.8%	0.9%	50	48.0	95.9%	50	47.3	94.5%
Na 589.592	0.5-50ppm	0.25	0.17	49.6	99.1%	50.2	100.4%	1.3%	50	50.0	100.0%	50	48.6	97.3%
Si 251.611	0.5-200ppm	0.09	0.05	50.0	100.0%	50.9	101.8%	1.7%	50	50.6	101.3%	107	105.5	98.6%
Si 252.411	0.5-200ppm	0.08	0.02	49.7	99.3%	50.7	101.4%	2.1%	50	50.5	100.9%	107	105.3	98.4%

Matrix Spikes

Sample ID AB12549

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.06	1.03	96.3%	1.04	97.3%	1.0%	1	0.98	97.6%	3.9%	0.00
B 249.772	0.06	1.04	97.8%	1.04	97.7%	0.1%	1	0.99	98.8%	3.2%	0.00
Ca 317.933	57.4	109.5	104.1%	108.7	102.5%	0.7%	50	48.5	97.0%	2.1%	-5.27
Ca 396.847	*55.3*	*91.0*	*71.3%*	*91.0*	*71.5%*	*0.1%*	50	48.3	96.6%	3.8%	-0.17
Cu 324.754	341	1295	95.5%	1299	95.8%	0.3%	1000	980	98.0%	3.1%	-8.97
Cu 327.395	336	1289	95.4%	1291	95.5%	0.1%	1000	972	97.2%	3.4%	-2.96
Fe 238.204	22	999	97.7%	993	97.1%	0.6%	1000	975	97.5%	2.8%	-0.52
Fe 259.940	19	987	96.8%	987	96.7%	0.1%	1000	977	97.7%	2.5%	-1.73
K 766.491	3.5	13.2	96.5%	13.3	97.6%	0.9%	10	9.66	96.6%	3.9%	0.08

Mg 202.582	15.7	65.9	100.3%	66.0	100.5%	0.2%	50	49.5	99.0%	2.6%	-1.79
Mg 279.078	16.6	64.0	94.8%	63.8	94.4%	0.3%	50	48.3	96.7%	3.1%	0.01
Mn 257.610	-1	973	97.3%	968	96.9%	0.5%	1000	976	97.6%	2.5%	-5.26
Mn 260.568	0	974	97.4%	968	96.9%	0.5%	1000	975	97.5%	2.4%	-4.73
Na 568.821	58.9	103.5	89.2%	103.4	89.1%	0.0%	50	47.5	94.9%	1.1%	6.03
Na 589.592	*57.8*	*104.7*	*93.6%*	*105.9*	*96.0%*	*1.1%*	50	48.3	96.7%	3.4%	0.17
Si 251.611	27.3	75.5	96.4%	75.0	95.4%	0.7%	50	49.3	98.6%	2.7%	-0.04
Si 252.411	27.0	74.9	95.8%	74.3	94.8%	0.7%	50	48.8	97.5%	3.5%	-0.03

Monterey Bay Analytical Services

QC Summary for 200.8

Spiked Sample
ID AB12896 D

Date Analyzed
Monday, March 17, 2014 13:56:41

	Sample	Spiked	MS	MSD	MS-MSD	LFB	LFB	LFB-LFBD	Acceptance Criteria %			
	ug/L	ug/L	%Rec.	% Rec.	% RPD	% Rec	% Rec	% RPD	MS/MSD	RPD	LFB/LFBD	RPD
Lithium	149.9	50	98.6	95.0	3.71	99.39	105.79	6.24	70-130	20	85-115	20
Beryllium	0.1	50	94.0	93.0	1.09	100.99	104.29	3.21	70-130	20	85-115	20
Aluminum	151.1	50	96.8	98.1	1.38	104.19	103.71	0.46	70-130	20	85-115	20
Vanadium	1.0	50	111.9	110.1	1.57	101.78	96.36	5.47	70-130	20	85-115	20
Chromium	12.7	50	105.9	105.5	0.31	101.51	97.60	3.94	70-130	20	85-115	20
Iron 54	12.8	100	99.7	102.4	2.62	100.42	71.80	33.24	70-130	20	85-115	20
Manganese	67.1	50	100.3	101.3	0.98	99.43	95.41	4.13	70-130	20	85-115	20
Cobalt	1.9	50	97.9	98.7	0.79	102.10	96.35	5.79	70-130	20	85-115	20
Nickel	32.0	50	91.6	92.1	0.56	99.33	96.10	3.30	70-130	20	85-115	20
Copper	168.0	50	97.7	101.8	4.14	99.24	107.13	7.64	70-130	20	85-115	20
Zinc	383.0	50	118.1	105.7	11.02	98.68	119.20	18.84	70-130	20	85-115	20
Arsenic	60.4	50	102.0	107.2	4.91	100.54	108.37	7.49	70-130	20	85-115	20
Selenium	244.6	250	101.6	104.6	2.94	101.59	108.93	6.97	70-130	20	85-115	20
Strontium	9965.8	50	55.0	76.8	33.10	99.57	103.45	3.83	70-130	20	85-115	20
Molybdenum	4.9	50	108.7	110.4	1.56	99.16	95.38	3.90	70-130	20	85-115	20
Silver	0.1	50	86.6	90.7	4.63	100.66	101.33	0.67	70-130	20	85-115	20
Cadmium	-1.7	50	97.1	97.1	0.06	99.84	102.54	2.66	70-130	20	85-115	20
Antimony	0.2	50	100.6	102.4	1.74	100.15	96.78	3.42	70-130	20	85-115	20
Barium	90.2	50	91.2	93.7	2.68	100.03	91.30	9.13	70-130	20	85-115	20
Mercury	0.6	2.5	96.0	96.9	0.99	113.92	120.52	5.63	70-130	20	85-115	20
Thallium	0.1	50	94.6	97.6	3.14	102.41	105.48	2.95	70-130	20	85-115	20
Lead	-0.2	50	93.4	95.4	2.16	99.59	104.99	5.27	70-130	20	85-115	20
Uranium	5.9	50	103.7	105.3	1.57	100.26	107.96	7.39	70-130	20	85-115	20

MS = Matrix Spike MSD = Matrix Spike Duplicate; LFB = Laboratory Fortified Blank; LFBD = Laboratory Fortified Blank Duplicate RPD = Relative Percent Difference

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Kjehldahl Nitrogen QC Summary (SM 4500-NH3)

Date: 3/17/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	5.0	5.200	104	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12627	2.400	5.000	7.200	7.300	96	98	1.4	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

300.0 QC Summary

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N
		2	20	2	20	2	2
IPC		1.98	19.41	2.05	18.45	2.00	1.90
Recovery	90-110%	99.00	97.06	102.67	92.25	99.84	94.99
CCV1		2.00	19.52	2.05	18.49	1.98	1.90
Recovery	90-110%	99.80	97.60	102.37	92.45	99.21	95.21
RPD	10%	0.80	0.55	0.30	0.21	0.64	0.23
		F	**Cl**	**NO2-N**	**SO4**	**Br**	**NO3-N**
		2	20	2	20	2	2
AB12621D		0.13	130.27	0.01	16.75	0.38	0.01
AB12621+LFM		2.01	147.93	1.95	34.94	2.23	1.85
AB12621+LFMD		2.01	148.32	1.93	34.95	2.22	1.84
Average		2.01	148.13	1.94	34.94	2.23	1.85
Recovery	80-120%	94.00	89.32	96.52	90.99	92.41	91.87
RPD	10%	0.11	0.26	0.83	0.02	0.33	0.22

MBAS
MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net
ELAP Certification Number: 2385

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

Tuesday, March 18, 2014

Lab Number: **AB12631**

Collection Date/Time:	3/10/2014	10:00	Sample Collector:	SOBOLEU, J	
Submittal Date/Time:	3/10/2014	12:30	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B2WQ Zone#2

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**129**		2		3/13/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**74**	J	200	1000	3/17/2014	SM
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		3/11/2014	LRH
Arsenic, Total	EPA200.8	ug/L	**28**		20	10	3/17/2014	SM
Barium, Dissolved	EPA200.8	ug/L	**346**		200		3/17/2014	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	**157**		10		3/14/2014	DH
Boron, Dissolved	EPA200.7	mg/L	**0.86**		0.5		3/13/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**23**		10		3/11/2014	DC
Calcium	EPA200.7	mg/L	**1181**		5		3/13/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**1141**		5		3/13/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Not Detected**	E			3/13/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		3/14/2014	DH
Chloride, Dissolved	EPA300.0	mg/L	**7408**		100		3/11/2014	DC
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Not Detected**	E			3/14/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**7**		3	15	3/10/2014	LRH
Copper, Total	EPA200.8	ug/L	**Not Detected**		80	1300	3/17/2014	SM
DBCP & EDB	EPA504.1	ug/L	**Not Detected**	E			3/13/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Not Detected**	E			3/14/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Not Detected**	E			3/14/2014	BSK
Dissolved Anions		Meq/L	**226.8**				3/18/2014	DH
Dissolved Cations		Meq/L	**215.5**				3/18/2014	DH
Endothall	EPA548.1	ug/L	**Not Detected**	E			3/13/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**0.2**		0.1		3/11/2014	DC
Glyphosate	EPA547	ug/L	**Not Detected**	E			3/12/2014	BSK
Hardness (as CaCO3)	SM2340B	mg/L	**5486**		10		3/17/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		3/14/2014	DH
Iodide	EPA9056M	ug/L	**Not Detected**	E	10		3/15/2014	WECK
Iron	EPA200.7	ug/L	**238**		100	300	3/13/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**148**		100	300	3/13/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**Not Detected**		0.5		3/17/2014	HM
Lithium	EPA200.8	ug/L	**75**		20		3/17/2014	SM
Magnesium	EPA200.7	mg/L	**616**		5		3/13/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**605**		5		3/13/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**Not Detected**		100	50	3/13/2014	DC
Manganese, Total	EPA200.7	ug/L	**Not Detected**		100	50	3/13/2014	DC
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	3/10/2014	DC
Nitrate as NO3	EPA300.0	mg/L	**2**		1	45	3/11/2014	DC
Nitrate+Nitrite as N	EPA300.0	mg/L	**0.6**		0.1		3/11/2014	DC

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments T = Temperature Exceedance

Appendix G

Lab Number: AB12631

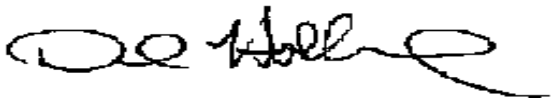
Collection Date/Time:	3/10/2014	10:00	Sample Collector:	SOBOLEU, J	
Submittal Date/Time:	3/10/2014	12:30	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B2WQ Zone#2

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**0.2**		0.1		3/11/2014	DC
Odor Threshold at 60 C	SM2150B	TON	**2**		1	3	3/10/2014	AS
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**Not Detected**		0.1		3/14/2014	HC
pH (Field Test)	SM4500-H+B	pH	**6.69**				3/10/2014	JS
pH (Laboratory)	SM4500-H+B	pH (H)	**7.4**				3/10/2014	HM
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Not Detected**	E			3/14/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**Not Detected**		0.03		3/14/2014	HC
Potassium	EPA200.7	mg/L	**75**		5		3/13/2014	DC
Potassium, Dissolved	EPA200.7	mg/L	**73**		5		3/13/2014	DC
QC Ratio TDS/SEC	Calculation		**0.73**				3/14/2014	DH
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Not Detected**	E			3/16/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**30**		5		3/13/2014	DC
Sodium	EPA200.7	mg/L	**2539**		5		3/13/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**2437**		5		3/13/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**22060**		1	900	3/11/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**21681**		1		3/10/2014	JS
Strontium, Dissolved	EPA200.8	ug/L	**8621**		100		3/17/2014	SM
Sulfate	EPA300.0	mg/L	**713**		1	250	3/11/2014	DC
Temperature (Field)	SM2550	° C	**18.3**				3/10/2014	JS
Total Cations		Meq/L	**222.0**				3/18/2014	DH
Total Diss. Solids	SM2540C	mg/L	**16200**		10	500	3/13/2014	HM
Turbidity	EPA180.1	NTU	**0.65**		0.05	5.0	3/10/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**0.49**		0.05		3/10/2014	JS
Volatile Org. Compounds (524)	EPA524	ug/L	**Not Detected**	E			3/12/2014	BSK
Zinc, Total	EPA200.8	ug/L	**217**		200	5000	3/17/2014	SM

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments T = Temperature Exceedance

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12631 Dissolved B2WQ Zone 2**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	2437	0.04350	106.01
Potassium	73	0.02558	1.87
Calcium	1141	0.04990	56.94
Magnesium	616	0.08229	50.69
NH3-N	0	0.07143	0.00
		SUM	215.50

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	129	0.02000	2.58
Sulfate	713	0.02082	14.84
Chloride	7408	0.02821	208.98
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.6	0.07138	0.04
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.2	0.05264	0.01
Bromide	23.0	0.01252	0.29
		SUM	226.75

ANION-CATION BALANCE: **-3** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	22060	
Cation Sum X 100	21550	**98%**
Anion Sum X 100	22675	**103%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**14.5**
Ca+Mg+Na	213.64
HCO3/Ca	0.05
dS/m	22.06
Value Table II	1.5
SAR adj	**20.8**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12631 Total B2WQ Zone 2**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	2539	0.04350	110.45
Potassium	75	0.02558	1.92
Calcium	1181	0.04990	58.93
Magnesium	616	0.08229	50.69
NH3-N	0	0.07143	0.00
		SUM	221.99

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	129	0.02000	2.58
Sulfate	713	0.02082	14.84
Chloride	7408	0.02821	208.98
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.6	0.07138	0.04
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.2	0.05264	0.01
Bromide	23.0	0.01252	0.29
		SUM	226.75

ANION-CATION BALANCE: **-1** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	22060	
Cation Sum X 100	22199	**101%**
Anion Sum X 100	22675	**103%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**14.9**
Ca+Mg+Na	220.07
HCO3/Ca	0.04
dS/m	22.06
Value Table II	1.5
SAR adj	**21.6**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

BSK Associates Engineers & Laboratories

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

A4C0833

3/17/2014

Invoice: A406489

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4C0833 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 3/11/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

NELAP ACCREDITED TNI LABORATORY

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	12631	**Project PO#:**	-
Received:	3/11/2014 - 10:45		
Report Due:	3/18/2014		

Sample Receipt Conditions

Cooler: Default Cooler

Temperature on Receipt ºC: 2.2

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.

Report Distribution

Recipient(s)	Report Format
David Holland	Final.rpt

Certificate of Analysis

Sample ID: A4C0833-01
Sampled By: Josh Soboleu
Sample Description: CX-B2WQ Zone # 2 // 12631

Sample Date - Time: 03/10/14 - 10:00
Matrix: Water
Sample Type: Grab

Field Data: Cond.=21681 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A403016	03/12/14	03/13/14	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A403016	03/12/14	03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	101 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A403008	03/13/14	03/14/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A403008	03/13/14	03/14/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A403008	03/13/14	03/14/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A403008	03/13/14	03/14/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A403008	03/13/14	03/14/14	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A403008	03/13/14	03/14/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A403008	03/13/14	03/14/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A403008	03/13/14	03/14/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A403008	03/13/14	03/14/14	
Surrogate: DCPAA	EPA 515.3	97 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A402993	03/12/14	03/12/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A402993	03/12/14	03/12/14	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A402993	03/12/14	03/12/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A402993	03/12/14	03/12/14	

Certificate of Analysis

Sample ID: A4C0833-01
Sampled By: Josh Soboleu
Sample Description: CX-B2WQ Zone # 2 // 12631

Sample Date - Time: 03/10/14 - 10:00
Matrix: Water
Sample Type: Grab

Field Data: Cond.=21681 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Acetone	EPA 524.2	ND	10	ug/L	1	A402993	03/12/14	03/12/14	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A402993	03/12/14	03/12/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	BS1.0, CV0.0
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A402993	03/12/14	03/12/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A402993	03/12/14	03/12/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	

Certificate of Analysis

Sample ID: A4C0833-01
Sampled By: Josh Soboleu
Sample Description: CX-B2WQ Zone # 2 // 12631

Sample Date - Time: 03/10/14 - 10:00
Matrix: Water
Sample Type: Grab

Field Data: Cond.=21681 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A402993	03/12/14	03/12/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A402993	03/12/14	03/12/14	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	98 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	102 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Prometryn	EPA 525.2	ND	2.0	ug/L	1	A403148	03/14/14	03/16/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	102 %	*Acceptable range: 70-130 %*						
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A403148	03/14/14	03/16/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A403148	03/14/14	03/16/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A403148	03/14/14	03/16/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A403148	03/14/14	03/16/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A403148	03/14/14	03/16/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A403148	03/14/14	03/16/14	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A403148	03/14/14	03/16/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A403148	03/14/14	03/16/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A403148	03/14/14	03/16/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A403148	03/14/14	03/16/14	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A403148	03/14/14	03/16/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A403148	03/14/14	03/16/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A403148	03/14/14	03/16/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A403148	03/14/14	03/16/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A403148	03/14/14	03/16/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	102 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A403040	03/12/14	03/13/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A403040	03/12/14	03/13/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A403040	03/12/14	03/13/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A403040	03/12/14	03/13/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A403040	03/12/14	03/13/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A403040	03/12/14	03/13/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A403040	03/12/14	03/13/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A403040	03/12/14	03/13/14	
Carbamates by HPLC									
Methiocarb	EPA 531.1	ND	2.0	ug/L	1	A403040	03/12/14	03/13/14	
Propoxur	EPA 531.1	ND	2.0	ug/L	1	A403040	03/12/14	03/13/14	

Certificate of Analysis

Sample ID: A4C0833-01
Sampled By: Josh Soboleu
Sample Description: CX-B2WQ Zone # 2 // 12631

Sample Date - Time: 03/10/14 - 10:00
Matrix: Water
Sample Type: Grab

Field Data: Cond.=21681 umho

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A403000	03/12/14	03/12/14	
Surrogate: AMPA	EPA 547	97 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A403056	03/12/14	03/13/14	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A403100	03/13/14	03/14/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A403016										Prepared: 03/12/2014	
Prep Method: EPA 504.1										Analyst: PYA	
Blank (A403016-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							03/13/14	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.3*			*2.3*		*102*	*70-130*			03/13/14	
Blank Spike (A403016-BS1)											
Dibromochloropropane (DBCP)	0.13	0.010	ug/L	0.12		103	70-130			03/13/14	
Ethylene Dibromide (EDB)	0.11	0.020	ug/L	0.12		85	70-130			03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.3*			*2.3*		*102*	*70-130*			03/13/14	
Blank Spike Dup (A403016-BSD1)											
Dibromochloropropane (DBCP)	0.13	0.010	ug/L	0.12		103	70-130	0	20	03/13/14	
Ethylene Dibromide (EDB)	0.11	0.020	ug/L	0.12		91	70-130	6	20	03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.3*			*2.3*		*99*	*70-130*			03/13/14	
Matrix Spike (A403016-MS1), Source: A4C0705-09											
Dibromochloropropane (DBCP)	0.28	0.010	ug/L	0.13	0.16	99	65-135			03/13/14	
Ethylene Dibromide (EDB)	0.11	0.020	ug/L	0.13	ND	84	65-135			03/13/14	
Surrogate: 1-Br-2-Nitrobenzene	*2.3*			*2.3*		*100*	*70-130*			03/13/14	
EPA 515.3 - Quality Control											
Batch: A403008										Prepared: 03/13/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A403008-BLK1)											
2,4,5-T	ND	1.0	ug/L							03/13/14	
2,4,5-TP (Silvex)	ND	1.0	ug/L							03/13/14	
2,4-D	ND	10	ug/L							03/13/14	
Bentazon	ND	2.0	ug/L							03/13/14	
Dalapon	ND	10	ug/L							03/13/14	
Dicamba	ND	1.5	ug/L							03/13/14	
Dinoseb	ND	2.0	ug/L							03/13/14	
Pentachlorophenol	ND	0.20	ug/L							03/13/14	
Picloram	ND	1.0	ug/L							03/13/14	
Surrogate: DCPAA	*57*			*58*		*99*	*70-130*			03/13/14	
Blank Spike (A403008-BS1)											
2,4,5-T	3.6	1.0	ug/L	4.0		89	70-130			03/13/14	
2,4,5-TP (Silvex)	0.77	1.0	ug/L	0.80		96	70-130			03/13/14	
2,4-D	0.38	10	ug/L	0.40		94	70-130			03/13/14	
Bentazon	7.6	2.0	ug/L	8.0		95	70-130			03/13/14	
Dalapon	4.2	10	ug/L	4.0		104	70-130			03/13/14	
Dicamba	5.8	1.5	ug/L	6.0		97	70-130			03/13/14	
Dinoseb	0.73	2.0	ug/L	0.80		92	70-130			03/13/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16		93	70-130			03/13/14	
Picloram	0.36	1.0	ug/L	0.40		91	70-130			03/13/14	
Surrogate: DCPAA	*58*			*58*		*99*	*70-130*			03/13/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A403008										Prepared: 03/13/2014	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A403008-BSD1)											
2,4,5-T	3.5	1.0	ug/L	4.0		89	70-130	1	20	03/14/14	
2,4,5-TP (Silvex)	0.76	1.0	ug/L	0.80		95	70-130	1	20	03/14/14	
2,4-D	0.38	10	ug/L	0.40		94	70-130	0	20	03/14/14	
Bentazon	7.6	2.0	ug/L	8.0		95	70-130	1	20	03/14/14	
Dalapon	4.8	10	ug/L	4.0		121	70-130	15	20	03/14/14	
Dicamba	5.8	1.5	ug/L	6.0		97	70-130	0	20	03/14/14	
Dinoseb	0.77	2.0	ug/L	0.80		97	70-130	5	20	03/14/14	
Pentachlorophenol	0.15	0.20	ug/L	0.16		95	70-130	2	20	03/14/14	
Picloram	0.36	1.0	ug/L	0.40		90	70-130	1	20	03/14/14	
Surrogate: DCPAA	*57*			*58*		*99*	*70-130*			03/14/14	
Matrix Spike (A403008-MS1), Source: A4C0587-01											
2,4,5-T	5.0	1.0	ug/L	4.0	ND	118	70-130			03/13/14	
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80	ND	104	70-130			03/13/14	
2,4-D	0.47	10	ug/L	0.40	ND	119	70-130			03/13/14	
Bentazon	8.4	2.0	ug/L	8.0	ND	105	70-130			03/13/14	
Dalapon	7.8	10	ug/L	4.0	ND	107	70-130			03/13/14	
Dicamba	6.4	1.5	ug/L	6.0	ND	106	70-130			03/13/14	
Dinoseb	0.86	2.0	ug/L	0.80	ND	107	70-130			03/13/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16	ND	97	70-130			03/13/14	
Picloram	0.41	1.0	ug/L	0.40	ND	104	70-130			03/13/14	
Surrogate: DCPAA	*55*			*58*		*94*	*70-130*			03/13/14	
Matrix Spike Dup (A403008-MSD1), Source: A4C0587-01											
2,4,5-T	5.0	1.0	ug/L	4.0	ND	118	70-130	0	20	03/14/14	
2,4,5-TP (Silvex)	0.83	1.0	ug/L	0.80	ND	104	70-130	0	20	03/14/14	
2,4-D	0.47	10	ug/L	0.40	ND	117	70-130	2	20	03/14/14	
Bentazon	8.4	2.0	ug/L	8.0	ND	105	70-130	0	20	03/14/14	
Dalapon	7.9	10	ug/L	4.0	ND	110	70-130	2	20	03/14/14	
Dicamba	6.4	1.5	ug/L	6.0	ND	106	70-130	0	20	03/14/14	
Dinoseb	0.86	2.0	ug/L	0.80	ND	107	70-130	0	20	03/14/14	
Pentachlorophenol	0.16	0.20	ug/L	0.16	ND	97	70-130	0	20	03/14/14	
Picloram	0.42	1.0	ug/L	0.40	ND	105	70-130	2	20	03/14/14	
Surrogate: DCPAA	*55*			*58*		*95*	*70-130*			03/14/14	
EPA 524.2 - Quality Control											
Batch: A402993										Prepared: 03/12/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402993-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							03/12/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							03/12/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							03/12/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							03/12/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							03/12/14	
1,1-Dichloroethane	ND	0.50	ug/L							03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 524.2 - Quality Control

Batch: A402993 Prepared: 03/12/2014

Prep Method: EPA 524.2 Analyst: JGB

Blank (A402993-BLK1)

1,1-Dichloroethene	ND	0.50	ug/L							03/12/14	
1,1-Dichloropropene	ND	0.50	ug/L							03/12/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							03/12/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							03/12/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							03/12/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							03/12/14	
1,2-Dichloroethane	ND	0.50	ug/L							03/12/14	
1,2-Dichloropropane	ND	0.50	ug/L							03/12/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							03/12/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							03/12/14	
1,3-Dichloropropane	ND	0.50	ug/L							03/12/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							03/12/14	
2,2-Dichloropropane	ND	0.50	ug/L							03/12/14	
2-Butanone	ND	5.0	ug/L							03/12/14	
2-Chlorotoluene	ND	0.50	ug/L							03/12/14	
2-Hexanone	ND	10	ug/L							03/12/14	
4-Chlorotoluene	ND	0.50	ug/L							03/12/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							03/12/14	
Acetone	ND	10	ug/L							03/12/14	
Benzene	ND	0.50	ug/L							03/12/14	
Bromobenzene	ND	0.50	ug/L							03/12/14	
Bromochloromethane	ND	0.50	ug/L							03/12/14	
Bromodichloromethane	ND	0.50	ug/L							03/12/14	
Bromoform	ND	0.50	ug/L							03/12/14	
Bromomethane	ND	0.50	ug/L							03/12/14	
Carbon Tetrachloride	ND	0.50	ug/L							03/12/14	
Chlorobenzene	ND	0.50	ug/L							03/12/14	
Chloroethane	ND	0.50	ug/L							03/12/14	
Chloroform	ND	0.50	ug/L							03/12/14	
Chloromethane	ND	0.50	ug/L							03/12/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							03/12/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							03/12/14	
Dibromochloromethane	ND	0.50	ug/L							03/12/14	
Dibromomethane	ND	0.50	ug/L							03/12/14	
Dichlorodifluoromethane	ND	0.50	ug/L							03/12/14	
Dichloromethane	ND	0.50	ug/L							03/12/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							03/12/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							03/12/14	
Ethylbenzene	ND	0.50	ug/L							03/12/14	
Hexachlorobutadiene	ND	0.50	ug/L							03/12/14	
Isopropylbenzene	ND	0.50	ug/L							03/12/14	
m,p-Xylenes	ND	0.50	ug/L							03/12/14	
Methyl-t-butyl ether	ND	0.50	ug/L							03/12/14	
Naphthalene	ND	0.50	ug/L							03/12/14	
n-Butylbenzene	ND	0.50	ug/L							03/12/14	
n-Propylbenzene	ND	0.50	ug/L							03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402993										Prepared: 03/12/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A402993-BLK1)											
o-Xylene	ND	0.50	ug/L							03/12/14	
p-Isopropyltoluene	ND	0.50	ug/L							03/12/14	
sec-Butylbenzene	ND	0.50	ug/L							03/12/14	
Styrene	ND	0.50	ug/L							03/12/14	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							03/12/14	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							03/12/14	
tert-Butylbenzene	ND	0.50	ug/L							03/12/14	
Tetrachloroethene (PCE)	ND	0.50	ug/L							03/12/14	
Toluene	ND	0.50	ug/L							03/12/14	
trans-1,2-Dichloroethene	ND	0.50	ug/L							03/12/14	
trans-1,3-Dichloropropene	ND	0.50	ug/L							03/12/14	
Trichloroethene (TCE)	ND	0.50	ug/L							03/12/14	
Trichlorofluoromethane	ND	5.0	ug/L							03/12/14	
Vinyl Chloride	ND	0.50	ug/L							03/12/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*97*	*70-130*			03/12/14	
Surrogate: Bromofluorobenzene	*51*			*50*		*101*	*70-130*			03/12/14	
Blank Spike (A402993-BS1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		101	70-130			03/12/14	
1,1,1-Trichloroethane	10	0.50	ug/L	10		102	70-130			03/12/14	
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		102	70-130			03/12/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	10	10	ug/L	10		104	70-130			03/12/14	
1,1,2-Trichloroethane	10	0.50	ug/L	10		100	70-130			03/12/14	
1,1-Dichloroethane	10	0.50	ug/L	10		102	70-130			03/12/14	
1,1-Dichloroethene	10	0.50	ug/L	10		103	70-130			03/12/14	
1,1-Dichloropropene	10	0.50	ug/L	10		102	70-130			03/12/14	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		100	70-130			03/12/14	
1,2,4-Trichlorobenzene	9.9	0.50	ug/L	10		99	70-130			03/12/14	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14	
1,2-Dichlorobenzene	10	0.50	ug/L	10		100	70-130			03/12/14	
1,2-Dichloroethane	10	0.50	ug/L	10		101	70-130			03/12/14	
1,2-Dichloropropane	10	0.50	ug/L	10		101	70-130			03/12/14	
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		111	70-130			03/12/14	
1,3-Dichlorobenzene	10	0.50	ug/L	10		101	70-130			03/12/14	
1,3-Dichloropropane	10	0.50	ug/L	10		100	70-130			03/12/14	
1,4-Dichlorobenzene	10	0.50	ug/L	10		101	70-130			03/12/14	
2,2-Dichloropropane	10	0.50	ug/L	10		102	70-130			03/12/14	
2-Butanone	11	5.0	ug/L	10		114	70-130			03/12/14	
2-Chlorotoluene	10	0.50	ug/L	10		101	70-130			03/12/14	
2-Hexanone	10	10	ug/L	10		103	70-130			03/12/14	
4-Chlorotoluene	10	0.50	ug/L	10		102	70-130			03/12/14	
4-Methyl-2-pentanone	10	5.0	ug/L	10		102	70-130			03/12/14	
Acetone	11	10	ug/L	10		109	70-130			03/12/14	
Benzene	10	0.50	ug/L	10		101	70-130			03/12/14	
Bromobenzene	9.9	0.50	ug/L	10		99	70-130			03/12/14	
Bromochloromethane	9.9	0.50	ug/L	10		99	70-130			03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402993										Prepared: 03/12/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike (A402993-BS1)												
Bromodichloromethane	10	0.50	ug/L	10		102	70-130			03/12/14		
Bromoform	9.6	0.50	ug/L	10		96	70-130			03/12/14		
Bromomethane	8.0	0.50	ug/L	10		80	70-130			03/12/14		
Carbon Tetrachloride	10	0.50	ug/L	10		104	70-130			03/12/14		
Chlorobenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
Chloroethane	10	0.50	ug/L	10		102	70-130			03/12/14		
Chloroform	10	0.50	ug/L	10		102	70-130			03/12/14		
Chloromethane	9.9	0.50	ug/L	10		99	70-130			03/12/14		
cis-1,2-Dichloroethene	10	0.50	ug/L	10		101	70-130			03/12/14		
cis-1,3-Dichloropropene	9.7	0.50	ug/L	10		97	70-130			03/12/14		
Dibromochloromethane	10	0.50	ug/L	10		100	70-130			03/12/14		
Dibromomethane	9.9	0.50	ug/L	10		99	70-130			03/12/14		
Dichlorodifluoromethane	10	0.50	ug/L	10		103	70-130			03/12/14		
Dichloromethane	10	0.50	ug/L	10		102	70-130			03/12/14		
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		101	70-130			03/12/14		
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		100	70-130			03/12/14		
Ethylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
Hexachlorobutadiene	10	0.50	ug/L	10		101	70-130			03/12/14		
Isopropylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
m,p-Xylenes	20	0.50	ug/L	20		102	70-130			03/12/14		
Methyl-t-butyl ether	20	0.50	ug/L	20		100	70-130			03/12/14		
Naphthalene	10	0.50	ug/L	10		100	70-130			03/12/14		
n-Butylbenzene	10	0.50	ug/L	10		100	70-130			03/12/14		
n-Propylbenzene	10	0.50	ug/L	10		102	70-130			03/12/14		
o-Xylene	10	0.50	ug/L	10		101	70-130			03/12/14		
p-Isopropyltoluene	10	0.50	ug/L	10		101	70-130			03/12/14		
sec-Butylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
Styrene	15	0.50	ug/L	10		147	70-130			03/12/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		103	70-130			03/12/14		
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		104	70-130			03/12/14		
tert-Butylbenzene	10	0.50	ug/L	10		101	70-130			03/12/14		
Tetrachloroethene (PCE)	10	0.50	ug/L	10		102	70-130			03/12/14		
Toluene	10	0.50	ug/L	10		101	70-130			03/12/14		
trans-1,2-Dichloroethene	10	0.50	ug/L	10		102	70-130			03/12/14		
trans-1,3-Dichloropropene	9.7	0.50	ug/L	10		97	70-130			03/12/14		
Trichloroethene (TCE)	10	0.50	ug/L	10		101	70-130			03/12/14		
Trichlorofluoromethane	10	5.0	ug/L	10		105	70-130			03/12/14		
Vinyl Chloride	10	0.50	ug/L	10		102	70-130			03/12/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*103*	*70-130*			03/12/14		
Surrogate: Bromofluorobenzene	*51*			*50*		*102*	*70-130*			03/12/14		
Blank Spike Dup (A402993-BSD1)												
1,1,1,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14		
1,1,1-Trichloroethane	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
1,1,2,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
1,1,2-Trichloro-1,2,2-trifluoroethane	10	10	ug/L	10		100	70-130	3	30	03/12/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A402993										Prepared: 03/12/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A402993-BSD1)											
1,1,2-Trichloroethane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,1-Dichloroethane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,1-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	5	30	03/12/14	
1,1-Dichloropropene	9.8	0.50	ug/L	10		98	70-130	5	30	03/12/14	
1,2,3-Trichlorobenzene	9.7	0.50	ug/L	10		97	70-130	2	30	03/12/14	
1,2,4-Trichlorobenzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/12/14	
1,2,4-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,2-Dichlorobenzene	9.8	0.50	ug/L	10		98	70-130	2	30	03/12/14	
1,2-Dichloroethane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,2-Dichloropropane	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		107	70-130	4	30	03/12/14	
1,3-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130	3	30	03/12/14	
1,3-Dichloropropane	9.8	0.50	ug/L	10		98	70-130	2	30	03/12/14	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130	3	30	03/12/14	
2,2-Dichloropropane	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14	
2-Butanone	10	5.0	ug/L	10		101	70-130	12	30	03/12/14	
2-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
2-Hexanone	9.4	10	ug/L	10		94	70-130	9	30	03/12/14	
4-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
4-Methyl-2-pentanone	9.4	5.0	ug/L	10		94	70-130	9	30	03/12/14	
Acetone	9.5	10	ug/L	10		95	70-130	14	30	03/12/14	
Benzene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14	
Bromobenzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/12/14	
Bromochloromethane	9.8	0.50	ug/L	10		98	70-130	1	30	03/12/14	
Bromodichloromethane	9.9	0.50	ug/L	10		99	70-130	2	30	03/12/14	
Bromoform	9.4	0.50	ug/L	10		94	70-130	3	30	03/12/14	
Bromomethane	8.7	0.50	ug/L	10		87	70-130	9	30	03/12/14	
Carbon Tetrachloride	10	0.50	ug/L	10		100	70-130	4	30	03/12/14	
Chlorobenzene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
Chloroethane	9.8	0.50	ug/L	10		98	70-130	5	30	03/12/14	
Chloroform	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14	
Chloromethane	9.0	0.50	ug/L	10		90	70-130	9	30	03/12/14	
cis-1,2-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
cis-1,3-Dichloropropene	9.5	0.50	ug/L	10		95	70-130	2	30	03/12/14	
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130	2	30	03/12/14	
Dibromomethane	9.8	0.50	ug/L	10		98	70-130	2	30	03/12/14	
Dichlorodifluoromethane	9.8	0.50	ug/L	10		98	70-130	5	30	03/12/14	
Dichloromethane	9.9	0.50	ug/L	10		99	70-130	3	30	03/12/14	
Di-isopropyl ether (DIPE)	9.7	3.0	ug/L	10		97	70-130	3	30	03/12/14	
Ethyl tert-Butyl Ether (ETBE)	9.7	0.50	ug/L	10		97	70-130	3	30	03/12/14	
Ethylbenzene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14	
Hexachlorobutadiene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
Isopropylbenzene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14	
m,p-Xylenes	20	0.50	ug/L	20		98	70-130	4	30	03/12/14	
Methyl-t-butyl ether	20	0.50	ug/L	20		98	70-130	2	30	03/12/14	
Naphthalene	9.6	0.50	ug/L	10		96	70-130	4	30	03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A402993										Prepared: 03/12/2014		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A402993-BSD1)												
n-Butylbenzene	9.6	0.50	ug/L	10		96	70-130	4	30	03/12/14		
n-Propylbenzene	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
o-Xylene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14		
p-Isopropyltoluene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14		
sec-Butylbenzene	9.8	0.50	ug/L	10		98	70-130	3	30	03/12/14		
Styrene	14	0.50	ug/L	10		144	70-130	2	30	03/12/14	BS	***High***
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		100	70-130	3	30	03/12/14		
tert-Butyl alcohol (TBA)	9.2	2.0	ug/L	10		92	70-130	13	30	03/12/14		
tert-Butylbenzene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14		
Tetrachloroethene (PCE)	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
Toluene	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14		
trans-1,2-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
trans-1,3-Dichloropropene	9.5	0.50	ug/L	10		95	70-130	2	30	03/12/14		
Trichloroethene (TCE)	9.7	0.50	ug/L	10		97	70-130	4	30	03/12/14		
Trichlorofluoromethane	10	5.0	ug/L	10		101	70-130	4	30	03/12/14		
Vinyl Chloride	9.8	0.50	ug/L	10		98	70-130	4	30	03/12/14		
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*103*	*70-130*			03/12/14		
Surrogate: Bromofluorobenzene	*51*			*50*		*102*	*70-130*			03/12/14		
EPA 525.2 - Quality Control												
Batch: A403148										Prepared: 03/14/2014		
Prep Method: EPA 525.2										Analyst: GAK		
Blank (A403148-BLK1)												
Alachlor	ND	1.0	ug/L							03/16/14		
Atrazine	ND	0.50	ug/L							03/16/14		
Benzo(a)pyrene	ND	0.10	ug/L							03/16/14		
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							03/16/14		
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							03/16/14		
Bromacil	ND	10	ug/L							03/16/14		
Butachlor	ND	0.38	ug/L							03/16/14		
Diazinon	ND	0.25	ug/L							03/16/14		
Dimethoate	ND	10	ug/L							03/16/14		
Metolachlor	ND	0.50	ug/L							03/16/14		
Metribuzin	ND	0.50	ug/L							03/16/14		
Molinate	ND	2.0	ug/L							03/16/14		
Prometryn	ND	2.0	ug/L							03/16/14		
Propachlor	ND	0.50	ug/L							03/16/14		
Simazine	ND	1.0	ug/L							03/16/14		
Thiobencarb	ND	1.0	ug/L							03/16/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.8*			*5.0*		*117*	*70-130*			03/16/14		
Blank Spike (A403148-BS1)												
Alachlor	0.51	1.0	ug/L	0.51		100	70-130			03/16/14		
Atrazine	0.53	0.50	ug/L	0.51		103	70-130			03/16/14		
Benzo(a)pyrene	0.093	0.10	ug/L	0.10		90	70-130			03/16/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A403148										Prepared: 03/14/2014		
Prep Method: EPA 525.2										Analyst: GAK		
Blank Spike (A403148-BS1)												
Bis(2-ethylhexyl) adipate	3.3	3.0	ug/L	3.1		106	70-130			03/16/14		
Bis(2-ethylhexyl) phthalate	4.2	3.0	ug/L	3.1		138	70-130			03/16/14	BS	***High***
Bromacil	2.6	10	ug/L	2.1		126	70-130			03/16/14		
Butachlor	1.4	0.38	ug/L	1.3		106	70-130			03/16/14		
Diazinon	0.047	0.25	ug/L	0.051		92	70-130			03/16/14		
Dimethoate	0.57	10	ug/L	0.51		111	70-130			03/16/14		
Metolachlor	2.8	0.50	ug/L	2.6		107	70-130			03/16/14		
Metribuzin	2.9	0.50	ug/L	2.6		114	70-130			03/16/14		
Molinate	2.9	2.0	ug/L	2.6		112	70-130			03/16/14		
Prometryn	0.63	0.50	ug/L	0.51		123	70-130			03/16/14		
Propachlor	3.0	0.50	ug/L	2.6		116	70-130			03/16/14		
Simazine	0.39	1.0	ug/L	0.36		109	70-130			03/16/14		
Thiobencarb	0.59	1.0	ug/L	0.51		114	70-130			03/16/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.1*		*107*	*70-130*			03/16/14		
Blank Spike Dup (A403148-BSD1)												
Alachlor	0.54	1.0	ug/L	0.54		100	70-130	5	30	03/16/14		
Atrazine	0.58	0.50	ug/L	0.54		108	70-130	9	30	03/16/14		
Benzo(a)pyrene	0.11	0.10	ug/L	0.11		100	70-130	15	30	03/16/14		
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.2		109	70-130	7	30	03/16/14		
Bis(2-ethylhexyl) phthalate	4.8	3.0	ug/L	3.2		148	70-130	12	30	03/16/14	BS	***High***
Bromacil	2.7	10	ug/L	2.1		124	70-130	3	30	03/16/14		
Butachlor	1.4	0.38	ug/L	1.3		108	70-130	6	30	03/16/14		
Diazinon	0.057	0.25	ug/L	0.054		106	70-130	18	30	03/16/14		
Dimethoate	0.56	10	ug/L	0.54		104	70-130	3	30	03/16/14		
Metolachlor	2.8	0.50	ug/L	2.7		104	70-130	1	30	03/16/14		
Metribuzin	3.1	0.50	ug/L	2.7		114	70-130	4	30	03/16/14		
Molinate	3.2	2.0	ug/L	2.7		118	70-130	9	30	03/16/14		
Prometryn	0.65	0.50	ug/L	0.54		121	70-130	3	30	03/16/14		
Propachlor	3.2	0.50	ug/L	2.7		119	70-130	7	30	03/16/14		
Simazine	0.41	1.0	ug/L	0.38		110	70-130	5	30	03/16/14		
Thiobencarb	0.63	1.0	ug/L	0.54		117	70-130	7	30	03/16/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.7*			*5.4*		*107*	*70-130*			03/16/14		
Matrix Spike (A403148-MS1), Source: A4C0755-02												
Alachlor	0.52	1.0	ug/L	0.52	ND	99	70-130			03/16/14		
Atrazine	0.52	0.50	ug/L	0.52	ND	99	70-130			03/16/14		
Benzo(a)pyrene	0.13	0.10	ug/L	0.10	ND	95	70-130			03/16/14		
Bis(2-ethylhexyl) adipate	3.4	3.0	ug/L	3.1	ND	109	70-130			03/16/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	3.1	ND	110	70-130			03/16/14		
Bromacil	2.5	10	ug/L	2.1	ND	122	70-130			03/16/14		
Butachlor	1.4	0.38	ug/L	1.3	ND	105	70-130			03/16/14		
Diazinon	0.055	0.25	ug/L	0.052	ND	106	70-130			03/16/14		
Dimethoate	0.59	10	ug/L	0.52	ND	113	70-130			03/16/14		
Metolachlor	2.7	0.50	ug/L	2.6	ND	103	70-130			03/16/14		
Metribuzin	2.7	0.50	ug/L	2.6	ND	103	70-130			03/16/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A403148										Prepared: 03/14/2014	
Prep Method: EPA 525.2										Analyst: GAK	
Matrix Spike (A403148-MS1), Source: A4C0755-02											
Molinate	2.9	2.0	ug/L	2.6	ND	110	70-130			03/16/14	
Prometryn	0.53	0.50	ug/L	0.52	ND	101	70-130			03/16/14	
Propachlor	2.9	0.50	ug/L	2.6	ND	111	70-130			03/16/14	
Simazine	0.34	1.0	ug/L	0.36	ND	93	70-130			03/16/14	
Thiobencarb	0.55	1.0	ug/L	0.52	ND	105	70-130			03/16/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.6*			*5.2*		*108*	*70-130*			03/16/14	
EPA 531.1 - Quality Control											
Batch: A403040										Prepared: 03/12/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A403040-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							03/12/14	
Aldicarb	ND	3.0	ug/L							03/12/14	
Aldicarb Sulfone	ND	2.0	ug/L							03/12/14	
Aldicarb Sulfoxide	ND	3.0	ug/L							03/12/14	
Carbaryl	ND	5.0	ug/L							03/12/14	
Carbofuran	ND	5.0	ug/L							03/12/14	
Methiocarb	ND	2.0	ug/L							03/12/14	
Methomyl	ND	2.0	ug/L							03/12/14	
Oxamyl	ND	20	ug/L							03/12/14	
Propoxur	ND	2.0	ug/L							03/12/14	
Blank Spike (A403040-BS1)											
3-Hydroxycarbofuran	4.2	3.0	ug/L	4.0		106	80-120			03/12/14	
Aldicarb	4.1	3.0	ug/L	4.0		103	80-120			03/12/14	
Aldicarb Sulfone	4.3	2.0	ug/L	4.0		107	80-120			03/12/14	
Aldicarb Sulfoxide	4.3	3.0	ug/L	4.0		106	80-120			03/12/14	
Carbaryl	4.2	5.0	ug/L	4.0		104	80-120			03/12/14	
Carbofuran	4.2	5.0	ug/L	4.0		105	80-120			03/12/14	
Methiocarb	4.5	2.0	ug/L	4.0		112	80-120			03/12/14	
Methomyl	4.4	2.0	ug/L	4.0		109	80-120			03/12/14	
Oxamyl	4.2	20	ug/L	4.0		106	80-120			03/12/14	
Propoxur	4.3	2.0	ug/L	4.0		107	80-120			03/12/14	
Blank Spike Dup (A403040-BSD1)											
3-Hydroxycarbofuran	4.3	3.0	ug/L	4.0		108	80-120	2	20	03/12/14	
Aldicarb	4.1	3.0	ug/L	4.0		103	80-120	0	20	03/12/14	
Aldicarb Sulfone	4.3	2.0	ug/L	4.0		107	80-120	1	20	03/12/14	
Aldicarb Sulfoxide	4.3	3.0	ug/L	4.0		107	80-120	0	20	03/12/14	
Carbaryl	4.2	5.0	ug/L	4.0		106	80-120	1	20	03/12/14	
Carbofuran	4.2	5.0	ug/L	4.0		105	80-120	0	20	03/12/14	
Methiocarb	4.2	2.0	ug/L	4.0		104	80-120	7	20	03/12/14	
Methomyl	4.3	2.0	ug/L	4.0		107	80-120	2	20	03/12/14	
Oxamyl	4.2	20	ug/L	4.0		106	80-120	0	20	03/12/14	
Propoxur	4.1	2.0	ug/L	4.0		102	80-120	6	20	03/12/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A403040										Prepared: 03/12/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Matrix Spike (A403040-MS1), Source: A4C0825-01											
3-Hydroxycarbofuran	4.1	3.0	ug/L	4.0	ND	103	65-135			03/13/14	
Aldicarb	3.9	3.0	ug/L	4.0	ND	99	65-135			03/13/14	
Aldicarb Sulfone	4.1	2.0	ug/L	4.0	ND	102	65-135			03/13/14	
Aldicarb Sulfoxide	4.1	3.0	ug/L	4.0	ND	103	65-135			03/13/14	
Carbaryl	4.1	5.0	ug/L	4.0	ND	103	65-135			03/13/14	
Carbofuran	4.1	5.0	ug/L	4.0	ND	101	65-135			03/13/14	
Methiocarb	4.1	2.0	ug/L	4.0	ND	96	65-135			03/13/14	
Methomyl	4.2	2.0	ug/L	4.0	ND	105	65-135			03/13/14	
Oxamyl	4.1	20	ug/L	4.0	ND	102	65-135			03/13/14	
Propoxur	4.0	2.0	ug/L	4.0	ND	101	65-135			03/13/14	
EPA 547 - Quality Control											
Batch: A403000										Prepared: 03/12/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A403000-BLK1)											
Glyphosate	ND	25	ug/L							03/12/14	
Surrogate: AMPA	*110*			*100*		*113*	*70-130*			03/12/14	
Blank Spike (A403000-BS1)											
Glyphosate	100	25	ug/L	100		105	70-130			03/12/14	
Surrogate: AMPA	*110*			*100*		*107*	*70-130*			03/12/14	
Blank Spike Dup (A403000-BSD1)											
Glyphosate	120	25	ug/L	100		118	70-130	12	30	03/12/14	
Surrogate: AMPA	*120*			*100*		*119*	*70-130*			03/12/14	
Matrix Spike (A403000-MS1), Source: A4C0880-01											
Glyphosate	120	25	ug/L	100	ND	115	70-130			03/12/14	
Surrogate: AMPA	*130*			*100*		*125*	*70-130*			03/12/14	
Matrix Spike Dup (A403000-MSD1), Source: A4C0880-01											
Glyphosate	110	25	ug/L	100	ND	109	70-130	5	30	03/12/14	
Surrogate: AMPA	*120*			*100*		*117*	*70-130*			03/12/14	
EPA 548.1 - Quality Control											
Batch: A403056										Prepared: 03/12/2014	
Prep Method: EPA 548.1										Analyst: GAK	
Blank (A403056-BLK1)											
Endothall	ND	45	ug/L							03/13/14	
Blank Spike (A403056-BS1)											
Endothall	17	45	ug/L	20		85	60-111			03/13/14	
Blank Spike Dup (A403056-BSD1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 548.1 - Quality Control											
Batch: A403056										Prepared: 03/12/2014	
Prep Method: EPA 548.1										Analyst: GAK	
Blank Spike Dup (A403056-BSD1)											
Endothall	14	45	ug/L	20		71	60-111	18	46	03/13/14	
Matrix Spike (A403056-MS1), Source: A4C0610-01											
Endothall	ND	45	ug/L	20	ND	0	10-122			03/13/14	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A403100										Prepared: 03/13/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A403100-BLK1)											
Diquat	ND	4.0	ug/L							03/14/14	
Blank Spike (A403100-BS1)											
Diquat	3.3	4.0	ug/L	4.0		83	70-130			03/14/14	
Blank Spike Dup (A403100-BSD1)											
Diquat	3.2	4.0	ug/L	4.0		79	70-130	5	30	03/14/14	
Matrix Spike (A403100-MS1), Source: A4C0537-01											
Diquat	3.0	4.0	ug/L	4.0	ND	75	70-130			03/14/14	
Matrix Spike (A403100-MS2), Source: A4C0537-02											
Diquat	3.4	4.0	ug/L	4.0	ND	85	70-130			03/14/14	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters:

A4C0833

Monterey Bay Analytical

Monte6227

03112014

Turnaround: Standard

Due Date: 3/18/2014

Printed: 3/11/2014 5:51:12PM

Appendix G

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

A4C0833
Monte6227

03/11/2014
5

2.7

* Required Fields

TEMP: _____

Client/Company Name *:	Report Attention *:	Phone * #: (831)-357-6227 FAX * #(831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Project Information: Cal Am

PO # Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Regulatory Compliance Electronic Data Transfer: Y ☐ N ☑ *System No. **

Sampler Name Printed / Signature: Josh Soboleu

QC Request: ☑ STD ☐ Level II

Result Request / ** Surcharge: ☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Matrix Types: RSW = Raw Surface Water CFW = Chlorinated Finished Water CWW = Chlorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 inc MTBE	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549
1		3/10/14	10:00	CX-B2WQ Zone #2	RGW	12631	✓	✓	✓	✓	✓	✓	✓	✓
				5 day TAT please										
				Conductivity ~~35194 uS/cm~~ 21,681 uS										

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	3/10/14	1200		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	
		3/10/14	1045		

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material:

Notice: Payment for services rendered as noted herein are due in full within 30 days from when invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service/re-billing charges and interest calculated at 1 1/2 % per month, 18% per annum. BSK & Associates shall be entitled to recover on delinquent accounts, costs of collections, including attorneys' fees incurred prior to or in litigation whether concluded by judgement, settlement, compromise or otherwise. The person signing for the client/Company expressley acknowledges that they are either the Client or authorized agent to the Client, and the Client agrees to be responsible for payment for analytical services on this Chain of Custody. Any modification of the analysis requested, either type or quantities, will be noted and agreed upon this *Chain of Custody*. The turn around time for any samples received after 3:00 pm will begin the next business day.

SR-FL-0012-00 (4/08/2014)

G-460

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received — "—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?						
Bacti $Na_2S_2O_3$	—	—						
None (P) White Cap	—	—						
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N						
HNO_3 (P) Red Cap	—	—						
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N						
NaOH (P) Green Cap	Cl, pH ≥12	Y N						
NaOH + ZnAc (P)	pH ≥ 9	Y N						
Dissolved Oxygen 300ml (g)	—	—						
None (AG) 608/8081/8082, 625, 632/8321 8151, 8270	—	—						
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—						
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C					
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C,2A					
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—						
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	4V					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	1V					
NH_4Cl (AG) Purple Label 552	—	—						
EDA (AG) Brown Label DBPs	—	—						
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—						
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V					
Buffer pH 4 (CG)	—	—						
None (CG)	—	—						
H_3PO_4 (CG) Salmon Label	—	—						
Other:								
Asbestos 1Liter Plastic w/ Foil	—	—						
Low Level Hg / Metals Double Baggie	—	—						
Bottled Water	—	—						
Clear Glass Jar: 250 / 500 / 1 Liter	—	—						
Soil Tube Brass / Steel / Plastic	—	—						
Tedlar Bag / Plastic Bag	—	—						

3/11/14

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: SRB @ 1709 Labels checked by: MD @ 17:23 RUSH Paged by:

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

March 15, 2014

Ceres ID: 10287

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on March 11, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

This work was authorized under M.B.A.'s Project # 12631.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10287-001	CX-B2WQ Zone #2	3/11/2014	3/10/2014	10:00

Section II: Data Summary

Sample ID:	**Method Blank**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001
Project:	12631	Sample Size:	1.000 L	QC Batch #:	1165
Date Collected:	NA			ZB-5 MS Analysis Date:	14-Mar-14
Time Collected:	NA			Date Received:	NA
				Date Extracted:	13-Mar-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	3.25		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	104	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	104	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	12631	Sample Size:	1.000 L	QC Batch #:	1165	Date Extracted:	13-Mar-14
Date Collected:	NA			ZB-5 MS Analysis Date:	14-Mar-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.24	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	104	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	9.88	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B2WQ Zone #2**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	10287-001
Project:	12631	Sample Size:	1.042 L	QC Batch #:	1165
Date Collected:	10-Mar-14			ZB-5 MS Analysis Date:	14-Mar-14
Time Collected:	10:00				

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.59		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	102	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	93.9	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

Chain of Custody 10287

Ceres Use Only

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Please Print in Pen

Ceres Project ID: _____
Temperature: _____ °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information (if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days)
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous	S: Soil	AS: Ash	DW: Drinking Water
E: Effluent	SD: Sediment	C: Clay	SO: Solid
I: Influent	SL: Sludge	CS: Clay Slurry	O: Other (please comment)

	Sample ID	Sample Collection Date	Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other	Comments
1	CX-B2WQ Zone #2	3/10/2014	10:00	Aq	2	X							12631
2													(2,3,7,8 TCDD only)
3													5 day Rush Please
4													Conductivity 21,681 uS
5													
6													
7													
8													
9													
10													
11													
12													

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: *(Signature and Printed Name)*	Date	Time	Received by: *(signature and Printed Name)*	Date	Time
David Holland	3/10/2014	12:00	Debbie Heslin	3/11/14	10:15

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10287	Date/Time: 3/11/14 10:15am
Client Project ID: 12631	Received Temperature: 0.2 Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / N / (NA)
List COC discrepancies: MCN 3/11/14	
List Damaged Samples: MCN 3/11/14	

Ceres Analytical Laboratory — Process Request

Ceres ID: 10287 PB: 1165 Sample #s: 1 Due Date: 2/16/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☐ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10287-1	1555.34	513.00	1.042 L

Chemist: _____ Date: 3/13/14

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1165-MB001	Method Blank		1.000L	3/13/14	3/14/14	NA	3/14/14	NA	3/14/14
0-1165-OPR001	OPR		1.000L	(A)					
10287-1165-001	CX-B2WQ Zone #2	✓	1.042L						

Comments: (A) Spiked w/ ASS

Soxhlet Start: 15:00 3/13/14

Soxhlet Stop: 07:15 3/14/14

Samples Logged out by: 11:00 3/13/14

Samples Returned by: NA

Note samples Depleted: 1A

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 10:30 3/14/14

Extracts returned to Storage Location: 09:00 3/15/14

Form M1.0 rev4

Chemist: G473

Method: 1613
SOP #: 301.7

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	S031212A	1g l	3/12/17
NSS	S031212B	10ml	3/12/17
CSS	S031212C	1g l	3/12/17
RSS	S031212D	20 l	3/12/17

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	PB00577001	8/17/14
Hexane	30,30,100,200	5326 3	8/11/14
Sigel	4g	P020514A	8/5/14
Basicgel	4g	P012014A	7/20/14
Acid gel	8g	P031114A	9/11/14
Acid Al	6g	P031114B	9/11/14
Na_2SO_4	1.5g	P120413A	6/4/14
20% Dcm Hex	30ml	L031214A	9/12/14

Form M1.0 rev4

Chemist : C-474

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	**Report Date:**	03/17/14 13:56
		Received Date:	03/11/14 09:20
		Turn Around:	5 workdays
Attention:	David Holland	**Client Project:**	Cal Am
Phone:	(831) 375-6227		
Fax:	(831) 641-0734		
Work Order(s):	4C11006		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear David Holland :

Enclosed are the results of analyses for samples received 03/ 11/14 09:20 with the Chain of Custody document. The samples were received in good condition, at 4.8 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
CX-B2WQ Zone #2	Josh Soboleu	12631	4C11006-01	Water	03/10/14 10:00

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:56

4C11006-01 CX-B2WQ Zone #2

Sampled: 03/10/14 10:00 **Sampled By:** Josh Soboleu **Matrix:** Water

Sample Note: 12631

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 9056A Batch: W4C0833 Prepared: 03/15/14 10:30 Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Iodide	ND	120	ug/l	12.5	03/15/14 15:05	M-02

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W4C0665 Prepared: 03/12/14 14:41 Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND		0.010	ug/l	1	03/14/14 02:15	
4,4´-DDE	ND		0.010	ug/l	1	03/14/14 02:15	
4,4´-DDT	ND		0.010	ug/l	1	03/14/14 02:15	
Aldrin	ND		0.010	ug/l	1	03/14/14 02:15	
alpha-BHC	ND		0.010	ug/l	1	03/14/14 02:15	
Aroclor 1016	ND		0.10	ug/l	1	03/14/14 02:15	
Aroclor 1221	ND		0.10	ug/l	1	03/14/14 02:15	
Aroclor 1232	ND		0.10	ug/l	1	03/14/14 02:15	
Aroclor 1242	ND		0.10	ug/l	1	03/14/14 02:15	
Aroclor 1248	ND		0.10	ug/l	1	03/14/14 02:15	
Aroclor 1254	ND		0.10	ug/l	1	03/14/14 02:15	
Aroclor 1260	ND		0.10	ug/l	1	03/14/14 02:15	
beta-BHC	ND		0.010	ug/l	1	03/14/14 02:15	
Chlordane (tech)	ND		0.10	ug/l	1	03/14/14 02:15	
Chlorothalonil	ND		0.050	ug/l	1	03/14/14 02:15	
delta-BHC	ND		0.010	ug/l	1	03/14/14 02:15	
Dieldrin	ND		0.010	ug/l	1	03/14/14 02:15	
Endosulfan I	ND		0.010	ug/l	1	03/14/14 02:15	
Endosulfan II	ND		0.010	ug/l	1	03/14/14 02:15	
Endosulfan sulfate	ND		0.010	ug/l	1	03/14/14 02:15	
Endrin	ND		0.010	ug/l	1	03/14/14 02:15	
Endrin aldehyde	ND		0.010	ug/l	1	03/14/14 02:15	
gamma-BHC (Lindane)	ND		0.010	ug/l	1	03/14/14 02:15	
Heptachlor	ND		0.010	ug/l	1	03/14/14 02:15	
Heptachlor epoxide	ND		0.010	ug/l	1	03/14/14 02:15	
Hexachlorobenzene	ND		0.010	ug/l	1	03/14/14 02:15	
Hexachlorocyclopentadiene	ND		0.050	ug/l	1	03/14/14 02:15	
Methoxychlor	ND		0.010	ug/l	1	03/14/14 02:15	
PCBs, Total	ND		0.50	ug/l	1	03/14/14 02:15	
Propachlor	ND		0.050	ug/l	1	03/14/14 02:15	
Toxaphene	ND		1.0	ug/l	1	03/14/14 02:15	
Trifluralin	ND		0.010	ug/l	1	03/14/14 02:15	
Surr: Decachlorobiphenyl	*32 %*	Conc:*0.0308*	*70-130*	%			*S-GC*
Surr: Tetrachloro-meta-xylene	*116 %*	Conc:*0.111*	*70-130*	%			

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:56

4C11006-01 **CX-B2WQ Zone #2**

Sampled: 03/10/14 10:00 **Sampled By:** Josh Soboleu **Matrix:** Water

Sample Note: 12631

Chlorinated Pesticides and/or PCBs

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:56

QUALITY CONTROL SECTION

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:56

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4C0833 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0833-BLK1)				Analyzed: 03/15/14 15:05						
Iodide	ND	10	ug/l							
LCS (W4C0833-BS1)				Analyzed: 03/15/14 15:05						
Iodide	40.2	10	ug/l	40.0		101	85-115			
Matrix Spike (W4C0833-MS1)	**Source: 4C11006-01**			Analyzed: 03/15/14 15:05						
Iodide	1090	250	ug/l	1000	ND	109	80-120			
Matrix Spike Dup (W4C0833-MSD1)	**Source: 4C11006-01**			Analyzed: 03/15/14 15:05						
Iodide	931	250	ug/l	1000	ND	93	80-120	15	20	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0665 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0665-BLK1)				Analyzed: 03/14/14 00:12						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:56

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0665 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0665-BLK1)				Analyzed: 03/14/14 00:12						
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.108*		*ug/l*	*0.100*		*108*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.106*		*ug/l*	*0.100*		*106*	*70-130*			
LCS (W4C0665-BS1)				Analyzed: 03/14/14 00:43						
4,4´-DDD	0.0745	0.010	ug/l	0.100		75	55-142			
4,4´-DDE	0.0830	0.010	ug/l	0.100		83	49-129			
4,4´-DDT	0.0919	0.010	ug/l	0.100		92	54-160			
Aldrin	0.0782	0.010	ug/l	0.100		78	29-115			
alpha-BHC	0.0801	0.010	ug/l	0.100		80	59-131			
beta-BHC	0.0723	0.010	ug/l	0.100		72	63-136			
delta-BHC	0.0874	0.010	ug/l	0.100		87	59-137			
Dieldrin	0.0773	0.010	ug/l	0.100		77	59-135			
Endosulfan I	0.0659	0.010	ug/l	0.100		66	28-138			
Endosulfan II	0.0673	0.010	ug/l	0.100		67	53-133			
Endosulfan sulfate	0.0716	0.010	ug/l	0.100		72	58-155			
Endrin	0.0725	0.010	ug/l	0.100		72	57-148			
Endrin aldehyde	0.0706	0.010	ug/l	0.100		71	45-139			
gamma-BHC (Lindane)	0.0595	0.010	ug/l	0.100		60	59-129			
Heptachlor	0.0879	0.010	ug/l	0.100		88	42-136			
Heptachlor epoxide	0.0757	0.010	ug/l	0.100		76	59-134			
Methoxychlor	0.0727	0.010	ug/l	0.100		73	56-167			
Surr: Decachlorobiphenyl	*0.0947*		*ug/l*	*0.100*		*95*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0986*		*ug/l*	*0.100*		*99*	*70-130*			
LCS Dup (W4C0665-BSD1)				Analyzed: 03/14/14 01:13						
4,4´-DDD	0.0865	0.010	ug/l	0.100		87	55-142	15	25	
4,4´-DDE	0.0904	0.010	ug/l	0.100		90	49-129	9	25	
4,4´-DDT	0.102	0.010	ug/l	0.100		102	54-160	10	25	
Aldrin	0.0841	0.010	ug/l	0.100		84	29-115	7	25	
alpha-BHC	0.0886	0.010	ug/l	0.100		89	59-131	10	25	
beta-BHC	0.0835	0.010	ug/l	0.100		84	63-136	14	25	
delta-BHC	0.0960	0.010	ug/l	0.100		96	59-137	9	25	
Dieldrin	0.0883	0.010	ug/l	0.100		88	59-135	13	25	
Endosulfan I	0.0704	0.010	ug/l	0.100		70	28-138	7	25	
Endosulfan II	0.0754	0.010	ug/l	0.100		75	53-133	11	25	
Endosulfan sulfate	0.0870	0.010	ug/l	0.100		87	58-155	19	25	
Endrin	0.0802	0.010	ug/l	0.100		80	57-148	10	25	
Endrin aldehyde	0.0736	0.010	ug/l	0.100		74	45-139	4	25	
gamma-BHC (Lindane)	0.0873	0.010	ug/l	0.100		87	59-129	38	25	Q-12
Heptachlor	0.0945	0.010	ug/l	0.100		95	42-136	7	25	
Heptachlor epoxide	0.0844	0.010	ug/l	0.100		84	59-134	11	25	
Methoxychlor	0.0923	0.010	ug/l	0.100		92	56-167	24	25	
Surr: Decachlorobiphenyl	*0.105*		*ug/l*	*0.100*		*105*	*70-130*			

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:56

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0665 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4C0665-BSD1)				Analyzed: 03/14/14 01:13						
Surr: Tetrachloro-meta-xylene	*0.107*		*ug/l*	*0.100*		*107*	*70-130*			

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/11/14 09:20
Date Reported: 03/17/14 13:56

Notes and Definitions

S-GC	Surrogate recovery outside of control limits due to a possible matrix effect . The data was accepted based on valid recovery of the remaining surrogate.
Q-12	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on the percent recoveries and/or other acceptable QC data.
M-02	Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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http://www.MBASinc.com

Color QC Summary (SM 2120B)

Date Analyzed: 3/10/2014

	Value (Color Units)	Result (Color Units)	% Rec	Acceptance Criteria %Rec
IPC	5	5	100.0	95-105

Sample ID	Sample (Color Units)	Sample Dup (Color Units)	% RPD	Acceptance Criteria % RPD
AB12658	1	1	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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MBAS QC Summary (SM 5540C)

Date Analyzed: 3/10/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	0.050	0.053	106	80-120

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

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pH QC Summary (SM 4500 H+)

Date Analyzed: 3/10/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.88	100.3	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB12673	7.3	7.3	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Turbidity QC Summary (EPA 180.1)

Date Analyzed: 3/10/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.00	100.0	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB12631	0.665	0.673	-0.01	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 3/11/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC (Low)	0.050	0.046	92	90-110
IPC (High)	0.500	0.494	98.8	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12237	0.014	0.500	0.486	0.499	94.46	97.06	2.6	85-120	10
AB12621	0.014	0.500	0.360	0.362	69.26	69.66	0.6	85-124	10

Note: The MS and MSD for the sample ID AB12621, does not meet the the acceptance criteria for the rec %. Data is accepted due IPC (Low) and IPC (High) rec %.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check
RPD = Relative Percent Difference; Rec = Recovery

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Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 3/11/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB12689	798	799	0.1%	10
AB12740	394	390	1.0%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N	PO4-P
		2	20	2	20	2	2	2
IPC		2.09	19.67	2.11	19.26	2.12	1.97	2.01
Recovery	90-110%	104.45	98.35	105.73	96.31	105.80	98.37	100.75
CCV1		2.08	19.71	2.12	19.33	2.12	1.98	2.01
Recovery	90-110%	104.00	98.57	106.17	96.64	106.04	99.03	100.40
RPD	10%	0.43	0.23	0.42	0.35	0.23	0.67	0.35
CCV2		2.09	19.84	2.13	19.36	2.13	1.99	2.01
Recovery	90-110%	104.29	99.20	106.42	96.78	106.45	99.68	100.74
RPD	10%	0.16	0.86	0.65	0.49	0.61	1.32	0.01
CCV3		2.09	19.84	2.14	19.42	2.13	1.99	2.02
Recovery	90-110%	104.44	99.21	106.76	97.08	106.61	99.41	100.79
RPD	10%	0.01	0.87	0.96	0.80	0.76	1.05	0.04
		F	**Cl**	**NO2-N**	**SO4**	**Br**	**NO3-N**	**PO4-P**
		2	20	2	20	2	2	2
AB12686		0.37	35.27	0.23	164.17	0.02	4.25	0.00
AB12686+LFM		2.51	53.15	2.20	184.33	1.66	6.30	1.75
AB12686+LFMD		2.52	53.37	2.20	184.18	1.66	6.28	1.69
Average		2.51	53.26	2.20	184.25	1.66	6.29	1.72
Recovery	80-120%	107.20	89.96	98.34	100.40	81.94	101.91	85.83
RPD	10%	0.14	0.42	0.24	0.08	0.24	0.39	3.50
AB12697		0.19	58.83	0.13	134.78	0.00	6.73	0.00
AB12697+LFM		2.37	79.50	2.12	153.79	1.57	8.82	1.68
AB12697+LFMD		2.36	78.55	2.11	152.31	1.57	8.75	1.69
Average		2.37	79.02	2.12	153.05	1.57	8.79	1.68
Recovery	80-120%	108.52	100.96	99.13	91.35	78.49	103.09	84.24
RPD	10%	0.71	1.20	0.24	0.97	0.16	0.85	0.96

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Alkalinity QC Summary (SM 2320B)

Date Analyzed: 3/13/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	40	41.1	102.75	95-105
IPC	40	38.5	96.25	95-105

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12682	253.1	256.7	1.4	10
AB12692	230.1	231.5	0.6	10
AB12765	292.9	292.3	0.2	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

EPA 200.7 QC

Batch # 20140313

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.01	0.00	1.00	100.4%	1.03	103.1%	2.7%	1	1.02	101.5%	1	0.98	97.8%
B 249.772	0.05-5ppm	0.01	0.01	1.01	100.7%	1.03	103.0%	2.3%	1	1.02	102.0%	1	0.99	98.6%
Ca 317.933	50-300ppm	-5.25	-5.24	49.3	98.5%	50.3	100.7%	2.2%	50	49.5	99.0%	50	48.7	97.4%
Ca 396.847	0.5-50ppm	-0.15	-0.14	49.8	99.7%	50.3	100.6%	0.9%	50	50.2	100.4%	50	48.8	97.6%
Cu 324.754	10ppb-100ppm	-8.02	-6.70	995	99.5%	1024	102.4%	2.8%	1000	1010	101.0%	1000	1000	100.0%
Cu 327.395	10ppb-100ppm	-3.00	-4.11	990	99.0%	1017	101.7%	2.7%	1000	1006	100.6%	1000	995	99.5%
Fe 238.204	10ppb-100ppm	-0.64	0.19	998	99.8%	1014	101.4%	1.6%	1000	1003	100.3%	1000	992	99.2%
Fe 259.940	10ppb-100ppm	0.30	-0.50	995	99.5%	1013	101.3%	1.8%	1000	1001	100.1%	1000	993	99.3%
K 766.491	0.5-750ppm	0.20	0.13	9.9	98.6%	10.0	100.4%	1.8%	10	10.0	100.5%	10	9.8	98.0%
Mg 202.582	50-1000ppm	-1.81	-1.83	50.2	100.4%	51.3	102.5%	2.2%	50	50.8	101.6%	50	49.7	99.4%
Mg 279.078	0.5-50ppm	0.04	0.02	48.9	97.8%	50.2	100.4%	2.6%	50	49.8	99.7%	50	49.0	97.9%
Mn 257.610	10ppb-11ppm	-4.82	-5.60	995	99.5%	1016	101.6%	2.1%	1000	1001	100.1%	1000	979	97.9%
Mn 260.568	10ppb-11ppm	-5.16	-5.50	993	99.3%	1012	101.2%	1.9%	1000	999	99.9%	1000	978	97.8%
Na 568.821	50-1000ppm	4.56	4.98	48.4	96.9%	48.9	97.8%	0.9%	50	48.0	95.9%	50	47.3	94.5%
Na 589.592	0.5-50ppm	0.25	0.17	49.6	99.1%	50.2	100.4%	1.3%	50	50.0	100.0%	50	48.6	97.3%
Si 251.611	0.5-200ppm	0.09	0.05	50.0	100.0%	50.9	101.8%	1.7%	50	50.6	101.3%	107	105.5	98.6%
Si 252.411	0.5-200ppm	0.08	0.02	49.7	99.3%	50.7	101.4%	2.1%	50	50.5	100.9%	107	105.3	98.4%

Matrix Spikes

Sample ID AB12549

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.06	1.03	96.3%	1.04	97.3%	1.0%	1	0.98	97.6%	3.9%	0.00
B 249.772	0.06	1.04	97.8%	1.04	97.7%	0.1%	1	0.99	98.8%	3.2%	0.00
Ca 317.933	57.4	109.5	104.1%	108.7	102.5%	0.7%	50	48.5	97.0%	2.1%	-5.27
Ca 396.847	*55.3*	*91.0*	*71.3%*	*91.0*	*71.5%*	*0.1%*	50	48.3	96.6%	3.8%	-0.17
Cu 324.754	341	1295	95.5%	1299	95.8%	0.3%	1000	980	98.0%	3.1%	-8.97
Cu 327.395	336	1289	95.4%	1291	95.5%	0.1%	1000	972	97.2%	3.4%	-2.96
Fe 238.204	22	999	97.7%	993	97.1%	0.6%	1000	975	97.5%	2.8%	-0.52
Fe 259.940	19	987	96.8%	987	96.7%	0.1%	1000	977	97.7%	2.5%	-1.73
K 766.491	3.5	13.2	96.5%	13.3	97.6%	0.9%	10	9.66	96.6%	3.9%	0.08

Mg 202.582	15.7	65.9	100.3%	66.0	100.5%	0.2%	50	49.5	99.0%	2.6%	-1.79
Mg 279.078	16.6	64.0	94.8%	63.8	94.4%	0.3%	50	48.3	96.7%	3.1%	0.01
Mn 257.610	-1	973	97.3%	968	96.9%	0.5%	1000	976	97.6%	2.5%	-5.26
Mn 260.568	0	974	97.4%	968	96.9%	0.5%	1000	975	97.5%	2.4%	-4.73
Na 568.821	58.9	103.5	89.2%	103.4	89.1%	0.0%	50	47.5	94.9%	1.1%	6.03
Na 589.592	*57.8*	*104.7*	*93.6%*	*105.9*	*96.0%*	*1.1%*	50	48.3	96.7%	3.4%	0.17
Si 251.611	27.3	75.5	96.4%	75.0	95.4%	0.7%	50	49.3	98.6%	2.7%	-0.04
Si 252.411	27.0	74.9	95.8%	74.3	94.8%	0.7%	50	48.8	97.5%	3.5%	-0.03

Monterey Bay Analytical Services

QC Summary for 200.8

Spiked Sample
ID AB12896 D

Date Analyzed
Monday, March 17, 2014 13:56:41

	Sample	Spiked	MS	MSD	MS-MSD	LFB	LFB	LFB-LFBD	Acceptance Criteria %			
	ug/L	ug/L	%Rec.	% Rec.	% RPD	% Rec	% Rec	% RPD	MS/MSD	RPD	LFB/LFBD	RPD
Lithium	149.9	50	98.6	95.0	3.71	99.39	105.79	6.24	70-130	20	85-115	20
Beryllium	0.1	50	94.0	93.0	1.09	100.99	104.29	3.21	70-130	20	85-115	20
Aluminum	151.1	50	96.8	98.1	1.38	104.19	103.71	0.46	70-130	20	85-115	20
Vanadium	1.0	50	111.9	110.1	1.57	101.78	96.36	5.47	70-130	20	85-115	20
Chromium	12.7	50	105.9	105.5	0.31	101.51	97.60	3.94	70-130	20	85-115	20
Iron 54	12.8	100	99.7	102.4	2.62	100.42	71.80	33.24	70-130	20	85-115	20
Manganese	67.1	50	100.3	101.3	0.98	99.43	95.41	4.13	70-130	20	85-115	20
Cobalt	1.9	50	97.9	98.7	0.79	102.10	96.35	5.79	70-130	20	85-115	20
Nickel	32.0	50	91.6	92.1	0.56	99.33	96.10	3.30	70-130	20	85-115	20
Copper	168.0	50	97.7	101.8	4.14	99.24	107.13	7.64	70-130	20	85-115	20
Zinc	383.0	50	118.1	105.7	11.02	98.68	119.20	18.84	70-130	20	85-115	20
Arsenic	60.4	50	102.0	107.2	4.91	100.54	108.37	7.49	70-130	20	85-115	20
Selenium	244.6	250	101.6	104.6	2.94	101.59	108.93	6.97	70-130	20	85-115	20
Strontium	9965.8	50	55.0	76.8	33.10	99.57	103.45	3.83	70-130	20	85-115	20
Molybdenum	4.9	50	108.7	110.4	1.56	99.16	95.38	3.90	70-130	20	85-115	20
Silver	0.1	50	86.6	90.7	4.63	100.66	101.33	0.67	70-130	20	85-115	20
Cadmium	-1.7	50	97.1	97.1	0.06	99.84	102.54	2.66	70-130	20	85-115	20
Antimony	0.2	50	100.6	102.4	1.74	100.15	96.78	3.42	70-130	20	85-115	20
Barium	90.2	50	91.2	93.7	2.68	100.03	91.30	9.13	70-130	20	85-115	20
Mercury	0.6	2.5	96.0	96.9	0.99	113.92	120.52	5.63	70-130	20	85-115	20
Thallium	0.1	50	94.6	97.6	3.14	102.41	105.48	2.95	70-130	20	85-115	20
Lead	-0.2	50	93.4	95.4	2.16	99.59	104.99	5.27	70-130	20	85-115	20
Uranium	5.9	50	103.7	105.3	1.57	100.26	107.96	7.39	70-130	20	85-115	20

MS = Matrix Spike MSD = Matrix Spike Duplicate; LFB = Laboratory Fortified Blank; LFBD = Laboratory Fortified Blank Duplicate RPD = Relative Percent Difference

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Kjehldahl Nitrogen QC Summary (SM 4500-NH3)

Date: 3/17/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	5.0	5.200	104	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12627	2.400	5.000	7.200	7.300	96	98	1.4	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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ELAP Certification Number: 2385

Lab Number: AB12792

Collection Date/Time:	3/11/2014	15:45	Sample Collector:	SOBOLEW, J	
Submittal Date/Time:	3/12/2014	8:30	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B2WQ Zone 3 (104-114 Ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**102**		2		3/19/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**156**	J	200	1000	3/17/2014	SM
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**Not Detected**		0.05		3/21/2014	LRH
Arsenic, Total	EPA200.8	ug/L	**59**		20	10	3/17/2014	SM
Barium, Dissolved	EPA200.8	ug/L	**85**	J	200		3/17/2014	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	**124**		10		3/20/2014	SM
Boron, Dissolved	EPA200.7	mg/L	**2.58**		0.5		3/13/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**45**		10		3/13/2014	DC
Calcium	EPA200.7	mg/L	**712**		5		3/13/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**732**		5		3/13/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Attached (ND)**	E			3/14/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		3/20/2014	SM
Chloride, Dissolved	EPA300.0	mg/L	**14099**		100		3/13/2014	DC
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Attached (ND)**	E			3/19/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**Not Detected**		3	15	3/12/2014	LRH
Copper, Total	EPA200.8	ug/L	**150**		80	1300	3/17/2014	SM
DBCP & EDB	EPA504.1	ug/L	**Attached (ND)**	E			3/19/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Not Detected**	E			3/14/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Attached (ND)**	E			3/19/2014	BSK
Dissolved Anions	Calculation	Meq/L	**439**				3/20/2014	DH
Dissolved Cations	Calculation	Meq/L	**418**				3/20/2014	DH
Endothall	EPA548.1	ug/L	**Attached (ND)**	E			3/18/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**0.5**		0.2		3/13/2014	DC
Glyphosate	EPA547	ug/L	**Attached (ND)**	E			3/17/2014	BSK
Hardness (as CaCO3)	SM2340B/Calc	mg/L	**5995**		10		3/14/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		3/20/2014	SM
Iodide	EPA9056M	ug/L	**Attached (ND)**	E	10		3/15/2014	WECK
Iron	EPA200.7	ug/L	**138**		100	300	3/13/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**Not Detected**		100	300	3/13/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**Not Detected**		0.5		3/17/2014	HM
Lithium	EPA200.8	ug/L	**173**		20		3/17/2014	SM
Magnesium	EPA200.7	mg/L	**1024**		5		3/13/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**1056**		100		3/13/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**Not Detected**		100	50	3/13/2014	DC
Manganese, Total	EPA200.7	ug/L	**Not Detected**		100	50	3/13/2014	DC

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments. T = Temperature Exceedance

Lab Number: **AB12792**

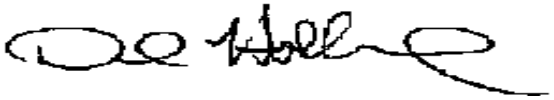
Collection Date/Time:	3/11/2014	15:45	Sample Collector:	SOBOLEW, J	
Submittal Date/Time:	3/12/2014	8:30	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B2WQ Zone 3 (104-114 Ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	3/13/2014	DH
Nitrate as NO3	EPA300.0	mg/L	**2**		2	45	3/13/2014	DC
Nitrate+Nitrite as N	EPA300.0	mg/L	**0.5**		0.2		3/13/2014	DC
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**Not Detected**		0.2		3/13/2014	DC
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	3/12/2014	MW
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**Not Detected**		0.1		3/14/2014	HC
pH (Field Test)	SM4500-H+B	pH	**6.96**				3/11/2014	JS
pH (Laboratory)	SM4500-H+B	pH (H)	**7.2**				3/12/2014	FS
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Attached (ND)**	E			3/15/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**Not Detected**		0.03		3/14/2014	HC
Potassium	EPA200.7	mg/L	**193**		5		3/13/2014	DC
Potassium, Dissolved	EPA200.7	mg/L	**201**		1		3/13/2014	DC
QC Ratio TDS/SEC	Calculation		**0.66**				3/14/2014	DH
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Attached (ND)**	E			3/19/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**20**		5		3/13/2014	DC
Sodium	EPA200.7	mg/L	**6485**		5		3/13/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**6643**		5		3/13/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**40720**		1	900	3/14/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**40173**		1		3/11/2014	JS
Strontium, Dissolved	EPA200.8	ug/L	**9020**		100		3/17/2014	SM
Sulfate	EPA300.0	mg/L	**1855**		100	250	3/13/2014	DC
Temperature (Field)	SM2550	° C	**17.6**				3/11/2014	JS
Total Cations	Calculations	Meq/L	**407**				3/20/2014	DH
Total Diss. Solids	SM2540C	mg/L	**26800**		10	500	3/13/2014	HM
Turbidity	EPA180.1	NTU	**0.65**		0.05	5.0	3/13/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**0.57**		0.05		3/11/2014	JS
Volatile Org. Compounds (524)	EPA524	ug/L	**Attached (ND)**	E			3/19/2014	BSK
Zinc, Total	EPA200.8	ug/L	**384**		200	5000	3/17/2014	SM

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments. T = Temperature Exceedance

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12792 CX-B2WQ Zone 3 Dissolved**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	6643	0.04350	288.97
Potassium	201	0.02558	5.14
Calcium	732	0.04990	36.53
Magnesium	1056	0.08229	86.90
NH3-N	0	0.07143	0.00
		SUM	417.54

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	102	0.02000	2.04
Sulfate	1855	0.02082	38.62
Chloride	14099	0.02821	397.73
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.5	0.07138	0.04
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.5	0.05264	0.03
Bromide	45.0	0.01252	0.56
		SUM	439.02

ANION-CATION BALANCE: **-3** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	40720	
Cation Sum X 100	41754	**103%**
Anion Sum X 100	43902	**108%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**36.8**
Ca+Mg+Na	412.40
HCO3/Ca	0.06
dS/m	40.72
Value Table II	1.5
SAR adj	**43.5**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **AB12792 CX-B2WQ Zone 3 Total**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	6485	0.04350	282.10
Potassium	193	0.02558	4.94
Calcium	712	0.04990	35.53
Magnesium	1024	0.08229	84.26
NH3-N	0	0.07143	0.00
		SUM	406.83

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	102	0.02000	2.04
Sulfate	1855	0.02082	38.62
Chloride	14099	0.02821	397.73
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0.5	0.07138	0.04
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.5	0.05264	0.03
Bromide	45.0	0.01252	0.56
		SUM	439.02

ANION-CATION BALANCE: **-4** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	40720	
Cation Sum X 100	40683	**100%**
Anion Sum X 100	43902	**108%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**36.4**
Ca+Mg+Na	401.89
HCO3/Ca	0.06
dS/m	40.72
Value Table II	1.5
SAR adj	**43.1**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

BSK Associates Engineers & Laboratories

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

A4C1132

3/20/2014

Invoice: A406856

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4C1132 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 3/14/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	-	**Project PO#:**	-
Received:	3/14/2014 - 09:30		
Report Due:	3/21/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 4.9

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Packing Material - Paper
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
BS1.1	Blank spike recovery for this analyte was biased high. Associated result may be biased high; reanalysis not feasible.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
MS1.1	Matrix spike recovery exceeds upper control limit. Reported results for parent matrix may be biased high due to matrix interferences.

Report Distribution

Recipient(s)	Report Format	CC:
David Holland	Final.rpt	

Certificate of Analysis

Sample ID: A4C1132-01
Sampled By: Josh Sobolew
Sample Description: CX-B2WQ Zone #3 (104-114 ft bgs) // 12792

Sample Date - Time: 03/11/14 - 15:45
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A403269	03/18/14	03/19/14	CV0.0
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A403269	03/18/14	03/19/14	BS1.1, CV0.0
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	91 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A403154	03/14/14	03/15/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A403154	03/14/14	03/15/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A403154	03/14/14	03/15/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A403154	03/14/14	03/15/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A403154	03/14/14	03/15/14	BS1.0, CV0.0
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A403154	03/14/14	03/15/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A403154	03/14/14	03/15/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A403154	03/14/14	03/15/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A403154	03/14/14	03/15/14	
Surrogate: DCPAA	EPA 515.3	80 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A403247	03/18/14	03/19/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A403247	03/18/14	03/19/14	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A403247	03/18/14	03/19/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A403247	03/18/14	03/19/14	

Certificate of Analysis

Sample ID: A4C1132-01
Sampled By: Josh Sobolew
Sample Description: CX-B2WQ Zone #3 (104-114 ft bgs) // 12792

Sample Date - Time: 03/11/14 - 15:45
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Acetone	EPA 524.2	ND	10	ug/L	1	A403247	03/18/14	03/19/14	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A403247	03/18/14	03/19/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A403247	03/18/14	03/19/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A403247	03/18/14	03/19/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A403247	03/18/14	03/19/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	

Certificate of Analysis

Sample ID: A4C1132-01
Sampled By: Josh Sobolew
Sample Description: CX-B2WQ Zone #3 (104-114 ft bgs) // 12792

Sample Date - Time: 03/11/14 - 15:45
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	96 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	101 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A403279	03/18/14	03/19/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A403279	03/18/14	03/19/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A403279	03/18/14	03/19/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A403279	03/18/14	03/19/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A403279	03/18/14	03/19/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A403279	03/18/14	03/19/14	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A403279	03/18/14	03/19/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A403279	03/18/14	03/19/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A403279	03/18/14	03/19/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A403279	03/18/14	03/19/14	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A403279	03/18/14	03/19/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A403279	03/18/14	03/19/14	
Prometryn	EPA 525.2	ND	2.0	ug/L	1	A403279	03/18/14	03/19/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A403279	03/18/14	03/19/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A403279	03/18/14	03/19/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A403279	03/18/14	03/19/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	107 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A403175	03/14/14	03/14/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A403175	03/14/14	03/14/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A403175	03/14/14	03/14/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A403175	03/14/14	03/14/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A403175	03/14/14	03/14/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A403175	03/14/14	03/14/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A403175	03/14/14	03/14/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A403175	03/14/14	03/14/14	
Carbamates by HPLC									
Methiocarb	EPA 531.1	ND	2.0	ug/L	1	A403175	03/14/14	03/14/14	
Propoxur	EPA 531.1	ND	2.0	ug/L	1	A403175	03/14/14	03/14/14	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A403209	03/17/14	03/17/14	
Surrogate: AMPA	EPA 547	101 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A403241	03/17/14	03/18/14	

Certificate of Analysis

Sample ID: A4C1132-01
Sampled By: Josh Sobolew
Sample Description: CX-B2WQ Zone #3 (104-114 ft bgs) // 12792

Sample Date - Time: 03/11/14 - 15:45
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A403185	03/15/14	03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 504.1 - Quality Control												
Batch: A403269										Prepared: 03/18/2014		
Prep Method: EPA 505										Analyst: GAK		
Blank (A403269-BLK1)												
Dibromochloropropane (DBCP)	ND	0.010	ug/L							03/19/14		
Ethylene Dibromide (EDB)	ND	0.020	ug/L							03/19/14		
Surrogate: 1-Br-2-Nitrobenzene	*0.63*			*0.69*		*92*	*70-130*			03/19/14		
Blank Spike (A403269-BS1)												
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20		119	70-130			03/19/14		
Ethylene Dibromide (EDB)	0.28	0.020	ug/L	0.20		140	70-130			03/19/14	BS	***High***
Surrogate: 1-Br-2-Nitrobenzene	*0.66*			*0.69*		*97*	*70-130*			03/19/14		
Blank Spike Dup (A403269-BSD1)												
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20		118	70-130	1	20	03/19/14		
Ethylene Dibromide (EDB)	0.28	0.020	ug/L	0.20		139	70-130	1	20	03/19/14	BS	***High***
Surrogate: 1-Br-2-Nitrobenzene	*0.62*			*0.69*		*91*	*70-130*			03/19/14		
Matrix Spike (A403269-MS1), Source: A4C1245-01												
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20	ND	116	65-135			03/19/14		
Ethylene Dibromide (EDB)	0.28	0.020	ug/L	0.20	ND	137	65-135			03/19/14	MS1.1	***High***
Surrogate: 1-Br-2-Nitrobenzene	*0.65*			*0.70*		*93*	*70-130*			03/19/14		
Matrix Spike Dup (A403269-MSD1), Source: A4C1245-01												
Dibromochloropropane (DBCP)	0.25	0.010	ug/L	0.21	ND	120	65-135	4	20	03/19/14		
Ethylene Dibromide (EDB)	0.28	0.020	ug/L	0.21	ND	138	65-135	2	20	03/19/14	MS1.1	***High***
Surrogate: 1-Br-2-Nitrobenzene	*0.65*			*0.70*		*93*	*70-130*			03/19/14		
EPA 515.3 - Quality Control												
Batch: A403154										Prepared: 03/14/2014		
Prep Method: EPA 515.3										Analyst: GAK		
Blank (A403154-BLK1)												
2,4,5-T	ND	1.0	ug/L							03/14/14		
2,4,5-TP (Silvex)	ND	1.0	ug/L							03/14/14		
2,4-D	ND	10	ug/L							03/14/14		
Bentazon	ND	2.0	ug/L							03/14/14		
Dalapon	ND	10	ug/L							03/14/14		
Dicamba	ND	1.5	ug/L							03/14/14		
Dinoseb	ND	2.0	ug/L							03/14/14		
Pentachlorophenol	ND	0.20	ug/L							03/14/14		
Picloram	ND	1.0	ug/L							03/14/14		
Surrogate: DCPAA	*53*			*58*		*92*	*70-130*			03/14/14		
Blank Spike (A403154-BS1)												
2,4,5-T	4.0	1.0	ug/L	4.0		100	70-130			03/14/14		
2,4,5-TP (Silvex)	0.73	1.0	ug/L	0.80		91	70-130			03/14/14		
2,4-D	0.39	10	ug/L	0.40		98	70-130			03/14/14		
Bentazon	8.2	2.0	ug/L	8.0		102	70-130			03/14/14		
Dalapon	7.0	10	ug/L	4.0		174	70-130			03/14/14	BS	***High***

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 515.3 - Quality Control												
Batch: A403154										Prepared: 03/14/2014		
Prep Method: EPA 515.3										Analyst: GAK		
Blank Spike (A403154-BS1)												
Dicamba	5.7	1.5	ug/L	6.0		94	70-130			03/14/14		
Dinoseb	0.80	2.0	ug/L	0.80		100	70-130			03/14/14		
Pentachlorophenol	0.14	0.20	ug/L	0.16		91	70-130			03/14/14		
Picloram	0.36	1.0	ug/L	0.40		89	70-130			03/14/14		
Surrogate: DCPAA	*54*			*58*		*93*	*70-130*			03/14/14		
Blank Spike Dup (A403154-BSD1)												
2,4,5-T	4.0	1.0	ug/L	4.0		100	70-130	0	20	03/15/14		
2,4,5-TP (Silvex)	0.72	1.0	ug/L	0.80		90	70-130	1	20	03/15/14		
2,4-D	0.39	10	ug/L	0.40		97	70-130	1	20	03/15/14		
Bentazon	8.0	2.0	ug/L	8.0		100	70-130	2	20	03/15/14		
Dalapon	7.7	10	ug/L	4.0		193	70-130	10	20	03/15/14	BS	***High***
Dicamba	5.7	1.5	ug/L	6.0		94	70-130	0	20	03/15/14		
Dinoseb	0.82	2.0	ug/L	0.80		102	70-130	2	20	03/15/14		
Pentachlorophenol	0.14	0.20	ug/L	0.16		89	70-130	2	20	03/15/14		
Picloram	0.34	1.0	ug/L	0.40		84	70-130	5	20	03/15/14		
Surrogate: DCPAA	*53*			*58*		*92*	*70-130*			03/15/14		
Matrix Spike (A403154-MS1), Source: A4C0842-03												
2,4,5-T	4.4	1.0	ug/L	4.0	ND	103	70-130			03/14/14		
2,4,5-TP (Silvex)	0.73	1.0	ug/L	0.80	ND	92	70-130			03/14/14		
2,4-D	0.40	10	ug/L	0.40	ND	101	70-130			03/14/14		
Bentazon	8.6	2.0	ug/L	8.0	ND	107	70-130			03/14/14		
Dalapon	7.9	10	ug/L	4.0	ND	96	70-130			03/14/14		
Dicamba	5.7	1.5	ug/L	6.0	ND	95	70-130			03/14/14		
Dinoseb	0.82	2.0	ug/L	0.80	ND	102	70-130			03/14/14		
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	92	70-130			03/14/14		
Picloram	0.48	1.0	ug/L	0.40	ND	119	70-130			03/14/14		
Surrogate: DCPAA	*52*			*58*		*90*	*70-130*			03/14/14		
Matrix Spike Dup (A403154-MSD1), Source: A4C0842-03												
2,4,5-T	4.4	1.0	ug/L	4.0	ND	104	70-130	0	20	03/14/14		
2,4,5-TP (Silvex)	0.74	1.0	ug/L	0.80	ND	92	70-130	0	20	03/14/14		
2,4-D	0.40	10	ug/L	0.40	ND	100	70-130	0	20	03/14/14		
Bentazon	8.4	2.0	ug/L	8.0	ND	106	70-130	1	20	03/14/14		
Dalapon	8.1	10	ug/L	4.0	ND	102	70-130	3	20	03/14/14		
Dicamba	5.7	1.5	ug/L	6.0	ND	95	70-130	0	20	03/14/14		
Dinoseb	0.82	2.0	ug/L	0.80	ND	103	70-130	1	20	03/14/14		
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	92	70-130	0	20	03/14/14		
Picloram	0.43	1.0	ug/L	0.40	ND	106	70-130	11	20	03/14/14		
Surrogate: DCPAA	*53*			*58*		*91*	*70-130*			03/14/14		
EPA 524.2 - Quality Control												
Batch: A403247										Prepared: 03/18/2014		
Prep Method: EPA 524.2										Analyst: JGB		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 524.2 - Quality Control

Batch: A403247 Prepared: 03/18/2014

Prep Method: EPA 524.2 Analyst: JGB

Blank (A403247-BLK1)

1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							03/19/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							03/19/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							03/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							03/19/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							03/19/14	
1,1-Dichloroethane	ND	0.50	ug/L							03/19/14	
1,1-Dichloroethene	ND	0.50	ug/L							03/19/14	
1,1-Dichloropropene	ND	0.50	ug/L							03/19/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							03/19/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							03/19/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							03/19/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							03/19/14	
1,2-Dichloroethane	ND	0.50	ug/L							03/19/14	
1,2-Dichloropropane	ND	0.50	ug/L							03/19/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							03/19/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							03/19/14	
1,3-Dichloropropane	ND	0.50	ug/L							03/19/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							03/19/14	
2,2-Dichloropropane	ND	0.50	ug/L							03/19/14	
2-Butanone	ND	5.0	ug/L							03/19/14	
2-Chlorotoluene	ND	0.50	ug/L							03/19/14	
2-Hexanone	ND	10	ug/L							03/19/14	
4-Chlorotoluene	ND	0.50	ug/L							03/19/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							03/19/14	
Acetone	ND	10	ug/L							03/19/14	
Benzene	ND	0.50	ug/L							03/19/14	
Bromobenzene	ND	0.50	ug/L							03/19/14	
Bromochloromethane	ND	0.50	ug/L							03/19/14	
Bromodichloromethane	ND	0.50	ug/L							03/19/14	
Bromoform	ND	0.50	ug/L							03/19/14	
Bromomethane	ND	0.50	ug/L							03/19/14	
Carbon Tetrachloride	ND	0.50	ug/L							03/19/14	
Chlorobenzene	ND	0.50	ug/L							03/19/14	
Chloroethane	ND	0.50	ug/L							03/19/14	
Chloroform	ND	0.50	ug/L							03/19/14	
Chloromethane	ND	0.50	ug/L							03/19/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							03/19/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							03/19/14	
Dibromochloromethane	ND	0.50	ug/L							03/19/14	
Dibromomethane	ND	0.50	ug/L							03/19/14	
Dichlorodifluoromethane	ND	0.50	ug/L							03/19/14	
Dichloromethane	ND	0.50	ug/L							03/19/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							03/19/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							03/19/14	
Ethylbenzene	ND	0.50	ug/L							03/19/14	
Hexachlorobutadiene	ND	0.50	ug/L							03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A403247-BLK1)											
Isopropylbenzene	ND	0.50	ug/L							03/19/14	
m,p-Xylenes	ND	0.50	ug/L							03/19/14	
Methyl-t-butyl ether	ND	0.50	ug/L							03/19/14	
Naphthalene	ND	0.50	ug/L							03/19/14	
n-Butylbenzene	ND	0.50	ug/L							03/19/14	
n-Propylbenzene	ND	0.50	ug/L							03/19/14	
o-Xylene	ND	0.50	ug/L							03/19/14	
p-Isopropyltoluene	ND	0.50	ug/L							03/19/14	
sec-Butylbenzene	ND	0.50	ug/L							03/19/14	
Styrene	ND	0.50	ug/L							03/19/14	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							03/19/14	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							03/19/14	
tert-Butylbenzene	ND	0.50	ug/L							03/19/14	
Tetrachloroethene (PCE)	ND	0.50	ug/L							03/19/14	
Toluene	ND	0.50	ug/L							03/19/14	
trans-1,2-Dichloroethene	ND	0.50	ug/L							03/19/14	
trans-1,3-Dichloropropene	ND	0.50	ug/L							03/19/14	
Trichloroethene (TCE)	ND	0.50	ug/L							03/19/14	
Trichlorofluoromethane	ND	5.0	ug/L							03/19/14	
Vinyl Chloride	ND	0.50	ug/L							03/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*95*	*70-130*			03/19/14	
Surrogate: Bromofluorobenzene	*49*			*50*		*99*	*70-130*			03/19/14	
Blank Spike (A403247-BS1)											
1,1,1,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1,1-Trichloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1,2,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.7	10	ug/L	10		97	70-130			03/19/14	
1,1,2-Trichloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1-Dichloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1-Dichloroethene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
1,1-Dichloropropene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,2,3-Trichlorobenzene	9.5	0.50	ug/L	10		95	70-130			03/19/14	
1,2,4-Trichlorobenzene	9.5	0.50	ug/L	10		95	70-130			03/19/14	
1,2,4-Trimethylbenzene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
1,2-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
1,2-Dichloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,2-Dichloropropane	9.9	0.50	ug/L	10		99	70-130			03/19/14	
1,3,5-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,3-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
1,3-Dichloropropane	9.9	0.50	ug/L	10		99	70-130			03/19/14	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
2,2-Dichloropropane	8.9	0.50	ug/L	10		89	70-130			03/19/14	
2-Butanone	11	5.0	ug/L	10		106	70-130			03/19/14	
2-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
2-Hexanone	10	10	ug/L	10		101	70-130			03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A403247-BS1)											
4-Chlorotoluene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
4-Methyl-2-pentanone	10	5.0	ug/L	10		101	70-130			03/19/14	
Acetone	11	10	ug/L	10		110	70-130			03/19/14	
Benzene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Bromobenzene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Bromochloromethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Bromodichloromethane	10	0.50	ug/L	10		101	70-130			03/19/14	
Bromoform	11	0.50	ug/L	10		108	70-130			03/19/14	
Bromomethane	11	0.50	ug/L	10		107	70-130			03/19/14	
Carbon Tetrachloride	9.7	0.50	ug/L	10		97	70-130			03/19/14	
Chlorobenzene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Chloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Chloroform	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Chloromethane	9.7	0.50	ug/L	10		97	70-130			03/19/14	
cis-1,2-Dichloroethene	10	0.50	ug/L	10		100	70-130			03/19/14	
cis-1,3-Dichloropropene	10	0.50	ug/L	10		100	70-130			03/19/14	
Dibromochloromethane	10	0.50	ug/L	10		103	70-130			03/19/14	
Dibromomethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Dichlorodifluoromethane	9.2	0.50	ug/L	10		92	70-130			03/19/14	
Dichloromethane	10	0.50	ug/L	10		100	70-130			03/19/14	
Di-isopropyl ether (DIPE)	9.9	3.0	ug/L	10		99	70-130			03/19/14	
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		100	70-130			03/19/14	
Ethylbenzene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Hexachlorobutadiene	9.3	0.50	ug/L	10		93	70-130			03/19/14	
Isopropylbenzene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
m,p-Xylenes	20	0.50	ug/L	20		98	70-130			03/19/14	
Methyl-t-butyl ether	20	0.50	ug/L	20		100	70-130			03/19/14	
Naphthalene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
n-Butylbenzene	9.4	0.50	ug/L	10		94	70-130			03/19/14	
n-Propylbenzene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
o-Xylene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
p-Isopropyltoluene	9.6	0.50	ug/L	10		96	70-130			03/19/14	
sec-Butylbenzene	9.6	0.50	ug/L	10		96	70-130			03/19/14	
Styrene	9.4	0.50	ug/L	10		94	70-130			03/19/14	
tert-Amyl Methyl Ether (TAME)	9.6	3.0	ug/L	10		96	70-130			03/19/14	
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		104	70-130			03/19/14	
tert-Butylbenzene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Tetrachloroethene (PCE)	9.7	0.50	ug/L	10		97	70-130			03/19/14	
Toluene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
trans-1,2-Dichloroethene	10	0.50	ug/L	10		100	70-130			03/19/14	
trans-1,3-Dichloropropene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Trichloroethene (TCE)	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Trichlorofluoromethane	9.5	5.0	ug/L	10		95	70-130			03/19/14	
Vinyl Chloride	9.6	0.50	ug/L	10		96	70-130			03/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*96*	*70-130*			03/19/14	
Surrogate: Bromofluorobenzene	*48*			*50*		*96*	*70-130*			03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A403247-BSD1)											
1,1,1,2-Tetrachloroethane	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,1,1-Trichloroethane	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
1,1,2,2-Tetrachloroethane	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.4	10	ug/L	10		94	70-130	3	30	03/19/14	
1,1,2-Trichloroethane	9.7	0.50	ug/L	10		97	70-130	2	30	03/19/14	
1,1-Dichloroethane	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,1-Dichloroethene	9.5	0.50	ug/L	10		95	70-130	2	30	03/19/14	
1,1-Dichloropropene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,2,3-Trichlorobenzene	9.4	0.50	ug/L	10		94	70-130	1	30	03/19/14	
1,2,4-Trichlorobenzene	9.4	0.50	ug/L	10		94	70-130	1	30	03/19/14	
1,2,4-Trimethylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,2-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
1,2-Dichloroethane	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
1,2-Dichloropropane	9.7	0.50	ug/L	10		97	70-130	1	30	03/19/14	
1,3,5-Trimethylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,3-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
1,3-Dichloropropane	9.7	0.50	ug/L	10		97	70-130	2	30	03/19/14	
1,4-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
2,2-Dichloropropane	8.5	0.50	ug/L	10		85	70-130	4	30	03/19/14	
2-Butanone	9.6	5.0	ug/L	10		96	70-130	11	30	03/19/14	
2-Chlorotoluene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
2-Hexanone	9.3	10	ug/L	10		93	70-130	8	30	03/19/14	
4-Chlorotoluene	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
4-Methyl-2-pentanone	9.4	5.0	ug/L	10		94	70-130	8	30	03/19/14	
Acetone	9.5	10	ug/L	10		95	70-130	14	30	03/19/14	
Benzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
Bromobenzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
Bromochloromethane	9.9	0.50	ug/L	10		99	70-130	1	30	03/19/14	
Bromodichloromethane	9.8	0.50	ug/L	10		98	70-130	2	30	03/19/14	
Bromoform	10	0.50	ug/L	10		104	70-130	4	30	03/19/14	
Bromomethane	11	0.50	ug/L	10		106	70-130	0	30	03/19/14	
Carbon Tetrachloride	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
Chlorobenzene	9.8	0.50	ug/L	10		98	70-130	2	30	03/19/14	
Chloroethane	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
Chloroform	9.7	0.50	ug/L	10		97	70-130	1	30	03/19/14	
Chloromethane	9.3	0.50	ug/L	10		93	70-130	5	30	03/19/14	
cis-1,2-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	3	30	03/19/14	
cis-1,3-Dichloropropene	9.7	0.50	ug/L	10		97	70-130	2	30	03/19/14	
Dibromochloromethane	10	0.50	ug/L	10		101	70-130	2	30	03/19/14	
Dibromomethane	9.7	0.50	ug/L	10		97	70-130	1	30	03/19/14	
Dichlorodifluoromethane	9.5	0.50	ug/L	10		95	70-130	4	30	03/19/14	
Dichloromethane	9.8	0.50	ug/L	10		98	70-130	1	30	03/19/14	
Di-isopropyl ether (DIPE)	9.6	3.0	ug/L	10		96	70-130	2	30	03/19/14	
Ethyl tert-Butyl Ether (ETBE)	9.8	0.50	ug/L	10		98	70-130	2	30	03/19/14	
Ethylbenzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
Hexachlorobutadiene	9.1	0.50	ug/L	10		91	70-130	2	30	03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A403247-BSD1)											
Isopropylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
m,p-Xylenes	19	0.50	ug/L	20		96	70-130	2	30	03/19/14	
Methyl-t-butyl ether	20	0.50	ug/L	20		98	70-130	2	30	03/19/14	
Naphthalene	9.5	0.50	ug/L	10		95	70-130	2	30	03/19/14	
n-Butylbenzene	9.2	0.50	ug/L	10		92	70-130	1	30	03/19/14	
n-Propylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
o-Xylene	9.7	0.50	ug/L	10		97	70-130	1	30	03/19/14	
p-Isopropyltoluene	9.5	0.50	ug/L	10		95	70-130	1	30	03/19/14	
sec-Butylbenzene	9.5	0.50	ug/L	10		95	70-130	1	30	03/19/14	
Styrene	8.6	0.50	ug/L	10		86	70-130	8	30	03/19/14	
tert-Amyl Methyl Ether (TAME)	9.4	3.0	ug/L	10		94	70-130	2	30	03/19/14	
tert-Butyl alcohol (TBA)	9.4	2.0	ug/L	10		94	70-130	10	30	03/19/14	
tert-Butylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
Tetrachloroethene (PCE)	9.5	0.50	ug/L	10		95	70-130	1	30	03/19/14	
Toluene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
trans-1,2-Dichloroethene	9.7	0.50	ug/L	10		97	70-130	3	30	03/19/14	
trans-1,3-Dichloropropene	9.7	0.50	ug/L	10		97	70-130	3	30	03/19/14	
Trichloroethene (TCE)	9.7	0.50	ug/L	10		97	70-130	2	30	03/19/14	
Trichlorofluoromethane	9.3	5.0	ug/L	10		93	70-130	2	30	03/19/14	
Vinyl Chloride	9.8	0.50	ug/L	10		98	70-130	2	30	03/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*96*	*70-130*			03/19/14	
Surrogate: Bromofluorobenzene	*48*			*50*		*97*	*70-130*			03/19/14	
EPA 525.2 - Quality Control											
Batch: A403279										Prepared: 03/18/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A403279-BLK1)											
Alachlor	ND	1.0	ug/L							03/19/14	
Atrazine	ND	0.50	ug/L							03/19/14	
Benzo(a)pyrene	ND	0.10	ug/L							03/19/14	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							03/19/14	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							03/19/14	
Bromacil	ND	10	ug/L							03/19/14	
Butachlor	ND	0.38	ug/L							03/19/14	
Diazinon	ND	0.25	ug/L							03/19/14	
Dimethoate	ND	10	ug/L							03/19/14	
Metolachlor	ND	0.50	ug/L							03/19/14	
Metribuzin	ND	0.50	ug/L							03/19/14	
Molinate	ND	2.0	ug/L							03/19/14	
Prometryn	ND	2.0	ug/L							03/19/14	
Propachlor	ND	0.50	ug/L							03/19/14	
Simazine	ND	1.0	ug/L							03/19/14	
Thiobencarb	ND	1.0	ug/L							03/19/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.3*			*5.1*		*106*	*70-130*			03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A403279										Prepared: 03/18/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank Spike (A403279-BS1)												
Alachlor	0.53	1.0	ug/L	0.50		105	70-130			03/19/14		
Atrazine	0.53	0.50	ug/L	0.50		106	70-130			03/19/14		
Benzo(a)pyrene	0.099	0.10	ug/L	0.10		98	70-130			03/19/14		
Bis(2-ethylhexyl) adipate	3.3	3.0	ug/L	3.0		110	70-130			03/19/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	3.0		134	70-130			03/19/14	BS	***High***
Bromacil	2.2	10	ug/L	2.0		111	70-130			03/19/14		
Butachlor	1.3	0.38	ug/L	1.3		104	70-130			03/19/14		
Diazinon	0.043	0.25	ug/L	0.050		86	70-130			03/19/14		
Dimethoate	0.47	10	ug/L	0.50		94	70-130			03/19/14		
Metolachlor	2.7	0.50	ug/L	2.5		105	70-130			03/19/14		
Metribuzin	3.1	0.50	ug/L	2.5		121	70-130			03/19/14		
Molinate	2.9	2.0	ug/L	2.5		116	70-130			03/19/14		
Prometryn	0.62	2.0	ug/L	0.50		122	70-130			03/19/14		
Propachlor	2.9	0.50	ug/L	2.5		115	70-130			03/19/14		
Simazine	0.38	1.0	ug/L	0.35		107	70-130			03/19/14		
Thiobencarb	0.56	1.0	ug/L	0.50		110	70-130			03/19/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.6*			*5.0*		*112*	*70-130*			03/19/14		
Blank Spike Dup (A403279-BSD1)												
Alachlor	0.54	1.0	ug/L	0.50		109	70-130	3	30	03/19/14		
Atrazine	0.55	0.50	ug/L	0.50		109	70-130	3	30	03/19/14		
Benzo(a)pyrene	0.097	0.10	ug/L	0.10		97	70-130	2	30	03/19/14		
Bis(2-ethylhexyl) adipate	3.3	3.0	ug/L	3.0		111	70-130	0	30	03/19/14		
Bis(2-ethylhexyl) phthalate	4.0	3.0	ug/L	3.0		132	70-130	2	30	03/19/14	BS	***High***
Bromacil	2.4	10	ug/L	2.0		122	70-130	8	30	03/19/14		
Butachlor	1.3	0.38	ug/L	1.2		105	70-130	0	30	03/19/14		
Diazinon	0.049	0.25	ug/L	0.050		98	70-130	12	30	03/19/14		
Dimethoate	0.53	10	ug/L	0.50		105	70-130	11	30	03/19/14		
Metolachlor	2.7	0.50	ug/L	2.5		108	70-130	2	30	03/19/14		
Metribuzin	3.1	0.50	ug/L	2.5		122	70-130	0	30	03/19/14		
Molinate	2.8	2.0	ug/L	2.5		110	70-130	6	30	03/19/14		
Prometryn	0.61	2.0	ug/L	0.50		122	70-130	1	30	03/19/14		
Propachlor	2.8	0.50	ug/L	2.5		113	70-130	2	30	03/19/14		
Simazine	0.40	1.0	ug/L	0.35		115	70-130	6	30	03/19/14		
Thiobencarb	0.56	1.0	ug/L	0.50		113	70-130	1	30	03/19/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.0*		*109*	*70-130*			03/19/14		
Matrix Spike (A403279-MS1), Source: A4C1103-01												
Alachlor	0.52	1.0	ug/L	0.49	ND	106	70-130			03/19/14		
Atrazine	0.52	0.50	ug/L	0.49	ND	106	70-130			03/19/14		
Benzo(a)pyrene	0.097	0.10	ug/L	0.098	ND	99	70-130			03/19/14		
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.0	ND	118	70-130			03/19/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	3.0	ND	114	70-130			03/19/14		
Bromacil	2.6	10	ug/L	2.0	ND	122	70-130			03/19/14		
Butachlor	1.4	0.38	ug/L	1.2	ND	111	70-130			03/19/14		
Diazinon	0.049	0.25	ug/L	0.049	ND	100	70-130			03/19/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A403279										Prepared: 03/18/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Matrix Spike (A403279-MS1), Source: A4C1103-01											
Dimethoate	0.54	10	ug/L	0.49	ND	111	70-130			03/19/14	
Metolachlor	2.6	0.50	ug/L	2.5	ND	107	70-130			03/19/14	
Metribuzin	3.0	0.50	ug/L	2.5	ND	122	70-130			03/19/14	
Molinate	2.6	2.0	ug/L	2.5	ND	105	70-130			03/19/14	
Prometryn	0.59	2.0	ug/L	0.49	ND	120	70-130			03/19/14	
Propachlor	2.7	0.50	ug/L	2.5	ND	110	70-130			03/19/14	
Simazine	0.40	1.0	ug/L	0.34	ND	115	70-130			03/19/14	
Thiobencarb	0.56	1.0	ug/L	0.49	ND	113	70-130			03/19/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.9*			*4.9*		*100*	*70-130*			03/19/14	
EPA 531.1 - Quality Control											
Batch: A403175										Prepared: 03/14/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A403175-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							03/14/14	
Aldicarb	ND	3.0	ug/L							03/14/14	
Aldicarb Sulfone	ND	2.0	ug/L							03/14/14	
Aldicarb Sulfoxide	ND	3.0	ug/L							03/14/14	
Carbaryl	ND	5.0	ug/L							03/14/14	
Carbofuran	ND	5.0	ug/L							03/14/14	
Methiocarb	ND	2.0	ug/L							03/14/14	
Methomyl	ND	2.0	ug/L							03/14/14	
Oxamyl	ND	20	ug/L							03/14/14	
Propoxur	ND	2.0	ug/L							03/14/14	
Blank Spike (A403175-BS1)											
3-Hydroxycarbofuran	4.4	3.0	ug/L	4.0		109	80-120			03/14/14	
Aldicarb	4.0	3.0	ug/L	4.0		101	80-120			03/14/14	
Aldicarb Sulfone	4.3	2.0	ug/L	4.0		106	80-120			03/14/14	
Aldicarb Sulfoxide	4.2	3.0	ug/L	4.0		104	80-120			03/14/14	
Carbaryl	4.3	5.0	ug/L	4.0		107	80-120			03/14/14	
Carbofuran	4.3	5.0	ug/L	4.0		108	80-120			03/14/14	
Methiocarb	4.3	2.0	ug/L	4.0		107	80-120			03/14/14	
Methomyl	4.2	2.0	ug/L	4.0		104	80-120			03/14/14	
Oxamyl	4.2	20	ug/L	4.0		105	80-120			03/14/14	
Propoxur	4.2	2.0	ug/L	4.0		106	80-120			03/14/14	
Blank Spike Dup (A403175-BSD1)											
3-Hydroxycarbofuran	3.8	3.0	ug/L	4.0		95	80-120	14	20	03/14/14	
Aldicarb	3.5	3.0	ug/L	4.0		87	80-120	15	20	03/14/14	
Aldicarb Sulfone	3.8	2.0	ug/L	4.0		94	80-120	12	20	03/14/14	
Aldicarb Sulfoxide	3.8	3.0	ug/L	4.0		94	80-120	10	20	03/14/14	
Carbaryl	3.9	5.0	ug/L	4.0		97	80-120	10	20	03/14/14	
Carbofuran	3.8	5.0	ug/L	4.0		95	80-120	13	20	03/14/14	
Methiocarb	3.7	2.0	ug/L	4.0		93	80-120	14	20	03/14/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A403175										Prepared: 03/14/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank Spike Dup (A403175-BSD1)											
Methomyl	3.7	2.0	ug/L	4.0		93	80-120	11	20	03/14/14	
Oxamyl	3.7	20	ug/L	4.0		93	80-120	12	20	03/14/14	
Propoxur	3.7	2.0	ug/L	4.0		93	80-120	13	20	03/14/14	
Matrix Spike (A403175-MS1), Source: A4C1026-01											
3-Hydroxycarbofuran	4.1	3.0	ug/L	4.0	ND	102	65-135			03/14/14	
Aldicarb	4.0	3.0	ug/L	4.0	ND	99	65-135			03/14/14	
Aldicarb Sulfone	4.0	2.0	ug/L	4.0	ND	100	65-135			03/14/14	
Aldicarb Sulfoxide	3.9	3.0	ug/L	4.0	ND	97	65-135			03/14/14	
Carbaryl	4.0	5.0	ug/L	4.0	ND	99	65-135			03/14/14	
Carbofuran	3.8	5.0	ug/L	4.0	ND	96	65-135			03/14/14	
Methiocarb	3.9	2.0	ug/L	4.0	ND	98	65-135			03/14/14	
Methomyl	4.1	2.0	ug/L	4.0	ND	102	65-135			03/14/14	
Oxamyl	4.0	20	ug/L	4.0	ND	101	65-135			03/14/14	
Propoxur	4.0	2.0	ug/L	4.0	ND	95	65-135			03/14/14	
EPA 547 - Quality Control											
Batch: A403209										Prepared: 03/17/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A403209-BLK1)											
Glyphosate	ND	25	ug/L							03/17/14	
Surrogate: AMPA	*100*			*100*		*103*	*70-130*			03/17/14	
Blank Spike (A403209-BS1)											
Glyphosate	110	25	ug/L	100		111	70-130			03/17/14	
Surrogate: AMPA	*100*			*100*		*105*	*70-130*			03/17/14	
Blank Spike Dup (A403209-BSD1)											
Glyphosate	120	25	ug/L	100		116	70-130	4	30	03/17/14	
Surrogate: AMPA	*110*			*100*		*110*	*70-130*			03/17/14	
Matrix Spike (A403209-MS1), Source: A4C0842-02											
Glyphosate	110	25	ug/L	100	ND	112	70-130			03/17/14	
Surrogate: AMPA	*110*			*100*		*103*	*70-130*			03/17/14	
Matrix Spike Dup (A403209-MSD1), Source: A4C0842-02											
Glyphosate	110	25	ug/L	100	ND	108	70-130	4	30	03/17/14	
Surrogate: AMPA	*100*			*100*		*100*	*70-130*			03/17/14	
EPA 548.1 - Quality Control											
Batch: A403241										Prepared: 03/17/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A403241-BLK1)											
Endothall	ND	45	ug/L							03/18/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 548.1 - Quality Control											
Batch: A403241										Prepared: 03/17/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank Spike (A403241-BS1)											
Endothall	14	45	ug/L	20		72	60-111			03/18/14	
Blank Spike Dup (A403241-BSD1)											
Endothall	15	45	ug/L	20		75	60-111	5	46	03/18/14	
Matrix Spike (A403241-MS1), Source: A4C1103-01											
Endothall	ND	45	ug/L	20	ND	0	10-122			03/18/14	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A403185										Prepared: 03/15/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A403185-BLK1)											
Diquat	ND	4.0	ug/L							03/19/14	
Blank Spike (A403185-BS1)											
Diquat	3.3	4.0	ug/L	4.0		83	70-130			03/19/14	
Blank Spike Dup (A403185-BSD1)											
Diquat	3.4	4.0	ug/L	4.0		85	70-130	3	30	03/19/14	
Matrix Spike (A403185-MS1), Source: A4C1015-03											
Diquat	3.3	4.0	ug/L	4.0	ND	82	70-130			03/19/14	
Matrix Spike (A403185-MS2), Source: A4C1015-04											
Diquat	3.3	4.0	ug/L	4.0	ND	81	70-130			03/19/14	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters: **NA**

A4C1132

Monterey Bay Analytical

Monte6227

03142014

Turnaround: Standard

Due Date: 3/21/2014

Printed: 3/14/2014 4:50:30PM

A4C1132
Monte6227
03/14/2014
5

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

* Required Fields

TEMP: 4.9

Client/Company Name *:	Report Attention *:	Phone * #: (831)-357-6227 FAX * #(831)-641-0734
Monterey Bay Analytical	David Holland	E-mail: 4MBAS@Sbcglobal.net

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Project Information: Cal Am

PO #

Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Sampler Name Printed / Signature: Josh Sobolew

QC Request: ☑ STD ☐ Level II

Result Request ** Surcharge: ☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Regulatory Compliance: Electronic Data Transfer: Y ☐ N ☑ System No. *

ANALYSIS REQUESTED

Matrix Types: RSW = Raw Surface Water; CFW = Chlorinated Finished Water; CWW = Chlorinated Waste Water; BW = Bottled Water; RGW = Raw Ground Water; FW = Finished Water; WW = Waste Water; SW = Storm Water; DW = Drinking Water; SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 inc MTBE	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549	
1	13	3/11/14	15:45	CX-B2WQ Zone #3 (104-114 ft bgs)	RGW	12792	✓	✓	✓	✓	✓	✓	✓	✓	
				5 day TAT please											
				Conductivity 40173 uS/cm											

G-520

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	3/13/14	1200		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery:	
		3/14/14	0938	Date: Amount: Check/Cash/Card PIA # Init.	

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material: Bub / Paper / Foam

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received — "_" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bact $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	SRB
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	2A,2C
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2A,2C
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	4V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

2 vials have small air bubbles SRB 3/14/14

Labeled by: JHD @ 1221 Labels checked by: G-521 NA @ 1248 RUSH Paged by:

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	**Report Date:**	03/21/14 16:22
		Received Date:	03/14/14 09:20
		Turn Around:	5 workdays
Attention:	David Holland	**Client Project:**	Cal Am
Phone:	(831) 375-6227		
Fax:	(831) 641-0734		
Work Order(s):	4C14027		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear David Holland :

Enclosed are the results of analyses for samples received 03/14/14 09:20 with the Chain of Custody document. The samples were received in good condition, at 3.4 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
CX-B2WQ Zone #3 (104-114 Ft bgs)	Josh Soboleu	12792	4C14027-01	Water	03/11/14 15:45

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

4C14027-01 **CX-B2WQ Zone #3 (104-114 Ft bgs)**

Sampled: 03/11/14 15:45 **Sampled By:** Josh Soboleu **Matrix:** Water

Sample Note: 12792

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 9056A Batch: W4C0833 Prepared: 03/15/14 10:30 Analyst: Alice T. Lee

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Iodide	ND	250	ug/l	25	03/15/14 15:05	M-02

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W4C0838 Prepared: 03/15/14 12:16 Analyst: Maxwell Wang

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND	0.010	ug/l	1	03/19/14 11:34	
4,4´-DDE	ND	0.010	ug/l	1	03/19/14 11:34	
4,4´-DDT	ND	0.010	ug/l	1	03/19/14 11:34	
Aldrin	ND	0.010	ug/l	1	03/19/14 11:34	
alpha-BHC	ND	0.010	ug/l	1	03/19/14 11:34	
Aroclor 1016	ND	0.10	ug/l	1	03/19/14 02:06	
Aroclor 1221	ND	0.10	ug/l	1	03/19/14 02:06	
Aroclor 1232	ND	0.10	ug/l	1	03/19/14 02:06	
Aroclor 1242	ND	0.10	ug/l	1	03/19/14 02:06	
Aroclor 1248	ND	0.10	ug/l	1	03/19/14 02:06	
Aroclor 1254	ND	0.10	ug/l	1	03/19/14 02:06	
Aroclor 1260	ND	0.10	ug/l	1	03/19/14 02:06	
beta-BHC	ND	0.010	ug/l	1	03/19/14 11:34	
Chlordane (tech)	ND	0.10	ug/l	1	03/19/14 02:06	
Chlorothalonil	ND	0.050	ug/l	1	03/19/14 02:06	
delta-BHC	ND	0.010	ug/l	1	03/19/14 11:34	
Dieldrin	ND	0.010	ug/l	1	03/19/14 11:34	
Endosulfan I	ND	0.010	ug/l	1	03/19/14 11:34	
Endosulfan II	ND	0.010	ug/l	1	03/19/14 11:34	
Endosulfan sulfate	ND	0.010	ug/l	1	03/19/14 11:34	
Endrin	ND	0.010	ug/l	1	03/19/14 11:34	
Endrin aldehyde	ND	0.010	ug/l	1	03/19/14 11:34	
gamma-BHC (Lindane)	ND	0.010	ug/l	1	03/19/14 11:34	
Heptachlor	ND	0.010	ug/l	1	03/19/14 11:34	
Heptachlor epoxide	ND	0.010	ug/l	1	03/19/14 11:34	
Hexachlorobenzene	ND	0.010	ug/l	1	03/19/14 02:06	
Hexachlorocyclopentadiene	ND	0.050	ug/l	1	03/19/14 02:06	
Methoxychlor	ND	0.010	ug/l	1	03/19/14 11:34	
PCBs, Total	ND	0.50	ug/l	1	03/19/14 02:06	
Propachlor	ND	0.050	ug/l	1	03/19/14 02:06	
Toxaphene	ND	1.0	ug/l	1	03/19/14 02:06	
Trifluralin	ND	0.010	ug/l	1	03/19/14 02:06	
Surr: Decachlorobiphenyl	*76 %*	Conc:*0.0727*	*70-130*	%		
Surr: Tetrachloro-meta-xylene	*118 %*	Conc:*0.112*	*70-130*	%		

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

4C14027-01 **CX-B2WQ Zone #3 (104-114 Ft bgs)**

Sampled: 03/11/14 15:45 **Sampled By:** Josh Soboleu **Matrix:** Water

Sample Note: 12792

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

QUALITY CONTROL SECTION

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4C0833 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0833-BLK1)				Analyzed: 03/15/14 15:05						
Iodide	ND	10	ug/l							
LCS (W4C0833-BS1)				Analyzed: 03/15/14 15:05						
Iodide	40.2	10	ug/l	40.0		101	85-115			
Matrix Spike (W4C0833-MS1)	**Source: 4C11006-01**			Analyzed: 03/15/14 15:05						
Iodide	1090	250	ug/l	1000	ND	109	80-120			
Matrix Spike Dup (W4C0833-MSD1)	**Source: 4C11006-01**			Analyzed: 03/15/14 15:05						
Iodide	931	250	ug/l	1000	ND	93	80-120	15	20	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0838 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0838-BLK1)				Analyzed: 03/18/14 22:01						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0838 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0838-BLK1)				Analyzed: 03/18/14 22:01						
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.0894*		*ug/l*	*0.100*		*89*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0785*		*ug/l*	*0.100*		*78*	*70-130*			
LCS (W4C0838-BS1)				Analyzed: 03/19/14 09:01						
4,4´-DDD	0.0875	0.010	ug/l	0.100		88	55-142			
4,4´-DDE	0.0976	0.010	ug/l	0.100		98	49-129			
4,4´-DDT	0.103	0.010	ug/l	0.100		103	54-160			
Aldrin	0.0787	0.010	ug/l	0.100		79	29-115			
alpha-BHC	0.0900	0.010	ug/l	0.100		90	59-131			
beta-BHC	0.0881	0.010	ug/l	0.100		88	63-136			
delta-BHC	0.105	0.010	ug/l	0.100		105	59-137			
Dieldrin	0.0934	0.010	ug/l	0.100		93	59-135			
Endosulfan I	0.0787	0.010	ug/l	0.100		79	28-138			
Endosulfan II	0.0792	0.010	ug/l	0.100		79	53-133			
Endosulfan sulfate	0.0837	0.010	ug/l	0.100		84	58-155			
Endrin	0.0857	0.010	ug/l	0.100		86	57-148			
Endrin aldehyde	0.0801	0.010	ug/l	0.100		80	45-139			
gamma-BHC (Lindane)	0.0846	0.010	ug/l	0.100		85	59-129			
Heptachlor	0.0893	0.010	ug/l	0.100		89	42-136			
Heptachlor epoxide	0.0884	0.010	ug/l	0.100		88	59-134			
Methoxychlor	0.0725	0.010	ug/l	0.100		72	56-167			
Surr: Decachlorobiphenyl	*0.0927*		*ug/l*	*0.100*		*93*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0749*		*ug/l*	*0.100*		*75*	*70-130*			
LCS Dup (W4C0838-BSD1)				Analyzed: 03/18/14 23:02						
4,4´-DDD	0.0880	0.010	ug/l	0.100		88	55-142	0.5	25	
4,4´-DDE	0.0902	0.010	ug/l	0.100		90	49-129	8	25	
4,4´-DDT	0.103	0.010	ug/l	0.100		103	54-160	0.4	25	
Aldrin	0.0739	0.010	ug/l	0.100		74	29-115	6	25	
alpha-BHC	0.0857	0.010	ug/l	0.100		86	59-131	5	25	
beta-BHC	0.0829	0.010	ug/l	0.100		83	63-136	6	25	
delta-BHC	0.0995	0.010	ug/l	0.100		100	59-137	6	25	
Dieldrin	0.0892	0.010	ug/l	0.100		89	59-135	5	25	
Endosulfan I	0.0723	0.010	ug/l	0.100		72	28-138	8	25	
Endosulfan II	0.0775	0.010	ug/l	0.100		78	53-133	2	25	
Endosulfan sulfate	0.0866	0.010	ug/l	0.100		87	58-155	3	25	
Endrin	0.0725	0.010	ug/l	0.100		72	57-148	17	25	
Endrin aldehyde	0.0658	0.010	ug/l	0.100		66	45-139	20	25	
gamma-BHC (Lindane)	0.0858	0.010	ug/l	0.100		86	59-129	1	25	
Heptachlor	0.0845	0.010	ug/l	0.100		85	42-136	6	25	
Heptachlor epoxide	0.0847	0.010	ug/l	0.100		85	59-134	4	25	
Methoxychlor	0.0822	0.010	ug/l	0.100		82	56-167	13	25	
Surr: Decachlorobiphenyl	*0.0893*		*ug/l*	*0.100*		*89*	*70-130*			

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Monterey Bay Analytical Services
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Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0838 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4C0838-BSD1)				Analyzed: 03/18/14 23:02						
Surr: Tetrachloro-meta-xylene	*0.0761*		*ug/l*	*0.100*		*76*	*70-130*			

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

Notes and Definitions

M-02	Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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pH QC Summary (SM 4500 H+)

Date Analyzed: 3/12/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.91	100.7	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB12869	7.1	7.1	0.0	10
AB12875	7.4	7.4	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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TDS/TSS QC Summary (SM 2540C/D)

Date Analyzed: 3/13/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC 100	100	111	111	80-120
IPC 500	500	503	100.6	90-110

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12695	ND	ND	0.0	10
AB12775	437	434	0.7	10
AB12817	131	137	4.5	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Differer

ıce; Rec = Recovery

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Turbidity QC Summary (EPA 180.1)

Date Analyzed: 3/13/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.04	104.0	95-105
IPC	1.00	0.97	97.1	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB12871	0.770	0.776	-0.01	10
AB12896	1.490	1.630	-0.09	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

EPA 200.7 QC

Batch # 20140313

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.01	0.00	1.00	100.4%	1.03	103.1%	2.7%	1	1.02	101.5%	1	0.98	97.8%
B 249.772	0.05-5ppm	0.01	0.01	1.01	100.7%	1.03	103.0%	2.3%	1	1.02	102.0%	1	0.99	98.6%
Ca 317.933	50-300ppm	-5.25	-5.24	49.3	98.5%	50.3	100.7%	2.2%	50	49.5	99.0%	50	48.7	97.4%
Ca 396.847	0.5-50ppm	-0.15	-0.14	49.8	99.7%	50.3	100.6%	0.9%	50	50.2	100.4%	50	48.8	97.6%
Fe 238.204	10ppb-100ppm	-0.64	0.19	998	99.8%	1014	101.4%	1.6%	1000	1003	100.3%	1000	992	99.2%
Fe 259.940	10ppb-100ppm	0.30	-0.50	995	99.5%	1013	101.3%	1.8%	1000	1001	100.1%	1000	993	99.3%
K 766.491	0.5-750ppm	0.20	0.13	9.9	98.6%	10.0	100.4%	1.8%	10	10.0	100.5%	10	9.8	98.0%
Mg 202.582	50-1000ppm	-1.81	-1.83	50.2	100.4%	51.3	102.5%	2.2%	50	50.8	101.6%	50	49.7	99.4%
Mg 279.078	0.5-50ppm	0.04	0.02	48.9	97.8%	50.2	100.4%	2.6%	50	49.8	99.7%	50	49.0	97.9%
Mn 257.610	10ppb-11ppm	-4.82	-5.60	995	99.5%	1016	101.6%	2.1%	1000	1001	100.1%	1000	979	97.9%
Mn 260.568	10ppb-11ppm	-5.16	-5.50	993	99.3%	1012	101.2%	1.9%	1000	999	99.9%	1000	978	97.8%
Na 568.821	50-1000ppm	4.56	4.98	48.4	96.9%	48.9	97.8%	0.9%	50	48.0	95.9%	50	47.3	94.5%
Na 589.592	0.5-50ppm	0.25	0.17	49.6	99.1%	50.2	100.4%	1.3%	50	50.0	100.0%	50	48.6	97.3%
Si 251.611	0.5-200ppm	0.09	0.05	50.0	100.0%	50.9	101.8%	1.7%	50	50.6	101.3%	107	105.5	98.6%
Si 252.411	0.5-200ppm	0.08	0.02	49.7	99.3%	50.7	101.4%	2.1%	50	50.5	100.9%	107	105.3	98.4%

Sample ID AB12759

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.00	0.97	96.6%	0.98	97.6%	1.1%	1	0.97	96.7%	4.8%	-0.01
B 249.772	0.01	0.97	96.7%	0.98	97.5%	0.8%	1	0.96	96.5%	5.6%	0.00
Ca 317.933	30.0	81.6	103.3%	81.1	102.3%	0.6%	50	47.9	95.8%	3.4%	-5.26
Ca 396.847	31.6	73.7	84.2%	73.2	83.1%	0.7%	50	46.4	92.9%	7.8%	-0.17
Fe 238.204	3	994	99.1%	976	97.3%	1.8%	1000	969	96.9%	3.5%	-1.27
Fe 259.940	4	986	98.2%	967	96.4%	1.9%	1000	953	95.3%	5.0%	-1.91
K 766.491	2.9	12.0	91.8%	11.9	90.7%	0.9%	10	9.3	92.7%	8.1%	0.07
Mg 202.582	8.4	57.7	98.6%	57.9	99.0%	0.3%	50	47.8	95.5%	6.1%	-1.85
Mg 279.078	9.7	57.0	94.5%	57.2	95.0%	0.4%	50	47.7	95.3%	4.5%	0.02
Mn 257.610	-5	954	95.9%	960	96.5%	0.6%	1000	953	95.3%	5.0%	-5.16
Mn 260.568	-4	964	96.8%	962	96.6%	0.2%	1000	957	95.7%	4.3%	-5.22
Na 568.821	39.1	80.5	82.8%	83.1	88.0%	3.2%	50	45.3	90.6%	5.7%	4.82

Na 589.592	41.5	86.4	89.8%	85.5	88.0%	1.0%	50	46.4	92.7%	7.5%	0.17
Si 251.611	40.8	86.8	91.8%	87.4	93.1%	0.7%	50	48.2	96.5%	4.9%	-0.04
Si 252.411	40.6	86.7	92.2%	87.1	93.1%	0.5%	50	48.1	96.3%	4.7%	-0.04

300.0 QC Summary

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N
		2	20	2	20	2	2
IPC		2.25	19.68	2.07	18.86	2.11	1.99
Recovery	90-110%	112.49	98.38	103.63	94.31	105.41	99.33
CCV1		2.44	20.04	2.09	19.13	2.11	2.00
Recovery	90-110%	122.11	100.20	104.34	95.67	105.54	99.88
RPD	10%	8.20	1.83	0.69	1.43	0.12	0.56
CCV2		2.16	19.62	2.09	19.00	2.10	1.98
Recovery	90-110%	108.15	98.10	104.59	94.98	105.07	99.22
RPD	10%	3.93	0.29	0.92	0.71	0.32	0.11
AB12880		0.28	143.60	0.12	289.58	0.18	23.93
AB12880+LFM		2.45	164.85	1.93	311.15	1.83	26.17
AB12880+LFMD		2.48	164.58	1.93	311.26	1.85	26.15
Average		2.47	164.71	1.93	311.21	1.84	26.16
Recovery	80-120%	109.39	105.58	90.57	108.12	83.36	111.70
RPD	10%	1.21	0.08	0.05	0.02	0.50	0.03
AB12890		0.22	23.67	0.45	125.80	0.00	25.36
AB12890+LFM		2.42	43.76	2.24	144.83	1.66	27.62
AB12890+LFMD		2.42	43.92	2.25	144.95	1.66	27.42
Average		2.42	43.84	2.25	144.89	1.66	27.52
Recovery	80-120%	109.99	100.86	90.08	95.42	82.99	107.99
RPD	10%	0.20	0.19	0.26	0.04	0.20	0.37

PO4-P
2
1.93
96.65
1.96
98.06
1.45
1.96
97.78
1.17
0.00
1.35
1.34
1.35
67.27
0.12
0.00
1.53
1.53
1.53
76.48
0.15

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Phosphorus QC Summary (Hach 8190)

Date: 3/14/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.209	104.5	90-110
QCS	0.200	0.211	105.5	90-110
CCV	0.200	0.218	109	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12792	0.000	0.200	0.161	0.154	80.5	77	4.4	85-120	10

Note: possible matrix interference observed. Data accepted based on LCS, QCS, and CCV recoveries.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 3/14/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB12816	37640	37400	0.6%	10
AB12872	993	987	0.6%	10
AB12882	1064	1072	0.7%	10
AB12892	878	881	0.3%	10
AB12910	578	570	1.4%	10
AB12920	1338	1319	1.4%	10
AB12923	1765	1760	0.3%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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TDS/TSS QC Summary (SM 2540C/D)

Date Analyzed: 3/14/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC 100	100	100	100	80-120
IPC 500	500	494	98.8	90-110

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12905	546	540	1.1	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

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Kjehldahl Nitrogen QC Summary (SM 4500-NH3)

Date: 3/17/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	5.0	5.200	104	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12627	2.400	5.000	7.200	7.300	96	98	1.4	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

QC Summary for 200.8

Spiked Sample

ID AB12763

Date Analyzed

Monday, March 17, 2014

	IPC Blank	QCS 50	Prep Blank	LCS	LCSD	LCS/LCSD	Sample	Spiked	MS	MSD	MS-MSD	LFB	LFB	LFB-LFBD	IPC Blank
	ug/L	%Rec.	ug/L	% Rec	%Rec	%RPD	ug/L	ug/L	%Rec.	% Rec.	% RPD	% Rec	% Rec	% RPD	ug/L
		85-115%		70-130%	70-130%	20%			70-130%	70-130%	20%	85-115%	85-115%	20%	
Lithium	0.01	101.6	0.07	112.3	117.0	4.09	1.0	50	120.2	111.9	7.15	99.4	111.2	11.21	0.03
Aluminum	-0.17	105.0	1.81	102.7	103.0	0.32	9.8	50	114.9	104.6	9.43	104.2	103.8	0.42	-0.11
Nickel	-0.01	98.5	0.05	98.1	100.4	2.36	-0.1	50	96.2	90.7	5.96	99.3	93.6	5.92	-0.02
Copper	-0.01	99.0	1.35	103.8	106.9	2.96	1.0	50	101.0	94.5	6.64	99.2	98.6	0.70	0.12
Zinc	-0.14	115.3	10.44	117.9	116.5	1.15	25.9	50	107.8	139.1	25.38	98.7	105.4	6.56	1.20
Arsenic	-0.02	97.7	-0.44	105.4	106.1	0.66	0.4	50	113.3	112.2	0.96	100.5	105.4	4.74	-0.09
Selenium	0.08	103.4	-0.04	105.3	108.1	2.61	2.4	250	121.1	117.9	2.73	101.6	106.9	5.06	0.03
Strontium	0.00	104.6	0.13	105.9	107.0	1.10	1.4	50	107.3	102.4	4.73	99.6	102.9	3.25	0.00
Molybdenum	0.01	97.5	0.02	98.8	98.6	0.21	0.1	50	95.2	90.9	4.68	99.2	90.0	9.70	0.01
Barium	0.00	99.1	0.07	98.2	98.6	0.45	0.7	50	97.8	93.4	4.66	100.0	94.5	5.73	-0.01

MS = Matrix Spike MSD = Matrix Spike Duplicate; LFB = Laboratory Fortified Blank; LFBD = Laboratory Fortified Blank Duplicate RPD = Relative Percent Difference

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Alkalinity QC Summary (SM 2320B)

Date Analyzed: 3/192014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	40	40.1	100.25	95-105
IPC	40	40.5	101.25	95-105
IPC	40	40.5	101.25	95-105
IPC	40	40.5	101.25	95-105
IPC	40	40.7	101.75	95-105

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12790	247.7	248.3	0.24	10
AB12870	241.1	241.5	0.17	10
AB12880	272.5	271.9	0.22	10
AB12890	191.1	191.7	0.31	10
AB12908	1.1	1.1	0.00	10
AB12918	306.1	304.3	0.59	10
AB12965	232.5	231.3	0.52	10
AB12975	203.3	204.1	0.39	10
AB13078	370.5	360.5	2.74	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

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Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 3/21/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC (Low)	0.050	0.0451	90.2	90-110
IPC (High)	0.500	0.461	92.2	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB13151	0.009	0.500	0.406	0.439	79.4	86.0	7.8	85-120	10

Note: The MS and MSD does not meet the acceptance criteria for the recovery percent. The data is accepted because the recovery percent for the IPC (Low) and IPC (High) meet the acceptance criteria.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check
RPD = Relative Percent Difference; Rec = Recovery

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Phosphorus QC Summary (Hach 8190)

Date: 3/21/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.214	107	90-110
QCS	0.200	0.185	92.5	90-110
CCV	0.200	0.216	108	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12896	0.050	0.200	0.267	0.268	108.5	109	0.4	85-120	10

Note: possible matrix interference observed. Data accepted based on LCS, QCS, and CCV recoveries.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

MBAS QC Summary (SM 5540C)

Date Analyzed: 3/13/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	0.050	0.042	84	80-120
IPC	0.500	0.491	98.2	80-120
IPC	0.050	0.059	118	80-120

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

March 15, 2014 Ceres ID: 10292

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on March 13, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

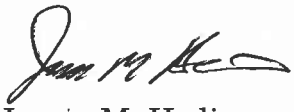
This work was authorized under M.B.A.'s Project # 12792.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,



James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10292-001	CX-B2WQ Zone #3	3/13/2014	3/11/2014	15:45

Section II: Data Summary

Sample ID:	**Method Blank**				
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001
Project:	12792	Sample Size:	1.000 L	QC Batch #:	1165
Date Collected:	NA			ZB-5 MS Analysis Date:	14-Mar-14
Time Collected:	NA			Date Received:	NA
				Date Extracted:	13-Mar-14

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	3.25		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	104	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	104	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	12792	Sample Size:	1.000 L	QC Batch #:	1165	Date Extracted:	13-Mar-14
Date Collected:	NA			ZB-5 MS Analysis Date:	14-Mar-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.24	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	104	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	9.88	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B2WQ Zone #3**						
Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	10292-001	Date Received:	13-Mar-14
Project:	12792	Sample Size:	1.055 L	QC Batch #:	1165	Date Extracted:	13-Mar-14
Date Collected:	11-Mar-14			ZB-5 MS Analysis Date:	14-Mar-14		
Time Collected:	15:45						

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.94		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	99.0	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	94.2	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

10292

Chain of Custody

Please Print in Pen

Ceres Use Only

Pg ___ of ___

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Ceres Project ID: 10292

Temperature: 2.8 °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information (if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days)
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous	S: Soil	AS: Ash	DW: Drinking Water
E: Effluent	SD: Sediment	C: Clay	SO: Solid
I: Influent	SL: Sludge	CS: Clay Slurry	O: Other (please comment)

	Sample ID	Sample Collection Date	Sample Collection Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other — Comments
1	CX-B2WQ Zone #3	3/11/2014	15:45	Aq	1	X						12792
2												(2,3,7,8 TCDD only)
3												5 day Rush Please
4												
5												
6												
7												
8												
9												
10												
11												
12												

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (signature and Printed Name)	Date	Time
David Holland	3/12/2014	12:00	J M Hedin	3/13/14	09:38

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10292	Date/Time: 3/13/14 0938
Client Project ID: 12792	Received Temperature: 2.8 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / N / (NA)
List COC discrepancies: 3/13/14	
List Damaged Samples: 3/13/14	

Ceres Analytical Laboratory

Process Request

Ceres ID: 10292 PB: 1165 Sample #s: 1 Due Date: 3/18/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☐ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:

1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10292-1	1567.62	512.98	1.055 L

Chemist: _____ Date: 3/13/14

Method: ~~301.1~~ 1613 3/13/14
SOP #: 301.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1165-MB001	Method Blank		1.000 L	3/13/14	3/14/14	NA	3/14/14	NA	3/14/14
0-1165-OPR001	OPR		1.000 L	(A)					
10292-1165-001	CX-B2WQ Zone #3	✓	1.055 L						

Comments: (A) spiked w/ISS

Soxhlet Start: 15:00 3/13/14

Soxhlet Stop: 07:53 3/14/14

Samples Logged out by: 11:00 3/13/14

Samples Returned by: NA

Note samples Depleted: 1

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 10:30 3/14/14

Extracts returned to Storage Location: 09:00 3/15/14

Form M1.0 rev4

Chemist: ~~G560~~

Method: 1613
SOP #: 301.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Appendix G

Standard	Standard ID	Vol.	Expiration Date
ISS	S031212A	10 µl	3/12/17
NSS	S031212B	10 µl	3/12/17
CSS	S031212C	10 µl	3/12/17
RSS	S031212D	20 µl	3/12/17

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	PB00577501	8/17/14
Hexane	30,30,100,200	53263	8/11/14
Sigel	4g	P020514A	8/5/14
Basicgel	4g	P012014A	7/20/14
Acid gel	8g	P031114A	9/11/14
Acid Al	6g	P031114B	9/11/14
Na_2SO_4	1.5g	P120413A	6/4/14
20% Dcm Hex	30ml	L031214A	9/12/14

Chemist : C-561

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

MBAS
MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY

Cal Am Water Company
Travis Peterson
511 Pacific Lodge Road, Suite 100
Pacific Grove, CA 93950

4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS
montereybayanalytical@usa.net

ELAP Certification Number: 2385

 Friday, March 21, 2014

Lab Number: AB12896

Collection Date/Time:	3/12/2014	17:15	Sample Collector:	SOBOLEW, J	
Submittal Date/Time:	3/12/2014	18:15	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B2WQ Zone 4 (55-65 Ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	**104**		2		3/19/2014	LRH
Aluminum, Total	EPA200.8	ug/L	**204**		200	1000	3/17/2014	SM
Ammonia-N, Dissolved	SM4500NH3 D	mg/L	**0.1**		0.05		3/21/2014	LRH
Arsenic, Total	EPA200.8	ug/L	**55**		20	10	3/17/2014	SM
Barium, Dissolved	EPA200.8	ug/L	**90**	J	200		3/17/2014	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	**127**		10		3/20/2014	DH
Boron, Dissolved	EPA200.7	mg/L	**2.36**		0.5		3/13/2014	DC
Bromide, Dissolved	EPA300.0	mg/L	**44**		10		3/13/2014	DC
Calcium	EPA200.7	mg/L	**896**		5		3/13/2014	DC
Calcium, Dissolved	EPA200.7	mg/L	**886**		5		3/13/2014	DC
Carbamates by HPLC (EPA 531)	EPA531	ug/L	**Attached (ND)**	E			3/14/2014	BSK
Carbonate as CaCO3	SM2320B	mg/L	**Not Detected**		10		3/20/2014	DH
Chloride, Dissolved	EPA300.0	mg/L	**14464**		100		3/13/2014	DC
Chlorinated Pesticides and PCB (EP	EPA508	ug/L	**Attached (ND)**	E			3/19/2014	WECK
Color, Apparent (Unfiltered)	SM2120B	Color Units	**23**		3	15	3/13/2014	LRH
Copper, Total	EPA200.8	ug/L	**136**		80	1300	3/17/2014	SM
DBCP & EDB	EPA504.1	ug/L	**Attached (ND)**	E			3/19/2014	BSK
Dioxin	EPA-5 1613B	pg/L	**Not Detected**	E			3/19/2014	CERES
Diquat (EPA 549)	EPA549	ug/L	**Attached (ND)**	E			3/19/2014	BSK
Dissolved Anions	Calculation	Meq/L	**449**				3/20/2014	DH
Dissolved Cations	Calculation	Meq/L	**418**				3/20/2014	DH
Endothall	EPA548.1	ug/L	**Attached (ND)**	E			3/18/2014	BSK
Fluoride, Dissolved	EPA300.0	mg/L	**0.5**		0.2		3/13/2014	DC
Glyphosate	EPA547	ug/L	**Attached (ND)**	E			3/17/2014	BSK
Hardness (as CaCO3)	SM2340B/Calc	mg/L	**6405**		10		3/14/2014	DH
Hydroxide	SM2320B	mg/L	**Not Detected**		5		3/20/2014	DH
Iodide	EPA9056M	ug/L	**Attached (ND)**	E	10		3/15/2014	WECK
Iron	EPA200.7	ug/L	**164**		100	300	3/13/2014	DC
Iron, Dissolved	EPA200.7	ug/L	**121**		100	300	3/13/2014	DC
Kjehldahl Nitrogen, Dissolved	SM4500-NH3 B,	mg/L	**Not Detected**		0.5		3/17/2014	HM
Lithium	EPA200.8	ug/L	**164**		20		3/17/2014	SM
Magnesium	EPA200.7	mg/L	**1012**		5		3/13/2014	DC
Magnesium, Dissolved	EPA200.7	mg/L	**1015**		100		3/13/2014	DC
Manganese, Dissolved	EPA200.7	ug/L	**Not Detected**		100	50	3/13/2014	DC
Manganese, Total	EPA200.7	ug/L	**Not Detected**		100	50	3/13/2014	DC

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments. T = Temperature Exceedance

Lab Number: **AB12896**

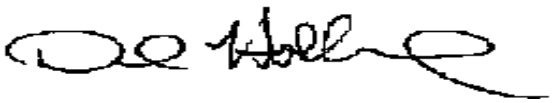
Collection Date/Time:	3/12/2014	17:15	Sample Collector:	SOBOLEW, J	
Submittal Date/Time:	3/12/2014	18:15	Sample ID	GEOSCIENCE	Coliform Designation:

Sample Description: CX-B2WQ Zone 4 (55-65 Ft bgs)

Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
MBAS (Surfactants)	SM5540C	mg/L	**Not Detected**		0.05	0.50	3/13/2014	DH
Nitrate as NO3	EPA300.0	mg/L	**Not Detected**		2	45	3/13/2014	DC
Nitrate+Nitrite as N	EPA300.0	mg/L	**Not Detected**		0.2		3/13/2014	DC
Nitrite as NO2-N, Dissolved	EPA300.0	mg/L	**Not Detected**		0.2		3/13/2014	DC
Odor Threshold at 60 C	SM2150B	TON	**1**		1	3	3/13/2014	LRH
o-Phosphate-P, Dissolved	Hach 8190	mg/L	**0.05**		0.1		3/21/2014	HC
pH (Field Test)	SM4500-H+B	pH	**7.12**				3/12/2014	JS
pH (Laboratory)	SM4500-H+B	pH (H)	**7.2**				3/12/2014	DH
Phenoxy Acid Herbicides (515.3)	EPA515.3	ug/L	**Attached (ND)**	E			3/15/2014	BSK
Phosphorus, Dissolved	HACH 8190	mg/L	**0.05**		0.03		3/21/2014	HC
Potassium	EPA200.7	mg/L	**227**		5		3/13/2014	DC
Potassium, Dissolved	EPA200.7	mg/L	**226**		1		3/13/2014	DC
QC Ratio TDS/SEC	Calculation		**0.66**				3/17/2014	DH
Reg. Org. Compounds (EPA 525)	EPA525	ug/L	**Attached (ND)**	E			3/19/2014	BSK
Silica as SiO2, Dissolved	EPA200.7	mg/L	**19**		5		3/13/2014	DC
Sodium	EPA200.7	mg/L	**6471**		5		3/13/2014	DC
Sodium, Dissolved	EPA200.7	mg/L	**6536**		5		3/13/2014	DC
Specific Conductance (E.C)	SM2510B	umhos/cm	**40270**		1	900	3/14/2014	HM
Specific Conductance (E.C) (Field)	SM2510B	umhos/cm	**39657**		1		3/12/2014	JS
Strontium, Dissolved	EPA200.8	ug/L	**9966**		100		3/17/2014	SM
Sulfate	EPA300.0	mg/L	**1822**		100	250	3/13/2014	DC
Temperature (Field)	SM2550	° C	**17.8**				3/12/2014	JS
Total Cations	Calculations	Meq/L	**415**				3/20/2014	DH
Total Diss. Solids	SM2540C	mg/L	**26700**		10	500	3/14/2014	HM
Turbidity	EPA180.1	NTU	**1.5**		0.05	5.0	3/13/2014	LRH
Turbidity (Field)	EPA180.1	NTU	**0.63**		0.05		3/12/2014	JS
Volatile Org. Compounds (524)	EPA524	ug/L	**Attached (ND)**	E			3/19/2014	BSK
Zinc, Total	EPA200.8	ug/L	**356**		200	5000	3/17/2014	SM

Sample Comments:

Report Approved by:



David Holland, Laboratory Director

mg/L: Milligrams per liter ug/L : Micrograms per liter PQL : Practical Quantitation Limit MCL: Maximum Contamination Level
H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments. T = Temperature Exceedance

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **12896 CXB2WQ Zone 4 Total**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	6471	0.04350	281.49
Potassium	227	0.02558	5.81
Calcium	896	0.04990	44.71
Magnesium	1012	0.08229	83.28
NH3-N	0	0.07143	0.00
		SUM	415.28

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	104	0.02000	2.08
Sulfate	1822	0.02082	37.93
Chloride	14464	0.02821	408.03
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.5	0.05264	0.03
Bromide	44.0	0.01252	0.55
		SUM	448.62

ANION-CATION BALANCE: **-4** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	40270	
Cation Sum X 100	41528	**103%**
Anion Sum X 100	44862	**111%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**35.2**
Ca+Mg+Na	409.48
HCO3/Ca	0.05
dS/m	40.27
Value Table II	1.5
SAR adj	**43.2**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

Monterey Bay Analytical Services
4 Justin Court Ste D
Monterey CA, 93940

SAMPLE ID **12896 CXB2WQ Zone 4 Diss**

CORRECTNESS OF ANALYSIS

CATION	MG/L	FACTOR	MEQ/L
Sodium	6536	0.04350	284.32
Potassium	226	0.02558	5.78
Calcium	886	0.04990	44.21
Magnesium	1015	0.08229	83.52
NH3-N	0	0.07143	0.00
		SUM	417.83

ANION	MG/L	FACTOR	MEQ/L
Total Alkalinity	104	0.02000	2.08
Sulfate	1822	0.02082	37.93
Chloride	14464	0.02821	408.03
Nitrate	0	0.01613	0.00
Nitrate-Nitrogen	0	0.07138	0.00
Phosphate-P	0.0	0.01031	0.00
Fluoride	0.5	0.05264	0.03
Bromide	44.0	0.01252	0.55
		SUM	448.62

ANION-CATION BALANCE: **-4** (% DIFFERENCE)

Note: Anion-cation sums must balance because all potable waters are electrically neutral. For anion sums below 10.0 meq/L, a 2% difference is acceptable. For anion sums between 10.0 - 800 meq/L, a 5% difference is acceptable. If the difference exceeds the above criteria, the sample should be reanalyzed.

ION SUM AND MEASURED CONDUCTIVITY:

Conductivity	40270	
Cation Sum X 100	41783	**104%**
Anion Sum X 100	44862	**111%**

Note: Ion sum (cation or anion) X 100 should be within 10% of the measured conductivity. If either sum is out of range, recheck analysis.

SODIUM OR PERMEABILITY HAZARDS

Sodium Adsorption Ratio (SAR)	**35.6**
Ca+Mg+Na	412.05
HCO3/Ca	0.05
dS/m	40.27
Value Table II	1.5
SAR adj	**43.6**

Note: If the SAR adj is less than 6, there should be no problems with sodium or permeability. In the range of 6 to 9 there are increasing problems; above 9, severe problems can be expected.

BSK Associates Engineers & Laboratories

Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

David Holland
Monterey Bay Analytical
4 Justin Court Suite D
Monterey, CA 93940

RE: Report for A4C1134 Cal Am

Dear David Holland,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 3/14/2014. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey Bay Analytical	**Invoice To:**	Monterey Bay Analytical
Report To:	David Holland	**Invoice Attn:**	David Holland
Project #:	-	**Project PO#:**	-
Received:	3/14/2014 - 09:30		
Report Due:	3/21/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 4.9

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Packing Material - Paper
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
BS1.1	Blank spike recovery for this analyte was biased high. Associated result may be biased high; reanalysis not feasible.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
MS1.1	Matrix spike recovery exceeds upper control limit. Reported results for parent matrix may be biased high due to matrix interferences.

Report Distribution

Recipient(s)	Report Format	CC:
David Holland	Final.rpt	

Certificate of Analysis

Sample ID: A4C1134-01
Sampled By: Josh Sobolew
Sample Description: CX-B2WQ Zone #4 (55-65 ft bgs) // 12896

Sample Date - Time: 03/12/14 - 17:15
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A403269	03/18/14	03/19/14	CV0.0
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A403269	03/18/14	03/19/14	BS1.1, CV0.0
Surrogate: 1-Br-2-Nitrobenzene	EPA 504.1	95 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A403154	03/14/14	03/15/14	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A403154	03/14/14	03/15/14	
2,4-D	EPA 515.3	ND	10	ug/L	1	A403154	03/14/14	03/15/14	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A403154	03/14/14	03/15/14	
Dalapon	EPA 515.3	ND	10	ug/L	1	A403154	03/14/14	03/15/14	BS1.0, CV0.0
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A403154	03/14/14	03/15/14	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A403154	03/14/14	03/15/14	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A403154	03/14/14	03/15/14	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A403154	03/14/14	03/15/14	
Surrogate: DCPAA	EPA 515.3	80 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A403247	03/18/14	03/19/14	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A403247	03/18/14	03/19/14	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A403247	03/18/14	03/19/14	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A403247	03/18/14	03/19/14	

Certificate of Analysis

Sample ID: A4C1134-01
Sampled By: Josh Sobolew
Sample Description: CX-B2WQ Zone #4 (55-65 ft bgs) // 12896

Sample Date - Time: 03/12/14 - 17:15
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Acetone	EPA 524.2	ND	10	ug/L	1	A403247	03/18/14	03/19/14	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A403247	03/18/14	03/19/14	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A403247	03/18/14	03/19/14	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A403247	03/18/14	03/19/14	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A403247	03/18/14	03/19/14	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A403247	03/18/14	03/19/14	

Certificate of Analysis

Sample ID: A4C1134-01
Sampled By: Josh Sobolew
Sample Description: CX-B2WQ Zone #4 (55-65 ft bgs) // 12896

Sample Date - Time: 03/12/14 - 17:15
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	93 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	97 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A403279	03/18/14	03/19/14	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A403279	03/18/14	03/19/14	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A403279	03/18/14	03/19/14	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A403279	03/18/14	03/19/14	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A403279	03/18/14	03/19/14	BS1.0
Bromacil	EPA 525.2	ND	10	ug/L	1	A403279	03/18/14	03/19/14	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A403279	03/18/14	03/19/14	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A403279	03/18/14	03/19/14	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A403279	03/18/14	03/19/14	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A403279	03/18/14	03/19/14	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A403279	03/18/14	03/19/14	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A403279	03/18/14	03/19/14	
Prometryn	EPA 525.2	ND	2.0	ug/L	1	A403279	03/18/14	03/19/14	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A403279	03/18/14	03/19/14	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A403279	03/18/14	03/19/14	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A403279	03/18/14	03/19/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	103 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A403175	03/14/14	03/14/14	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A403175	03/14/14	03/14/14	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A403175	03/14/14	03/14/14	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A403175	03/14/14	03/14/14	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A403175	03/14/14	03/14/14	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A403175	03/14/14	03/14/14	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A403175	03/14/14	03/14/14	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A403175	03/14/14	03/14/14	
Carbamates by HPLC									
Methiocarb	EPA 531.1	ND	2.0	ug/L	1	A403175	03/14/14	03/14/14	
Propoxur	EPA 531.1	ND	2.0	ug/L	1	A403175	03/14/14	03/14/14	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A403209	03/17/14	03/17/14	
Surrogate: AMPA	EPA 547	75 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A403241	03/17/14	03/18/14	

Certificate of Analysis

Sample ID: A4C1134-01
Sampled By: Josh Sobolew
Sample Description: CX-B2WQ Zone #4 (55-65 ft bgs) // 12896

Sample Date - Time: 03/12/14 - 17:15
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A403185	03/15/14	03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 504.1 - Quality Control												
Batch: A403269										Prepared: 03/18/2014		
Prep Method: EPA 505										Analyst: GAK		
Blank (A403269-BLK1)												
Dibromochloropropane (DBCP)	ND	0.010	ug/L							03/19/14		
Ethylene Dibromide (EDB)	ND	0.020	ug/L							03/19/14		
Surrogate: 1-Br-2-Nitrobenzene	*0.63*			*0.69*		*92*	*70-130*			03/19/14		
Blank Spike (A403269-BS1)												
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20		119	70-130			03/19/14		
Ethylene Dibromide (EDB)	0.28	0.020	ug/L	0.20		140	70-130			03/19/14	BS	***High***
Surrogate: 1-Br-2-Nitrobenzene	*0.66*			*0.69*		*97*	*70-130*			03/19/14		
Blank Spike Dup (A403269-BSD1)												
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20		118	70-130	1	20	03/19/14		
Ethylene Dibromide (EDB)	0.28	0.020	ug/L	0.20		139	70-130	1	20	03/19/14	BS	***High***
Surrogate: 1-Br-2-Nitrobenzene	*0.62*			*0.69*		*91*	*70-130*			03/19/14		
Matrix Spike (A403269-MS1), Source: A4C1245-01												
Dibromochloropropane (DBCP)	0.24	0.010	ug/L	0.20	ND	116	65-135			03/19/14		
Ethylene Dibromide (EDB)	0.28	0.020	ug/L	0.20	ND	137	65-135			03/19/14	MS1.1	***High***
Surrogate: 1-Br-2-Nitrobenzene	*0.65*			*0.70*		*93*	*70-130*			03/19/14		
Matrix Spike Dup (A403269-MSD1), Source: A4C1245-01												
Dibromochloropropane (DBCP)	0.25	0.010	ug/L	0.21	ND	120	65-135	4	20	03/19/14		
Ethylene Dibromide (EDB)	0.28	0.020	ug/L	0.21	ND	138	65-135	2	20	03/19/14	MS1.1	***High***
Surrogate: 1-Br-2-Nitrobenzene	*0.65*			*0.70*		*93*	*70-130*			03/19/14		
EPA 515.3 - Quality Control												
Batch: A403154										Prepared: 03/14/2014		
Prep Method: EPA 515.3										Analyst: GAK		
Blank (A403154-BLK1)												
2,4,5-T	ND	1.0	ug/L							03/14/14		
2,4,5-TP (Silvex)	ND	1.0	ug/L							03/14/14		
2,4-D	ND	10	ug/L							03/14/14		
Bentazon	ND	2.0	ug/L							03/14/14		
Dalapon	ND	10	ug/L							03/14/14		
Dicamba	ND	1.5	ug/L							03/14/14		
Dinoseb	ND	2.0	ug/L							03/14/14		
Pentachlorophenol	ND	0.20	ug/L							03/14/14		
Picloram	ND	1.0	ug/L							03/14/14		
Surrogate: DCPAA	*53*			*58*		*92*	*70-130*			03/14/14		
Blank Spike (A403154-BS1)												
2,4,5-T	4.0	1.0	ug/L	4.0		100	70-130			03/14/14		
2,4,5-TP (Silvex)	0.73	1.0	ug/L	0.80		91	70-130			03/14/14		
2,4-D	0.39	10	ug/L	0.40		98	70-130			03/14/14		
Bentazon	8.2	2.0	ug/L	8.0		102	70-130			03/14/14		
Dalapon	7.0	10	ug/L	4.0		174	70-130			03/14/14	BS	***High***

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 515.3 - Quality Control												
Batch: A403154										Prepared: 03/14/2014		
Prep Method: EPA 515.3										Analyst: GAK		
Blank Spike (A403154-BS1)												
Dicamba	5.7	1.5	ug/L	6.0		94	70-130			03/14/14		
Dinoseb	0.80	2.0	ug/L	0.80		100	70-130			03/14/14		
Pentachlorophenol	0.14	0.20	ug/L	0.16		91	70-130			03/14/14		
Picloram	0.36	1.0	ug/L	0.40		89	70-130			03/14/14		
Surrogate: DCPAA	*54*			*58*		*93*	*70-130*			03/14/14		
Blank Spike Dup (A403154-BSD1)												
2,4,5-T	4.0	1.0	ug/L	4.0		100	70-130	0	20	03/15/14		
2,4,5-TP (Silvex)	0.72	1.0	ug/L	0.80		90	70-130	1	20	03/15/14		
2,4-D	0.39	10	ug/L	0.40		97	70-130	1	20	03/15/14		
Bentazon	8.0	2.0	ug/L	8.0		100	70-130	2	20	03/15/14		
Dalapon	7.7	10	ug/L	4.0		193	70-130	10	20	03/15/14	BS	***High***
Dicamba	5.7	1.5	ug/L	6.0		94	70-130	0	20	03/15/14		
Dinoseb	0.82	2.0	ug/L	0.80		102	70-130	2	20	03/15/14		
Pentachlorophenol	0.14	0.20	ug/L	0.16		89	70-130	2	20	03/15/14		
Picloram	0.34	1.0	ug/L	0.40		84	70-130	5	20	03/15/14		
Surrogate: DCPAA	*53*			*58*		*92*	*70-130*			03/15/14		
Matrix Spike (A403154-MS1), Source: A4C0842-03												
2,4,5-T	4.4	1.0	ug/L	4.0	ND	103	70-130			03/14/14		
2,4,5-TP (Silvex)	0.73	1.0	ug/L	0.80	ND	92	70-130			03/14/14		
2,4-D	0.40	10	ug/L	0.40	ND	101	70-130			03/14/14		
Bentazon	8.6	2.0	ug/L	8.0	ND	107	70-130			03/14/14		
Dalapon	7.9	10	ug/L	4.0	ND	96	70-130			03/14/14		
Dicamba	5.7	1.5	ug/L	6.0	ND	95	70-130			03/14/14		
Dinoseb	0.82	2.0	ug/L	0.80	ND	102	70-130			03/14/14		
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	92	70-130			03/14/14		
Picloram	0.48	1.0	ug/L	0.40	ND	119	70-130			03/14/14		
Surrogate: DCPAA	*52*			*58*		*90*	*70-130*			03/14/14		
Matrix Spike Dup (A403154-MSD1), Source: A4C0842-03												
2,4,5-T	4.4	1.0	ug/L	4.0	ND	104	70-130	0	20	03/14/14		
2,4,5-TP (Silvex)	0.74	1.0	ug/L	0.80	ND	92	70-130	0	20	03/14/14		
2,4-D	0.40	10	ug/L	0.40	ND	100	70-130	0	20	03/14/14		
Bentazon	8.4	2.0	ug/L	8.0	ND	106	70-130	1	20	03/14/14		
Dalapon	8.1	10	ug/L	4.0	ND	102	70-130	3	20	03/14/14		
Dicamba	5.7	1.5	ug/L	6.0	ND	95	70-130	0	20	03/14/14		
Dinoseb	0.82	2.0	ug/L	0.80	ND	103	70-130	1	20	03/14/14		
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	92	70-130	0	20	03/14/14		
Picloram	0.43	1.0	ug/L	0.40	ND	106	70-130	11	20	03/14/14		
Surrogate: DCPAA	*53*			*58*		*91*	*70-130*			03/14/14		
EPA 524.2 - Quality Control												
Batch: A403247										Prepared: 03/18/2014		
Prep Method: EPA 524.2										Analyst: JGB		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A403247-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							03/19/14	
1,1,1-Trichloroethane	ND	0.50	ug/L							03/19/14	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							03/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							03/19/14	
1,1,2-Trichloroethane	ND	0.50	ug/L							03/19/14	
1,1-Dichloroethane	ND	0.50	ug/L							03/19/14	
1,1-Dichloroethene	ND	0.50	ug/L							03/19/14	
1,1-Dichloropropene	ND	0.50	ug/L							03/19/14	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							03/19/14	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							03/19/14	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							03/19/14	
1,2-Dichlorobenzene	ND	0.50	ug/L							03/19/14	
1,2-Dichloroethane	ND	0.50	ug/L							03/19/14	
1,2-Dichloropropane	ND	0.50	ug/L							03/19/14	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							03/19/14	
1,3-Dichlorobenzene	ND	0.50	ug/L							03/19/14	
1,3-Dichloropropane	ND	0.50	ug/L							03/19/14	
1,4-Dichlorobenzene	ND	0.50	ug/L							03/19/14	
2,2-Dichloropropane	ND	0.50	ug/L							03/19/14	
2-Butanone	ND	5.0	ug/L							03/19/14	
2-Chlorotoluene	ND	0.50	ug/L							03/19/14	
2-Hexanone	ND	10	ug/L							03/19/14	
4-Chlorotoluene	ND	0.50	ug/L							03/19/14	
4-Methyl-2-pentanone	ND	5.0	ug/L							03/19/14	
Acetone	ND	10	ug/L							03/19/14	
Benzene	ND	0.50	ug/L							03/19/14	
Bromobenzene	ND	0.50	ug/L							03/19/14	
Bromochloromethane	ND	0.50	ug/L							03/19/14	
Bromodichloromethane	ND	0.50	ug/L							03/19/14	
Bromoform	ND	0.50	ug/L							03/19/14	
Bromomethane	ND	0.50	ug/L							03/19/14	
Carbon Tetrachloride	ND	0.50	ug/L							03/19/14	
Chlorobenzene	ND	0.50	ug/L							03/19/14	
Chloroethane	ND	0.50	ug/L							03/19/14	
Chloroform	ND	0.50	ug/L							03/19/14	
Chloromethane	ND	0.50	ug/L							03/19/14	
cis-1,2-Dichloroethene	ND	0.50	ug/L							03/19/14	
cis-1,3-Dichloropropene	ND	0.50	ug/L							03/19/14	
Dibromochloromethane	ND	0.50	ug/L							03/19/14	
Dibromomethane	ND	0.50	ug/L							03/19/14	
Dichlorodifluoromethane	ND	0.50	ug/L							03/19/14	
Dichloromethane	ND	0.50	ug/L							03/19/14	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							03/19/14	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							03/19/14	
Ethylbenzene	ND	0.50	ug/L							03/19/14	
Hexachlorobutadiene	ND	0.50	ug/L							03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A403247-BLK1)											
Isopropylbenzene	ND	0.50	ug/L							03/19/14	
m,p-Xylenes	ND	0.50	ug/L							03/19/14	
Methyl-t-butyl ether	ND	0.50	ug/L							03/19/14	
Naphthalene	ND	0.50	ug/L							03/19/14	
n-Butylbenzene	ND	0.50	ug/L							03/19/14	
n-Propylbenzene	ND	0.50	ug/L							03/19/14	
o-Xylene	ND	0.50	ug/L							03/19/14	
p-Isopropyltoluene	ND	0.50	ug/L							03/19/14	
sec-Butylbenzene	ND	0.50	ug/L							03/19/14	
Styrene	ND	0.50	ug/L							03/19/14	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							03/19/14	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							03/19/14	
tert-Butylbenzene	ND	0.50	ug/L							03/19/14	
Tetrachloroethene (PCE)	ND	0.50	ug/L							03/19/14	
Toluene	ND	0.50	ug/L							03/19/14	
trans-1,2-Dichloroethene	ND	0.50	ug/L							03/19/14	
trans-1,3-Dichloropropene	ND	0.50	ug/L							03/19/14	
Trichloroethene (TCE)	ND	0.50	ug/L							03/19/14	
Trichlorofluoromethane	ND	5.0	ug/L							03/19/14	
Vinyl Chloride	ND	0.50	ug/L							03/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*95*	*70-130*			03/19/14	
Surrogate: Bromofluorobenzene	*49*			*50*		*99*	*70-130*			03/19/14	
Blank Spike (A403247-BS1)											
1,1,1,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1,1-Trichloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1,2,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.7	10	ug/L	10		97	70-130			03/19/14	
1,1,2-Trichloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1-Dichloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,1-Dichloroethene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
1,1-Dichloropropene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,2,3-Trichlorobenzene	9.5	0.50	ug/L	10		95	70-130			03/19/14	
1,2,4-Trichlorobenzene	9.5	0.50	ug/L	10		95	70-130			03/19/14	
1,2,4-Trimethylbenzene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
1,2-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
1,2-Dichloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,2-Dichloropropane	9.9	0.50	ug/L	10		99	70-130			03/19/14	
1,3,5-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
1,3-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
1,3-Dichloropropane	9.9	0.50	ug/L	10		99	70-130			03/19/14	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
2,2-Dichloropropane	8.9	0.50	ug/L	10		89	70-130			03/19/14	
2-Butanone	11	5.0	ug/L	10		106	70-130			03/19/14	
2-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
2-Hexanone	10	10	ug/L	10		101	70-130			03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A403247-BS1)											
4-Chlorotoluene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
4-Methyl-2-pentanone	10	5.0	ug/L	10		101	70-130			03/19/14	
Acetone	11	10	ug/L	10		110	70-130			03/19/14	
Benzene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Bromobenzene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Bromochloromethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Bromodichloromethane	10	0.50	ug/L	10		101	70-130			03/19/14	
Bromoform	11	0.50	ug/L	10		108	70-130			03/19/14	
Bromomethane	11	0.50	ug/L	10		107	70-130			03/19/14	
Carbon Tetrachloride	9.7	0.50	ug/L	10		97	70-130			03/19/14	
Chlorobenzene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Chloroethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Chloroform	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Chloromethane	9.7	0.50	ug/L	10		97	70-130			03/19/14	
cis-1,2-Dichloroethene	10	0.50	ug/L	10		100	70-130			03/19/14	
cis-1,3-Dichloropropene	10	0.50	ug/L	10		100	70-130			03/19/14	
Dibromochloromethane	10	0.50	ug/L	10		103	70-130			03/19/14	
Dibromomethane	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Dichlorodifluoromethane	9.2	0.50	ug/L	10		92	70-130			03/19/14	
Dichloromethane	10	0.50	ug/L	10		100	70-130			03/19/14	
Di-isopropyl ether (DIPE)	9.9	3.0	ug/L	10		99	70-130			03/19/14	
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		100	70-130			03/19/14	
Ethylbenzene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Hexachlorobutadiene	9.3	0.50	ug/L	10		93	70-130			03/19/14	
Isopropylbenzene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
m,p-Xylenes	20	0.50	ug/L	20		98	70-130			03/19/14	
Methyl-t-butyl ether	20	0.50	ug/L	20		100	70-130			03/19/14	
Naphthalene	9.7	0.50	ug/L	10		97	70-130			03/19/14	
n-Butylbenzene	9.4	0.50	ug/L	10		94	70-130			03/19/14	
n-Propylbenzene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
o-Xylene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
p-Isopropyltoluene	9.6	0.50	ug/L	10		96	70-130			03/19/14	
sec-Butylbenzene	9.6	0.50	ug/L	10		96	70-130			03/19/14	
Styrene	9.4	0.50	ug/L	10		94	70-130			03/19/14	
tert-Amyl Methyl Ether (TAME)	9.6	3.0	ug/L	10		96	70-130			03/19/14	
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		104	70-130			03/19/14	
tert-Butylbenzene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
Tetrachloroethene (PCE)	9.7	0.50	ug/L	10		97	70-130			03/19/14	
Toluene	9.8	0.50	ug/L	10		98	70-130			03/19/14	
trans-1,2-Dichloroethene	10	0.50	ug/L	10		100	70-130			03/19/14	
trans-1,3-Dichloropropene	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Trichloroethene (TCE)	9.9	0.50	ug/L	10		99	70-130			03/19/14	
Trichlorofluoromethane	9.5	5.0	ug/L	10		95	70-130			03/19/14	
Vinyl Chloride	9.6	0.50	ug/L	10		96	70-130			03/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*96*	*70-130*			03/19/14	
Surrogate: Bromofluorobenzene	*48*			*50*		*96*	*70-130*			03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A403247-BSD1)											
1,1,1,2-Tetrachloroethane	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,1,1-Trichloroethane	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
1,1,2,2-Tetrachloroethane	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.4	10	ug/L	10		94	70-130	3	30	03/19/14	
1,1,2-Trichloroethane	9.7	0.50	ug/L	10		97	70-130	2	30	03/19/14	
1,1-Dichloroethane	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,1-Dichloroethene	9.5	0.50	ug/L	10		95	70-130	2	30	03/19/14	
1,1-Dichloropropene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,2,3-Trichlorobenzene	9.4	0.50	ug/L	10		94	70-130	1	30	03/19/14	
1,2,4-Trichlorobenzene	9.4	0.50	ug/L	10		94	70-130	1	30	03/19/14	
1,2,4-Trimethylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,2-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
1,2-Dichloroethane	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
1,2-Dichloropropane	9.7	0.50	ug/L	10		97	70-130	1	30	03/19/14	
1,3,5-Trimethylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
1,3-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
1,3-Dichloropropane	9.7	0.50	ug/L	10		97	70-130	2	30	03/19/14	
1,4-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
2,2-Dichloropropane	8.5	0.50	ug/L	10		85	70-130	4	30	03/19/14	
2-Butanone	9.6	5.0	ug/L	10		96	70-130	11	30	03/19/14	
2-Chlorotoluene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
2-Hexanone	9.3	10	ug/L	10		93	70-130	8	30	03/19/14	
4-Chlorotoluene	9.6	0.50	ug/L	10		96	70-130	1	30	03/19/14	
4-Methyl-2-pentanone	9.4	5.0	ug/L	10		94	70-130	8	30	03/19/14	
Acetone	9.5	10	ug/L	10		95	70-130	14	30	03/19/14	
Benzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
Bromobenzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
Bromochloromethane	9.9	0.50	ug/L	10		99	70-130	1	30	03/19/14	
Bromodichloromethane	9.8	0.50	ug/L	10		98	70-130	2	30	03/19/14	
Bromoform	10	0.50	ug/L	10		104	70-130	4	30	03/19/14	
Bromomethane	11	0.50	ug/L	10		106	70-130	0	30	03/19/14	
Carbon Tetrachloride	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
Chlorobenzene	9.8	0.50	ug/L	10		98	70-130	2	30	03/19/14	
Chloroethane	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
Chloroform	9.7	0.50	ug/L	10		97	70-130	1	30	03/19/14	
Chloromethane	9.3	0.50	ug/L	10		93	70-130	5	30	03/19/14	
cis-1,2-Dichloroethene	9.8	0.50	ug/L	10		98	70-130	3	30	03/19/14	
cis-1,3-Dichloropropene	9.7	0.50	ug/L	10		97	70-130	2	30	03/19/14	
Dibromochloromethane	10	0.50	ug/L	10		101	70-130	2	30	03/19/14	
Dibromomethane	9.7	0.50	ug/L	10		97	70-130	1	30	03/19/14	
Dichlorodifluoromethane	9.5	0.50	ug/L	10		95	70-130	4	30	03/19/14	
Dichloromethane	9.8	0.50	ug/L	10		98	70-130	1	30	03/19/14	
Di-isopropyl ether (DIPE)	9.6	3.0	ug/L	10		96	70-130	2	30	03/19/14	
Ethyl tert-Butyl Ether (ETBE)	9.8	0.50	ug/L	10		98	70-130	2	30	03/19/14	
Ethylbenzene	9.6	0.50	ug/L	10		96	70-130	3	30	03/19/14	
Hexachlorobutadiene	9.1	0.50	ug/L	10		91	70-130	2	30	03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A403247										Prepared: 03/18/2014	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A403247-BSD1)											
Isopropylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
m,p-Xylenes	19	0.50	ug/L	20		96	70-130	2	30	03/19/14	
Methyl-t-butyl ether	20	0.50	ug/L	20		98	70-130	2	30	03/19/14	
Naphthalene	9.5	0.50	ug/L	10		95	70-130	2	30	03/19/14	
n-Butylbenzene	9.2	0.50	ug/L	10		92	70-130	1	30	03/19/14	
n-Propylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
o-Xylene	9.7	0.50	ug/L	10		97	70-130	1	30	03/19/14	
p-Isopropyltoluene	9.5	0.50	ug/L	10		95	70-130	1	30	03/19/14	
sec-Butylbenzene	9.5	0.50	ug/L	10		95	70-130	1	30	03/19/14	
Styrene	8.6	0.50	ug/L	10		86	70-130	8	30	03/19/14	
tert-Amyl Methyl Ether (TAME)	9.4	3.0	ug/L	10		94	70-130	2	30	03/19/14	
tert-Butyl alcohol (TBA)	9.4	2.0	ug/L	10		94	70-130	10	30	03/19/14	
tert-Butylbenzene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
Tetrachloroethene (PCE)	9.5	0.50	ug/L	10		95	70-130	1	30	03/19/14	
Toluene	9.6	0.50	ug/L	10		96	70-130	2	30	03/19/14	
trans-1,2-Dichloroethene	9.7	0.50	ug/L	10		97	70-130	3	30	03/19/14	
trans-1,3-Dichloropropene	9.7	0.50	ug/L	10		97	70-130	3	30	03/19/14	
Trichloroethene (TCE)	9.7	0.50	ug/L	10		97	70-130	2	30	03/19/14	
Trichlorofluoromethane	9.3	5.0	ug/L	10		93	70-130	2	30	03/19/14	
Vinyl Chloride	9.8	0.50	ug/L	10		98	70-130	2	30	03/19/14	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*96*	*70-130*			03/19/14	
Surrogate: Bromofluorobenzene	*48*			*50*		*97*	*70-130*			03/19/14	
EPA 525.2 - Quality Control											
Batch: A403279										Prepared: 03/18/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A403279-BLK1)											
Alachlor	ND	1.0	ug/L							03/19/14	
Atrazine	ND	0.50	ug/L							03/19/14	
Benzo(a)pyrene	ND	0.10	ug/L							03/19/14	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							03/19/14	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							03/19/14	
Bromacil	ND	10	ug/L							03/19/14	
Butachlor	ND	0.38	ug/L							03/19/14	
Diazinon	ND	0.25	ug/L							03/19/14	
Dimethoate	ND	10	ug/L							03/19/14	
Metolachlor	ND	0.50	ug/L							03/19/14	
Metribuzin	ND	0.50	ug/L							03/19/14	
Molinate	ND	2.0	ug/L							03/19/14	
Prometryn	ND	2.0	ug/L							03/19/14	
Propachlor	ND	0.50	ug/L							03/19/14	
Simazine	ND	1.0	ug/L							03/19/14	
Thiobencarb	ND	1.0	ug/L							03/19/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.3*			*5.1*		*106*	*70-130*			03/19/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A403279										Prepared: 03/18/2014		
Prep Method: EPA 525.2										Analyst: KHH		
Blank Spike (A403279-BS1)												
Alachlor	0.53	1.0	ug/L	0.50		105	70-130			03/19/14		
Atrazine	0.53	0.50	ug/L	0.50		106	70-130			03/19/14		
Benzo(a)pyrene	0.099	0.10	ug/L	0.10		98	70-130			03/19/14		
Bis(2-ethylhexyl) adipate	3.3	3.0	ug/L	3.0		110	70-130			03/19/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	3.0		134	70-130			03/19/14	BS	***High***
Bromacil	2.2	10	ug/L	2.0		111	70-130			03/19/14		
Butachlor	1.3	0.38	ug/L	1.3		104	70-130			03/19/14		
Diazinon	0.043	0.25	ug/L	0.050		86	70-130			03/19/14		
Dimethoate	0.47	10	ug/L	0.50		94	70-130			03/19/14		
Metolachlor	2.7	0.50	ug/L	2.5		105	70-130			03/19/14		
Metribuzin	3.1	0.50	ug/L	2.5		121	70-130			03/19/14		
Molinate	2.9	2.0	ug/L	2.5		116	70-130			03/19/14		
Prometryn	0.62	2.0	ug/L	0.50		122	70-130			03/19/14		
Propachlor	2.9	0.50	ug/L	2.5		115	70-130			03/19/14		
Simazine	0.38	1.0	ug/L	0.35		107	70-130			03/19/14		
Thiobencarb	0.56	1.0	ug/L	0.50		110	70-130			03/19/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.6*			*5.0*		*112*	*70-130*			03/19/14		
Blank Spike Dup (A403279-BSD1)												
Alachlor	0.54	1.0	ug/L	0.50		109	70-130	3	30	03/19/14		
Atrazine	0.55	0.50	ug/L	0.50		109	70-130	3	30	03/19/14		
Benzo(a)pyrene	0.097	0.10	ug/L	0.10		97	70-130	2	30	03/19/14		
Bis(2-ethylhexyl) adipate	3.3	3.0	ug/L	3.0		111	70-130	0	30	03/19/14		
Bis(2-ethylhexyl) phthalate	4.0	3.0	ug/L	3.0		132	70-130	2	30	03/19/14	BS	***High***
Bromacil	2.4	10	ug/L	2.0		122	70-130	8	30	03/19/14		
Butachlor	1.3	0.38	ug/L	1.2		105	70-130	0	30	03/19/14		
Diazinon	0.049	0.25	ug/L	0.050		98	70-130	12	30	03/19/14		
Dimethoate	0.53	10	ug/L	0.50		105	70-130	11	30	03/19/14		
Metolachlor	2.7	0.50	ug/L	2.5		108	70-130	2	30	03/19/14		
Metribuzin	3.1	0.50	ug/L	2.5		122	70-130	0	30	03/19/14		
Molinate	2.8	2.0	ug/L	2.5		110	70-130	6	30	03/19/14		
Prometryn	0.61	2.0	ug/L	0.50		122	70-130	1	30	03/19/14		
Propachlor	2.8	0.50	ug/L	2.5		113	70-130	2	30	03/19/14		
Simazine	0.40	1.0	ug/L	0.35		115	70-130	6	30	03/19/14		
Thiobencarb	0.56	1.0	ug/L	0.50		113	70-130	1	30	03/19/14		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.5*			*5.0*		*109*	*70-130*			03/19/14		
Matrix Spike (A403279-MS1), Source: A4C1103-01												
Alachlor	0.52	1.0	ug/L	0.49	ND	106	70-130			03/19/14		
Atrazine	0.52	0.50	ug/L	0.49	ND	106	70-130			03/19/14		
Benzo(a)pyrene	0.097	0.10	ug/L	0.098	ND	99	70-130			03/19/14		
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.0	ND	118	70-130			03/19/14		
Bis(2-ethylhexyl) phthalate	4.1	3.0	ug/L	3.0	ND	114	70-130			03/19/14		
Bromacil	2.6	10	ug/L	2.0	ND	122	70-130			03/19/14		
Butachlor	1.4	0.38	ug/L	1.2	ND	111	70-130			03/19/14		
Diazinon	0.049	0.25	ug/L	0.049	ND	100	70-130			03/19/14		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A403279										Prepared: 03/18/2014	
Prep Method: EPA 525.2										Analyst: KHH	
Matrix Spike (A403279-MS1), Source: A4C1103-01											
Dimethoate	0.54	10	ug/L	0.49	ND	111	70-130			03/19/14	
Metolachlor	2.6	0.50	ug/L	2.5	ND	107	70-130			03/19/14	
Metribuzin	3.0	0.50	ug/L	2.5	ND	122	70-130			03/19/14	
Molinate	2.6	2.0	ug/L	2.5	ND	105	70-130			03/19/14	
Prometryn	0.59	2.0	ug/L	0.49	ND	120	70-130			03/19/14	
Propachlor	2.7	0.50	ug/L	2.5	ND	110	70-130			03/19/14	
Simazine	0.40	1.0	ug/L	0.34	ND	115	70-130			03/19/14	
Thiobencarb	0.56	1.0	ug/L	0.49	ND	113	70-130			03/19/14	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.9*			*4.9*		*100*	*70-130*			03/19/14	
EPA 531.1 - Quality Control											
Batch: A403175										Prepared: 03/14/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A403175-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							03/14/14	
Aldicarb	ND	3.0	ug/L							03/14/14	
Aldicarb Sulfone	ND	2.0	ug/L							03/14/14	
Aldicarb Sulfoxide	ND	3.0	ug/L							03/14/14	
Carbaryl	ND	5.0	ug/L							03/14/14	
Carbofuran	ND	5.0	ug/L							03/14/14	
Methiocarb	ND	2.0	ug/L							03/14/14	
Methomyl	ND	2.0	ug/L							03/14/14	
Oxamyl	ND	20	ug/L							03/14/14	
Propoxur	ND	2.0	ug/L							03/14/14	
Blank Spike (A403175-BS1)											
3-Hydroxycarbofuran	4.4	3.0	ug/L	4.0		109	80-120			03/14/14	
Aldicarb	4.0	3.0	ug/L	4.0		101	80-120			03/14/14	
Aldicarb Sulfone	4.3	2.0	ug/L	4.0		106	80-120			03/14/14	
Aldicarb Sulfoxide	4.2	3.0	ug/L	4.0		104	80-120			03/14/14	
Carbaryl	4.3	5.0	ug/L	4.0		107	80-120			03/14/14	
Carbofuran	4.3	5.0	ug/L	4.0		108	80-120			03/14/14	
Methiocarb	4.3	2.0	ug/L	4.0		107	80-120			03/14/14	
Methomyl	4.2	2.0	ug/L	4.0		104	80-120			03/14/14	
Oxamyl	4.2	20	ug/L	4.0		105	80-120			03/14/14	
Propoxur	4.2	2.0	ug/L	4.0		106	80-120			03/14/14	
Blank Spike Dup (A403175-BSD1)											
3-Hydroxycarbofuran	3.8	3.0	ug/L	4.0		95	80-120	14	20	03/14/14	
Aldicarb	3.5	3.0	ug/L	4.0		87	80-120	15	20	03/14/14	
Aldicarb Sulfone	3.8	2.0	ug/L	4.0		94	80-120	12	20	03/14/14	
Aldicarb Sulfoxide	3.8	3.0	ug/L	4.0		94	80-120	10	20	03/14/14	
Carbaryl	3.9	5.0	ug/L	4.0		97	80-120	10	20	03/14/14	
Carbofuran	3.8	5.0	ug/L	4.0		95	80-120	13	20	03/14/14	
Methiocarb	3.7	2.0	ug/L	4.0		93	80-120	14	20	03/14/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A403175										Prepared: 03/14/2014	
Prep Method: EPA 531.1										Analyst: AAR	
Blank Spike Dup (A403175-BSD1)											
Methomyl	3.7	2.0	ug/L	4.0		93	80-120	11	20	03/14/14	
Oxamyl	3.7	20	ug/L	4.0		93	80-120	12	20	03/14/14	
Propoxur	3.7	2.0	ug/L	4.0		93	80-120	13	20	03/14/14	
Matrix Spike (A403175-MS1), Source: A4C1026-01											
3-Hydroxycarbofuran	4.1	3.0	ug/L	4.0	ND	102	65-135			03/14/14	
Aldicarb	4.0	3.0	ug/L	4.0	ND	99	65-135			03/14/14	
Aldicarb Sulfone	4.0	2.0	ug/L	4.0	ND	100	65-135			03/14/14	
Aldicarb Sulfoxide	3.9	3.0	ug/L	4.0	ND	97	65-135			03/14/14	
Carbaryl	4.0	5.0	ug/L	4.0	ND	99	65-135			03/14/14	
Carbofuran	3.8	5.0	ug/L	4.0	ND	96	65-135			03/14/14	
Methiocarb	3.9	2.0	ug/L	4.0	ND	98	65-135			03/14/14	
Methomyl	4.1	2.0	ug/L	4.0	ND	102	65-135			03/14/14	
Oxamyl	4.0	20	ug/L	4.0	ND	101	65-135			03/14/14	
Propoxur	4.0	2.0	ug/L	4.0	ND	95	65-135			03/14/14	
EPA 547 - Quality Control											
Batch: A403209										Prepared: 03/17/2014	
Prep Method: EPA 547										Analyst: RJB	
Blank (A403209-BLK1)											
Glyphosate	ND	25	ug/L							03/17/14	
Surrogate: AMPA	*100*			*100*		*103*	*70-130*			03/17/14	
Blank Spike (A403209-BS1)											
Glyphosate	110	25	ug/L	100		111	70-130			03/17/14	
Surrogate: AMPA	*100*			*100*		*105*	*70-130*			03/17/14	
Blank Spike Dup (A403209-BSD1)											
Glyphosate	120	25	ug/L	100		116	70-130	4	30	03/17/14	
Surrogate: AMPA	*110*			*100*		*110*	*70-130*			03/17/14	
Matrix Spike (A403209-MS1), Source: A4C0842-02											
Glyphosate	110	25	ug/L	100	ND	112	70-130			03/17/14	
Surrogate: AMPA	*110*			*100*		*103*	*70-130*			03/17/14	
Matrix Spike Dup (A403209-MSD1), Source: A4C0842-02											
Glyphosate	110	25	ug/L	100	ND	108	70-130	4	30	03/17/14	
Surrogate: AMPA	*100*			*100*		*100*	*70-130*			03/17/14	
EPA 548.1 - Quality Control											
Batch: A403241										Prepared: 03/17/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A403241-BLK1)											
Endothall	ND	45	ug/L							03/18/14	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 548.1 - Quality Control											
Batch: A403241										Prepared: 03/17/2014	
Prep Method: EPA 548.1										Analyst: KHH	
Blank Spike (A403241-BS1)											
Endothall	14	45	ug/L	20		72	60-111			03/18/14	
Blank Spike Dup (A403241-BSD1)											
Endothall	15	45	ug/L	20		75	60-111	5	46	03/18/14	
Matrix Spike (A403241-MS1), Source: A4C1103-01											
Endothall	ND	45	ug/L	20	ND	0	10-122			03/18/14	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A403185										Prepared: 03/15/2014	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A403185-BLK1)											
Diquat	ND	4.0	ug/L							03/19/14	
Blank Spike (A403185-BS1)											
Diquat	3.3	4.0	ug/L	4.0		83	70-130			03/19/14	
Blank Spike Dup (A403185-BSD1)											
Diquat	3.4	4.0	ug/L	4.0		85	70-130	3	30	03/19/14	
Matrix Spike (A403185-MS1), Source: A4C1015-03											
Diquat	3.3	4.0	ug/L	4.0	ND	82	70-130			03/19/14	
Matrix Spike (A403185-MS2), Source: A4C1015-04											
Diquat	3.3	4.0	ug/L	4.0	ND	81	70-130			03/19/14	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of Oregon - NELAP	4021	State of Washington	C997
State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA

BSK is not accredited under the NELAC program for the following parameters: **NA**

A4C1134

Monterey Bay Analytical

Monte6227

03142014

Turnaround: Standard
Due Date: 3/21/2014

Printed: 3/14/2014 4:50:24PM

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

A4C1134 03/14/2014
Monte6227 5

* Required Fields

TEMP: 4.9

Client/Company Name *:	Report Attention *:	Phone * #:	FAX * #:
Monterey Bay Analytical	David Holland	(831)-357-6227	(831)-641-0734
		E-mail: 4MBAS@Sbcglobal.net	

Address *	City *	State *	Zip *
4 Justin Ct.	Monterey	CA	93940

Project Information: Cal Am

PO #

Quote # 464

How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only

Sampler Name Printed / Signature: Josh Sobolew

QC Request: ☑ STD ☐ Level II

Result Request ** Surcharge: ☐ STD ☑ 5 Day** ☐ 2 Day** ☐ 1 Day**

Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

Regulatory Compliance: Electronic Data Transfer: Y ☐ N ☑ System No. *

ANALYSIS REQUESTED

Matrix Types: RSW = Raw Surface Water; CFW = Clorinated Finished Water; CWW = Chorinated Waste Water; BW = Bottled Water; RGW = Raw Ground Water; FW = Finished Water; WW = Waste Water; SW = Storm Water; DW = Drinking Water; SO = Solid

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	EPA 504	EPA 515	EPA 524 inc MTBE	EPA 525	EPA 531	EPA 547	EPA 548	EPA 549
1	13	3/12/14	17:15	CX-B2WQ Zone #4 (55-65 ft bgs)	RGW	12896	✓	✓	✓	✓	✓	✓	✓	✓
				5 day TAT please										
				Conductivity 39657 uS/cm										

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
David Holland	MBAS	3/13/14	1200		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery:	
Sandy Baum		3/14/14	0930	Date: Amount: Check/Cash/Card PIA # Init:	

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER

Cooling Method: WET BLUE NONE

Packing Material: Bub / Paper / Foam

G-586

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received ("-" means preservation/chlorine checks are either N/A or are performed in the lab)

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1
Bacti $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270		—	1C
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2A 2C
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	4V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	4V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

Sent copy 3/14/14

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: JHD @ 12:19 Labels checked by G-587 @ 1247 RUSH Paged by:

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CERTIFICATE OF ANALYSIS

Client:	Monterey Bay Analytical Services 4 Justin Court, Suite D Monterey CA, 93940	**Report Date:**	03/21/14 16:22
		Received Date:	03/14/14 09:20
		Turn Around:	5 workdays
Attention:	David Holland	**Client Project:**	Cal Am
Phone:	(831) 375-6227		
Fax:	(831) 641-0734		
Work Order(s):	4C14029		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear David Holland :

Enclosed are the results of analyses for samples received 03/14/14 09:20 with the Chain of Custody document. The samples were received in good condition, at 3.4 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Brandon Gee
Project Manager

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Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
CX-B2WQ Zone #4 (55-56 Ft bgs)	Josh Soboleu	12792	4C14029-01	Water	03/12/14 17:15

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Chlorinated Pesticides and/or PCBs

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

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Monterey Bay Analytical Services
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Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

4C14029-01 **CX-B2WQ Zone #4 (55-56 Ft bgs)**

Sampled: 03/12/14 17:15 **Sampled By:** Josh Soboleu **Matrix:** Water

Sample Note: 12792

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 9056A Batch: W4C0833 Prepared: 03/15/14 10:30 Analyst: Alice T. Lee

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Iodide	ND	250	ug/l	25	03/15/14 15:05	M-02

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W4C0838 Prepared: 03/15/14 12:16 Analyst: Maxwell Wang

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND		0.010	ug/l	1	03/19/14 10:33	
4,4´-DDE	ND		0.010	ug/l	1	03/19/14 10:33	
4,4´-DDT	ND		0.010	ug/l	1	03/19/14 10:33	
Aldrin	ND		0.010	ug/l	1	03/19/14 10:33	
alpha-BHC	ND		0.010	ug/l	1	03/19/14 10:33	
Aroclor 1016	ND		0.10	ug/l	1	03/19/14 02:37	
Aroclor 1221	ND		0.10	ug/l	1	03/19/14 02:37	
Aroclor 1232	ND		0.10	ug/l	1	03/19/14 02:37	
Aroclor 1242	ND		0.10	ug/l	1	03/19/14 02:37	
Aroclor 1248	ND		0.10	ug/l	1	03/19/14 02:37	
Aroclor 1254	ND		0.10	ug/l	1	03/19/14 02:37	
Aroclor 1260	ND		0.10	ug/l	1	03/19/14 02:37	
beta-BHC	ND		0.010	ug/l	1	03/19/14 10:33	
Chlordane (tech)	ND		0.10	ug/l	1	03/19/14 02:37	
Chlorothalonil	ND		0.050	ug/l	1	03/19/14 02:37	
delta-BHC	ND		0.010	ug/l	1	03/19/14 10:33	
Dieldrin	ND		0.010	ug/l	1	03/19/14 10:33	
Endosulfan I	ND		0.010	ug/l	1	03/19/14 10:33	
Endosulfan II	ND		0.010	ug/l	1	03/19/14 10:33	
Endosulfan sulfate	ND		0.010	ug/l	1	03/19/14 10:33	
Endrin	ND		0.010	ug/l	1	03/19/14 10:33	
Endrin aldehyde	ND		0.010	ug/l	1	03/19/14 10:33	
gamma-BHC (Lindane)	ND		0.010	ug/l	1	03/19/14 10:33	
Heptachlor	ND		0.010	ug/l	1	03/19/14 10:33	
Heptachlor epoxide	ND		0.010	ug/l	1	03/19/14 10:33	
Hexachlorobenzene	ND		0.010	ug/l	1	03/19/14 02:37	
Hexachlorocyclopentadiene	ND		0.050	ug/l	1	03/19/14 02:37	
Methoxychlor	ND		0.010	ug/l	1	03/19/14 10:33	
PCBs, Total	ND		0.50	ug/l	1	03/19/14 02:37	
Propachlor	ND		0.050	ug/l	1	03/19/14 02:37	
Toxaphene	ND		1.0	ug/l	1	03/19/14 02:37	
Trifluralin	ND		0.010	ug/l	1	03/19/14 02:37	
Surr: Decachlorobiphenyl	*71 %*	Conc:*0.0680*	*70-130*	%			
Surr: Tetrachloro-meta-xylene	*81 %*	Conc:*0.0770*	*70-130*	%			

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Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

4C14029-01 **CX-B2WQ Zone #4 (55-56 Ft bgs)**

Sampled: 03/12/14 17:15 **Sampled By:** Josh Soboleu **Matrix:** Water

Sample Note: 12792

Chlorinated Pesticides and/or PCBs

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QUALITY CONTROL SECTION

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Monterey CA, 93940

Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4C0833 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0833-BLK1)				Analyzed: 03/15/14 15:05						
Iodide	ND	10	ug/l							
LCS (W4C0833-BS1)				Analyzed: 03/15/14 15:05						
Iodide	40.2	10	ug/l	40.0		101	85-115			
Matrix Spike (W4C0833-MS1)	**Source: 4C11006-01**			Analyzed: 03/15/14 15:05						
Iodide	1090	250	ug/l	1000	ND	109	80-120			
Matrix Spike Dup (W4C0833-MSD1)	**Source: 4C11006-01**			Analyzed: 03/15/14 15:05						
Iodide	931	250	ug/l	1000	ND	93	80-120	15	20	

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0838 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0838-BLK1)				Analyzed: 03/18/14 22:01						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							

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Date Received: 03/14/14 09:20
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Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0838 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4C0838-BLK1)				Analyzed: 03/18/14 22:01						
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.0894*		*ug/l*	*0.100*		*89*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0785*		*ug/l*	*0.100*		*78*	*70-130*			
LCS (W4C0838-BS1)				Analyzed: 03/19/14 09:01						
4,4´-DDD	0.0875	0.010	ug/l	0.100		88	55-142			
4,4´-DDE	0.0976	0.010	ug/l	0.100		98	49-129			
4,4´-DDT	0.103	0.010	ug/l	0.100		103	54-160			
Aldrin	0.0787	0.010	ug/l	0.100		79	29-115			
alpha-BHC	0.0900	0.010	ug/l	0.100		90	59-131			
beta-BHC	0.0881	0.010	ug/l	0.100		88	63-136			
delta-BHC	0.105	0.010	ug/l	0.100		105	59-137			
Dieldrin	0.0934	0.010	ug/l	0.100		93	59-135			
Endosulfan I	0.0787	0.010	ug/l	0.100		79	28-138			
Endosulfan II	0.0792	0.010	ug/l	0.100		79	53-133			
Endosulfan sulfate	0.0837	0.010	ug/l	0.100		84	58-155			
Endrin	0.0857	0.010	ug/l	0.100		86	57-148			
Endrin aldehyde	0.0801	0.010	ug/l	0.100		80	45-139			
gamma-BHC (Lindane)	0.0846	0.010	ug/l	0.100		85	59-129			
Heptachlor	0.0893	0.010	ug/l	0.100		89	42-136			
Heptachlor epoxide	0.0884	0.010	ug/l	0.100		88	59-134			
Methoxychlor	0.0725	0.010	ug/l	0.100		72	56-167			
Surr: Decachlorobiphenyl	*0.0927*		*ug/l*	*0.100*		*93*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0749*		*ug/l*	*0.100*		*75*	*70-130*			
LCS Dup (W4C0838-BSD1)				Analyzed: 03/18/14 23:02						
4,4´-DDD	0.0880	0.010	ug/l	0.100		88	55-142	0.5	25	
4,4´-DDE	0.0902	0.010	ug/l	0.100		90	49-129	8	25	
4,4´-DDT	0.103	0.010	ug/l	0.100		103	54-160	0.4	25	
Aldrin	0.0739	0.010	ug/l	0.100		74	29-115	6	25	
alpha-BHC	0.0857	0.010	ug/l	0.100		86	59-131	5	25	
beta-BHC	0.0829	0.010	ug/l	0.100		83	63-136	6	25	
delta-BHC	0.0995	0.010	ug/l	0.100		100	59-137	6	25	
Dieldrin	0.0892	0.010	ug/l	0.100		89	59-135	5	25	
Endosulfan I	0.0723	0.010	ug/l	0.100		72	28-138	8	25	
Endosulfan II	0.0775	0.010	ug/l	0.100		78	53-133	2	25	
Endosulfan sulfate	0.0866	0.010	ug/l	0.100		87	58-155	3	25	
Endrin	0.0725	0.010	ug/l	0.100		72	57-148	17	25	
Endrin aldehyde	0.0658	0.010	ug/l	0.100		66	45-139	20	25	
gamma-BHC (Lindane)	0.0858	0.010	ug/l	0.100		86	59-129	1	25	
Heptachlor	0.0845	0.010	ug/l	0.100		85	42-136	6	25	
Heptachlor epoxide	0.0847	0.010	ug/l	0.100		85	59-134	4	25	
Methoxychlor	0.0822	0.010	ug/l	0.100		82	56-167	13	25	
Surr: Decachlorobiphenyl	*0.0893*		*ug/l*	*0.100*		*89*	*70-130*			

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Date Received: 03/14/14 09:20
Date Reported: 03/21/14 16:22

Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4C0838 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4C0838-BSD1)				Analyzed: 03/18/14 23:02						
Surr: Tetrachloro-meta-xylene	*0.0761*		*ug/l*	*0.100*		*76*	*70-130*			

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Date Reported: 03/21/14 16:22

Notes and Definitions

M-02	Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

MONTEREY BAY ANALYTICAL SERVICES
PRECISION • ACCURACY • DEPENDABILITY
4 Justin Court Ste D, Monterey, CA 93940
831.375.MBAS (6227), 831.641.0734 (Fax)
MontereyBayAnalytical@usa.net
http://www.MBASinc.com

pH QC Summary (SM 4500 H+)

Date Analyzed: 3/12/2014

	Value (pH Units)	Result (pH Units)	% Rec	Acceptance Criteria %Rec
IPC	6.86	6.91	100.7	95-105

Sample ID	Sample (pH Units)	Sample Dup (pH Units)	% RPD	Acceptance Criteria % RPD
AB12869	7.1	7.1	0.0	10
AB12875	7.4	7.4	0.0	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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http://www.MBASinc.com

TDS/TSS QC Summary (SM 2540C/D)

Date Analyzed: 3/13/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC 100	100	111	111	80-120
IPC 500	500	503	100.6	90-110

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12695	ND	ND	0.0	10
AB12775	437	434	0.7	10
AB12817	131	137	4.5	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Differer

ıce; Rec = Recovery

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MontereyBayAnalytical@usa.net
http://www.MBASinc.com

Turbidity QC Summary (EPA 180.1)

Date Analyzed: 3/13/2014

	Value (NTU)	Result (NTU)	% Rec	Acceptance Criteria %Rec
IPC	1.00	1.04	104.0	95-105
IPC	1.00	0.97	97.1	95-105

Sample ID	Sample (NTU)	Sample Dup (NTU)	% RPD	Acceptance Criteria % RPD
AB12871	0.770	0.776	-0.01	10
AB12896	1.490	1.630	-0.09	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

EPA 200.7 QC

Batch # 20140313

Analyte/		IC	Prep	LCS	%Rec	LCSD	%Rec	%Diff	IC Verification			QCS (95-105%)		
WL	Range	Blank	Blank	Value	85-115%	Value	85-115%		Value	Result	%Rec	Value	Result	%Rec
B 249.678	0.05-5ppm	0.01	0.00	1.00	100.4%	1.03	103.1%	2.7%	1	1.02	101.5%	1	0.98	97.8%
B 249.772	0.05-5ppm	0.01	0.01	1.01	100.7%	1.03	103.0%	2.3%	1	1.02	102.0%	1	0.99	98.6%
Ca 317.933	50-300ppm	-5.25	-5.24	49.3	98.5%	50.3	100.7%	2.2%	50	49.5	99.0%	50	48.7	97.4%
Ca 396.847	0.5-50ppm	-0.15	-0.14	49.8	99.7%	50.3	100.6%	0.9%	50	50.2	100.4%	50	48.8	97.6%
Fe 238.204	10ppb-100ppm	-0.64	0.19	998	99.8%	1014	101.4%	1.6%	1000	1003	100.3%	1000	992	99.2%
Fe 259.940	10ppb-100ppm	0.30	-0.50	995	99.5%	1013	101.3%	1.8%	1000	1001	100.1%	1000	993	99.3%
K 766.491	0.5-750ppm	0.20	0.13	9.9	98.6%	10.0	100.4%	1.8%	10	10.0	100.5%	10	9.8	98.0%
Mg 202.582	50-1000ppm	-1.81	-1.83	50.2	100.4%	51.3	102.5%	2.2%	50	50.8	101.6%	50	49.7	99.4%
Mg 279.078	0.5-50ppm	0.04	0.02	48.9	97.8%	50.2	100.4%	2.6%	50	49.8	99.7%	50	49.0	97.9%
Mn 257.610	10ppb-11ppm	-4.82	-5.60	995	99.5%	1016	101.6%	2.1%	1000	1001	100.1%	1000	979	97.9%
Mn 260.568	10ppb-11ppm	-5.16	-5.50	993	99.3%	1012	101.2%	1.9%	1000	999	99.9%	1000	978	97.8%
Na 568.821	50-1000ppm	4.56	4.98	48.4	96.9%	48.9	97.8%	0.9%	50	48.0	95.9%	50	47.3	94.5%
Na 589.592	0.5-50ppm	0.25	0.17	49.6	99.1%	50.2	100.4%	1.3%	50	50.0	100.0%	50	48.6	97.3%
Si 251.611	0.5-200ppm	0.09	0.05	50.0	100.0%	50.9	101.8%	1.7%	50	50.6	101.3%	107	105.5	98.6%
Si 252.411	0.5-200ppm	0.08	0.02	49.7	99.3%	50.7	101.4%	2.1%	50	50.5	100.9%	107	105.3	98.4%

Sample ID AB12759

Analyte/	Sample	MS	%Rec	MSD	%Rec	%Diff	CCV (90-110%)			%Diff	CC
WL	Value	Value	70-130%	Value	70-130%		Value	Result	%Rec	10%	Blank
B 249.678	0.00	0.97	96.6%	0.98	97.6%	1.1%	1	0.97	96.7%	4.8%	-0.01
B 249.772	0.01	0.97	96.7%	0.98	97.5%	0.8%	1	0.96	96.5%	5.6%	0.00
Ca 317.933	30.0	81.6	103.3%	81.1	102.3%	0.6%	50	47.9	95.8%	3.4%	-5.26
Ca 396.847	31.6	73.7	84.2%	73.2	83.1%	0.7%	50	46.4	92.9%	7.8%	-0.17
Fe 238.204	3	994	99.1%	976	97.3%	1.8%	1000	969	96.9%	3.5%	-1.27
Fe 259.940	4	986	98.2%	967	96.4%	1.9%	1000	953	95.3%	5.0%	-1.91
K 766.491	2.9	12.0	91.8%	11.9	90.7%	0.9%	10	9.3	92.7%	8.1%	0.07
Mg 202.582	8.4	57.7	98.6%	57.9	99.0%	0.3%	50	47.8	95.5%	6.1%	-1.85
Mg 279.078	9.7	57.0	94.5%	57.2	95.0%	0.4%	50	47.7	95.3%	4.5%	0.02
Mn 257.610	-5	954	95.9%	960	96.5%	0.6%	1000	953	95.3%	5.0%	-5.16
Mn 260.568	-4	964	96.8%	962	96.6%	0.2%	1000	957	95.7%	4.3%	-5.22
Na 568.821	39.1	80.5	82.8%	83.1	88.0%	3.2%	50	45.3	90.6%	5.7%	4.82

Na 589.592	41.5	86.4	89.8%	85.5	88.0%	1.0%	50	46.4	92.7%	7.5%	0.17
Si 251.611	40.8	86.8	91.8%	87.4	93.1%	0.7%	50	48.2	96.5%	4.9%	-0.04
Si 252.411	40.6	86.7	92.2%	87.1	93.1%	0.5%	50	48.1	96.3%	4.7%	-0.04

300.0 QC Summary

All units expressed in mg/L

		F	Cl	NO2-N	SO4	Br	NO3-N
		2	20	2	20	2	2
IPC		2.25	19.68	2.07	18.86	2.11	1.99
Recovery	90-110%	112.49	98.38	103.63	94.31	105.41	99.33
CCV1		2.44	20.04	2.09	19.13	2.11	2.00
Recovery	90-110%	122.11	100.20	104.34	95.67	105.54	99.88
RPD	10%	8.20	1.83	0.69	1.43	0.12	0.56
CCV2		2.16	19.62	2.09	19.00	2.10	1.98
Recovery	90-110%	108.15	98.10	104.59	94.98	105.07	99.22
RPD	10%	3.93	0.29	0.92	0.71	0.32	0.11
AB12880		0.28	143.60	0.12	289.58	0.18	23.93
AB12880+LFM		2.45	164.85	1.93	311.15	1.83	26.17
AB12880+LFMD		2.48	164.58	1.93	311.26	1.85	26.15
Average		2.47	164.71	1.93	311.21	1.84	26.16
Recovery	80-120%	109.39	105.58	90.57	108.12	83.36	111.70
RPD	10%	1.21	0.08	0.05	0.02	0.50	0.03
AB12890		0.22	23.67	0.45	125.80	0.00	25.36
AB12890+LFM		2.42	43.76	2.24	144.83	1.66	27.62
AB12890+LFMD		2.42	43.92	2.25	144.95	1.66	27.42
Average		2.42	43.84	2.25	144.89	1.66	27.52
Recovery	80-120%	109.99	100.86	90.08	95.42	82.99	107.99
RPD	10%	0.20	0.19	0.26	0.04	0.20	0.37

PO4-P
2
1.93
96.65
1.96
98.06
1.45
1.96
97.78
1.17
0.00
1.35
1.34
1.35
67.27
0.12
0.00
1.53
1.53
1.53
76.48
0.15

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Phosphorus QC Summary (Hach 8190)

Date: 3/14/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.209	104.5	90-110
QCS	0.200	0.211	105.5	90-110
CCV	0.200	0.218	109	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12792	0.000	0.200	0.161	0.154	80.5	77	4.4	85-120	10

Note: possible matrix interference observed. Data accepted based on LCS, QCS, and CCV recoveries.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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Specific Conductance QC Summary (SM 2510B)

Date Analyzed: 3/14/2014

	Value (umhos/cm)	Result (umhos/cm)	% Rec	Acceptance Criteria %Rec
IPC	1412	1412	100.0%	95-105

Sample ID	Sample (umhos/cm)	Sample Dup (umhos/cm)	% RPD	Acceptance Criteria % RPD
AB12816	37640	37400	0.6%	10
AB12872	993	987	0.6%	10
AB12882	1064	1072	0.7%	10
AB12892	878	881	0.3%	10
AB12910	578	570	1.4%	10
AB12920	1338	1319	1.4%	10
AB12923	1765	1760	0.3%	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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TDS/TSS QC Summary (SM 2540C/D)

Date Analyzed: 3/14/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC 100	100	100	100	80-120
IPC 500	500	494	98.8	90-110

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12905	546	540	1.1	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

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Kjehldahl Nitrogen QC Summary (SM 4500-NH3)

Date: 3/17/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	5.0	5.200	104	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12627	2.400	5.000	7.200	7.300	96	98	1.4	85-120	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

QC Summary for 200.8

Spiked Sample

ID AB12763

Date Analyzed

Monday, March 17, 2014

	IPC Blank	QCS 50	Prep Blank	LCS	LCSD	LCS/LCSD	Sample	Spiked	MS	MSD	MS-MSD	LFB	LFB	LFB-LFBD	IPC Blank
	ug/L	%Rec.	ug/L	% Rec	%Rec	%RPD	ug/L	ug/L	%Rec.	% Rec.	% RPD	% Rec	% Rec	% RPD	ug/L
		85-115%		70-130%	70-130%	20%			70-130%	70-130%	20%	85-115%	85-115%	20%	
Lithium	0.01	101.6	0.07	112.3	117.0	4.09	1.0	50	120.2	111.9	7.15	99.4	111.2	11.21	0.03
Aluminum	-0.17	105.0	1.81	102.7	103.0	0.32	9.8	50	114.9	104.6	9.43	104.2	103.8	0.42	-0.11
Nickel	-0.01	98.5	0.05	98.1	100.4	2.36	-0.1	50	96.2	90.7	5.96	99.3	93.6	5.92	-0.02
Copper	-0.01	99.0	1.35	103.8	106.9	2.96	1.0	50	101.0	94.5	6.64	99.2	98.6	0.70	0.12
Zinc	-0.14	115.3	10.44	117.9	116.5	1.15	25.9	50	107.8	139.1	25.38	98.7	105.4	6.56	1.20
Arsenic	-0.02	97.7	-0.44	105.4	106.1	0.66	0.4	50	113.3	112.2	0.96	100.5	105.4	4.74	-0.09
Selenium	0.08	103.4	-0.04	105.3	108.1	2.61	2.4	250	121.1	117.9	2.73	101.6	106.9	5.06	0.03
Strontium	0.00	104.6	0.13	105.9	107.0	1.10	1.4	50	107.3	102.4	4.73	99.6	102.9	3.25	0.00
Molybdenum	0.01	97.5	0.02	98.8	98.6	0.21	0.1	50	95.2	90.9	4.68	99.2	90.0	9.70	0.01
Barium	0.00	99.1	0.07	98.2	98.6	0.45	0.7	50	97.8	93.4	4.66	100.0	94.5	5.73	-0.01

MS = Matrix Spike MSD = Matrix Spike Duplicate; LFB = Laboratory Fortified Blank; LFBD = Laboratory Fortified Blank Duplicate RPD = Relative Percent Difference

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Alkalinity QC Summary (SM 2320B)

Date Analyzed: 3/192014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	40	40.1	100.25	95-105
IPC	40	40.5	101.25	95-105
IPC	40	40.5	101.25	95-105
IPC	40	40.5	101.25	95-105
IPC	40	40.7	101.75	95-105

Sample ID	Sample (mg/L)	Sample Dup (mg/L)	% RPD	Acceptance Criteria % RPD
AB12790	247.7	248.3	0.24	10
AB12870	241.1	241.5	0.17	10
AB12880	272.5	271.9	0.22	10
AB12890	191.1	191.7	0.31	10
AB12908	1.1	1.1	0.00	10
AB12918	306.1	304.3	0.59	10
AB12965	232.5	231.3	0.52	10
AB12975	203.3	204.1	0.39	10
AB13078	370.5	360.5	2.74	10

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

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Ammonia by Electrode QC Summary (SM 4500-NH3)

Date: 3/21/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC (Low)	0.050	0.0451	90.2	90-110
IPC (High)	0.500	0.461	92.2	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB13151	0.009	0.500	0.406	0.439	79.4	86.0	7.8	85-120	10

Note: The MS and MSD does not meet the acceptance criteria for the recovery percent. The data is accepted because the recovery percent for the IPC (Low) and IPC (High) meet the acceptance criteria.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; IPC = Instrument Performance Check
RPD = Relative Percent Difference; Rec = Recovery

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Phosphorus QC Summary (Hach 8190)

Date: 3/21/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
LCS	0.200	0.214	107	90-110
QCS	0.200	0.185	92.5	90-110
CCV	0.200	0.216	108	90-110

Spiked Sample ID	Sample (mg/L)	Spiked (mg/L)	MS (mg/L)	MSD (mg/L)	MS % Rec	MSD % Rec	MS-MSD % RPD	Acceptance Criteria %	
								MS/MSD	RPD
AB12896	0.050	0.200	0.267	0.268	108.5	109	0.4	85-120	10

Note: possible matrix interference observed. Data accepted based on LCS, QCS, and CCV recoveries.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source;
RPD = Relative Percent Difference; Rec = Recovery

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MBAS QC Summary (SM 5540C)

Date Analyzed: 3/13/2014

	Value (mg/L)	Result (mg/L)	% Rec	Acceptance Criteria %
IPC	0.050	0.042	84	80-120
IPC	0.500	0.491	98.2	80-120
IPC	0.050	0.059	118	80-120

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; SS = Second Source; RPD = Relative Percent Difference; Rec = Recovery

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

March 19, 2014

Ceres ID: 10296

Monterey Bay Analytical
Mr. David Holland
4 Justin Court, Ste. D
Monterey, CA 93940

Mr. Holland,

Enclosed please find the results for one aqueous sample received on March 14, 2014. This sample was analyzed for 2,3,7,8-TCDD by EPA 1613. **Rush** 5 day turn-around time was provided for this work.

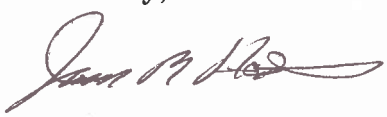
This work was authorized under M.B.A.'s Project # 12896.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,



James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
10296-001	CX-B2WQ Zone #4 (55-65 ft bags)	3/14/2014	3/12/2014	17:15

Section II: Data Summary

Sample ID:	**Method Blank**						
Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-MB001	Date Received:	NA
Project:	12896	Sample Size:	1.000 L	QC Batch #:	1168	Date Extracted:	18-Mar-14
Date Collected:	NA			ZB-5 MS Analysis Date:	19-Mar-14		
Time Collected:	NA						

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	3.64		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	107	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	105	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Sample ID: **Ongoing Precision and Recovery**

Client Data		**Sample Data**		**Laboratory Data**			
Name:	Monterey Bay Analytical	Matrix:	Aqueous	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	12896	Sample Size:	1.000 L	QC Batch #:	1168	Date Extracted:	18-Mar-14
Date Collected:	NA			ZB-5 MS Analysis Date:	19-Mar-14		
Time Collected:	NA						

Analyte	Conc. (ng/ml)	Limits [a]	Qualifiers
2,3,7,8-TCDD	9.89	7.3-14.6	

	Labeled Standards	Conc.	Limits [a]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	103	25-141	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	10.3	3.7-15.8	

a. Method acceptance criteria .

Analyst: JMH Reviewed by: BS

Sample ID:	**CX-B2WQ Zone #4**		
Client Data	**Sample Data**	**Laboratory Data**	
Name: Monterey Bay Analytical	Matrix: Aqueous	Lab Sample ID: 10296-001	Date Received: 14-Mar-14
Project: 12896	Sample Size: 1.047 L	QC Batch #: 1168	Date Extracted: 18-Mar-14
Date Collected: 12-Mar-14		ZB-5 MS Analysis Date: 19-Mar-14	
Time Collected: 17:15			

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	4.67		

	Labeled Standards	% R	LCL-UCL [c]	Qualifiers
IS	^{13}C-2,3,7,8-TCDD	102	31 - 137	
CRS	$^{37}Cl_4$-2,3,7,8-TCDD	101	42 - 164	

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Lower control limit - upper control limit.

Analyst: JMH Reviewed by: BS

Section VI: Sample Tracking

Ceres Analytical Laboratory, Inc.

10296

Chain of Custody

Ceres Use Only

4919 Windplay Dr. Suite 1
El Dorado Hills, CA 95762
Tel: (916)932-5011

Please Print in Pen

Ceres Project ID: 10296
Temperature: 2.8 °C

Reports and invoices will be delivered by email in .pdf format

Client Information	Invoice Information(if different from Client Info)	Project Information
Company Name: Monterey Bay Analytical	Company Name: Same	Ceres Quote #:
Contact Name: David Holland	Contact Name:	P.O. #
Address: 4 Justin Court Ste D Monterey CA 93940	Address:	Project ID:
Ph: 831-375-6227	Ph: Fx:	**TAT** (business days)
Email: montereybayanalytical@usa.net	Email:	Std 15 days; Rush TAT available please call

Matrix abreviations:

A: Aqueous	S: Soil	AS: Ash	DW: Drinking Water
E: Effluent	SD: Sediment	C: Clay	SO: Solid
I: Influent	SL: Sludge	CS: Clay Slurry	O: Other (please comment)

	Sample ID	Sample Collection Date	Sample Collection Time	Matrix	# of containers	EPA 1613	EPA 8290	NCASI 551	EPA 8280	EPA 613	Other	TEF / Comments
												TEF: ☐ 1998 WHO ☐ 2005 WHO ☐ Other
1	CX-B1WQ Zone #4 (55-65 ft bags)	3/12/2014	17:15	Aq	2	X						12896
2	↑changed ITD 2 per S. McGinnis 3/14/14											(2,3,7,8 TCDD only)
3												5 day Rush Please
4												
5												
6												
7												
8												
9												
10												
11												
12												

Samples will be disposed of 45 days after submission of report, unless other provisions have been made and agreed upon in writing.

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (signature and Printed Name)	Date	Time
David Holland	3/13/2014	12:00	Deborah A Neer / Debbie Heelin	3/14/14	9:47

Client understands that all terms desribed in the proposals, quotations, and/or the general terms and conditions of Ceres Analytical Laboratory will be followed.

Ceres Analytical Laboratory reserves the right to terminate its service or withhold delivery of reports, if in Ceres' discretion the terms of the project have been broken.

Sample Receipt Check List

Ceres ID: 10296	Date/Time: 3/14/14 9:43
Client Project ID: 12896	Received Temperature: 2.8°C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / N / (NA)

List COC discrepancies:

CX - B2WQ on bottle
CX - B1WQ on chain of custody

List Damaged Samples:

yeast 3/14/14

Ceres Analytical Laboratory — Process Request

Ceres ID: 10296 PB: 1168 Sample #s: 1 Due Date: 3/19/14

Matrix (circle one): Drinking Water (Aqueous) Effluent Influent Ash

Solid Soil Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):

- ☒ 1613 2,3,7,8-TCDD
- ☐ 1613 2,3,7,8-TCDD/F
- ☐ 1613 Cl_4-Cl_8
- ☐ 8280 2,3,7,8-TCDD
- ☐ 8280 2,3,7,8-TCDD/F
- ☐ 8280 Appendix IX
- ☐ 8280 Cl_4-Cl_8
- ☐ 8290 2,3,7,8-TCDD
- ☐ 8290 2,3,7,8-TCDD/F
- ☐ 8290 Cl_4-Cl_8
- ☐ NCASI 551

Instructions:

Sample Volume Calculation

Instructions:
1. Calibrate balance
2. Tare balance
3. Place Full sample bottle with cap on balance. Record weight as Sample+Bottle Wt.
4. Weigh empty bottle and cap. Record as Bottle Wt.
5. Calculate sample Volume (assuming 1g = 1ml) as follows:

$$Sample\ Volume = (Sample + Bottle\ Wt) - Empty\ Bottle\ Wt.$$

Ceres ID	Sample +Bottle Wt.	Empty Bottle Wt.	Sample Volume
10296-1	1566.39	513.17	1.047 L

Chemist: _____ Date: 3/18/14

Method: 1613
SOP #: 3015.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR chem/date/witness	CSS chem/date/witness	AP	AB/AC	FC	RSS chem/date/witness
0-1168-MB001 (B)	Method Blank		1.000L	3/18/14	3/19/14	NA	3/19/14	NA	3/19/14
0-1168-OPR001	OPR		1.000L	(A)					
10296-1168-001	CX-B2WQ Zone #4	✓	1.047L						

Comments: (A) Spiked w/ NSS (B) Double Spiked by Mistake

Soxhlet Start: 15:00 3/18/14

Soxhlet Stop: 07:20 3/19/14

Samples Logged out by: 09:00 3/18/14

Samples Returned by: NA

Note samples Depleted: 1A

Sample Extracts Storage Location: Box 8

Extracts to Intrument: 11:27 3/19/14

Extracts returned to Storage Location:

Chemist: G-626

Method: 1613
SOP #: 302.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date	
ISS	503121 2A	10 µl	3/12/17	20
NSS	503121 2B	10 µl	3/12/17	20
CSS	5031212 C	10 µl	3/12/17	20
RSS	503121 2 D	20 µl	3/12/17	40

Double Spiked by mistake

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	134020	8/17/14
Hexane	30,80,100,20	53263	9/19/14
Sigel	4g	P030114A	9/1/14
Basicgel	4g	P031914A	9/19/14
acidgel	8g	P031114A	9/11/14
acid Al	6g	P031114B	9/11/14
Na2SO4	1.5g	P120413A	6/4/14
20% Acm Hex	30ml	L031914A	9/19/14

Chemist : G-627

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

BSK Associates Engineers & Laboratories
Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3J0709 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/8/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Michael Ng, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	Accounts Payable
Project #:	Water Quality Analysis	**Project PO#:**	-
Received:	10/08/2013 - 09:53		
Report Due:	10/22/2013		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 5.6

Containers Intact
COC/Labels Agree
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
DL1.0	Sample required a dilution due to the matrix or high concentration of a non-target analyte.
HT1.0	Holding time exceeded. Sample was received at the lab past holding time.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
SR1.0	Surrogate recovery exceeds upper control limit. No material impact as sample results are Non-Detected.
SR3.0	Surrogate recovery exceeds control limits. No material impact as spike recoveries are all within control ranges.
X.0	Sample filtered prior to analysis

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt
Sarp Sekeroglu	Final.rpt

Certificate of Analysis

Sample ID: A3J0709-01
Sampled By: Client
Sample Description: Water Samples

Sample Date - Time: 10/05/13 - 00:00
Matrix: Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**330**	3.0	mg/L	1	A311859	10/08/13	10/08/13	X.0
Bicarbonate as CaCO3	SM 2320 B	**330**	3.0	mg/L	1	A311859	10/08/13	10/08/13	X.0
Carbonate as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A311859	10/08/13	10/08/13	X.0
Hydroxide as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A311859	10/08/13	10/08/13	X.0
Ammonia as N	SM 4500-NH3 G	**15**	0.10	mg/L	1	A312186	10/15/13	10/16/13	X.0
Bromide	EPA 300.1	**43**	1.0	mg/L	200	A312042	10/10/13	10/10/13	X.0
Surrogate: Dichloroacetate	EPA 300.1	108 %	*Acceptable range: 90-115 %*			*Qualifiers - X.0*			
Chloride	EPA 300.0	**12000**	200	mg/L	200	A311905	10/08/13	10/08/13	X.0
Color, Apparent	SM 2120 B	**250**	10	CU	10	A311846	10/08/13 15:36	10/08/13	
Conductivity @ 25C	SM 2510 B	**30000**	1.0	umhos/cm	1	A311859	10/08/13	10/08/13	
Fluoride	SM 4500-F C	**0.12**	0.10	mg/L	1	A312667	10/23/13	10/23/13	
Mass Balance-Anions		**380**		meq/L					
Mass Balance-Dissolved Cations		**360**		meq/L					
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.25	mg/L	5	A311939	10/09/13 05:20	10/09/13	HT1.0
Nitrate as NO3	EPA 300.0	ND	200	mg/L	200	A311905	10/08/13 17:27	10/08/13	DL1.0, X.0
Nitrite as N	EPA 300.0	ND	10	mg/L	200	A311905	10/08/13 17:27	10/08/13	DL1.0, X.0
Threshold Odor	SM 2150 B	**20**	1.0	T.O.N.	1	A311846	10/08/13 14:47	10/08/13	
Orthophosphate as P	SM 4500-P E	ND	0.010	mg/L	1	A311969	10/09/13 14:45	10/09/13	HT1.0, X.0
pH (1)	SM 4500-H+ B	**7.4**		pH Units	1	A311859	10/08/13	10/08/13	
pH Temperature in °C		**21.6**							
Phosphorus - Dissolved (1)	EPA 365.4	**0.18**	0.10	mg/L	1	A312089	10/11/13	10/16/13	
Sulfate as SO4	EPA 300.0	**1400**	400	mg/L	200	A311905	10/08/13	10/08/13	X.0
Total Dissolved Solids	SM 2540C	**22000**	5.0	mg/L	1	A312067	10/11/13	10/16/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	**16**	1.0	mg/L	1	A312089	10/11/13	10/16/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A312125	10/14/13	10/14/13	
Turbidity	SM 2130 B	**150**	2.0	NTU	20	A311846	10/08/13 15:36	10/08/13	

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	ND	0.50	mg/L	10	A311945	10/09/13	10/16/13	
Arsenic	EPA 200.8	**3.4**	2.0	ug/L	1	A311945	10/09/13	10/14/13	
Barium - Dissolved (1)	EPA 200.7	**0.16**	0.050	mg/L	1	A312073	10/11/13	10/15/13	
Boron - Dissolved (1)	EPA 200.7	**2.1**	0.10	mg/L	1	A312073	10/11/13	10/15/13	
Calcium	EPA 200.7	**590**	1.0	mg/L	10	A311945	10/09/13	10/16/13	
Calcium - Dissolved (1)	EPA 200.7	**590**	0.10	mg/L	1	A312073	10/11/13	10/15/13	
Copper	EPA 200.8	**37**	5.0	ug/L	1	A311945	10/09/13	10/14/13	
Hardness as CaCO3	SM 2340B	**4700**	4.1	mg/L					
Iron	EPA 200.7	**20**	0.30	mg/L	10	A311945	10/09/13	10/16/13	
Iron - Dissolved (1)	EPA 200.7	**6.0**	0.030	mg/L	1	A312073	10/11/13	10/15/13	

Certificate of Analysis

Sample ID: A3J0709-01
Sampled By: Client
Sample Description: Water Samples

Sample Date - Time: 10/05/13 - 00:00
Matrix: Water
Sample Type: Grab

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Magnesium	EPA 200.7	**780**	1.0	mg/L	10	A311945	10/09/13	10/16/13	
Magnesium - Dissolved (1)	EPA 200.7	**810**	0.10	mg/L	1	A312073	10/11/13	10/15/13	
Manganese	EPA 200.7	**5.3**	0.10	mg/L	10	A311945	10/09/13	10/16/13	
Manganese - Dissolved (1)	EPA 200.7	**5.2**	0.010	mg/L	1	A312073	10/11/13	10/15/13	
Potassium - Dissolved (1)	EPA 200.7	**92**	2.0	mg/L	1	A312073	10/11/13	10/15/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**26**	0.20	mg/L	1	A312073	10/11/13	10/15/13	
Sodium - Dissolved (1)	EPA 200.7	**6000**	20	mg/L	20	A312073	10/11/13	10/16/13	
Strontium - Dissolved (1)	EPA 200.8	**7100**	10	ug/L	10	A312073	10/11/13	10/17/13	
Zinc	EPA 200.7	ND	0.50	mg/L	10	A311945	10/09/13	10/16/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A311954	10/09/13	10/14/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A311954	10/09/13	10/14/13	
Surrogate: TCMX	EPA 504.1	165 %	*Acceptable range: 70-130 %*			*Qualifiers -*	*SR1.0*		
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A311954	10/09/13	10/14/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A311954	10/09/13	10/14/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A311954	10/09/13	10/14/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A311954	10/09/13	10/14/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A311954	10/09/13	10/14/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A311954	10/09/13	10/14/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A311954	10/09/13	10/14/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A311954	10/09/13	10/14/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A311954	10/09/13	10/14/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A311954	10/09/13	10/14/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A311954	10/09/13	10/14/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A311954	10/09/13	10/14/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A311954	10/09/13	10/14/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A311954	10/09/13	10/14/13	
Surrogate: TCMX	EPA 505	165 %	*Acceptable range: 70-130 %*			*Qualifiers -*	*SR1.0*		
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A311994	10/09/13	10/11/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A311994	10/09/13	10/11/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A311994	10/09/13	10/11/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A311994	10/09/13	10/11/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A311994	10/09/13	10/11/13	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A311994	10/09/13	10/11/13	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A311994	10/09/13	10/11/13	

Certificate of Analysis

Sample ID: A3J0709-01
Sampled By: Client
Sample Description: Water Samples

Sample Date - Time: 10/05/13 - 00:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A311994	10/09/13	10/11/13	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A311994	10/09/13	10/11/13	
Surrogate: DCPAA	EPA 515.3	79 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A312121	10/14/13	10/14/13	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A312121	10/14/13	10/14/13	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A312121	10/14/13	10/14/13	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A312121	10/14/13	10/14/13	
Acetone	EPA 524.2	ND	10	ug/L	1	A312121	10/14/13	10/14/13	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	BS1.0
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	

Certificate of Analysis

Sample ID: A3J0709-01
Sampled By: Client
Sample Description: Water Samples

Sample Date - Time: 10/05/13 - 00:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A312121	10/14/13	10/14/13	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A312121	10/14/13	10/14/13	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A312121	10/14/13	10/14/13	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A312121	10/14/13	10/14/13	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	95 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	99 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A312014	10/10/13	10/12/13	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A312014	10/10/13	10/12/13	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A312014	10/10/13	10/12/13	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A312014	10/10/13	10/12/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A312014	10/10/13	10/12/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A312014	10/10/13	10/12/13	

Certificate of Analysis

Sample ID: A3J0709-01
Sampled By: Client
Sample Description: Water Samples

Sample Date - Time: 10/05/13 - 00:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Semi-Volatile Organics by GC-MS									
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A312014	10/10/13	10/12/13	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A312014	10/10/13	10/12/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A312014	10/10/13	10/12/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A312014	10/10/13	10/12/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A312014	10/10/13	10/12/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A312014	10/10/13	10/12/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A312014	10/10/13	10/12/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A312014	10/10/13	10/12/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A312014	10/10/13	10/12/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	113 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A312119	10/12/13	10/12/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A312119	10/12/13	10/12/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A312119	10/12/13	10/12/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A312119	10/12/13	10/12/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A312119	10/12/13	10/12/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A312119	10/12/13	10/12/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A312119	10/12/13	10/12/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A312119	10/12/13	10/12/13	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A312197	10/15/13	10/15/13	
Surrogate: AMPA	EPA 547	113 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A312182	10/14/13	10/15/13	HT1.0
Diquat by HPLC									
Diquat	EPA 549.2	ND	10	ug/L	2.5	A312161	10/14/13	10/16/13	HT1.0

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A311905										Prepared: 10/8/2013	
Prep Method: Method Specific Preparation										Analyst: AJT	
Blank (A311905-BLK1)											
Chloride	ND	1.0	mg/L							10/08/13	
Nitrate as NO3	ND	1.0	mg/L							10/08/13	
Nitrite as N	ND	0.050	mg/L							10/08/13	
Sulfate as SO4	ND	2.0	mg/L							10/08/13	
Blank Spike (A311905-BS1)											
Chloride	49	1.0	mg/L	50		99	90-110			10/08/13	
Nitrate as NO3	50	1.0	mg/L	50		99	90-110			10/08/13	
Nitrite as N	0.53	0.050	mg/L	0.50		106	90-110			10/08/13	
Sulfate as SO4	50	2.0	mg/L	50		99	90-110			10/08/13	
Blank Spike Dup (A311905-BSD1)											
Chloride	49	1.0	mg/L	50		99	90-110	0	20	10/08/13	
Nitrate as NO3	49	1.0	mg/L	50		99	90-110	0	20	10/08/13	
Nitrite as N	0.53	0.050	mg/L	0.50		106	90-110	0	20	10/08/13	
Sulfate as SO4	49	2.0	mg/L	50		99	90-110	1	20	10/08/13	
Matrix Spike (A311905-MS1), Source: A3J0708-03											
Chloride	110	2.0	mg/L	100	6.1	101	80-120			10/08/13	
Nitrate as NO3	120	2.0	mg/L	100	13	102	80-120			10/08/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	103	80-120			10/08/13	
Sulfate as SO4	110	4.0	mg/L	100	8.5	101	80-120			10/08/13	
Matrix Spike Dup (A311905-MSD1), Source: A3J0708-03											
Chloride	110	2.0	mg/L	100	6.1	99	80-120	1	20	10/08/13	
Nitrate as NO3	110	2.0	mg/L	100	13	100	80-120	1	20	10/08/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	102	80-120	1	20	10/08/13	
Sulfate as SO4	110	4.0	mg/L	100	8.5	100	80-120	1	20	10/08/13	
EPA 300.1 - Quality Control											
Batch: A312042										Prepared: 10/10/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A312042-BLK1)											
Bromide	ND	0.0050	mg/L							10/10/13	
Surrogate: Dichloroacetate	*0.497*			*0.50*		*99*	*90-115*			10/10/13	
Blank Spike (A312042-BS1)											
Bromide	0.20	0.0050	mg/L	0.20		102	85-115			10/10/13	
Surrogate: Dichloroacetate	*0.520*			*0.50*		*104*	*90-115*			10/10/13	
Blank Spike Dup (A312042-BSD1)											
Bromide	0.20	0.0050	mg/L	0.20		99	85-115	3	10	10/10/13	
Surrogate: Dichloroacetate	*0.516*			*0.50*		*103*	*90-115*			10/10/13	
Matrix Spike (A312042-MS1), Source: A3J1010-04											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.1 - Quality Control											
Batch: A312042										Prepared: 10/10/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Matrix Spike (A312042-MS1), Source: A3J1010-04											
Bromide	1.4	0.050	mg/L	1.0	0.41	97	75-125			10/10/13	
Surrogate: Dichloroacetate	*5.22*			*5.0*		*104*	*90-115*			10/10/13	
Matrix Spike (A312042-MS2), Source: A3J0947-01											
Bromide	0.35	0.010	mg/L	0.20	0.17	92	75-125			10/11/13	
Surrogate: Dichloroacetate	*1.06*			*1.0*		*106*	*90-115*			10/11/13	
Matrix Spike Dup (A312042-MSD1), Source: A3J1010-04											
Bromide	1.4	0.050	mg/L	1.0	0.41	97	75-125	0	10	10/10/13	
Surrogate: Dichloroacetate	*5.81*			*5.0*		*116*	*90-115*			10/10/13	*SR3.0*
Matrix Spike Dup (A312042-MSD2), Source: A3J0947-01											
Bromide	0.36	0.010	mg/L	0.20	0.17	96	75-125	2	10	10/11/13	
Surrogate: Dichloroacetate	*1.09*			*1.0*		*109*	*90-115*			10/11/13	
EPA 351.2 - Quality Control											
Batch: A312089										Prepared: 10/11/2013	
Prep Method: Digestion										Analyst: LJL	
Blank (A312089-BLK1)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							10/16/13	
Blank Spike (A312089-BS1)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		103	90-110			10/16/13	
Blank Spike Dup (A312089-BSD1)											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10		106	90-110	2	10	10/16/13	
Matrix Spike (A312089-MS1), Source: A3J0687-08											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	111	90-110			10/16/13	MS1.0 ***High***
Matrix Spike (A312089-MS2), Source: A3J0782-04											
Total Kjeldahl Nitrogen - Dissolved (1)	14	1.0	mg/L	10	ND	138	90-110			10/16/13	MS1.0 ***High***
Matrix Spike Dup (A312089-MSD1), Source: A3J0687-08											
Total Kjeldahl Nitrogen - Dissolved (1)	9.5	1.0	mg/L	10	ND	95	90-110	15	10	10/16/13	MS1.0
Matrix Spike Dup (A312089-MSD2), Source: A3J0782-04											
Total Kjeldahl Nitrogen - Dissolved (1)	13	1.0	mg/L	10	ND	130	90-110	6	10	10/16/13	MS1.0 ***High***
EPA 365.4 - Quality Control											
Batch: A312089										Prepared: 10/11/2013	
Prep Method: Digestion										Analyst: LJL	
Blank (A312089-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							10/16/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 365.4 - Quality Control											
Batch: A312089										Prepared: 10/11/2013	
Prep Method: Digestion										Analyst: LJL	
Blank Spike (A312089-BS1)											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10		94	90-110			10/16/13	
Blank Spike Dup (A312089-BSD1)											
Phosphorus - Dissolved (1)	9.1	0.10	mg/L	10		91	90-110	3	10	10/16/13	
Matrix Spike (A312089-MS1), Source: A3J0687-08											
Phosphorus - Dissolved (1)	9.3	0.10	mg/L	10	0.16	92	90-110			10/16/13	
Matrix Spike (A312089-MS2), Source: A3J0782-04											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10	0.11	100	90-110			10/16/13	
Matrix Spike Dup (A312089-MSD1), Source: A3J0687-08											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10	0.16	92	90-110	1	10	10/16/13	
Matrix Spike Dup (A312089-MSD2), Source: A3J0782-04											
Phosphorus - Dissolved (1)	9.7	0.10	mg/L	10	0.11	96	90-110	4	10	10/16/13	
SM 2120 B - Quality Control											
Batch: A311846										Prepared: 10/8/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311846-BLK1)											
Color, Apparent	ND	1.0	CU							10/08/13	
Duplicate (A311846-DUP1), Source: A3J0642-02											
Color, Apparent	ND	1.0	CU		ND				20	10/08/13	
Duplicate (A311846-DUP2), Source: A3J0665-01											
Color, Apparent	15	1.0	CU		15			0	20	10/08/13	
SM 2130 B - Quality Control											
Batch: A311846										Prepared: 10/8/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311846-BLK1)											
Turbidity	ND	0.10	NTU							10/08/13	
Duplicate (A311846-DUP1), Source: A3J0642-02											
Turbidity	ND	0.10	NTU		ND				20	10/08/13	
Duplicate (A311846-DUP2), Source: A3J0665-01											
Turbidity	5.4	0.10	NTU		5.3			3	20	10/08/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2150 B - Quality Control											
Batch: A311846										Prepared: 10/8/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311846-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							10/08/13	
Duplicate (A311846-DUP1), Source: A3J0642-02											
Threshold Odor	1.0	1.0	T.O.N.		1.0			0	20	10/08/13	
Duplicate (A311846-DUP2), Source: A3J0665-01											
Threshold Odor	1.0	1.0	T.O.N.		1.0			0	20	10/08/13	
SM 2320 B - Quality Control											
Batch: A311859										Prepared: 10/8/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A311859-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							10/08/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							10/08/13	
Carbonate as CaCO3	ND	3.0	mg/L							10/08/13	
Hydroxide as CaCO3	ND	3.0	mg/L							10/08/13	
Blank Spike (A311859-BS1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		104	80-120			10/08/13	
Blank Spike Dup (A311859-BSD1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		104	80-120	0	20	10/08/13	
Duplicate (A311859-DUP1), Source: A3J0665-01											
Alkalinity as CaCO3	42	3.0	mg/L		42			1	10	10/08/13	
Bicarbonate as CaCO3	42	3.0	mg/L		42			1	10	10/08/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	10/08/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	10/08/13	
Duplicate (A311859-DUP2), Source: A3J0701-01											
Alkalinity as CaCO3	99	3.0	mg/L		98			1	10	10/08/13	
Bicarbonate as CaCO3	99	3.0	mg/L		98			1	10	10/08/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	10/08/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	10/08/13	
SM 2510 B - Quality Control											
Batch: A311859										Prepared: 10/8/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A311859-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							10/08/13	
Duplicate (A311859-DUP1), Source: A3J0665-01											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2510 B - Quality Control											
Batch: A311859										Prepared: 10/8/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A311859-DUP1), Source: A3J0665-01											
Conductivity @ 25C	300	1.0	umhos/cm		300			0	20	10/08/13	
Duplicate (A311859-DUP2), Source: A3J0701-01											
Conductivity @ 25C	510	1.0	umhos/cm		510			0	20	10/08/13	
SM 2540C - Quality Control											
Batch: A312067										Prepared: 10/11/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A312067-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							10/16/13	
Blank Spike (A312067-BS1)											
Total Dissolved Solids	1000	5.0	mg/L	1000		100	70-130			10/16/13	
SM 4500-F C - Quality Control											
Batch: A312667										Prepared: 10/23/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A312667-BLK1)											
Fluoride	ND	0.10	mg/L							10/23/13	
Blank Spike (A312667-BS1)											
Fluoride	1.0	0.10	mg/L	1.0		100	90-110			10/23/13	
Blank Spike Dup (A312667-BSD1)											
Fluoride	1.0	0.10	mg/L	1.0		101	90-110	1	20	10/23/13	
Matrix Spike (A312667-MS1), Source: A3J1329-01											
Fluoride	1.1	0.10	mg/L	1.0	ND	100	80-120			10/23/13	
Matrix Spike Dup (A312667-MSD1), Source: A3J1329-01											
Fluoride	1.1	0.10	mg/L	1.0	ND	100	80-120	0	20	10/23/13	
SM 4500-H+ B - Quality Control											
Batch: A311859										Prepared: 10/8/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A311859-DUP1), Source: A3J0665-01											
pH (1)	7.3		pH Units		7.2			1	20	10/08/13	
Duplicate (A311859-DUP2), Source: A3J0701-01											
pH (1)	7.9		pH Units		7.8			0	20	10/08/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NH3 G - Quality Control											
Batch: A312186										Prepared: 10/15/2013	
Prep Method: Ammonia Distillation										Analyst: LJL	
Blank (A312186-BLK1)											
Ammonia as N	ND	0.10	mg/L							10/16/13	
Blank Spike (A312186-BS1)											
Ammonia as N	10	0.10	mg/L	10		101	80-120			10/16/13	
Blank Spike Dup (A312186-BSD1)											
Ammonia as N	9.9	0.10	mg/L	10		99	80-120	2	20	10/16/13	
Matrix Spike (A312186-MS1), Source: A3J0709-01											
Ammonia as N	23	0.50	mg/L	10	15	82	80-120			10/16/13	
Matrix Spike Dup (A312186-MSD1), Source: A3J0709-01											
Ammonia as N	21	0.50	mg/L	10	15	61	80-120	9	20	10/16/13	MS1.0 ***Low***
SM 4500-NO3 F - Quality Control											
Batch: A312125										Prepared: 10/14/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A312125-BLK2)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							10/14/13	
Blank Spike (A312125-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.8	0.10	mg/L	10		98	80-120			10/14/13	
Blank Spike Dup (A312125-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		101	80-120	2	20	10/14/13	
Matrix Spike (A312125-MS2), Source: A3J0790-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	8.8	0.10	mg/L	10	ND	88	80-120			10/14/13	
Matrix Spike Dup (A312125-MSD2), Source: A3J0790-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.1	0.10	mg/L	10	ND	91	80-120	3	20	10/14/13	
SM 4500-P E - Quality Control											
Batch: A311969										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A311969-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							10/09/13	
Blank Spike (A311969-BS1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		100	90-110			10/09/13	
Blank Spike Dup (A311969-BSD1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		102	90-110	1	20	10/09/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-P E - Quality Control											
Batch: A311969										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Matrix Spike (A311969-MS1), Source: A3J0790-01											
Orthophosphate as P	1.4	0.050	mg/L	1.2	0.16	98	80-120			10/09/13	
Matrix Spike Dup (A311969-MSD1), Source: A3J0790-01											
Orthophosphate as P	1.4	0.050	mg/L	1.2	0.16	99	80-120	1	20	10/09/13	
SM 5540 C - Quality Control											
Batch: A311939										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311939-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							10/09/13	
Blank Spike (A311939-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.94	0.050	mg/L	1.0		94	80-120			10/09/13	
Blank Spike Dup (A311939-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.95	0.050	mg/L	1.0		95	80-120	2	20	10/09/13	
Matrix Spike (A311939-MS1), Source: A3J0748-01											
MBAS, Calculated as LAS, mol wt 340	0.80	0.050	mg/L	1.0	ND	79	80-120			10/09/13	MS1.0 ***Low***
Matrix Spike (A311939-MS2), Source: A3J0790-01											
MBAS, Calculated as LAS, mol wt 340	0.99	0.050	mg/L	1.0	ND	98	80-120			10/09/13	
Matrix Spike Dup (A311939-MSD1), Source: A3J0748-01											
MBAS, Calculated as LAS, mol wt 340	0.83	0.050	mg/L	1.0	ND	82	80-120	4	20	10/09/13	
Matrix Spike Dup (A311939-MSD2), Source: A3J0790-01											
MBAS, Calculated as LAS, mol wt 340	0.99	0.050	mg/L	1.0	ND	98	80-120	0	20	10/09/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A311945										Prepared: 10/9/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A311945-BLK2)											
Aluminum	ND	0.050	mg/L							10/16/13	
Calcium	ND	0.10	mg/L							10/16/13	
Iron	ND	0.030	mg/L							10/16/13	
Magnesium	ND	0.10	mg/L							10/16/13	
Manganese	ND	0.010	mg/L							10/16/13	
Zinc	ND	0.050	mg/L							10/16/13	
Blank Spike (A311945-BS2)											
Aluminum	0.19	0.050	mg/L	0.20		95	85-115			10/16/13	
Calcium	9.8	0.10	mg/L	10		98	85-115			10/16/13	
Iron	1.9	0.030	mg/L	2.0		95	85-115			10/16/13	
Magnesium	9.7	0.10	mg/L	10		97	85-115			10/16/13	
Manganese	0.20	0.010	mg/L	0.20		98	85-115			10/16/13	
Zinc	0.20	0.050	mg/L	0.20		99	85-115			10/16/13	
Blank Spike Dup (A311945-BSD2)											
Aluminum	0.20	0.050	mg/L	0.20		100	85-115	5	20	10/16/13	
Calcium	9.8	0.10	mg/L	10		98	85-115	0	20	10/16/13	
Iron	1.9	0.030	mg/L	2.0		95	85-115	0	20	10/16/13	
Magnesium	9.5	0.10	mg/L	10		95	85-115	1	20	10/16/13	
Manganese	0.19	0.010	mg/L	0.20		97	85-115	1	20	10/16/13	
Zinc	0.20	0.050	mg/L	0.20		100	85-115	1	20	10/16/13	
Matrix Spike (A311945-MS3), Source: A3J0748-01											
Aluminum	0.20	0.050	mg/L	0.20	ND	99	70-130			10/16/13	
Calcium	50	0.10	mg/L	10	41	98	70-130			10/16/13	
Iron	1.9	0.030	mg/L	2.0	ND	95	70-130			10/16/13	
Magnesium	24	0.10	mg/L	10	15	93	70-130			10/16/13	
Manganese	0.19	0.010	mg/L	0.20	ND	97	70-130			10/16/13	
Zinc	0.26	0.050	mg/L	0.20	0.064	97	70-130			10/16/13	
Matrix Spike Dup (A311945-MSD3), Source: A3J0748-01											
Aluminum	0.21	0.050	mg/L	0.20	ND	104	70-130	6	20	10/16/13	
Calcium	50	0.10	mg/L	10	41	99	70-130	0	20	10/16/13	
Iron	2.0	0.030	mg/L	2.0	ND	97	70-130	1	20	10/16/13	
Magnesium	24	0.10	mg/L	10	15	95	70-130	1	20	10/16/13	
Manganese	0.20	0.010	mg/L	0.20	ND	98	70-130	1	20	10/16/13	
Zinc	0.26	0.050	mg/L	0.20	0.064	98	70-130	1	20	10/16/13	
EPA 200.7 - Quality Control											
Batch: A312073										Prepared: 10/11/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A312073-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							10/15/13	
Boron - Dissolved (1)	ND	0.10	mg/L							10/15/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A312073										Prepared: 10/11/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A312073-BLK2)											
Calcium - Dissolved (1)	ND	0.10	mg/L							10/15/13	
Iron - Dissolved (1)	ND	0.030	mg/L							10/15/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							10/15/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							10/15/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							10/15/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							10/15/13	
Sodium - Dissolved (1)	ND	1.0	mg/L							10/15/13	
Blank Spike (A312073-BS2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115			10/15/13	
Boron - Dissolved (1)	0.58	0.10	mg/L	0.60		97	85-115			10/15/13	
Calcium - Dissolved (1)	9.9	0.10	mg/L	10		99	85-115			10/15/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		99	85-115			10/15/13	
Magnesium - Dissolved (1)	9.6	0.10	mg/L	10		96	85-115			10/15/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20		97	85-115			10/15/13	
Potassium - Dissolved (1)	9.9	2.0	mg/L	10		99	85-115			10/15/13	
Silica (SiO2) - Dissolved (1)	2.1	0.20	mg/L	2.1		99	85-115			10/15/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		101	85-115			10/15/13	
Blank Spike Dup (A312073-BSD2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115	0	20	10/15/13	
Boron - Dissolved (1)	0.59	0.10	mg/L	0.60		99	85-115	2	20	10/15/13	
Calcium - Dissolved (1)	9.9	0.10	mg/L	10		99	85-115	0	20	10/15/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		101	85-115	1	20	10/15/13	
Magnesium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115	1	20	10/15/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		98	85-115	1	20	10/15/13	
Potassium - Dissolved (1)	9.9	2.0	mg/L	10		99	85-115	0	20	10/15/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		101	85-115	1	20	10/15/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		101	85-115	0	20	10/15/13	
Matrix Spike (A312073-MS3), Source: A3J0568-02											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20	ND	107	70-130			10/15/13	
Boron - Dissolved (1)	3.9	0.10	mg/L	0.60	3.3	104	70-130			10/15/13	
Calcium - Dissolved (1)	560	0.10	mg/L	10	550	150	70-130			10/15/13	MS1.0 ***High***
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	ND	99	70-130			10/15/13	
Magnesium - Dissolved (1)	160	0.10	mg/L	10	150	110	70-130			10/15/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	96	70-130			10/15/13	
Potassium - Dissolved (1)	14	2.0	mg/L	10	3.7	105	70-130			10/15/13	
Silica (SiO2) - Dissolved (1)	44	0.20	mg/L	2.1	41	118	70-130			10/15/13	
Sodium - Dissolved (1)	600	1.0	mg/L	10	600	86	70-130			10/15/13	
Matrix Spike (A312073-MS4), Source: A3J0774-02											
Barium - Dissolved (1)	0.29	0.050	mg/L	0.20	0.096	96	70-130			10/15/13	
Boron - Dissolved (1)	0.66	0.10	mg/L	0.60	ND	99	70-130			10/15/13	
Calcium - Dissolved (1)	99	0.10	mg/L	10	91	80	70-130			10/15/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	ND	100	70-130			10/15/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A312073										Prepared: 10/11/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Matrix Spike (A312073-MS4), Source: A3J0774-02											
Magnesium - Dissolved (1)	56	0.10	mg/L	10	47	84	70-130			10/15/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	97	70-130			10/15/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10	ND	104	70-130			10/15/13	
Silica (SiO2) - Dissolved (1)	65	0.20	mg/L	2.1	64	48	70-130			10/15/13	MS1.0 ***Low***
Sodium - Dissolved (1)	150	1.0	mg/L	10	140	78	70-130			10/15/13	
Matrix Spike Dup (A312073-MSD3), Source: A3J0568-02											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20	ND	105	70-130	1	20	10/15/13	
Boron - Dissolved (1)	3.9	0.10	mg/L	0.60	3.3	107	70-130	1	20	10/15/13	
Calcium - Dissolved (1)	560	0.10	mg/L	10	550	107	70-130	1	20	10/15/13	
Iron - Dissolved (1)	1.9	0.030	mg/L	2.0	ND	97	70-130	1	20	10/15/13	
Magnesium - Dissolved (1)	160	0.10	mg/L	10	150	102	70-130	1	20	10/15/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	95	70-130	1	20	10/15/13	
Potassium - Dissolved (1)	14	2.0	mg/L	10	3.7	105	70-130	0	20	10/15/13	
Silica (SiO2) - Dissolved (1)	43	0.20	mg/L	2.1	41	103	70-130	1	20	10/15/13	
Sodium - Dissolved (1)	600	1.0	mg/L	10	600	53	70-130	1	20	10/15/13	MS1.0 ***Low***
Matrix Spike Dup (A312073-MSD4), Source: A3J0774-02											
Barium - Dissolved (1)	0.30	0.050	mg/L	0.20	0.096	103	70-130	5	20	10/15/13	
Boron - Dissolved (1)	0.67	0.10	mg/L	0.60	ND	100	70-130	1	20	10/15/13	
Calcium - Dissolved (1)	100	0.10	mg/L	10	91	134	70-130	5	20	10/15/13	MS1.0 ***High***
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	ND	100	70-130	1	20	10/15/13	
Magnesium - Dissolved (1)	59	0.10	mg/L	10	47	117	70-130	6	20	10/15/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	97	70-130	0	20	10/15/13	
Potassium - Dissolved (1)	11	2.0	mg/L	10	ND	108	70-130	4	20	10/15/13	
Silica (SiO2) - Dissolved (1)	69	0.20	mg/L	2.1	64	226	70-130	6	20	10/15/13	MS1.0 ***High***
Sodium - Dissolved (1)	160	1.0	mg/L	10	140	142	70-130	4	20	10/15/13	MS1.0 ***High***
EPA 200.8 - Quality Control											
Batch: A311945										Prepared: 10/9/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Blank (A311945-BLK1)											
Arsenic	ND	2.0	ug/L							10/14/13	
Copper	ND	5.0	ug/L							10/14/13	
Blank Spike (A311945-BS1)											
Arsenic	190	2.0	ug/L	200		97	85-115			10/14/13	
Copper	190	5.0	ug/L	200		97	85-115			10/14/13	
Blank Spike Dup (A311945-BSD1)											
Arsenic	190	2.0	ug/L	200		96	85-115	1	20	10/14/13	
Copper	190	5.0	ug/L	200		97	85-115	1	20	10/14/13	
Matrix Spike (A311945-MS1), Source: A3J0748-01											
Arsenic	200	2.0	ug/L	200	2.7	96	70-130			10/14/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A311945										Prepared: 10/9/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Matrix Spike (A311945-MS1), Source: A3J0748-01											
Copper	230	5.0	ug/L	200	44	93	70-130			10/14/13	
Matrix Spike (A311945-MS2), Source: A3J0770-04											
Arsenic	200	2.0	ug/L	200	7.6	96	70-130			10/15/13	
Copper	180	5.0	ug/L	200	ND	90	70-130			10/15/13	
Matrix Spike Dup (A311945-MSD1), Source: A3J0748-01											
Arsenic	200	2.0	ug/L	200	2.7	97	70-130	1	20	10/14/13	
Copper	230	5.0	ug/L	200	44	91	70-130	2	20	10/14/13	
Matrix Spike Dup (A311945-MSD2), Source: A3J0770-04											
Arsenic	200	2.0	ug/L	200	7.6	97	70-130	1	20	10/15/13	
Copper	180	5.0	ug/L	200	ND	91	70-130	1	20	10/15/13	
EPA 200.8 - Quality Control											
Batch: A312073										Prepared: 10/11/2013	
Prep Method: Filtration - Metals										Analyst: MAS	
Blank (A312073-BLK4)											
Strontium - Dissolved (1)	ND	1.0	ug/L							10/17/13	
Blank Spike (A312073-BS4)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		101	85-115			10/17/13	
Blank Spike Dup (A312073-BSD4)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		102	85-115	1	20	10/17/13	
Matrix Spike (A312073-MS6), Source: A3J0568-02											
Strontium - Dissolved (1)	10000	1.0	ug/L	200	10000	128	70-130			10/17/13	
Matrix Spike Dup (A312073-MSD6), Source: A3J0568-02											
Strontium - Dissolved (1)	11000	1.0	ug/L	200	10000	161	70-130	1	20	10/17/13	MS1.0 ***High***

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A311954										Prepared: 10/9/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A311954-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							10/13/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							10/13/13	
Surrogate: TCMX	*1.2*			*1.5*		*76*	*70-130*			10/13/13	
Blank Spike (A311954-BS1)											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20		98	70-130			10/13/13	
Ethylene Dibromide (EDB)	0.20	0.020	ug/L	0.20		99	70-130			10/13/13	
Surrogate: TCMX	*1.4*			*1.5*		*93*	*70-130*			10/13/13	
Blank Spike Dup (A311954-BSD1)											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20		99	70-130	0	20	10/14/13	
Ethylene Dibromide (EDB)	0.19	0.020	ug/L	0.20		94	70-130	4	20	10/14/13	
Surrogate: TCMX	*1.5*			*1.5*		*98*	*70-130*			10/14/13	
Matrix Spike (A311954-MS1), Source: A3J0722-01											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20	ND	100	65-135			10/14/13	
Ethylene Dibromide (EDB)	0.19	0.020	ug/L	0.20	ND	93	65-135			10/14/13	
Surrogate: TCMX	*1.5*			*1.5*		*97*	*70-130*			10/14/13	
Matrix Spike Dup (A311954-MSD1), Source: A3J0722-01											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20	ND	101	65-135	2	20	10/14/13	
Ethylene Dibromide (EDB)	0.20	0.020	ug/L	0.20	ND	97	65-135	5	20	10/14/13	
Surrogate: TCMX	*1.5*			*1.5*		*99*	*70-130*			10/14/13	
EPA 505 - Quality Control											
Batch: A311954										Prepared: 10/9/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A311954-BLK1)											
Aldrin	ND	0.075	ug/L							10/13/13	
Chlordane	ND	0.10	ug/L							10/13/13	
Chlorothalonil	ND	5.0	ug/L							10/13/13	
Dieldrin	ND	0.020	ug/L							10/13/13	
Endrin	ND	0.10	ug/L							10/13/13	
Heptachlor	ND	0.010	ug/L							10/13/13	
Heptachlor Epoxide	ND	0.010	ug/L							10/13/13	
Hexachlorobenzene	ND	0.50	ug/L							10/13/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							10/13/13	
Lindane	ND	0.20	ug/L							10/13/13	
Methoxychlor	ND	10	ug/L							10/13/13	
PCB Aroclor Screen	ND	0.50	ug/L							10/13/13	
Toxaphene	ND	1.0	ug/L							10/13/13	
Trifluralin	ND	1.0	ug/L							10/13/13	
Surrogate: TCMX	*1.2*			*1.5*		*76*	*70-130*			10/13/13	
Blank Spike (A311954-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A311954										Prepared: 10/9/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A311954-BS1)											
Aldrin	1.0	0.075	ug/L	1.0		101	70-130			10/13/13	
Chlorothalonil	10	5.0	ug/L	10		103	70-130			10/13/13	
Dieldrin	0.40	0.020	ug/L	0.40		101	70-130			10/13/13	
Endrin	0.20	0.10	ug/L	0.20		102	70-130			10/13/13	
Heptachlor	0.21	0.010	ug/L	0.20		106	70-130			10/13/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20		98	70-130			10/13/13	
Hexachlorobenzene	2.0	0.50	ug/L	2.0		100	70-130			10/13/13	
Hexachlorocyclopentadiene	2.2	1.0	ug/L	2.0		110	70-130			10/13/13	
Lindane	0.39	0.20	ug/L	0.40		97	70-130			10/13/13	
Methoxychlor	2.0	10	ug/L	2.0		99	70-130			10/13/13	
Trifluralin	2.0	1.0	ug/L	2.0		99	70-130			10/13/13	
Surrogate: TCMX	*1.4*			*1.5*		*93*	*70-130*			10/13/13	
Blank Spike Dup (A311954-BSD1)											
Aldrin	1.0	0.075	ug/L	1.0		100	70-130	1	20	10/14/13	
Chlorothalonil	11	5.0	ug/L	10		106	70-130	3	20	10/14/13	
Dieldrin	0.41	0.020	ug/L	0.40		102	70-130	1	20	10/14/13	
Endrin	0.20	0.10	ug/L	0.20		100	70-130	3	20	10/14/13	
Heptachlor	0.21	0.010	ug/L	0.20		103	70-130	3	20	10/14/13	
Heptachlor Epoxide	0.19	0.010	ug/L	0.20		97	70-130	1	20	10/14/13	
Hexachlorobenzene	1.9	0.50	ug/L	2.0		97	70-130	3	20	10/14/13	
Hexachlorocyclopentadiene	1.9	1.0	ug/L	2.0		96	70-130	14	20	10/14/13	
Lindane	0.40	0.20	ug/L	0.40		101	70-130	4	20	10/14/13	
Methoxychlor	2.0	10	ug/L	2.0		100	70-130	1	20	10/14/13	
Trifluralin	2.0	1.0	ug/L	2.0		100	70-130	1	20	10/14/13	
Surrogate: TCMX	*1.5*			*1.5*		*98*	*70-130*			10/14/13	
Matrix Spike (A311954-MS1), Source: A3J0722-01											
Aldrin	1.1	0.075	ug/L	1.0	ND	105	65-135			10/14/13	
Chlorothalonil	11	5.0	ug/L	10	ND	104	65-135			10/14/13	
Dieldrin	0.41	0.020	ug/L	0.40	ND	102	65-135			10/14/13	
Endrin	0.20	0.10	ug/L	0.20	ND	100	65-135			10/14/13	
Heptachlor	0.22	0.010	ug/L	0.20	ND	109	65-135			10/14/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	98	65-135			10/14/13	
Hexachlorobenzene	2.0	0.50	ug/L	2.0	ND	99	65-135			10/14/13	
Hexachlorocyclopentadiene	1.8	1.0	ug/L	2.0	ND	87	65-135			10/14/13	
Lindane	0.40	0.20	ug/L	0.40	ND	99	65-135			10/14/13	
Methoxychlor	2.0	10	ug/L	2.0	ND	100	65-135			10/14/13	
Trifluralin	2.0	1.0	ug/L	2.0	ND	100	65-135			10/14/13	
Surrogate: TCMX	*1.5*			*1.5*		*97*	*70-130*			10/14/13	
Matrix Spike Dup (A311954-MSD1), Source: A3J0722-01											
Aldrin	1.1	0.075	ug/L	1.0	ND	109	65-135	5	20	10/14/13	
Chlorothalonil	11	5.0	ug/L	10	ND	106	65-135	3	20	10/14/13	
Dieldrin	0.42	0.020	ug/L	0.41	ND	102	65-135	2	20	10/14/13	
Endrin	0.20	0.10	ug/L	0.20	ND	101	65-135	2	20	10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A311954										Prepared: 10/9/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A311954-MSD1), Source: A3J0722-01											
Heptachlor	0.22	0.010	ug/L	0.20	ND	110	65-135	2	20	10/14/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	100	65-135	3	20	10/14/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	102	65-135	4	20	10/14/13	
Hexachlorocyclopentadiene	2.0	1.0	ug/L	2.0	ND	97	65-135	12	20	10/14/13	
Lindane	0.41	0.20	ug/L	0.41	ND	102	65-135	3	20	10/14/13	
Methoxychlor	2.1	10	ug/L	2.0	ND	102	65-135	3	20	10/14/13	
Trifluralin	2.0	1.0	ug/L	2.0	ND	101	65-135	2	20	10/14/13	
Surrogate: TCMX	*1.5*			*1.5*		*99*	*70-130*			10/14/13	
EPA 515.3 - Quality Control											
Batch: A311994										Prepared: 10/9/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A311994-BLK1)											
2,4,5-T	ND	1.0	ug/L							10/11/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							10/11/13	
2,4-D	ND	10	ug/L							10/11/13	
Bentazon	ND	2.0	ug/L							10/11/13	
Dalapon	ND	10	ug/L							10/11/13	
Dicamba	ND	1.5	ug/L							10/11/13	
Dinoseb	ND	2.0	ug/L							10/11/13	
Pentachlorophenol	ND	0.20	ug/L							10/11/13	
Picloram	ND	1.0	ug/L							10/11/13	
Surrogate: DCPAA	*58*			*58*		*99*	*70-130*			10/11/13	
Blank Spike (A311994-BS1)											
2,4,5-T	4.8	1.0	ug/L	4.0		120	70-130			10/11/13	
2,4,5-TP (Silvex)	4.8	1.0	ug/L	4.0		120	70-130			10/11/13	
2,4-D	49	10	ug/L	40		122	70-130			10/11/13	
Bentazon	8.8	2.0	ug/L	8.0		111	70-130			10/11/13	
Dalapon	43	10	ug/L	40		108	70-130			10/11/13	
Dicamba	7.4	1.5	ug/L	6.0		122	70-130			10/11/13	
Dinoseb	9.6	2.0	ug/L	8.0		120	70-130			10/11/13	
Pentachlorophenol	1.0	0.20	ug/L	0.80		127	70-130			10/11/13	
Picloram	4.9	1.0	ug/L	4.0		123	70-130			10/11/13	
Surrogate: DCPAA	*60*			*58*		*104*	*70-130*			10/11/13	
Blank Spike Dup (A311994-BSD1)											
2,4,5-T	4.7	1.0	ug/L	4.0		118	70-130	1	20	10/11/13	
2,4,5-TP (Silvex)	4.7	1.0	ug/L	4.0		119	70-130	1	20	10/11/13	
2,4-D	49	10	ug/L	40		121	70-130	0	20	10/11/13	
Bentazon	8.5	2.0	ug/L	8.0		106	70-130	4	20	10/11/13	
Dalapon	43	10	ug/L	40		107	70-130	1	20	10/11/13	
Dicamba	7.2	1.5	ug/L	6.0		121	70-130	2	20	10/11/13	
Dinoseb	9.2	2.0	ug/L	8.0		115	70-130	4	20	10/11/13	
Pentachlorophenol	0.99	0.20	ug/L	0.80		124	70-130	2	20	10/11/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A311994										Prepared: 10/9/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A311994-BSD1)											
Picloram	4.9	1.0	ug/L	4.0		123	70-130	0	20	10/11/13	
Surrogate: DCPAA	*59*			*58*		*102*	*70-130*			10/11/13	
Matrix Spike (A311994-MS1), Source: A3J0477-01											
2,4,5-T	4.9	1.0	ug/L	4.0	ND	122	70-130			10/11/13	
2,4,5-TP (Silvex)	4.9	1.0	ug/L	4.0	ND	122	70-130			10/11/13	
2,4-D	50	10	ug/L	40	ND	126	70-130			10/11/13	
Bentazon	8.9	2.0	ug/L	8.0	ND	111	70-130			10/11/13	
Dalapon	43	10	ug/L	40	ND	108	70-130			10/11/13	
Dicamba	7.4	1.5	ug/L	6.0	ND	123	70-130			10/11/13	
Dinoseb	9.4	2.0	ug/L	8.0	ND	118	70-130			10/11/13	
Pentachlorophenol	1.0	0.20	ug/L	0.80	ND	125	70-130			10/11/13	
Picloram	5.0	1.0	ug/L	4.0	ND	126	70-130			10/11/13	
Surrogate: DCPAA	*60*			*58*		*103*	*70-130*			10/11/13	
Matrix Spike Dup (A311994-MSD1), Source: A3J0477-01											
2,4,5-T	4.6	1.0	ug/L	4.0	ND	116	70-130	5	20	10/11/13	
2,4,5-TP (Silvex)	4.7	1.0	ug/L	4.0	ND	116	70-130	5	20	10/11/13	
2,4-D	47	10	ug/L	40	ND	118	70-130	6	20	10/11/13	
Bentazon	8.5	2.0	ug/L	8.0	ND	107	70-130	4	20	10/11/13	
Dalapon	41	10	ug/L	40	ND	103	70-130	5	20	10/11/13	
Dicamba	7.0	1.5	ug/L	6.0	ND	117	70-130	5	20	10/11/13	
Dinoseb	9.1	2.0	ug/L	8.0	ND	114	70-130	3	20	10/11/13	
Pentachlorophenol	0.96	0.20	ug/L	0.80	ND	120	70-130	4	20	10/11/13	
Picloram	4.7	1.0	ug/L	4.0	ND	117	70-130	7	20	10/11/13	
Surrogate: DCPAA	*58*			*58*		*100*	*70-130*			10/11/13	
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A312121-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							10/14/13	
1,1,1-Trichloroethane	ND	0.50	ug/L							10/14/13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							10/14/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							10/14/13	
1,1,2-Trichloroethane	ND	0.50	ug/L							10/14/13	
1,1-Dichloroethane	ND	0.50	ug/L							10/14/13	
1,1-Dichloroethene	ND	0.50	ug/L							10/14/13	
1,1-Dichloropropene	ND	0.50	ug/L							10/14/13	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							10/14/13	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							10/14/13	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							10/14/13	
1,2-Dichlorobenzene	ND	0.50	ug/L							10/14/13	
1,2-Dichloroethane	ND	0.50	ug/L							10/14/13	
1,2-Dichloropropane	ND	0.50	ug/L							10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A312121-BLK1)											
1,3,5-Trimethylbenzene	ND	0.50	ug/L							10/14/13	
1,3-Dichlorobenzene	ND	0.50	ug/L							10/14/13	
1,3-Dichloropropane	ND	0.50	ug/L							10/14/13	
1,4-Dichlorobenzene	ND	0.50	ug/L							10/14/13	
2,2-Dichloropropane	ND	0.50	ug/L							10/14/13	
2-Butanone	ND	5.0	ug/L							10/14/13	
2-Chlorotoluene	ND	0.50	ug/L							10/14/13	
2-Hexanone	ND	10	ug/L							10/14/13	
4-Chlorotoluene	ND	0.50	ug/L							10/14/13	
4-Methyl-2-pentanone	ND	5.0	ug/L							10/14/13	
Acetone	ND	10	ug/L							10/14/13	
Benzene	ND	0.50	ug/L							10/14/13	
Bromobenzene	ND	0.50	ug/L							10/14/13	
Bromochloromethane	ND	0.50	ug/L							10/14/13	
Bromodichloromethane	ND	0.50	ug/L							10/14/13	
Bromoform	ND	0.50	ug/L							10/14/13	
Bromomethane	ND	0.50	ug/L							10/14/13	
Carbon Tetrachloride	ND	0.50	ug/L							10/14/13	
Chlorobenzene	ND	0.50	ug/L							10/14/13	
Chloroethane	ND	0.50	ug/L							10/14/13	
Chloroform	ND	0.50	ug/L							10/14/13	
Chloromethane	ND	0.50	ug/L							10/14/13	
cis-1,2-Dichloroethene	ND	0.50	ug/L							10/14/13	
cis-1,3-Dichloropropene	ND	0.50	ug/L							10/14/13	
Dibromochloromethane	ND	0.50	ug/L							10/14/13	
Dibromomethane	ND	0.50	ug/L							10/14/13	
Dichlorodifluoromethane	ND	0.50	ug/L							10/14/13	
Dichloromethane	ND	0.50	ug/L							10/14/13	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							10/14/13	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							10/14/13	
Ethylbenzene	ND	0.50	ug/L							10/14/13	
Hexachlorobutadiene	ND	0.50	ug/L							10/14/13	
Isopropylbenzene	ND	0.50	ug/L							10/14/13	
m,p-Xylenes	ND	0.50	ug/L							10/14/13	
Methyl-t-butyl ether	ND	0.50	ug/L							10/14/13	
Naphthalene	ND	0.50	ug/L							10/14/13	
n-Butylbenzene	ND	0.50	ug/L							10/14/13	
n-Propylbenzene	ND	0.50	ug/L							10/14/13	
o-Xylene	ND	0.50	ug/L							10/14/13	
p-Isopropyltoluene	ND	0.50	ug/L							10/14/13	
sec-Butylbenzene	ND	0.50	ug/L							10/14/13	
Styrene	ND	0.50	ug/L							10/14/13	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							10/14/13	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							10/14/13	
tert-Butylbenzene	ND	0.50	ug/L							10/14/13	
Tetrachloroethene (PCE)	ND	0.50	ug/L							10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A312121-BLK1)											
Toluene	ND	0.50	ug/L							10/14/13	
trans-1,2-Dichloroethene	ND	0.50	ug/L							10/14/13	
trans-1,3-Dichloropropene	ND	0.50	ug/L							10/14/13	
Trichloroethene (TCE)	ND	0.50	ug/L							10/14/13	
Trichlorofluoromethane	ND	5.0	ug/L							10/14/13	
Vinyl Chloride	ND	0.50	ug/L							10/14/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.6*			*5.0*		*92*	*70-130*			10/14/13	
Surrogate: Bromofluorobenzene	*4.9*			*5.0*		*97*	*70-130*			10/14/13	
Blank Spike (A312121-BS1)											
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		112	70-130			10/14/13	
1,1,1-Trichloroethane	11	0.50	ug/L	10		111	70-130			10/14/13	
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		107	70-130			10/14/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.9	10	ug/L	10		99	70-130			10/14/13	
1,1,2-Trichloroethane	10	0.50	ug/L	10		103	70-130			10/14/13	
1,1-Dichloroethane	10	0.50	ug/L	10		104	70-130			10/14/13	
1,1-Dichloroethene	11	0.50	ug/L	10		111	70-130			10/14/13	
1,1-Dichloropropene	11	0.50	ug/L	10		107	70-130			10/14/13	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		104	70-130			10/14/13	
1,2,4-Trichlorobenzene	10	0.50	ug/L	10		105	70-130			10/14/13	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		104	70-130			10/14/13	
1,2-Dichlorobenzene	10	0.50	ug/L	10		102	70-130			10/14/13	
1,2-Dichloroethane	10	0.50	ug/L	10		104	70-130			10/14/13	
1,2-Dichloropropane	11	0.50	ug/L	10		106	70-130			10/14/13	
1,3,5-Trimethylbenzene	10	0.50	ug/L	10		103	70-130			10/14/13	
1,3-Dichlorobenzene	11	0.50	ug/L	10		105	70-130			10/14/13	
1,3-Dichloropropane	10	0.50	ug/L	10		101	70-130			10/14/13	
1,4-Dichlorobenzene	10	0.50	ug/L	10		103	70-130			10/14/13	
2,2-Dichloropropane	13	0.50	ug/L	10		126	70-130			10/14/13	
2-Butanone	10	5.0	ug/L	10		104	70-130			10/14/13	
2-Chlorotoluene	10	0.50	ug/L	10		103	70-130			10/14/13	
2-Hexanone	11	10	ug/L	10		109	70-130			10/14/13	
4-Chlorotoluene	10	0.50	ug/L	10		103	70-130			10/14/13	
4-Methyl-2-pentanone	11	5.0	ug/L	10		111	70-130			10/14/13	
Acetone	11	10	ug/L	10		113	70-130			10/14/13	
Benzene	9.8	0.50	ug/L	10		98	70-130			10/14/13	
Bromobenzene	11	0.50	ug/L	10		106	70-130			10/14/13	
Bromochloromethane	11	0.50	ug/L	10		110	70-130			10/14/13	
Bromodichloromethane	11	0.50	ug/L	10		111	70-130			10/14/13	
Bromoform	10	0.50	ug/L	10		102	70-130			10/14/13	
Bromomethane	7.9	0.50	ug/L	10		79	70-130			10/14/13	
Carbon Tetrachloride	11	0.50	ug/L	10		108	70-130			10/14/13	
Chlorobenzene	9.9	0.50	ug/L	10		99	70-130			10/14/13	
Chloroethane	12	0.50	ug/L	10		122	70-130			10/14/13	
Chloroform	11	0.50	ug/L	10		109	70-130			10/14/13	
Chloromethane	8.9	0.50	ug/L	10		89	70-130			10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A312121-BS1)											
cis-1,2-Dichloroethene	10	0.50	ug/L	10		104	70-130			10/14/13	
cis-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130			10/14/13	
Dibromochloromethane	11	0.50	ug/L	10		110	70-130			10/14/13	
Dibromomethane	11	0.50	ug/L	10		105	70-130			10/14/13	
Dichlorodifluoromethane	7.5	0.50	ug/L	10		75	70-130			10/14/13	
Dichloromethane	10	0.50	ug/L	10		100	70-130			10/14/13	
Di-isopropyl ether (DIPE)	12	3.0	ug/L	10		119	70-130			10/14/13	
Ethyl tert-Butyl Ether (ETBE)	12	0.50	ug/L	10		120	70-130			10/14/13	
Ethylbenzene	9.7	0.50	ug/L	10		97	70-130			10/14/13	
Hexachlorobutadiene	9.9	0.50	ug/L	10		99	70-130			10/14/13	
Isopropylbenzene	11	0.50	ug/L	10		106	70-130			10/14/13	
m,p-Xylenes	19	0.50	ug/L	20		95	70-130			10/14/13	
Methyl-t-butyl ether	22	0.50	ug/L	20		110	70-130			10/14/13	
Naphthalene	9.8	0.50	ug/L	10		98	70-130			10/14/13	
n-Butylbenzene	10	0.50	ug/L	10		105	70-130			10/14/13	
n-Propylbenzene	11	0.50	ug/L	10		105	70-130			10/14/13	
o-Xylene	9.5	0.50	ug/L	10		95	70-130			10/14/13	
p-Isopropyltoluene	11	0.50	ug/L	10		105	70-130			10/14/13	
sec-Butylbenzene	10	0.50	ug/L	10		103	70-130			10/14/13	
Styrene	12	0.50	ug/L	10		117	70-130			10/14/13	
tert-Amyl Methyl Ether (TAME)	11	3.0	ug/L	10		106	70-130			10/14/13	
tert-Butyl alcohol (TBA)	11	2.0	ug/L	10		107	70-130			10/14/13	
tert-Butylbenzene	9.9	0.50	ug/L	10		99	70-130			10/14/13	
Tetrachloroethene (PCE)	9.8	0.50	ug/L	10		98	70-130			10/14/13	
Toluene	9.8	0.50	ug/L	10		98	70-130			10/14/13	
trans-1,2-Dichloroethene	11	0.50	ug/L	10		113	70-130			10/14/13	
trans-1,3-Dichloropropene	12	0.50	ug/L	10		117	70-130			10/14/13	
Trichloroethene (TCE)	10	0.50	ug/L	10		104	70-130			10/14/13	
Trichlorofluoromethane	11	5.0	ug/L	10		110	70-130			10/14/13	
Vinyl Chloride	9.2	0.50	ug/L	10		92	70-130			10/14/13	
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			10/14/13	
Surrogate: Bromofluorobenzene	*5.1*			*5.0*		*102*	*70-130*			10/14/13	
Blank Spike Dup (A312121-BSD1)											
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		112	70-130	0	30	10/14/13	
1,1,1-Trichloroethane	11	0.50	ug/L	10		111	70-130	0	30	10/14/13	
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		107	70-130	0	30	10/14/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.8	10	ug/L	10		98	70-130	1	30	10/14/13	
1,1,2-Trichloroethane	10	0.50	ug/L	10		100	70-130	4	30	10/14/13	
1,1-Dichloroethane	9.8	0.50	ug/L	10		98	70-130	6	30	10/14/13	
1,1-Dichloroethene	11	0.50	ug/L	10		106	70-130	4	30	10/14/13	
1,1-Dichloropropene	11	0.50	ug/L	10		108	70-130	1	30	10/14/13	
1,2,3-Trichlorobenzene	11	0.50	ug/L	10		106	70-130	3	30	10/14/13	
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		107	70-130	2	30	10/14/13	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		105	70-130	1	30	10/14/13	
1,2-Dichlorobenzene	10	0.50	ug/L	10		104	70-130	2	30	10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A312121										Prepared: 10/14/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A312121-BSD1)												
1,2-Dichloroethane	9.8	0.50	ug/L	10		98	70-130	5	30	10/14/13		
1,2-Dichloropropane	10	0.50	ug/L	10		104	70-130	3	30	10/14/13		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		105	70-130	2	30	10/14/13		
1,3-Dichlorobenzene	11	0.50	ug/L	10		108	70-130	3	30	10/14/13		
1,3-Dichloropropane	9.8	0.50	ug/L	10		98	70-130	3	30	10/14/13		
1,4-Dichlorobenzene	11	0.50	ug/L	10		106	70-130	3	30	10/14/13		
2,2-Dichloropropane	12	0.50	ug/L	10		124	70-130	2	30	10/14/13		
2-Butanone	9.8	5.0	ug/L	10		98	70-130	7	30	10/14/13		
2-Chlorotoluene	10	0.50	ug/L	10		105	70-130	2	30	10/14/13		
2-Hexanone	10	10	ug/L	10		103	70-130	6	30	10/14/13		
4-Chlorotoluene	11	0.50	ug/L	10		105	70-130	2	30	10/14/13		
4-Methyl-2-pentanone	11	5.0	ug/L	10		106	70-130	5	30	10/14/13		
Acetone	10	10	ug/L	10		104	70-130	8	30	10/14/13		
Benzene	9.9	0.50	ug/L	10		99	70-130	1	30	10/14/13		
Bromobenzene	11	0.50	ug/L	10		106	70-130	0	30	10/14/13		
Bromochloromethane	10	0.50	ug/L	10		103	70-130	7	30	10/14/13		
Bromodichloromethane	11	0.50	ug/L	10		107	70-130	4	30	10/14/13		
Bromoform	10	0.50	ug/L	10		101	70-130	1	30	10/14/13		
Bromomethane	7.6	0.50	ug/L	10		76	70-130	4	30	10/14/13		
Carbon Tetrachloride	11	0.50	ug/L	10		109	70-130	0	30	10/14/13		
Chlorobenzene	9.7	0.50	ug/L	10		97	70-130	2	30	10/14/13		
Chloroethane	13	0.50	ug/L	10		132	70-130	8	30	10/14/13	BS	***High***
Chloroform	10	0.50	ug/L	10		104	70-130	4	30	10/14/13		
Chloromethane	9.2	0.50	ug/L	10		92	70-130	4	30	10/14/13		
cis-1,2-Dichloroethene	9.6	0.50	ug/L	10		96	70-130	7	30	10/14/13		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130	3	30	10/14/13		
Dibromochloromethane	10	0.50	ug/L	10		103	70-130	7	30	10/14/13		
Dibromomethane	9.8	0.50	ug/L	10		98	70-130	7	30	10/14/13		
Dichlorodifluoromethane	7.8	0.50	ug/L	10		78	70-130	4	30	10/14/13		
Dichloromethane	10	0.50	ug/L	10		100	70-130	1	30	10/14/13		
Di-isopropyl ether (DIPE)	12	3.0	ug/L	10		116	70-130	3	30	10/14/13		
Ethyl tert-Butyl Ether (ETBE)	12	0.50	ug/L	10		118	70-130	2	30	10/14/13		
Ethylbenzene	9.4	0.50	ug/L	10		94	70-130	3	30	10/14/13		
Hexachlorobutadiene	10	0.50	ug/L	10		104	70-130	4	30	10/14/13		
Isopropylbenzene	11	0.50	ug/L	10		106	70-130	1	30	10/14/13		
m,p-Xylenes	19	0.50	ug/L	20		94	70-130	1	30	10/14/13		
Methyl-t-butyl ether	21	0.50	ug/L	20		106	70-130	3	30	10/14/13		
Naphthalene	10	0.50	ug/L	10		100	70-130	1	30	10/14/13		
n-Butylbenzene	11	0.50	ug/L	10		106	70-130	1	30	10/14/13		
n-Propylbenzene	11	0.50	ug/L	10		106	70-130	1	30	10/14/13		
o-Xylene	9.4	0.50	ug/L	10		94	70-130	1	30	10/14/13		
p-Isopropyltoluene	11	0.50	ug/L	10		106	70-130	1	30	10/14/13		
sec-Butylbenzene	11	0.50	ug/L	10		110	70-130	7	30	10/14/13		
Styrene	12	0.50	ug/L	10		118	70-130	1	30	10/14/13		
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		104	70-130	2	30	10/14/13		
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		104	70-130	3	30	10/14/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A312121-BSD1)											
tert-Butylbenzene	10	0.50	ug/L	10		100	70-130	2	30	10/14/13	
Tetrachloroethene (PCE)	9.8	0.50	ug/L	10		98	70-130	0	30	10/14/13	
Toluene	9.5	0.50	ug/L	10		95	70-130	3	30	10/14/13	
trans-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130	4	30	10/14/13	
trans-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130	5	30	10/14/13	
Trichloroethene (TCE)	11	0.50	ug/L	10		107	70-130	3	30	10/14/13	
Trichlorofluoromethane	10	5.0	ug/L	10		104	70-130	6	30	10/14/13	
Vinyl Chloride	9.7	0.50	ug/L	10		97	70-130	5	30	10/14/13	
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*102*	*70-130*			10/14/13	
Surrogate: Bromofluorobenzene	*5.1*			*5.0*		*102*	*70-130*			10/14/13	
EPA 525.2 - Quality Control											
Batch: A312014										Prepared: 10/10/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A312014-BLK1)											
Alachlor	ND	1.0	ug/L							10/11/13	
Atrazine	ND	0.50	ug/L							10/11/13	
Benzo(a)pyrene	ND	0.10	ug/L							10/11/13	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							10/11/13	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							10/11/13	
Bromacil	ND	10	ug/L							10/11/13	
Butachlor	ND	0.38	ug/L							10/11/13	
Diazinon	ND	0.25	ug/L							10/11/13	
Dimethoate	ND	10	ug/L							10/11/13	
Metolachlor	ND	0.50	ug/L							10/11/13	
Metribuzin	ND	0.50	ug/L							10/11/13	
Molinate	ND	2.0	ug/L							10/11/13	
Propachlor	ND	0.50	ug/L							10/11/13	
Simazine	ND	1.0	ug/L							10/11/13	
Thiobencarb	ND	1.0	ug/L							10/11/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.3*			*5.0*		*106*	*70-130*			10/11/13	
Blank Spike (A312014-BS1)											
Alachlor	0.53	1.0	ug/L	0.50		108	70-130			10/11/13	
Atrazine	0.51	0.50	ug/L	0.50		103	70-130			10/11/13	
Benzo(a)pyrene	0.11	0.10	ug/L	0.099		107	70-130			10/11/13	
Bis(2-ethylhexyl) adipate	3.3	3.0	ug/L	3.0		110	70-130			10/11/13	
Bis(2-ethylhexyl) phthalate	3.4	3.0	ug/L	3.0		115	70-130			10/11/13	
Bromacil	2.6	10	ug/L	2.0		129	70-130			10/11/13	
Butachlor	1.4	0.38	ug/L	1.2		114	70-130			10/11/13	
Diazinon	0.049	0.25	ug/L	0.050		98	70-130			10/11/13	
Dimethoate	0.56	10	ug/L	0.50		114	70-130			10/11/13	
Metolachlor	2.8	0.50	ug/L	2.5		111	70-130			10/11/13	
Metribuzin	2.8	0.50	ug/L	2.5		113	70-130			10/11/13	
Molinate	2.7	2.0	ug/L	2.5		109	70-130			10/11/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A312014										Prepared: 10/10/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A312014-BS1)											
Propachlor	2.7	0.50	ug/L	2.5		108	70-130			10/11/13	
Simazine	0.41	1.0	ug/L	0.35		117	70-130			10/11/13	
Thiobencarb	0.52	1.0	ug/L	0.50		104	70-130			10/11/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.8*			*5.0*		*97*	*70-130*			10/11/13	
Blank Spike Dup (A312014-BSD1)											
Alachlor	0.51	1.0	ug/L	0.49		104	70-130	5	30	10/11/13	
Atrazine	0.49	0.50	ug/L	0.49		99	70-130	4	30	10/11/13	
Benzo(a)pyrene	0.10	0.10	ug/L	0.098		106	70-130	2	30	10/11/13	
Bis(2-ethylhexyl) adipate	3.1	3.0	ug/L	2.9		106	70-130	4	30	10/11/13	
Bis(2-ethylhexyl) phthalate	3.3	3.0	ug/L	2.9		112	70-130	4	30	10/11/13	
Bromacil	2.2	10	ug/L	2.0		110	70-130	17	30	10/11/13	
Butachlor	1.2	0.38	ug/L	1.2		99	70-130	14	30	10/11/13	
Diazinon	0.048	0.25	ug/L	0.049		98	70-130	1	30	10/11/13	
Dimethoate	0.47	10	ug/L	0.49		95	70-130	19	30	10/11/13	
Metolachlor	2.5	0.50	ug/L	2.5		104	70-130	8	30	10/11/13	
Metribuzin	2.5	0.50	ug/L	2.5		100	70-130	13	30	10/11/13	
Molinate	2.6	2.0	ug/L	2.5		105	70-130	5	30	10/11/13	
Propachlor	2.5	0.50	ug/L	2.5		104	70-130	5	30	10/11/13	
Simazine	0.34	1.0	ug/L	0.34		99	70-130	18	30	10/11/13	
Thiobencarb	0.49	1.0	ug/L	0.49		100	70-130	5	30	10/11/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.9*			*4.9*		*100*	*70-130*			10/11/13	
Matrix Spike (A312014-MS1), Source: A3J0858-01											
Alachlor	0.63	1.0	ug/L	0.50	ND	127	70-130			10/11/13	
Atrazine	0.59	0.50	ug/L	0.50	ND	118	70-130			10/11/13	
Benzo(a)pyrene	0.18	0.10	ug/L	0.099	ND	154	70-130			10/11/13	MS1.0 ***High***
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.0	ND	117	70-130			10/11/13	
Bis(2-ethylhexyl) phthalate	4.3	3.0	ug/L	3.0	ND	133	70-130			10/11/13	MS1.0 ***High***
Bromacil	2.9	10	ug/L	2.0	ND	148	70-130			10/11/13	MS1.0 ***High***
Butachlor	1.6	0.38	ug/L	1.2	ND	130	70-130			10/11/13	
Diazinon	0.053	0.25	ug/L	0.050	ND	106	70-130			10/11/13	
Dimethoate	0.72	10	ug/L	0.50	ND	146	70-130			10/11/13	MS1.0 ***High***
Metolachlor	2.9	0.50	ug/L	2.5	ND	118	70-130			10/11/13	
Metribuzin	2.8	0.50	ug/L	2.5	ND	115	70-130			10/11/13	
Molinate	2.6	2.0	ug/L	2.5	ND	104	70-130			10/11/13	
Propachlor	2.6	0.50	ug/L	2.5	ND	105	70-130			10/11/13	
Simazine	0.45	1.0	ug/L	0.35	ND	129	70-130			10/11/13	
Thiobencarb	0.59	1.0	ug/L	0.50	ND	119	70-130			10/11/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.8*			*5.0*		*97*	*70-130*			10/11/13	
EPA 531.1 - Quality Control											
Batch: A312119										Prepared: 10/12/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A312119-BLK1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A312119										Prepared: 10/12/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A312119-BLK1)											
3-Hydroxycarbofuran	ND	2.0	ug/L							10/12/13	
Aldicarb	ND	2.0	ug/L							10/12/13	
Aldicarb Sulfone	ND	2.0	ug/L							10/12/13	
Aldicarb Sulfoxide	ND	2.0	ug/L							10/12/13	
Carbaryl	ND	2.0	ug/L							10/12/13	
Carbofuran	ND	2.0	ug/L							10/12/13	
Methomyl	ND	2.0	ug/L							10/12/13	
Oxamyl	ND	2.0	ug/L							10/12/13	
Blank Spike (A312119-BS1)											
3-Hydroxycarbofuran	4.6	2.0	ug/L	4.2		110	80-120			10/12/13	
Aldicarb	4.7	2.0	ug/L	4.2		112	80-120			10/12/13	
Aldicarb Sulfone	4.4	2.0	ug/L	4.2		107	80-120			10/12/13	
Aldicarb Sulfoxide	4.3	2.0	ug/L	4.2		104	80-120			10/12/13	
Carbaryl	4.5	2.0	ug/L	4.2		108	80-120			10/12/13	
Carbofuran	4.5	2.0	ug/L	4.2		108	80-120			10/12/13	
Methomyl	4.2	2.0	ug/L	4.2		100	80-120			10/12/13	
Oxamyl	4.6	2.0	ug/L	4.2		110	80-120			10/12/13	
Blank Spike Dup (A312119-BSD1)											
3-Hydroxycarbofuran	4.3	2.0	ug/L	4.2		102	80-120	8	20	10/12/13	
Aldicarb	4.9	2.0	ug/L	4.2		117	80-120	4	20	10/12/13	
Aldicarb Sulfone	4.0	2.0	ug/L	4.2		96	80-120	10	20	10/12/13	
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.2		95	80-120	9	20	10/12/13	
Carbaryl	4.2	2.0	ug/L	4.2		101	80-120	6	20	10/12/13	
Carbofuran	4.1	2.0	ug/L	4.2		99	80-120	9	20	10/12/13	
Methomyl	3.8	2.0	ug/L	4.2		90	80-120	10	20	10/12/13	
Oxamyl	4.2	2.0	ug/L	4.2		102	80-120	8	20	10/12/13	
Matrix Spike (A312119-MS1), Source: A3J0644-01											
3-Hydroxycarbofuran	4.2	2.0	ug/L	4.2	ND	100	65-135			10/12/13	
Aldicarb	4.5	2.0	ug/L	4.2	ND	107	65-135			10/12/13	
Aldicarb Sulfone	4.0	2.0	ug/L	4.2	ND	97	65-135			10/12/13	
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.2	ND	95	65-135			10/12/13	
Carbaryl	4.3	2.0	ug/L	4.2	ND	103	65-135			10/12/13	
Carbofuran	4.2	2.0	ug/L	4.2	ND	101	65-135			10/12/13	
Methomyl	3.7	2.0	ug/L	4.2	ND	90	65-135			10/12/13	
Oxamyl	4.3	2.0	ug/L	4.2	ND	102	65-135			10/12/13	
EPA 547 - Quality Control											
Batch: A312197										Prepared: 10/15/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank (A312197-BLK1)											
Glyphosate	ND	25	ug/L							10/15/13	
Surrogate: AMPA	*110*			*100*		*113*	*70-130*			10/15/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A312197										Prepared: 10/15/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank Spike (A312197-BS1)											
Glyphosate	100	25	ug/L	100		101	70-130			10/15/13	
Surrogate: AMPA	*110*			*100*		*112*	*70-130*			10/15/13	
Blank Spike Dup (A312197-BSD1)											
Glyphosate	100	25	ug/L	100		102	70-130	1	30	10/15/13	
Surrogate: AMPA	*120*			*100*		*115*	*70-130*			10/15/13	
Matrix Spike (A312197-MS1), Source: A3J0722-01											
Glyphosate	100	25	ug/L	100	ND	100	70-130			10/15/13	
Surrogate: AMPA	*110*			*100*		*111*	*70-130*			10/15/13	
Matrix Spike Dup (A312197-MSD1), Source: A3J0722-01											
Glyphosate	100	25	ug/L	100	ND	102	70-130	2	30	10/15/13	
Surrogate: AMPA	*120*			*100*		*115*	*70-130*			10/15/13	
EPA 548.1 - Quality Control											
Batch: A312182										Prepared: 10/14/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A312182-BLK1)											
Endothall	ND	45	ug/L							10/15/13	
Blank Spike (A312182-BS1)											
Endothall	15	45	ug/L	20		74	60-111			10/15/13	
Blank Spike Dup (A312182-BSD1)											
Endothall	14	45	ug/L	20		68	60-111	8	46	10/15/13	
Matrix Spike (A312182-MS1), Source: A3J0722-01											
Endothall	13	45	ug/L	20	ND	66	10-122			10/15/13	
EPA 549.2 - Quality Control											
Batch: A312161										Prepared: 10/14/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A312161-BLK1)											
Diquat	ND	4.0	ug/L							10/16/13	
Blank Spike (A312161-BS1)											
Diquat	3.6	4.0	ug/L	4.0		90	70-130			10/16/13	
Blank Spike Dup (A312161-BSD1)											
Diquat	3.6	4.0	ug/L	4.0		91	70-130	1	30	10/16/13	
Matrix Spike (A312161-MS1), Source: A3J1185-01											
Diquat	3.5	4.0	ug/L	4.0	ND	87	70-130			10/16/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 549.2 - Quality Control

Batch: A312161 Prepared: 10/14/2013

Prep Method: EPA 549.2 Analyst: PYA

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792009A
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron
Silica (SiO2)
Strontium
Threshold Odor

A3J0709

California American Water

Calif3295

10082013

Turnaround: Standard

Due Date: 10/22/2013

Printed: 10/8/2013 5:10:23PM

Page 1 of 1

BSK Associates
Engineers & Laboratories
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

*Required Fields

Temp: 5.4

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
RBF Consulting	Additional cc's:	PO#:	E-mail*:	

Address*: 3180 Imjin Rd. #110 City*: Marina State*: CA Zip*: 93933

Project: CALAM

Project #:

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: ____

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: ____

How would you like your completed results sent?* ☐ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH — System Number*: ____ ☐ Geotracker #: ____

Sampler Name (Printed/Signature)*:

TAT* **Surcharge
☐ Standard - 10 Business Days
☐ **Rush: Date Needed ____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX
1	H20 Samples	10/5/13			

See attached

Relinquished by: (Signature and Printed Name) Chris Selvaggio — Company: RBF — Date: 10-6 — Time: 4:30 PM — Received by: (Signature and Printed Name) — Company

Relinquished by: (Signature and Printed Name) — Company — Date — Time — Received by: (Signature and Printed Name) — Company

Received for Lab by: (Signature and Printed Name) Mike — Company: BSK — Date: 10/7/2013 — Time: 0955 — Payment Received at Delivery: Check / Cash — Date: — Amount: — PIA# — Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: ____ Custody Seal: Y / N

Cooling Method: Wet Blue None Chilling Process Begun: Y / N

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(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

A3J0709
Calif3295

Appendix G
10/08/2013
10

*Required Fields

Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water	Travis Peterson Additional cc's: Sarp Sekeroglu, RBF Consulting	Accounts Payable PO#:	(831) 646-3295/(831) 646-3269	(831) 333-1343

E-mail*: susan.jacobson@amwater.com,travis.peterson@amwater.com

Address*:	City*:	State*:	Zip*:
PO Box 951	Monterey	CA	93942-0951

Regulatory Carbon Copies
CDPH ☐ Fresno Co ☐
Merced Co ☐ Tulare Co ☐
Madera Co ☐ Other: _____

Project: Water Quality Analysis

Project #:

Reporting Options:
☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: _____

How would you like your completed results sent?*
☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance
☐ EDT to California DPH
System Number*: _____

Sampler Name (Printed/Signature)*:

TAT* **Surcharge
☒ **Standard** - 10 Business Days
☐ ****Rush**: Date Needed _____

☐ Geotracker #: _____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alkalinity, Hardness, MBAS,Color, Odor, TDS, pH, Turbidity, EC	Mass Balance-Dissolved: Cations and Anions	Dissolved Metals: Ba, B, Ca, Fe, Mg, Mn, K, Na, Sr, silica	Total Metals: Al, As, Cu, Fe, Mn, Zn	Dissolved: Bromide, Chloride, Nitrite, Fluoride, Sulfate, Orthophosphate-P	Dissolved: Ammonia, TKN, Phosphorus	Nitrate+Nitrite as N, Nitrate-NO3,	EPA 524, 504, 505, 515, 525, 531, 547, 548, 549	EXT-Tritium, EXT-Lithium, EXT-Dissolved Iodide, EXT-Dioxin
				water	Seawater salinity levels.	X	X	X	X	X	X	X	X	X
					Lab to filter dissolved metals.									
					Lab to filter Diss. Ammonia, TKN, P									
					Okay to analyze out of hold time.									

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: PIA#:	Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: _____
Cooling Method: Wet Blue None

Custody Seal: Y / N
Chilling Process Begun: Y / N

SR-FL-0012-05 Analytical Chain of Custody

BSK Associates SR-FL-0002-09

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C 5.6	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes (No) NA
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	(Yes) No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes (No) NA	Was PM notified of discrepancies? PM: By/Time:	(Yes) No NA

Bottles Received

"|" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	1
None (P) White Cap	—	—	2C, 1B, 1a
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	2B
H_2SO_4 (P) Yellow Cap	pH ≤ 2	(Y) N	1c
NaOH (P) Green Cap	Cl, pH ≥12	(Y) N	1c
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	2C, 1c, 1B
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1c
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C, 2c
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	6V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	(Y) N	2c
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	1c
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

10/8/13

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

No tests requested
Sampled 10/5 H.T. Exceeded for various analyses. G

Labeled by: PRW @ 13:46 Labels checked by G-664 @ 1406 RUSH Paged by: @

External

A3J0709

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

November 11, 2013

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3J0709
Pace Project No.: 30105811

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on October 23, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: A3J0709
Pace Project No.: 30105811

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: A3J0709
Pace Project No.: 30105811

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30105811001	**A3J0709-01**	Water	10/05/13 00:00	10/23/13 10:15

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: A3J0709
Pace Project No.: 30105811

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30105811001	**A3J0709-01**	EPA 906.0	SLA	1	PASI-PA

Pace Analytical Services, Inc.
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Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: A3J0709
Pace Project No.: 30105811

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: November 11, 2013

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: A3J0709
Pace Project No.: 30105811

Sample: A3J0709-01 **Lab ID: 30105811001** Collected: 10/05/13 00:00 Received: 10/23/13 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**47.5 ± 127 (220)**	pCi/L	10/27/13 03:05	10028-17-8	

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: A3J0709
Pace Project No.: 30105811

QC Batch: RADC/17544
QC Batch Method: EPA 906.0
Analysis Method: EPA 906.0
Analysis Description: 906.0 Tritium
Associated Lab Samples: 30105811001

METHOD BLANK: 648231
Matrix: Water
Associated Lab Samples: 30105811001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	35.3 ± 128 (222)	pCi/L	10/26/13 06:55	

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: A3J0709
Pace Project No.: 30105811

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineering & Laboratories

SUBCONTRACT ORDER

A3J0709

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): Standard
QC Deliverables: Std II III IV

3010535511

Sample ID	Samp Desc	Comments	Sample Date
A3J0709-01	Water Samples		10/05/2013 00:00

Matrix: Water

High salinity samples. Okay to run out of HT. CO1

Analysis	
EXT-Tritium	Non preserved glass container

Released By — Date — Received By — Date

BSK 10/10/13 1530/UPS

Released By — Date — Received By — Date

10-23-13

Sample Condition Upon Receipt

PAC

Pace Analytical

Client Name: BSK

Project # 30105811

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 12 93X9210357848376

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other Foam, Plastic & Ziplock Bag

Thermometer Used 5 6 7 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature N/A Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: PAC 10-23-13

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed PAC / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical

Project Number: 30105811

Client Name: BSK

Item No.	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.L)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
001	SL	1																						

SCURF Back (C016-4 15May2012).xls

QA Assessment Spreadsheet
PACE Analytical Services

Quality Control Sample Performance Assessment

Pace Analytical

Analyst:	SLA		
Date:	10/28/2013	Method:	EPA 906.0
Worklist:	17544	SOP:	PGH-R-021
Matrix:	DW	MB Sample ID:	848231

Method Blank Assessment

Analyte	Activity	1.96 Sig Unc.	MDC	Critical Value	Flag	Assessment
Tritium	35.3300	127.7800	221.9000	105.82000		

Laboratory Control Sample Assessment

	LCS	LCSD	LCS	LCSD	LCS	LCSD
Analyte:	Tritium					
Count Date:	10/27/13 5:07	10/27/13 6:08				
Spike I.D.:	10-003	10-003				
Spike Concentration (pCi/L):	2533.462	2533.462				
Volume Used (mL):	0.100	0.100				
Aliquot Volume (L, g, F):	0.100	0.100				
Target Conc. (pCi/L, g, F):	2533.462	2533.462				
1.96 Sigma Uncertainty (Calculated):	69.518	69.518				
Result (pCi/L, g, F):	2132.350	2070.459				
1.96 Sigma Unc:	226.000	219.200				
% Recovery:	84.17%	81.72%				
Assessment:	Pass	Pass				
Upper % Recovery Limits:	125.00%	125.00%				
Lower % Recovery Limits:	75.00%	75.00%				

Duplicate Sample Assessment

LCS/LCSD Y or N?:	Y
Analyte:	Tritium
Sample I.D.:	LCS17544
Duplicate Sample I.D.:	LCSD17544
Sample Result (pCi/L, g, F):	2132.3500
1.96 Sigma Unc:	226.0000
Sample Duplicate Result (pCi/L, g, F):	2070.4500
Duplicate Sample 1.96 Sigma Unc.:	219.2000
Either results below MDC?	N
Relative Percent Difference:	2.95%
Assessment:	Pass
% RPD Limit:	25.00%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC

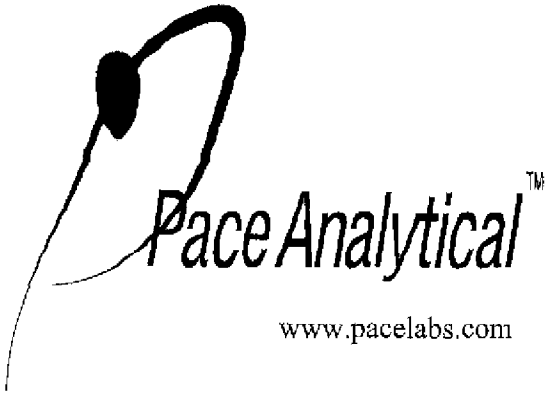
Sample Matrix Spike Control Assessment

Analyte:	Tritium	Tritium
Sample Collection Date:	10/10/2013	10/7/2013
Sample I.D.:	30105413002	30105314001
Sample MS I.D.:	30105413002MS	30105314001MS
Sample MSD I.D.:		
Spike I.D.:	10-003	10-003
MS/MSD Decay Corrected Spike Conc. (pCi/L):	2540.012	2541.196
Spike Volume Used in MS (mL):	0.20	0.20
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.1000	0.1000
MS Target Conc.(pCi/L, g, F):	5080.025	5082.393
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike uncertainty (calculated):	138.398	139.461
MSD Spike uncertainty (calculated):		
Sample Result:	-12.570	-12.560
Sample 1.96 Sigma Unc.:	124.200	124.100
Sample Matrix Spike Result:	4464.660	4757.060
Sample MS 1.96 Sigma Unc.:	297.000	309.600
Sample Matrix Spike Duplicate Result:		
Sample MSD 1.96 Sigma Unc.:		
MS % Recovery:	88.13%	94.04%
MSD % Recovery:		
MS Assessment:	Pass	Pass
MSD Assessment:		
MS/MSD Upper % Recovery Limits:	125.00%	125.00%
MS/MSD Lower % Recovery Limits:	75.00%	75.00%

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Analyte:			
Sample I.D.:			
Sample MS I.D.:			
Sample MSD I.D.:			
Sample Matrix Spike Result:			
Sample Matrix Spike 1.96 Sigma Unc.:			
Sample Matrix Spike Duplicate Result:			
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:			
MS/MSD Relative Percent Difference:			
MS/ MSD RPD Assessment:			
% RPD Limit:			

Comments:



www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Michael Ng
BSK Analytical Laboratories
1414 Stanislaus Street
Fresno CA 93706

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

Report Information:

Pace Project #: 10246204
Sample Receipt Date: 10/17/2013
Client Project #: A3J0709
Client Sub PO #: N/A
State Cert #: 01155CA

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Brittany Hansen, your Pace Project Manager.

This report has been reviewed by:

Brittany J. Hansen

October 31, 2013

Brittany Hansen, Project Manager
(612) 607-6429
(612) 607-6444 (fax)
brittany.hansen@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Mississippi	MN00064
Alaska	MN00064	Montana	92
Arizona	AZ0014	Nebraska	
Arkansas	88-0680	Nevada	MN_00064_200
California	01155CA	New Jersey (NE	MN002
Colorado	MN00064	New Mexico	MN00064
Connecticut	PH-0256	New York (NEL	11647
EPA Region 5	WD-15J	North Carolina	27700
EPA Region 8	8TMS-Q	North Dakota	R-036
Florida (NELAP	E87605	Ohio	4150
Georgia (DNR)	959	Oklahoma	D9922
Guam	959	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN300001-001
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	03086	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q

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Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3J0709

1133 10246204

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Dioxin
1700 Elm Street S.E. Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc	Comments	Sample Date
A3J0709-01	Water Samples		10/05/2013 00:00 001

Matrix: Water

Analysis ILAG0

EXT-Dioxin-DW matrix, EPA 1613 2,3,7,8-TCDD

High salinity samples. Okay to run out of HT.

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.07	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: BSK

Project #: WO#: 10246204

10246204

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7969 2819 3816

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☐ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☐ Yes ☒ No

Thermom. Used: ☐ 80512447 ☐ 72337080 ☐ B88A912167504 ☒ B88A9132521491 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 3.6 **Cooler Temp Corrected (°C):** 3.4 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** -.2 **Date and Initials of Person Examining Contents:** CB 10/17/13

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☐ No	☒ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☐ No	☒ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐ Yes	☒ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Shannon Davis **Date:** 10-17-13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical™

Pace AnalyticalServices, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID.....A3J0709-01 Water Samples
Client..... BSK Analytical Laboratories
Lab Sample ID..... 10246204001

Date Collected.....10/05/2013
Date Received.....10/17/2013
Date Extracted.....10/25/2013

	Sample A3J0709-01 Water	Method Blank	Lab Spike	Lab Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
RL	5.0 pg/L	5.0 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	91%	111%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			20.2%	
IS Recovery	**51%**	52%	53%	54%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**55%**	56%	56%	59%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	R131026A_09	R131026A_06	R131026A_04	R131026A_05
Analysis Date	10/26/2013	10/26/2013	10/26/2013	10/26/2013
Analysis Time	20:41	18:57	17:48	18:25
Analyst	BAL	BAL	BAL	BAL
Volume	0.883L	0.999L	1.004L	0.994L
Dilution	NA	NA	NA	NA
ICAL Date	07/19/2013	07/19/2013	07/19/2013	07/19/2013
CCAL Filename	R131026A_03	R131026A_03	R131026A_03	R131026A_03

! = Outside the Control Limits
ND = Not Detected
RL = Reporting Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = [illegible] of L[illegible]

Analyst: Barbara Lark

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1954

Certificate of Analysis

Report Date: 11/06/13 14:00
Received Date: 10/17/13 08:40
Turnaround Time: Normal

Project: A3J0709

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 10/17/2013 with the Chain of Custody document. The samples were received in good condition, at 1.0 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3J17013-01 **Sample ID:** A3J0709-01 **Matrix:** Water
Sampled by: Client **Sampled:** 10/05/13 00:00

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	**140**	1.4	10	ug/l	1	EPA 200.7	11/4/13	11/5/13 10:25	W3K0097	
Iodide, Dissolved	ND	21	500	ug/l	50	EPA 9056A	11/5/13	11/5/13 19:57	W3K0192	M-05, Q-14

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1957

Certificate of Analysis

Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W3K0192 - EPA 9056A

Blank (W3K0192-BLK1) — Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W3K0192-BS1) — Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		35.3		ug/l	40.0	88	85-115		

Matrix Spike (W3K0192-MS1) — Source: 3J15074-01 Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	179	368		ug/l	200	94	80-120		

Matrix Spike Dup (W3K0192-MSD1) — Source: 3J15074-01 Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	179	355		ug/l	200	88	80-120	3	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3K0097 - EPA 200.7

Blank (W3K0097-BLK1) — Prepared: 11/04/13 Analyzed: 11/05/13 10:15

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		1.70	J	ug/l					

LCS (W3K0097-BS1) — Prepared: 11/04/13 Analyzed: 11/05/13 10:18

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		988		ug/l	1000	99	85-115		

LCS Dup (W3K0097-BSD1) — Prepared: 11/04/13 Analyzed: 11/05/13 10:21

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		992		ug/l	1000	99	85-115	0.3	30

Duplicate (W3K0097-DUP1) — Source: 3J17013-01 Prepared: 11/04/13 Analyzed: 11/05/13 10:28

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	144	134		ug/l				8	30

Weck Laboratories, Inc. 14859 East Clark Avenue, City of Industry, California 91745-1218 (626) 336-2139 FAX (626) 336-2634

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

J	Estimated conc. detected <MRL and >MDL.
M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
Q-14	This analysis was requested by the client after the holding time was exceeded.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

Weck Laboratories, Inc. 14859 East Clark Avenue, City of Industry, California 91745-1340 (626) 336-2139 FAX (626) 336-2634

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Sample Receipt Acknowledgement

WORK ORDER: 3J17013
Printed: 10/18/2013 12:31:18PM

Client: BSK Analytical Laboratories
Project: Metals
Project Manager: Kim G Tu
Project Number: A3J0709

Report To:
BSK Analytical Laboratories
Michael Ng
550 West Locust Avenue
Fresno, CA 93650
Phone: (559) 497-2888
Fax: (559) 485-6935

Invoice To:
BSK Analytical Laboratories
Accounts Payable - Anise Foote
550 West Locust Avenue
Fresno, CA 93650
Phone :(559) 497-2888
Fax: (559) 485-6935

Date Due: **10/31/13 15:00 (10 day TAT)**

Received By: Lian Guang Liao
Date Received: 10/17/13 08:40
Logged In By: Jaime Gomez
Date Logged In: 10/17/13 11:00

Samples Received at:	1°C	All containers intact:	Yes	Chain of custody completed	Yes
Number of Ice chests/packages:	No	Custody seals presen		Sample labels & COC agree	Yes
Appropriate Sample Containers:		Custody seals intact:		Samples preserved properly	Yes
		Samples received on ice		Sample volume sufficient	Yes
		Custody Seals	No	Sufficient holding time for all tests	Yes

Analysis	TAT	Expires	Comments
3J17013-01 A3J0709-01 [Water] Sampled 10/05/13 00:00 Pacific			
Iodide water 9056M	10	11/02/13 00:00	
200.7 Li_diss	10	04/03/14 00:00	

Comments:

Kim Tu
Authorized Signature

10/18/2013
Date

Note:
If any of the information included in this sample receipt acknowledgement is incorrect (sample information, analysis, etc), please contact the lab at (626) 336-2139. Thank you.

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3J0709

3517013

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Weck Laboratories, Inc.
14859 E Clark Avenue
City of Industry, CA 91745-1396
Phone :(626) 336-2139
Fax: (626) 336-2634
Turnaround (Days): (Standard)
QC Deliverables: I (Stc) III IV

Sample ID	Samp Desc	Comments	Sample Date
A3J0709-01	Water Samples		10/05/2013 00:00

Matrix: Water

Analysis 500ml/pp

EXT-Iodide
EXT-Miscellaneous

High salinity samples. Okay to run out of HT.

Dissolved
Lithium

1 of 2

Released By — Date — Received By — Date

Released By — Date — Received By — Date

BSK Associates Engineers & Laboratories
Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3J0790 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/9/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Michael Ng, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	Accounts Payable
Project #:	MPWSP Exploratory Boreholes #136410	**Project PO#:**	-
Received:	10/09/2013 - 09:53		
Report Due:	10/23/2013		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 1.8

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

B2.0	Analyte present in the method blank above the method detection limit (MDL). Laboratory does not determine batch acceptance on detections below the reporting limit (RL).
BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
DL1.0	Sample required a dilution due to the matrix or high concentration of a non-target analyte.
HT1.6	Holding time exceeded. The holding time for this analysis is a recommendation and is not mandated by any state or federal agency.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
MS1.1	Matrix spike recovery exceeds upper control limit. Reported results for parent matrix may be biased high due to matrix interferences.
MS1.2	Matrix spike recovery exceeds lower control limit. Reported results for parent matrix may be biased low due to matrix interferences.
SR3.0	Surrogate recovery exceeds control limits. No material impact as spike recoveries are all within control ranges.
X.0	Sample filtered prior to analysis

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt
Sarp Sekeroglu	Final.rpt

Certificate of Analysis

Sample ID: A3J0790-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-1 Zone #2 (90-100 ft bgs)

Sample Date - Time: 10/07/13 - 18:25
Matrix: Ground Water
Sample Type: Grab

Field Data: pH=7.24 Temp=16.8 ºC Turb. =2.52 ntu

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared		Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**320**	3.0	mg/L	1	A311948	10/09/13		10/09/13	X.0
Bicarbonate as CaCO3	SM 2320 B	**320**	3.0	mg/L	1	A311948	10/09/13		10/09/13	X.0
Carbonate as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A311948	10/09/13		10/09/13	X.0
Hydroxide as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A311948	10/09/13		10/09/13	X.0
Ammonia as N	SM 4500-NH3 G	**7.5**	0.10	mg/L	1	A312388	10/17/13		10/18/13	
Bromide	EPA 300.1	**5.7**	0.10	mg/L	20	A312060	10/11/13		10/11/13	X.0
Surrogate: Dichloroacetate	EPA 300.1	108 %	*Acceptable range: 90-115 %*			*Qualifiers -*	*X.0*			
Chloride	EPA 300.0	**1600**	20	mg/L	20	A312048	10/11/13		10/11/13	X.0
Color, Apparent	SM 2120 B	**30**	1.0	CU	1	A311932	10/09/13	13:56	10/09/13	
Conductivity @ 25C	SM 2510 B	**4900**	1.0	umhos/cm	1	A311948	10/09/13		10/09/13	
Fluoride	SM 4500-F C	**0.20**	0.10	mg/L	1	A312667	10/23/13		10/23/13	
Mass Balance-Anions		**51**		meq/L						
Mass Balance-Dissolved Cations		**50**		meq/L						
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.050	mg/L	1	A311939	10/09/13	12:48	10/09/13	
Nitrate as NO3	EPA 300.0	ND	10	mg/L	10	A311979	10/09/13	18:14	10/09/13	DL1.0, X.0
Nitrite as N	EPA 300.0	ND	0.50	mg/L	10	A311979	10/09/13	18:14	10/09/13	DL1.0, X.0
Threshold Odor	SM 2150 B	**50**	1.0	T.O.N.	1	A311932	10/09/13	14:23	10/09/13	HT1.6
Orthophosphate as P	SM 4500-P E	**0.16**	0.050	mg/L	5	A311969	10/09/13	14:45	10/09/13	X.0
pH (1)	SM 4500-H+ B	**7.8**		pH Units	1	A311948	10/09/13		10/09/13	
pH Temperature in °C		**21.3**								
Phosphorus - Dissolved (1)	EPA 365.4	**0.21**	0.10	mg/L	1	A312089	10/11/13		10/16/13	
Sulfate as SO4	EPA 300.0	**21**	20	mg/L	10	A311979	10/09/13		10/09/13	X.0
Total Dissolved Solids	SM 2540C	**3200**	5.0	mg/L	1	A312067	10/11/13		10/16/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	**8.1**	1.0	mg/L	1	A312089	10/11/13		10/16/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A312125	10/14/13		10/14/13	
Turbidity	SM 2130 B	**19**	0.50	NTU	5	A311932	10/09/13	13:56	10/09/13	

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	**0.15**	0.050	mg/L	1	A312015	10/10/13	10/17/13	
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A312015	10/10/13	10/18/13	
Barium - Dissolved (1)	EPA 200.7	**0.27**	0.050	mg/L	1	A312350	10/17/13	10/18/13	
Boron - Dissolved (1)	EPA 200.7	**0.45**	0.10	mg/L	1	A312350	10/17/13	10/18/13	
Calcium	EPA 200.7	**180**	0.10	mg/L	1	A312015	10/10/13	10/17/13	
Calcium - Dissolved (1)	EPA 200.7	**180**	0.10	mg/L	1	A312350	10/17/13	10/18/13	
Copper	EPA 200.8	ND	5.0	ug/L	1	A312015	10/10/13	10/18/13	
Hardness as CaCO3	SM 2340B	**920**	0.41	mg/L					
Iron	EPA 200.7	**1.8**	0.030	mg/L	1	A312015	10/10/13	10/17/13	
Iron - Dissolved (1)	EPA 200.7	ND	0.030	mg/L	1	A312350	10/17/13	10/18/13	

Certificate of Analysis

Sample ID: A3J0790-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-1 Zone #2 (90-100 ft bgs)

Sample Date - Time: 10/07/13 - 18:25
Matrix: Ground Water
Sample Type: Grab

Field Data: pH=7.24 Temp=16.8 ºC Turb. =2.52 ntu

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Magnesium	EPA 200.7	**110**	0.10	mg/L	1	A312015	10/10/13	10/17/13	
Magnesium - Dissolved (1)	EPA 200.7	**110**	0.10	mg/L	1	A312350	10/17/13	10/18/13	
Manganese	EPA 200.7	**0.79**	0.010	mg/L	1	A312015	10/10/13	10/17/13	
Manganese - Dissolved (1)	EPA 200.7	**0.79**	0.010	mg/L	1	A312350	10/17/13	10/18/13	
Potassium - Dissolved (1)	EPA 200.7	**31**	2.0	mg/L	1	A312350	10/17/13	10/18/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**35**	0.20	mg/L	1	A312350	10/17/13	10/18/13	
Sodium - Dissolved (1)	EPA 200.7	**710**	10	mg/L	10	A312350	10/17/13	10/19/13	
Strontium - Dissolved (1)	EPA 200.8	**1600**	1.0	ug/L	1	A312350	10/17/13	10/21/13	
Zinc	EPA 200.7	ND	0.050	mg/L	1	A312015	10/10/13	10/17/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A312133	10/14/13	10/16/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A312133	10/14/13	10/16/13	
Surrogate: TCMX	EPA 504.1	79 %	*Acceptable range: 70-130 %*						
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A312133	10/14/13	10/16/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A312133	10/14/13	10/16/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A312133	10/14/13	10/16/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A312133	10/14/13	10/16/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A312133	10/14/13	10/16/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A312133	10/14/13	10/16/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A312133	10/14/13	10/16/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A312133	10/14/13	10/16/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A312133	10/14/13	10/16/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A312133	10/14/13	10/16/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A312133	10/14/13	10/16/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A312133	10/14/13	10/16/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A312133	10/14/13	10/16/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A312133	10/14/13	10/16/13	
Surrogate: TCMX	EPA 505	79 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A311994	10/09/13	10/11/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A311994	10/09/13	10/11/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A311994	10/09/13	10/11/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A311994	10/09/13	10/11/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A311994	10/09/13	10/11/13	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A311994	10/09/13	10/11/13	

Certificate of Analysis

Sample ID: A3J0790-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-1 Zone #2 (90-100 ft bgs)

Sample Date - Time: 10/07/13 - 18:25
Matrix: Ground Water
Sample Type: Grab

Field Data: pH=7.24 Temp=16.8 ºC Turb. =2.52 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A311994	10/09/13	10/11/13	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A311994	10/09/13	10/11/13	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A311994	10/09/13	10/11/13	
Surrogate: DCPAA	EPA 515.3	82 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A312121	10/14/13	10/14/13	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A312121	10/14/13	10/14/13	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A312121	10/14/13	10/14/13	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A312121	10/14/13	10/14/13	
Acetone	EPA 524.2	ND	10	ug/L	1	A312121	10/14/13	10/14/13	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	BS1.0
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	

Certificate of Analysis

Sample ID: A3J0790-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-1 Zone #2 (90-100 ft bgs)

Sample Date - Time: 10/07/13 - 18:25
Matrix: Ground Water
Sample Type: Grab

Field Data: pH=7.24 Temp=16.8 ºC Turb. =2.52 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A312121	10/14/13	10/14/13	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A312121	10/14/13	10/14/13	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A312121	10/14/13	10/14/13	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A312121	10/14/13	10/14/13	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A312121	10/14/13	10/14/13	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	95 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	99 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A312014	10/10/13	10/13/13	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A312014	10/10/13	10/13/13	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A312014	10/10/13	10/13/13	

Certificate of Analysis

Sample ID: A3J0790-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-1 Zone #2 (90-100 ft bgs)

Sample Date - Time: 10/07/13 - 18:25
Matrix: Ground Water
Sample Type: Grab

Field Data: pH=7.24 Temp=16.8 ºC Turb. =2.52 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Semi-Volatile Organics by GC-MS									
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A312014	10/10/13	10/13/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A312014	10/10/13	10/13/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A312014	10/10/13	10/13/13	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A312014	10/10/13	10/13/13	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A312014	10/10/13	10/13/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A312014	10/10/13	10/13/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A312014	10/10/13	10/13/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A312014	10/10/13	10/13/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A312014	10/10/13	10/13/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A312014	10/10/13	10/13/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A312014	10/10/13	10/13/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A312014	10/10/13	10/13/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	108 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A312119	10/12/13	10/12/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A312119	10/12/13	10/12/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A312119	10/12/13	10/12/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A312119	10/12/13	10/12/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A312119	10/12/13	10/12/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A312119	10/12/13	10/12/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A312119	10/12/13	10/12/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A312119	10/12/13	10/12/13	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A312197	10/15/13	10/15/13	
Surrogate: AMPA	EPA 547	103 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A312182	10/14/13	10/15/13	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A312161	10/14/13	10/16/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A311979										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: EMH	
Blank (A311979-BLK1)											
Nitrate as NO3	ND	1.0	mg/L							10/09/13	
Nitrite as N	ND	0.050	mg/L							10/09/13	
Sulfate as SO4	ND	2.0	mg/L							10/09/13	
Blank Spike (A311979-BS1)											
Nitrate as NO3	50	1.0	mg/L	50		101	90-110			10/09/13	
Nitrite as N	0.55	0.050	mg/L	0.50		110	90-110			10/09/13	
Sulfate as SO4	50	2.0	mg/L	50		101	90-110			10/09/13	
Blank Spike Dup (A311979-BSD1)											
Nitrate as NO3	50	1.0	mg/L	50		100	90-110	0	20	10/09/13	
Nitrite as N	0.55	0.050	mg/L	0.50		110	90-110	0	20	10/09/13	
Sulfate as SO4	50	2.0	mg/L	50		101	90-110	0	20	10/09/13	
Matrix Spike (A311979-MS1), Source: A3J0776-01											
Nitrate as NO3	120	2.0	mg/L	100	20	104	80-120			10/09/13	
Nitrite as N	1.1	0.10	mg/L	1.0	ND	106	80-120			10/09/13	
Sulfate as SO4	110	4.0	mg/L	100	10	104	80-120			10/09/13	
Matrix Spike (A311979-MS2), Source: A3J0776-02											
Nitrate as NO3	130	2.0	mg/L	100	26	100	80-120			10/09/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	103	80-120			10/09/13	
Sulfate as SO4	110	4.0	mg/L	100	11	101	80-120			10/09/13	
Matrix Spike Dup (A311979-MSD1), Source: A3J0776-01											
Nitrate as NO3	130	2.0	mg/L	100	20	106	80-120	2	20	10/09/13	
Nitrite as N	1.1	0.10	mg/L	1.0	ND	110	80-120	4	20	10/09/13	
Sulfate as SO4	120	4.0	mg/L	100	10	106	80-120	2	20	10/09/13	
Matrix Spike Dup (A311979-MSD2), Source: A3J0776-02											
Nitrate as NO3	130	2.0	mg/L	100	26	104	80-120	3	20	10/09/13	
Nitrite as N	1.1	0.10	mg/L	1.0	ND	107	80-120	4	20	10/09/13	
Sulfate as SO4	120	4.0	mg/L	100	11	104	80-120	3	20	10/09/13	
EPA 300.0 - Quality Control											
Batch: A312048										Prepared: 10/10/2013	
Prep Method: Method Specific Preparation										Analyst: EMH	
Blank (A312048-BLK1)											
Chloride	ND	1.0	mg/L							10/10/13	
Blank Spike (A312048-BS1)											
Chloride	51	1.0	mg/L	50		102	90-110			10/10/13	
Blank Spike Dup (A312048-BSD1)											
Chloride	51	1.0	mg/L	50		102	90-110	0	20	10/10/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A312048										Prepared: 10/10/2013	
Prep Method: Method Specific Preparation										Analyst: EMH	
Matrix Spike (A312048-MS1), Source: A3J0932-02											
Chloride	110	2.0	mg/L	100	9.4	100	80-120			10/10/13	
Matrix Spike (A312048-MS2), Source: A3J0645-06											
Chloride	190	2.0	mg/L	100	90	101	80-120			10/11/13	
Matrix Spike Dup (A312048-MSD1), Source: A3J0932-02											
Chloride	110	2.0	mg/L	100	9.4	100	80-120	1	20	10/11/13	
Matrix Spike Dup (A312048-MSD2), Source: A3J0645-06											
Chloride	190	2.0	mg/L	100	90	102	80-120	1	20	10/11/13	
EPA 300.1 - Quality Control											
Batch: A312060										Prepared: 10/11/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A312060-BLK1)											
Bromide	ND	0.0050	mg/L							10/11/13	
Surrogate: Dichloroacetate	*0.555*			*0.50*		*111*	*90-115*			10/11/13	
Blank Spike (A312060-BS1)											
Bromide	0.21	0.0050	mg/L	0.20		103	85-115			10/11/13	
Surrogate: Dichloroacetate	*0.555*			*0.50*		*111*	*90-115*			10/11/13	
Blank Spike Dup (A312060-BSD1)											
Bromide	0.20	0.0050	mg/L	0.20		100	85-115	2	10	10/11/13	
Surrogate: Dichloroacetate	*0.554*			*0.50*		*111*	*90-115*			10/11/13	
Matrix Spike (A312060-MS1), Source: A3J0905-01											
Bromide	0.50	0.020	mg/L	0.40	0.064	108	75-125			10/11/13	
Surrogate: Dichloroacetate	*2.32*			*2.0*		*116*	*90-115*			10/11/13	*SR3.0*
Matrix Spike Dup (A312060-MSD1), Source: A3J0905-01											
Bromide	0.47	0.020	mg/L	0.40	0.064	101	75-125	6	10	10/11/13	
Surrogate: Dichloroacetate	*2.22*			*2.0*		*111*	*90-115*			10/11/13	
EPA 351.2 - Quality Control											
Batch: A312089										Prepared: 10/11/2013	
Prep Method: Digestion										Analyst: LJL	
Blank (A312089-BLK1)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							10/16/13	
Blank Spike (A312089-BS1)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		103	90-110			10/16/13	
Blank Spike Dup (A312089-BSD1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 351.2 - Quality Control											
Batch: A312089										Prepared: 10/11/2013	
Prep Method: Digestion										Analyst: LJL	
Blank Spike Dup (A312089-BSD1)											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10		106	90-110	2	10	10/16/13	
Matrix Spike (A312089-MS1), Source: A3J0687-08											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	111	90-110			10/16/13	MS1.0 ***High***
Matrix Spike (A312089-MS2), Source: A3J0782-04											
Total Kjeldahl Nitrogen - Dissolved (1)	14	1.0	mg/L	10	ND	138	90-110			10/16/13	MS1.0 ***High***
Matrix Spike Dup (A312089-MSD1), Source: A3J0687-08											
Total Kjeldahl Nitrogen - Dissolved (1)	9.5	1.0	mg/L	10	ND	95	90-110	15	10	10/16/13	MS1.0
Matrix Spike Dup (A312089-MSD2), Source: A3J0782-04											
Total Kjeldahl Nitrogen - Dissolved (1)	13	1.0	mg/L	10	ND	130	90-110	6	10	10/16/13	MS1.0 ***High***
EPA 365.4 - Quality Control											
Batch: A312089										Prepared: 10/11/2013	
Prep Method: Digestion										Analyst: LJL	
Blank (A312089-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							10/16/13	
Blank Spike (A312089-BS1)											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10		94	90-110			10/16/13	
Blank Spike Dup (A312089-BSD1)											
Phosphorus - Dissolved (1)	9.1	0.10	mg/L	10		91	90-110	3	10	10/16/13	
Matrix Spike (A312089-MS1), Source: A3J0687-08											
Phosphorus - Dissolved (1)	9.3	0.10	mg/L	10	0.16	92	90-110			10/16/13	
Matrix Spike (A312089-MS2), Source: A3J0782-04											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10	0.11	100	90-110			10/16/13	
Matrix Spike Dup (A312089-MSD1), Source: A3J0687-08											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10	0.16	92	90-110	1	10	10/16/13	
Matrix Spike Dup (A312089-MSD2), Source: A3J0782-04											
Phosphorus - Dissolved (1)	9.7	0.10	mg/L	10	0.11	96	90-110	4	10	10/16/13	
SM 2120 B - Quality Control											
Batch: A311932										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311932-BLK1)											
Color, Apparent	ND	1.0	CU							10/09/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2120 B - Quality Control											
Batch: A311932										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Duplicate (A311932-DUP1), Source: A3J0722-01											
Color, Apparent	35	1.0	CU		35			0	20	10/09/13	
Duplicate (A311932-DUP2), Source: A3J0851-02											
Color, Apparent	40	1.0	CU		40			0	20	10/09/13	
SM 2130 B - Quality Control											
Batch: A311932										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311932-BLK1)											
Turbidity	ND	0.10	NTU							10/09/13	
Duplicate (A311932-DUP1), Source: A3J0722-01											
Turbidity	2.6	0.10	NTU		2.5			3	20	10/09/13	
Duplicate (A311932-DUP2), Source: A3J0851-02											
Turbidity	9.6	0.20	NTU		9.7			1	20	10/09/13	
SM 2150 B - Quality Control											
Batch: A311932										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311932-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							10/09/13	
Duplicate (A311932-DUP1), Source: A3J0722-01											
Threshold Odor	4.0	1.0	T.O.N.		4.0			0	20	10/09/13	
Duplicate (A311932-DUP2), Source: A3J0851-02											
Threshold Odor	10	1.0	T.O.N.		10			0	20	10/09/13	
SM 2320 B - Quality Control											
Batch: A311948										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A311948-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							10/09/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							10/09/13	
Carbonate as CaCO3	ND	3.0	mg/L							10/09/13	
Hydroxide as CaCO3	ND	3.0	mg/L							10/09/13	
Blank Spike (A311948-BS1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		103	80-120			10/09/13	
Blank Spike Dup (A311948-BSD1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		103	80-120	0	20	10/09/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2320 B - Quality Control											
Batch: A311948										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A311948-DUP1), Source: A3J0790-01											
Alkalinity as CaCO3	320	3.0	mg/L		320			0	10	10/09/13	
Bicarbonate as CaCO3	320	3.0	mg/L		320			0	10	10/09/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	10/09/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	10/09/13	
Duplicate (A311948-DUP2), Source: A3J0851-02											
Alkalinity as CaCO3	15	3.0	mg/L		15			0	10	10/09/13	
Bicarbonate as CaCO3	15	3.0	mg/L		15			0	10	10/09/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	10/09/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	10/09/13	
SM 2510 B - Quality Control											
Batch: A311948										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A311948-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							10/09/13	
Duplicate (A311948-DUP1), Source: A3J0790-01											
Conductivity @ 25C	4800	1.0	umhos/cm		4900			0	20	10/09/13	
Duplicate (A311948-DUP2), Source: A3J0851-02											
Conductivity @ 25C	45	1.0	umhos/cm		45			0	20	10/09/13	
SM 2540C - Quality Control											
Batch: A312067										Prepared: 10/11/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A312067-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							10/16/13	
Blank Spike (A312067-BS1)											
Total Dissolved Solids	1000	5.0	mg/L	1000		100	70-130			10/16/13	
SM 4500-F C - Quality Control											
Batch: A312667										Prepared: 10/23/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A312667-BLK1)											
Fluoride	ND	0.10	mg/L							10/23/13	
Blank Spike (A312667-BS1)											
Fluoride	1.0	0.10	mg/L	1.0		100	90-110			10/23/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-F C - Quality Control											
Batch: A312667										Prepared: 10/23/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank Spike Dup (A312667-BSD1)											
Fluoride	1.0	0.10	mg/L	1.0		101	90-110	1	20	10/23/13	
Matrix Spike (A312667-MS1), Source: A3J1329-01											
Fluoride	1.1	0.10	mg/L	1.0	ND	100	80-120			10/23/13	
Matrix Spike Dup (A312667-MSD1), Source: A3J1329-01											
Fluoride	1.1	0.10	mg/L	1.0	ND	100	80-120	0	20	10/23/13	
SM 4500-H+ B - Quality Control											
Batch: A311948										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A311948-DUP1), Source: A3J0790-01											
pH (1)	7.8		pH Units		7.8			0	20	10/09/13	
Duplicate (A311948-DUP2), Source: A3J0851-02											
pH (1)	6.9		pH Units		6.9			0	20	10/09/13	
SM 4500-NH3 G - Quality Control											
Batch: A312388										Prepared: 10/17/2013	
Prep Method: Ammonia Distillation										Analyst: LJL	
Blank (A312388-BLK1)											
Ammonia as N	ND	0.10	mg/L							10/18/13	B2.0
Blank Spike (A312388-BS1)											
Ammonia as N	10	0.10	mg/L	10		100	80-120			10/18/13	
Blank Spike Dup (A312388-BSD1)											
Ammonia as N	10	0.10	mg/L	10		101	80-120	1	20	10/18/13	
Matrix Spike (A312388-MS1), Source: A3J0794-01											
Ammonia as N	9.9	0.10	mg/L	10	0.22	97	80-120			10/18/13	
Matrix Spike (A312388-MS2), Source: A3J0828-02											
Ammonia as N	49	0.50	mg/L	10	38	112	80-120			10/18/13	
Matrix Spike Dup (A312388-MSD1), Source: A3J0794-01											
Ammonia as N	9.8	0.10	mg/L	10	0.22	96	80-120	2	20	10/18/13	
Matrix Spike Dup (A312388-MSD2), Source: A3J0828-02											
Ammonia as N	46	0.50	mg/L	10	38	82	80-120	6	20	10/18/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NO3 F - Quality Control											
Batch: A312125										Prepared: 10/14/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A312125-BLK2)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							10/14/13	
Blank Spike (A312125-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.8	0.10	mg/L	10		98	80-120			10/14/13	
Blank Spike Dup (A312125-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		101	80-120	2	20	10/14/13	
Matrix Spike (A312125-MS2), Source: A3J0790-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	8.8	0.10	mg/L	10	ND	88	80-120			10/14/13	
Matrix Spike Dup (A312125-MSD2), Source: A3J0790-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.1	0.10	mg/L	10	ND	91	80-120	3	20	10/14/13	
SM 4500-P E - Quality Control											
Batch: A311969										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A311969-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							10/09/13	
Blank Spike (A311969-BS1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		100	90-110			10/09/13	
Blank Spike Dup (A311969-BSD1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		102	90-110	1	20	10/09/13	
Matrix Spike (A311969-MS1), Source: A3J0790-01											
Orthophosphate as P	1.4	0.050	mg/L	1.2	0.16	98	80-120			10/09/13	
Matrix Spike Dup (A311969-MSD1), Source: A3J0790-01											
Orthophosphate as P	1.4	0.050	mg/L	1.2	0.16	99	80-120	1	20	10/09/13	
SM 5540 C - Quality Control											
Batch: A311939										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311939-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							10/09/13	
Blank Spike (A311939-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.94	0.050	mg/L	1.0		94	80-120			10/09/13	
Blank Spike Dup (A311939-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.95	0.050	mg/L	1.0		95	80-120	2	20	10/09/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 5540 C - Quality Control											
Batch: A311939										Prepared: 10/9/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Matrix Spike (A311939-MS1), Source: A3J0748-01											
MBAS, Calculated as LAS, mol wt 340	0.80	0.050	mg/L	1.0	ND	79	80-120			10/09/13	MS1.0 ***Low***
Matrix Spike (A311939-MS2), Source: A3J0790-01											
MBAS, Calculated as LAS, mol wt 340	0.99	0.050	mg/L	1.0	ND	98	80-120			10/09/13	
Matrix Spike Dup (A311939-MSD1), Source: A3J0748-01											
MBAS, Calculated as LAS, mol wt 340	0.83	0.050	mg/L	1.0	ND	82	80-120	4	20	10/09/13	
Matrix Spike Dup (A311939-MSD2), Source: A3J0790-01											
MBAS, Calculated as LAS, mol wt 340	0.99	0.050	mg/L	1.0	ND	98	80-120	0	20	10/09/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A312015										Prepared: 10/10/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A312015-BLK2)											
Aluminum	ND	0.050	mg/L							10/17/13	
Calcium	ND	0.10	mg/L							10/17/13	
Iron	ND	0.030	mg/L							10/17/13	
Magnesium	ND	0.10	mg/L							10/17/13	
Manganese	ND	0.010	mg/L							10/17/13	
Zinc	ND	0.050	mg/L							10/17/13	
Blank Spike (A312015-BS2)											
Aluminum	0.20	0.050	mg/L	0.20		100	85-115			10/17/13	
Calcium	10	0.10	mg/L	10		101	85-115			10/17/13	
Iron	2.0	0.030	mg/L	2.0		101	85-115			10/17/13	
Magnesium	9.9	0.10	mg/L	10		99	85-115			10/17/13	
Manganese	0.20	0.010	mg/L	0.20		100	85-115			10/17/13	
Zinc	0.20	0.050	mg/L	0.20		102	85-115			10/17/13	
Blank Spike Dup (A312015-BSD2)											
Aluminum	0.21	0.050	mg/L	0.20		103	85-115	3	20	10/17/13	
Calcium	10	0.10	mg/L	10		101	85-115	0	20	10/17/13	
Iron	2.0	0.030	mg/L	2.0		101	85-115	0	20	10/17/13	
Magnesium	9.9	0.10	mg/L	10		99	85-115	0	20	10/17/13	
Manganese	0.20	0.010	mg/L	0.20		100	85-115	0	20	10/17/13	
Zinc	0.20	0.050	mg/L	0.20		102	85-115	0	20	10/17/13	
Matrix Spike (A312015-MS3), Source: A3J0790-01											
Aluminum	0.41	0.050	mg/L	0.20	0.15	130	70-130			10/17/13	
Calcium	190	0.10	mg/L	10	180	109	70-130			10/17/13	
Iron	3.9	0.030	mg/L	2.0	1.8	104	70-130			10/17/13	
Magnesium	120	0.10	mg/L	10	110	104	70-130			10/17/13	
Manganese	0.99	0.010	mg/L	0.20	0.79	98	70-130			10/17/13	
Zinc	0.21	0.050	mg/L	0.20	ND	106	70-130			10/17/13	
Matrix Spike (A312015-MS4), Source: A3J0794-07											
Aluminum	0.20	0.050	mg/L	0.20	ND	101	70-130			10/17/13	
Calcium	150	0.10	mg/L	10	140	110	70-130			10/17/13	
Iron	2.0	0.030	mg/L	2.0	ND	101	70-130			10/17/13	
Magnesium	27	0.10	mg/L	10	17	98	70-130			10/17/13	
Manganese	0.20	0.010	mg/L	0.20	ND	99	70-130			10/17/13	
Zinc	0.20	0.050	mg/L	0.20	ND	98	70-130			10/17/13	
Matrix Spike Dup (A312015-MSD3), Source: A3J0790-01											
Aluminum	0.42	0.050	mg/L	0.20	0.15	133	70-130	1	20	10/17/13	MS1.1 ***High***
Calcium	190	0.10	mg/L	10	180	71	70-130	2	20	10/17/13	
Iron	3.8	0.030	mg/L	2.0	1.8	99	70-130	3	20	10/17/13	
Magnesium	120	0.10	mg/L	10	110	82	70-130	2	20	10/17/13	
Manganese	0.97	0.010	mg/L	0.20	0.79	89	70-130	2	20	10/17/13	
Zinc	0.21	0.050	mg/L	0.20	ND	104	70-130	2	20	10/17/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A312015										Prepared: 10/10/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Matrix Spike Dup (A312015-MSD4), Source: A3J0794-07											
Aluminum	0.20	0.050	mg/L	0.20	ND	99	70-130	3	20	10/17/13	
Calcium	150	0.10	mg/L	10	140	106	70-130	0	20	10/17/13	
Iron	2.0	0.030	mg/L	2.0	ND	101	70-130	1	20	10/17/13	
Magnesium	27	0.10	mg/L	10	17	98	70-130	0	20	10/17/13	
Manganese	0.20	0.010	mg/L	0.20	ND	100	70-130	0	20	10/17/13	
Zinc	0.20	0.050	mg/L	0.20	ND	98	70-130	0	20	10/17/13	
EPA 200.7 - Quality Control											
Batch: A312350										Prepared: 10/17/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A312350-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							10/18/13	
Boron - Dissolved (1)	ND	0.10	mg/L							10/18/13	
Calcium - Dissolved (1)	ND	0.10	mg/L							10/18/13	
Iron - Dissolved (1)	ND	0.030	mg/L							10/18/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							10/18/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							10/18/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							10/18/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							10/18/13	
Sodium - Dissolved (1)	ND	1.0	mg/L							10/18/13	
Blank Spike (A312350-BS2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115			10/18/13	
Boron - Dissolved (1)	0.59	0.10	mg/L	0.60		99	85-115			10/18/13	
Calcium - Dissolved (1)	9.9	0.10	mg/L	10		99	85-115			10/18/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		101	85-115			10/18/13	
Magnesium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115			10/18/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		98	85-115			10/18/13	
Potassium - Dissolved (1)	9.9	2.0	mg/L	10		99	85-115			10/18/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		104	85-115			10/18/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		101	85-115			10/18/13	
Blank Spike Dup (A312350-BSD2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115	1	20	10/18/13	
Boron - Dissolved (1)	0.60	0.10	mg/L	0.60		100	85-115	1	20	10/18/13	
Calcium - Dissolved (1)	9.9	0.10	mg/L	10		99	85-115	0	20	10/18/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		101	85-115	0	20	10/18/13	
Magnesium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115	0	20	10/18/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		98	85-115	0	20	10/18/13	
Potassium - Dissolved (1)	9.8	2.0	mg/L	10		98	85-115	1	20	10/18/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		104	85-115	1	20	10/18/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		100	85-115	1	20	10/18/13	
Matrix Spike (A312350-MS3), Source: A3J0909-02											
Barium - Dissolved (1)	0.61	0.050	mg/L	0.20	0.44	87	70-130			10/18/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A312350										Prepared: 10/17/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Matrix Spike (A312350-MS3), Source: A3J0909-02											
Boron - Dissolved (1)	0.62	0.10	mg/L	0.60	ND	103	70-130			10/18/13	
Calcium - Dissolved (1)	74	0.10	mg/L	10	66	75	70-130			10/18/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	ND	99	70-130			10/18/13	
Magnesium - Dissolved (1)	36	0.10	mg/L	10	27	89	70-130			10/18/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	96	70-130			10/18/13	
Potassium - Dissolved (1)	13	2.0	mg/L	10	3.8	95	70-130			10/18/13	
Silica (SiO2) - Dissolved (1)	57	0.20	mg/L	2.1	57	15	70-130			10/18/13	MS1.2 ***Low***
Sodium - Dissolved (1)	49	1.0	mg/L	10	40	94	70-130			10/18/13	
Matrix Spike (A312350-MS4), Source: A3J1148-01											
Barium - Dissolved (1)	0.23	0.050	mg/L	0.20	ND	96	70-130			10/18/13	
Boron - Dissolved (1)	0.62	0.10	mg/L	0.60	ND	104	70-130			10/18/13	
Calcium - Dissolved (1)	73	0.10	mg/L	10	65	76	70-130			10/18/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	ND	98	70-130			10/18/13	
Magnesium - Dissolved (1)	20	0.10	mg/L	10	10	93	70-130			10/18/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	95	70-130			10/18/13	
Potassium - Dissolved (1)	13	2.0	mg/L	10	3.3	94	70-130			10/18/13	
Silica (SiO2) - Dissolved (1)	37	0.20	mg/L	2.1	35	68	70-130			10/18/13	MS1.2 ***Low***
Sodium - Dissolved (1)	54	1.0	mg/L	10	45	88	70-130			10/18/13	
Matrix Spike Dup (A312350-MSD3), Source: A3J0909-02											
Barium - Dissolved (1)	0.63	0.050	mg/L	0.20	0.44	95	70-130	2	20	10/18/13	
Boron - Dissolved (1)	0.61	0.10	mg/L	0.60	ND	102	70-130	1	20	10/18/13	
Calcium - Dissolved (1)	75	0.10	mg/L	10	66	86	70-130	2	20	10/18/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	ND	98	70-130	1	20	10/18/13	
Magnesium - Dissolved (1)	36	0.10	mg/L	10	27	95	70-130	1	20	10/18/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	95	70-130	1	20	10/18/13	
Potassium - Dissolved (1)	13	2.0	mg/L	10	3.8	96	70-130	1	20	10/18/13	
Silica (SiO2) - Dissolved (1)	59	0.20	mg/L	2.1	57	75	70-130	2	20	10/18/13	
Sodium - Dissolved (1)	49	1.0	mg/L	10	40	95	70-130	0	20	10/18/13	
Matrix Spike Dup (A312350-MSD4), Source: A3J1148-01											
Barium - Dissolved (1)	0.23	0.050	mg/L	0.20	ND	99	70-130	3	20	10/18/13	
Boron - Dissolved (1)	0.64	0.10	mg/L	0.60	ND	107	70-130	3	20	10/18/13	
Calcium - Dissolved (1)	75	0.10	mg/L	10	65	100	70-130	3	20	10/18/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	ND	100	70-130	2	20	10/18/13	
Magnesium - Dissolved (1)	20	0.10	mg/L	10	10	97	70-130	2	20	10/18/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	97	70-130	2	20	10/18/13	
Potassium - Dissolved (1)	13	2.0	mg/L	10	3.3	97	70-130	3	20	10/18/13	
Silica (SiO2) - Dissolved (1)	38	0.20	mg/L	2.1	35	123	70-130	3	20	10/18/13	
Sodium - Dissolved (1)	55	1.0	mg/L	10	45	101	70-130	2	20	10/18/13	
EPA 200.8 - Quality Control											
Batch: A312015										Prepared: 10/10/2013	
Prep Method: EPA 200.2										Analyst: MAS	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A312015										Prepared: 10/10/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Blank (A312015-BLK1)											
Arsenic	ND	2.0	ug/L							10/18/13	
Copper	ND	5.0	ug/L							10/18/13	
Blank Spike (A312015-BS1)											
Arsenic	200	2.0	ug/L	200		100	85-115			10/18/13	
Copper	200	5.0	ug/L	200		98	85-115			10/18/13	
Blank Spike Dup (A312015-BSD1)											
Arsenic	200	2.0	ug/L	200		100	85-115	0	20	10/18/13	
Copper	200	5.0	ug/L	200		98	85-115	0	20	10/18/13	
Matrix Spike (A312015-MS1), Source: A3J0790-01											
Arsenic	200	2.0	ug/L	200	ND	99	70-130			10/18/13	
Copper	180	5.0	ug/L	200	ND	89	70-130			10/18/13	
Matrix Spike (A312015-MS2), Source: A3J0794-07											
Arsenic	200	2.0	ug/L	200	ND	101	70-130			10/18/13	
Copper	180	5.0	ug/L	200	ND	91	70-130			10/18/13	
Matrix Spike Dup (A312015-MSD1), Source: A3J0790-01											
Arsenic	190	2.0	ug/L	200	ND	97	70-130	2	20	10/18/13	
Copper	180	5.0	ug/L	200	ND	87	70-130	3	20	10/18/13	
Matrix Spike Dup (A312015-MSD2), Source: A3J0794-07											
Arsenic	210	2.0	ug/L	200	ND	102	70-130	2	20	10/18/13	
Copper	190	5.0	ug/L	200	ND	95	70-130	4	20	10/18/13	
EPA 200.8 - Quality Control											
Batch: A312350										Prepared: 10/17/2013	
Prep Method: Filtration - Metals										Analyst: MAS	
Blank (A312350-BLK1)											
Strontium - Dissolved (1)	ND	1.0	ug/L							10/21/13	
Blank Spike (A312350-BS1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		102	85-115			10/21/13	
Blank Spike Dup (A312350-BSD1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		102	85-115	1	20	10/21/13	
Matrix Spike (A312350-MS1), Source: A3J0909-02											
Strontium - Dissolved (1)	1000	1.0	ug/L	200	850	89	70-130			10/21/13	
Matrix Spike (A312350-MS2), Source: A3J1148-01											
Strontium - Dissolved (1)	730	1.0	ug/L	200	530	100	70-130			10/21/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A312350										Prepared: 10/17/2013	
Prep Method: Filtration - Metals										Analyst: MAS	
Matrix Spike Dup (A312350-MSD1), Source: A3J0909-02											
Strontium - Dissolved (1)	1000	1.0	ug/L	200	850	91	70-130	0	20	10/21/13	
Matrix Spike Dup (A312350-MSD2), Source: A3J1148-01											
Strontium - Dissolved (1)	740	1.0	ug/L	200	530	105	70-130	1	20	10/21/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A312133										Prepared: 10/14/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A312133-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							10/16/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							10/16/13	
Surrogate: TCMX	*1.3*			*1.5*		*85*	*70-130*			10/16/13	
Blank Spike (A312133-BS1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		103	70-130			10/16/13	
Ethylene Dibromide (EDB)	0.37	0.020	ug/L	0.40		93	70-130			10/16/13	
Surrogate: TCMX	*1.2*			*1.5*		*81*	*70-130*			10/16/13	
Blank Spike Dup (A312133-BSD1)											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20		100	70-130	3	20	10/16/13	
Ethylene Dibromide (EDB)	0.37	0.020	ug/L	0.40		92	70-130	1	20	10/16/13	
Surrogate: TCMX	*1.1*			*1.5*		*75*	*70-130*			10/16/13	
Matrix Spike (A312133-MS1), Source: A3J1076-01											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20	ND	99	65-135			10/16/13	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20	ND	104	65-135			10/16/13	
Surrogate: TCMX	*1.3*			*1.5*		*85*	*70-130*			10/16/13	
Matrix Spike Dup (A312133-MSD1), Source: A3J1076-01											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20	ND	100	65-135	1	20	10/16/13	
Ethylene Dibromide (EDB)	0.20	0.020	ug/L	0.20	ND	101	65-135	3	20	10/16/13	
Surrogate: TCMX	*1.2*			*1.5*		*81*	*70-130*			10/16/13	
EPA 505 - Quality Control											
Batch: A312133										Prepared: 10/14/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A312133-BLK1)											
Aldrin	ND	0.075	ug/L							10/17/13	
Chlordane	ND	0.10	ug/L							10/17/13	
Chlorothalonil	ND	5.0	ug/L							10/17/13	
Dieldrin	ND	0.020	ug/L							10/17/13	
Endrin	ND	0.10	ug/L							10/17/13	
Heptachlor	ND	0.010	ug/L							10/17/13	
Heptachlor Epoxide	ND	0.010	ug/L							10/17/13	
Hexachlorobenzene	ND	0.50	ug/L							10/17/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							10/17/13	
Lindane	ND	0.20	ug/L							10/17/13	
Methoxychlor	ND	10	ug/L							10/17/13	
PCB Aroclor Screen	ND	0.50	ug/L							10/17/13	
Toxaphene	ND	1.0	ug/L							10/17/13	
Trifluralin	ND	1.0	ug/L							10/17/13	
Surrogate: TCMX	*1.5*			*1.5*		*98*	*70-130*			10/17/13	
Blank Spike (A312133-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A312133										Prepared: 10/14/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A312133-BS1)											
Aldrin	0.92	0.075	ug/L	1.0		92	70-130			10/16/13	
Chlorothalonil	10	5.0	ug/L	10		103	70-130			10/16/13	
Dieldrin	0.42	0.020	ug/L	0.40		105	70-130			10/16/13	
Endrin	0.99	0.10	ug/L	1.0		99	70-130			10/16/13	
Heptachlor	0.19	0.010	ug/L	0.20		93	70-130			10/16/13	
Heptachlor Epoxide	0.21	0.010	ug/L	0.20		103	70-130			10/16/13	
Hexachlorobenzene	1.9	0.50	ug/L	2.0		97	70-130			10/16/13	
Hexachlorocyclopentadiene	1.6	1.0	ug/L	2.0		78	70-130			10/16/13	
Lindane	1.0	0.20	ug/L	1.0		103	70-130			10/16/13	
Methoxychlor	1.9	10	ug/L	2.0		97	70-130			10/16/13	
Trifluralin	1.9	1.0	ug/L	2.0		97	70-130			10/16/13	
Surrogate: TCMX	*1.2*			*1.5*		*81*	*70-130*			10/16/13	
Blank Spike Dup (A312133-BSD1)											
Aldrin	0.88	0.075	ug/L	1.0		88	70-130	4	20	10/16/13	
Chlorothalonil	10	5.0	ug/L	10		100	70-130	3	20	10/16/13	
Dieldrin	0.40	0.020	ug/L	0.40		100	70-130	5	20	10/16/13	
Endrin	0.93	0.10	ug/L	1.0		93	70-130	6	20	10/16/13	
Heptachlor	0.19	0.010	ug/L	0.20		93	70-130	0	20	10/16/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20		98	70-130	5	20	10/16/13	
Hexachlorobenzene	1.9	0.50	ug/L	2.0		93	70-130	5	20	10/16/13	
Hexachlorocyclopentadiene	1.5	1.0	ug/L	2.0		73	70-130	6	20	10/16/13	
Lindane	0.98	0.20	ug/L	1.0		98	70-130	4	20	10/16/13	
Methoxychlor	1.8	10	ug/L	2.0		92	70-130	5	20	10/16/13	
Trifluralin	1.9	1.0	ug/L	2.0		96	70-130	2	20	10/16/13	
Surrogate: TCMX	*1.1*			*1.5*		*75*	*70-130*			10/16/13	
Matrix Spike (A312133-MS1), Source: A3J1076-01											
Aldrin	1.0	0.075	ug/L	1.0	ND	102	65-135			10/16/13	
Chlorothalonil	10	5.0	ug/L	10	ND	100	65-135			10/16/13	
Dieldrin	0.41	0.020	ug/L	0.40	ND	101	65-135			10/16/13	
Endrin	0.22	0.10	ug/L	0.20	ND	107	65-135			10/16/13	
Heptachlor	0.19	0.010	ug/L	0.20	ND	96	65-135			10/16/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	98	65-135			10/16/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	102	65-135			10/16/13	
Hexachlorocyclopentadiene	1.7	1.0	ug/L	2.0	ND	83	65-135			10/16/13	
Lindane	0.42	0.20	ug/L	0.40	ND	104	65-135			10/16/13	
Methoxychlor	1.9	10	ug/L	2.0	ND	93	65-135			10/16/13	
Trifluralin	2.1	1.0	ug/L	2.0	ND	102	65-135			10/16/13	
Surrogate: TCMX	*1.3*			*1.5*		*85*	*70-130*			10/16/13	
Matrix Spike Dup (A312133-MSD1), Source: A3J1076-01											
Aldrin	1.0	0.075	ug/L	1.0	ND	100	65-135	1	20	10/16/13	
Chlorothalonil	10	5.0	ug/L	10	ND	100	65-135	1	20	10/16/13	
Dieldrin	0.41	0.020	ug/L	0.41	ND	101	65-135	1	20	10/16/13	
Endrin	0.20	0.10	ug/L	0.20	ND	101	65-135	6	20	10/16/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A312133										Prepared: 10/14/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A312133-MSD1), Source: A3J1076-01											
Heptachlor	0.20	0.010	ug/L	0.20	ND	96	65-135	1	20	10/16/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	98	65-135	0	20	10/16/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	101	65-135	1	20	10/16/13	
Hexachlorocyclopentadiene	1.6	1.0	ug/L	2.0	ND	77	65-135	6	20	10/16/13	
Lindane	0.43	0.20	ug/L	0.41	ND	105	65-135	1	20	10/16/13	
Methoxychlor	2.0	10	ug/L	2.0	ND	101	65-135	8	20	10/16/13	
Trifluralin	2.0	1.0	ug/L	2.0	ND	101	65-135	1	20	10/16/13	
Surrogate: TCMX	*1.2*			*1.5*		*81*	*70-130*			10/16/13	
EPA 515.3 - Quality Control											
Batch: A311994										Prepared: 10/9/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A311994-BLK1)											
2,4,5-T	ND	1.0	ug/L							10/11/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							10/11/13	
2,4-D	ND	10	ug/L							10/11/13	
Bentazon	ND	2.0	ug/L							10/11/13	
Dalapon	ND	10	ug/L							10/11/13	
Dicamba	ND	1.5	ug/L							10/11/13	
Dinoseb	ND	2.0	ug/L							10/11/13	
Pentachlorophenol	ND	0.20	ug/L							10/11/13	
Picloram	ND	1.0	ug/L							10/11/13	
Surrogate: DCPAA	*58*			*58*		*99*	*70-130*			10/11/13	
Blank Spike (A311994-BS1)											
2,4,5-T	4.8	1.0	ug/L	4.0		120	70-130			10/11/13	
2,4,5-TP (Silvex)	4.8	1.0	ug/L	4.0		120	70-130			10/11/13	
2,4-D	49	10	ug/L	40		122	70-130			10/11/13	
Bentazon	8.8	2.0	ug/L	8.0		111	70-130			10/11/13	
Dalapon	43	10	ug/L	40		108	70-130			10/11/13	
Dicamba	7.4	1.5	ug/L	6.0		122	70-130			10/11/13	
Dinoseb	9.6	2.0	ug/L	8.0		120	70-130			10/11/13	
Pentachlorophenol	1.0	0.20	ug/L	0.80		127	70-130			10/11/13	
Picloram	4.9	1.0	ug/L	4.0		123	70-130			10/11/13	
Surrogate: DCPAA	*60*			*58*		*104*	*70-130*			10/11/13	
Blank Spike Dup (A311994-BSD1)											
2,4,5-T	4.7	1.0	ug/L	4.0		118	70-130	1	20	10/11/13	
2,4,5-TP (Silvex)	4.7	1.0	ug/L	4.0		119	70-130	1	20	10/11/13	
2,4-D	49	10	ug/L	40		121	70-130	0	20	10/11/13	
Bentazon	8.5	2.0	ug/L	8.0		106	70-130	4	20	10/11/13	
Dalapon	43	10	ug/L	40		107	70-130	1	20	10/11/13	
Dicamba	7.2	1.5	ug/L	6.0		121	70-130	2	20	10/11/13	
Dinoseb	9.2	2.0	ug/L	8.0		115	70-130	4	20	10/11/13	
Pentachlorophenol	0.99	0.20	ug/L	0.80		124	70-130	2	20	10/11/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A311994										Prepared: 10/9/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A311994-BSD1)											
Picloram	4.9	1.0	ug/L	4.0		123	70-130	0	20	10/11/13	
Surrogate: DCPAA	*59*			*58*		*102*	*70-130*			10/11/13	
Matrix Spike (A311994-MS1), Source: A3J0477-01											
2,4,5-T	4.9	1.0	ug/L	4.0	ND	122	70-130			10/11/13	
2,4,5-TP (Silvex)	4.9	1.0	ug/L	4.0	ND	122	70-130			10/11/13	
2,4-D	50	10	ug/L	40	ND	126	70-130			10/11/13	
Bentazon	8.9	2.0	ug/L	8.0	ND	111	70-130			10/11/13	
Dalapon	43	10	ug/L	40	ND	108	70-130			10/11/13	
Dicamba	7.4	1.5	ug/L	6.0	ND	123	70-130			10/11/13	
Dinoseb	9.4	2.0	ug/L	8.0	ND	118	70-130			10/11/13	
Pentachlorophenol	1.0	0.20	ug/L	0.80	ND	125	70-130			10/11/13	
Picloram	5.0	1.0	ug/L	4.0	ND	126	70-130			10/11/13	
Surrogate: DCPAA	*60*			*58*		*103*	*70-130*			10/11/13	
Matrix Spike Dup (A311994-MSD1), Source: A3J0477-01											
2,4,5-T	4.6	1.0	ug/L	4.0	ND	116	70-130	5	20	10/11/13	
2,4,5-TP (Silvex)	4.7	1.0	ug/L	4.0	ND	116	70-130	5	20	10/11/13	
2,4-D	47	10	ug/L	40	ND	118	70-130	6	20	10/11/13	
Bentazon	8.5	2.0	ug/L	8.0	ND	107	70-130	4	20	10/11/13	
Dalapon	41	10	ug/L	40	ND	103	70-130	5	20	10/11/13	
Dicamba	7.0	1.5	ug/L	6.0	ND	117	70-130	5	20	10/11/13	
Dinoseb	9.1	2.0	ug/L	8.0	ND	114	70-130	3	20	10/11/13	
Pentachlorophenol	0.96	0.20	ug/L	0.80	ND	120	70-130	4	20	10/11/13	
Picloram	4.7	1.0	ug/L	4.0	ND	117	70-130	7	20	10/11/13	
Surrogate: DCPAA	*58*			*58*		*100*	*70-130*			10/11/13	
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A312121-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							10/14/13	
1,1,1-Trichloroethane	ND	0.50	ug/L							10/14/13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							10/14/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							10/14/13	
1,1,2-Trichloroethane	ND	0.50	ug/L							10/14/13	
1,1-Dichloroethane	ND	0.50	ug/L							10/14/13	
1,1-Dichloroethene	ND	0.50	ug/L							10/14/13	
1,1-Dichloropropene	ND	0.50	ug/L							10/14/13	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							10/14/13	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							10/14/13	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							10/14/13	
1,2-Dichlorobenzene	ND	0.50	ug/L							10/14/13	
1,2-Dichloroethane	ND	0.50	ug/L							10/14/13	
1,2-Dichloropropane	ND	0.50	ug/L							10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A312121-BLK1)											
1,3,5-Trimethylbenzene	ND	0.50	ug/L							10/14/13	
1,3-Dichlorobenzene	ND	0.50	ug/L							10/14/13	
1,3-Dichloropropane	ND	0.50	ug/L							10/14/13	
1,4-Dichlorobenzene	ND	0.50	ug/L							10/14/13	
2,2-Dichloropropane	ND	0.50	ug/L							10/14/13	
2-Butanone	ND	5.0	ug/L							10/14/13	
2-Chlorotoluene	ND	0.50	ug/L							10/14/13	
2-Hexanone	ND	10	ug/L							10/14/13	
4-Chlorotoluene	ND	0.50	ug/L							10/14/13	
4-Methyl-2-pentanone	ND	5.0	ug/L							10/14/13	
Acetone	ND	10	ug/L							10/14/13	
Benzene	ND	0.50	ug/L							10/14/13	
Bromobenzene	ND	0.50	ug/L							10/14/13	
Bromochloromethane	ND	0.50	ug/L							10/14/13	
Bromodichloromethane	ND	0.50	ug/L							10/14/13	
Bromoform	ND	0.50	ug/L							10/14/13	
Bromomethane	ND	0.50	ug/L							10/14/13	
Carbon Tetrachloride	ND	0.50	ug/L							10/14/13	
Chlorobenzene	ND	0.50	ug/L							10/14/13	
Chloroethane	ND	0.50	ug/L							10/14/13	
Chloroform	ND	0.50	ug/L							10/14/13	
Chloromethane	ND	0.50	ug/L							10/14/13	
cis-1,2-Dichloroethene	ND	0.50	ug/L							10/14/13	
cis-1,3-Dichloropropene	ND	0.50	ug/L							10/14/13	
Dibromochloromethane	ND	0.50	ug/L							10/14/13	
Dibromomethane	ND	0.50	ug/L							10/14/13	
Dichlorodifluoromethane	ND	0.50	ug/L							10/14/13	
Dichloromethane	ND	0.50	ug/L							10/14/13	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							10/14/13	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							10/14/13	
Ethylbenzene	ND	0.50	ug/L							10/14/13	
Hexachlorobutadiene	ND	0.50	ug/L							10/14/13	
Isopropylbenzene	ND	0.50	ug/L							10/14/13	
m,p-Xylenes	ND	0.50	ug/L							10/14/13	
Methyl-t-butyl ether	ND	0.50	ug/L							10/14/13	
Naphthalene	ND	0.50	ug/L							10/14/13	
n-Butylbenzene	ND	0.50	ug/L							10/14/13	
n-Propylbenzene	ND	0.50	ug/L							10/14/13	
o-Xylene	ND	0.50	ug/L							10/14/13	
p-Isopropyltoluene	ND	0.50	ug/L							10/14/13	
sec-Butylbenzene	ND	0.50	ug/L							10/14/13	
Styrene	ND	0.50	ug/L							10/14/13	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							10/14/13	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							10/14/13	
tert-Butylbenzene	ND	0.50	ug/L							10/14/13	
Tetrachloroethene (PCE)	ND	0.50	ug/L							10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A312121-BLK1)											
Toluene	ND	0.50	ug/L							10/14/13	
trans-1,2-Dichloroethene	ND	0.50	ug/L							10/14/13	
trans-1,3-Dichloropropene	ND	0.50	ug/L							10/14/13	
Trichloroethene (TCE)	ND	0.50	ug/L							10/14/13	
Trichlorofluoromethane	ND	5.0	ug/L							10/14/13	
Vinyl Chloride	ND	0.50	ug/L							10/14/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.6*			*5.0*		*92*	*70-130*			10/14/13	
Surrogate: Bromofluorobenzene	*4.9*			*5.0*		*97*	*70-130*			10/14/13	
Blank Spike (A312121-BS1)											
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		112	70-130			10/14/13	
1,1,1-Trichloroethane	11	0.50	ug/L	10		111	70-130			10/14/13	
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		107	70-130			10/14/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.9	10	ug/L	10		99	70-130			10/14/13	
1,1,2-Trichloroethane	10	0.50	ug/L	10		103	70-130			10/14/13	
1,1-Dichloroethane	10	0.50	ug/L	10		104	70-130			10/14/13	
1,1-Dichloroethene	11	0.50	ug/L	10		111	70-130			10/14/13	
1,1-Dichloropropene	11	0.50	ug/L	10		107	70-130			10/14/13	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		104	70-130			10/14/13	
1,2,4-Trichlorobenzene	10	0.50	ug/L	10		105	70-130			10/14/13	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		104	70-130			10/14/13	
1,2-Dichlorobenzene	10	0.50	ug/L	10		102	70-130			10/14/13	
1,2-Dichloroethane	10	0.50	ug/L	10		104	70-130			10/14/13	
1,2-Dichloropropane	11	0.50	ug/L	10		106	70-130			10/14/13	
1,3,5-Trimethylbenzene	10	0.50	ug/L	10		103	70-130			10/14/13	
1,3-Dichlorobenzene	11	0.50	ug/L	10		105	70-130			10/14/13	
1,3-Dichloropropane	10	0.50	ug/L	10		101	70-130			10/14/13	
1,4-Dichlorobenzene	10	0.50	ug/L	10		103	70-130			10/14/13	
2,2-Dichloropropane	13	0.50	ug/L	10		126	70-130			10/14/13	
2-Butanone	10	5.0	ug/L	10		104	70-130			10/14/13	
2-Chlorotoluene	10	0.50	ug/L	10		103	70-130			10/14/13	
2-Hexanone	11	10	ug/L	10		109	70-130			10/14/13	
4-Chlorotoluene	10	0.50	ug/L	10		103	70-130			10/14/13	
4-Methyl-2-pentanone	11	5.0	ug/L	10		111	70-130			10/14/13	
Acetone	11	10	ug/L	10		113	70-130			10/14/13	
Benzene	9.8	0.50	ug/L	10		98	70-130			10/14/13	
Bromobenzene	11	0.50	ug/L	10		106	70-130			10/14/13	
Bromochloromethane	11	0.50	ug/L	10		110	70-130			10/14/13	
Bromodichloromethane	11	0.50	ug/L	10		111	70-130			10/14/13	
Bromoform	10	0.50	ug/L	10		102	70-130			10/14/13	
Bromomethane	7.9	0.50	ug/L	10		79	70-130			10/14/13	
Carbon Tetrachloride	11	0.50	ug/L	10		108	70-130			10/14/13	
Chlorobenzene	9.9	0.50	ug/L	10		99	70-130			10/14/13	
Chloroethane	12	0.50	ug/L	10		122	70-130			10/14/13	
Chloroform	11	0.50	ug/L	10		109	70-130			10/14/13	
Chloromethane	8.9	0.50	ug/L	10		89	70-130			10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A312121-BS1)											
cis-1,2-Dichloroethene	10	0.50	ug/L	10		104	70-130			10/14/13	
cis-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130			10/14/13	
Dibromochloromethane	11	0.50	ug/L	10		110	70-130			10/14/13	
Dibromomethane	11	0.50	ug/L	10		105	70-130			10/14/13	
Dichlorodifluoromethane	7.5	0.50	ug/L	10		75	70-130			10/14/13	
Dichloromethane	10	0.50	ug/L	10		100	70-130			10/14/13	
Di-isopropyl ether (DIPE)	12	3.0	ug/L	10		119	70-130			10/14/13	
Ethyl tert-Butyl Ether (ETBE)	12	0.50	ug/L	10		120	70-130			10/14/13	
Ethylbenzene	9.7	0.50	ug/L	10		97	70-130			10/14/13	
Hexachlorobutadiene	9.9	0.50	ug/L	10		99	70-130			10/14/13	
Isopropylbenzene	11	0.50	ug/L	10		106	70-130			10/14/13	
m,p-Xylenes	19	0.50	ug/L	20		95	70-130			10/14/13	
Methyl-t-butyl ether	22	0.50	ug/L	20		110	70-130			10/14/13	
Naphthalene	9.8	0.50	ug/L	10		98	70-130			10/14/13	
n-Butylbenzene	10	0.50	ug/L	10		105	70-130			10/14/13	
n-Propylbenzene	11	0.50	ug/L	10		105	70-130			10/14/13	
o-Xylene	9.5	0.50	ug/L	10		95	70-130			10/14/13	
p-Isopropyltoluene	11	0.50	ug/L	10		105	70-130			10/14/13	
sec-Butylbenzene	10	0.50	ug/L	10		103	70-130			10/14/13	
Styrene	12	0.50	ug/L	10		117	70-130			10/14/13	
tert-Amyl Methyl Ether (TAME)	11	3.0	ug/L	10		106	70-130			10/14/13	
tert-Butyl alcohol (TBA)	11	2.0	ug/L	10		107	70-130			10/14/13	
tert-Butylbenzene	9.9	0.50	ug/L	10		99	70-130			10/14/13	
Tetrachloroethene (PCE)	9.8	0.50	ug/L	10		98	70-130			10/14/13	
Toluene	9.8	0.50	ug/L	10		98	70-130			10/14/13	
trans-1,2-Dichloroethene	11	0.50	ug/L	10		113	70-130			10/14/13	
trans-1,3-Dichloropropene	12	0.50	ug/L	10		117	70-130			10/14/13	
Trichloroethene (TCE)	10	0.50	ug/L	10		104	70-130			10/14/13	
Trichlorofluoromethane	11	5.0	ug/L	10		110	70-130			10/14/13	
Vinyl Chloride	9.2	0.50	ug/L	10		92	70-130			10/14/13	
Surrogate: 1,2-Dichlorobenzene-d4	*5.0*			*5.0*		*100*	*70-130*			10/14/13	
Surrogate: Bromofluorobenzene	*5.1*			*5.0*		*102*	*70-130*			10/14/13	
Blank Spike Dup (A312121-BSD1)											
1,1,1,2-Tetrachloroethane	11	0.50	ug/L	10		112	70-130	0	30	10/14/13	
1,1,1-Trichloroethane	11	0.50	ug/L	10		111	70-130	0	30	10/14/13	
1,1,2,2-Tetrachloroethane	11	0.50	ug/L	10		107	70-130	0	30	10/14/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.8	10	ug/L	10		98	70-130	1	30	10/14/13	
1,1,2-Trichloroethane	10	0.50	ug/L	10		100	70-130	4	30	10/14/13	
1,1-Dichloroethane	9.8	0.50	ug/L	10		98	70-130	6	30	10/14/13	
1,1-Dichloroethene	11	0.50	ug/L	10		106	70-130	4	30	10/14/13	
1,1-Dichloropropene	11	0.50	ug/L	10		108	70-130	1	30	10/14/13	
1,2,3-Trichlorobenzene	11	0.50	ug/L	10		106	70-130	3	30	10/14/13	
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		107	70-130	2	30	10/14/13	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		105	70-130	1	30	10/14/13	
1,2-Dichlorobenzene	10	0.50	ug/L	10		104	70-130	2	30	10/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A312121										Prepared: 10/14/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A312121-BSD1)												
1,2-Dichloroethane	9.8	0.50	ug/L	10		98	70-130	5	30	10/14/13		
1,2-Dichloropropane	10	0.50	ug/L	10		104	70-130	3	30	10/14/13		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		105	70-130	2	30	10/14/13		
1,3-Dichlorobenzene	11	0.50	ug/L	10		108	70-130	3	30	10/14/13		
1,3-Dichloropropane	9.8	0.50	ug/L	10		98	70-130	3	30	10/14/13		
1,4-Dichlorobenzene	11	0.50	ug/L	10		106	70-130	3	30	10/14/13		
2,2-Dichloropropane	12	0.50	ug/L	10		124	70-130	2	30	10/14/13		
2-Butanone	9.8	5.0	ug/L	10		98	70-130	7	30	10/14/13		
2-Chlorotoluene	10	0.50	ug/L	10		105	70-130	2	30	10/14/13		
2-Hexanone	10	10	ug/L	10		103	70-130	6	30	10/14/13		
4-Chlorotoluene	11	0.50	ug/L	10		105	70-130	2	30	10/14/13		
4-Methyl-2-pentanone	11	5.0	ug/L	10		106	70-130	5	30	10/14/13		
Acetone	10	10	ug/L	10		104	70-130	8	30	10/14/13		
Benzene	9.9	0.50	ug/L	10		99	70-130	1	30	10/14/13		
Bromobenzene	11	0.50	ug/L	10		106	70-130	0	30	10/14/13		
Bromochloromethane	10	0.50	ug/L	10		103	70-130	7	30	10/14/13		
Bromodichloromethane	11	0.50	ug/L	10		107	70-130	4	30	10/14/13		
Bromoform	10	0.50	ug/L	10		101	70-130	1	30	10/14/13		
Bromomethane	7.6	0.50	ug/L	10		76	70-130	4	30	10/14/13		
Carbon Tetrachloride	11	0.50	ug/L	10		109	70-130	0	30	10/14/13		
Chlorobenzene	9.7	0.50	ug/L	10		97	70-130	2	30	10/14/13		
Chloroethane	13	0.50	ug/L	10		132	70-130	8	30	10/14/13	BS	***High***
Chloroform	10	0.50	ug/L	10		104	70-130	4	30	10/14/13		
Chloromethane	9.2	0.50	ug/L	10		92	70-130	4	30	10/14/13		
cis-1,2-Dichloroethene	9.6	0.50	ug/L	10		96	70-130	7	30	10/14/13		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		109	70-130	3	30	10/14/13		
Dibromochloromethane	10	0.50	ug/L	10		103	70-130	7	30	10/14/13		
Dibromomethane	9.8	0.50	ug/L	10		98	70-130	7	30	10/14/13		
Dichlorodifluoromethane	7.8	0.50	ug/L	10		78	70-130	4	30	10/14/13		
Dichloromethane	10	0.50	ug/L	10		100	70-130	1	30	10/14/13		
Di-isopropyl ether (DIPE)	12	3.0	ug/L	10		116	70-130	3	30	10/14/13		
Ethyl tert-Butyl Ether (ETBE)	12	0.50	ug/L	10		118	70-130	2	30	10/14/13		
Ethylbenzene	9.4	0.50	ug/L	10		94	70-130	3	30	10/14/13		
Hexachlorobutadiene	10	0.50	ug/L	10		104	70-130	4	30	10/14/13		
Isopropylbenzene	11	0.50	ug/L	10		106	70-130	1	30	10/14/13		
m,p-Xylenes	19	0.50	ug/L	20		94	70-130	1	30	10/14/13		
Methyl-t-butyl ether	21	0.50	ug/L	20		106	70-130	3	30	10/14/13		
Naphthalene	10	0.50	ug/L	10		100	70-130	1	30	10/14/13		
n-Butylbenzene	11	0.50	ug/L	10		106	70-130	1	30	10/14/13		
n-Propylbenzene	11	0.50	ug/L	10		106	70-130	1	30	10/14/13		
o-Xylene	9.4	0.50	ug/L	10		94	70-130	1	30	10/14/13		
p-Isopropyltoluene	11	0.50	ug/L	10		106	70-130	1	30	10/14/13		
sec-Butylbenzene	11	0.50	ug/L	10		110	70-130	7	30	10/14/13		
Styrene	12	0.50	ug/L	10		118	70-130	1	30	10/14/13		
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		104	70-130	2	30	10/14/13		
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		104	70-130	3	30	10/14/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A312121										Prepared: 10/14/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A312121-BSD1)											
tert-Butylbenzene	10	0.50	ug/L	10		100	70-130	2	30	10/14/13	
Tetrachloroethene (PCE)	9.8	0.50	ug/L	10		98	70-130	0	30	10/14/13	
Toluene	9.5	0.50	ug/L	10		95	70-130	3	30	10/14/13	
trans-1,2-Dichloroethene	11	0.50	ug/L	10		108	70-130	4	30	10/14/13	
trans-1,3-Dichloropropene	11	0.50	ug/L	10		112	70-130	5	30	10/14/13	
Trichloroethene (TCE)	11	0.50	ug/L	10		107	70-130	3	30	10/14/13	
Trichlorofluoromethane	10	5.0	ug/L	10		104	70-130	6	30	10/14/13	
Vinyl Chloride	9.7	0.50	ug/L	10		97	70-130	5	30	10/14/13	
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*102*	*70-130*			10/14/13	
Surrogate: Bromofluorobenzene	*5.1*			*5.0*		*102*	*70-130*			10/14/13	
EPA 525.2 - Quality Control											
Batch: A312014										Prepared: 10/10/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A312014-BLK1)											
Alachlor	ND	1.0	ug/L							10/11/13	
Atrazine	ND	0.50	ug/L							10/11/13	
Benzo(a)pyrene	ND	0.10	ug/L							10/11/13	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							10/11/13	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							10/11/13	
Bromacil	ND	10	ug/L							10/11/13	
Butachlor	ND	0.38	ug/L							10/11/13	
Diazinon	ND	0.25	ug/L							10/11/13	
Dimethoate	ND	10	ug/L							10/11/13	
Metolachlor	ND	0.50	ug/L							10/11/13	
Metribuzin	ND	0.50	ug/L							10/11/13	
Molinate	ND	2.0	ug/L							10/11/13	
Propachlor	ND	0.50	ug/L							10/11/13	
Simazine	ND	1.0	ug/L							10/11/13	
Thiobencarb	ND	1.0	ug/L							10/11/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.3*			*5.0*		*106*	*70-130*			10/11/13	
Blank Spike (A312014-BS1)											
Alachlor	0.53	1.0	ug/L	0.50		108	70-130			10/11/13	
Atrazine	0.51	0.50	ug/L	0.50		103	70-130			10/11/13	
Benzo(a)pyrene	0.11	0.10	ug/L	0.099		107	70-130			10/11/13	
Bis(2-ethylhexyl) adipate	3.3	3.0	ug/L	3.0		110	70-130			10/11/13	
Bis(2-ethylhexyl) phthalate	3.4	3.0	ug/L	3.0		115	70-130			10/11/13	
Bromacil	2.6	10	ug/L	2.0		129	70-130			10/11/13	
Butachlor	1.4	0.38	ug/L	1.2		114	70-130			10/11/13	
Diazinon	0.049	0.25	ug/L	0.050		98	70-130			10/11/13	
Dimethoate	0.56	10	ug/L	0.50		114	70-130			10/11/13	
Metolachlor	2.8	0.50	ug/L	2.5		111	70-130			10/11/13	
Metribuzin	2.8	0.50	ug/L	2.5		113	70-130			10/11/13	
Molinate	2.7	2.0	ug/L	2.5		109	70-130			10/11/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A312014										Prepared: 10/10/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A312014-BS1)											
Propachlor	2.7	0.50	ug/L	2.5		108	70-130			10/11/13	
Simazine	0.41	1.0	ug/L	0.35		117	70-130			10/11/13	
Thiobencarb	0.52	1.0	ug/L	0.50		104	70-130			10/11/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.8*			*5.0*		*97*	*70-130*			10/11/13	
Blank Spike Dup (A312014-BSD1)											
Alachlor	0.51	1.0	ug/L	0.49		104	70-130	5	30	10/11/13	
Atrazine	0.49	0.50	ug/L	0.49		99	70-130	4	30	10/11/13	
Benzo(a)pyrene	0.10	0.10	ug/L	0.098		106	70-130	2	30	10/11/13	
Bis(2-ethylhexyl) adipate	3.1	3.0	ug/L	2.9		106	70-130	4	30	10/11/13	
Bis(2-ethylhexyl) phthalate	3.3	3.0	ug/L	2.9		112	70-130	4	30	10/11/13	
Bromacil	2.2	10	ug/L	2.0		110	70-130	17	30	10/11/13	
Butachlor	1.2	0.38	ug/L	1.2		99	70-130	14	30	10/11/13	
Diazinon	0.048	0.25	ug/L	0.049		98	70-130	1	30	10/11/13	
Dimethoate	0.47	10	ug/L	0.49		95	70-130	19	30	10/11/13	
Metolachlor	2.5	0.50	ug/L	2.5		104	70-130	8	30	10/11/13	
Metribuzin	2.5	0.50	ug/L	2.5		100	70-130	13	30	10/11/13	
Molinate	2.6	2.0	ug/L	2.5		105	70-130	5	30	10/11/13	
Propachlor	2.5	0.50	ug/L	2.5		104	70-130	5	30	10/11/13	
Simazine	0.34	1.0	ug/L	0.34		99	70-130	18	30	10/11/13	
Thiobencarb	0.49	1.0	ug/L	0.49		100	70-130	5	30	10/11/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.9*			*4.9*		*100*	*70-130*			10/11/13	
Matrix Spike (A312014-MS1), Source: A3J0858-01											
Alachlor	0.63	1.0	ug/L	0.50	ND	127	70-130			10/11/13	
Atrazine	0.59	0.50	ug/L	0.50	ND	118	70-130			10/11/13	
Benzo(a)pyrene	0.18	0.10	ug/L	0.099	ND	154	70-130			10/11/13	MS1.0 ***High***
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.0	ND	117	70-130			10/11/13	
Bis(2-ethylhexyl) phthalate	4.3	3.0	ug/L	3.0	ND	133	70-130			10/11/13	MS1.0 ***High***
Bromacil	2.9	10	ug/L	2.0	ND	148	70-130			10/11/13	MS1.0 ***High***
Butachlor	1.6	0.38	ug/L	1.2	ND	130	70-130			10/11/13	
Diazinon	0.053	0.25	ug/L	0.050	ND	106	70-130			10/11/13	
Dimethoate	0.72	10	ug/L	0.50	ND	146	70-130			10/11/13	MS1.0 ***High***
Metolachlor	2.9	0.50	ug/L	2.5	ND	118	70-130			10/11/13	
Metribuzin	2.8	0.50	ug/L	2.5	ND	115	70-130			10/11/13	
Molinate	2.6	2.0	ug/L	2.5	ND	104	70-130			10/11/13	
Propachlor	2.6	0.50	ug/L	2.5	ND	105	70-130			10/11/13	
Simazine	0.45	1.0	ug/L	0.35	ND	129	70-130			10/11/13	
Thiobencarb	0.59	1.0	ug/L	0.50	ND	119	70-130			10/11/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.8*			*5.0*		*97*	*70-130*			10/11/13	
EPA 531.1 - Quality Control											
Batch: A312119										Prepared: 10/12/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A312119-BLK1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A312119										Prepared: 10/12/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A312119-BLK1)											
3-Hydroxycarbofuran	ND	2.0	ug/L							10/12/13	
Aldicarb	ND	2.0	ug/L							10/12/13	
Aldicarb Sulfone	ND	2.0	ug/L							10/12/13	
Aldicarb Sulfoxide	ND	2.0	ug/L							10/12/13	
Carbaryl	ND	2.0	ug/L							10/12/13	
Carbofuran	ND	2.0	ug/L							10/12/13	
Methomyl	ND	2.0	ug/L							10/12/13	
Oxamyl	ND	2.0	ug/L							10/12/13	
Blank Spike (A312119-BS1)											
3-Hydroxycarbofuran	4.6	2.0	ug/L	4.2		110	80-120			10/12/13	
Aldicarb	4.7	2.0	ug/L	4.2		112	80-120			10/12/13	
Aldicarb Sulfone	4.4	2.0	ug/L	4.2		107	80-120			10/12/13	
Aldicarb Sulfoxide	4.3	2.0	ug/L	4.2		104	80-120			10/12/13	
Carbaryl	4.5	2.0	ug/L	4.2		108	80-120			10/12/13	
Carbofuran	4.5	2.0	ug/L	4.2		108	80-120			10/12/13	
Methomyl	4.2	2.0	ug/L	4.2		100	80-120			10/12/13	
Oxamyl	4.6	2.0	ug/L	4.2		110	80-120			10/12/13	
Blank Spike Dup (A312119-BSD1)											
3-Hydroxycarbofuran	4.3	2.0	ug/L	4.2		102	80-120	8	20	10/12/13	
Aldicarb	4.9	2.0	ug/L	4.2		117	80-120	4	20	10/12/13	
Aldicarb Sulfone	4.0	2.0	ug/L	4.2		96	80-120	10	20	10/12/13	
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.2		95	80-120	9	20	10/12/13	
Carbaryl	4.2	2.0	ug/L	4.2		101	80-120	6	20	10/12/13	
Carbofuran	4.1	2.0	ug/L	4.2		99	80-120	9	20	10/12/13	
Methomyl	3.8	2.0	ug/L	4.2		90	80-120	10	20	10/12/13	
Oxamyl	4.2	2.0	ug/L	4.2		102	80-120	8	20	10/12/13	
Matrix Spike (A312119-MS1), Source: A3J0644-01											
3-Hydroxycarbofuran	4.2	2.0	ug/L	4.2	ND	100	65-135			10/12/13	
Aldicarb	4.5	2.0	ug/L	4.2	ND	107	65-135			10/12/13	
Aldicarb Sulfone	4.0	2.0	ug/L	4.2	ND	97	65-135			10/12/13	
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.2	ND	95	65-135			10/12/13	
Carbaryl	4.3	2.0	ug/L	4.2	ND	103	65-135			10/12/13	
Carbofuran	4.2	2.0	ug/L	4.2	ND	101	65-135			10/12/13	
Methomyl	3.7	2.0	ug/L	4.2	ND	90	65-135			10/12/13	
Oxamyl	4.3	2.0	ug/L	4.2	ND	102	65-135			10/12/13	
EPA 547 - Quality Control											
Batch: A312197										Prepared: 10/15/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank (A312197-BLK1)											
Glyphosate	ND	25	ug/L							10/15/13	
Surrogate: AMPA	*110*			*100*		*113*	*70-130*			10/15/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A312197										Prepared: 10/15/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank Spike (A312197-BS1)											
Glyphosate	100	25	ug/L	100		101	70-130			10/15/13	
Surrogate: AMPA	*110*			*100*		*112*	*70-130*			10/15/13	
Blank Spike Dup (A312197-BSD1)											
Glyphosate	100	25	ug/L	100		102	70-130	1	30	10/15/13	
Surrogate: AMPA	*120*			*100*		*115*	*70-130*			10/15/13	
Matrix Spike (A312197-MS1), Source: A3J0722-01											
Glyphosate	100	25	ug/L	100	ND	100	70-130			10/15/13	
Surrogate: AMPA	*110*			*100*		*111*	*70-130*			10/15/13	
Matrix Spike Dup (A312197-MSD1), Source: A3J0722-01											
Glyphosate	100	25	ug/L	100	ND	102	70-130	2	30	10/15/13	
Surrogate: AMPA	*120*			*100*		*115*	*70-130*			10/15/13	
EPA 548.1 - Quality Control											
Batch: A312182										Prepared: 10/14/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A312182-BLK1)											
Endothall	ND	45	ug/L							10/15/13	
Blank Spike (A312182-BS1)											
Endothall	15	45	ug/L	20		74	60-111			10/15/13	
Blank Spike Dup (A312182-BSD1)											
Endothall	14	45	ug/L	20		68	60-111	8	46	10/15/13	
Matrix Spike (A312182-MS1), Source: A3J0722-01											
Endothall	13	45	ug/L	20	ND	66	10-122			10/15/13	
EPA 549.2 - Quality Control											
Batch: A312161										Prepared: 10/14/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A312161-BLK1)											
Diquat	ND	4.0	ug/L							10/16/13	
Blank Spike (A312161-BS1)											
Diquat	3.6	4.0	ug/L	4.0		90	70-130			10/16/13	
Blank Spike Dup (A312161-BSD1)											
Diquat	3.6	4.0	ug/L	4.0		91	70-130	1	30	10/16/13	
Matrix Spike (A312161-MS1), Source: A3J1185-01											
Diquat	3.5	4.0	ug/L	4.0	ND	87	70-130			10/16/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 549.2 - Quality Control

Batch: A312161 Prepared: 10/14/2013

Prep Method: EPA 549.2 Analyst: PYA

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792009A
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron
Silica (SiO2)
Strontium
Threshold Odor

A3J0790

California American Water

Calif3295

10092013

Turnaround: Standard

Due Date: 10/23/2013

Printed: 10/9/2013 5:59:17PM

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www.bskassociates.com

A3J0790
Calif3295

*Required Fields Temp: 1.8

Company/Client Name*:	Report Attention*: Serp Sekercioglu	Invoice To*:	Phone*: 831-883-8181 Fax*: 831-883-9961
RBF Consulting	Additional ccs:	PO#:	E-mail*: ssekercioglu@rbf.com

Address*:	City*:	State*:	Zip*:
3180 Imjin Rd. #110	Marina,	CA	93933

Project: MPWSP Exploratory Boreholes
Project #: 136410

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: ☐

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: ____

How would you like your completed results sent?* ☑ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH System Number*: ____

Sampler Name (Printed/Signature)*: Nathan Reynolds

TAT* **Surcharge: ☐ Standard - 10 Business Days ☐ **Rush: Date Needed ____

☐ Geotracker #: ____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX
21	MPWSP ML-1 Zone #2 (90-100 ft bgs)	10-3-13	12:25	GW	Field parameters - Temp: 16.5 °C; pH: 7.24; TDS: 422 ± mg/L; Turb: 2.52 NTU

See attached lab analysis

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Nathan Reynolds	GEOSCIENCE	10-3-13			
Shelly Tegge	RBF	10-8-13	9 10 am		
Nick Robles		10-9-13	953		

Payment Received at Delivery: Date: Amount: PIA#: Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: ____

Cooling Method: Wet Blue None

Custody Seal: Y / N

Chilling Process Begun: Y / N

SR-FL-0012-05 Analytical Chain of Custody

BSK Associates
Engineers & Laboratories
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

*Required Fields

Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water	Travis Peterson Additional cc's: Sarp Sekeroglu, RBF Consulting	Accounts Payable PO#:	(831) 646-3295/(831) 646-3269	(831) 333-1343

E-mail*: susan.jacobson@amwater.com,travis.peterson@amwater.com

Address*:	City*:	State*:	Zip*:
PO Box 951	Monterey	CA	93942-0951

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: _____

Project: Water Quality Analysis

Project #:

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: _____

How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH — System Number*: _____

Sampler Name (Printed/Signature)*:

TAT* **Surcharge
☒ **Standard** - 10 Business Days
☐ ****Rush**: Date Needed _____

☐ Geotracker #: _____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alkalinity, Hardness, MBAS,Color, Odor, TDS, pH, Turbidity, EC	Mass Balance-Dissolved: Cations and Anions	Dissolved Metals: Ba, B, Ca, Fe, Mg, Mn, K, Na, Sr, silica	Total Metals: Al, As, Cu, Fe, Mn, Zn	Dissolved: Bromide, Chloride, Nitrite, Fluoride, Sulfate, Orthophosphate-P	Dissolved: Ammonia, TKN, Phosphorus	Nitrate+Nitrite as N, Nitrate-NO3,	EPA 524, 504, 505, 515, 525, 531, 547, 548, 549	EXT-Tritium, EXT-Lithium, EXT-Dissolved Iodide, EXT-Dioxin
				water	Seawater salinity levels.	X	X	X	X	X	X	X	X	X
					Lab to filter dissolved metals.									
					Lab to filter Diss. Ammonia, TKN, P									
					Okay to analyze out of hold time.									

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: PIA#: Check / Cash Init.	

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: _____

Cooling Method: Wet Blue None

Custody Seal: Y / N

Chilling Process Begun: Y / N

Sample Integrity

BSK Bottles: (Yes) No Page ____ of ____

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	(Yes) No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received ("—" means preservation/chlorine checks are either N/A or are performed in the lab)

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	1
None (P) White Cap	—	—	1B, 2C, 1A
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	2b
H_2SO_4 (P) Yellow Cap	pH ≤ 2	(Y) N	1A
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/6321, 8151, 8270	—	—	1A, B, 2C 10-9-13
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C AE
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2A, 2C
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	6V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	1A
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

250L AG came with cracked lid

Labeled by: JW @ 11:33 Labels checked by: CG @ 1159 RUSH Paged by: ____ @ ____

External

A3J0790

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 24, 2013

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3J0790
Pace Project No.: 30105219

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on October 15, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: A3J0790
Pace Project No.: 30105219

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: A3J0790
Pace Project No.: 30105219

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30105219001	A3J0790-01	Water	10/07/13 16:25	10/15/13 09:30

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: A3J0790
Pace Project No.: 30105219

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30105219001	A3J0790-01	EPA 906.0	SLA	1	PASI-PA

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: A3J0790
Pace Project No.: 30105219

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: October 24, 2013

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: A3J0790
Pace Project No.: 30105219

Sample: A3J0790-01 **Lab ID: 30105219001** Collected: 10/07/13 18:25 Received: 10/15/13 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-17.9 ± 117 (210)**	pCi/L	10/22/13 11:27	10028-17-8	

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: A3J0790
Pace Project No.: 30105219

QC Batch: RADC/17468 Analysis Method: EPA 906.0
QC Batch Method: EPA 906.0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 30105219001

METHOD BLANK: 645156 Matrix: Water
Associated Lab Samples: 30105219001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	2.51 ± 116 (206)	pCi/L	10/22/13 10:25	

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: A3J0790
Pace Project No.: 30105219

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineering & Laboratories

SUBCONTRACT ORDER

A3J0790

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): Standard
QC Deliverables: I Std III IV

3010521

Sample ID	Samp Desc	Sample Date
A3J0790-01	MPWSP ML-1 Zone #2 (90-100 ft bgs)	10/07/2013 18:25 001

Matrix: Water

Analysis	
EXT-Tritium	250 AG 0 Non preserved glass container

9736

10/15/13 / UPS

MAC

Sample Condition Upon Receipt

Pace Analytical

Client Name: MAC 10-9-13 BSK BSK Project # 30105219

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 12 93X 9211 3 5861 7325

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used (5) 6 7 Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 33 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: MAC 10-9-13

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed MAC / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] **Date:** 10/9/13

Pace Analytical

Project Number: 30105219

Client Name: B&K

Item No.	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.L)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
01	WT	1																						

SCURF Back (C016-4 15May2012).xls

QA Assessment Spreadsheet
PACE Analytical Services

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst: SLA
Date: 10/22/2013 Method: EPA 906.0
Worklist: 17468 SOP: PGH-R-021
Matrix: DW MB Sample ID: 845156

Method Blank Assessment

Analyte	Activity	1.96 Sig Unc.	MDC	Critical Value	Flag	Assessment
Tritium	2.5100	115.2000	209.9500	97.66000		

Laboratory Control Sample Assessment

	LCS	LCSD	LCS	LCSD	LCS	LCSD
Analyte:	Tritium					
Count Date:	10/19/13 0:04	10/19/13 1:06				
Spike I.D.:	10-003	10-003				
Spike Concentration (pCi/L):	2536.685	2536.685				
Volume Used (mL):	0.100	0.100				
Aliquot Volume (L, g, F):	0.100	0.100				
Target Conc. (pCi/L, g, F):	2536.685	2536.688				
1.96 Sigma Uncertainty (Calculated):	89.807	89.806				
Result (pCi/L, g, F):	2160.070	2310.030				
1.96 Sigma Unc.:	223.600	225.700				
% Recovery:	85.15%	91.10%				
Assessment:	Pass	Pass				
Upper % Recovery Limits:	125.00%	125.00%				
Lower % Recovery Limits:	75.00%	75.00%				

Duplicate Sample Assessment

LCS/LCSD Y or N?:	Y
Analyte:	Tritium
Sample I.D.:	LCS17468
Duplicate Sample I.D.	LCSD17468
Sample Result (pCi/L, g, F):	2160.0700
1.96 Sigma Unc.:	223.6000
Sample Duplicate Result (pCi/L, g, F):	2310.0300
Duplicate Sample 1.96 Sigma Unc.	225.7000
Either results below MDC?	N
Relative Percent Difference:	6.74%
Assessment:	Pass
% RPD Limit:	25.00%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC

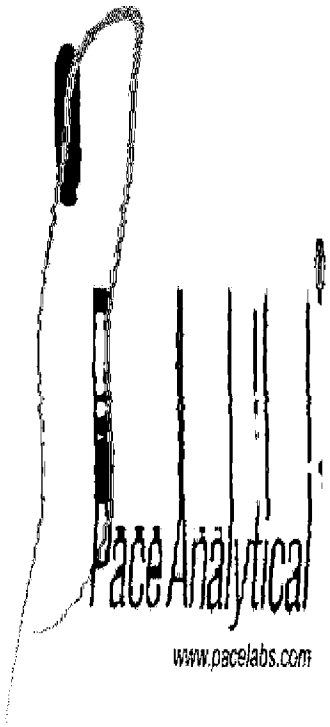
Sample Matrix Spike Control Assessment

Analyte:	Tritium	Tritium
Sample Collection Date:	9/24/2013	10/8/2013
Sample I.D.	35109631004	35111260001
Sample MS I.D.	35109631004MS	35111260001MS
Sample MSD I.D.		
Spike I.D.:	10-003	10-003
MS/MSD Decay Corrected Spike Conc. (pCi/L):	2546.281	2540.756
Spike Volume Used in MS (mL):	0.20	0.20
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.1000	0.0500
MS Target Conc (pCi/L, g, F):	5092.562	10163.026
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike uncertainty (calculated):	139.740	278.873
MSD Spike uncertainty (calculated):		
Sample Result:	117.880	54.420
Sample 1.96 Sigma Unc.:	126.400	123.600
Sample Matrix Spike Result:	4859.060	9351.770
Sample MS 1.96 Sigma Unc.:	308.800	407.700
Sample Matrix Spike Duplicate Result:		
Sample MSD 1.96 Sigma Unc.:		
MS % Recovery:	93.10%	91.48%
MSD % Recovery:		
MS Assessment:	Pass	Pass
MSD Assessment:		
MS/MSD Upper % Recovery Limits:	125.00%	125.00%
MS/MSD Lower % Recovery Limits:	75.00%	75.00%

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Analyte:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result	
Sample Matrix Spike 1.96 Sigma Unc.:	
Sample Matrix Spike Duplicate Result:	
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:	
MS/MSD Relative Percent Difference	
MS/ MSD RPD Assessment:	
% RPD Limit:	

Comments:



1638 Roseytown Road

Greensburg, PA 15601

(724)850-5600

SAMPLE ACKNOWLEDGMENT

Samples Submitted By: BSK Analytical Laboratories
Client Project ID: A3J0790
Client PO#:

Pace Project Manager: Jacquelyn Collins
Phone (724)850-5600
jacquelyn.collins@pacelabs.com
Pace Analytical Project ID: 30105219
Samples Received: October 15, 2013 09:30 AM
Estimated Completion: November 05, 2013

CC: Mr. Michael Ng

Customer Sample ID	Pace Analytical Lab ID	Matrix	Date/Time Collected	Method
A3J0790-01	30105219001	Water	10/07/13 18:25	906.0 Tritium

1638 Roseytown Road
Greensburg, PA 15601
(724)850-5600

SAMPLE ACKNOWLEDGMENT

Analyte List

Customer Sample ID	Method	Compound	Reporting Limit	Units
A3J0790-01	906.0 Tritium	Tritium		

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Michael Ng
BSK Analytical Laboratories
1414 Stanislaus Street
Fresno CA 93706

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

Report Information:

Pace Project #: 10245866
Sample Receipt Date: 10/15/2013
Client Project #: A3J0790
Client Sub PO #: N/A
State Cert #: 01155CA

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Brittany Hansen, your Pace Project Manager.

This report has been reviewed by:

Brittany J. Hansen

October 28, 2013

Brittany Hansen, Project Manager
(612) 607-6429
(612) 607-6444 (fax)
brittany.hansen@pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Mississippi	MN00064
Alaska	MN00064	Montana	92
Arizona	AZ0014	Nebraska	
Arkansas	88-0680	Nevada	MN_00064_200
California	01155CA	New Jersey (NE	MN002
Colorado	MN00064	New Mexico	MN00064
Connecticut	PH-0256	New York (NEL	11647
EPA Region 5	WD-15J	North Carolina	27700
EPA Region 8	8TMS-Q	North Dakota	R-036
Florida (NELAP	E87605	Ohio	4150
Georgia (DNR)	959	Oklahoma	D9922
Guam	959	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN300001-001
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	03086	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3J0790

10245966 1158

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Dioxin
1700 Elm Street S.E. Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc	Sample Date
A3J0790-01	MPWSP ML-1 Zone #2 (90-100 ft bgs)	10/07/2013 18:25

Matrix: Water

Analysis

EXT-Dioxin-DW matrix, EPA 1613 2,3,7,8-TCDD

1LAG Ø

Dol

Released By Date Received By Date

BSK 10/14/13 1530 / Fed Ex

Released By Date Received By Date

Pace 10 15 13 0921

T- 3.3°, 1.3°C

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.07	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt **Client Name:** BSK **Project #:** WO#: 10245866

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: See SEF

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☐ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☐ Yes ☒ No

Thermom. Used: ☐ 80512447 ☒ B88AS12167504 ☐ 72337080 ☐ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on Ice, cooling process has begun

Cooler Temp Read (°C): 3.4, 10.4 **Cooler Temp Corrected (°C):** 3.3, 10.3 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** -.1 **Date and Initials of Person Examining Contents:** CB 10 15 13

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☐ No	☒ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☐ No	☒ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☐ Yes	☒ No	☐ N/A	12. Time not on samples but on COC
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☐ Yes	☐ No	☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐ Yes	☒ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Previously waived temp.

Pr... 10/16/13

Pace AnalyticalServices, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD – USEPA Method 1613B

Sample ID.....A3J0790-01 MPWSP ML-1
Client..... BSK Analytical Laboratories
Lab Sample ID..... 10245866001

Date Collected.....10/07/2013
Date Received.....10/15/2013
Date Extracted.....10/18/2013

	Sample A3J0790-01 MPW	Method Blank	Lab Spike	Lab Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
RL	5.0 pg/L	5.0 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	122%	132%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			7.4%	
IS Recovery	**61%**	85%	86%	83%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**79%**	101%	105%	109%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	R131021A_20	R131021A_06	R131021A_03	R131021A_04
Analysis Date	10/22/2013	10/21/2013	10/21/2013	10/21/2013
Analysis Time	02:44	18:43	17:00	17:34
Analyst	SMT	SMT	SMT	SMT
Volume	1.024L	1.025L	1.011L	1.018L
Dilution	NA	NA	NA	NA
ICAL Date	07/19/2013	07/19/2013	07/19/2013	07/19/2013
CCAL Filename	R131021A_02	R131021A_02	R131021A_02	R131021A_02

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Report Date: 11/06/13 14:00
Received Date: 10/15/13 15:25
Turnaround Time: Normal

Project: A3J0790

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 10/15/2013 with the Chain of Custody document. The samples were received in good condition, at 2.4 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3J15074-01 **Sample ID:** A3J0790-01 **Matrix:** Water
Sampled by: Client **Sampled:** 10/07/13 18:25

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	**34**	1.4	10	ug/l	1	EPA 200.7	11/4/13	11/5/13 10:23	W3K0097	
Iodide, Dissolved	**180**	2.1	50	ug/l	5	EPA 9056A	11/5/13	11/5/13 19:57	W3K0192	O-14

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W3K0192 - EPA 9056A

Blank (W3K0192-BLK1) — Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W3K0192-BS1) — Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		35.3		ug/l	40.0	88	85-115		

Matrix Spike (W3K0192-MS1) — Source: 3J15074-01 Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	179	368		ug/l	200	94	80-120		

Matrix Spike Dup (W3K0192-MSD1) — Source: 3J15074-01 Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	179	355		ug/l	200	88	80-120	3	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3K0097 - EPA 200.7

Blank (W3K0097-BLK1) — Prepared: 11/04/13 Analyzed: 11/05/13 10:15

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		1.70	J	ug/l					

LCS (W3K0097-BS1) — Prepared: 11/04/13 Analyzed: 11/05/13 10:18

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		988		ug/l	1000	99	85-115		

LCS Dup (W3K0097-BSD1) — Prepared: 11/04/13 Analyzed: 11/05/13 10:21

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		992		ug/l	1000	99	85-115	0.3	30

Duplicate (W3K0097-DUP1) — Source: 3J17013-01 Prepared: 11/04/13 Analyzed: 11/05/13 10:28

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	144	134		ug/l				8	30

Weck Laboratories, Inc. 14859 East Clark Avenue, City of Industry, California 91746-1306 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1954

Certificate of Analysis

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

J	Estimated conc. detected <MRL and >MDL.
Q-11	This analysis was requested by the client after the holding time was exceeded.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Sample Receipt Acknowledgement

WORK ORDER: 3J15074 Printed: 10/16/2013 3:28:22PM

Client: BSK Analytical Laboratories Project Manager: Kim G Tu
Project: Metals Project Number: A3J0790

Report To:
BSK Analytical Laboratories
Michael Ng
550 West Locust Avenue
Fresno, CA 93650
Phone: (559) 497-2888
Fax: (559) 485-6935

Invoice To:
BSK Analytical Laboratories
Accounts Payable - Anise Foote
550 West Locust Avenue
Fresno, CA 93650
Phone :(559) 497-2888
Fax: (559) 485-6935

Date Due: **10/29/13 15:00 (10 day TAT)**

Received By: Adrian Talabis Date Received: 10/15/13 15:25
Logged In By: Adrian Talabis Date Logged In: 10/15/13 16:15

Samples Received at:	**2.4°C**	All containers intact:	**Yes**	Chain of custody completed	**Yes**
Number of Ice chests/packages:	**No**	Custody seals presen		Sample labels & COC agree	**Yes**
Appropriate Sample Containers:		Custody seals intact:		Samples preserved properly	**Yes**
		Samples received on ice		Sample volume sufficient	**Yes**
		Custody Seals	**No**	Sufficient holding time for all tests	**Yes**

Analysis	TAT	Expires	Comments
3J15074-01 A3J0790-01 [Water] Sampled 10/07/13 18:25 Pacific			
Iodide water 9056M	10	11/04/13 18:25	
200.7 Li_diss	10	04/05/14 18:25	

Comments:

Kim Tu
Authorized Signature

10/16/2013
Date

Note:
If any of the information included in this sample receipt acknowledgement is incorrect (sample information, analysis, etc), please contact the lab at (626) 336-2139. Thank you.

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3J0790 3J15074

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Weck Laboratories, Inc.
14859 E Clark Avenue
City of Industry, CA 91745-1396
Phone :(626) 336-2139
Fax: (626) 336-2634
Turnaround (Days): Standard
QC Deliverables: I (Std) III IV

Sample ID	Samp Desc	Sample Date
A3J0790-01	MPWSP ML-1 Zone #2 (90-100 ft bgs)	10/07/2013 18:25

Matrix: Water

Analysis	500P0
EXT-Iodide	Dissolved
EXT-Miscellaneous	Lithium

2.4°C

Released By Date Received By Date

BSK 10/14/13 1230

Ontrac 15:25 10.15.13

Released By Date Received By Date

BSK Associates Engineers & Laboratories
Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3L1789 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 12/20/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Michael Ng, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	susan.jacobson@amwater.com
Project #:	Water Quality Analysis - MPWSP	**Project PO#:**	-
Received:	12/20/2013 - 15:00		
Report Due:	1/08/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 0.4

Containers Intact
COC/Labels Agree
Received On Wet Ice
Received On Blue Ice
Sample(s) arrived at lab on same day sampled.
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Detailed Narrative

Chain of Custody Notes

Date: 12-24-13
Initials: MSN
Note: Samples were received past holding times for some tests. Per Sarp Sekeroglu, okay to analyze the tests past holding time.

Chain of Custody Notes

Date: 02-11-14
Initials: MSN
Note: Dissolved Sodium was over-range for this sample and there was insufficient volume left to reanalyze for Dissolved Sodium. Per Sarp Sekeroglu and Andrew Kieta, okay to analyze for Total Sodium in place of Dissolved Sodium.

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

B2.0	Analyte present in the method blank above the method detection limit (MDL). Laboratory does not determine batch acceptance on detections below the reporting limit (RL).
BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
BS3.0	BS/BSD RPD exceeded the acceptance limit. Recovery met acceptance criteria.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
DL1.0	Sample required a dilution due to the matrix or high concentration of a non-target analyte.
HT1.0	Holding time exceeded. Sample was received at the lab past holding time.
HT1.6	Holding time exceeded. The holding time for this analysis is a recommendation and is not mandated by any state or federal agency.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
MS1.4	Matrix spike recovery data unreliable due to significant parent sample concentration relative to fortification level (>4x).

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt

Certificate of Analysis

Sample ID: A3L1789-01
Sampled By: Nathan Reynolds
Sample Description: ML-2 Zone #1 (167-177 ft bgs)

Sample Date - Time: 12/17/13 - 16:45
Matrix: Water
Sample Type: Grab

Field Data: pH=6.86 Temp=17.3 ºC Cond.=34730 umho Turb. =1.68 ntu

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**750**	30	mg/L	10	A315355	12/27/13	12/27/13	
Bicarbonate as CaCO3	SM 2320 B	**750**	30	mg/L	10	A315355	12/27/13	12/27/13	
Carbonate as CaCO3	SM 2320 B	ND	30	mg/L	10	A315355	12/27/13	12/27/13	
Hydroxide as CaCO3	SM 2320 B	ND	30	mg/L	10	A315355	12/27/13	12/27/13	
Ammonia as N	SM 4500-NH3 G	**14**	0.10	mg/L	1	A315240	12/24/13	12/27/13	
Bromide	EPA 300.1	**45**	1.0	mg/L	200	A315371	12/27/13	12/27/13	
Surrogate: Dichloroacetate	EPA 300.1	100 %	*Acceptable range: 90-115 %*						
Chloride	EPA 300.0	**12000**	500	mg/L	500	A315134	12/23/13	12/23/13	
Color, Apparent	SM 2120 B	**45**	1.0	CU	1	A315108	12/20/13 17:55	12/20/13	HT1.0
Conductivity @ 25C	SM 2510 B	**31000**	1.0	umhos/cm	1	A315183	12/24/13	12/24/13	
Fluoride	EPA 300.0	ND	20	mg/L	200	A315318	12/26/13	12/26/13	DL1.0
Mass Balance-Anions		**390**		meq/L					
Mass Balance-Dissolved Cations		**380**		meq/L					
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.10	mg/L	2	A315233	12/24/13 08:30	12/24/13	HT1.0
Nitrate as NO3	EPA 300.0	ND	500	mg/L	500	A315134	12/23/13 20:25	12/23/13	DL1.0, HT1.0
Nitrite as N	EPA 300.0	ND	25	mg/L	500	A315134	12/23/13 20:25	12/23/13	DL1.0, HT1.0
Threshold Odor	SM 2150 B	**1.0**	1.0	T.O.N.	1	A315108	12/20/13 17:55	12/20/13	HT1.6
Orthophosphate as P	SM 4500-P E	**0.20**	0.010	mg/L	1	A315135	12/20/13 18:54	12/20/13	HT1.0
pH (1)	SM 4500-H+ B	**7.7**		pH Units	1	A315183	12/24/13	12/24/13	
pH Temperature in °C		**20.1**							
Phosphorus - Dissolved (1)	EPA 365.4	ND	0.10	mg/L	1	A315207	12/23/13	12/26/13	
Sulfate as SO4	EPA 300.0	**1000**	1000	mg/L	500	A315134	12/23/13	12/23/13	
Total Dissolved Solids	SM 2540C	**19000**	5.0	mg/L	1	A315189	12/23/13	12/27/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	**14**	1.0	mg/L	1	A315207	12/23/13	12/27/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A315381	12/30/13	12/30/13	
Turbidity	SM 2130 B	**6.0**	0.10	NTU	1	A315108	12/20/13 17:55	12/20/13	HT1.0

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	**0.082**	0.050	mg/L	1	A315185	12/23/13	12/27/13	
Arsenic	EPA 200.8	ND	10	ug/L	5	A315185	12/23/13	12/30/13	
Barium - Dissolved (1)	EPA 200.7	**0.074**	0.050	mg/L	1	A315238	12/24/13	12/30/13	
Boron - Dissolved (1)	EPA 200.7	**1.7**	0.10	mg/L	1	A315238	12/24/13	12/30/13	
Calcium	EPA 200.7	**570**	0.10	mg/L	1	A315185	12/23/13	12/27/13	
Calcium - Dissolved (1)	EPA 200.7	**620**	0.10	mg/L	1	A315238	12/24/13	12/30/13	
Copper	EPA 200.8	**38**	25	ug/L	5	A315185	12/23/13	12/30/13	
Hardness as CaCO3	SM 2340B	**4800**	0.41	mg/L					
Iron	EPA 200.7	**3.0**	0.030	mg/L	1	A315185	12/23/13	12/27/13	
Iron - Dissolved (1)	EPA 200.7	ND	0.030	mg/L	1	A315238	12/24/13	12/30/13	

Certificate of Analysis

Sample ID: A3L1789-01
Sampled By: Nathan Reynolds
Sample Description: ML-2 Zone #1 (167-177 ft bgs)

Sample Date - Time: 12/17/13 - 16:45
Matrix: Water
Sample Type: Grab

Field Data: pH=6.86 Temp=17.3 ºC Cond.=34730 umho Turb. =1.68 ntu

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Magnesium	EPA 200.7	**820**	0.10	mg/L	1	A315185	12/23/13	12/27/13	
Magnesium - Dissolved (1)	EPA 200.7	**900**	0.10	mg/L	1	A315238	12/24/13	12/30/13	
Manganese	EPA 200.7	**2.4**	0.010	mg/L	1	A315185	12/23/13	12/27/13	
Manganese - Dissolved (1)	EPA 200.7	**2.6**	0.010	mg/L	1	A315238	12/24/13	12/30/13	
Potassium - Dissolved (1)	EPA 200.7	**130**	2.0	mg/L	1	A315238	12/24/13	12/30/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**34**	0.20	mg/L	1	A315238	12/24/13	12/30/13	
Sodium - Dissolved (1)	EPA 200.7	**6200**	10	mg/L	10	A401747	02/11/14	02/12/14	
Strontium - Dissolved (1)	EPA 200.8	**7900**	5.0	ug/L	5	A315238	12/24/13	01/03/14	
Zinc	EPA 200.7	ND	0.050	mg/L	1	A315185	12/23/13	12/27/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A315261	12/24/13	12/25/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A315261	12/24/13	12/25/13	
Surrogate: TCMX	EPA 504.1	111 %	*Acceptable range: 70-130 %*						
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A315261	12/24/13	12/25/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A315261	12/24/13	12/25/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A315261	12/24/13	12/25/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A315261	12/24/13	12/25/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A315261	12/24/13	12/25/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A315261	12/24/13	12/25/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A315261	12/24/13	12/25/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A315261	12/24/13	12/25/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A315261	12/24/13	12/25/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A315261	12/24/13	12/25/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A315261	12/24/13	12/25/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A315261	12/24/13	12/25/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A315261	12/24/13	12/25/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A315261	12/24/13	12/25/13	
Surrogate: TCMX	EPA 505	111 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A315300	12/26/13	12/28/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A315300	12/26/13	12/28/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A315300	12/26/13	12/28/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A315300	12/26/13	12/28/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A315300	12/26/13	12/28/13	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A315300	12/26/13	12/28/13	

Certificate of Analysis

Sample ID: A3L1789-01
Sampled By: Nathan Reynolds
Sample Description: ML-2 Zone #1 (167-177 ft bgs)

Sample Date - Time: 12/17/13 - 16:45
Matrix: Water
Sample Type: Grab

Field Data: pH=6.86 Temp=17.3 ºC Cond.=34730 umho Turb. =1.68 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A315300	12/26/13	12/28/13	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A315300	12/26/13	12/28/13	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A315300	12/26/13	12/28/13	
Surrogate: DCPAA	EPA 515.3	84 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A315401	12/30/13	12/30/13	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A315401	12/30/13	12/30/13	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A315401	12/30/13	12/30/13	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A315401	12/30/13	12/30/13	
Acetone	EPA 524.2	ND	10	ug/L	1	A315401	12/30/13	12/30/13	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	

Certificate of Analysis

Sample ID: A3L1789-01
Sampled By: Nathan Reynolds
Sample Description: ML-2 Zone #1 (167-177 ft bgs)

Sample Date - Time: 12/17/13 - 16:45
Matrix: Water
Sample Type: Grab

Field Data: pH=6.86 Temp=17.3 ºC Cond.=34730 umho Turb. =1.68 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A315401	12/30/13	12/30/13	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	BS1.0, CV0.0
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A315401	12/30/13	12/30/13	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A315401	12/30/13	12/30/13	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A315401	12/30/13	12/30/13	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A315401	12/30/13	12/30/13	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	93 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	102 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A315174	12/23/13	12/24/13	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A315174	12/23/13	12/24/13	

Certificate of Analysis

Sample ID: A3L1789-01
Sampled By: Nathan Reynolds
Sample Description: ML-2 Zone #1 (167-177 ft bgs)

Sample Date - Time: 12/17/13 - 16:45
Matrix: Water
Sample Type: Grab

Field Data: pH=6.86 Temp=17.3 ºC Cond.=34730 umho Turb. =1.68 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Semi-Volatile Organics by GC-MS									
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A315174	12/23/13	12/24/13	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A315174	12/23/13	12/24/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A315174	12/23/13	12/24/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A315174	12/23/13	12/24/13	BS1.0
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A315174	12/23/13	12/24/13	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A315174	12/23/13	12/24/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A315174	12/23/13	12/24/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A315174	12/23/13	12/24/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A315174	12/23/13	12/24/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A315174	12/23/13	12/24/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A315174	12/23/13	12/24/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A315174	12/23/13	12/24/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A315174	12/23/13	12/24/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	96 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A315375	12/27/13	12/28/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A315375	12/27/13	12/28/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A315375	12/27/13	12/28/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A315375	12/27/13	12/28/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A315375	12/27/13	12/28/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A315375	12/27/13	12/28/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A315375	12/27/13	12/28/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A315375	12/27/13	12/28/13	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A315140	12/21/13	12/21/13	
Surrogate: AMPA	EPA 547	86 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A315232	12/23/13	12/26/13	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A315144	12/21/13	12/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A315134										Prepared: 12/23/2013	
Prep Method: Method Specific Preparation										Analyst: EMH	
Blank (A315134-BLK1)											
Chloride	ND	1.0	mg/L							12/23/13	
Nitrate as NO3	ND	1.0	mg/L							12/23/13	
Nitrite as N	ND	0.050	mg/L							12/23/13	
Sulfate as SO4	ND	2.0	mg/L							12/23/13	
Blank Spike (A315134-BS1)											
Chloride	50	1.0	mg/L	50		99	90-110			12/23/13	
Nitrate as NO3	49	1.0	mg/L	50		98	90-110			12/23/13	
Nitrite as N	0.49	0.050	mg/L	0.50		98	90-110			12/23/13	
Sulfate as SO4	49	2.0	mg/L	50		99	90-110			12/23/13	
Blank Spike Dup (A315134-BSD1)											
Chloride	49	1.0	mg/L	50		99	90-110	0	20	12/23/13	
Nitrate as NO3	49	1.0	mg/L	50		98	90-110	0	20	12/23/13	
Nitrite as N	0.49	0.050	mg/L	0.50		98	90-110	0	20	12/23/13	
Sulfate as SO4	49	2.0	mg/L	50		98	90-110	0	20	12/23/13	
Matrix Spike (A315134-MS1), Source: A3L1709-02											
Chloride	110	2.0	mg/L	100	9.6	102	80-120			12/23/13	
Nitrate as NO3	100	2.0	mg/L	100	ND	101	80-120			12/23/13	
Nitrite as N	0.75	0.10	mg/L	1.0	ND	75	80-120			12/23/13	MS1.0 ***Low***
Sulfate as SO4	140	4.0	mg/L	100	41	101	80-120			12/23/13	
Matrix Spike (A315134-MS2), Source: A3L1697-01											
Chloride	110	2.0	mg/L	100	5.6	102	80-120			12/23/13	
Nitrate as NO3	210	2.0	mg/L	100	110	98	80-120			12/23/13	
Nitrite as N	0.97	0.10	mg/L	1.0	ND	97	80-120			12/23/13	
Sulfate as SO4	130	4.0	mg/L	100	24	101	80-120			12/23/13	
Matrix Spike Dup (A315134-MSD1), Source: A3L1709-02											
Chloride	110	2.0	mg/L	100	9.6	101	80-120	1	20	12/23/13	
Nitrate as NO3	100	2.0	mg/L	100	ND	100	80-120	1	20	12/23/13	
Nitrite as N	0.74	0.10	mg/L	1.0	ND	74	80-120	1	20	12/23/13	MS1.0 ***Low***
Sulfate as SO4	140	4.0	mg/L	100	41	99	80-120	1	20	12/23/13	
Matrix Spike Dup (A315134-MSD2), Source: A3L1697-01											
Chloride	110	2.0	mg/L	100	5.6	102	80-120	1	20	12/23/13	
Nitrate as NO3	210	2.0	mg/L	100	110	99	80-120	1	20	12/23/13	
Nitrite as N	0.98	0.10	mg/L	1.0	ND	98	80-120	1	20	12/23/13	
Sulfate as SO4	130	4.0	mg/L	100	24	102	80-120	1	20	12/23/13	
EPA 300.0 - Quality Control											
Batch: A315318										Prepared: 12/26/2013	
Prep Method: Method Specific Preparation										Analyst: n.a.	
Blank (A315318-BLK1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A315318										Prepared: 12/26/2013	
Prep Method: Method Specific Preparation										Analyst: n.a.	
Blank (A315318-BLK1)											
Fluoride	ND	0.10	mg/L							12/26/13	
Blank Spike (A315318-BS1)											
Fluoride	0.49	0.10	mg/L	0.50		98	90-110			12/26/13	
Blank Spike Dup (A315318-BSD1)											
Fluoride	0.50	0.10	mg/L	0.50		100	90-110	2	10	12/26/13	
Matrix Spike (A315318-MS1), Source: A3L1709-02											
Fluoride	1.1	0.20	mg/L	1.0	ND	99	80-120			12/26/13	
Matrix Spike (A315318-MS2), Source: A3L1860-02											
Fluoride	1.3	0.20	mg/L	1.0	0.27	98	80-120			12/26/13	
Matrix Spike Dup (A315318-MSD1), Source: A3L1709-02											
Fluoride	1.1	0.20	mg/L	1.0	ND	97	80-120	2	10	12/26/13	
Matrix Spike Dup (A315318-MSD2), Source: A3L1860-02											
Fluoride	1.3	0.20	mg/L	1.0	0.27	102	80-120	3	10	12/26/13	
EPA 300.1 - Quality Control											
Batch: A315371										Prepared: 12/27/2013	
Prep Method: Method Specific Preparation										Analyst: TRL	
Blank (A315371-BLK1)											
Bromide	ND	0.0050	mg/L							12/27/13	
Surrogate: Dichloroacetate	*0.495*			*0.50*		*99*	*90-115*			12/27/13	
Blank Spike (A315371-BS1)											
Bromide	0.19	0.0050	mg/L	0.20		96	85-115			12/27/13	
Surrogate: Dichloroacetate	*0.492*			*0.50*		*98*	*90-115*			12/27/13	
Blank Spike Dup (A315371-BSD1)											
Bromide	0.19	0.0050	mg/L	0.20		97	85-115	1	10	12/27/13	
Surrogate: Dichloroacetate	*0.494*			*0.50*		*99*	*90-115*			12/27/13	
Matrix Spike (A315371-MS1), Source: A3L1963-02											
Bromide	4.3	0.10	mg/L	2.0	2.4	93	75-125			12/27/13	
Surrogate: Dichloroacetate	*9.63*			*10*		*96*	*90-115*			12/27/13	
Matrix Spike (A315371-MS2), Source: A3L2009-03											
Bromide	0.50	0.020	mg/L	0.40	0.13	93	75-125			12/28/13	
Surrogate: Dichloroacetate	*1.89*			*2.0*		*95*	*90-115*			12/28/13	
Matrix Spike Dup (A315371-MSD1), Source: A3L1963-02											
Bromide	4.3	0.10	mg/L	2.0	2.4	94	75-125	0	10	12/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.1 - Quality Control											
Batch: A315371										Prepared: 12/27/2013	
Prep Method: Method Specific Preparation										Analyst: TRL	
Matrix Spike Dup (A315371-MSD1), Source: A3L1963-02											
Surrogate: Dichloroacetate	*9.74*			*10*		*97*	*90-115*			12/27/13	
Matrix Spike Dup (A315371-MSD2), Source: A3L2009-03											
Bromide	0.51	0.020	mg/L	0.40	0.13	94	75-125	1	10	12/28/13	
Surrogate: Dichloroacetate	*1.96*			*2.0*		*98*	*90-115*			12/28/13	
EPA 351.2 - Quality Control											
Batch: A315207										Prepared: 12/23/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A315207-BLK2)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							12/27/13	
Blank Spike (A315207-BS2)											
Total Kjeldahl Nitrogen - Dissolved (1)	9.9	1.0	mg/L	10		99	90-110			12/27/13	
Blank Spike Dup (A315207-BSD2)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		105	90-110	5	10	12/27/13	
Matrix Spike (A315207-MS2), Source: A3L1656-01											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10	ND	100	90-110			12/27/13	
Matrix Spike Dup (A315207-MSD2), Source: A3L1656-01											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10	ND	99	90-110	2	10	12/27/13	
EPA 365.4 - Quality Control											
Batch: A315207										Prepared: 12/23/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A315207-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							12/26/13	
Blank Spike (A315207-BS1)											
Phosphorus - Dissolved (1)	9.3	0.10	mg/L	10		93	90-110			12/26/13	
Blank Spike Dup (A315207-BSD1)											
Phosphorus - Dissolved (1)	9.9	0.10	mg/L	10		99	90-110	7	10	12/26/13	
Matrix Spike (A315207-MS1), Source: A3L1656-01											
Phosphorus - Dissolved (1)	9.5	0.10	mg/L	10	ND	95	90-110			12/26/13	
Matrix Spike Dup (A315207-MSD1), Source: A3L1656-01											
Phosphorus - Dissolved (1)	9.8	0.10	mg/L	10	ND	98	90-110	3	10	12/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2120 B - Quality Control											
Batch: A315108										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315108-BLK1)											
Color, Apparent	ND	1.0	CU							12/20/13	
Duplicate (A315108-DUP1), Source: A3L1654-01											
Color, Apparent	5.0	1.0	CU		5.0			0	20	12/20/13	
Duplicate (A315108-DUP2), Source: A3L1715-01											
Color, Apparent	5.0	1.0	CU		5.0			0	20	12/20/13	
SM 2130 B - Quality Control											
Batch: A315108										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315108-BLK1)											
Turbidity	ND	0.10	NTU							12/20/13	
Duplicate (A315108-DUP1), Source: A3L1654-01											
Turbidity	ND	0.10	NTU		ND				20	12/20/13	
Duplicate (A315108-DUP2), Source: A3L1715-01											
Turbidity	ND	0.10	NTU		ND				20	12/20/13	
SM 2150 B - Quality Control											
Batch: A315108										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315108-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							12/20/13	
Duplicate (A315108-DUP1), Source: A3L1654-01											
Threshold Odor	1.0	1.0	T.O.N.		1.0			0	20	12/20/13	
Duplicate (A315108-DUP2), Source: A3L1715-01											
Threshold Odor	1.0	1.0	T.O.N.		1.0			0	20	12/20/13	
SM 2320 B - Quality Control											
Batch: A315355										Prepared: 12/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315355-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							12/27/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							12/27/13	
Carbonate as CaCO3	ND	3.0	mg/L							12/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L							12/27/13	
Blank Spike (A315355-BS1)											
Alkalinity as CaCO3	96	3.0	mg/L	100		96	80-120			12/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2320 B - Quality Control											
Batch: A315355										Prepared: 12/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank Spike Dup (A315355-BSD1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		101	80-120	5	20	12/27/13	
Duplicate (A315355-DUP1), Source: A3L1932-01											
Alkalinity as CaCO3	270	3.0	mg/L		270			2	10	12/27/13	
Bicarbonate as CaCO3	270	3.0	mg/L		270			2	10	12/27/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	12/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	12/27/13	
Duplicate (A315355-DUP2), Source: A3L1949-01											
Alkalinity as CaCO3	110	3.0	mg/L		100			3	10	12/27/13	
Bicarbonate as CaCO3	110	3.0	mg/L		100			3	10	12/27/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	12/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	12/27/13	
SM 2510 B - Quality Control											
Batch: A315183										Prepared: 12/24/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315183-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							12/24/13	
Duplicate (A315183-DUP1), Source: A3L1704-01											
Conductivity @ 25C	780	1.0	umhos/cm		790			1	20	12/24/13	
Duplicate (A315183-DUP2), Source: A3L1860-02											
Conductivity @ 25C	350	1.0	umhos/cm		350			0	20	12/24/13	
SM 2540C - Quality Control											
Batch: A315189										Prepared: 12/23/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A315189-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							12/27/13	
Blank Spike (A315189-BS1)											
Total Dissolved Solids	990	5.0	mg/L	1000		99	70-130			12/27/13	
Duplicate (A315189-DUP1), Source: A3L1658-01											
Total Dissolved Solids	370	5.0	mg/L		370			1	20	12/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-H+ B - Quality Control											
Batch: A315183										Prepared: 12/24/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A315183-DUP1), Source: A3L1704-01											
pH (1)	7.8		pH Units		7.8			0	20	12/24/13	
Duplicate (A315183-DUP2), Source: A3L1860-02											
pH (1)	7.8		pH Units		7.8			0	20	12/24/13	
SM 4500-NH3 G - Quality Control											
Batch: A315240										Prepared: 12/24/2013	
Prep Method: Ammonia Distillation										Analyst: KKC	
Blank (A315240-BLK1)											
Ammonia as N	ND	0.10	mg/L							12/27/13	B2.0
Blank Spike (A315240-BS1)											
Ammonia as N	9.8	0.10	mg/L	10		98	80-120			12/27/13	
Blank Spike Dup (A315240-BSD1)											
Ammonia as N	9.7	0.10	mg/L	10		97	80-120	1	20	12/27/13	
Matrix Spike (A315240-MS1), Source: A3L1407-01											
Ammonia as N	9.5	0.10	mg/L	10	0.38	91	80-120			12/27/13	
Matrix Spike (A315240-MS2), Source: A3L1480-06											
Ammonia as N	10	0.10	mg/L	10	0.57	96	80-120			12/28/13	
Matrix Spike Dup (A315240-MSD1), Source: A3L1407-01											
Ammonia as N	9.4	0.10	mg/L	10	0.38	90	80-120	1	20	12/27/13	
Matrix Spike Dup (A315240-MSD2), Source: A3L1480-06											
Ammonia as N	9.7	0.10	mg/L	10	0.57	91	80-120	5	20	12/28/13	
SM 4500-NO3 F - Quality Control											
Batch: A315381										Prepared: 12/30/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A315381-BLK1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							12/30/13	
Blank Spike (A315381-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		104	80-120			12/30/13	
Blank Spike Dup (A315381-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		102	80-120	2	20	12/30/13	
Matrix Spike (A315381-MS1), Source: A3L1608-03											
Total Oxidizable Nitrogen, as N - Dissolved (1)	23	1.0	mg/L	10	14	95	80-120			12/30/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NO3 F - Quality Control											
Batch: A315381										Prepared: 12/30/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Matrix Spike (A315381-MS2), Source: A3L1789-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.4	0.10	mg/L	10	ND	93	80-120			12/30/13	
Matrix Spike Dup (A315381-MSD1), Source: A3L1608-03											
Total Oxidizable Nitrogen, as N - Dissolved (1)	23	1.0	mg/L	10	14	90	80-120	2	20	12/30/13	
Matrix Spike Dup (A315381-MSD2), Source: A3L1789-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.5	0.10	mg/L	10	ND	95	80-120	1	20	12/30/13	
SM 4500-P E - Quality Control											
Batch: A315135										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A315135-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							12/20/13	
Blank Spike (A315135-BS1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		100	90-110			12/20/13	
Blank Spike Dup (A315135-BSD1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		100	90-110	0	20	12/20/13	
Matrix Spike (A315135-MS1), Source: A3L1716-01											
Orthophosphate as P	0.33	0.010	mg/L	0.25	0.079	100	80-120			12/20/13	
Matrix Spike Dup (A315135-MSD1), Source: A3L1716-01											
Orthophosphate as P	0.34	0.010	mg/L	0.25	0.079	103	80-120	2	20	12/20/13	
SM 5540 C - Quality Control											
Batch: A315233										Prepared: 12/24/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A315233-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							12/24/13	
Blank Spike (A315233-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.91	0.050	mg/L	1.0		91	80-120			12/24/13	
Blank Spike Dup (A315233-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.95	0.050	mg/L	1.0		95	80-120	4	20	12/24/13	
Matrix Spike (A315233-MS1), Source: A3L1866-01											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	101	80-120			12/24/13	
Matrix Spike Dup (A315233-MSD1), Source: A3L1866-01											
MBAS, Calculated as LAS, mol wt 340	0.95	0.050	mg/L	1.0	ND	95	80-120	7	20	12/24/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A315185										Prepared: 12/23/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A315185-BLK2)											
Aluminum	ND	0.050	mg/L							12/27/13	
Calcium	ND	0.10	mg/L							12/27/13	
Iron	ND	0.030	mg/L							12/27/13	
Magnesium	ND	0.10	mg/L							12/27/13	
Manganese	ND	0.010	mg/L							12/27/13	
Zinc	ND	0.050	mg/L							12/27/13	
Blank Spike (A315185-BS2)											
Aluminum	0.19	0.050	mg/L	0.20		94	85-115			12/27/13	
Calcium	9.5	0.10	mg/L	10		95	85-115			12/27/13	
Iron	1.9	0.030	mg/L	2.0		95	85-115			12/27/13	
Magnesium	9.3	0.10	mg/L	10		93	85-115			12/27/13	
Manganese	0.19	0.010	mg/L	0.20		93	85-115			12/27/13	
Zinc	0.19	0.050	mg/L	0.20		96	85-115			12/27/13	
Blank Spike Dup (A315185-BSD2)											
Aluminum	0.18	0.050	mg/L	0.20		89	85-115	6	20	12/27/13	
Calcium	9.5	0.10	mg/L	10		95	85-115	1	20	12/27/13	
Iron	1.9	0.030	mg/L	2.0		94	85-115	1	20	12/27/13	
Magnesium	9.3	0.10	mg/L	10		93	85-115	0	20	12/27/13	
Manganese	0.19	0.010	mg/L	0.20		93	85-115	1	20	12/27/13	
Zinc	0.19	0.050	mg/L	0.20		96	85-115	0	20	12/27/13	
Matrix Spike (A315185-MS3), Source: A3L1769-01											
Aluminum	0.34	0.050	mg/L	0.20	0.084	126	70-130			12/27/13	
Calcium	22	0.10	mg/L	10	12	97	70-130			12/27/13	
Iron	3.2	0.030	mg/L	2.0	1.2	99	70-130			12/27/13	
Magnesium	15	0.10	mg/L	10	5.7	97	70-130			12/27/13	
Manganese	0.20	0.010	mg/L	0.20	0.014	94	70-130			12/27/13	
Zinc	0.32	0.050	mg/L	0.20	0.13	96	70-130			12/27/13	
Matrix Spike Dup (A315185-MSD3), Source: A3L1769-01											
Aluminum	0.33	0.050	mg/L	0.20	0.084	125	70-130	1	20	12/27/13	
Calcium	21	0.10	mg/L	10	12	93	70-130	2	20	12/27/13	
Iron	3.1	0.030	mg/L	2.0	1.2	97	70-130	2	20	12/27/13	
Magnesium	15	0.10	mg/L	10	5.7	94	70-130	2	20	12/27/13	
Manganese	0.20	0.010	mg/L	0.20	0.014	93	70-130	1	20	12/27/13	
Zinc	0.32	0.050	mg/L	0.20	0.13	94	70-130	1	20	12/27/13	
EPA 200.7 - Quality Control											
Batch: A315238										Prepared: 12/24/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A315238-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							12/30/13	
Boron - Dissolved (1)	ND	0.10	mg/L							12/30/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A315238										Prepared: 12/24/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A315238-BLK2)											
Calcium - Dissolved (1)	ND	0.10	mg/L							12/30/13	
Iron - Dissolved (1)	ND	0.030	mg/L							12/30/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							12/30/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							12/30/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							12/30/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							12/30/13	
Blank Spike (A315238-BS2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115			12/30/13	
Boron - Dissolved (1)	0.57	0.10	mg/L	0.60		96	85-115			12/30/13	
Calcium - Dissolved (1)	10	0.10	mg/L	10		100	85-115			12/30/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		100	85-115			12/30/13	
Magnesium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115			12/30/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		98	85-115			12/30/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10		101	85-115			12/30/13	
Silica (SiO2) - Dissolved (1)	2.1	0.20	mg/L	2.1		100	85-115			12/30/13	
Blank Spike Dup (A315238-BSD2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115	0	20	12/30/13	
Boron - Dissolved (1)	0.57	0.10	mg/L	0.60		96	85-115	0	20	12/30/13	
Calcium - Dissolved (1)	9.9	0.10	mg/L	10		99	85-115	1	20	12/30/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		99	85-115	1	20	12/30/13	
Magnesium - Dissolved (1)	9.7	0.10	mg/L	10		97	85-115	1	20	12/30/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20		97	85-115	1	20	12/30/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10		100	85-115	1	20	12/30/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		101	85-115	1	20	12/30/13	
Matrix Spike (A315238-MS2), Source: A3L1798-01											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20	ND	101	70-130			12/30/13	
Boron - Dissolved (1)	1.5	0.10	mg/L	0.60	0.94	93	70-130			12/30/13	
Calcium - Dissolved (1)	12	0.10	mg/L	10	1.9	98	70-130			12/30/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.17	97	70-130			12/30/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10	0.72	95	70-130			12/30/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20	ND	94	70-130			12/30/13	
Potassium - Dissolved (1)	11	2.0	mg/L	10	ND	97	70-130			12/30/13	
Silica (SiO2) - Dissolved (1)	31	0.20	mg/L	2.1	29	91	70-130			12/30/13	
Matrix Spike Dup (A315238-MSD2), Source: A3L1798-01											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20	ND	102	70-130	1	20	12/30/13	
Boron - Dissolved (1)	1.5	0.10	mg/L	0.60	0.94	97	70-130	1	20	12/30/13	
Calcium - Dissolved (1)	12	0.10	mg/L	10	1.9	99	70-130	1	20	12/30/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.17	97	70-130	0	20	12/30/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10	0.72	96	70-130	1	20	12/30/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20	ND	96	70-130	1	20	12/30/13	
Potassium - Dissolved (1)	11	2.0	mg/L	10	ND	97	70-130	0	20	12/30/13	
Silica (SiO2) - Dissolved (1)	31	0.20	mg/L	2.1	29	102	70-130	1	20	12/30/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A401747										Prepared: 2/11/2014	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A401747-BLK1)											
Sodium - Dissolved (1)	ND	1.0	mg/L							02/12/14	
Blank Spike (A401747-BS1)											
Sodium - Dissolved (1)	10	1.0	mg/L	10		102	85-115			02/12/14	
Blank Spike Dup (A401747-BSD1)											
Sodium - Dissolved (1)	10	1.0	mg/L	10		104	85-115	1	20	02/12/14	
Matrix Spike (A401747-MS1), Source: A3L1789-01											
Sodium - Dissolved (1)	6100	10	mg/L	10	6200	NR	70-130			02/12/14	MS1.4 ***Low***
Matrix Spike Dup (A401747-MSD1), Source: A3L1789-01											
Sodium - Dissolved (1)	6100	10	mg/L	10	6200	NR	70-130	1	20	02/12/14	MS1.4 ***Low***
EPA 200.8 - Quality Control											
Batch: A315185										Prepared: 12/23/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Blank (A315185-BLK1)											
Arsenic	ND	2.0	ug/L							12/30/13	
Copper	ND	5.0	ug/L							12/30/13	
Blank Spike (A315185-BS1)											
Arsenic	190	2.0	ug/L	200		97	85-115			12/30/13	
Copper	190	5.0	ug/L	200		94	85-115			12/30/13	
Blank Spike Dup (A315185-BSD1)											
Arsenic	200	2.0	ug/L	200		98	85-115	1	20	12/30/13	
Copper	190	5.0	ug/L	200		95	85-115	1	20	12/30/13	
Matrix Spike (A315185-MS1), Source: A3L1769-01											
Arsenic	190	2.0	ug/L	200	ND	97	70-130			12/30/13	
Copper	200	5.0	ug/L	200	9.0	93	70-130			12/30/13	
Matrix Spike (A315185-MS2), Source: A3L1789-01											
Arsenic	220	10	ug/L	200	ND	111	70-130			12/30/13	
Copper	230	25	ug/L	200	38	96	70-130			12/30/13	
Matrix Spike Dup (A315185-MSD1), Source: A3L1769-01											
Arsenic	190	2.0	ug/L	200	ND	96	70-130	0	20	12/30/13	
Copper	190	5.0	ug/L	200	9.0	92	70-130	1	20	12/30/13	
Matrix Spike Dup (A315185-MSD2), Source: A3L1789-01											
Arsenic	210	10	ug/L	200	ND	107	70-130	4	20	12/30/13	
Copper	220	25	ug/L	200	38	92	70-130	4	20	12/30/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A315238										Prepared: 12/24/2013	
Prep Method: Filtration - Metals										Analyst: PSK	
Blank (A315238-BLK1)											
Strontium - Dissolved (1)	ND	1.0	ug/L							12/27/13	
Blank Spike (A315238-BS1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		98	85-115			12/27/13	
Blank Spike Dup (A315238-BSD1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		98	85-115	1	20	12/27/13	
Matrix Spike (A315238-MS1), Source: A3L1798-01											
Strontium - Dissolved (1)	230	1.0	ug/L	200	8600	NR	70-130			12/27/13	MS1.0 ***Low***
Matrix Spike Dup (A315238-MSD1), Source: A3L1798-01											
Strontium - Dissolved (1)	230	1.0	ug/L	200	8600	NR	70-130	3	20	12/27/13	MS1.0 ***Low***

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A315261										Prepared: 12/24/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A315261-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							12/25/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							12/25/13	
Surrogate: TCMX	*4.8*			*4.5*		*109*	*70-130*			12/25/13	
Blank Spike (A315261-BS1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		105	70-130			12/25/13	
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20		109	70-130			12/25/13	
Surrogate: TCMX	*5.0*			*4.5*		*112*	*70-130*			12/25/13	
Blank Spike Dup (A315261-BSD1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		107	70-130	2	20	12/25/13	
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20		111	70-130	2	20	12/25/13	
Surrogate: TCMX	*5.1*			*4.5*		*115*	*70-130*			12/25/13	
Matrix Spike (A315261-MS1), Source: A3L1733-01											
Dibromochloropropane (DBCP)	0.80	0.010	ug/L	0.20	0.73	30	65-135			12/25/13	MS1.4 ***Low***
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20	ND	103	65-135			12/25/13	
Surrogate: TCMX	*5.3*			*4.5*		*117*	*70-130*			12/25/13	
Matrix Spike Dup (A315261-MSD1), Source: A3L1733-01											
Dibromochloropropane (DBCP)	0.88	0.010	ug/L	0.20	0.73	70	65-135	9	20	12/25/13	
Ethylene Dibromide (EDB)	0.24	0.020	ug/L	0.20	ND	114	65-135	9	20	12/25/13	
Surrogate: TCMX	*5.7*			*4.5*		*128*	*70-130*			12/25/13	
EPA 505 - Quality Control											
Batch: A315261										Prepared: 12/24/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A315261-BLK1)											
Aldrin	ND	0.075	ug/L							12/25/13	
Chlordane	ND	0.10	ug/L							12/25/13	
Chlorothalonil	ND	5.0	ug/L							12/25/13	
Dieldrin	ND	0.020	ug/L							12/25/13	
Endrin	ND	0.10	ug/L							12/25/13	
Heptachlor	ND	0.010	ug/L							12/25/13	
Heptachlor Epoxide	ND	0.010	ug/L							12/25/13	
Hexachlorobenzene	ND	0.50	ug/L							12/25/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							12/25/13	
Lindane	ND	0.20	ug/L							12/25/13	
Methoxychlor	ND	10	ug/L							12/25/13	
PCB Aroclor Screen	ND	0.50	ug/L							12/25/13	
Toxaphene	ND	1.0	ug/L							12/25/13	
Trifluralin	ND	1.0	ug/L							12/25/13	
Surrogate: TCMX	*4.8*			*4.5*		*109*	*70-130*			12/25/13	
Blank Spike (A315261-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A315261										Prepared: 12/24/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A315261-BS1)											
Aldrin	1.0	0.075	ug/L	1.0		102	70-130			12/25/13	
Chlorothalonil	10	5.0	ug/L	10		105	70-130			12/25/13	
Dieldrin	0.43	0.020	ug/L	0.40		107	70-130			12/25/13	
Endrin	0.22	0.10	ug/L	0.20		108	70-130			12/25/13	
Heptachlor	0.21	0.010	ug/L	0.20		106	70-130			12/25/13	
Heptachlor Epoxide	0.21	0.010	ug/L	0.20		106	70-130			12/25/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0		105	70-130			12/25/13	
Hexachlorocyclopentadiene	2.1	1.0	ug/L	2.0		105	70-130			12/25/13	
Lindane	0.42	0.20	ug/L	0.40		105	70-130			12/25/13	
Methoxychlor	2.3	10	ug/L	2.0		115	70-130			12/25/13	
Trifluralin	2.1	1.0	ug/L	2.0		107	70-130			12/25/13	
Surrogate: TCMX	*5.0*			*4.5*		*112*	*70-130*			12/25/13	
Blank Spike Dup (A315261-BSD1)											
Aldrin	1.1	0.075	ug/L	1.0		110	70-130	8	20	12/25/13	
Chlorothalonil	10	5.0	ug/L	10		102	70-130	2	20	12/25/13	
Dieldrin	0.43	0.020	ug/L	0.40		108	70-130	0	20	12/25/13	
Endrin	0.22	0.10	ug/L	0.20		110	70-130	1	20	12/25/13	
Heptachlor	0.22	0.010	ug/L	0.20		110	70-130	4	20	12/25/13	
Heptachlor Epoxide	0.21	0.010	ug/L	0.20		107	70-130	1	20	12/25/13	
Hexachlorobenzene	2.2	0.50	ug/L	2.0		108	70-130	3	20	12/25/13	
Hexachlorocyclopentadiene	2.2	1.0	ug/L	2.0		109	70-130	4	20	12/25/13	
Lindane	0.44	0.20	ug/L	0.40		109	70-130	4	20	12/25/13	
Methoxychlor	2.3	10	ug/L	2.0		114	70-130	2	20	12/25/13	
Trifluralin	2.2	1.0	ug/L	2.0		110	70-130	3	20	12/25/13	
Surrogate: TCMX	*5.1*			*4.5*		*115*	*70-130*			12/25/13	
Matrix Spike (A315261-MS1), Source: A3L1733-01											
Aldrin	1.1	0.075	ug/L	1.0	ND	108	65-135			12/25/13	
Chlorothalonil	10	5.0	ug/L	10	ND	99	65-135			12/25/13	
Dieldrin	0.39	0.020	ug/L	0.40	ND	96	65-135			12/25/13	
Endrin	0.21	0.10	ug/L	0.20	ND	105	65-135			12/25/13	
Heptachlor	0.22	0.010	ug/L	0.20	ND	108	65-135			12/25/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	97	65-135			12/25/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	102	65-135			12/25/13	
Hexachlorocyclopentadiene	2.2	1.0	ug/L	2.0	ND	105	65-135			12/25/13	
Lindane	0.40	0.20	ug/L	0.40	ND	98	65-135			12/25/13	
Methoxychlor	2.2	10	ug/L	2.0	ND	107	65-135			12/25/13	
Trifluralin	2.1	1.0	ug/L	2.0	ND	106	65-135			12/25/13	
Surrogate: TCMX	*5.3*			*4.5*		*117*	*70-130*			12/25/13	
Matrix Spike Dup (A315261-MSD1), Source: A3L1733-01											
Aldrin	1.2	0.075	ug/L	1.0	ND	121	65-135	11	20	12/25/13	
Chlorothalonil	11	5.0	ug/L	10	ND	107	65-135	7	20	12/25/13	
Dieldrin	0.42	0.020	ug/L	0.40	ND	106	65-135	9	20	12/25/13	
Endrin	0.22	0.10	ug/L	0.20	ND	112	65-135	5	20	12/25/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A315261										Prepared: 12/24/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A315261-MSD1), Source: A3L1733-01											
Heptachlor	0.24	0.010	ug/L	0.20	ND	118	65-135	8	20	12/25/13	
Heptachlor Epoxide	0.21	0.010	ug/L	0.20	ND	106	65-135	8	20	12/25/13	
Hexachlorobenzene	2.3	0.50	ug/L	2.0	ND	113	65-135	10	20	12/25/13	
Hexachlorocyclopentadiene	2.4	1.0	ug/L	2.0	ND	117	65-135	11	20	12/25/13	
Lindane	0.44	0.20	ug/L	0.40	ND	109	65-135	10	20	12/25/13	
Methoxychlor	2.3	10	ug/L	2.0	ND	117	65-135	8	20	12/25/13	
Trifluralin	2.3	1.0	ug/L	2.0	ND	112	65-135	5	20	12/25/13	
Surrogate: TCMX	*5.7*			*4.5*		*128*	*70-130*			12/25/13	
EPA 515.3 - Quality Control											
Batch: A315300										Prepared: 12/26/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A315300-BLK1)											
2,4,5-T	ND	1.0	ug/L							12/28/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							12/28/13	
2,4-D	ND	10	ug/L							12/28/13	
Bentazon	ND	2.0	ug/L							12/28/13	
Dalapon	ND	10	ug/L							12/28/13	
Dicamba	ND	1.5	ug/L							12/28/13	
Dinoseb	ND	2.0	ug/L							12/28/13	
Pentachlorophenol	ND	0.20	ug/L							12/28/13	
Picloram	ND	1.0	ug/L							12/28/13	
Surrogate: DCPAA	*59*			*58*		*102*	*70-130*			12/28/13	
Blank Spike (A315300-BS1)											
2,4,5-T	4.7	1.0	ug/L	4.0		117	70-130			12/28/13	
2,4,5-TP (Silvex)	0.94	1.0	ug/L	0.80		117	70-130			12/28/13	
2,4-D	0.47	10	ug/L	0.40		117	70-130			12/28/13	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130			12/28/13	
Dalapon	4.2	10	ug/L	4.0		106	70-130			12/28/13	
Dicamba	7.1	1.5	ug/L	6.0		118	70-130			12/28/13	
Dinoseb	0.90	2.0	ug/L	0.80		113	70-130			12/28/13	
Pentachlorophenol	0.19	0.20	ug/L	0.16		116	70-130			12/28/13	
Picloram	0.46	1.0	ug/L	0.40		116	70-130			12/28/13	
Surrogate: DCPAA	*59*			*58*		*101*	*70-130*			12/28/13	
Blank Spike Dup (A315300-BSD1)											
2,4,5-T	4.0	1.0	ug/L	4.0		100	70-130	15	20	12/28/13	
2,4,5-TP (Silvex)	0.80	1.0	ug/L	0.80		100	70-130	16	20	12/28/13	
2,4-D	0.38	10	ug/L	0.40		96	70-130	19	20	12/28/13	
Bentazon	8.1	2.0	ug/L	8.0		102	70-130	7	20	12/28/13	
Dalapon	3.9	10	ug/L	4.0		98	70-130	8	20	12/28/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130	18	20	12/28/13	
Dinoseb	0.81	2.0	ug/L	0.80		102	70-130	10	20	12/28/13	
Pentachlorophenol	0.15	0.20	ug/L	0.16		96	70-130	19	20	12/28/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A315300										Prepared: 12/26/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A315300-BSD1)											
Picloram	0.40	1.0	ug/L	0.40		100	70-130	15	20	12/28/13	
Surrogate: DCPAA	*48*			*58*		*83*	*70-130*			12/28/13	
Matrix Spike (A315300-MS1), Source: A3L1370-07											
2,4,5-T	4.0	1.0	ug/L	4.0	ND	100	70-130			12/28/13	
2,4,5-TP (Silvex)	0.80	1.0	ug/L	0.80	ND	100	70-130			12/28/13	
2,4-D	0.40	10	ug/L	0.40	ND	99	70-130			12/28/13	
Bentazon	8.1	2.0	ug/L	8.0	ND	102	70-130			12/28/13	
Dalapon	4.2	10	ug/L	4.0	ND	106	70-130			12/28/13	
Dicamba	6.0	1.5	ug/L	6.0	ND	101	70-130			12/28/13	
Dinoseb	0.75	2.0	ug/L	0.80	ND	94	70-130			12/28/13	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	92	70-130			12/28/13	
Picloram	0.42	1.0	ug/L	0.40	ND	106	70-130			12/28/13	
Surrogate: DCPAA	*50*			*58*		*86*	*70-130*			12/28/13	
EPA 524.2 - Quality Control											
Batch: A315401										Prepared: 12/30/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A315401-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							12/30/13	
1,1,1-Trichloroethane	ND	0.50	ug/L							12/30/13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							12/30/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							12/30/13	
1,1,2-Trichloroethane	ND	0.50	ug/L							12/30/13	
1,1-Dichloroethane	ND	0.50	ug/L							12/30/13	
1,1-Dichloroethene	ND	0.50	ug/L							12/30/13	
1,1-Dichloropropene	ND	0.50	ug/L							12/30/13	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							12/30/13	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							12/30/13	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							12/30/13	
1,2-Dichlorobenzene	ND	0.50	ug/L							12/30/13	
1,2-Dichloroethane	ND	0.50	ug/L							12/30/13	
1,2-Dichloropropane	ND	0.50	ug/L							12/30/13	
1,3,5-Trimethylbenzene	ND	0.50	ug/L							12/30/13	
1,3-Dichlorobenzene	ND	0.50	ug/L							12/30/13	
1,3-Dichloropropane	ND	0.50	ug/L							12/30/13	
1,4-Dichlorobenzene	ND	0.50	ug/L							12/30/13	
2,2-Dichloropropane	ND	0.50	ug/L							12/30/13	
2-Butanone	ND	5.0	ug/L							12/30/13	
2-Chlorotoluene	ND	0.50	ug/L							12/30/13	
2-Hexanone	ND	10	ug/L							12/30/13	
4-Chlorotoluene	ND	0.50	ug/L							12/30/13	
4-Methyl-2-pentanone	ND	5.0	ug/L							12/30/13	
Acetone	ND	10	ug/L							12/30/13	
Benzene	ND	0.50	ug/L							12/30/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A315401										Prepared: 12/30/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A315401-BLK1)											
Bromobenzene	ND	0.50	ug/L							12/30/13	
Bromochloromethane	ND	0.50	ug/L							12/30/13	
Bromodichloromethane	ND	0.50	ug/L							12/30/13	
Bromoform	ND	0.50	ug/L							12/30/13	
Bromomethane	ND	0.50	ug/L							12/30/13	
Carbon Tetrachloride	ND	0.50	ug/L							12/30/13	
Chlorobenzene	ND	0.50	ug/L							12/30/13	
Chloroethane	ND	0.50	ug/L							12/30/13	
Chloroform	ND	0.50	ug/L							12/30/13	
Chloromethane	ND	0.50	ug/L							12/30/13	
cis-1,2-Dichloroethene	ND	0.50	ug/L							12/30/13	
cis-1,3-Dichloropropene	ND	0.50	ug/L							12/30/13	
Dibromochloromethane	ND	0.50	ug/L							12/30/13	
Dibromomethane	ND	0.50	ug/L							12/30/13	
Dichlorodifluoromethane	ND	0.50	ug/L							12/30/13	
Dichloromethane	ND	0.50	ug/L							12/30/13	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							12/30/13	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							12/30/13	
Ethylbenzene	ND	0.50	ug/L							12/30/13	
Hexachlorobutadiene	ND	0.50	ug/L							12/30/13	
Isopropylbenzene	ND	0.50	ug/L							12/30/13	
m,p-Xylenes	ND	0.50	ug/L							12/30/13	
Methyl-t-butyl ether	ND	0.50	ug/L							12/30/13	
Naphthalene	ND	0.50	ug/L							12/30/13	
n-Butylbenzene	ND	0.50	ug/L							12/30/13	
n-Propylbenzene	ND	0.50	ug/L							12/30/13	
o-Xylene	ND	0.50	ug/L							12/30/13	
p-Isopropyltoluene	ND	0.50	ug/L							12/30/13	
sec-Butylbenzene	ND	0.50	ug/L							12/30/13	
Styrene	ND	0.50	ug/L							12/30/13	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							12/30/13	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							12/30/13	
tert-Butylbenzene	ND	0.50	ug/L							12/30/13	
Tetrachloroethene (PCE)	ND	0.50	ug/L							12/30/13	
Toluene	ND	0.50	ug/L							12/30/13	
trans-1,2-Dichloroethene	ND	0.50	ug/L							12/30/13	
trans-1,3-Dichloropropene	ND	0.50	ug/L							12/30/13	
Trichloroethene (TCE)	ND	0.50	ug/L							12/30/13	
Trichlorofluoromethane	ND	5.0	ug/L							12/30/13	
Vinyl Chloride	ND	0.50	ug/L							12/30/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.7*			*5.0*		*94*	*70-130*			12/30/13	
Surrogate: Bromofluorobenzene	*51*			*50*		*101*	*70-130*			12/30/13	
Blank Spike (A315401-BS1)											
1,1,1,2-Tetrachloroethane	9.5	0.50	ug/L	10		95	70-130			12/30/13	
1,1,1-Trichloroethane	10	0.50	ug/L	10		101	70-130			12/30/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A315401										Prepared: 12/30/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A315401-BS1)											
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		102	70-130			12/30/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	9.4	10	ug/L	10		94	70-130			12/30/13	
1,1,2-Trichloroethane	10	0.50	ug/L	10		100	70-130			12/30/13	
1,1-Dichloroethane	10	0.50	ug/L	10		101	70-130			12/30/13	
1,1-Dichloroethene	10	0.50	ug/L	10		101	70-130			12/30/13	
1,1-Dichloropropene	11	0.50	ug/L	10		106	70-130			12/30/13	
1,2,3-Trichlorobenzene	9.2	0.50	ug/L	10		92	70-130			12/30/13	
1,2,4-Trichlorobenzene	9.5	0.50	ug/L	10		95	70-130			12/30/13	
1,2,4-Trimethylbenzene	9.7	0.50	ug/L	10		97	70-130			12/30/13	
1,2-Dichlorobenzene	9.3	0.50	ug/L	10		93	70-130			12/30/13	
1,2-Dichloroethane	9.8	0.50	ug/L	10		98	70-130			12/30/13	
1,2-Dichloropropane	7.7	0.50	ug/L	10		77	70-130			12/30/13	
1,3,5-Trimethylbenzene	10	0.50	ug/L	10		104	70-130			12/30/13	
1,3-Dichlorobenzene	9.4	0.50	ug/L	10		94	70-130			12/30/13	
1,3-Dichloropropane	8.8	0.50	ug/L	10		88	70-130			12/30/13	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			12/30/13	
2,2-Dichloropropane	10	0.50	ug/L	10		105	70-130			12/30/13	
2-Butanone	8.1	5.0	ug/L	10		81	70-130			12/30/13	
2-Chlorotoluene	9.7	0.50	ug/L	10		97	70-130			12/30/13	
2-Hexanone	11	10	ug/L	10		105	70-130			12/30/13	
4-Chlorotoluene	10	0.50	ug/L	10		102	70-130			12/30/13	
4-Methyl-2-pentanone	8.7	5.0	ug/L	10		87	70-130			12/30/13	
Acetone	9.1	10	ug/L	10		91	70-130			12/30/13	
Benzene	8.1	0.50	ug/L	10		81	70-130			12/30/13	
Bromobenzene	9.8	0.50	ug/L	10		98	70-130			12/30/13	
Bromochloromethane	9.0	0.50	ug/L	10		90	70-130			12/30/13	
Bromodichloromethane	9.9	0.50	ug/L	10		99	70-130			12/30/13	
Bromoform	9.1	0.50	ug/L	10		91	70-130			12/30/13	
Bromomethane	10	0.50	ug/L	10		103	70-130			12/30/13	
Carbon Tetrachloride	10	0.50	ug/L	10		100	70-130			12/30/13	
Chlorobenzene	9.3	0.50	ug/L	10		93	70-130			12/30/13	
Chloroethane	9.8	0.50	ug/L	10		98	70-130			12/30/13	
Chloroform	10	0.50	ug/L	10		100	70-130			12/30/13	
Chloromethane	8.4	0.50	ug/L	10		84	70-130			12/30/13	
cis-1,2-Dichloroethene	9.8	0.50	ug/L	10		98	70-130			12/30/13	
cis-1,3-Dichloropropene	9.9	0.50	ug/L	10		99	70-130			12/30/13	
Dibromochloromethane	8.2	0.50	ug/L	10		82	70-130			12/30/13	
Dibromomethane	8.6	0.50	ug/L	10		86	70-130			12/30/13	
Dichlorodifluoromethane	11	0.50	ug/L	10		106	70-130			12/30/13	
Dichloromethane	9.9	0.50	ug/L	10		99	70-130			12/30/13	
Di-isopropyl ether (DIPE)	8.8	3.0	ug/L	10		88	70-130			12/30/13	
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		102	70-130			12/30/13	
Ethylbenzene	9.5	0.50	ug/L	10		95	70-130			12/30/13	
Hexachlorobutadiene	9.6	0.50	ug/L	10		96	70-130			12/30/13	
Isopropylbenzene	9.8	0.50	ug/L	10		98	70-130			12/30/13	
m,p-Xylenes	19	0.50	ug/L	20		97	70-130			12/30/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A315401										Prepared: 12/30/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike (A315401-BS1)												
Methyl-t-butyl ether	21	0.50	ug/L	20		103	70-130			12/30/13		
Naphthalene	8.7	0.50	ug/L	10		87	70-130			12/30/13		
n-Butylbenzene	9.1	0.50	ug/L	10		91	70-130			12/30/13		
n-Propylbenzene	9.7	0.50	ug/L	10		97	70-130			12/30/13		
o-Xylene	11	0.50	ug/L	10		108	70-130			12/30/13		
p-Isopropyltoluene	9.6	0.50	ug/L	10		96	70-130			12/30/13		
sec-Butylbenzene	9.6	0.50	ug/L	10		96	70-130			12/30/13		
Styrene	18	0.50	ug/L	10		183	70-130			12/30/13	BS	***High***
tert-Amyl Methyl Ether (TAME)	8.4	3.0	ug/L	10		84	70-130			12/30/13		
tert-Butyl alcohol (TBA)	7.4	2.0	ug/L	10		74	70-130			12/30/13		
tert-Butylbenzene	9.6	0.50	ug/L	10		96	70-130			12/30/13		
Tetrachloroethene (PCE)	8.5	0.50	ug/L	10		85	70-130			12/30/13		
Toluene	9.9	0.50	ug/L	10		99	70-130			12/30/13		
trans-1,2-Dichloroethene	10	0.50	ug/L	10		100	70-130			12/30/13		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		105	70-130			12/30/13		
Trichloroethene (TCE)	9.1	0.50	ug/L	10		91	70-130			12/30/13		
Trichlorofluoromethane	9.8	5.0	ug/L	10		98	70-130			12/30/13		
Vinyl Chloride	11	0.50	ug/L	10		108	70-130			12/30/13		
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*102*	*70-130*			12/30/13		
Surrogate: Bromofluorobenzene	*50*			*50*		*101*	*70-130*			12/30/13		
Blank Spike Dup (A315401-BSD1)												
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		101	70-130	7	30	12/30/13		
1,1,1-Trichloroethane	9.5	0.50	ug/L	10		95	70-130	7	30	12/30/13		
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		100	70-130	2	30	12/30/13		
1,1,2-Trichloro-1,2,2-trifluoroethane	9.6	10	ug/L	10		96	70-130	2	30	12/30/13		
1,1,2-Trichloroethane	10	0.50	ug/L	10		103	70-130	3	30	12/30/13		
1,1-Dichloroethane	10	0.50	ug/L	10		104	70-130	3	30	12/30/13		
1,1-Dichloroethene	10	0.50	ug/L	10		101	70-130	0	30	12/30/13		
1,1-Dichloropropene	9.8	0.50	ug/L	10		98	70-130	8	30	12/30/13		
1,2,3-Trichlorobenzene	9.7	0.50	ug/L	10		97	70-130	5	30	12/30/13		
1,2,4-Trichlorobenzene	9.9	0.50	ug/L	10		99	70-130	4	30	12/30/13		
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		100	70-130	3	30	12/30/13		
1,2-Dichlorobenzene	10	0.50	ug/L	10		103	70-130	10	30	12/30/13		
1,2-Dichloroethane	10	0.50	ug/L	10		105	70-130	6	30	12/30/13		
1,2-Dichloropropane	10	0.50	ug/L	10		104	70-130	29	30	12/30/13		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		106	70-130	2	30	12/30/13		
1,3-Dichlorobenzene	11	0.50	ug/L	10		106	70-130	11	30	12/30/13		
1,3-Dichloropropane	10	0.50	ug/L	10		102	70-130	15	30	12/30/13		
1,4-Dichlorobenzene	9.9	0.50	ug/L	10		99	70-130	2	30	12/30/13		
2,2-Dichloropropane	11	0.50	ug/L	10		108	70-130	3	30	12/30/13		
2-Butanone	10	5.0	ug/L	10		102	70-130	23	30	12/30/13		
2-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130	1	30	12/30/13		
2-Hexanone	9.9	10	ug/L	10		99	70-130	6	30	12/30/13		
4-Chlorotoluene	10	0.50	ug/L	10		103	70-130	1	30	12/30/13		
4-Methyl-2-pentanone	8.9	5.0	ug/L	10		89	70-130	3	30	12/30/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A315401										Prepared: 12/30/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A315401-BSD1)												
Acetone	11	10	ug/L	10		105	70-130	15	30	12/30/13		
Benzene	10	0.50	ug/L	10		102	70-130	23	30	12/30/13		
Bromobenzene	9.7	0.50	ug/L	10		97	70-130	1	30	12/30/13		
Bromochloromethane	10	0.50	ug/L	10		101	70-130	11	30	12/30/13		
Bromodichloromethane	10	0.50	ug/L	10		105	70-130	6	30	12/30/13		
Bromoform	10	0.50	ug/L	10		102	70-130	11	30	12/30/13		
Bromomethane	7.4	0.50	ug/L	10		74	70-130	34	30	12/30/13	BS3.0	
Carbon Tetrachloride	9.8	0.50	ug/L	10		98	70-130	2	30	12/30/13		
Chlorobenzene	10	0.50	ug/L	10		101	70-130	8	30	12/30/13		
Chloroethane	9.8	0.50	ug/L	10		98	70-130	0	30	12/30/13		
Chloroform	10	0.50	ug/L	10		103	70-130	3	30	12/30/13		
Chloromethane	8.2	0.50	ug/L	10		82	70-130	3	30	12/30/13		
cis-1,2-Dichloroethene	10	0.50	ug/L	10		103	70-130	5	30	12/30/13		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		107	70-130	7	30	12/30/13		
Dibromochloromethane	10	0.50	ug/L	10		100	70-130	19	30	12/30/13		
Dibromomethane	10	0.50	ug/L	10		102	70-130	18	30	12/30/13		
Dichlorodifluoromethane	9.3	0.50	ug/L	10		93	70-130	12	30	12/30/13		
Dichloromethane	10	0.50	ug/L	10		104	70-130	5	30	12/30/13		
Di-isopropyl ether (DIPE)	9.7	3.0	ug/L	10		97	70-130	10	30	12/30/13		
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		102	70-130	0	30	12/30/13		
Ethylbenzene	10	0.50	ug/L	10		100	70-130	6	30	12/30/13		
Hexachlorobutadiene	10	0.50	ug/L	10		101	70-130	5	30	12/30/13		
Isopropylbenzene	9.7	0.50	ug/L	10		97	70-130	1	30	12/30/13		
m,p-Xylenes	20	0.50	ug/L	20		98	70-130	1	30	12/30/13		
Methyl-t-butyl ether	21	0.50	ug/L	20		104	70-130	2	30	12/30/13		
Naphthalene	9.1	0.50	ug/L	10		91	70-130	4	30	12/30/13		
n-Butylbenzene	9.5	0.50	ug/L	10		95	70-130	4	30	12/30/13		
n-Propylbenzene	9.7	0.50	ug/L	10		97	70-130	0	30	12/30/13		
o-Xylene	11	0.50	ug/L	10		108	70-130	1	30	12/30/13		
p-Isopropyltoluene	9.7	0.50	ug/L	10		97	70-130	1	30	12/30/13		
sec-Butylbenzene	9.8	0.50	ug/L	10		98	70-130	1	30	12/30/13		
Styrene	19	0.50	ug/L	10		187	70-130	2	30	12/30/13	BS	***High***
tert-Amyl Methyl Ether (TAME)	9.4	3.0	ug/L	10		94	70-130	11	30	12/30/13		
tert-Butyl alcohol (TBA)	9.7	2.0	ug/L	10		97	70-130	27	30	12/30/13		
tert-Butylbenzene	9.7	0.50	ug/L	10		97	70-130	1	30	12/30/13		
Tetrachloroethene (PCE)	9.8	0.50	ug/L	10		98	70-130	14	30	12/30/13		
Toluene	9.9	0.50	ug/L	10		99	70-130	0	30	12/30/13		
trans-1,2-Dichloroethene	10	0.50	ug/L	10		103	70-130	2	30	12/30/13		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		108	70-130	3	30	12/30/13		
Trichloroethene (TCE)	10	0.50	ug/L	10		103	70-130	12	30	12/30/13		
Trichlorofluoromethane	10	5.0	ug/L	10		100	70-130	2	30	12/30/13		
Vinyl Chloride	10	0.50	ug/L	10		104	70-130	4	30	12/30/13		
Surrogate: 1,2-Dichlorobenzene-d4	*5.1*			*5.0*		*103*	*70-130*			12/30/13		
Surrogate: Bromofluorobenzene	*51*			*50*		*101*	*70-130*			12/30/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 525.2 - Quality Control												
Batch: A315174										Prepared: 12/23/2013		
Prep Method: EPA 525.2										Analyst: KHH		
Blank (A315174-BLK1)												
Alachlor	ND	1.0	ug/L							12/23/13		
Atrazine	ND	0.50	ug/L							12/23/13		
Benzo(a)pyrene	ND	0.10	ug/L							12/23/13		
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							12/23/13		
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							12/23/13		
Bromacil	ND	10	ug/L							12/23/13		
Butachlor	ND	0.38	ug/L							12/23/13		
Diazinon	ND	0.25	ug/L							12/23/13		
Dimethoate	ND	10	ug/L							12/23/13		
Metolachlor	ND	0.50	ug/L							12/23/13		
Metribuzin	ND	0.50	ug/L							12/23/13		
Molinate	ND	2.0	ug/L							12/23/13		
Propachlor	ND	0.50	ug/L							12/23/13		
Simazine	ND	1.0	ug/L							12/23/13		
Thiobencarb	ND	1.0	ug/L							12/23/13		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.2*			*5.0*		*103*	*70-130*			12/23/13		
Blank Spike (A315174-BS1)												
Alachlor	0.54	1.0	ug/L	0.50		107	70-130			12/24/13		
Atrazine	0.53	0.50	ug/L	0.50		105	70-130			12/24/13		
Benzo(a)pyrene	0.13	0.10	ug/L	0.10		125	70-130			12/24/13		
Bis(2-ethylhexyl) adipate	3.0	3.0	ug/L	3.0		101	70-130			12/24/13		
Bis(2-ethylhexyl) phthalate	3.3	3.0	ug/L	3.0		108	70-130			12/24/13		
Bromacil	2.6	10	ug/L	2.0		131	70-130			12/24/13	BS	***High***
Butachlor	1.5	0.38	ug/L	1.3		117	70-130			12/24/13		
Diazinon	0.043	0.25	ug/L	0.050		86	70-130			12/24/13		
Dimethoate	0.63	10	ug/L	0.50		124	70-130			12/24/13		
Metolachlor	3.0	0.50	ug/L	2.5		118	70-130			12/24/13		
Metribuzin	3.0	0.50	ug/L	2.5		117	70-130			12/24/13		
Molinate	2.7	2.0	ug/L	2.5		105	70-130			12/24/13		
Propachlor	2.8	0.50	ug/L	2.5		110	70-130			12/24/13		
Simazine	0.39	1.0	ug/L	0.35		111	70-130			12/24/13		
Thiobencarb	0.55	1.0	ug/L	0.50		110	70-130			12/24/13		
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.8*			*5.0*		*96*	*70-130*			12/24/13		
Blank Spike Dup (A315174-BSD1)												
Alachlor	0.50	1.0	ug/L	0.50		101	70-130	7	30	12/23/13		
Atrazine	0.53	0.50	ug/L	0.50		106	70-130	0	30	12/23/13		
Benzo(a)pyrene	0.13	0.10	ug/L	0.10		128	70-130	1	30	12/23/13		
Bis(2-ethylhexyl) adipate	3.0	3.0	ug/L	3.0		101	70-130	1	30	12/23/13		
Bis(2-ethylhexyl) phthalate	3.3	3.0	ug/L	3.0		111	70-130	2	30	12/23/13		
Bromacil	2.3	10	ug/L	2.0		115	70-130	14	30	12/23/13		
Butachlor	1.3	0.38	ug/L	1.2		108	70-130	8	30	12/23/13		
Diazinon	0.035	0.25	ug/L	0.050		70	70-130	22	30	12/23/13		
Dimethoate	0.55	10	ug/L	0.50		111	70-130	12	30	12/23/13		
Metolachlor	2.7	0.50	ug/L	2.5		110	70-130	8	30	12/23/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A315174										Prepared: 12/23/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike Dup (A315174-BSD1)											
Metribuzin	2.9	0.50	ug/L	2.5		114	70-130	4	30	12/23/13	
Molinate	2.7	2.0	ug/L	2.5		107	70-130	1	30	12/23/13	
Propachlor	2.7	0.50	ug/L	2.5		108	70-130	3	30	12/23/13	
Simazine	0.40	1.0	ug/L	0.35		115	70-130	2	30	12/23/13	
Thiobencarb	0.57	1.0	ug/L	0.50		113	70-130	2	30	12/23/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.0*		*100*	*70-130*			12/23/13	
Matrix Spike (A315174-MS1), Source: A3L1502-01											
Alachlor	0.53	1.0	ug/L	0.50	ND	106	70-130			12/23/13	
Atrazine	0.56	0.50	ug/L	0.50	ND	113	70-130			12/23/13	
Benzo(a)pyrene	0.12	0.10	ug/L	0.10	ND	122	70-130			12/23/13	
Bis(2-ethylhexyl) adipate	3.0	3.0	ug/L	3.0	ND	101	70-130			12/23/13	
Bis(2-ethylhexyl) phthalate	3.1	3.0	ug/L	3.0	ND	104	70-130			12/23/13	
Bromacil	2.5	10	ug/L	2.0	ND	125	70-130			12/23/13	
Butachlor	1.4	0.38	ug/L	1.2	ND	111	70-130			12/23/13	
Diazinon	0.047	0.25	ug/L	0.050	ND	94	70-130			12/23/13	
Dimethoate	0.60	10	ug/L	0.50	ND	121	70-130			12/23/13	
Metolachlor	2.8	0.50	ug/L	2.5	ND	112	70-130			12/23/13	
Metribuzin	2.9	0.50	ug/L	2.5	ND	117	70-130			12/23/13	
Molinate	2.7	2.0	ug/L	2.5	ND	109	70-130			12/23/13	
Propachlor	2.7	0.50	ug/L	2.5	ND	108	70-130			12/23/13	
Simazine	0.40	1.0	ug/L	0.35	ND	115	70-130			12/23/13	
Thiobencarb	0.54	1.0	ug/L	0.50	ND	108	70-130			12/23/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.0*		*100*	*70-130*			12/23/13	
EPA 531.1 - Quality Control											
Batch: A315375										Prepared: 12/27/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A315375-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							12/28/13	
Aldicarb	ND	3.0	ug/L							12/28/13	
Aldicarb Sulfone	ND	2.0	ug/L							12/28/13	
Aldicarb Sulfoxide	ND	3.0	ug/L							12/28/13	
Carbaryl	ND	5.0	ug/L							12/28/13	
Carbofuran	ND	5.0	ug/L							12/28/13	
Methomyl	ND	2.0	ug/L							12/28/13	
Oxamyl	ND	20	ug/L							12/28/13	
Blank Spike (A315375-BS1)											
3-Hydroxycarbofuran	4.4	3.0	ug/L	4.2		105	80-120			12/28/13	
Aldicarb	4.0	3.0	ug/L	4.2		97	80-120			12/28/13	
Aldicarb Sulfone	4.4	2.0	ug/L	4.2		107	80-120			12/28/13	
Aldicarb Sulfoxide	4.5	3.0	ug/L	4.2		108	80-120			12/28/13	
Carbaryl	4.2	5.0	ug/L	4.2		100	80-120			12/28/13	
Carbofuran	4.6	5.0	ug/L	4.2		110	80-120			12/28/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A315375										Prepared: 12/27/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank Spike (A315375-BS1)											
Methomyl	4.4	2.0	ug/L	4.2		105	80-120			12/28/13	
Oxamyl	4.5	20	ug/L	4.2		108	80-120			12/28/13	
Blank Spike Dup (A315375-BSD1)											
3-Hydroxycarbofuran	4.1	3.0	ug/L	4.2		98	80-120	6	20	12/28/13	
Aldicarb	3.8	3.0	ug/L	4.2		90	80-120	7	20	12/28/13	
Aldicarb Sulfone	4.0	2.0	ug/L	4.2		97	80-120	10	20	12/28/13	
Aldicarb Sulfoxide	4.1	3.0	ug/L	4.2		97	80-120	11	20	12/28/13	
Carbaryl	3.9	5.0	ug/L	4.2		94	80-120	7	20	12/28/13	
Carbofuran	4.2	5.0	ug/L	4.2		100	80-120	9	20	12/28/13	
Methomyl	4.0	2.0	ug/L	4.2		96	80-120	8	20	12/28/13	
Oxamyl	4.1	20	ug/L	4.2		98	80-120	9	20	12/28/13	
Matrix Spike (A315375-MS1), Source: A3L1685-01											
3-Hydroxycarbofuran	4.1	3.0	ug/L	4.2	ND	98	65-135			12/28/13	
Aldicarb	3.9	3.0	ug/L	4.2	ND	93	65-135			12/28/13	
Aldicarb Sulfone	4.2	2.0	ug/L	4.2	ND	100	65-135			12/28/13	
Aldicarb Sulfoxide	4.2	3.0	ug/L	4.2	ND	101	65-135			12/28/13	
Carbaryl	4.0	5.0	ug/L	4.2	ND	96	65-135			12/28/13	
Carbofuran	4.2	5.0	ug/L	4.2	ND	101	65-135			12/28/13	
Methomyl	4.1	2.0	ug/L	4.2	ND	98	65-135			12/28/13	
Oxamyl	4.2	20	ug/L	4.2	ND	100	65-135			12/28/13	
EPA 547 - Quality Control											
Batch: A315140										Prepared: 12/21/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank (A315140-BLK1)											
Glyphosate	ND	25	ug/L							12/21/13	
Surrogate: AMPA	*100*			*100*		*101*	*70-130*			12/21/13	
Blank Spike (A315140-BS1)											
Glyphosate	95	25	ug/L	100		94	70-130			12/21/13	
Surrogate: AMPA	*110*			*100*		*107*	*70-130*			12/21/13	
Blank Spike Dup (A315140-BSD1)											
Glyphosate	100	25	ug/L	100		100	70-130	7	30	12/21/13	
Surrogate: AMPA	*110*			*100*		*106*	*70-130*			12/21/13	
Matrix Spike (A315140-MS1), Source: A3L1380-01											
Glyphosate	110	25	ug/L	100	ND	106	70-130			12/21/13	
Surrogate: AMPA	*110*			*100*		*108*	*70-130*			12/21/13	
Matrix Spike Dup (A315140-MSD1), Source: A3L1380-01											
Glyphosate	96	25	ug/L	100	ND	96	70-130	9	30	12/21/13	
Surrogate: AMPA	*100*			*100*		*105*	*70-130*			12/21/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 548.1 - Quality Control											
Batch: A315232										Prepared: 12/23/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A315232-BLK1)											
Endothall	ND	45	ug/L							12/26/13	
Blank Spike (A315232-BS1)											
Endothall	19	45	ug/L	20		95	60-111			12/26/13	
Blank Spike Dup (A315232-BSD1)											
Endothall	16	45	ug/L	20		81	60-111	16	46	12/26/13	
Matrix Spike (A315232-MS1), Source: A3L1502-01											
Endothall	13	45	ug/L	20	ND	63	10-122			12/26/13	
EPA 549.2 - Quality Control											
Batch: A315144										Prepared: 12/21/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A315144-BLK1)											
Diquat	ND	4.0	ug/L							12/26/13	
Blank Spike (A315144-BS1)											
Diquat	3.6	4.0	ug/L	4.0		90	70-130			12/26/13	
Blank Spike Dup (A315144-BSD1)											
Diquat	3.7	4.0	ug/L	4.0		93	70-130	4	30	12/26/13	
Matrix Spike (A315144-MS1), Source: A3L1441-01											
Diquat	3.6	4.0	ug/L	4.0	ND	91	70-130			12/26/13	
Matrix Spike (A315144-MS2), Source: A3L1451-01											
Diquat	3.7	4.0	ug/L	4.0	ND	92	70-130			12/26/13	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron Silica (SiO2) Strontium
Threshold Odor

A3L1789

California American Water

Calif3295

12202013

Turnaround: Standard
Due Date: 01/06/2014

Printed: 12/20/2013 18:17:15

BSK Associates
Engineers & Laboratories
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2866 Fax (559) 497-2893
www.bskassociates.com

A3L1789
Calif3295

*Required Fields

Temp: 0.4

Company/Client Name*: California American Water	Report Attention*: Travis Peterson Additional cc's: Sarp Sekeroglu, RBF Consulting	Invoice To*: Accounts Payable PO#	Phone*: (831) 646-3295/(831) 646-3269 Fax*: (831) 333-1343 E-mail*: susan.jacobson@amwater.com,travis.peterson@amwater.com
Address*: PO Box 951	City*: Monterey	State*: CA	Zip*: 93942-0951
Project: Water Quality Analysis — MPWSP	Project #	Regulatory Carbon Copies: ☐ CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other	
Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type:	How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail	Regulatory Compliance: ☐ EDT to California DPH System Number*:	
Sampler Name (Printed/Signature)*: Nathan Reynolds	TAT* **Surcharge ☒ Standard - 10 Business Days ☐ **Rush: Date Needed	☐ Geotracker #	

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alkalinity, Hardness, MBAS,Color, Odor, TDS, pH, Turbidity, EC	Mass Balance-Dissolved: Cations and Anions	Dissolved Metals: Ba, B, Ca, Fe, Mg, Mn, K, Na, Sr, silica	Total Metals: Al, As, Cu, Fe, Mn, Zn	Dissolved: Bromide, Chloride, Nitrite, Fluoride, Sulfate, Orthophosphate-P	Dissolved: Ammonia, TKN, Phosphorus	Nitrate+Nitrite as N, Nitrate-NO3,	EPA 524, 504, 505, 515, 525, 531, 547, 548, 549	EXT-Tritium, EXT-Lithium, EXT-Dissolved Iodide, EXT-Dioxin
27	ML-2 Zone#1 (167-177ft bgs)	12-17-13	16:45	water	Seawater salinity levels.	X	X	X	X	X	X	X	X	X
					Lab to filter dissolved metals.									
					Lab to filter Diss. Ammonia, TKN, P									
					[redacted]									

Field Parameters: Temp = 17.3 °C
pH = 6.86
SpCond = 34730 uS/cm
Turb = 1.68 NTU

Relinquished by: (Signature and Printed Name) Nathan Reynolds / Nathan Reynolds	Company: GEOSCIENCE	Date: 12/18	Time: 9:00pm	Received by: (Signature and Printed Name)	Company: RBF
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date: 12/20/13	Time: 1510	Payment Received at Delivery: Date:	Check / Cash Amount: PIA#: Init.

Shipping Method: ONTRAC / UPS GSO WALK-IN FED EX Courier:
Cooling Method: Wet / Blue / None
Custody Seal: Y / N
Chilling Process Begun: Y / N

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received — "_" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	2C,1B,1A
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	2B
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	1A
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321 8151, 8270	—	—	2C,1A,1B
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C,2A
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	7V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	7V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

12/20/13

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Out of HT.
+
Others

Labeled by: NL @ 1758 Labels checked by: G-7&H @ 17:59 RUSH Paged by:

External

A3L1789

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1954

Certificate of Analysis

Report Date: 01/07/14 13:49
Received Date: 12/24/13 08:35
Turnaround Time: Normal

Project: A3L1789

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 12/24/2013 with the Chain of Custody document. The samples were received in good condition, at 3.2 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3L24020-01 **Sample ID:** A3L1789-01 **Matrix:** Water
Sampled by: Client **Sampled:** 12/17/13 16:45

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	**270**		10	ug/l	1	EPA 200.7	12/26/13	12/27/13 15:46	W3L1292	
Iodide, Dissolved	**920**		250	ug/l	25	EPA 9056A	1/2/14	1/2/14 19:27	W4A0050	

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www.weck.com

Certificate of Analysis

Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4A0050 - EPA 9056A

Blank (W4A0050-BLK1) — Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W4A0050-BS1) — Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		40.4		ug/l	40.0	101	85-115		

Duplicate (W4A0050-DUP1) — Source: 3L24019-01 Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	362	318		ug/l				13	20

Matrix Spike (W4A0050-MS1) — Source: 3L24020-01 Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	920	2640		ug/l	2000	86	80-120		

Matrix Spike Dup (W4A0050-MSD1) — Source: 3L24020-01 Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	920	2820		ug/l	2000	95	80-120	6	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3L1292 - EPA 200.7

Blank (W3L1292-BLK1) — Prepared: 12/26/13 Analyzed: 12/27/13 15:32

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		ND		ug/l					

LCS (W3L1292-BS1) — Prepared: 12/26/13 Analyzed: 12/27/13 15:40

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		947		ug/l	1000	95	85-115		

Matrix Spike (W3L1292-MS1) — Source: 3L26025-01 Prepared: 12/26/13 Analyzed: 12/27/13 15:55

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	2.09	934		ug/l	1000	93	70-130		

Matrix Spike Dup (W3L1292-MSD1) — Source: 3L26025-01 Prepared: 12/26/13 Analyzed: 12/27/13 15:58

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	2.09	943		ug/l	1000	94	70-130	0.9	30

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Certificate of Analysis

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

Pace Analytical®
www.pacelabs.com

January 13, 2014

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3L1789
Pace Project No.: 30110777

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on January 03, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: A3L1789
Pace Project No.: 30110777

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: A3L1789
Pace Project No.: 30110777

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30110777001	**A3L1789-01**	Water	12/17/13 16:45	01/03/14 10:05

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: A3L1789
Pace Project No.: 30110777

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30110777001	**A3L1789-01**	EPA 906.0	SLA	1	PASI-PA

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: A3L1789
Pace Project No.: 30110777

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: January 13, 2014

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: A3L1789
Pace Project No.: 30110777

Sample: A3L1789-01 **Lab ID: 30110777001** Collected: 12/17/13 16:45 Received: 01/03/14 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-4.86 ± 115 (204)**	pCi/L	01/12/14 22:36	10028-17-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: A3L1789
Pace Project No.: 30110777

QC Batch: RADC/18325 Analysis Method: EPA 906.0
QC Batch Method: EPA 906.0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 30110777001

METHOD BLANK: 677836 Matrix: Water
Associated Lab Samples: 30110777001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	23.8 ± 114 (200)	pCi/L	01/12/14 13:26	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: A3L1789
Pace Project No.: 30110777

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineering Laboratories

SUBCONTRACT ORDER

A3L1789

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): ~~Standard~~
QC Deliverables: I ~~Std~~ III IV

3011077

Sample ID	Samp Desc	Comments	Sample Date
A3L1789-01	ML-Z Zone#1 (167-177 ft bgs)		**12/17/2013 16:45** 001
Matrix: Water	Analysis 250 mL HL w/ NaN3 EXT-Tritium	OK to run out of Hold Time Non preserved glass container	

Released By	Date	Received By	Date
	12/26/13		1-3-14/1005
Released By	Date	Received By	Date

Sample Condition Upon Receipt

Pace Analytical

Client Name: BSK Project # 30110777

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ____

Tracking #: 1Z 93X 9R1 03 6044 0317

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Styrofoam

Thermometer Used 5 6 7 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature N/A Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C.

Comments:

Date and Initials of person examining contents: MAT 1-3-14

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☐Yes	☑No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed: MAT Lot # of added preservative:
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: ____ Date/Time: ____

Comments/ Resolution: ____

Project Manager Review: [signature] **Date:** 1/3/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

Project Number: 30160777

Client Name: [illegible]

Item No.	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.L)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other

QA Assessment Spreadsheet
PACE Analytical Services

Quality Control Sample Performance Assessment

Pace Analytical

Analyst:	SLA		
Date:	1/13/2014	**Method:**	EPA 906.0
Worklist:	18325	**SOP:**	PGH-R-021
Matrix:	DW	**MB Sample ID:**	677836

Method Blank Assessment

Analyte	Activity	1.96 Sig Unc.	MDC	Critical Value	Flag	Assessment
Tritium	23.8400	114.4000	209.1000	94.99000		

Laboratory Control Sample Assessment

	LCS	LCSD	LCS	LCSD	LCS	LCSD
Analyte:	Tritium					
Count Date:	1/13/14 0:39	1/13/14 1:40				
Spike I.D.:	10-003	10-003				
Spike Concentration (pCi/L):	2503.320	2503.304				
Volume Used (mL):	0.100	0.100				
Aliquot Volume (L, g, F):	0.103	0.102				
Target Conc. (pCi/L, g, F):	2423.350	2451.576				
1.96 Sigma Uncertainty (Calculated):	66.497	67.271				
Result (pCi/L, g, F):	2280.550	1953.250				
1.96 Sigma Unc:	228.300	204.900				
% Recovery:	94.11%	79.67%				
Assessment:	Pass	Pass				
Upper % Recovery Limits:	125.00%	125.00%				
Lower % Recovery Limits:	75.00%	75.00%				

Duplicate Sample Assessment

LCS/LCSD Y or N?:	Y					
Analyte:	Tritium					
Sample I.D.:	LCS18325					
Duplicate Sample I.D.:	LCSD18325					
Sample Result (pCi/L, g, F):	2280.5500					
1.96 Sigma Unc:	228.3000					
Sample Duplicate Result (pCi/L, g, F):	1953.2500					
Duplicate Sample 1.96 Sigma Unc.:	204.9000					
Either results below MDC?	NO					
Relative Percent Difference:	15.46%					
Assessment:	Pass					
% RPD Limit:	25.00%					

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC

Sample Matrix Spike Control Assessment

Analyte:	Tritium	Tritium
Sample Collection Date:	12/16/2013	12/30/2013
Sample I.D.:	92183458001	30110753001
Sample MS I.D.:	92183458001MS	30110753001MS
Sample MSD I.D.:		
Spike I.D.:	10-003	10-003
MS/MSD Decay Corrected Spike Conc. (pCi/L):	2514.142	2508.731
Spike Volume Used in MS (mL):	0.20	0.20
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.1055	0.1041
MS Target Conc.(pCi/L, g, F):	4721.837	4821.237
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike uncertainty (calculated):	129.567	132.295
MSD Spike uncertainty (calculated):		
Sample Result:	58.260	31.280
Sample 1.96 Sigma Unc.:	123.600	116.000
Sample Matrix Spike Result:	4443.680	4304.400
Sample MS 1.96 Sigma Unc.:	236.200	295.000
Sample Matrix Spike Duplicate Result:		
Sample MSD 1.96 Sigma Unc.:		
MS % Recovery:	92.88%	88.63%
MSD % Recovery:		
MS Assessment:	Pass	Pass
MSD Assessment:		
MS/MSD Upper % Recovery Limits:	125.00%	125.00%
MS/MSD Lower % Recovery Limits:	75.00%	75.00%

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Analyte:		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Sample Matrix Spike 1.96 Sigma Unc.:		
Sample Matrix Spike Duplicate Result:		
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:		
MS/MSD Relative Percent Difference:		
MS/ MSD RPD Assessment:		
% RPD Limit:		

Comments:

1/13/14

Maxxam

nelac

Your Project #: A3L1789
Your C.O.C. #: na

Attention:Michael Ng

BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2014/01/27
Report #: R2806448
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B402009
Received: 2014/01/07, 14:30

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
2,3,7,8-TCDD in Water (1613B)	1	2014/01/15	2014/01/26	BRL SOP-00410	EPA 1613B mod.

Remarks:

The lab certifies that the test results meet all requirements of NELAC, where applicable.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Marsela Wijaya
27 Jan 2014 17:31:39 -05:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ivana Vukovic, Env Project Manager
Email: IVukovic@maxxam.ca
Phone# (905) 817-5700

==========

This report has been generated and distributed using a secure automated process.
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Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800 563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B402009
Report Date: 2014/01/27

BSK Analytical Laboratories
Client Project #: A3L1789

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		UL9295						
Sampling Date		2013/12/17 16:45						
COC Number		na			TOXIC EQUIVALENCY		# of	
	Units	A3L1789-01	EDL	RDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Dioxins & Furans								
2,3,7,8-Tetra CDD *	pg/L	0.82 U	0.82	4.2	1.00	0.820		3486907
TOTAL TOXIC EQUIVALENCY	pg/L					0.820		
Surrogate Recovery (%)								
37CL4 2378 Tetra CDD *	%	88						3486907
C13-2378 TetraCDD *	%	94						3486907

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

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Maxxam

Maxxam Job #: B402009
Report Date: 2014/01/27

BSK Analytical Laboratories
Client Project #: A3L1789

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B402009
Report Date: 2014/01/27

BSK Analytical Laboratories
Client Project #: A3L1789

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3486907	CXU	Spiked Blank	2,3,7,8-Tetra CDD	2014/01/26		76	%	67 - 158
			37CL4 2378 Tetra CDD	2014/01/26		84	%	40 - 130
			C13-2378 TetraCDD	2014/01/26		89	%	24 - 164
3486907	CXU	Method Blank	2,3,7,8-Tetra CDD	2014/01/26	0.83, EDL=0.83		pg/L	
			37CL4 2378 Tetra CDD	2014/01/26		81	%	40 - 130
			C13-2378 TetraCDD	2014/01/26		87	%	24 - 164

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll Free: 800 563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B402009
Report Date: 2014/01/27

BSK Analytical Laboratories
Client Project #: A3L1789

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Kay Shaw

Kay Shaw, C. Chem, Sr Scientific Specialist, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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BSK Analytical Laboratories
Engineering & Laboratories

SUBCONTRACT ORDER

A3L1789

7-Jan-14 14:30

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Maxxam Analytics
PO Box 57437, Station A
Toronto, ON M5W5M5
Phone: (905) 817-5784
Fax:
Turnaround (Days): Standard
QC Deliverables: Std II IV

Ivana Vukovic
B402089
M P LXV-906

Sample ID	Samp Desc	Comments	Sample Date
A3L1789-01	ML-Z Zone#1 (167-177 ft bgs)		12/17/2013 10:45

Matrix: Water

Analysis
EXT-Dioxin-DW matrix, EPA 1613 2,3,7,8-TCDD

OK to run out of Hold Time
ILAC

Released By — Date — Received By — Date

Released By — Date — Received By — Date
2014/01/07 14:30

4.1/4.4/4.1°C

Page 1 of 3

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	California American Water-Monterey P.O.BOX 951 Monterey CA, 93942-0951	**Report Date:**	03/06/14 09:27
		Received Date:	01/14/14 09:15
		Turn Around:	Normal
Attention:	Travis Peterson	**Client Project:**	Monterey Peninsula Water Supply Project (MPWSP)
Phone:	(831) 646-3269		
Fax:	-		
Work Order(s):	4A14004		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Travis Peterson :

Enclosed are the results of analyses for samples received 01/14/14 09:15 with the Chain of Custody document. The samples were received in good condition, at 3.1 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Hai Van Nguyen
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
ML-3 Zone # 1 (180-190 ftbgs)	Nathan Reynolds		4A14004-01	Water	01/11/14 16:00

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326
Carbamates and Urea Pesticides
Chlorinated Herbicides
Chlorinated Pesticides and/or PCBs
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods
Diquat and Paraquat by EPA 549.2
Endothall By EPA 548.1
EPA 1613B mod.
Fumigants by EPA Method 504.1
Glyphosate by EPA 547
Metals by EPA 200 Series Methods
Semivolatile Organic Compounds by GC/MS
Subcontracted Analyses
Volatile Organic Compounds by EPA Method 524.2

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

4A14004-01 **ML-3 Zone # 1 (180-190 ftbgs)**

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 300.0 Batch: W4A0532 Prepared: 01/14/14 11:00 Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Chloride, Total	**3700**	50	mg/l	100	01/14/14 20:52	
Fluoride, Total	ND	1.0	mg/l	10	01/14/14 20:52	M-05
Sulfate as SO4	**370**	5.0	mg/l	10	01/14/14 20:52	

Method: EPA 300.1 Batch: W4A0844 Prepared: 01/21/14 11:17 Analyst: cwh

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Bromide	**13000**		500	ug/l	50	01/21/14 15:14	
Surr: Dichloroacetate	*100 %*	Conc:*500*	*90-115*	%			

Method: EPA 9056A Batch: W4B0889 Prepared: 02/20/14 09:30 Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Iodide, Dissolved	**100**	75	ug/l	7.5	02/20/14 15:41	O-14

Carbamates and Urea Pesticides

Method: EPA 531.1 Batch: W4A0802 Prepared: 01/20/14 13:06 Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
3-Hydroxycarbofuran	ND	2.0	ug/l	1	01/20/14 23:50	
Aldicarb	ND	2.0	ug/l	1	01/20/14 23:50	
Aldicarb sulfone	ND	2.0	ug/l	1	01/20/14 23:50	
Aldicarb sulfoxide	ND	2.0	ug/l	1	01/20/14 23:50	
Carbaryl	ND	2.0	ug/l	1	01/20/14 23:50	
Carbofuran	ND	2.0	ug/l	1	01/20/14 23:50	
Methiocarb	ND	2.0	ug/l	1	01/20/14 23:50	
Methomyl	ND	2.0	ug/l	1	01/20/14 23:50	
Oxamyl	ND	2.0	ug/l	1	01/20/14 23:50	
Propoxur (Baygon)	ND	2.0	ug/l	1	01/20/14 23:50	

Chlorinated Herbicides

Method: EPA 515.3 Batch: W4A0564 Prepared: 01/15/14 08:23 Analyst: mxw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
2,4,5-T	ND	0.20	ug/l	1	01/25/14 03:23	
2,4,5-TP (Silvex)	ND	0.20	ug/l	1	01/25/14 03:23	
2,4-D	ND	0.40	ug/l	1	01/25/14 03:23	
2,4-DB	ND	2.0	ug/l	1	01/25/14 03:23	
3,5-Dichlorobenzoic acid	ND	1.0	ug/l	1	01/25/14 03:23	
Acifluorfen	ND	0.40	ug/l	1	01/25/14 03:23	
Bentazon	ND	2.0	ug/l	1	01/25/14 03:23	
Dalapon	ND	0.40	ug/l	1	01/25/14 03:23	
DCPA	ND	0.10	ug/l	1	01/25/14 03:23	
Dicamba	ND	0.60	ug/l	1	01/25/14 03:23	

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

4A14004-01 **ML-3 Zone # 1 (180-190 ftbgs)**

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

Chlorinated Herbicides

Method: EPA 515.3 Batch: W4A0564 Prepared: 01/15/14 08:23 Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Dichloroprop	ND		0.30	ug/l	1	01/25/14 03:23	
Dinoseb	ND		0.40	ug/l	1	01/25/14 03:23	
Pentachlorophenol	ND		0.20	ug/l	1	01/25/14 03:23	
Picloram	ND		0.60	ug/l	1	01/25/14 03:23	
Surr: 2,4-DCAA	*97 %*	Conc:*9.66*	*70-130*	%			

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W4A0617 Prepared: 01/16/14 08:43 Analyst: mxw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND	0.010	ug/l	1	01/29/14 22:21	
4,4´-DDE	ND	0.010	ug/l	1	01/29/14 22:21	
4,4´-DDT	ND	0.010	ug/l	1	01/29/14 22:21	
Aldrin	ND	0.010	ug/l	1	01/29/14 22:21	
alpha-BHC	ND	0.010	ug/l	1	01/29/14 22:21	
Aroclor 1016	ND	0.10	ug/l	1	01/29/14 22:21	
Aroclor 1221	ND	0.10	ug/l	1	01/29/14 22:21	
Aroclor 1232	ND	0.10	ug/l	1	01/29/14 22:21	
Aroclor 1242	ND	0.10	ug/l	1	01/29/14 22:21	
Aroclor 1248	ND	0.10	ug/l	1	01/29/14 22:21	
Aroclor 1254	ND	0.10	ug/l	1	01/29/14 22:21	
Aroclor 1260	ND	0.10	ug/l	1	01/29/14 22:21	
beta-BHC	ND	0.010	ug/l	1	01/29/14 22:21	
Chlordane (tech)	ND	0.10	ug/l	1	01/29/14 22:21	
Chlorothalonil	ND	0.050	ug/l	1	01/29/14 22:21	
delta-BHC	ND	0.010	ug/l	1	01/29/14 22:21	
Dieldrin	ND	0.010	ug/l	1	01/29/14 22:21	
Endosulfan I	ND	0.010	ug/l	1	01/29/14 22:21	
Endosulfan II	ND	0.010	ug/l	1	01/29/14 22:21	
Endosulfan sulfate	ND	0.010	ug/l	1	01/29/14 22:21	
Endrin	ND	0.010	ug/l	1	01/29/14 22:21	
Endrin aldehyde	ND	0.010	ug/l	1	01/29/14 22:21	
gamma-BHC (Lindane)	ND	0.010	ug/l	1	01/29/14 22:21	
Heptachlor	ND	0.010	ug/l	1	01/29/14 22:21	
Heptachlor epoxide	ND	0.010	ug/l	1	01/29/14 22:21	
Hexachlorobenzene	ND	0.010	ug/l	1	01/29/14 22:21	
Hexachlorocyclopentadiene	ND	0.050	ug/l	1	01/29/14 22:21	
Methoxychlor	ND	0.010	ug/l	1	01/29/14 22:21	
PCBs, Total	ND	0.50	ug/l	1	01/29/14 22:21	
Propachlor	ND	0.050	ug/l	1	01/29/14 22:21	
Toxaphene	ND	1.0	ug/l	1	01/29/14 22:21	

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

4A14004-01 **ML-3 Zone # 1 (180-190 ftbgs)**

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W4A0617 Prepared: 01/16/14 08:43 Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Trifluralin	ND		0.010	ug/l	1	01/29/14 22:21	
Surr: Decachlorobiphenyl	*23 %*	Conc:*0.0228*	*70-130*	%			*S-GC*
Surr: Tetrachloro-meta-xylene	*78 %*	Conc:*0.0783*	*70-130*	%			

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: EPA 140.1 Batch: W4A0522 Prepared: 01/14/14 11:32 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Threshold Odor Number	**4.0**	1.0	T.O.N.	4	01/14/14 11:52	O-09

Method: EPA 180.1 Batch: W4A0520 Prepared: 01/14/14 10:53 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Turbidity	**160**	0.10	NTU	1	01/14/14 11:24	O-09

Method: EPA 350.1 Batch: W4A0596 Prepared: 01/15/14 14:35 Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Ammonia as N, Dissolved	**10**	2.0	mg/l	20	01/17/14 14:26	

Method: EPA 351.2 Batch: W4A0524 Prepared: 01/14/14 12:34 Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
TKN, Soluble	**9.7**	1.0	mg/l	10	01/17/14 17:00	

Method: EPA 353.2 Batch: W4A0535 Prepared: 01/14/14 13:08 Analyst: MBC

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Nitrate as NO3	ND	0.50	mg/l	1	01/14/14 16:08	O-09
NO2+NO3 as N	ND	100	ug/l	1	01/14/14 16:08	

Method: EPA 365.1 Batch: W4A0544 Prepared: 01/14/14 14:48 Analyst: htl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
o-Phosphate as P	**0.0039**	0.0020	mg/l	1	01/14/14 15:46	**

Method: EPA 365.1 Batch: W4A0809 Prepared: 01/20/14 14:19 Analyst: htl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Phosphorus, Dissolved	**0.078**	0.010	mg/l	1	01/23/14 10:47	

Method: SM 2120B Batch: W4A0533 Prepared: 01/14/14 13:03 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Color	ND	3.0	Color Units	1	01/14/14 13:28	O-09

Method: SM 2320B Batch: W4A0723 Prepared: 01/17/14 13:33 Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier

BSK Associates Engineers & Laboratories
Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3L1716 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 12/20/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Michael Ng, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	susan.jacobson@amwater.com
Project #:	Water Quality Analysis - MPWSP	**Project PO#:**	-
Received:	12/20/2013 - 15:00		
Report Due:	1/07/2014		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 0.2

Containers Intact
COC/Labels Agree
Preservation Confirmed
Received On Wet Ice
Received On Blue Ice
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
DL1.0	Sample required a dilution due to the matrix or high concentration of a non-target analyte.
HT1.3	Holding time exceeded. Sample was analyzed past the holding time.
HT1.6	Holding time exceeded. The holding time for this analysis is a recommendation and is not mandated by any state or federal agency.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
MS1.4	Matrix spike recovery data unreliable due to significant parent sample concentration relative to fortification level (>4x).

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt
Sarp Sekeroglu	Final.rpt
Andrew Kieta	final.rpt

Certificate of Analysis

Sample ID: A3L1716-01
Sampled By: Nathan Reynolds
Sample Description: ML-2 Zone #2 (90-100 ftbgs)

Sample Date - Time: 12/19/13 - 10:45
Matrix: Water
Sample Type: Grab

Field Data: pH=6.67 Temp=16.4 ºC Cond.=11508 umho Turb. =0.72 ntu

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**180**	3.0	mg/L	1	A315183	12/24/13	12/24/13	
Bicarbonate as CaCO3	SM 2320 B	**180**	3.0	mg/L	1	A315183	12/24/13	12/24/13	
Carbonate as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A315183	12/24/13	12/24/13	
Hydroxide as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A315183	12/24/13	12/24/13	
Ammonia as N	SM 4500-NH3 G	**1.0**	0.10	mg/L	1	A315303	12/26/13	12/27/13	
Bromide	EPA 300.1	**14**	0.25	mg/L	50	A315371	12/27/13	12/27/13	
Surrogate: Dichloroacetate	EPA 300.1	101 %	*Acceptable range: 90-115 %*						
Chloride	EPA 300.0	**3900**	100	mg/L	100	A315129	12/23/13	12/23/13	
Color, Apparent	SM 2120 B	**10**	1.0	CU	1	A315108	12/20/13 17:07	12/20/13	
Conductivity @ 25C	SM 2510 B	**11000**	1.0	umhos/cm	1	A315183	12/24/13	12/24/13	
Fluoride	EPA 300.0	ND	0.50	mg/L	5	A315318	12/26/13	12/26/13	DL1.0
Mass Balance-Anions		**120**		meq/L					
Mass Balance-Dissolved Cations		**120**		meq/L					
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.050	mg/L	1	A315096	12/20/13 17:18	12/20/13	
Nitrate as NO3	EPA 300.0	ND	100	mg/L	100	A315129	12/23/13 15:36	12/23/13	DL1.0, HT1.3
Nitrite as N	EPA 300.0	ND	5.0	mg/L	100	A315129	12/23/13 15:36	12/23/13	DL1.0, HT1.3
Threshold Odor	SM 2150 B	**1.0**	1.0	T.O.N.	1	A315108	12/20/13 17:07	12/20/13	HT1.6
Orthophosphate as P	SM 4500-P E	**0.079**	0.010	mg/L	1	A315135	12/20/13 18:54	12/20/13	
pH (1)	SM 4500-H+ B	**7.6**		pH Units	1	A315183	12/24/13	12/24/13	
pH Temperature in °C		**19.9**							
Phosphorus - Dissolved (1)	EPA 365.4	ND	0.10	mg/L	1	A315207	12/23/13	12/26/13	
Sulfate as SO4	EPA 300.0	**340**	200	mg/L	100	A315129	12/23/13	12/23/13	
Total Dissolved Solids	SM 2540C	**8100**	5.0	mg/L	1	A315292	12/26/13	12/30/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	**1.5**	1.0	mg/L	1	A315207	12/23/13	12/27/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A315381	12/30/13	12/30/13	
Turbidity	SM 2130 B	**2.7**	0.10	NTU	1	A315108	12/20/13 17:07	12/20/13	

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	ND	0.050	mg/L	1	A315150	12/23/13	12/30/13	
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A315150	12/23/13	12/27/13	
Barium - Dissolved (1)	EPA 200.7	**0.38**	0.050	mg/L	1	A315133	12/20/13	12/27/13	
Boron - Dissolved (1)	EPA 200.7	**0.40**	0.10	mg/L	1	A315133	12/20/13	12/27/13	
Calcium	EPA 200.7	**450**	0.10	mg/L	1	A315150	12/23/13	12/30/13	
Calcium - Dissolved (1)	EPA 200.7	**460**	0.10	mg/L	1	A315133	12/20/13	12/27/13	
Copper	EPA 200.8	**15**	5.0	ug/L	1	A315150	12/23/13	12/27/13	
Hardness as CaCO3	SM 2340B	**2500**	0.41	mg/L					
Iron	EPA 200.7	**0.50**	0.030	mg/L	1	A315150	12/23/13	12/30/13	
Iron - Dissolved (1)	EPA 200.7	**0.14**	0.030	mg/L	1	A315133	12/20/13	12/27/13	

Certificate of Analysis

Sample ID: A3L1716-01
Sampled By: Nathan Reynolds
Sample Description: ML-2 Zone #2 (90-100 ftbgs)

Sample Date - Time: 12/19/13 - 10:45
Matrix: Water
Sample Type: Grab

Field Data: pH=6.67 Temp=16.4 ºC Cond.=11508 umho Turb. =0.72 ntu

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Magnesium	EPA 200.7	**340**	0.10	mg/L	1	A315150	12/23/13	12/30/13	
Magnesium - Dissolved (1)	EPA 200.7	**360**	0.10	mg/L	1	A315133	12/20/13	12/27/13	
Manganese	EPA 200.7	**0.68**	0.010	mg/L	1	A315150	12/23/13	12/30/13	
Manganese - Dissolved (1)	EPA 200.7	**0.71**	0.010	mg/L	1	A315133	12/20/13	12/27/13	
Potassium - Dissolved (1)	EPA 200.7	**34**	2.0	mg/L	1	A315133	12/20/13	12/27/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**38**	0.20	mg/L	1	A315133	12/20/13	12/27/13	
Sodium - Dissolved (1)	EPA 200.7	**1500**	20	mg/L	20	A315133	12/20/13	12/27/13	
Strontium - Dissolved (1)	EPA 200.8	**4100**	5.0	ug/L	5	A315133	12/20/13	12/27/13	
Zinc	EPA 200.7	ND	0.050	mg/L	1	A315150	12/23/13	12/30/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A315261	12/24/13	12/25/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A315261	12/24/13	12/25/13	
Surrogate: TCMX	EPA 504.1	115 %	*Acceptable range: 70-130 %*						
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A315261	12/24/13	12/25/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A315261	12/24/13	12/25/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A315261	12/24/13	12/25/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A315261	12/24/13	12/25/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A315261	12/24/13	12/25/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A315261	12/24/13	12/25/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A315261	12/24/13	12/25/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A315261	12/24/13	12/25/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A315261	12/24/13	12/25/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A315261	12/24/13	12/25/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A315261	12/24/13	12/25/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A315261	12/24/13	12/25/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A315261	12/24/13	12/25/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A315261	12/24/13	12/25/13	
Surrogate: TCMX	EPA 505	115 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A315300	12/26/13	12/28/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A315300	12/26/13	12/28/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A315300	12/26/13	12/28/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A315300	12/26/13	12/28/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A315300	12/26/13	12/28/13	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A315300	12/26/13	12/28/13	

Certificate of Analysis

Sample ID: A3L1716-01
Sampled By: Nathan Reynolds
Sample Description: ML-2 Zone #2 (90-100 ftbgs)

Sample Date - Time: 12/19/13 - 10:45
Matrix: Water
Sample Type: Grab

Field Data: pH=6.67 Temp=16.4 ºC Cond.=11508 umho Turb. =0.72 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A315300	12/26/13	12/28/13	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A315300	12/26/13	12/28/13	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A315300	12/26/13	12/28/13	
Surrogate: DCPAA	EPA 515.3	81 %	*Acceptable range: 70-130 %*						
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A315174	12/23/13	12/24/13	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A315174	12/23/13	12/24/13	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A315174	12/23/13	12/24/13	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A315174	12/23/13	12/24/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A315174	12/23/13	12/24/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A315174	12/23/13	12/24/13	BS1.0
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A315174	12/23/13	12/24/13	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A315174	12/23/13	12/24/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A315174	12/23/13	12/24/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A315174	12/23/13	12/24/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A315174	12/23/13	12/24/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A315174	12/23/13	12/24/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A315174	12/23/13	12/24/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A315174	12/23/13	12/24/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A315174	12/23/13	12/24/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	102 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A315323	12/26/13	12/27/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A315323	12/26/13	12/27/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A315323	12/26/13	12/27/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A315323	12/26/13	12/27/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A315323	12/26/13	12/27/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A315323	12/26/13	12/27/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A315323	12/26/13	12/27/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A315323	12/26/13	12/27/13	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A315140	12/21/13	12/21/13	
Surrogate: AMPA	EPA 547	102 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A315322	12/26/13	12/27/13	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A315144	12/21/13	12/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A315129										Prepared: 12/23/2013	
Prep Method: Method Specific Preparation										Analyst: EMH	
Blank (A315129-BLK1)											
Chloride	ND	1.0	mg/L							12/23/13	
Nitrate as NO3	ND	1.0	mg/L							12/23/13	
Nitrite as N	ND	0.050	mg/L							12/23/13	
Sulfate as SO4	ND	2.0	mg/L							12/23/13	
Blank Spike (A315129-BS1)											
Chloride	50	1.0	mg/L	50		99	90-110			12/23/13	
Nitrate as NO3	49	1.0	mg/L	50		99	90-110			12/23/13	
Nitrite as N	0.50	0.050	mg/L	0.50		99	90-110			12/23/13	
Sulfate as SO4	49	2.0	mg/L	50		99	90-110			12/23/13	
Blank Spike Dup (A315129-BSD1)											
Chloride	50	1.0	mg/L	50		100	90-110	1	20	12/23/13	
Nitrate as NO3	50	1.0	mg/L	50		100	90-110	1	20	12/23/13	
Nitrite as N	0.50	0.050	mg/L	0.50		100	90-110	1	20	12/23/13	
Sulfate as SO4	50	2.0	mg/L	50		100	90-110	1	20	12/23/13	
Matrix Spike (A315129-MS1), Source: A3L1643-04											
Chloride	110	2.0	mg/L	100	9.4	100	80-120			12/23/13	
Nitrate as NO3	140	2.0	mg/L	100	43	98	80-120			12/23/13	
Nitrite as N	0.99	0.10	mg/L	1.0	ND	99	80-120			12/23/13	
Sulfate as SO4	150	4.0	mg/L	100	53	98	80-120			12/23/13	
Matrix Spike (A315129-MS2), Source: A3L1715-02											
Chloride	110	2.0	mg/L	100	9.8	100	80-120			12/23/13	
Nitrate as NO3	98	2.0	mg/L	100	ND	98	80-120			12/23/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	100	80-120			12/23/13	
Sulfate as SO4	100	4.0	mg/L	100	5.4	99	80-120			12/23/13	
Matrix Spike Dup (A315129-MSD1), Source: A3L1643-04											
Chloride	110	2.0	mg/L	100	9.4	101	80-120	1	20	12/23/13	
Nitrate as NO3	140	2.0	mg/L	100	43	100	80-120	1	20	12/23/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	101	80-120	2	20	12/23/13	
Sulfate as SO4	150	4.0	mg/L	100	53	100	80-120	1	20	12/23/13	
Matrix Spike Dup (A315129-MSD2), Source: A3L1715-02											
Chloride	110	2.0	mg/L	100	9.8	102	80-120	2	20	12/23/13	
Nitrate as NO3	100	2.0	mg/L	100	ND	100	80-120	2	20	12/23/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	102	80-120	2	20	12/23/13	
Sulfate as SO4	110	4.0	mg/L	100	5.4	101	80-120	2	20	12/23/13	
EPA 300.0 - Quality Control											
Batch: A315318										Prepared: 12/26/2013	
Prep Method: Method Specific Preparation										Analyst: n.a.	
Blank (A315318-BLK1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A315318										Prepared: 12/26/2013	
Prep Method: Method Specific Preparation										Analyst: n.a.	
Blank (A315318-BLK1)											
Fluoride	ND	0.10	mg/L							12/26/13	
Blank Spike (A315318-BS1)											
Fluoride	0.49	0.10	mg/L	0.50		98	90-110			12/26/13	
Blank Spike Dup (A315318-BSD1)											
Fluoride	0.50	0.10	mg/L	0.50		100	90-110	2	10	12/26/13	
Matrix Spike (A315318-MS1), Source: A3L1709-02											
Fluoride	1.1	0.20	mg/L	1.0	ND	99	80-120			12/26/13	
Matrix Spike (A315318-MS2), Source: A3L1860-02											
Fluoride	1.3	0.20	mg/L	1.0	0.27	98	80-120			12/26/13	
Matrix Spike Dup (A315318-MSD1), Source: A3L1709-02											
Fluoride	1.1	0.20	mg/L	1.0	ND	97	80-120	2	10	12/26/13	
Matrix Spike Dup (A315318-MSD2), Source: A3L1860-02											
Fluoride	1.3	0.20	mg/L	1.0	0.27	102	80-120	3	10	12/26/13	
EPA 300.1 - Quality Control											
Batch: A315371										Prepared: 12/27/2013	
Prep Method: Method Specific Preparation										Analyst: TRL	
Blank (A315371-BLK1)											
Bromide	ND	0.0050	mg/L							12/27/13	
Surrogate: Dichloroacetate	*0.495*			*0.50*		*99*	*90-115*			12/27/13	
Blank Spike (A315371-BS1)											
Bromide	0.19	0.0050	mg/L	0.20		96	85-115			12/27/13	
Surrogate: Dichloroacetate	*0.492*			*0.50*		*98*	*90-115*			12/27/13	
Blank Spike Dup (A315371-BSD1)											
Bromide	0.19	0.0050	mg/L	0.20		97	85-115	1	10	12/27/13	
Surrogate: Dichloroacetate	*0.494*			*0.50*		*99*	*90-115*			12/27/13	
Matrix Spike (A315371-MS1), Source: A3L1963-02											
Bromide	4.3	0.10	mg/L	2.0	2.4	93	75-125			12/27/13	
Surrogate: Dichloroacetate	*9.63*			*10*		*96*	*90-115*			12/27/13	
Matrix Spike (A315371-MS2), Source: A3L2009-03											
Bromide	0.50	0.020	mg/L	0.40	0.13	93	75-125			12/28/13	
Surrogate: Dichloroacetate	*1.89*			*2.0*		*95*	*90-115*			12/28/13	
Matrix Spike Dup (A315371-MSD1), Source: A3L1963-02											
Bromide	4.3	0.10	mg/L	2.0	2.4	94	75-125	0	10	12/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.1 - Quality Control											
Batch: A315371										Prepared: 12/27/2013	
Prep Method: Method Specific Preparation										Analyst: TRL	
Matrix Spike Dup (A315371-MSD1), Source: A3L1963-02											
Surrogate: Dichloroacetate	*9.74*			*10*		*97*	*90-115*			12/27/13	
Matrix Spike Dup (A315371-MSD2), Source: A3L2009-03											
Bromide	0.51	0.020	mg/L	0.40	0.13	94	75-125	1	10	12/28/13	
Surrogate: Dichloroacetate	*1.96*			*2.0*		*98*	*90-115*			12/28/13	
EPA 351.2 - Quality Control											
Batch: A315207										Prepared: 12/23/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A315207-BLK2)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							12/27/13	
Blank Spike (A315207-BS2)											
Total Kjeldahl Nitrogen - Dissolved (1)	9.9	1.0	mg/L	10		99	90-110			12/27/13	
Blank Spike Dup (A315207-BSD2)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		105	90-110	5	10	12/27/13	
Matrix Spike (A315207-MS2), Source: A3L1656-01											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10	ND	100	90-110			12/27/13	
Matrix Spike Dup (A315207-MSD2), Source: A3L1656-01											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10	ND	99	90-110	2	10	12/27/13	
EPA 365.4 - Quality Control											
Batch: A315207										Prepared: 12/23/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A315207-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							12/26/13	
Blank Spike (A315207-BS1)											
Phosphorus - Dissolved (1)	9.3	0.10	mg/L	10		93	90-110			12/26/13	
Blank Spike Dup (A315207-BSD1)											
Phosphorus - Dissolved (1)	9.9	0.10	mg/L	10		99	90-110	7	10	12/26/13	
Matrix Spike (A315207-MS1), Source: A3L1656-01											
Phosphorus - Dissolved (1)	9.5	0.10	mg/L	10	ND	95	90-110			12/26/13	
Matrix Spike Dup (A315207-MSD1), Source: A3L1656-01											
Phosphorus - Dissolved (1)	9.8	0.10	mg/L	10	ND	98	90-110	3	10	12/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2120 B - Quality Control											
Batch: A315108										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315108-BLK1)											
Color, Apparent	ND	1.0	CU							12/20/13	
Duplicate (A315108-DUP1), Source: A3L1654-01											
Color, Apparent	5.0	1.0	CU		5.0			0	20	12/20/13	
Duplicate (A315108-DUP2), Source: A3L1715-01											
Color, Apparent	5.0	1.0	CU		5.0			0	20	12/20/13	
SM 2130 B - Quality Control											
Batch: A315108										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315108-BLK1)											
Turbidity	ND	0.10	NTU							12/20/13	
Duplicate (A315108-DUP1), Source: A3L1654-01											
Turbidity	ND	0.10	NTU		ND				20	12/20/13	
Duplicate (A315108-DUP2), Source: A3L1715-01											
Turbidity	ND	0.10	NTU		ND				20	12/20/13	
SM 2150 B - Quality Control											
Batch: A315108										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315108-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							12/20/13	
Duplicate (A315108-DUP1), Source: A3L1654-01											
Threshold Odor	1.0	1.0	T.O.N.		1.0			0	20	12/20/13	
Duplicate (A315108-DUP2), Source: A3L1715-01											
Threshold Odor	1.0	1.0	T.O.N.		1.0			0	20	12/20/13	
SM 2320 B - Quality Control											
Batch: A315183										Prepared: 12/24/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315183-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							12/24/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							12/24/13	
Carbonate as CaCO3	ND	3.0	mg/L							12/24/13	
Hydroxide as CaCO3	ND	3.0	mg/L							12/24/13	
Blank Spike (A315183-BS1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		100	80-120			12/23/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2320 B - Quality Control											
Batch: A315183										Prepared: 12/23/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank Spike Dup (A315183-BSD1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		101	80-120	1	20	12/24/13	
Duplicate (A315183-DUP1), Source: A3L1704-01											
Alkalinity as CaCO3	200	3.0	mg/L		200			1	10	12/24/13	
Bicarbonate as CaCO3	200	3.0	mg/L		200			1	10	12/24/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	12/24/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	12/24/13	
Duplicate (A315183-DUP2), Source: A3L1860-02											
Alkalinity as CaCO3	170	3.0	mg/L		170			3	10	12/24/13	
Bicarbonate as CaCO3	170	3.0	mg/L		170			3	10	12/24/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	12/24/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	12/24/13	
SM 2510 B - Quality Control											
Batch: A315183										Prepared: 12/24/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A315183-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							12/24/13	
Duplicate (A315183-DUP1), Source: A3L1704-01											
Conductivity @ 25C	780	1.0	umhos/cm		790			1	20	12/24/13	
Duplicate (A315183-DUP2), Source: A3L1860-02											
Conductivity @ 25C	350	1.0	umhos/cm		350			0	20	12/24/13	
SM 2540C - Quality Control											
Batch: A315292										Prepared: 12/26/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A315292-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							12/30/13	
Blank Spike (A315292-BS1)											
Total Dissolved Solids	980	5.0	mg/L	1000		98	70-130			12/30/13	
Duplicate (A315292-DUP1), Source: A3L1798-01											
Total Dissolved Solids	400	5.0	mg/L		400			0	20	12/30/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-H+ B - Quality Control											
Batch: A315183										Prepared: 12/24/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A315183-DUP1), Source: A3L1704-01											
pH (1)	7.8		pH Units		7.8			0	20	12/24/13	
Duplicate (A315183-DUP2), Source: A3L1860-02											
pH (1)	7.8		pH Units		7.8			0	20	12/24/13	
SM 4500-NH3 G - Quality Control											
Batch: A315303										Prepared: 12/26/2013	
Prep Method: Ammonia Distillation										Analyst: KKC	
Blank (A315303-BLK1)											
Ammonia as N	ND	0.10	mg/L							12/27/13	
Blank Spike (A315303-BS1)											
Ammonia as N	9.6	0.10	mg/L	10		96	80-120			12/27/13	
Blank Spike Dup (A315303-BSD1)											
Ammonia as N	9.4	0.10	mg/L	10		94	80-120	3	20	12/27/13	
Matrix Spike (A315303-MS1), Source: A3L1863-02											
Ammonia as N	12	0.10	mg/L	10	2.3	94	80-120			12/27/13	
Matrix Spike (A315303-MS2), Source: A3L1868-05											
Ammonia as N	21	0.50	mg/L	10	14	75	80-120			12/27/13	MS1.0 ***Low***
Matrix Spike Dup (A315303-MSD1), Source: A3L1863-02											
Ammonia as N	12	0.10	mg/L	10	2.3	94	80-120	1	20	12/27/13	
Matrix Spike Dup (A315303-MSD2), Source: A3L1868-05											
Ammonia as N	21	0.50	mg/L	10	14	68	80-120	3	20	12/27/13	MS1.0 ***Low***
SM 4500-NO3 F - Quality Control											
Batch: A315381										Prepared: 12/30/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A315381-BLK1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							12/30/13	
Blank Spike (A315381-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		104	80-120			12/30/13	
Blank Spike Dup (A315381-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		102	80-120	2	20	12/30/13	
Matrix Spike (A315381-MS1), Source: A3L1608-03											
Total Oxidizable Nitrogen, as N - Dissolved (1)	23	1.0	mg/L	10	14	95	80-120			12/30/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NO3 F - Quality Control											
Batch: A315381										Prepared: 12/30/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Matrix Spike (A315381-MS2), Source: A3L1789-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.4	0.10	mg/L	10	ND	93	80-120			12/30/13	
Matrix Spike Dup (A315381-MSD1), Source: A3L1608-03											
Total Oxidizable Nitrogen, as N - Dissolved (1)	23	1.0	mg/L	10	14	90	80-120	2	20	12/30/13	
Matrix Spike Dup (A315381-MSD2), Source: A3L1789-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.5	0.10	mg/L	10	ND	95	80-120	1	20	12/30/13	
SM 4500-P E - Quality Control											
Batch: A315135										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A315135-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							12/20/13	
Blank Spike (A315135-BS1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		100	90-110			12/20/13	
Blank Spike Dup (A315135-BSD1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		100	90-110	0	20	12/20/13	
Matrix Spike (A315135-MS1), Source: A3L1716-01											
Orthophosphate as P	0.33	0.010	mg/L	0.25	0.079	100	80-120			12/20/13	
Matrix Spike Dup (A315135-MSD1), Source: A3L1716-01											
Orthophosphate as P	0.34	0.010	mg/L	0.25	0.079	103	80-120	2	20	12/20/13	
SM 5540 C - Quality Control											
Batch: A315096										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A315096-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							12/20/13	
Blank Spike (A315096-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.91	0.050	mg/L	1.0		91	80-120			12/20/13	
Blank Spike Dup (A315096-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.90	0.050	mg/L	1.0		90	80-120	2	20	12/20/13	
Matrix Spike (A315096-MS1), Source: A3L1613-02											
MBAS, Calculated as LAS, mol wt 340	0.97	0.050	mg/L	1.0	ND	97	80-120			12/20/13	
Matrix Spike (A315096-MS2), Source: A3L1704-01											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	100	80-120			12/20/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 5540 C - Quality Control											
Batch: A315096										Prepared: 12/20/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Matrix Spike Dup (A315096-MSD1), Source: A3L1613-02											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	100	80-120	4	20	12/20/13	
Matrix Spike Dup (A315096-MSD2), Source: A3L1704-01											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	101	80-120	1	20	12/20/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A315133										Prepared: 12/20/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A315133-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							12/27/13	
Boron - Dissolved (1)	ND	0.10	mg/L							12/27/13	
Calcium - Dissolved (1)	ND	0.10	mg/L							12/27/13	
Iron - Dissolved (1)	ND	0.030	mg/L							12/27/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							12/27/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							12/27/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							12/27/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							12/27/13	
Sodium - Dissolved (1)	ND	1.0	mg/L							12/27/13	
Blank Spike (A315133-BS2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		99	85-115			12/27/13	
Boron - Dissolved (1)	0.59	0.10	mg/L	0.60		98	85-115			12/27/13	
Calcium - Dissolved (1)	10	0.10	mg/L	10		100	85-115			12/27/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		99	85-115			12/27/13	
Magnesium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115			12/27/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20		97	85-115			12/27/13	
Potassium - Dissolved (1)	9.9	2.0	mg/L	10		99	85-115			12/27/13	
Silica (SiO2) - Dissolved (1)	2.1	0.20	mg/L	2.1		100	85-115			12/27/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		100	85-115			12/27/13	
Blank Spike Dup (A315133-BSD2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		99	85-115	0	20	12/27/13	
Boron - Dissolved (1)	0.60	0.10	mg/L	0.60		99	85-115	2	20	12/27/13	
Calcium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115	2	20	12/27/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		100	85-115	1	20	12/27/13	
Magnesium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115	0	20	12/27/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		98	85-115	1	20	12/27/13	
Potassium - Dissolved (1)	9.8	2.0	mg/L	10		98	85-115	2	20	12/27/13	
Silica (SiO2) - Dissolved (1)	2.1	0.20	mg/L	2.1		99	85-115	1	20	12/27/13	
Sodium - Dissolved (1)	9.8	1.0	mg/L	10		98	85-115	1	20	12/27/13	
Matrix Spike (A315133-MS3), Source: A3L1172-03											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20	ND	105	70-130			12/27/13	
Boron - Dissolved (1)	0.65	0.10	mg/L	0.60	ND	96	70-130			12/27/13	
Calcium - Dissolved (1)	33	0.10	mg/L	10	23	96	70-130			12/27/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	ND	99	70-130			12/27/13	
Magnesium - Dissolved (1)	9.8	0.10	mg/L	10	0.15	96	70-130			12/27/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	97	70-130			12/27/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10	ND	101	70-130			12/27/13	
Silica (SiO2) - Dissolved (1)	21	0.20	mg/L	2.1	18	105	70-130			12/27/13	
Sodium - Dissolved (1)	92	1.0	mg/L	10	82	102	70-130			12/27/13	
Matrix Spike Dup (A315133-MSD3), Source: A3L1172-03											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20	ND	104	70-130	1	20	12/27/13	
Boron - Dissolved (1)	0.65	0.10	mg/L	0.60	ND	95	70-130	1	20	12/27/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A315133										Prepared: 12/20/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Matrix Spike Dup (A315133-MSD3), Source: A3L1172-03											
Calcium - Dissolved (1)	32	0.10	mg/L	10	23	93	70-130	1	20	12/27/13	
Iron - Dissolved (1)	1.9	0.030	mg/L	2.0	ND	97	70-130	1	20	12/27/13	
Magnesium - Dissolved (1)	9.6	0.10	mg/L	10	0.15	94	70-130	2	20	12/27/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20	ND	96	70-130	1	20	12/27/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10	ND	100	70-130	1	20	12/27/13	
Silica (SiO2) - Dissolved (1)	20	0.20	mg/L	2.1	18	98	70-130	1	20	12/27/13	
Sodium - Dissolved (1)	92	1.0	mg/L	10	82	100	70-130	0	20	12/27/13	
EPA 200.7 - Quality Control											
Batch: A315150										Prepared: 12/23/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A315150-BLK2)											
Aluminum	ND	0.050	mg/L							12/30/13	
Calcium	ND	0.10	mg/L							12/30/13	
Iron	ND	0.030	mg/L							12/30/13	
Magnesium	ND	0.10	mg/L							12/30/13	
Manganese	ND	0.010	mg/L							12/30/13	
Zinc	ND	0.050	mg/L							12/30/13	
Blank Spike (A315150-BS2)											
Aluminum	0.20	0.050	mg/L	0.20		98	85-115			12/30/13	
Calcium	10	0.10	mg/L	10		100	85-115			12/30/13	
Iron	2.0	0.030	mg/L	2.0		100	85-115			12/30/13	
Magnesium	9.8	0.10	mg/L	10		98	85-115			12/30/13	
Manganese	0.20	0.010	mg/L	0.20		98	85-115			12/30/13	
Zinc	0.21	0.050	mg/L	0.20		104	85-115			12/30/13	
Blank Spike Dup (A315150-BSD2)											
Aluminum	0.21	0.050	mg/L	0.20		103	85-115	6	20	12/30/13	
Calcium	10	0.10	mg/L	10		101	85-115	1	20	12/30/13	
Iron	2.1	0.030	mg/L	2.0		103	85-115	3	20	12/30/13	
Magnesium	10	0.10	mg/L	10		101	85-115	2	20	12/30/13	
Manganese	0.20	0.010	mg/L	0.20		102	85-115	3	20	12/30/13	
Zinc	0.21	0.050	mg/L	0.20		106	85-115	3	20	12/30/13	
Matrix Spike (A315150-MS3), Source: A3L1701-01											
Aluminum	0.26	0.050	mg/L	0.20	ND	113	70-130			12/30/13	
Calcium	430	0.10	mg/L	10	400	246	70-130			12/30/13	MS1.0 ***High***
Iron	1.9	0.030	mg/L	2.0	0.042	94	70-130			12/30/13	
Magnesium	280	0.10	mg/L	10	260	196	70-130			12/30/13	MS1.0 ***High***
Manganese	0.21	0.010	mg/L	0.20	0.021	93	70-130			12/30/13	
Zinc	0.18	0.050	mg/L	0.20	ND	89	70-130			12/30/13	
Matrix Spike (A315150-MS4), Source: A3L1709-01											
Aluminum	0.19	0.050	mg/L	0.20	ND	94	70-130			12/30/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A315150										Prepared: 12/23/2013	
Prep Method: EPA 200.2										Analyst: PSK	
Matrix Spike (A315150-MS4), Source: A3L1709-01											
Calcium	48	0.10	mg/L	10	39	99	70-130			12/30/13	
Iron	1.9	0.030	mg/L	2.0	ND	97	70-130			12/30/13	
Magnesium	27	0.10	mg/L	10	17	95	70-130			12/30/13	
Manganese	0.24	0.010	mg/L	0.20	0.053	95	70-130			12/30/13	
Zinc	0.21	0.050	mg/L	0.20	ND	103	70-130			12/30/13	
Matrix Spike (A315150-MS6), Source: A3L1709-01											
Calcium	46	0.10	mg/L	10	39	78	70-130			01/02/14	
Iron	1.9	0.030	mg/L	2.0	ND	96	70-130			01/02/14	
Magnesium	26	0.10	mg/L	10	17	89	70-130			01/02/14	
Manganese	0.24	0.010	mg/L	0.20	0.053	93	70-130			01/02/14	
Matrix Spike Dup (A315150-MSD3), Source: A3L1701-01											
Aluminum	0.25	0.050	mg/L	0.20	ND	110	70-130	2	20	12/30/13	
Calcium	390	0.10	mg/L	10	400	NR	70-130	9	20	12/30/13	MS1.0 ***Low***
Iron	1.9	0.030	mg/L	2.0	0.042	93	70-130	1	20	12/30/13	
Magnesium	260	0.10	mg/L	10	260	NR	70-130	8	20	12/30/13	MS1.0 ***Low***
Manganese	0.20	0.010	mg/L	0.20	0.021	91	70-130	2	20	12/30/13	
Zinc	0.17	0.050	mg/L	0.20	ND	83	70-130	7	20	12/30/13	
Matrix Spike Dup (A315150-MSD4), Source: A3L1709-01											
Aluminum	0.20	0.050	mg/L	0.20	ND	100	70-130	6	20	12/30/13	
Calcium	49	0.10	mg/L	10	39	103	70-130	1	20	12/30/13	
Iron	2.0	0.030	mg/L	2.0	ND	100	70-130	3	20	12/30/13	
Magnesium	27	0.10	mg/L	10	17	99	70-130	1	20	12/30/13	
Manganese	0.25	0.010	mg/L	0.20	0.053	98	70-130	2	20	12/30/13	
Zinc	0.21	0.050	mg/L	0.20	ND	107	70-130	3	20	12/30/13	
Matrix Spike Dup (A315150-MSD6), Source: A3L1709-01											
Calcium	46	0.10	mg/L	10	39	72	70-130	1	20	01/02/14	
Iron	1.9	0.030	mg/L	2.0	ND	95	70-130	1	20	01/02/14	
Magnesium	26	0.10	mg/L	10	17	86	70-130	1	20	01/02/14	
Manganese	0.24	0.010	mg/L	0.20	0.053	93	70-130	1	20	01/02/14	
EPA 200.8 - Quality Control											
Batch: A315133										Prepared: 12/20/2013	
Prep Method: Filtration - Metals										Analyst: PSK	
Blank (A315133-BLK3)											
Strontium - Dissolved (1)	ND	1.0	ug/L							12/27/13	
Blank Spike (A315133-BS3)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		100	85-115			12/27/13	
Blank Spike Dup (A315133-BSD3)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		99	85-115	1	20	12/27/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A315133										Prepared: 12/20/2013	
Prep Method: Filtration - Metals										Analyst: PSK	
Matrix Spike (A315133-MS2), Source: A3L1605-05											
Strontium - Dissolved (1)	430	1.0	ug/L	200	230	99	70-130			12/27/13	
Matrix Spike (A315133-MS4), Source: A3L1172-03											
Strontium - Dissolved (1)	410	1.0	ug/L	200	220	98	70-130			12/27/13	
Matrix Spike Dup (A315133-MSD2), Source: A3L1605-05											
Strontium - Dissolved (1)	430	1.0	ug/L	200	230	100	70-130	1	20	12/27/13	
Matrix Spike Dup (A315133-MSD4), Source: A3L1172-03											
Strontium - Dissolved (1)	420	1.0	ug/L	200	220	100	70-130	1	20	12/27/13	
EPA 200.8 - Quality Control											
Batch: A315150										Prepared: 12/23/2013	
Prep Method: EPA 200.2										Analyst: PSK	
Blank (A315150-BLK1)											
Arsenic	ND	2.0	ug/L							12/27/13	
Copper	ND	5.0	ug/L							12/27/13	
Blank Spike (A315150-BS1)											
Arsenic	190	2.0	ug/L	200		94	85-115			12/27/13	
Copper	190	5.0	ug/L	200		93	85-115			12/27/13	
Blank Spike Dup (A315150-BSD1)											
Arsenic	190	2.0	ug/L	200		96	85-115	2	20	12/27/13	
Copper	190	5.0	ug/L	200		94	85-115	1	20	12/27/13	
Matrix Spike (A315150-MS1), Source: A3L1701-01											
Arsenic	190	2.0	ug/L	200	5.0	93	70-130			12/27/13	
Copper	200	5.0	ug/L	200	29	84	70-130			12/27/13	
Matrix Spike (A315150-MS2), Source: A3L1709-01											
Arsenic	190	2.0	ug/L	200	ND	96	70-130			12/27/13	
Copper	190	5.0	ug/L	200	6.7	89	70-130			12/27/13	
Matrix Spike Dup (A315150-MSD1), Source: A3L1701-01											
Arsenic	190	2.0	ug/L	200	5.0	91	70-130	3	20	12/27/13	
Copper	180	5.0	ug/L	200	29	77	70-130	6	20	12/27/13	
Matrix Spike Dup (A315150-MSD2), Source: A3L1709-01											
Arsenic	190	2.0	ug/L	200	ND	95	70-130	1	20	12/27/13	
Copper	190	5.0	ug/L	200	6.7	90	70-130	1	20	12/27/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A315261										Prepared: 12/24/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A315261-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							12/25/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							12/25/13	
Surrogate: TCMX	*4.8*			*4.5*		*109*	*70-130*			12/25/13	
Blank Spike (A315261-BS1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		105	70-130			12/25/13	
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20		109	70-130			12/25/13	
Surrogate: TCMX	*5.0*			*4.5*		*112*	*70-130*			12/25/13	
Blank Spike Dup (A315261-BSD1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		107	70-130	2	20	12/25/13	
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20		111	70-130	2	20	12/25/13	
Surrogate: TCMX	*5.1*			*4.5*		*115*	*70-130*			12/25/13	
Matrix Spike (A315261-MS1), Source: A3L1733-01											
Dibromochloropropane (DBCP)	0.80	0.010	ug/L	0.20	0.73	30	65-135			12/25/13	MS1.4 ***Low***
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20	ND	103	65-135			12/25/13	
Surrogate: TCMX	*5.3*			*4.5*		*117*	*70-130*			12/25/13	
Matrix Spike Dup (A315261-MSD1), Source: A3L1733-01											
Dibromochloropropane (DBCP)	0.88	0.010	ug/L	0.20	0.73	70	65-135	9	20	12/25/13	
Ethylene Dibromide (EDB)	0.24	0.020	ug/L	0.20	ND	114	65-135	9	20	12/25/13	
Surrogate: TCMX	*5.7*			*4.5*		*128*	*70-130*			12/25/13	
EPA 505 - Quality Control											
Batch: A315261										Prepared: 12/24/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A315261-BLK1)											
Aldrin	ND	0.075	ug/L							12/25/13	
Chlordane	ND	0.10	ug/L							12/25/13	
Chlorothalonil	ND	5.0	ug/L							12/25/13	
Dieldrin	ND	0.020	ug/L							12/25/13	
Endrin	ND	0.10	ug/L							12/25/13	
Heptachlor	ND	0.010	ug/L							12/25/13	
Heptachlor Epoxide	ND	0.010	ug/L							12/25/13	
Hexachlorobenzene	ND	0.50	ug/L							12/25/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							12/25/13	
Lindane	ND	0.20	ug/L							12/25/13	
Methoxychlor	ND	10	ug/L							12/25/13	
PCB Aroclor Screen	ND	0.50	ug/L							12/25/13	
Toxaphene	ND	1.0	ug/L							12/25/13	
Trifluralin	ND	1.0	ug/L							12/25/13	
Surrogate: TCMX	*4.8*			*4.5*		*109*	*70-130*			12/25/13	
Blank Spike (A315261-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A315261										Prepared: 12/24/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A315261-BS1)											
Aldrin	1.0	0.075	ug/L	1.0		102	70-130			12/25/13	
Chlorothalonil	10	5.0	ug/L	10		105	70-130			12/25/13	
Dieldrin	0.43	0.020	ug/L	0.40		107	70-130			12/25/13	
Endrin	0.22	0.10	ug/L	0.20		108	70-130			12/25/13	
Heptachlor	0.21	0.010	ug/L	0.20		106	70-130			12/25/13	
Heptachlor Epoxide	0.21	0.010	ug/L	0.20		106	70-130			12/25/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0		105	70-130			12/25/13	
Hexachlorocyclopentadiene	2.1	1.0	ug/L	2.0		105	70-130			12/25/13	
Lindane	0.42	0.20	ug/L	0.40		105	70-130			12/25/13	
Methoxychlor	2.3	10	ug/L	2.0		115	70-130			12/25/13	
Trifluralin	2.1	1.0	ug/L	2.0		107	70-130			12/25/13	
Surrogate: TCMX	*5.0*			*4.5*		*112*	*70-130*			12/25/13	
Blank Spike Dup (A315261-BSD1)											
Aldrin	1.1	0.075	ug/L	1.0		110	70-130	8	20	12/25/13	
Chlorothalonil	10	5.0	ug/L	10		102	70-130	2	20	12/25/13	
Dieldrin	0.43	0.020	ug/L	0.40		108	70-130	0	20	12/25/13	
Endrin	0.22	0.10	ug/L	0.20		110	70-130	1	20	12/25/13	
Heptachlor	0.22	0.010	ug/L	0.20		110	70-130	4	20	12/25/13	
Heptachlor Epoxide	0.21	0.010	ug/L	0.20		107	70-130	1	20	12/25/13	
Hexachlorobenzene	2.2	0.50	ug/L	2.0		108	70-130	3	20	12/25/13	
Hexachlorocyclopentadiene	2.2	1.0	ug/L	2.0		109	70-130	4	20	12/25/13	
Lindane	0.44	0.20	ug/L	0.40		109	70-130	4	20	12/25/13	
Methoxychlor	2.3	10	ug/L	2.0		114	70-130	2	20	12/25/13	
Trifluralin	2.2	1.0	ug/L	2.0		110	70-130	3	20	12/25/13	
Surrogate: TCMX	*5.1*			*4.5*		*115*	*70-130*			12/25/13	
Matrix Spike (A315261-MS1), Source: A3L1733-01											
Aldrin	1.1	0.075	ug/L	1.0	ND	108	65-135			12/25/13	
Chlorothalonil	10	5.0	ug/L	10	ND	99	65-135			12/25/13	
Dieldrin	0.39	0.020	ug/L	0.40	ND	96	65-135			12/25/13	
Endrin	0.21	0.10	ug/L	0.20	ND	105	65-135			12/25/13	
Heptachlor	0.22	0.010	ug/L	0.20	ND	108	65-135			12/25/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	97	65-135			12/25/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	102	65-135			12/25/13	
Hexachlorocyclopentadiene	2.2	1.0	ug/L	2.0	ND	105	65-135			12/25/13	
Lindane	0.40	0.20	ug/L	0.40	ND	98	65-135			12/25/13	
Methoxychlor	2.2	10	ug/L	2.0	ND	107	65-135			12/25/13	
Trifluralin	2.1	1.0	ug/L	2.0	ND	106	65-135			12/25/13	
Surrogate: TCMX	*5.3*			*4.5*		*117*	*70-130*			12/25/13	
Matrix Spike Dup (A315261-MSD1), Source: A3L1733-01											
Aldrin	1.2	0.075	ug/L	1.0	ND	121	65-135	11	20	12/25/13	
Chlorothalonil	11	5.0	ug/L	10	ND	107	65-135	7	20	12/25/13	
Dieldrin	0.42	0.020	ug/L	0.40	ND	106	65-135	9	20	12/25/13	
Endrin	0.22	0.10	ug/L	0.20	ND	112	65-135	5	20	12/25/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A315261										Prepared: 12/24/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A315261-MSD1), Source: A3L1733-01											
Heptachlor	0.24	0.010	ug/L	0.20	ND	118	65-135	8	20	12/25/13	
Heptachlor Epoxide	0.21	0.010	ug/L	0.20	ND	106	65-135	8	20	12/25/13	
Hexachlorobenzene	2.3	0.50	ug/L	2.0	ND	113	65-135	10	20	12/25/13	
Hexachlorocyclopentadiene	2.4	1.0	ug/L	2.0	ND	117	65-135	11	20	12/25/13	
Lindane	0.44	0.20	ug/L	0.40	ND	109	65-135	10	20	12/25/13	
Methoxychlor	2.3	10	ug/L	2.0	ND	117	65-135	8	20	12/25/13	
Trifluralin	2.3	1.0	ug/L	2.0	ND	112	65-135	5	20	12/25/13	
Surrogate: TCMX	*5.7*			*4.5*		*128*	*70-130*			12/25/13	
EPA 515.3 - Quality Control											
Batch: A315300										Prepared: 12/26/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A315300-BLK1)											
2,4,5-T	ND	1.0	ug/L							12/28/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							12/28/13	
2,4-D	ND	10	ug/L							12/28/13	
Bentazon	ND	2.0	ug/L							12/28/13	
Dalapon	ND	10	ug/L							12/28/13	
Dicamba	ND	1.5	ug/L							12/28/13	
Dinoseb	ND	2.0	ug/L							12/28/13	
Pentachlorophenol	ND	0.20	ug/L							12/28/13	
Picloram	ND	1.0	ug/L							12/28/13	
Surrogate: DCPAA	*59*			*58*		*102*	*70-130*			12/28/13	
Blank Spike (A315300-BS1)											
2,4,5-T	4.7	1.0	ug/L	4.0		117	70-130			12/28/13	
2,4,5-TP (Silvex)	0.94	1.0	ug/L	0.80		117	70-130			12/28/13	
2,4-D	0.47	10	ug/L	0.40		117	70-130			12/28/13	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130			12/28/13	
Dalapon	4.2	10	ug/L	4.0		106	70-130			12/28/13	
Dicamba	7.1	1.5	ug/L	6.0		118	70-130			12/28/13	
Dinoseb	0.90	2.0	ug/L	0.80		113	70-130			12/28/13	
Pentachlorophenol	0.19	0.20	ug/L	0.16		116	70-130			12/28/13	
Picloram	0.46	1.0	ug/L	0.40		116	70-130			12/28/13	
Surrogate: DCPAA	*59*			*58*		*101*	*70-130*			12/28/13	
Blank Spike Dup (A315300-BSD1)											
2,4,5-T	4.0	1.0	ug/L	4.0		100	70-130	15	20	12/28/13	
2,4,5-TP (Silvex)	0.80	1.0	ug/L	0.80		100	70-130	16	20	12/28/13	
2,4-D	0.38	10	ug/L	0.40		96	70-130	19	20	12/28/13	
Bentazon	8.1	2.0	ug/L	8.0		102	70-130	7	20	12/28/13	
Dalapon	3.9	10	ug/L	4.0		98	70-130	8	20	12/28/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130	18	20	12/28/13	
Dinoseb	0.81	2.0	ug/L	0.80		102	70-130	10	20	12/28/13	
Pentachlorophenol	0.15	0.20	ug/L	0.16		96	70-130	19	20	12/28/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A315300										Prepared: 12/26/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A315300-BSD1)											
Picloram	0.40	1.0	ug/L	0.40		100	70-130	15	20	12/28/13	
Surrogate: DCPAA	*48*			*58*		*83*	*70-130*			12/28/13	
Matrix Spike (A315300-MS1), Source: A3L1370-07											
2,4,5-T	4.0	1.0	ug/L	4.0	ND	100	70-130			12/28/13	
2,4,5-TP (Silvex)	0.80	1.0	ug/L	0.80	ND	100	70-130			12/28/13	
2,4-D	0.40	10	ug/L	0.40	ND	99	70-130			12/28/13	
Bentazon	8.1	2.0	ug/L	8.0	ND	102	70-130			12/28/13	
Dalapon	4.2	10	ug/L	4.0	ND	106	70-130			12/28/13	
Dicamba	6.0	1.5	ug/L	6.0	ND	101	70-130			12/28/13	
Dinoseb	0.75	2.0	ug/L	0.80	ND	94	70-130			12/28/13	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	92	70-130			12/28/13	
Picloram	0.42	1.0	ug/L	0.40	ND	106	70-130			12/28/13	
Surrogate: DCPAA	*50*			*58*		*86*	*70-130*			12/28/13	
EPA 525.2 - Quality Control											
Batch: A315174										Prepared: 12/23/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A315174-BLK1)											
Alachlor	ND	1.0	ug/L							12/23/13	
Atrazine	ND	0.50	ug/L							12/23/13	
Benzo(a)pyrene	ND	0.10	ug/L							12/23/13	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							12/23/13	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							12/23/13	
Bromacil	ND	10	ug/L							12/23/13	
Butachlor	ND	0.38	ug/L							12/23/13	
Diazinon	ND	0.25	ug/L							12/23/13	
Dimethoate	ND	10	ug/L							12/23/13	
Metolachlor	ND	0.50	ug/L							12/23/13	
Metribuzin	ND	0.50	ug/L							12/23/13	
Molinate	ND	2.0	ug/L							12/23/13	
Propachlor	ND	0.50	ug/L							12/23/13	
Simazine	ND	1.0	ug/L							12/23/13	
Thiobencarb	ND	1.0	ug/L							12/23/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.2*			*5.0*		*103*	*70-130*			12/23/13	
Blank Spike (A315174-BS1)											
Alachlor	0.54	1.0	ug/L	0.50		107	70-130			12/24/13	
Atrazine	0.53	0.50	ug/L	0.50		105	70-130			12/24/13	
Benzo(a)pyrene	0.13	0.10	ug/L	0.10		125	70-130			12/24/13	
Bis(2-ethylhexyl) adipate	3.0	3.0	ug/L	3.0		101	70-130			12/24/13	
Bis(2-ethylhexyl) phthalate	3.3	3.0	ug/L	3.0		108	70-130			12/24/13	
Bromacil	2.6	10	ug/L	2.0		131	70-130			12/24/13	BS ***High***
Butachlor	1.5	0.38	ug/L	1.3		117	70-130			12/24/13	
Diazinon	0.043	0.25	ug/L	0.050		86	70-130			12/24/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A315174										Prepared: 12/23/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A315174-BS1)											
Dimethoate	0.63	10	ug/L	0.50		124	70-130			12/24/13	
Metolachlor	3.0	0.50	ug/L	2.5		118	70-130			12/24/13	
Metribuzin	3.0	0.50	ug/L	2.5		117	70-130			12/24/13	
Molinate	2.7	2.0	ug/L	2.5		105	70-130			12/24/13	
Propachlor	2.8	0.50	ug/L	2.5		110	70-130			12/24/13	
Simazine	0.39	1.0	ug/L	0.35		111	70-130			12/24/13	
Thiobencarb	0.55	1.0	ug/L	0.50		110	70-130			12/24/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.8*			*5.0*		*96*	*70-130*			12/24/13	
Blank Spike Dup (A315174-BSD1)											
Alachlor	0.50	1.0	ug/L	0.50		101	70-130	7	30	12/23/13	
Atrazine	0.53	0.50	ug/L	0.50		106	70-130	0	30	12/23/13	
Benzo(a)pyrene	0.13	0.10	ug/L	0.10		128	70-130	1	30	12/23/13	
Bis(2-ethylhexyl) adipate	3.0	3.0	ug/L	3.0		101	70-130	1	30	12/23/13	
Bis(2-ethylhexyl) phthalate	3.3	3.0	ug/L	3.0		111	70-130	2	30	12/23/13	
Bromacil	2.3	10	ug/L	2.0		115	70-130	14	30	12/23/13	
Butachlor	1.3	0.38	ug/L	1.2		108	70-130	8	30	12/23/13	
Diazinon	0.035	0.25	ug/L	0.050		70	70-130	22	30	12/23/13	
Dimethoate	0.55	10	ug/L	0.50		111	70-130	12	30	12/23/13	
Metolachlor	2.7	0.50	ug/L	2.5		110	70-130	8	30	12/23/13	
Metribuzin	2.9	0.50	ug/L	2.5		114	70-130	4	30	12/23/13	
Molinate	2.7	2.0	ug/L	2.5		107	70-130	1	30	12/23/13	
Propachlor	2.7	0.50	ug/L	2.5		108	70-130	3	30	12/23/13	
Simazine	0.40	1.0	ug/L	0.35		115	70-130	2	30	12/23/13	
Thiobencarb	0.57	1.0	ug/L	0.50		113	70-130	2	30	12/23/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.0*		*100*	*70-130*			12/23/13	
Matrix Spike (A315174-MS1), Source: A3L1502-01											
Alachlor	0.53	1.0	ug/L	0.50	ND	106	70-130			12/23/13	
Atrazine	0.56	0.50	ug/L	0.50	ND	113	70-130			12/23/13	
Benzo(a)pyrene	0.12	0.10	ug/L	0.10	ND	122	70-130			12/23/13	
Bis(2-ethylhexyl) adipate	3.0	3.0	ug/L	3.0	ND	101	70-130			12/23/13	
Bis(2-ethylhexyl) phthalate	3.1	3.0	ug/L	3.0	ND	104	70-130			12/23/13	
Bromacil	2.5	10	ug/L	2.0	ND	125	70-130			12/23/13	
Butachlor	1.4	0.38	ug/L	1.2	ND	111	70-130			12/23/13	
Diazinon	0.047	0.25	ug/L	0.050	ND	94	70-130			12/23/13	
Dimethoate	0.60	10	ug/L	0.50	ND	121	70-130			12/23/13	
Metolachlor	2.8	0.50	ug/L	2.5	ND	112	70-130			12/23/13	
Metribuzin	2.9	0.50	ug/L	2.5	ND	117	70-130			12/23/13	
Molinate	2.7	2.0	ug/L	2.5	ND	109	70-130			12/23/13	
Propachlor	2.7	0.50	ug/L	2.5	ND	108	70-130			12/23/13	
Simazine	0.40	1.0	ug/L	0.35	ND	115	70-130			12/23/13	
Thiobencarb	0.54	1.0	ug/L	0.50	ND	108	70-130			12/23/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.0*		*100*	*70-130*			12/23/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A315323										Prepared: 12/26/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A315323-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							12/27/13	
Aldicarb	ND	3.0	ug/L							12/27/13	
Aldicarb Sulfone	ND	2.0	ug/L							12/27/13	
Aldicarb Sulfoxide	ND	3.0	ug/L							12/27/13	
Carbaryl	ND	5.0	ug/L							12/27/13	
Carbofuran	ND	5.0	ug/L							12/27/13	
Methomyl	ND	2.0	ug/L							12/27/13	
Oxamyl	ND	20	ug/L							12/27/13	
Blank Spike (A315323-BS1)											
3-Hydroxycarbofuran	4.6	3.0	ug/L	4.2		110	80-120			12/27/13	
Aldicarb	4.5	3.0	ug/L	4.2		108	80-120			12/27/13	
Aldicarb Sulfone	4.6	2.0	ug/L	4.2		109	80-120			12/27/13	
Aldicarb Sulfoxide	4.6	3.0	ug/L	4.2		111	80-120			12/27/13	
Carbaryl	4.4	5.0	ug/L	4.2		105	80-120			12/27/13	
Carbofuran	4.7	5.0	ug/L	4.2		113	80-120			12/27/13	
Methomyl	4.5	2.0	ug/L	4.2		109	80-120			12/27/13	
Oxamyl	4.6	20	ug/L	4.2		111	80-120			12/27/13	
Blank Spike Dup (A315323-BSD1)											
3-Hydroxycarbofuran	4.4	3.0	ug/L	4.2		105	80-120	4	20	12/27/13	
Aldicarb	4.5	3.0	ug/L	4.2		107	80-120	1	20	12/27/13	
Aldicarb Sulfone	4.3	2.0	ug/L	4.2		103	80-120	6	20	12/27/13	
Aldicarb Sulfoxide	4.4	3.0	ug/L	4.2		104	80-120	6	20	12/27/13	
Carbaryl	4.3	5.0	ug/L	4.2		104	80-120	2	20	12/27/13	
Carbofuran	4.5	5.0	ug/L	4.2		107	80-120	6	20	12/27/13	
Methomyl	4.3	2.0	ug/L	4.2		103	80-120	5	20	12/27/13	
Oxamyl	4.4	20	ug/L	4.2		105	80-120	5	20	12/27/13	
Matrix Spike (A315323-MS1), Source: A3L1441-01											
3-Hydroxycarbofuran	5.7	3.0	ug/L	4.2	ND	137	65-135			12/27/13	MS1.0 ***High***
Aldicarb	5.6	3.0	ug/L	4.2	ND	135	65-135			12/27/13	
Aldicarb Sulfone	5.7	2.0	ug/L	4.2	ND	136	65-135			12/27/13	MS1.0 ***High***
Aldicarb Sulfoxide	5.8	3.0	ug/L	4.2	ND	139	65-135			12/27/13	MS1.0 ***High***
Carbaryl	5.6	5.0	ug/L	4.2	ND	134	65-135			12/27/13	
Carbofuran	5.9	5.0	ug/L	4.2	ND	142	65-135			12/27/13	MS1.0 ***High***
Methomyl	5.7	2.0	ug/L	4.2	ND	137	65-135			12/27/13	MS1.0 ***High***
Oxamyl	5.8	20	ug/L	4.2	ND	140	65-135			12/27/13	MS1.0 ***High***
EPA 547 - Quality Control											
Batch: A315140										Prepared: 12/21/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank (A315140-BLK1)											
Glyphosate	ND	25	ug/L							12/21/13	
Surrogate: AMPA	*100*			*100*		*101*	*70-130*			12/21/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A315140										Prepared: 12/21/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank Spike (A315140-BS1)											
Glyphosate	95	25	ug/L	100		94	70-130			12/21/13	
Surrogate: AMPA	*110*			*100*		*107*	*70-130*			12/21/13	
Blank Spike Dup (A315140-BSD1)											
Glyphosate	100	25	ug/L	100		100	70-130	7	30	12/21/13	
Surrogate: AMPA	*110*			*100*		*106*	*70-130*			12/21/13	
Matrix Spike (A315140-MS1), Source: A3L1380-01											
Glyphosate	110	25	ug/L	100	ND	106	70-130			12/21/13	
Surrogate: AMPA	*110*			*100*		*108*	*70-130*			12/21/13	
Matrix Spike Dup (A315140-MSD1), Source: A3L1380-01											
Glyphosate	96	25	ug/L	100	ND	96	70-130	9	30	12/21/13	
Surrogate: AMPA	*100*			*100*		*105*	*70-130*			12/21/13	
EPA 548.1 - Quality Control											
Batch: A315322										Prepared: 12/26/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A315322-BLK1)											
Endothall	ND	45	ug/L							12/27/13	
Blank Spike (A315322-BS1)											
Endothall	17	45	ug/L	20		85	60-111			12/27/13	
Blank Spike Dup (A315322-BSD1)											
Endothall	17	45	ug/L	20		86	60-111	1	46	12/27/13	
Matrix Spike (A315322-MS1), Source: A3L1635-01											
Endothall	ND	45	ug/L	20	ND	0	10-122			12/27/13	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A315144										Prepared: 12/21/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A315144-BLK1)											
Diquat	ND	4.0	ug/L							12/26/13	
Blank Spike (A315144-BS1)											
Diquat	3.6	4.0	ug/L	4.0		90	70-130			12/26/13	
Blank Spike Dup (A315144-BSD1)											
Diquat	3.7	4.0	ug/L	4.0		93	70-130	4	30	12/26/13	
Matrix Spike (A315144-MS1), Source: A3L1441-01											
Diquat	3.6	4.0	ug/L	4.0	ND	91	70-130			12/26/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A315144										Prepared: 12/21/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Matrix Spike (A315144-MS2), Source: A3L1451-01											
Diquat	3.7	4.0	ug/L	4.0	ND	92	70-130			12/26/13	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792013-1
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron Silica (SiO2) Strontium
Threshold Odor

A3L1716

California American Water

Calif3295

12202013

Turnaround: Standard
Due Date: 1/6/2014

BSK Associates
Engineers & Laboratories
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

*Required Fields Temp: 0.2

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water	Travis Peterson Additional cc's: Sarp Sekeroglu, RBF Consulting	Accounts Payable PO#:	(831) 646-3295/(831) 646-3269	(831) 333-1343

E-mail*: susan.jacobson@amwater.com,travis.peterson@amwater.com

Address*	City*	State*	Zip*
PO Box 951	Monterey	CA	93942-0951

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other ____

Project: Water Quality Analysis — MPWSP
Project #:

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type ____
How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail
Regulatory Compliance: ☐ EDT to California DPH System Number*: ____

Sampler Name (Printed/Signature)*: Nathan Reynolds / [signature]
TAT* **Surcharge: ☒ Standard - 10 Business Days ☐ **Rush: Date Needed ____
☐ Geotracker #: ____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alkalinity, Hardness, MBAS,Color, Odor, TDS, pH, Turbidity, EC	Mass Balance-Dissolved: Cations and Anions	Dissolved Metals: Ba, B, Ca, Fe, Mg, Mn, K, Na, Sr, silica	Total Metals: Al, As, Cu, Fe, Mn, Zn	Dissolved: Bromide, Chloride, Nitrite, Fluoride, Sulfate, Orthophosphate-P	Dissolved: Ammonia, TKN, Phosphorus	Nitrate+Nitrite as N, Nitrate-NO3,	EPA 524, 504, 505, 515, 525, 531, 547, 548, 549	EXT-Tritium, EXT-Lithium, EXT-Dissolved Iodide, EXT-Dioxin
27	ML-2 Zone #2 (90-100 ftbgs)	12-19-13	10:45	water	Seawater salinity levels.	X	X	X	X	X	X	X	X	X
					Lab to filter dissolved metals.									
					Lab to filter Diss. Ammonia, TKN, P									
					[redacted]									
					Field Parameters: Temp = 16.4 °C pH = 6.67 Sp Cond = 11,508 µS/cm Turb = 0.72 NTU									

Relinquished by (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Printed Name)	Company
[signature] Nathan Reynolds	GEOSCIENCE	12-19-13	13:5 pm	[signature]	RBF
[signature]	RBF	12-19-13	1:55 pm		
Received for Lab by (Signature and Printed Name): [signature]		Date: 12/20/13	Time: 1500	Payment Received at Delivery: Date ____ Amount ____ PIA# ____ Check / Cash Int. ____	

Shipping Method: CH2MAC UPS GSO WALK-IN FED EX Courier ____
Cooling Method: Wet Blue None
Custody Seal Y / N
Chilling Process Begun Y / N

Payment for services rendered as noted hereon is due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

SR-FL-0012-05 Analytical Chain of Custody

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received ("-" means preservation/chlorine checks are either N/A or are performed in the lab)

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	2G,1B,1A
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	2B
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	1A
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	2G,1A,1B
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2G,2A
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	7V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas; MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

12/20/13

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Out of HT.

Labeled by: JLH @ 16:23 Labels checked by: CH @ 1629 RUSH Paged by: _____ @ _____

External

A3L1716

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Certificate of Analysis

Report Date: 01/02/14 13:21
Received Date: 12/31/13 10:45
Turnaround Time: Normal

Project: A3L1716

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 12/31/2013 with the Chain of Custody document. The samples were received in good condition, at 4.1 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3L31022-01 **Sample ID:** A3L1716-01 **Matrix:** Water
Sampled by: Client **Sampled:** 12/19/13 10:45

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
1,1,1,2-Tetrachloroethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,1,1-Trichloroethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,1,2,2-Tetrachloroethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,1,2-Trichloroethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,1-Dichloroethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,1-Dichloroethene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,1-Dichloropropene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,2,3-Trichlorobenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,2,3-Trichloropropane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,2,4-Trichlorobenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,2,4-Trimethylbenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,2-Dichloroethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,2-Dichloropropane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,3,5-Trimethylbenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,3-Dichloropropane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
1,3-Dichloropropene, Total	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
2,2-Dichloropropane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
2-Butanone	ND		5.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
2-Chloroethyl vinyl ether	ND		1.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
2-Chlorotoluene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
2-Hexanone	ND		5.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
4-Chlorotoluene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
4-Methyl-2-pentanone	ND		5.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Benzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Bromobenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Bromochloromethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Bromodichloromethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	

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Lab Sample ID: 3L31022-01 **Sample ID:** A3L1716-01 **Matrix:** Water
Sampled by: Client **Sampled:** 12/19/13 10:45

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Bromoform	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Bromomethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Carbon tetrachloride	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Chlorobenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Chloroethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Chloroform	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Chloromethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
cis-1,2-Dichloroethene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
cis-1,3-Dichloropropene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Dibromochloromethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Dibromomethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Dichlorodifluoromethane (Freon 12)	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Di-isopropyl ether	ND		2.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Ethyl tert-butyl ether	ND		2.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Ethylbenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Freon 113	ND		5.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Hexachlorobutadiene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Isopropylbenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
m,p-Xylene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
m-Dichlorobenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Methyl tert-butyl ether (MTBE)	ND		2.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Methylene chloride	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Naphthalene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
n-Butylbenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
n-Propylbenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
o-Dichlorobenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
o-Xylene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
p-Dichlorobenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
p-Isopropyltoluene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
sec-Butylbenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Styrene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Tert-amyl methyl ether	ND		2.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
tert-Butylbenzene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Tetrachloroethene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
THMs, Total	ND		2.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Toluene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
trans-1,2-Dichloroethene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
trans-1,3-Dichloropropene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Trichloroethene	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Trichlorofluoromethane	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Vinyl chloride	ND		0.50	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Xylenes, Total	ND		1.0	ug/l	1	EPA 524.2	12/31/13	12/31/13 14:48	W3L1469	
Surrogate: 1,2-Dichlorobenzene-d4	*78 %*		*70-130*	%		Concentration: *7.81*				
Surrogate: 4-Bromofluorobenzene	*77 %*		*70-130*	%		Concentration: *7.70*				

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Quality Control Section

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L1469 - EPA 524.2

Blank (W3L1469-BLK1) — **Prepared: 12/31/13 Analyzed: 12/31/13 14:17**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		*10.1*		ug/l	*10.0*	*101*	*70-130*		
Surrogate: 4-Bromofluorobenzene		*10.4*		ug/l	*10.0*	*104*	*70-130*		
Dichlorodifluoromethane (Freon 12)		ND		ug/l					
Chloromethane		ND		ug/l					
Vinyl chloride		ND		ug/l					
Bromomethane		ND		ug/l					
Chloroethane		ND		ug/l					
Trichlorofluoromethane		ND		ug/l					
Freon 113		ND		ug/l					
1,1-Dichloroethene		ND		ug/l					
Methylene chloride		ND		ug/l					
trans-1,2-Dichloroethene		ND		ug/l					
Methyl tert-butyl ether (MTBE)		ND		ug/l					
1,1-Dichloroethane		ND		ug/l					
Di-isopropyl ether		ND		ug/l					
Ethyl tert-butyl ether		ND		ug/l					
2-Butanone		ND		ug/l					
2,2-Dichloropropane		ND		ug/l					
cis-1,2-Dichloroethene		ND		ug/l					
Bromochloromethane		ND		ug/l					
Chloroform		ND		ug/l					
1,1,1-Trichloroethane		ND		ug/l					
Carbon tetrachloride		ND		ug/l					
1,1-Dichloropropene		ND		ug/l					
Benzene		ND		ug/l					
1,2-Dichloroethane		ND		ug/l					
Tert-amyl methyl ether		ND		ug/l					
Trichloroethene		ND		ug/l					
1,2-Dichloropropane		ND		ug/l					
Dibromomethane		ND		ug/l					
Bromodichloromethane		ND		ug/l					
cis-1,3-Dichloropropene		ND		ug/l					
4-Methyl-2-pentanone		ND		ug/l					
2-Chloroethyl vinyl ether		ND		ug/l					
Toluene		ND		ug/l					
trans-1,3-Dichloropropene		ND		ug/l					
1,1,2-Trichloroethane		ND		ug/l					
Tetrachloroethene		ND		ug/l					
1,3-Dichloropropane		ND		ug/l					
Dibromochloromethane		ND		ug/l					
2-Hexanone		ND		ug/l					

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L1469 - EPA 524.2

Blank (W3L1469-BLK1) — Prepared: 12/31/13 Analyzed: 12/31/13 14:17

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Chlorobenzene		ND		ug/l					
1,1,1,2-Tetrachloroethane		ND		ug/l					
Ethylbenzene		ND		ug/l					
m,p-Xylene		ND		ug/l					
o-Xylene		ND		ug/l					
Styrene		ND		ug/l					
Bromoform		ND		ug/l					
Isopropylbenzene		ND		ug/l					
Bromobenzene		ND		ug/l					
1,1,2,2-Tetrachloroethane		ND		ug/l					
1,2,3-Trichloropropane		ND		ug/l					
n-Propylbenzene		ND		ug/l					
2-Chlorotoluene		ND		ug/l					
4-Chlorotoluene		ND		ug/l					
1,3,5-Trimethylbenzene		ND		ug/l					
tert-Butylbenzene		ND		ug/l					
1,2,4-Trimethylbenzene		ND		ug/l					
sec-Butylbenzene		ND		ug/l					
m-Dichlorobenzene		ND		ug/l					
p-Isopropyltoluene		ND		ug/l					
p-Dichlorobenzene		ND		ug/l					
o-Dichlorobenzene		ND		ug/l					
n-Butylbenzene		ND		ug/l					
1,2,4-Trichlorobenzene		ND		ug/l					
Hexachlorobutadiene		ND		ug/l					
Naphthalene		ND		ug/l					
1,2,3-Trichlorobenzene		ND		ug/l					
Xylenes, Total		ND		ug/l					
1,3-Dichloropropene, Total		ND		ug/l					
THMs, Total		ND		ug/l					

LCS (W3L1469-BS1) — Prepared: 12/31/13 Analyzed: 12/31/13 12:11

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		*13.6*	S-BS	ug/l	*10.0*	*136*	*70-130*		
Surrogate: 4-Bromofluorobenzene		*12.9*		ug/l	*10.0*	*129*	*70-130*		
Dichlorodifluoromethane (Freon 12)		6.06		ug/l	6.00	101	70-130		
Chloromethane		5.80		ug/l	6.00	97	70-130		
Vinyl chloride		5.85		ug/l	6.00	98	70-130		
Bromomethane		4.97		ug/l	6.00	83	70-130		
Chloroethane		5.29		ug/l	6.00	88	70-130		
Trichlorofluoromethane		3.98	BS-03	ug/l	6.00	66	70-130		
Freon 113		6.14		ug/l	6.00	102	70-130		
1,1-Dichloroethene		6.12		ug/l	6.00	102	70-130		
Methylene chloride		5.55		ug/l	6.00	92	70-130		

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L1469 - EPA 524.2

LCS (W3L1469-BS1) — **Prepared: 12/31/13 Analyzed: 12/31/13 12:11**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
trans-1,2-Dichloroethene		5.93		ug/l	6.00	99	70-130		
Methyl tert-butyl ether (MTBE)		6.77		ug/l	6.00	113	70-130		
1,1-Dichloroethane		6.06		ug/l	6.00	101	70-130		
Di-isopropyl ether		6.55		ug/l	6.00	109	70-130		
Ethyl tert-butyl ether		6.50		ug/l	6.00	108	70-130		
2-Butanone		6.41		ug/l	6.00	107	70-130		
2,2-Dichloropropane		7.05		ug/l	6.00	118	70-130		
cis-1,2-Dichloroethene		6.84		ug/l	6.00	114	70-130		
Bromochloromethane		5.94		ug/l	6.00	99	70-130		
Chloroform		5.71		ug/l	6.00	95	70-130		
1,1,1-Trichloroethane		5.73		ug/l	6.00	96	70-130		
Carbon tetrachloride		5.65		ug/l	6.00	94	70-130		
1,1-Dichloropropene		6.33		ug/l	6.00	106	70-130		
Benzene		6.16		ug/l	6.00	103	70-130		
1,2-Dichloroethane		5.77		ug/l	6.00	96	70-130		
Tert-amyl methyl ether		7.06		ug/l	6.00	118	70-130		
Trichloroethene		5.90		ug/l	6.00	98	70-130		
1,2-Dichloropropane		6.06		ug/l	6.00	101	70-130		
Dibromomethane		6.11		ug/l	6.00	102	70-130		
Bromodichloromethane		5.69		ug/l	6.00	95	70-130		
cis-1,3-Dichloropropene		6.77		ug/l	6.00	113	70-130		
4-Methyl-2-pentanone		5.12		ug/l	6.00	85	70-130		
2-Chloroethyl vinyl ether		5.93		ug/l	6.00	99	70-130		
Toluene		7.37		ug/l	6.00	123	70-130		
trans-1,3-Dichloropropene		7.03		ug/l	6.00	117	70-130		
1,1,2-Trichloroethane		6.04		ug/l	6.00	101	70-130		
Tetrachloroethene		6.34		ug/l	6.00	106	70-130		
1,3-Dichloropropane		6.21		ug/l	6.00	104	70-130		
Dibromochloromethane		6.03		ug/l	6.00	100	70-130		
2-Hexanone		5.12		ug/l	6.00	85	70-130		
Chlorobenzene		6.71		ug/l	6.00	112	70-130		
1,1,1,2-Tetrachloroethane		5.77		ug/l	6.00	96	70-130		
Ethylbenzene		6.44		ug/l	6.00	107	70-130		
m,p-Xylene		5.22		ug/l	6.00	87	70-130		
o-Xylene		5.19		ug/l	6.00	86	70-130		
Styrene		6.34		ug/l	6.00	106	70-130		
Bromoform		6.67		ug/l	6.00	111	70-130		
Isopropylbenzene		5.33		ug/l	6.00	89	70-130		
Bromobenzene		6.08		ug/l	6.00	101	70-130		
1,1,2,2-Tetrachloroethane		5.96		ug/l	6.00	99	70-130		
1,2,3-Trichloropropane		6.03		ug/l	6.00	100	70-130		
n-Propylbenzene		6.40		ug/l	6.00	107	70-130		
2-Chlorotoluene		7.27		ug/l	6.00	121	70-130		
4-Chlorotoluene		6.73		ug/l	6.00	112	70-130		

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L1469 - EPA 524.2

LCS (W3L1469-BS1) — Prepared: 12/31/13 Analyzed: 12/31/13 12:11

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene		7.84	Q-08	ug/l	6.00	131	70-130		
tert-Butylbenzene		5.11		ug/l	6.00	85	70-130		
1,2,4-Trimethylbenzene		6.54		ug/l	6.00	109	70-130		
sec-Butylbenzene		7.34		ug/l	6.00	122	70-130		
m-Dichlorobenzene		6.26		ug/l	6.00	104	70-130		
p-Isopropyltoluene		5.27		ug/l	6.00	88	70-130		
p-Dichlorobenzene		6.30		ug/l	6.00	105	70-130		
o-Dichlorobenzene		5.93		ug/l	6.00	99	70-130		
n-Butylbenzene		6.70		ug/l	6.00	112	70-130		
1,2,4-Trichlorobenzene		6.57		ug/l	6.00	110	70-130		
Hexachlorobutadiene		6.97		ug/l	6.00	116	70-130		
Naphthalene		6.01		ug/l	6.00	100	70-130		
1,2,3-Trichlorobenzene		6.85		ug/l	6.00	114	70-130		

LCS Dup (W3L1469-BSD1) — Prepared: 12/31/13 Analyzed: 12/31/13 13:14

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Surrogate: 1,2-Dichlorobenzene-d4		*13.4*	S-BS	ug/l	*10.0*	*134*	*70-130*		
Surrogate: 4-Bromofluorobenzene		*12.8*		ug/l	*10.0*	*128*	*70-130*		
Dichlorodifluoromethane (Freon 12)		5.94		ug/l	6.00	99	70-130	2	30
Chloromethane		5.69		ug/l	6.00	95	70-130	2	30
Vinyl chloride		5.70		ug/l	6.00	95	70-130	3	30
Bromomethane		4.88		ug/l	6.00	81	70-130	2	30
Chloroethane		5.41		ug/l	6.00	90	70-130	2	30
Trichlorofluoromethane		4.71		ug/l	6.00	78	70-130	17	30
Freon 113		5.94		ug/l	6.00	99	70-130	3	30
1,1-Dichloroethene		6.07		ug/l	6.00	101	70-130	0.8	30
Methylene chloride		6.07		ug/l	6.00	101	70-130	9	30
trans-1,2-Dichloroethene		6.24		ug/l	6.00	104	70-130	5	30
Methyl tert-butyl ether (MTBE)		6.38		ug/l	6.00	106	70-130	6	30
1,1-Dichloroethane		5.94		ug/l	6.00	99	70-130	2	30
Di-isopropyl ether		6.20		ug/l	6.00	103	70-130	5	30
Ethyl tert-butyl ether		6.60		ug/l	6.00	110	70-130	2	30
2-Butanone		6.24		ug/l	6.00	104	70-130	3	30
2,2-Dichloropropane		6.35		ug/l	6.00	106	70-130	10	30
cis-1,2-Dichloroethene		4.75	QR-BS	ug/l	6.00	79	70-130	36	30
Bromochloromethane		5.72		ug/l	6.00	95	70-130	4	30
Chloroform		5.55		ug/l	6.00	92	70-130	3	30
1,1,1-Trichloroethane		5.70		ug/l	6.00	95	70-130	0.5	30
Carbon tetrachloride		5.77		ug/l	6.00	96	70-130	2	30
1,1-Dichloropropene		6.28		ug/l	6.00	105	70-130	0.8	30
Benzene		6.16		ug/l	6.00	103	70-130	0	30
1,2-Dichloroethane		5.81		ug/l	6.00	97	70-130	0.7	30
Tert-amyl methyl ether		7.20		ug/l	6.00	120	70-130	2	30
Trichloroethene		6.00		ug/l	6.00	100	70-130	2	30

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L1469 - EPA 524.2

LCS Dup (W3L1469-BSD1) — **Prepared: 12/31/13 Analyzed: 12/31/13 13:14**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
1,2-Dichloropropane		6.03		ug/l	6.00	100	70-130	0.5	30
Dibromomethane		5.95		ug/l	6.00	99	70-130	3	30
Bromodichloromethane		5.79		ug/l	6.00	96	70-130	2	30
cis-1,3-Dichloropropene		6.81		ug/l	6.00	114	70-130	0.6	30
4-Methyl-2-pentanone		5.22		ug/l	6.00	87	70-130	2	30
2-Chloroethyl vinyl ether		5.94		ug/l	6.00	99	70-130	0.2	30
Toluene		7.50		ug/l	6.00	125	70-130	2	30
trans-1,3-Dichloropropene		6.89		ug/l	6.00	115	70-130	2	30
1,1,2-Trichloroethane		6.05		ug/l	6.00	101	70-130	0.2	30
Tetrachloroethene		6.20		ug/l	6.00	103	70-130	2	30
1,3-Dichloropropane		6.16		ug/l	6.00	103	70-130	0.8	30
Dibromochloromethane		6.00		ug/l	6.00	100	70-130	0.5	30
2-Hexanone		5.22		ug/l	6.00	87	70-130	2	30
Chlorobenzene		6.83		ug/l	6.00	114	70-130	2	30
1,1,1,2-Tetrachloroethane		5.79		ug/l	6.00	96	70-130	0.3	30
Ethylbenzene		6.53		ug/l	6.00	109	70-130	1	30
m,p-Xylene		5.30		ug/l	6.00	88	70-130	2	30
o-Xylene		5.23		ug/l	6.00	87	70-130	0.8	30
Styrene		6.50		ug/l	6.00	108	70-130	2	30
Bromoform		6.64		ug/l	6.00	111	70-130	0.5	30
Isopropylbenzene		5.48		ug/l	6.00	91	70-130	3	30
Bromobenzene		5.97		ug/l	6.00	100	70-130	2	30
1,1,2,2-Tetrachloroethane		5.88		ug/l	6.00	98	70-130	1	30
1,2,3-Trichloropropane		6.09		ug/l	6.00	102	70-130	1	30
n-Propylbenzene		6.46		ug/l	6.00	108	70-130	0.9	30
2-Chlorotoluene		7.39		ug/l	6.00	123	70-130	2	30
4-Chlorotoluene		6.84		ug/l	6.00	114	70-130	2	30
1,3,5-Trimethylbenzene		7.93	Q-09	ug/l	6.00	132	70-130	1	30
tert-Butylbenzene		5.20		ug/l	6.00	87	70-130	2	30
1,2,4-Trimethylbenzene		6.53		ug/l	6.00	109	70-130	0.2	30
sec-Butylbenzene		7.23		ug/l	6.00	120	70-130	2	30
m-Dichlorobenzene		6.27		ug/l	6.00	104	70-130	0.2	30
p-Isopropyltoluene		5.38		ug/l	6.00	90	70-130	2	30
p-Dichlorobenzene		6.13		ug/l	6.00	102	70-130	3	30
o-Dichlorobenzene		5.76		ug/l	6.00	96	70-130	3	30
n-Butylbenzene		6.91		ug/l	6.00	115	70-130	3	30
1,2,4-Trichlorobenzene		6.81		ug/l	6.00	114	70-130	4	30
Hexachlorobutadiene		7.26		ug/l	6.00	121	70-130	4	30
Naphthalene		6.29		ug/l	6.00	105	70-130	5	30
1,2,3-Trichlorobenzene		6.87		ug/l	6.00	114	70-130	0.3	30

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Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

BS-03	The recovery of this analyte in the BS/LCS was outside the control limits. The sample result was accepted based on another acceptable BS/LCS and/or MS and MSD that meet BS criteria.
Q-08	High bias in the QC sample does not affect sample result since analyte was not detected or below the reporting limit.
QR-BS	The RPD value for the BS/BSD (LCS/LCSD) was outside of QC acceptance limits however both recoveries were acceptable. The QC batch was accepted based on acceptable results for the recoveries of the BS (LCS) and BSD (LCSD).
S-BS	Surrogate recovery outside of control limits for LCS. The data was accepted based on valid recovery of the target analytes.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

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BSK Analytical Laboratories
Engineering & Laboratories

SUBCONTRACT ORDER

A3L1716

3L31022

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Weck Laboratories, Inc.
14859 E Clark Avenue
City of Industry, CA 91745-1396
Phone :(626) 336-2139
Fax: (626) 336-2634
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc	Sample Date
A3L1716-01	ML-2 Zone #2 (90-100 ftbgs)	12/19/2013 10:45

Matrix: Water

Analysis

EPA 524.2 - Subtest
~~EXT-Iodide~~
~~EXT-Miscellaneous~~
Total 1,3-Dichloropropene
Total Trihalomethanes
Total Xylenes, EPA 524.2

~~Shipped 12/23/13 Dissolved~~
~~Shipped 12/23/13 Lithium~~

Released By 12/30/13 Date | Received By Date

Released By Date | Received By 12/31/13 1045 4.1°C Date

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Certificate of Analysis

Report Date: 01/07/14 13:48
Received Date: 12/24/13 08:35
Turnaround Time: Normal

Project: A3L1716

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 12/24/2013 with the Chain of Custody document. The samples were received in good condition, at 3.2 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3L24019-01 **Sample ID:** A3L1716-01 **Matrix:** Water
Sampled by: Client **Sampled:** 12/19/13 10:45

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	78		10	ug/l	1	EPA 200.7	12/26/13	12/27/13 15:43	W3L1292	
Iodide, Dissolved	360		250	ug/l	25	EPA 9056A	1/2/14	1/2/14 19:27	W4A0050	

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Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4A0050 - EPA 9056A

Blank (W4A0050-BLK1) — Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W4A0050-BS1) — Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		40.4		ug/l	40.0	101	85-115		

Duplicate (W4A0050-DUP1) — Source: 3L24019-01 Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	362	318		ug/l				13	20

Matrix Spike (W4A0050-MS1) — Source: 3L24020-01 Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	920	2640		ug/l	2000	86	80-120		

Matrix Spike Dup (W4A0050-MSD1) — Source: 3L24020-01 Prepared: 01/02/14 Analyzed: 01/02/14 19:27

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	920	2820		ug/l	2000	95	80-120	6	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3L1292 - EPA 200.7

Blank (W3L1292-BLK1) — Prepared: 12/26/13 Analyzed: 12/27/13 15:32

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		ND		ug/l					

LCS (W3L1292-BS1) — Prepared: 12/26/13 Analyzed: 12/27/13 15:40

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		947		ug/l	1000	95	85-115		

Matrix Spike (W3L1292-MS1) — Source: 3L26025-01 Prepared: 12/26/13 Analyzed: 12/27/13 15:55

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	2.09	934		ug/l	1000	93	70-130		

Matrix Spike Dup (W3L1292-MSD1) — Source: 3L26025-01 Prepared: 12/26/13 Analyzed: 12/27/13 15:58

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	2.09	943		ug/l	1000	94	70-130	0.9	30

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Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature

Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

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January 13, 2014

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3L1716
Pace Project No.: 30110776

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on January 03, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: A3L1716
Pace Project No.: 30110776

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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SAMPLE SUMMARY

Project: A3L1716
Pace Project No.: 30110776

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30110776001	A3L1716-01	Water	12/19/13 10:45	01/03/14 10:05

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SAMPLE ANALYTE COUNT

Project: A3L1716
Pace Project No.: 30110776

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30110776001	A3L1716-01	EPA 906.0	SLA	1	PASI-PA

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PROJECT NARRATIVE

Project: A3L1716
Pace Project No.: 30110776

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: January 13, 2014

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: A3L1716
Pace Project No.: 30110776

Sample: A3L1716-01 **Lab ID: 30110776001** Collected: 12/19/13 10:45 Received: 01/03/14 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**32.8 ± 122 (212)**	pCi/L	01/12/14 21:35	10028-17-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: A3L1716
Pace Project No.: 30110776

QC Batch: RADC/18325
QC Batch Method: EPA 906.0
Analysis Method: EPA 906.0
Analysis Description: 906.0 Tritium
Associated Lab Samples: 30110776001

METHOD BLANK: 677836
Matrix: Water
Associated Lab Samples: 30110776001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	23.8 ± 114 (200)	pCi/L	01/12/14 13:26	

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QUALIFIERS

Project: A3L1716
Pace Project No.: 30110776

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PRL - Pace Reporting Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Act - Activity
Unc - Uncertainty
(MDC) - Minimum Detectable Concentration
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3L1716

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): ~~Standard~~
QC Deliverables: I ~~Std~~ III IV

30110776

Sample ID	Samp Desc	Sample Date
A3L1716-01	ML-2 Zone #2 (90-100 ftbgs)	12/19/2013 10:45 001

Matrix: Water

Analysis 250 mL Au w/ none
EXT-Tritium

Non preserved glass container

Released By [signature] Date 12/26/13 Received By [signature] Date 12-14-1005

Released By Date Received By Date

Sample Condition Upon Receipt

Pace Analytical

Client Name: BSK Project # 30110776

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z 93X 911 03 6044 4317

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Styrofoam

Thermometer Used 5 6 7 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature N/A Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: MAT 1-3-14

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed MAT — Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Carrie Sanders **Date:** 1/3/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

Project Number: 30110776

Client Name: B&L

Item No.	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
01	S	1																						

Page 11 of 12

Quality Control Sample Performance Assessment

Pace Analytical

Analyst: SLA
Date: 1/13/2014
Worklist: 18325
Matrix: DW

Method: EPA 906.0
SOP: PGH-R-021
MB Sample ID: 577836

Method Blank Assessment						
Analyte	Activity	1.96 Sig Unc.	MDC	Critical Value	Flag	Assessment
Tritium	23.8400	114.4000	200.1000	94.99000		

Laboratory Control Sample Assessment						
	LCS	LCSD	LCS	LCSD	LCS	LCSD
Analyte:	Tritium					
Count Date:	1/13/14 0:39	1/13/14 1:40				
Spike I.D.:	10-003	10-003				
Spike Concentration (pCi/L):	2503.320	2503.304				
Volume Used (mL):	0.100	0.100				
Aliquot Volume (L, g, F):	0.103	0.102				
Target Conc. (pCi/L, g, F):	2423.350	2451.576				
1.96 Sigma Uncertainty (Calculated):	66.497	67.271				
Result (pCi/L, g, F):	2280.550	1953.250				
1.96 Sigma Unc:	228.300	204.900				
% Recovery:	94.11%	79.67%				
Assessment:	Pass	Pass				
Upper % Recovery Limits:	125.00%	125.00%				
Lower % Recovery Limits:	75.00%	75.00%				

Duplicate Sample Assessment						
LCS/LCSD Y or N?:	Y					
Analyte:	Tritium					
Sample I.D.:	LCS18325					
Duplicate Sample I.D.	LCSD18325					
Sample Result (pCi/L, g, F):	2280.5500					
1.96 Sigma Unc:	228.3000					
Sample Duplicate Result (pCi/L, g, F):	1953.2500					
Duplicate Sample 1.96 Sigma Unc.	204.9000					
Either results below MDC?	NO					
Relative Percent Difference:	15.46%					
Assessment:	Pass					
% RPD Limit:	25.00%					

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Sample Matrix Spike Control Assessment			
Analyte:	Tritium	Tritium	
Sample Collection Date:	12/16/2013	12/30/2013	
Sample I.D.	92183458001	30110753001	
Sample MS I.D.	92183458001MS	30110753001MS	
Sample MSD I.D.			
Spike I.D.:	10-003	10-003	
MS/MSD Decay Corrected Spike Conc. (pCi/L):	2514.142	2508.731	
Spike Volume Used in MS (mL):	0.20	0.20	
Spike Volume Used in MSD (mL):			
MS Aliquot (L, g, F):	0.1055	0.1041	
MS Target Conc.(pCi/L, g, F):	4721.837	4821.237	
MSD Aliquot (L, g, F):			
MSD Target Conc. (pCi/L, g, F):			
MS Spike uncertainty (calculated):	129.567	132.295	
MSD Spike uncertainty (calculated):			
Sample Result:	58.260	31.280	
Sample 1.96 Sigma Unc.:	123.600	116.000	
Sample Matrix Spike Result:	4443.680	4304.400	
Sample MS 1.96 Sigma Unc.:	296.200	295.000	
Sample Matrix Spike Duplicate Result:			
Sample MSD 1.96 Sigma Unc.:			
MS % Recovery:	92.88%	88.63%	
MSD % Recovery:			
MS Assessment:	Pass	Pass	
MSD Assessment:			
MS/MSD Upper % Recovery Limits:	125.00%	125.00%	
MS/MSD Lower % Recovery Limits:	75.00%	75.00%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment			
Analyte:			
Sample I.D.			
Sample MS I.D.			
Sample MSD I.D.			
Sample Matrix Spike Result:			
Sample Matrix Spike 1.96 Sigma Unc.:			
Sample Matrix Spike Duplicate Result:			
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:			
MS/MSD Relative Percent Difference:			
MS/ MSD RPD Assessment:			
% RPD Limit:			

Comments:

1/13/14

Maxxam

Your Project #: A3L1716
Your C.O.C. #: na

Attention:Michael Ng

BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2014/01/27
Report #: R2806455
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B402018
Received: 2014/01/07, 14:30

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
2,3,7,8-TCDD in Water (1613B)	1	2014/01/15	2014/01/27	BRL SOP-00410	EPA 1613B mod.

Remarks:

The lab certifies that the test results meet all requirements of NELAC, where applicable.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Marsela Wijaya
27 Jan 2014 17:48:38 -05:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ivana Vukovic, Env Project Manager
Email: IVukovic@maxxam.ca
Phone# (905) 817-5700

==========

This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B402018
Report Date: 2014/01/27

BSK Analytical Laboratories
Client Project #: A3L1716

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		UL9337						
Sampling Date		2013/12/19 10:45						
COC Number		na			TOXIC EQUIVALENCY		# of	
	Units	A3L1716-01	EDL	RDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Dioxins & Furans								
2,3,7,8-Tetra CDD *	pg/L	0.75 U	0.75	4.2	1.00	0.750		3486907
TOTAL TOXIC EQUIVALENCY	pg/L					0.750		
Surrogate Recovery (%)								
37CL4 2378 Tetra CDD *	%	84						3486907
C13-2378 TetraCDD *	%	90						3486907

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

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Maxxam

Maxxam Job #: B402018
Report Date: 2014/01/27

BSK Analytical Laboratories
Client Project #: A3L1716

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll Free: 800-563 6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B402018
Report Date: 2014/01/27

BSK Analytical Laboratories
Client Project #: A3L1716

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3486907	CXU	Spiked Blank	2,3,7,8-Tetra CDD	2014/01/26		76	%	67 - 158
			37CL4 2378 Tetra CDD	2014/01/26		84	%	40 - 130
			C13-2378 TetraCDD	2014/01/26		89	%	24 - 164
3486907	CXU	Method Blank	2,3,7,8-Tetra CDD	2014/01/26	0.83, EDL=0.83		pg/L	
			37CL4 2378 Tetra CDD	2014/01/26		81	%	40 - 130
			C13-2378 TetraCDD	2014/01/26		87	%	24 - 164

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Maxxam

Maxxam Job #: B402018
Report Date: 2014/01/27

BSK Analytical Laboratories
Client Project #: A3L1716

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Kay Shaw

Kay Shaw, C. Chem, Sr Scientific Specialist, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563 6266 Fax: (905) 817-5777 www maxxam ca

BSK Analytical Laboratories
Engineering Laboratories

SUBCONTRACT ORDER

A3L1716

7-Jan-14 14:30
Ivana Vukovic
B402018
M P ENV-906

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager Michael Ng
E-mail mng@bskinc.com

RECEIVING LABORATORY:

Maxxam Analytics
PO Box 57437, Station A
Toronto, ON M5W5M5
Phone :(905) 817-5784
Fax: -
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc	Sample Date
A3L1716-01	ML-2 Zone #2 (90-100 ftbgs)	12/19/2013 10:45

Matrix Water

Analysis
EXT-Dioxin-DW matrix, EPA 1613 2,3,7 8 TCDD

ILAG

Released By Date Received By Date

Released By Date Received By Date
GD MAGDALENA CCP 2014/01/07 14:30

4.1/4.4/4.1°C

Page 1 of 3

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	California American Water-Monterey P.O.BOX 951 Monterey CA, 93942-0951	**Report Date:**	03/06/14 09:27
		Received Date:	01/14/14 09:15
		Turn Around:	Normal
Attention:	Travis Peterson	**Client Project:**	Monterey Peninsula Water Supply Project (MPWSP)
Phone:	(831) 646-3269		
Fax:	-		
Work Order(s):	4A14004		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Travis Peterson :

Enclosed are the results of analyses for samples received 01/14/14 09:15 with the Chain of Custody document. The samples were received in good condition, at 3.1 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Hai Van Nguyen
Project Manager

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
ML-3 Zone # 1 (180-190 ftbgs)	Nathan Reynolds		4A14004-01	Water	01/11/14 16:00

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326
Carbamates and Urea Pesticides
Chlorinated Herbicides
Chlorinated Pesticides and/or PCBs
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods
Diquat and Paraquat by EPA 549.2
Endothall By EPA 548.1
EPA 1613B mod.
Fumigants by EPA Method 504.1
Glyphosate by EPA 547
Metals by EPA 200 Series Methods
Semivolatile Organic Compounds by GC/MS
Subcontracted Analyses
Volatile Organic Compounds by EPA Method 524.2

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

WECK LABORATORIES, INC.
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California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

4A14004-01 ML-3 Zone # 1 (180-190 ftbgs)

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: SM 2320B Batch: W4A0723 Prepared: 01/17/14 13:33 Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Alkalinity as CaCO3	**210**	2.0	mg/l	1	01/17/14 16:43	
Alkalinity as CaCO3	**210**	2.0	mg/l	1	01/17/14 16:43	
Bicarbonate Alkalinity as HCO3	**250**	2.0	mg/l	1	01/17/14 16:43	
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l	1	01/17/14 16:43	
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l	1	01/17/14 16:43	

Method: SM 2510B Batch: W4A0928 Prepared: 01/23/14 08:26 Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Specific Conductance (EC)	**12000**	2.0	umhos/cm	1	01/23/14 10:38	

Method: SM 2540C M Batch: W4A0644 Prepared: 01/16/14 13:17 Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Dissolved Solids	**7400**	10	mg/l	1	01/16/14 15:10	

Method: SM 4500H+-B Batch: W4A0555 Prepared: 01/14/14 17:04 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
pH	**7.49**	0.10	Units	1	01/14/14 17:38	*

Method: SM 5540C Batch: W4A0545 Prepared: 01/14/14 14:56 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
MBAS	ND	0.050	mg/l	1	01/14/14 16:49	O-09

Method: Various Batch: [CALC] Prepared: 01/17/14 13:33 Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Anions	**120**	1.6	meq/l	100	01/17/14 16:43	

Diquat and Paraquat by EPA 549.2

Method: EPA 549.2 Batch: W4A0444 Prepared: 01/15/14 17:01 Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Diquat	ND	4.0	ug/l	1	01/16/14 15:28	

Endothall By EPA 548.1

Method: EPA 548.1 Batch: W4A0556 Prepared: 01/14/14 17:06 Analyst: abj

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Endothall	ND	45	ug/l	1	01/18/14 21:02	

EPA 1613B mod.

Method: EPA 1613B mod. Batch: 3522182 Prepared: 02/23/14 00:00 Analyst: VCI

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
2,3,7,8-Tetra CDD	ND	4.4	pg/L	1	02/26/14 00:00	S_MAXX

WECK LABORATORIES, INC.
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California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

4A14004-01 **ML-3 Zone # 1 (180-190 ftbgs)**

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

EPA 1613B mod.

Method: EPA 1613B mod. Batch: 3522182 Prepared: 02/23/14 00:00 Analyst: VCI

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Surr: 37CL4 2378 Tetra CDD	*88 %*	Conc:*176*	*40-130*	%			*S_MAXX*
Surr: C13-2378 TetraCDD	*123 %*	Conc:*246*	*24-164*	%			*S_MAXX*

Fumigants by EPA Method 504.1

Method: EPA 504.1 Batch: W4A0789 Prepared: 01/20/14 11:22 Analyst: jch

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
1,2-Dibromo-3-chloropropane	ND	0.010	ug/l	1	01/22/14 16:23	
1,2-Dibromoethane (EDB)	ND	0.020	ug/l	1	01/22/14 16:23	

Glyphosate by EPA 547

Method: EPA 547 Batch: W4A0601 Prepared: 01/15/14 15:08 Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Glyphosate	ND	5.0	ug/l	1	01/15/14 17:04	

Metals by EPA 200 Series Methods

Method: [CALC] Batch: [CALC] Prepared: 01/15/14 14:31 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Cations	**120**	0.037	meq/l	1	01/17/14 09:31	

Method: EPA 200.7 Batch: [CALC] Prepared: 01/15/14 14:31 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Calcium Hardness as CaCO3	**1020**	0.250	mg/l	1	01/17/14 09:31	

Method: EPA 200.7 Batch: W4A0592 Prepared: 01/15/14 14:31 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Barium, Dissolved	**0.15**	0.0020	mg/l	1	01/17/14 09:26	
Boron, Dissolved	**500**	10	ug/l	1	01/17/14 09:26	
Calcium, Dissolved	**391**	0.100	mg/l	1	01/17/14 09:26	
Calcium, Total	**409**	0.100	mg/l	1	01/17/14 09:31	
Iron, Dissolved	ND	10	ug/l	1	01/17/14 09:26	
Iron, Total	**6.9**	0.010	mg/l	1	01/17/14 09:31	
Magnesium, Dissolved	**298**	0.100	mg/l	1	01/17/14 09:26	
Magnesium, Total	**310**	0.100	mg/l	1	01/17/14 09:31	
Manganese, Dissolved	**1400**	5.0	ug/l	1	01/17/14 09:26	
Manganese, Total	**1.5**	0.0050	mg/l	1	01/17/14 09:31	
Potassium, Dissolved	**58**	0.10	mg/l	1	01/17/14 09:26	
Potassium, Total	**60**	0.10	mg/l	1	01/17/14 09:31	
Silica as SiO2, Dissolved	**36**	0.10	mg/l	1	01/17/14 09:26	
Sodium, Dissolved	**1600**	0.50	mg/l	1	01/17/14 09:26	
Sodium, Total	**1700**	0.50	mg/l	1	01/17/14 09:31	

WECK LABORATORIES, INC.
Analytical Laboratory Service - Since 1964

California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

4A14004-01 ML-3 Zone # 1 (180-190 ftbgs)

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

Metals by EPA 200 Series Methods

Method: EPA 200.7 Batch: W4A0592 Prepared: 01/15/14 14:31 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Strontium, Dissolved	**3100**	2.0	ug/l	1	01/17/14 09:26	

Method: EPA 200.7 Batch: W4B0893 Prepared: 02/20/14 14:04 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Lithium, Total	**110**	20	ug/l	2	02/21/14 10:46	

Method: EPA 200.8 Batch: W4A0619 Prepared: 01/16/14 09:08 Analyst: XXX

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Aluminum, Total	**950**	5.0	ug/l	1	01/20/14 19:47	
Arsenic, Total	**1.0**	0.40	ug/l	1	01/20/14 19:47	
Copper, Total	**10**	0.50	ug/l	1	01/20/14 19:47	
Zinc, Total	**240**	5.0	ug/l	1	01/20/14 19:47	

Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2 Batch: W4A0574 Prepared: 01/15/14 09:58 Analyst: abj

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Alachlor	ND	0.10	ug/l	1	01/23/14 05:12	
Atrazine	ND	0.10	ug/l	1	01/23/14 05:12	
Benzo (a) pyrene	ND	0.10	ug/l	1	01/23/14 05:12	
Bis(2-ethylhexyl)adipate	ND	5.0	ug/l	1	01/23/14 05:12	
Bis(2-ethylhexyl)phthalate	**4.0**	3.0	ug/l	1	01/23/14 05:12	
Bromacil	ND	0.50	ug/l	1	01/23/14 05:12	
Butachlor	ND	0.10	ug/l	1	01/23/14 05:12	
Captan	ND	1.0	ug/l	1	01/23/14 05:12	
Chloropropham	ND	0.10	ug/l	1	01/23/14 05:12	
Cyanazine	ND	0.10	ug/l	1	01/23/14 05:12	
Diazinon	ND	0.10	ug/l	1	01/23/14 05:12	
Dimethoate	ND	0.20	ug/l	1	01/23/14 05:12	
Diphenamid	ND	0.10	ug/l	1	01/23/14 05:12	
Disulfoton	ND	0.10	ug/l	1	01/23/14 05:12	
EPTC	ND	0.10	ug/l	1	01/23/14 05:12	
Metolachlor	ND	0.10	ug/l	1	01/23/14 05:12	
Metribuzin	ND	0.10	ug/l	1	01/23/14 05:12	
Molinate	ND	0.10	ug/l	1	01/23/14 05:12	
Prometon	ND	0.10	ug/l	1	01/23/14 05:12	
Prometryn	ND	0.10	ug/l	1	01/23/14 05:12	
Simazine	ND	0.10	ug/l	1	01/23/14 05:12	
Terbacil	ND	2.0	ug/l	1	01/23/14 05:12	
Thiobencarb	ND	0.10	ug/l	1	01/23/14 05:12	
Trithion	ND	0.10	ug/l	1	01/23/14 05:12	

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

4A14004-01 **ML-3 Zone # 1 (180-190 ftbgs)**

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2 Batch: W4A0574 Prepared: 01/15/14 09:58 Analyst: abj

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Surr: 1,3-Dimethyl-2-nitrobenzene	*106 %*	Conc:*5.31*	*73-138*	%			
Surr: Perylene-d12	*102 %*	Conc:*5.08*	*30-118*	%			
Surr: Triphenyl phosphate	*126 %*	Conc:*6.30*	*70-149*	%			

Subcontracted Analyses

Method: EPA 906.0 Batch: W4A1172 Prepared: 01/18/14 06:40 Analyst: sub

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Tritium	**-2.52**		pCi/L	1	01/18/14 06:40	A-01
Counting Error (+/-): 125 MDA: 221						

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W4A0558 Prepared: 01/15/14 08:20 Analyst: mdt

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
1,1,1,2-Tetrachloroethane	ND	0.50	ug/l	1	01/16/14 02:24	
1,1,1-Trichloroethane	ND	0.50	ug/l	1	01/16/14 02:24	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	1	01/16/14 02:24	
1,1,2-Trichloroethane	ND	0.50	ug/l	1	01/16/14 02:24	
1,1-Dichloroethane	ND	0.50	ug/l	1	01/16/14 02:24	
1,1-Dichloroethene	ND	0.50	ug/l	1	01/16/14 02:24	
1,1-Dichloropropene	ND	0.50	ug/l	1	01/16/14 02:24	
1,2,3-Trichlorobenzene	ND	0.50	ug/l	1	01/16/14 02:24	
1,2,3-Trichloropropane	ND	0.50	ug/l	1	01/16/14 02:24	
1,2,4-Trichlorobenzene	ND	0.50	ug/l	1	01/16/14 02:24	
1,2,4-Trimethylbenzene	ND	0.50	ug/l	1	01/16/14 02:24	
1,2-Dichloroethane	ND	0.50	ug/l	1	01/16/14 02:24	
1,2-Dichloropropane	ND	0.50	ug/l	1	01/16/14 02:24	
1,3,5-Trimethylbenzene	ND	0.50	ug/l	1	01/16/14 02:24	
1,3-Dichloropropane	ND	0.50	ug/l	1	01/16/14 02:24	
1,3-Dichloropropene, Total	ND	0.50	ug/l	1	01/16/14 02:24	
2,2-Dichloropropane	ND	0.50	ug/l	1	01/16/14 02:24	
2-Butanone	ND	5.0	ug/l	1	01/16/14 02:24	
2-Chloroethyl vinyl ether	ND	1.0	ug/l	1	01/16/14 02:24	
2-Chlorotoluene	ND	0.50	ug/l	1	01/16/14 02:24	
2-Hexanone	ND	5.0	ug/l	1	01/16/14 02:24	
4-Chlorotoluene	ND	0.50	ug/l	1	01/16/14 02:24	
4-Methyl-2-pentanone	ND	5.0	ug/l	1	01/16/14 02:24	
Benzene	ND	0.50	ug/l	1	01/16/14 02:24	
Bromobenzene	ND	0.50	ug/l	1	01/16/14 02:24	
Bromochloromethane	ND	0.50	ug/l	1	01/16/14 02:24	
Bromodichloromethane	ND	0.50	ug/l	1	01/16/14 02:24	

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Date Reported: 03/06/14 09:27

4A14004-01 **ML-3 Zone # 1 (180-190 ftbgs)**

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W4A0558 Prepared: 01/15/14 08:20 Analyst: mdt

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Bromoform	ND	0.50	ug/l	1	01/16/14 02:24	
Bromomethane	ND	0.50	ug/l	1	01/16/14 02:24	
Carbon tetrachloride	ND	0.50	ug/l	1	01/16/14 02:24	
Chlorobenzene	ND	0.50	ug/l	1	01/16/14 02:24	
Chloroethane	ND	0.50	ug/l	1	01/16/14 02:24	
Chloroform	ND	0.50	ug/l	1	01/16/14 02:24	
Chloromethane	ND	0.50	ug/l	1	01/16/14 02:24	
cis-1,2-Dichloroethene	ND	0.50	ug/l	1	01/16/14 02:24	
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	01/16/14 02:24	
Dibromochloromethane	ND	0.50	ug/l	1	01/16/14 02:24	
Dibromomethane	ND	0.50	ug/l	1	01/16/14 02:24	
Dichlorodifluoromethane (Freon 12)	ND	0.50	ug/l	1	01/16/14 02:24	
Di-isopropyl ether	ND	2.0	ug/l	1	01/16/14 02:24	
Ethyl tert-butyl ether	ND	2.0	ug/l	1	01/16/14 02:24	
Ethylbenzene	ND	0.50	ug/l	1	01/16/14 02:24	
Freon 113	ND	5.0	ug/l	1	01/16/14 02:24	
Hexachlorobutadiene	ND	0.50	ug/l	1	01/16/14 02:24	
Isopropylbenzene	ND	0.50	ug/l	1	01/16/14 02:24	
m,p-Xylene	ND	0.50	ug/l	1	01/16/14 02:24	
m-Dichlorobenzene	ND	0.50	ug/l	1	01/16/14 02:24	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	01/16/14 02:24	
Methylene chloride	ND	0.50	ug/l	1	01/16/14 02:24	
Naphthalene	ND	0.50	ug/l	1	01/16/14 02:24	
n-Butylbenzene	ND	0.50	ug/l	1	01/16/14 02:24	
n-Propylbenzene	ND	0.50	ug/l	1	01/16/14 02:24	
o-Dichlorobenzene	ND	0.50	ug/l	1	01/16/14 02:24	
o-Xylene	ND	0.50	ug/l	1	01/16/14 02:24	
p-Dichlorobenzene	ND	0.50	ug/l	1	01/16/14 02:24	
p-Isopropyltoluene	ND	0.50	ug/l	1	01/16/14 02:24	
sec-Butylbenzene	ND	0.50	ug/l	1	01/16/14 02:24	
Styrene	ND	0.50	ug/l	1	01/16/14 02:24	
Tert-amyl methyl ether	ND	2.0	ug/l	1	01/16/14 02:24	
tert-Butylbenzene	ND	0.50	ug/l	1	01/16/14 02:24	
Tetrachloroethene	ND	0.50	ug/l	1	01/16/14 02:24	
THMs, Total	ND	2.0	ug/l	1	01/16/14 02:24	
Toluene	ND	0.50	ug/l	1	01/16/14 02:24	
trans-1,2-Dichloroethene	ND	0.50	ug/l	1	01/16/14 02:24	
trans-1,3-Dichloropropene	ND	0.50	ug/l	1	01/16/14 02:24	
Trichloroethene	ND	0.50	ug/l	1	01/16/14 02:24	
Trichlorofluoromethane	ND	0.50	ug/l	1	01/16/14 02:24	

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4A14004-01 **ML-3 Zone # 1 (180-190 ftbgs)**

Sampled: 01/11/14 16:00 **Sampled By:** Nathan Reynolds **Matrix:** Water

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W4A0558 Prepared: 01/15/14 08:20 Analyst: mdt

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Vinyl chloride	ND		0.50	ug/l	1	01/16/14 02:24	
Xylenes, Total	ND		1.0	ug/l	1	01/16/14 02:24	
Surr: 1,2-Dichlorobenzene-d4	*97 %*	Conc:*9.69*	*70-130*	%			
Surr: 4-Bromofluorobenzene	*85 %*	Conc:*8.54*	*70-130*	%			

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QUALITY CONTROL SECTION

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4A0532 - EPA 300.0

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0532-BLK1)				Analyzed: 01/14/14 11:31						
Chloride, Total	ND	0.50	mg/l							
Fluoride, Total	ND	0.10	mg/l							
Sulfate as SO4	ND	0.50	mg/l							
LCS (W4A0532-BS1)				Analyzed: 01/14/14 11:49						
Chloride, Total	3.81	0.50	mg/l	4.00		95	90-110			
Fluoride, Total	2.06	0.10	mg/l	2.00		103	90-110			
Sulfate as SO4	7.78	0.50	mg/l	8.00		97	90-110			
Matrix Spike (W4A0532-MS1)	**Source: 4A13043-05**			Analyzed: 01/14/14 12:49						
Chloride, Total	45.3	5.0	mg/l	40.0	7.51	94	76-118			
Fluoride, Total	20.3	1.0	mg/l	20.0	0.713	98	86-107			
Sulfate as SO4	92.8	5.0	mg/l	80.0	16.5	95	78-111			
Matrix Spike (W4A0532-MS2)	**Source: 4A13065-02**			Analyzed: 01/14/14 20:15						
Chloride, Total	65.9	5.0	mg/l	40.0	27.3	96	76-118			
Fluoride, Total	21.5	1.0	mg/l	20.0	0.396	105	86-107			
Sulfate as SO4	132	5.0	mg/l	80.0	56.4	95	78-111			
Matrix Spike Dup (W4A0532-MSD1)	**Source: 4A13043-05**			Analyzed: 01/14/14 13:08						
Chloride, Total	46.3	5.0	mg/l	40.0	7.51	97	76-118	2	20	
Fluoride, Total	21.3	1.0	mg/l	20.0	0.713	103	86-107	5	20	
Sulfate as SO4	92.3	5.0	mg/l	80.0	16.5	95	78-111	0.6	20	
Matrix Spike Dup (W4A0532-MSD2)	**Source: 4A13065-02**			Analyzed: 01/14/14 20:34						
Chloride, Total	65.3	5.0	mg/l	40.0	27.3	95	76-118	1	20	
Fluoride, Total	21.4	1.0	mg/l	20.0	0.396	105	86-107	0.5	20	
Sulfate as SO4	132	5.0	mg/l	80.0	56.4	94	78-111	0.7	20	

Batch W4A0844 - EPA 300.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0844-BLK1)				Analyzed: 01/21/14 15:14						
Bromide	ND	10	ug/l							
Surr: Dichloroacetate	*502*		*ug/l*	*500*		*100*	*90-115*			
LCS (W4A0844-BS1)				Analyzed: 01/21/14 15:14						
Bromide	99.2	10	ug/l	100		99	85-115			
Surr: Dichloroacetate	*490*		*ug/l*	*500*		*98*	*90-115*			
Matrix Spike (W4A0844-MS1)	**Source: 4A08035-01**			Analyzed: 01/21/14 15:14						
Bromide	757	20	ug/l	200	605	76	73-125			
Surr: Dichloroacetate	*467*		*ug/l*	*500*		*93*	*90-115*			
Matrix Spike Dup (W4A0844-MSD1)	**Source: 4A08035-01**			Analyzed: 01/21/14 15:14						
Bromide	784	20	ug/l	200	605	89	73-125	4	20	
Surr: Dichloroacetate	*487*		*ug/l*	*500*		*97*	*90-115*			

Batch W4B0889 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers

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Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4B0889 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0889-BLK1)				Analyzed: 02/20/14 15:41						
Iodide, Dissolved	ND	10	ug/l							
LCS (W4B0889-BS1)				Analyzed: 02/20/14 15:41						
Iodide, Dissolved	40.0	10	ug/l	40.0		100	85-115			
Duplicate (W4B0889-DUP1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide, Dissolved	63.0	25	ug/l		63.9			1	20	
Matrix Spike (W4B0889-MS1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide, Dissolved	176	25	ug/l	100	63.9	112	80-120			
Matrix Spike Dup (W4B0889-MSD1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide, Dissolved	149	25	ug/l	100	63.9	85	80-120	17	20	

Carbamates and Urea Pesticides - Quality Control

Batch W4A0802 - EPA 531.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0802-BLK1)				Analyzed: 01/20/14 23:50						
3-Hydroxycarbofuran	ND	2.0	ug/l							
Aldicarb	ND	2.0	ug/l							
Aldicarb sulfone	ND	2.0	ug/l							
Aldicarb sulfoxide	ND	2.0	ug/l							
Carbaryl	ND	2.0	ug/l							
Carbofuran	ND	2.0	ug/l							
Methiocarb	ND	2.0	ug/l							
Methomyl	ND	2.0	ug/l							
Oxamyl	ND	2.0	ug/l							
Propoxur (Baygon)	ND	2.0	ug/l							
LCS (W4A0802-BS1)				Analyzed: 01/20/14 23:50						
3-Hydroxycarbofuran	10.3	2.0	ug/l	10.0		103	80-120			
Aldicarb	11.1	2.0	ug/l	10.0		111	80-120			
Aldicarb sulfone	9.86	2.0	ug/l	10.0		99	80-120			
Aldicarb sulfoxide	10.3	2.0	ug/l	10.0		103	80-120			
Carbaryl	11.1	2.0	ug/l	10.0		111	80-120			
Carbofuran	9.64	2.0	ug/l	10.0		96	80-120			
Methiocarb	11.7	2.0	ug/l	10.0		117	80-120			
Methomyl	9.53	2.0	ug/l	10.0		95	80-120			
Oxamyl	10.1	2.0	ug/l	10.0		101	80-120			
Propoxur (Baygon)	9.79	2.0	ug/l	10.0		98	80-120			
Matrix Spike (W4A0802-MS1)	**Source: 4A13019-01**			Analyzed: 01/20/14 23:50						
3-Hydroxycarbofuran	8.26	2.0	ug/l	10.0	ND	83	65-135			
Aldicarb	10.3	2.0	ug/l	10.0	ND	103	65-135			
Aldicarb sulfone	9.41	2.0	ug/l	10.0	ND	94	65-135			
Aldicarb sulfoxide	10.3	2.0	ug/l	10.0	ND	103	65-135			

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Carbamates and Urea Pesticides - Quality Control

Batch W4A0802 - EPA 531.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Matrix Spike (W4A0802-MS1)	**Source: 4A13019-01**			Analyzed: 01/20/14 23:50						
Carbaryl	9.56	2.0	ug/l	10.0	ND	96	65-135			
Carbofuran	10.2	2.0	ug/l	10.0	ND	102	65-135			
Methiocarb	10.0	2.0	ug/l	10.0	ND	100	65-135			
Methomyl	9.17	2.0	ug/l	10.0	ND	92	65-135			
Oxamyl	8.48	2.0	ug/l	10.0	ND	85	65-135			
Propoxur (Baygon)	8.94	2.0	ug/l	10.0	ND	89	65-135			
Matrix Spike Dup (W4A0802-MSD1)	**Source: 4A13019-01**			Analyzed: 01/20/14 23:50						
3-Hydroxycarbofuran	8.62	2.0	ug/l	10.0	ND	86	65-135	4	30	
Aldicarb	10.1	2.0	ug/l	10.0	ND	101	65-135	2	30	
Aldicarb sulfone	9.03	2.0	ug/l	10.0	ND	90	65-135	4	30	
Aldicarb sulfoxide	10.9	2.0	ug/l	10.0	ND	109	65-135	6	30	
Carbaryl	9.23	2.0	ug/l	10.0	ND	92	65-135	4	30	
Carbofuran	8.51	2.0	ug/l	10.0	ND	85	65-135	18	30	
Methiocarb	9.94	2.0	ug/l	10.0	ND	99	65-135	1	30	
Methomyl	9.60	2.0	ug/l	10.0	ND	96	65-135	5	30	
Oxamyl	7.27	2.0	ug/l	10.0	ND	73	65-135	15	30	
Propoxur (Baygon)	8.90	2.0	ug/l	10.0	ND	89	65-135	0.4	30	

Chlorinated Herbicides - Quality Control

Batch W4A0564 - EPA 515.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0564-BLK1)				Analyzed: 01/24/14 22:44						
2,4,5-T	ND	0.20	ug/l							
2,4,5-TP (Silvex)	ND	0.20	ug/l							
2,4-D	ND	0.40	ug/l							
2,4-DB	ND	2.0	ug/l							
3,5-Dichlorobenzoic acid	ND	1.0	ug/l							
Acifluorfen	ND	0.40	ug/l							
Bentazon	ND	2.0	ug/l							
Dalapon	ND	0.40	ug/l							
DCPA	ND	0.10	ug/l							
Dicamba	ND	0.60	ug/l							
Dichloroprop	ND	0.30	ug/l							
Dinoseb	ND	0.40	ug/l							
Pentachlorophenol	ND	0.20	ug/l							
Picloram	ND	0.60	ug/l							
Surr: 2,4-DCAA	*9.76*		*ug/l*	*10.0*		*98*	*70-130*			
LCS (W4A0564-BS1)				Analyzed: 01/24/14 23:12						
2,4,5-T	4.09	0.20	ug/l	4.00		102	70-130			
2,4,5-TP (Silvex)	3.98	0.20	ug/l	4.00		99	70-130			
2,4-D	9.60	0.40	ug/l	8.00		120	70-130			

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Chlorinated Herbicides - Quality Control

Batch W4A0564 - EPA 515.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0564-BS1)				Analyzed: 01/24/14 23:12						
2,4-DB	13.9	2.0	ug/l	16.0		87	70-130			
3,5-Dichlorobenzoic acid	8.32	1.0	ug/l	8.00		104	70-130			
Acifluorfen	4.36	0.40	ug/l	4.00		109	70-130			
Bentazon	15.0	2.0	ug/l	16.0		94	70-130			
Dalapon	9.17	0.40	ug/l	8.00		115	70-130			
DCPA	3.66	0.10	ug/l	4.00		92	70-130			
Dicamba	7.56	0.60	ug/l	8.00		95	70-130			
Dichloroprop	9.26	0.30	ug/l	8.00		116	70-130			
Dinoseb	4.08	0.40	ug/l	4.00		102	70-130			
Pentachlorophenol	3.85	0.20	ug/l	4.00		96	70-130			
Picloram	4.39	0.60	ug/l	4.00		110	70-130			
Surr: 2,4-DCAA	*10.4*		*ug/l*	*10.0*		*104*	*70-130*			
Matrix Spike (W4A0564-MS1)	**Source: 4A14003-01**			Analyzed: 01/24/14 23:40						
2,4,5-T	3.92	0.20	ug/l	4.00	ND	98	70-130			
2,4,5-TP (Silvex)	3.77	0.20	ug/l	4.00	ND	94	70-130			
2,4-D	9.09	0.40	ug/l	8.00	ND	114	70-130			
2,4-DB	12.1	2.0	ug/l	16.0	ND	75	70-130			
3,5-Dichlorobenzoic acid	7.35	1.0	ug/l	8.00	ND	92	70-130			
Acifluorfen	4.70	0.40	ug/l	4.00	ND	118	70-130			
Bentazon	7.01	2.0	ug/l	16.0	ND	44	70-130			MS-05
Dalapon	9.15	0.40	ug/l	8.00	ND	114	70-130			
DCPA	3.46	0.10	ug/l	4.00	ND	86	70-130			
Dicamba	7.07	0.60	ug/l	8.00	ND	88	70-130			
Dichloroprop	9.83	0.30	ug/l	8.00	ND	123	70-130			
Dinoseb	2.26	0.40	ug/l	4.00	ND	57	70-130			MS-05
Pentachlorophenol	1.51	0.20	ug/l	4.00	ND	38	70-130			MS-05
Picloram	4.30	0.60	ug/l	4.00	ND	108	70-130			
Surr: 2,4-DCAA	*9.06*		*ug/l*	*10.0*		*91*	*70-130*			
Matrix Spike Dup (W4A0564-MSD1)	**Source: 4A14003-01**			Analyzed: 01/25/14 00:08						
2,4,5-T	3.93	0.20	ug/l	4.00	ND	98	70-130	0.3	30	
2,4,5-TP (Silvex)	3.76	0.20	ug/l	4.00	ND	94	70-130	0.4	30	
2,4-D	9.31	0.40	ug/l	8.00	ND	116	70-130	2	30	
2,4-DB	12.6	2.0	ug/l	16.0	ND	79	70-130	4	30	
3,5-Dichlorobenzoic acid	7.91	1.0	ug/l	8.00	ND	99	70-130	7	30	
Acifluorfen	4.85	0.40	ug/l	4.00	ND	121	70-130	3	30	
Bentazon	7.48	2.0	ug/l	16.0	ND	47	70-130	6	30	MS-05
Dalapon	9.18	0.40	ug/l	8.00	ND	115	70-130	0.2	30	
DCPA	3.47	0.10	ug/l	4.00	ND	87	70-130	0.3	30	
Dicamba	7.51	0.60	ug/l	8.00	ND	94	70-130	6	30	
Dichloroprop	9.85	0.30	ug/l	8.00	ND	123	70-130	0.2	30	
Dinoseb	2.08	0.40	ug/l	4.00	ND	52	70-130	8	30	MS-05
Pentachlorophenol	1.57	0.20	ug/l	4.00	ND	39	70-130	4	30	MS-05
Picloram	4.46	0.60	ug/l	4.00	ND	111	70-130	3	30	
Surr: 2,4-DCAA	*9.38*		*ug/l*	*10.0*		*94*	*70-130*			

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Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4A0617 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0617-BLK1)				Analyzed: 01/29/14 19:18						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.103*		*ug/l*	*0.100*		*103*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0743*		*ug/l*	*0.100*		*74*	*70-130*			
LCS (W4A0617-BS1)				Analyzed: 01/29/14 19:48						
4,4´-DDD	0.125	0.010	ug/l	0.100		125	55-142			
4,4´-DDE	0.111	0.010	ug/l	0.100		111	49-129			
4,4´-DDT	0.110	0.010	ug/l	0.100		110	54-160			
Aldrin	0.0542	0.010	ug/l	0.100		54	29-115			
alpha-BHC	0.0952	0.010	ug/l	0.100		95	59-131			
beta-BHC	0.0982	0.010	ug/l	0.100		98	63-136			
delta-BHC	0.101	0.010	ug/l	0.100		101	59-137			
Dieldrin	0.0796	0.010	ug/l	0.100		80	59-135			
Endosulfan I	0.0907	0.010	ug/l	0.100		91	28-138			

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Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4A0617 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0617-BS1)				Analyzed: 01/29/14 19:48						
Endosulfan II	0.103	0.010	ug/l	0.100		103	53-133			
Endosulfan sulfate	0.117	0.010	ug/l	0.100		117	58-155			
Endrin	0.0972	0.010	ug/l	0.100		97	57-148			
Endrin aldehyde	0.0318	0.010	ug/l	0.100		32	45-139			Q-02
gamma-BHC (Lindane)	0.0931	0.010	ug/l	0.100		93	59-129			
Heptachlor	0.0855	0.010	ug/l	0.100		85	42-136			
Heptachlor epoxide	0.0922	0.010	ug/l	0.100		92	59-134			
Methoxychlor	0.114	0.010	ug/l	0.100		114	56-167			
Surr: Decachlorobiphenyl	*0.103*		*ug/l*	*0.100*		*103*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0773*		*ug/l*	*0.100*		*77*	*70-130*			
LCS Dup (W4A0617-BSD1)				Analyzed: 01/29/14 20:19						
4,4´-DDD	0.140	0.010	ug/l	0.100		140	55-142	12	25	
4,4´-DDE	0.123	0.010	ug/l	0.100		123	49-129	10	25	
4,4´-DDT	0.124	0.010	ug/l	0.100		124	54-160	12	25	
Aldrin	0.0604	0.010	ug/l	0.100		60	29-115	11	25	
alpha-BHC	0.101	0.010	ug/l	0.100		101	59-131	6	25	
beta-BHC	0.107	0.010	ug/l	0.100		107	63-136	9	25	
delta-BHC	0.111	0.010	ug/l	0.100		111	59-137	9	25	
Dieldrin	0.0854	0.010	ug/l	0.100		85	59-135	7	25	
Endosulfan I	0.100	0.010	ug/l	0.100		100	28-138	10	25	
Endosulfan II	0.114	0.010	ug/l	0.100		114	53-133	11	25	
Endosulfan sulfate	0.134	0.010	ug/l	0.100		134	58-155	14	25	
Endrin	0.109	0.010	ug/l	0.100		109	57-148	11	25	
Endrin aldehyde	0.0339	0.010	ug/l	0.100		34	45-139	6	25	Q-02
gamma-BHC (Lindane)	0.100	0.010	ug/l	0.100		100	59-129	8	25	
Heptachlor	0.0935	0.010	ug/l	0.100		93	42-136	9	25	
Heptachlor epoxide	0.100	0.010	ug/l	0.100		100	59-134	8	25	
Methoxychlor	0.127	0.010	ug/l	0.100		127	56-167	11	25	
Surr: Decachlorobiphenyl	*0.101*		*ug/l*	*0.100*		*101*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0792*		*ug/l*	*0.100*		*79*	*70-130*			

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4A0520 - EPA 180.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0520-BLK1)				Analyzed: 01/14/14 11:24						
Turbidity	ND	0.10	NTU							
LCS (W4A0520-BS1)				Analyzed: 01/14/14 11:24						
Turbidity	11.0	0.10	NTU	11.0		100	90-110			
Duplicate (W4A0520-DUP1)	**Source: 4A13062-01**			Analyzed: 01/14/14 11:24						
Turbidity	ND	0.10	NTU		ND					

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4A0522 - EPA 140.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Duplicate (W4A0522-DUP1)	**Source: 4A14003-01**			Analyzed: 01/14/14 11:52						
Threshold Odor Number	2.0	1.0	T.O.N.		2.0			NR	20	

Batch W4A0524 - EPA 351.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0524-BLK1)				Analyzed: 01/17/14 17:00						
TKN, Soluble	ND	0.10	mg/l							
Blank (W4A0524-BLK2)				Analyzed: 01/17/14 17:00						
TKN, Soluble	ND	0.10	mg/l							
LCS (W4A0524-BS1)				Analyzed: 01/17/14 17:00						
TKN, Soluble	0.970	0.10	mg/l	1.00		97	90-110			
LCS (W4A0524-BS2)				Analyzed: 01/17/14 17:00						
TKN, Soluble	0.963	0.10	mg/l	1.00		96	90-110			

Batch W4A0533 - SM 2120B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0533-BS1)				Analyzed: 01/14/14 13:28						
Color	10.0	3.0	Color Units	10.0		100	95-105			
Duplicate (W4A0533-DUP1)	**Source: 4A13077-04**			Analyzed: 01/14/14 13:28						
Color	ND	3.0	Color Units		0.00					

Batch W4A0535 - EPA 353.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0535-BLK1)				Analyzed: 01/14/14 15:36						
Nitrate as NO3	ND	0.50	mg/l							
NO2+NO3 as N	ND	100	ug/l							
LCS (W4A0535-BS1)				Analyzed: 01/14/14 15:38						
Nitrate as NO3	4.40	0.50	mg/l	4.43		99	90-110			
NO2+NO3 as N	994	100	ug/l	1000		99	90-110			
Matrix Spike (W4A0535-MS1)	**Source: 4A13065-02**			Analyzed: 01/14/14 15:42						
Nitrate as NO3	39.4	0.50	mg/l	8.86	30.1	104	90-110			
NO2+NO3 as N	8880	100	ug/l	2000	6800	104	90-110			
Matrix Spike (W4A0535-MS2)	**Source: 4A13065-03**			Analyzed: 01/14/14 19:38						
Nitrate as NO3	38.9	0.50	mg/l	8.86	30.3	97	90-110			
NO2+NO3 as N	8790	100	ug/l	2000	6840	97	90-110			
Matrix Spike Dup (W4A0535-MSD1)	**Source: 4A13065-02**			Analyzed: 01/14/14 15:44						
Nitrate as NO3	39.3	0.50	mg/l	8.86	30.1	104	90-110	0.06	20	
NO2+NO3 as N	8880	100	ug/l	2000	6800	104	90-110	0.06	20	
Matrix Spike Dup (W4A0535-MSD2)	**Source: 4A13065-03**			Analyzed: 01/14/14 19:41						
Nitrate as NO3	39.8	0.50	mg/l	8.86	30.3	107	90-110	2	20	

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4A0535 - EPA 353.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Matrix Spike Dup (W4A0535-MSD2)	**Source: 4A13065-03**			Analyzed: 01/14/14 19:41						
NO2+NO3 as N	8980	100	ug/l	2000	6840	107	90-110	2	20	

Batch W4A0544 - EPA 365.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0544-BLK1)				Analyzed: 01/14/14 15:42						
o-Phosphate as P	ND	0.0020	mg/l							
LCS (W4A0544-BS1)				Analyzed: 01/14/14 15:43						
o-Phosphate as P	0.0503	0.0020	mg/l	0.0500		101	90-110			
Matrix Spike (W4A0544-MS1)	**Source: 4A14003-01**			Analyzed: 01/14/14 15:50						
o-Phosphate as P	0.0609	0.0020	mg/l	0.0500	0.0117	98	90-110			
Matrix Spike Dup (W4A0544-MSD1)	**Source: 4A14003-01**			Analyzed: 01/14/14 15:52						
o-Phosphate as P	0.0591	0.0020	mg/l	0.0500	0.0117	95	90-110	3	20	

Batch W4A0545 - SM 5540C

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0545-BLK1)				Analyzed: 01/14/14 16:49						
MBAS	ND	0.050	mg/l							
LCS (W4A0545-BS1)				Analyzed: 01/14/14 16:49						
MBAS	0.187	0.050	mg/l	0.200		94	82-115			
Matrix Spike (W4A0545-MS1)	**Source: 4A13077-04**			Analyzed: 01/14/14 16:49						
MBAS	0.205	0.050	mg/l	0.200	0.0223	91	74-123			
Matrix Spike Dup (W4A0545-MSD1)	**Source: 4A13077-04**			Analyzed: 01/14/14 16:49						
MBAS	0.209	0.050	mg/l	0.200	0.0223	93	74-123	2	20	

Batch W4A0555 - SM 4500H+-B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0555-BS1)				Analyzed: 01/14/14 17:38						
pH	7.34	0.10	Units	7.41		99	98.8-101			
Duplicate (W4A0555-DUP1)	**Source: 4A14003-01**			Analyzed: 01/14/14 17:38						
pH	7.31	0.10	Units		7.22			1	3.1	

Batch W4A0596 - EPA 350.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0596-BLK1)				Analyzed: 01/17/14 14:26						
Ammonia as N, Dissolved	ND	0.10	mg/l							
LCS (W4A0596-BS1)				Analyzed: 01/17/14 14:26						
Ammonia as N, Dissolved	0.257	0.10	mg/l	0.250		103	90-110			

Batch W4A0644 - SM 2540C M

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4A0644 - SM 2540C M

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0644-BLK1)				Analyzed: 01/16/14 15:10						
Total Dissolved Solids	ND	10	mg/l							
LCS (W4A0644-BS1)				Analyzed: 01/16/14 15:10						
Total Dissolved Solids	802	10	mg/l	824		97	96-102			
Duplicate (W4A0644-DUP1)	**Source: 4A14063-01**			Analyzed: 01/16/14 15:10						
Total Dissolved Solids	3150	10	mg/l		3170			0.8	10	

Batch W4A0723 - SM 2320B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0723-BLK1)				Analyzed: 01/17/14 16:43						
Alkalinity as CaCO3	ND	2.0	mg/l							
Alkalinity as CaCO3	ND	2.0	mg/l							
Bicarbonate Alkalinity as HCO3	ND	2.0	mg/l							
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l							
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l							
LCS (W4A0723-BS1)				Analyzed: 01/17/14 16:43						
Alkalinity as CaCO3	246	2.0	mg/l	250		98	94-108			
Alkalinity as CaCO3	246	2.0	mg/l	250		98	94-108			
Bicarbonate Alkalinity as HCO3	300	2.0	mg/l	305		98	95-108			
Duplicate (W4A0723-DUP1)	**Source: 4A14003-01**			Analyzed: 01/17/14 16:43						
Alkalinity as CaCO3	183	2.0	mg/l		185			1	15	
Alkalinity as CaCO3	183	2.0	mg/l		185			1	15	
Bicarbonate Alkalinity as HCO3	223	2.0	mg/l		226			1	15	
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l		ND					
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l		ND					

Batch W4A0809 - EPA 365.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0809-BLK1)				Analyzed: 01/23/14 10:39						
Phosphorus, Dissolved	ND	0.010	mg/l							
LCS (W4A0809-BS1)				Analyzed: 01/23/14 10:40						
Phosphorus, Dissolved	0.0485	0.010	mg/l	0.0500		97	90-110			
Duplicate (W4A0809-DUP1)	**Source: 4A14072-01**			Analyzed: 01/23/14 10:50						
Phosphorus, Dissolved	ND	0.010	mg/l		0.00300			NR	20	Q-R-01
Matrix Spike (W4A0809-MS1)	**Source: 4A14076-04**			Analyzed: 01/23/14 10:43						
Phosphorus, Dissolved	0.0622	0.010	mg/l	0.0500	0.0144	96	90-110			
Matrix Spike Dup (W4A0809-MSD1)	**Source: 4A14076-04**			Analyzed: 01/23/14 10:44						
Phosphorus, Dissolved	0.0630	0.010	mg/l	0.0500	0.0144	97	90-110	1	20	

Batch W4A0928 - SM 2510B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0928-BLK1)				Analyzed: 01/23/14 10:38						

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4A0928 - SM 2510B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Specific Conductance (EC)	ND	2.0	umhos/cm							
LCS (W4A0928-BS1)				Analyzed: 01/23/14 10:38						
Specific Conductance (EC)	5080	2.0	umhos/cm	5000		102	95-105			
Duplicate (W4A0928-DUP1)	**Source: 4A14003-01**			Analyzed: 01/23/14 10:38						
Specific Conductance (EC)	7550	2.0	umhos/cm		7780			3	5	

Diquat and Paraquat by EPA 549.2 - Quality Control

Batch W4A0444 - EPA 549.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0444-BLK1)				Analyzed: 01/16/14 15:28						
Diquat	ND	4.0	ug/l							
LCS (W4A0444-BS1)				Analyzed: 01/16/14 15:28						
Diquat	14.9	4.0	ug/l	20.0		74	48-130			
Matrix Spike (W4A0444-MS1)	**Source: 4A14004-01**			Analyzed: 01/16/14 15:28						
Diquat	12.0	4.0	ug/l	20.0	ND	60	46-122			
Matrix Spike (W4A0444-MS2)	**Source: 4A14010-01**			Analyzed: 01/16/14 15:28						
Diquat	16.1	4.0	ug/l	20.0	ND	81	46-122			
Matrix Spike Dup (W4A0444-MSD1)	**Source: 4A14004-01**			Analyzed: 01/16/14 15:28						
Diquat	11.4	4.0	ug/l	20.0	ND	57	46-122	5	30	
Matrix Spike Dup (W4A0444-MSD2)	**Source: 4A14010-01**			Analyzed: 01/16/14 15:28						
Diquat	16.8	4.0	ug/l	20.0	ND	84	46-122	4	30	

Endothall By EPA 548.1 - Quality Control

Batch W4A0556 - EPA 548.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0556-BLK1)				Analyzed: 01/18/14 18:34						
Endothall	ND	45	ug/l							
LCS (W4A0556-BS1)				Analyzed: 01/18/14 18:47						
Endothall	71.7	45	ug/l	100		72	31-117			
Matrix Spike (W4A0556-MS1)	**Source: 4A14010-01**			Analyzed: 01/18/14 19:01						
Endothall	68.3	90	ug/l	200	ND	34	0.1-109			
Matrix Spike Dup (W4A0556-MSD1)	**Source: 4A14010-01**			Analyzed: 01/18/14 19:14						
Endothall	68.4	90	ug/l	200	ND	34	0.1-109	0.2	30	

Fumigants by EPA Method 504.1 - Quality Control

Batch W4A0789 - EPA 504.1

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Fumigants by EPA Method 504.1 - Quality Control

Batch W4A0789 - EPA 504.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0789-BLK1)				Analyzed: 01/22/14 15:25						
1,2-Dibromo-3-chloropropane	ND	0.010	ug/l							
1,2-Dibromoethane (EDB)	ND	0.020	ug/l							
LCS (W4A0789-BS1)				Analyzed: 01/22/14 16:01						
1,2-Dibromo-3-chloropropane	0.0910	0.010	ug/l	0.100		91	70-130			
1,2-Dibromoethane (EDB)	0.0780	0.020	ug/l	0.100		78	70-130			
LCS (W4A0789-BS2)				Analyzed: 01/22/14 16:38						
1,2-Dibromo-3-chloropropane	0.0180	0.010	ug/l	0.0200		90	70-130			
1,2-Dibromoethane (EDB)	0.0160	0.020	ug/l	0.0200		80	70-130			
LCS Dup (W4A0789-BSD1)				Analyzed: 01/22/14 17:08						
1,2-Dibromo-3-chloropropane	0.106	0.010	ug/l	0.100		106	70-130	15	30	
1,2-Dibromoethane (EDB)	0.100	0.020	ug/l	0.100		100	70-130	25	30	

Glyphosate by EPA 547 - Quality Control

Batch W4A0601 - EPA 547

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0601-BLK1)				Analyzed: 01/15/14 17:04						
Glyphosate	ND	5.0	ug/l							
LCS (W4A0601-BS1)				Analyzed: 01/15/14 17:04						
Glyphosate	19.9	5.0	ug/l	25.0		80	62-130			
Matrix Spike (W4A0601-MS1)	**Source: 4A14010-01**			Analyzed: 01/15/14 17:04						
Glyphosate	18.4	5.0	ug/l	25.0	ND	74	41-149			
Matrix Spike Dup (W4A0601-MSD1)	**Source: 4A14010-01**			Analyzed: 01/15/14 17:04						
Glyphosate	17.3	5.0	ug/l	25.0	ND	69	41-149	6	30	

Metals by EPA 200 Series Methods - Quality Control

Batch W4A0592 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0592-BLK1)				Analyzed: 01/17/14 09:21						
Barium, Dissolved	ND	0.0020	mg/l							
Boron, Dissolved	ND	10	ug/l							
Calcium, Dissolved	ND	0.100	mg/l							
Calcium, Total	ND	0.100	mg/l							
Iron, Dissolved	ND	10	ug/l							
Iron, Total	ND	0.010	mg/l							
Magnesium, Dissolved	ND	0.100	mg/l							
Magnesium, Total	ND	0.100	mg/l							
Manganese, Dissolved	ND	5.0	ug/l							

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Metals by EPA 200 Series Methods - Quality Control

Batch W4A0592 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0592-BLK1)				Analyzed: 01/17/14 09:18						
Manganese, Total	ND	0.0050	mg/l							
Potassium, Dissolved	0.301	0.10	mg/l							B-06
Potassium, Total	0.394	0.10	mg/l							B-06
Silica as SiO2, Dissolved	ND	0.10	mg/l							
Sodium, Dissolved	0.854	0.50	mg/l							B-06
Sodium, Total	ND	0.50	mg/l							
Strontium, Dissolved	ND	2.0	ug/l							
LCS (W4A0592-BS1)				Analyzed: 01/17/14 09:16						
Barium, Dissolved	0.196	0.0020	mg/l	0.200		98	85-115			
Boron, Dissolved	221	10	ug/l	200		110	85-115			
Calcium, Dissolved	50.8	0.100	mg/l	50.2		101	85-115			
Calcium, Total	50.8	0.100	mg/l	50.2		101	85-115			
Iron, Dissolved	192	10	ug/l	200		96	85-115			
Iron, Total	0.192	0.010	mg/l	0.200		96	85-115			
Magnesium, Dissolved	50.4	0.100	mg/l	50.0		101	85-115			
Magnesium, Total	50.4	0.100	mg/l	50.2		100	85-115			
Manganese, Dissolved	192	5.0	ug/l	200		96	85-115			
Manganese, Total	0.192	0.0050	mg/l	0.200		96	85-115			
Potassium, Dissolved	54.2	0.10	mg/l	52.0		104	85-115			
Potassium, Total	54.2	0.10	mg/l	52.0		104	85-115			
Silica as SiO2, Dissolved	45.8	0.10	mg/l	43.2		106	85-115			
Sodium, Dissolved	83.8	0.50	mg/l	82.6		102	85-115			
Sodium, Total	83.8	0.50	mg/l	82.6		102	85-115			
Strontium, Dissolved	993	2.0	ug/l	1000		99	85-115			
Matrix Spike (W4A0592-MS1)	**Source: 4A14064-01**			Analyzed: 01/17/14 09:46						
Calcium, Total	311	0.100	mg/l	50.2	254	113	70-130			
Iron, Total	3.44	0.010	mg/l	0.200	3.16	140	70-130			MS-02
Magnesium, Total	166	0.100	mg/l	50.2	111	110	70-130			
Manganese, Total	0.557	0.0050	mg/l	0.200	0.344	106	70-130			
Potassium, Total	78.0	0.10	mg/l	52.0	18.8	114	70-130			
Sodium, Total	427	0.50	mg/l	82.6	345	99	70-130			
Matrix Spike Dup (W4A0592-MSD1)	**Source: 4A14064-01**			Analyzed: 01/17/14 09:49						
Calcium, Total	305	0.100	mg/l	50.2	254	100	70-130	2	30	
Iron, Total	3.37	0.010	mg/l	0.200	3.16	108	70-130	2	30	
Magnesium, Total	164	0.100	mg/l	50.2	111	106	70-130	1	30	
Manganese, Total	0.548	0.0050	mg/l	0.200	0.344	102	70-130	2	30	
Potassium, Total	76.6	0.10	mg/l	52.0	18.8	111	70-130	2	30	
Sodium, Total	420	0.50	mg/l	82.6	345	92	70-130	2	30	

Batch W4A0619 - EPA 200.8

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0619-BLK1)				Analyzed: 01/20/14 19:31						
Aluminum, Total	ND	5.0	ug/l							

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Metals by EPA 200 Series Methods - Quality Control

Batch W4A0619 - EPA 200.8

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0619-BLK1)				Analyzed: 01/20/14 19:31						
Arsenic, Total	ND	0.40	ug/l							
Copper, Total	ND	0.50	ug/l							
Zinc, Total	ND	5.0	ug/l							
LCS (W4A0619-BS1)				Analyzed: 01/20/14 19:23						
Aluminum, Total	55.0	5.0	ug/l	50.0		110	85-115			
Arsenic, Total	52.4	0.40	ug/l	50.0		105	85-115			
Copper, Total	55.0	0.50	ug/l	50.0		110	85-115			
Zinc, Total	55.6	5.0	ug/l	50.0		111	85-115			
Matrix Spike (W4A0619-MS1)	**Source: 4A14003-01**			Analyzed: 01/20/14 19:55						
Aluminum, Total	148	5.0	ug/l	50.0	46.8	203	70-130			MS-02
Arsenic, Total	57.2	0.40	ug/l	50.0	5.11	104	70-130			
Copper, Total	45.6	0.50	ug/l	50.0	3.36	84	70-130			
Zinc, Total	76.9	5.0	ug/l	50.0	30.9	92	70-130			
Matrix Spike Dup (W4A0619-MSD1)	**Source: 4A14003-01**			Analyzed: 01/20/14 20:03						
Aluminum, Total	152	5.0	ug/l	50.0	46.8	210	70-130	2	30	MS-02
Arsenic, Total	56.3	0.40	ug/l	50.0	5.11	102	70-130	2	30	
Copper, Total	45.2	0.50	ug/l	50.0	3.36	84	70-130	0.8	30	
Zinc, Total	75.2	5.0	ug/l	50.0	30.9	89	70-130	2	30	

Batch W4B0893 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0893-BLK1)				Analyzed: 02/21/14 10:36						
Lithium, Total	ND	10	ug/l							
LCS (W4B0893-BS1)				Analyzed: 02/21/14 10:38						
Lithium, Total	1060	10	ug/l	1000		106	85-115			
Matrix Spike (W4B0893-MS1)	**Source: 3L09093-01**			Analyzed: 02/21/14 10:48						
Lithium, Total	1210	20	ug/l	1000	91.2	112	70-130			
Matrix Spike Dup (W4B0893-MSD1)	**Source: 3L09093-01**			Analyzed: 02/21/14 10:50						
Lithium, Total	1250	20	ug/l	1000	91.2	116	70-130	3	30	

Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W4A0574 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0574-BLK1)				Analyzed: 01/23/14 03:32						
Alachlor	ND	0.10	ug/l							
Atrazine	ND	0.10	ug/l							
Benzo (a) pyrene	ND	0.10	ug/l							
Bis(2-ethylhexyl)adipate	ND	5.0	ug/l							
Bis(2-ethylhexyl)phthalate	ND	3.0	ug/l							

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Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W4A0574 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0574-BLK1)				Analyzed: 01/23/14 03:32						
Bromacil	ND	0.50	ug/l							
Butachlor	ND	0.10	ug/l							
Captan	ND	1.0	ug/l							
Chloropropham	ND	0.10	ug/l							
Cyanazine	ND	0.10	ug/l							
Diazinon	ND	0.10	ug/l							
Dimethoate	ND	0.20	ug/l							
Diphenamid	ND	0.10	ug/l							
Disulfoton	ND	0.10	ug/l							
EPTC	ND	0.10	ug/l							
Metolachlor	ND	0.10	ug/l							
Metribuzin	ND	0.10	ug/l							
Molinate	ND	0.10	ug/l							
Prometon	ND	0.10	ug/l							
Prometryn	ND	0.10	ug/l							
Simazine	ND	0.10	ug/l							
Terbacil	ND	2.0	ug/l							
Thiobencarb	ND	0.10	ug/l							
Trithion	ND	0.10	ug/l							
Surr: 1,3-Dimethyl-2-nitrobenzene	*5.15*		*ug/l*	*5.00*		*103*	*73-138*			
Surr: Perylene-d12	*4.11*		*ug/l*	*5.00*		*82*	*30-118*			
Surr: Triphenyl phosphate	*5.59*		*ug/l*	*5.00*		*112*	*70-149*			
LCS (W4A0574-BS1)				Analyzed: 01/23/14 03:57						
Alachlor	3.52	0.10	ug/l	5.00		70	55-124			
Atrazine	5.03	0.10	ug/l	5.00		101	67-131			
Benzo (a) pyrene	4.44	0.10	ug/l	5.00		89	40-147			
Bis(2-ethylhexyl)adipate	7.42	5.0	ug/l	5.00		148	71-158			
Bis(2-ethylhexyl)phthalate	7.36	3.0	ug/l	5.00		147	68-154			
Bromacil	3.71	0.50	ug/l	5.00		74	62-139			
Butachlor	3.91	0.10	ug/l	5.00		78	61-127			
Captan	5.69	1.0	ug/l	5.00		114	14-159			
Chloropropham	5.35	0.10	ug/l	5.00		107	77-143			
Cyanazine	5.55	0.10	ug/l	5.00		111	61-129			
Diazinon	3.13	0.10	ug/l	5.00		63	30-120			
Dimethoate	3.52	0.20	ug/l	5.00		70	38-102			
Diphenamid	5.43	0.10	ug/l	5.00		109	77-124			
Disulfoton	4.47	0.10	ug/l	5.00		89	54-156			
EPTC	4.84	0.10	ug/l	5.00		97	82-116			
Metolachlor	3.72	0.10	ug/l	5.00		74	61-123			
Metribuzin	4.01	0.10	ug/l	5.00		80	50-121			
Molinate	4.99	0.10	ug/l	5.00		100	82-117			
Prometon	2.63	0.10	ug/l	5.00		53	17-101			
Prometryn	3.98	0.10	ug/l	5.00		80	57-122			
Simazine	3.54	0.10	ug/l	5.00		71	53-116			

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Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W4A0574 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0574-BS1)				Analyzed: 01/23/14 03:57						
Terbacil	5.14	2.0	ug/l	5.00		103	70-135			
Thiobencarb	3.69	0.10	ug/l	5.00		74	56-125			
Trithion	4.44	0.10	ug/l	5.00		89	60-124			
Surr: 1,3-Dimethyl-2-nitrobenzene	*4.92*		*ug/l*	*5.00*		*98*	*73-138*			
Surr: Perylene-d12	*9.45*		*ug/l*	*5.00*		*189*	*30-118*			*S-11*
Surr: Triphenyl phosphate	*6.75*		*ug/l*	*5.00*		*135*	*70-149*			
LCS Dup (W4A0574-BSD1)				Analyzed: 01/23/14 04:22						
Alachlor	3.76	0.10	ug/l	5.00		75	55-124	7	30	
Atrazine	5.39	0.10	ug/l	5.00		108	67-131	7	30	
Benzo (a) pyrene	4.25	0.10	ug/l	5.00		85	40-147	4	30	
Bis(2-ethylhexyl)adipate	7.00	5.0	ug/l	5.00		140	71-158	6	30	
Bis(2-ethylhexyl)phthalate	6.92	3.0	ug/l	5.00		138	68-154	6	30	
Bromacil	4.13	0.50	ug/l	5.00		83	62-139	11	30	
Butachlor	4.26	0.10	ug/l	5.00		85	61-127	9	30	
Captan	5.70	1.0	ug/l	5.00		114	14-159	0.2	30	
Chloropropham	5.69	0.10	ug/l	5.00		114	77-143	6	30	
Cyanazine	5.83	0.10	ug/l	5.00		117	61-129	5	30	
Diazinon	3.46	0.10	ug/l	5.00		69	30-120	10	30	
Dimethoate	4.04	0.20	ug/l	5.00		81	38-102	14	30	
Diphenamid	5.74	0.10	ug/l	5.00		115	77-124	6	30	
Disulfoton	4.75	0.10	ug/l	5.00		95	54-156	6	30	
EPTC	5.09	0.10	ug/l	5.00		102	82-116	5	30	
Metolachlor	4.15	0.10	ug/l	5.00		83	61-123	11	30	
Metribuzin	4.32	0.10	ug/l	5.00		86	50-121	7	30	
Molinate	5.40	0.10	ug/l	5.00		108	82-117	8	30	
Prometon	2.65	0.10	ug/l	5.00		53	17-101	0.8	30	
Prometryn	4.01	0.10	ug/l	5.00		80	57-122	0.8	30	
Simazine	3.91	0.10	ug/l	5.00		78	53-116	10	30	
Terbacil	5.39	2.0	ug/l	5.00		108	70-135	5	30	
Thiobencarb	3.95	0.10	ug/l	5.00		79	56-125	7	30	
Trithion	4.92	0.10	ug/l	5.00		98	60-124	10	30	
Surr: 1,3-Dimethyl-2-nitrobenzene	*5.10*		*ug/l*	*5.00*		*102*	*73-138*			
Surr: Perylene-d12	*9.13*		*ug/l*	*5.00*		*183*	*30-118*			*S-11*
Surr: Triphenyl phosphate	*6.62*		*ug/l*	*5.00*		*132*	*70-149*			

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0558-BLK1)				Analyzed: 01/15/14 17:33						
1,1,1,2-Tetrachloroethane	ND	0.50	ug/l							
1,1,1-Trichloroethane	ND	0.50	ug/l							

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0558-BLK1)				Analyzed: 01/15/14 17:33						
1,1,2,2-Tetrachloroethane	ND	0.50	ug/l							
1,1,2-Trichloroethane	ND	0.50	ug/l							
1,1-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	0.50	ug/l							
1,2,3-Trichlorobenzene	ND	0.50	ug/l							
1,2,3-Trichloropropane	ND	0.50	ug/l							
1,2,4-Trichlorobenzene	ND	0.50	ug/l							
1,2,4-Trimethylbenzene	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,2-Dichloropropane	ND	0.50	ug/l							
1,3,5-Trimethylbenzene	ND	0.50	ug/l							
1,3-Dichloropropane	ND	0.50	ug/l							
1,3-Dichloropropene, Total	ND	0.50	ug/l							
2,2-Dichloropropane	ND	0.50	ug/l							
2-Butanone	ND	5.0	ug/l							
2-Chloroethyl vinyl ether	ND	1.0	ug/l							
2-Chlorotoluene	ND	0.50	ug/l							
2-Hexanone	ND	5.0	ug/l							
4-Chlorotoluene	ND	0.50	ug/l							
4-Methyl-2-pentanone	ND	5.0	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	0.50	ug/l							
Bromochloromethane	ND	0.50	ug/l							
Bromodichloromethane	ND	0.50	ug/l							
Bromoform	ND	0.50	ug/l							
Bromomethane	ND	0.50	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	0.50	ug/l							
Chloroethane	ND	0.50	ug/l							
Chloroform	ND	0.50	ug/l							
Chloromethane	ND	0.50	ug/l							
cis-1,2-Dichloroethene	ND	0.50	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
Dibromochloromethane	ND	0.50	ug/l							
Dibromomethane	ND	0.50	ug/l							
Dichlorodifluoromethane (Freon 12)	ND	0.50	ug/l							
Di-isopropyl ether	ND	2.0	ug/l							
Ethyl tert-butyl ether	ND	2.0	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Freon 113	ND	5.0	ug/l							
Hexachlorobutadiene	ND	0.50	ug/l							
Isopropylbenzene	ND	0.50	ug/l							
m,p-Xylene	ND	0.50	ug/l							

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0558-BLK1)				Analyzed: 01/15/14 17:33						
m-Dichlorobenzene	ND	0.50	ug/l							
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l							
Methylene chloride	ND	0.50	ug/l							
Naphthalene	ND	0.50	ug/l							
n-Butylbenzene	ND	0.50	ug/l							
n-Propylbenzene	ND	0.50	ug/l							
o-Dichlorobenzene	ND	0.50	ug/l							
o-Xylene	ND	0.50	ug/l							
p-Dichlorobenzene	ND	0.50	ug/l							
p-Isopropyltoluene	ND	0.50	ug/l							
sec-Butylbenzene	ND	0.50	ug/l							
Styrene	ND	0.50	ug/l							
Tert-amyl methyl ether	ND	2.0	ug/l							
tert-Butylbenzene	ND	0.50	ug/l							
Tetrachloroethene	ND	0.50	ug/l							
THMs, Total	ND	2.0	ug/l							
Toluene	ND	0.50	ug/l							
trans-1,2-Dichloroethene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
Trichloroethene	ND	0.50	ug/l							
Trichlorofluoromethane	ND	0.50	ug/l							
Vinyl chloride	ND	0.50	ug/l							
Xylenes, Total	ND	1.0	ug/l							
Surr: 1,2-Dichlorobenzene-d4	*10.1*		*ug/l*	*10.0*		*101*	*70-130*			
Surr: 4-Bromofluorobenzene	*8.88*		*ug/l*	*10.0*		*89*	*70-130*			
LCS (W4A0558-BS1)				Analyzed: 01/15/14 15:18						
1,1,1,2-Tetrachloroethane	5.90	0.50	ug/l	6.00		98	70-130			
1,1,1-Trichloroethane	6.00	0.50	ug/l	6.00		100	70-130			
1,1,2,2-Tetrachloroethane	5.87	0.50	ug/l	6.00		98	70-130			
1,1,2-Trichloroethane	6.19	0.50	ug/l	6.00		103	70-130			
1,1-Dichloroethane	6.07	0.50	ug/l	6.00		101	70-130			
1,1-Dichloroethene	6.33	0.50	ug/l	6.00		106	70-130			
1,1-Dichloropropene	5.49	0.50	ug/l	6.00		92	70-130			
1,2,3-Trichlorobenzene	5.45	0.50	ug/l	6.00		91	70-130			
1,2,3-Trichloropropane	5.78	0.50	ug/l	6.00		96	70-130			
1,2,4-Trichlorobenzene	5.47	0.50	ug/l	6.00		91	70-130			
1,2,4-Trimethylbenzene	6.19	0.50	ug/l	6.00		103	70-130			
1,2-Dichloroethane	5.97	0.50	ug/l	6.00		100	70-130			
1,2-Dichloropropane	5.37	0.50	ug/l	6.00		90	70-130			
1,3,5-Trimethylbenzene	6.52	0.50	ug/l	6.00		109	70-130			
1,3-Dichloropropane	5.43	0.50	ug/l	6.00		90	70-130			
2,2-Dichloropropane	6.32	0.50	ug/l	6.00		105	70-130			
2-Butanone	5.62	5.0	ug/l	6.00		94	70-130			
2-Chloroethyl vinyl ether	5.57	1.0	ug/l	6.00		93	70-130			

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0558-BS1)				Analyzed: 01/15/14 15:18						
2-Chlorotoluene	5.97	0.50	ug/l	6.00		100	70-130			
2-Hexanone	5.72	5.0	ug/l	6.00		95	70-130			
4-Chlorotoluene	5.53	0.50	ug/l	6.00		92	70-130			
4-Methyl-2-pentanone	5.84	5.0	ug/l	6.00		97	70-130			
Benzene	6.49	0.50	ug/l	6.00		108	70-130			
Bromobenzene	6.24	0.50	ug/l	6.00		104	70-130			
Bromochloromethane	6.19	0.50	ug/l	6.00		103	70-130			
Bromodichloromethane	5.62	0.50	ug/l	6.00		94	70-130			
Bromoform	5.38	0.50	ug/l	6.00		90	70-130			
Bromomethane	6.79	0.50	ug/l	6.00		113	70-130			
Carbon tetrachloride	5.87	0.50	ug/l	6.00		98	70-130			
Chlorobenzene	6.42	0.50	ug/l	6.00		107	70-130			
Chloroethane	6.51	0.50	ug/l	6.00		108	70-130			
Chloroform	6.18	0.50	ug/l	6.00		103	70-130			
Chloromethane	6.30	0.50	ug/l	6.00		105	70-130			
cis-1,2-Dichloroethene	6.35	0.50	ug/l	6.00		106	70-130			
cis-1,3-Dichloropropene	5.20	0.50	ug/l	6.00		87	70-130			
Dibromochloromethane	5.63	0.50	ug/l	6.00		94	70-130			
Dibromomethane	5.90	0.50	ug/l	6.00		98	70-130			
Dichlorodifluoromethane (Freon 12)	6.62	0.50	ug/l	6.00		110	70-130			
Di-isopropyl ether	5.82	2.0	ug/l	6.00		97	70-130			
Ethyl tert-butyl ether	6.29	2.0	ug/l	6.00		105	70-130			
Ethylbenzene	6.40	0.50	ug/l	6.00		107	70-130			
Freon 113	6.04	5.0	ug/l	6.00		101	70-130			
Hexachlorobutadiene	6.42	0.50	ug/l	6.00		107	70-130			
Isopropylbenzene	5.77	0.50	ug/l	6.00		96	70-130			
m,p-Xylene	6.36	0.50	ug/l	6.00		106	70-130			
m-Dichlorobenzene	6.40	0.50	ug/l	6.00		107	70-130			
Methyl tert-butyl ether (MTBE)	6.06	2.0	ug/l	6.00		101	70-130			
Methylene chloride	6.11	0.50	ug/l	6.00		102	70-130			
Naphthalene	5.17	0.50	ug/l	6.00		86	70-130			
n-Butylbenzene	5.52	0.50	ug/l	6.00		92	70-130			
n-Propylbenzene	5.78	0.50	ug/l	6.00		96	70-130			
o-Dichlorobenzene	6.15	0.50	ug/l	6.00		102	70-130			
o-Xylene	6.69	0.50	ug/l	6.00		112	70-130			
p-Dichlorobenzene	6.01	0.50	ug/l	6.00		100	70-130			
p-Isopropyltoluene	5.42	0.50	ug/l	6.00		90	70-130			
sec-Butylbenzene	5.20	0.50	ug/l	6.00		87	70-130			
Styrene	6.39	0.50	ug/l	6.00		106	70-130			
Tert-amyl methyl ether	5.86	2.0	ug/l	6.00		98	70-130			
tert-Butylbenzene	5.14	0.50	ug/l	6.00		86	70-130			
Tetrachloroethene	6.31	0.50	ug/l	6.00		105	70-130			
Toluene	6.47	0.50	ug/l	6.00		108	70-130			
trans-1,2-Dichloroethene	6.41	0.50	ug/l	6.00		107	70-130			

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0558-BS1)				Analyzed: 01/15/14 15:18						
trans-1,3-Dichloropropene	5.04	0.50	ug/l	6.00		84	70-130			
Trichloroethene	6.28	0.50	ug/l	6.00		105	70-130			
Trichlorofluoromethane	6.36	0.50	ug/l	6.00		106	70-130			
Vinyl chloride	6.19	0.50	ug/l	6.00		103	70-130			
Surr: 1,2-Dichlorobenzene-d4	*17.1*		*ug/l*	*10.0*		*171*	*70-130*			*S-BS*
Surr: 4-Bromofluorobenzene	*12.1*		*ug/l*	*10.0*		*121*	*70-130*			
LCS Dup (W4A0558-BSD1)				Analyzed: 01/15/14 15:51						
1,1,1,2-Tetrachloroethane	5.74	0.50	ug/l	6.00		96	70-130	3	30	
1,1,1-Trichloroethane	5.77	0.50	ug/l	6.00		96	70-130	4	30	
1,1,2,2-Tetrachloroethane	5.68	0.50	ug/l	6.00		95	70-130	3	30	
1,1,2-Trichloroethane	5.89	0.50	ug/l	6.00		98	70-130	5	30	
1,1-Dichloroethane	5.92	0.50	ug/l	6.00		99	70-130	3	30	
1,1-Dichloroethene	6.27	0.50	ug/l	6.00		104	70-130	1	30	
1,1-Dichloropropene	5.36	0.50	ug/l	6.00		89	70-130	2	30	
1,2,3-Trichlorobenzene	5.37	0.50	ug/l	6.00		90	70-130	1	30	
1,2,3-Trichloropropane	5.35	0.50	ug/l	6.00		89	70-130	8	30	
1,2,4-Trichlorobenzene	5.31	0.50	ug/l	6.00		88	70-130	3	30	
1,2,4-Trimethylbenzene	6.17	0.50	ug/l	6.00		103	70-130	0.3	30	
1,2-Dichloroethane	5.91	0.50	ug/l	6.00		98	70-130	1	30	
1,2-Dichloropropane	5.32	0.50	ug/l	6.00		89	70-130	0.9	30	
1,3,5-Trimethylbenzene	6.13	0.50	ug/l	6.00		102	70-130	6	30	
1,3-Dichloropropane	5.31	0.50	ug/l	6.00		88	70-130	2	30	
2,2-Dichloropropane	6.04	0.50	ug/l	6.00		101	70-130	5	30	
2-Butanone	5.49	5.0	ug/l	6.00		92	70-130	2	30	
2-Chloroethyl vinyl ether	5.40	1.0	ug/l	6.00		90	70-130	3	30	
2-Chlorotoluene	5.46	0.50	ug/l	6.00		91	70-130	9	30	
2-Hexanone	5.65	5.0	ug/l	6.00		94	70-130	1	30	
4-Chlorotoluene	5.32	0.50	ug/l	6.00		89	70-130	4	30	
4-Methyl-2-pentanone	5.84	5.0	ug/l	6.00		97	70-130	NR	30	
Benzene	6.28	0.50	ug/l	6.00		105	70-130	3	30	
Bromobenzene	5.55	0.50	ug/l	6.00		92	70-130	12	30	
Bromochloromethane	6.11	0.50	ug/l	6.00		102	70-130	1	30	
Bromodichloromethane	5.47	0.50	ug/l	6.00		91	70-130	3	30	
Bromoform	5.31	0.50	ug/l	6.00		88	70-130	1	30	
Bromomethane	6.89	0.50	ug/l	6.00		115	70-130	1	30	
Carbon tetrachloride	5.74	0.50	ug/l	6.00		96	70-130	2	30	
Chlorobenzene	6.27	0.50	ug/l	6.00		104	70-130	2	30	
Chloroethane	6.24	0.50	ug/l	6.00		104	70-130	4	30	
Chloroform	5.99	0.50	ug/l	6.00		100	70-130	3	30	
Chloromethane	6.40	0.50	ug/l	6.00		107	70-130	2	30	
cis-1,2-Dichloroethene	6.21	0.50	ug/l	6.00		104	70-130	2	30	
cis-1,3-Dichloropropene	5.12	0.50	ug/l	6.00		85	70-130	2	30	
Dibromochloromethane	5.45	0.50	ug/l	6.00		91	70-130	3	30	
Dibromomethane	5.84	0.50	ug/l	6.00		97	70-130	1	30	

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Date Received: 01/14/14 09:15
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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4A0558-BSD1)				Analyzed: 01/15/14 15:51						
Dichlorodifluoromethane (Freon 12)	6.25	0.50	ug/l	6.00		104	70-130	6	30	
Di-isopropyl ether	5.81	2.0	ug/l	6.00		97	70-130	0.2	30	
Ethyl tert-butyl ether	6.30	2.0	ug/l	6.00		105	70-130	0.2	30	
Ethylbenzene	6.28	0.50	ug/l	6.00		105	70-130	2	30	
Freon 113	5.85	5.0	ug/l	6.00		98	70-130	3	30	
Hexachlorobutadiene	6.16	0.50	ug/l	6.00		103	70-130	4	30	
Isopropylbenzene	5.41	0.50	ug/l	6.00		90	70-130	6	30	
m,p-Xylene	6.18	0.50	ug/l	6.00		103	70-130	3	30	
m-Dichlorobenzene	6.36	0.50	ug/l	6.00		106	70-130	0.6	30	
Methyl tert-butyl ether (MTBE)	6.22	2.0	ug/l	6.00		104	70-130	3	30	
Methylene chloride	5.92	0.50	ug/l	6.00		99	70-130	3	30	
Naphthalene	5.05	0.50	ug/l	6.00		84	70-130	2	30	
n-Butylbenzene	5.41	0.50	ug/l	6.00		90	70-130	2	30	
n-Propylbenzene	5.22	0.50	ug/l	6.00		87	70-130	10	30	
o-Dichlorobenzene	6.01	0.50	ug/l	6.00		100	70-130	2	30	
o-Xylene	6.46	0.50	ug/l	6.00		108	70-130	3	30	
p-Dichlorobenzene	6.08	0.50	ug/l	6.00		101	70-130	1	30	
p-Isopropyltoluene	5.42	0.50	ug/l	6.00		90	70-130	NR	30	
sec-Butylbenzene	5.26	0.50	ug/l	6.00		88	70-130	1	30	
Styrene	6.22	0.50	ug/l	6.00		104	70-130	3	30	
Tert-amyl methyl ether	5.92	2.0	ug/l	6.00		99	70-130	1	30	
tert-Butylbenzene	4.72	0.50	ug/l	6.00		79	70-130	9	30	
Tetrachloroethene	6.15	0.50	ug/l	6.00		102	70-130	3	30	
Toluene	6.29	0.50	ug/l	6.00		105	70-130	3	30	
trans-1,2-Dichloroethene	6.24	0.50	ug/l	6.00		104	70-130	3	30	
trans-1,3-Dichloropropene	4.92	0.50	ug/l	6.00		82	70-130	2	30	
Trichloroethene	6.05	0.50	ug/l	6.00		101	70-130	4	30	
Trichlorofluoromethane	6.16	0.50	ug/l	6.00		103	70-130	3	30	
Vinyl chloride	6.01	0.50	ug/l	6.00		100	70-130	3	30	
Surr: 1,2-Dichlorobenzene-d4	*17.4*		*ug/l*	*10.0*		*174*	*70-130*			*S-BS*
Surr: 4-Bromofluorobenzene	*11.2*		*ug/l*	*10.0*		*112*	*70-130*			

EPA 1613B mod. - Quality Control

Batch 3522182 - EPA 1613B mod.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (3522182-BLK)				Analyzed: 02/26/14 00:00						
2,3,7,8-Tetra CDD	ND	4.2	pg/L			NR	-			S_MAXX
Surr: 37CL4 2378 Tetra CDD	*288*		*pg/L*	*200*		*144*	*40-130*			*A3826, A1, S_MAXX*
Surr: C13-2378 TetraCDD	*274*		*pg/L*	*200*		*137*	*24-164*			*S_MAXX*
LCS (3522182-LCS)				Analyzed: 02/26/14 00:00						

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EPA 1613B mod. - Quality Control

Batch 3522182 - EPA 1613B mod.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (3522182-LCS)				Analyzed: 02/26/14 00:00						
2,3,7,8-Tetra CDD	194	4.2	pg/L	200		97	67-158			S_MAXX
Surr: 37CL4 2378 Tetra CDD	*166*		*pg/L*	*200*		*83*	*40-130*			*S_MAXX*
Surr: C13-2378 TetraCDD	*232*		*pg/L*	*200*		*116*	*24-164*			*S_MAXX*
LCS Dup (3522182-LCS Dup)				Analyzed: 02/26/14 00:00						
2,3,7,8-Tetra CDD	200	4.2	pg/L	200		100	67-158	2.7	25	S_MAXX
Surr: 37CL4 2378 Tetra CDD	*170*		*pg/L*	*200*		*85*	*40-130*			*S_MAXX*
Surr: C13-2378 TetraCDD	*242*		*pg/L*	*200*		*121*	*24-164*			*S_MAXX*

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Notes and Definitions

MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
*	The recommended holding time for this analysis is only 15 minutes. The sample was analyzed as soon as it was possible but it was received and analyzed past holding time.
**	The recommended holding time for field filtering is only 15 minutes. The sample was filtered as soon as possible but it was filtered past holding time. However, the sample was analyzed within holding time.
A-01	Analysis subcontracted to Pace Analytical Services, Inc. NELAP Certificate 04222CA
A1	Exceedence
A3826	Recovery of clean-up spike meets 1613 method criteria range of 42-164%
B-06	This analyte was found in the method blank, which was possibly contaminated during sample preparation. The batch was accepted since this analyte was either not detected or more than 10 times of the blank value for all the samples in the batch.
S_MAXX	[Undefined]
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
S-GC	Surrogate recovery outside of control limits due to a possible matrix effect . The data was accepted based on valid recovery of the remaining surrogate.
O-09	This sample was received with the EPA recommended holding time expired.
O-14	This analysis was requested by the client after the holding time was exceeded.
Q-02	Low recovery of this analyte in the QC sample. The analysis of the low level standard produced acceptable recovery indicating that the sample result might be accurately reported as Not Detected.
Q-R-01	Analyses are not controlled on RPD values from sample concentrations less than the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
S_MAXX	Analysis subcontracted to Maxxam Analytical, Inc. NELAP Certificate 02106A
S-11	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
S-BS	Surrogate recovery outside of control limits for LCS. The data was accepted based on valid recovery of the target analytes.
M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:27

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

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CERTIFICATE OF ANALYSIS

Client:	California American Water-Monterey P.O.BOX 951 Monterey CA, 93942-0951	**Report Date:**	03/06/14 09:25
		Received Date:	01/14/14 09:15
		Turn Around:	Normal
Attention:	Travis Peterson	**Client Project:**	Monterey Peninsula Water Supply Project (MPWSP)
Phone:	(831) 646-3269		
Fax:	-		
Work Order(s):	4A14003		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Travis Peterson :

Enclosed are the results of analyses for samples received 01/14/14 09:15 with the Chain of Custody document. The samples were received in good condition, at 2.6 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Hai Van Nguyen
Project Manager

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
ML-3 Zone # 2 (103-113 ftbgs)	Nathan Reynolds		4A14003-01	Water	01/13/14 11:45

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326

Carbamates and Urea Pesticides

Chlorinated Herbicides

Chlorinated Pesticides and/or PCBs

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Diquat and Paraquat by EPA 549.2

Endothall By EPA 548.1

EPA 1613B mod.

Fumigants by EPA Method 504.1

Glyphosate by EPA 547

Metals by EPA 200 Series Methods

Semivolatile Organic Compounds by GC/MS

Subcontracted Analyses

Volatile Organic Compounds by EPA Method 524.2

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 300.0 Batch: W4A0532 Prepared: 01/14/14 11:00 Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Chloride, Total	**2300**	50	mg/l	100	01/14/14 20:52	
Fluoride, Total	ND	1.0	mg/l	10	01/14/14 20:52	M-05
Sulfate as SO4	**190**	5.0	mg/l	10	01/14/14 20:52	

Method: EPA 300.1 Batch: W4A0844 Prepared: 01/21/14 11:17 Analyst: cwh

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Bromide	**7700**		250	ug/l	25	01/21/14 15:14	
Surr: Dichloroacetate	*101 %*	Conc:*505*	*90-115*	%			

Method: EPA 9056A Batch: W4B0889 Prepared: 02/20/14 09:30 Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Iodide, Dissolved	**200**	50	ug/l	5	02/20/14 15:41	O-14

Carbamates and Urea Pesticides

Method: EPA 531.1 Batch: W4A0802 Prepared: 01/20/14 13:06 Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
3-Hydroxycarbofuran	ND	2.0	ug/l	1	01/20/14 23:50	
Aldicarb	ND	2.0	ug/l	1	01/20/14 23:50	
Aldicarb sulfone	ND	2.0	ug/l	1	01/20/14 23:50	
Aldicarb sulfoxide	ND	2.0	ug/l	1	01/20/14 23:50	
Carbaryl	ND	2.0	ug/l	1	01/20/14 23:50	
Carbofuran	ND	2.0	ug/l	1	01/20/14 23:50	
Methiocarb	ND	2.0	ug/l	1	01/20/14 23:50	
Methomyl	ND	2.0	ug/l	1	01/20/14 23:50	
Oxamyl	ND	2.0	ug/l	1	01/20/14 23:50	
Propoxur (Baygon)	ND	2.0	ug/l	1	01/20/14 23:50	

Chlorinated Herbicides

Method: EPA 515.3 Batch: W4A0564 Prepared: 01/15/14 08:23 Analyst: mxw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
2,4,5-T	ND	0.20	ug/l	1	01/25/14 02:55	
2,4,5-TP (Silvex)	ND	0.20	ug/l	1	01/25/14 02:55	
2,4-D	ND	0.40	ug/l	1	01/25/14 02:55	
2,4-DB	ND	2.0	ug/l	1	01/25/14 02:55	
3,5-Dichlorobenzoic acid	ND	1.0	ug/l	1	01/25/14 02:55	
Acifluorfen	ND	0.40	ug/l	1	01/25/14 02:55	
Bentazon	ND	2.0	ug/l	1	01/25/14 02:55	
Dalapon	ND	0.40	ug/l	1	01/25/14 02:55	
DCPA	ND	0.10	ug/l	1	01/25/14 02:55	
Dicamba	ND	0.60	ug/l	1	01/25/14 02:55	

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Date Received: 01/14/14 09:15
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4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Chlorinated Herbicides

Method: EPA 515.3 Batch: W4A0564 Prepared: 01/15/14 08:23 Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Dichloroprop	ND		0.30	ug/l	1	01/25/14 02:55	
Dinoseb	ND		0.40	ug/l	1	01/25/14 02:55	
Pentachlorophenol	ND		0.20	ug/l	1	01/25/14 02:55	
Picloram	ND		0.60	ug/l	1	01/25/14 02:55	
Surr: 2,4-DCAA	*100 %*	Conc:*9.96*	*70-130*	%			

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W4A0617 Prepared: 01/16/14 08:43 Analyst: mxw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND	0.010	ug/l	1	01/29/14 21:51	
4,4´-DDE	ND	0.010	ug/l	1	01/29/14 21:51	
4,4´-DDT	ND	0.010	ug/l	1	01/29/14 21:51	
Aldrin	ND	0.010	ug/l	1	01/29/14 21:51	
alpha-BHC	ND	0.010	ug/l	1	01/29/14 21:51	
Aroclor 1016	ND	0.10	ug/l	1	01/29/14 21:51	
Aroclor 1221	ND	0.10	ug/l	1	01/29/14 21:51	
Aroclor 1232	ND	0.10	ug/l	1	01/29/14 21:51	
Aroclor 1242	ND	0.10	ug/l	1	01/29/14 21:51	
Aroclor 1248	ND	0.10	ug/l	1	01/29/14 21:51	
Aroclor 1254	ND	0.10	ug/l	1	01/29/14 21:51	
Aroclor 1260	ND	0.10	ug/l	1	01/29/14 21:51	
beta-BHC	ND	0.010	ug/l	1	01/29/14 21:51	
Chlordane (tech)	ND	0.10	ug/l	1	01/29/14 21:51	
Chlorothalonil	ND	0.050	ug/l	1	01/29/14 21:51	
delta-BHC	ND	0.010	ug/l	1	01/29/14 21:51	
Dieldrin	ND	0.010	ug/l	1	01/29/14 21:51	
Endosulfan I	ND	0.010	ug/l	1	01/29/14 21:51	
Endosulfan II	ND	0.010	ug/l	1	01/29/14 21:51	
Endosulfan sulfate	ND	0.010	ug/l	1	01/29/14 21:51	
Endrin	ND	0.010	ug/l	1	01/29/14 21:51	
Endrin aldehyde	ND	0.010	ug/l	1	01/29/14 21:51	
gamma-BHC (Lindane)	ND	0.010	ug/l	1	01/29/14 21:51	
Heptachlor	ND	0.010	ug/l	1	01/29/14 21:51	
Heptachlor epoxide	ND	0.010	ug/l	1	01/29/14 21:51	
Hexachlorobenzene	ND	0.010	ug/l	1	01/29/14 21:51	
Hexachlorocyclopentadiene	ND	0.050	ug/l	1	01/29/14 21:51	
Methoxychlor	ND	0.010	ug/l	1	01/29/14 21:51	
PCBs, Total	ND	0.50	ug/l	1	01/29/14 21:51	
Propachlor	ND	0.050	ug/l	1	01/29/14 21:51	
Toxaphene	ND	1.0	ug/l	1	01/29/14 21:51	

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W4A0617 Prepared: 01/16/14 08:43 Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Trifluralin	ND		0.010	ug/l	1	01/29/14 21:51	
Surr: Decachlorobiphenyl	*30 %*	Conc:*0.0295*	*70-130*	%			*S-GC*
Surr: Tetrachloro-meta-xylene	*104 %*	Conc:*0.104*	*70-130*	%			

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: EPA 140.1 Batch: W4A0522 Prepared: 01/14/14 11:32 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Threshold Odor Number	**2.0**	1.0	T.O.N.	2	01/14/14 11:52	

Method: EPA 180.1 Batch: W4A0520 Prepared: 01/14/14 10:53 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Turbidity	**11**	0.10	NTU	1	01/14/14 11:24	

Method: EPA 350.1 Batch: W4A0596 Prepared: 01/15/14 14:35 Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Ammonia as N, Dissolved	**1.7**	0.20	mg/l	2	01/17/14 14:26	

Method: EPA 351.2 Batch: W4A0524 Prepared: 01/14/14 12:34 Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
TKN, Soluble	**1.6**	0.10	mg/l	1	01/17/14 17:00	

Method: EPA 353.2 Batch: W4A0535 Prepared: 01/14/14 13:08 Analyst: MBC

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Nitrate as NO3	ND	0.50	mg/l	1	01/14/14 16:06	
NO2+NO3 as N	ND	100	ug/l	1	01/14/14 16:06	

Method: EPA 365.1 Batch: W4A0544 Prepared: 01/14/14 14:48 Analyst: htl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
o-Phosphate as P	**0.012**	0.0020	mg/l	1	01/14/14 15:45	**

Method: EPA 365.1 Batch: W4A0809 Prepared: 01/20/14 14:19 Analyst: htl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Phosphorus, Dissolved	**0.20**	0.020	mg/l	2	01/23/14 10:57	

Method: SM 2120B Batch: W4A0533 Prepared: 01/14/14 13:03 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Color	ND	3.0	Color Units	1	01/14/14 13:28	

Method: SM 2320B Batch: W4A0723 Prepared: 01/17/14 13:33 Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: SM 2320B | Batch: W4A0723 | Prepared: 01/17/14 13:33 | Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Alkalinity as CaCO3	**190**	2.0	mg/l	1	01/17/14 16:43	
Alkalinity as CaCO3	**190**	2.0	mg/l	1	01/17/14 16:43	
Bicarbonate Alkalinity as HCO3	**230**	2.0	mg/l	1	01/17/14 16:43	
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l	1	01/17/14 16:43	
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l	1	01/17/14 16:43	

Method: SM 2510B | Batch: W4A0928 | Prepared: 01/23/14 08:26 | Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Specific Conductance (EC)	**7800**	2.0	umhos/cm	1	01/23/14 10:38	

Method: SM 2540C M | Batch: W4A0644 | Prepared: 01/16/14 13:17 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Dissolved Solids	**4200**	10	mg/l	1	01/16/14 15:10	

Method: SM 4500H+-B | Batch: W4A0555 | Prepared: 01/14/14 17:04 | Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
pH	**7.22**	0.10	Units	1	01/14/14 17:38	*

Method: SM 5540C | Batch: W4A0545 | Prepared: 01/14/14 14:56 | Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
MBAS	ND	0.050	mg/l	1	01/14/14 16:49	

Method: Various | Batch: [CALC] | Prepared: 01/17/14 13:33 | Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Anions	**73**	1.6	meq/l	100	01/17/14 16:43	

Diquat and Paraquat by EPA 549.2

Method: EPA 549.2 | Batch: W4A0444 | Prepared: 01/15/14 17:01 | Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Diquat	ND	4.0	ug/l	1	01/16/14 15:28	

Endothall By EPA 548.1

Method: EPA 548.1 | Batch: W4A0556 | Prepared: 01/14/14 17:06 | Analyst: abj

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Endothall	ND	45	ug/l	1	01/18/14 20:49	

EPA 1613B mod.

Method: EPA 1613B mod. | Batch: 3522182 | Prepared: 02/23/14 00:00 | Analyst: VCI

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
2,3,7,8-Tetra CDD	ND	3.9	pg/L	1	02/26/14 00:00	S_MAXX

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

EPA 1613B mod.

Method: EPA 1613B mod. Batch: 3522182 Prepared: 02/23/14 00:00 Analyst: VCI

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Surr: 37CL4 2378 Tetra CDD	*83 %*	Conc:*166*	*40-130*	%			*S_MAXX*
Surr: C13-2378 TetraCDD	*111 %*	Conc:*222*	*24-164*	%			*S_MAXX*

Fumigants by EPA Method 504.1

Method: EPA 504.1 Batch: W4A0789 Prepared: 01/20/14 11:22 Analyst: jch

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
1,2-Dibromo-3-chloropropane	ND	0.010	ug/l	1	01/22/14 18:53	
1,2-Dibromoethane (EDB)	ND	0.020	ug/l	1	01/22/14 18:53	

Glyphosate by EPA 547

Method: EPA 547 Batch: W4A0601 Prepared: 01/15/14 15:08 Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Glyphosate	ND	5.0	ug/l	1	01/15/14 17:04	

Metals by EPA 200 Series Methods

Method: [CALC] Batch: [CALC] Prepared: 01/15/14 14:31 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Cations	**73**	0.037	meq/l	1	01/17/14 09:29	

Method: EPA 200.7 Batch: [CALC] Prepared: 01/15/14 14:31 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Calcium Hardness as CaCO3	**647**	0.250	mg/l	1	01/17/14 09:29	

Method: EPA 200.7 Batch: W4A0592 Prepared: 01/15/14 14:31 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Barium, Dissolved	**0.092**	0.0020	mg/l	1	01/17/14 09:24	
Boron, Dissolved	**450**	10	ug/l	1	01/17/14 09:24	
Calcium, Dissolved	**254**	0.100	mg/l	1	01/17/14 09:24	
Calcium, Total	**259**	0.100	mg/l	1	01/17/14 09:29	
Iron, Dissolved	**1700**	10	ug/l	1	01/17/14 09:24	
Iron, Total	**3.5**	0.010	mg/l	1	01/17/14 09:29	
Magnesium, Dissolved	**173**	0.100	mg/l	1	01/17/14 09:24	
Magnesium, Total	**178**	0.100	mg/l	1	01/17/14 09:29	
Manganese, Dissolved	**1300**	5.0	ug/l	1	01/17/14 09:24	
Manganese, Total	**1.4**	0.0050	mg/l	1	01/17/14 09:29	
Potassium, Dissolved	**27**	0.10	mg/l	1	01/17/14 09:24	
Potassium, Total	**27**	0.10	mg/l	1	01/17/14 09:29	
Silica as SiO2, Dissolved	**40**	0.10	mg/l	1	01/17/14 09:24	
Sodium, Dissolved	**1000**	0.50	mg/l	1	01/17/14 09:24	
Sodium, Total	**1000**	0.50	mg/l	1	01/17/14 09:29	

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Metals by EPA 200 Series Methods

Method: EPA 200.7 Batch: W4A0592 Prepared: 01/15/14 14:31 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Strontium, Dissolved	**1900**	2.0	ug/l	1	01/17/14 09:24	

Method: EPA 200.7 Batch: W4B0893 Prepared: 02/20/14 14:04 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Lithium, Total	**86**	20	ug/l	2	02/21/14 10:43	

Method: EPA 200.8 Batch: W4A0619 Prepared: 01/16/14 09:08 Analyst: XXX

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Aluminum, Total	**47**	5.0	ug/l	1	01/20/14 19:39	
Arsenic, Total	**5.1**	0.40	ug/l	1	01/20/14 19:39	
Copper, Total	**3.4**	0.50	ug/l	1	01/20/14 19:39	
Zinc, Total	**31**	5.0	ug/l	1	01/20/14 19:39	

Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2 Batch: W4A0574 Prepared: 01/15/14 09:58 Analyst: abj

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Alachlor	ND	0.10	ug/l	1	01/23/14 04:47	
Atrazine	ND	0.10	ug/l	1	01/23/14 04:47	
Benzo (a) pyrene	ND	0.10	ug/l	1	01/23/14 04:47	
Bis(2-ethylhexyl)adipate	ND	5.0	ug/l	1	01/23/14 04:47	
Bis(2-ethylhexyl)phthalate	ND	3.0	ug/l	1	01/23/14 04:47	
Bromacil	ND	0.50	ug/l	1	01/23/14 04:47	
Butachlor	ND	0.10	ug/l	1	01/23/14 04:47	
Captan	ND	1.0	ug/l	1	01/23/14 04:47	
Chloropropham	ND	0.10	ug/l	1	01/23/14 04:47	
Cyanazine	ND	0.10	ug/l	1	01/23/14 04:47	
Diazinon	ND	0.10	ug/l	1	01/23/14 04:47	
Dimethoate	ND	0.20	ug/l	1	01/23/14 04:47	
Diphenamid	ND	0.10	ug/l	1	01/23/14 04:47	
Disulfoton	ND	0.10	ug/l	1	01/23/14 04:47	
EPTC	ND	0.10	ug/l	1	01/23/14 04:47	
Metolachlor	ND	0.10	ug/l	1	01/23/14 04:47	
Metribuzin	ND	0.10	ug/l	1	01/23/14 04:47	
Molinate	ND	0.10	ug/l	1	01/23/14 04:47	
Prometon	ND	0.10	ug/l	1	01/23/14 04:47	
Prometryn	ND	0.10	ug/l	1	01/23/14 04:47	
Simazine	ND	0.10	ug/l	1	01/23/14 04:47	
Terbacil	ND	2.0	ug/l	1	01/23/14 04:47	
Thiobencarb	ND	0.10	ug/l	1	01/23/14 04:47	
Trithion	ND	0.10	ug/l	1	01/23/14 04:47	

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2 Batch: W4A0574 Prepared: 01/15/14 09:58 Analyst: abj

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Surr: 1,3-Dimethyl-2-nitrobenzene	*107 %*	Conc:*5.34*	*73-138*	%			
Surr: Perylene-d12	*95 %*	Conc:*4.75*	*30-118*	%			
Surr: Triphenyl phosphate	*122 %*	Conc:*6.10*	*70-149*	%			

Subcontracted Analyses

Method: EPA 906.0 Batch: W4A1172 Prepared: 01/18/14 05:38 Analyst: sub

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Tritium	**58.9**		pCi/L	1	01/18/14 05:38	A-01
Counting Error (+/-): 121 MDA: 207						

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W4A0558 Prepared: 01/15/14 08:20 Analyst: mdt

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
1,1,1,2-Tetrachloroethane	ND	0.50	ug/l	1	01/16/14 01:51	
1,1,1-Trichloroethane	ND	0.50	ug/l	1	01/16/14 01:51	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	1	01/16/14 01:51	
1,1,2-Trichloroethane	ND	0.50	ug/l	1	01/16/14 01:51	
1,1-Dichloroethane	ND	0.50	ug/l	1	01/16/14 01:51	
1,1-Dichloroethene	ND	0.50	ug/l	1	01/16/14 01:51	
1,1-Dichloropropene	ND	0.50	ug/l	1	01/16/14 01:51	
1,2,3-Trichlorobenzene	ND	0.50	ug/l	1	01/16/14 01:51	
1,2,3-Trichloropropane	ND	0.50	ug/l	1	01/16/14 01:51	
1,2,4-Trichlorobenzene	ND	0.50	ug/l	1	01/16/14 01:51	
1,2,4-Trimethylbenzene	ND	0.50	ug/l	1	01/16/14 01:51	
1,2-Dichloroethane	ND	0.50	ug/l	1	01/16/14 01:51	
1,2-Dichloropropane	ND	0.50	ug/l	1	01/16/14 01:51	
1,3,5-Trimethylbenzene	ND	0.50	ug/l	1	01/16/14 01:51	
1,3-Dichloropropane	ND	0.50	ug/l	1	01/16/14 01:51	
1,3-Dichloropropene, Total	ND	0.50	ug/l	1	01/16/14 01:51	
2,2-Dichloropropane	ND	0.50	ug/l	1	01/16/14 01:51	
2-Butanone	ND	5.0	ug/l	1	01/16/14 01:51	
2-Chloroethyl vinyl ether	ND	1.0	ug/l	1	01/16/14 01:51	
2-Chlorotoluene	ND	0.50	ug/l	1	01/16/14 01:51	
2-Hexanone	ND	5.0	ug/l	1	01/16/14 01:51	
4-Chlorotoluene	ND	0.50	ug/l	1	01/16/14 01:51	
4-Methyl-2-pentanone	ND	5.0	ug/l	1	01/16/14 01:51	
Benzene	ND	0.50	ug/l	1	01/16/14 01:51	
Bromobenzene	ND	0.50	ug/l	1	01/16/14 01:51	
Bromochloromethane	ND	0.50	ug/l	1	01/16/14 01:51	
Bromodichloromethane	ND	0.50	ug/l	1	01/16/14 01:51	

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W4A0558 Prepared: 01/15/14 08:20 Analyst: mdt

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Bromoform	ND	0.50	ug/l	1	01/16/14 01:51	
Bromomethane	ND	0.50	ug/l	1	01/16/14 01:51	
Carbon tetrachloride	ND	0.50	ug/l	1	01/16/14 01:51	
Chlorobenzene	ND	0.50	ug/l	1	01/16/14 01:51	
Chloroethane	ND	0.50	ug/l	1	01/16/14 01:51	
Chloroform	ND	0.50	ug/l	1	01/16/14 01:51	
Chloromethane	ND	0.50	ug/l	1	01/16/14 01:51	
cis-1,2-Dichloroethene	ND	0.50	ug/l	1	01/16/14 01:51	
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	01/16/14 01:51	
Dibromochloromethane	ND	0.50	ug/l	1	01/16/14 01:51	
Dibromomethane	ND	0.50	ug/l	1	01/16/14 01:51	
Dichlorodifluoromethane (Freon 12)	ND	0.50	ug/l	1	01/16/14 01:51	
Di-isopropyl ether	ND	2.0	ug/l	1	01/16/14 01:51	
Ethyl tert-butyl ether	ND	2.0	ug/l	1	01/16/14 01:51	
Ethylbenzene	ND	0.50	ug/l	1	01/16/14 01:51	
Freon 113	ND	5.0	ug/l	1	01/16/14 01:51	
Hexachlorobutadiene	ND	0.50	ug/l	1	01/16/14 01:51	
Isopropylbenzene	ND	0.50	ug/l	1	01/16/14 01:51	
m,p-Xylene	ND	0.50	ug/l	1	01/16/14 01:51	
m-Dichlorobenzene	ND	0.50	ug/l	1	01/16/14 01:51	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	01/16/14 01:51	
Methylene chloride	ND	0.50	ug/l	1	01/16/14 01:51	
Naphthalene	ND	0.50	ug/l	1	01/16/14 01:51	
n-Butylbenzene	ND	0.50	ug/l	1	01/16/14 01:51	
n-Propylbenzene	ND	0.50	ug/l	1	01/16/14 01:51	
o-Dichlorobenzene	ND	0.50	ug/l	1	01/16/14 01:51	
o-Xylene	ND	0.50	ug/l	1	01/16/14 01:51	
p-Dichlorobenzene	ND	0.50	ug/l	1	01/16/14 01:51	
p-Isopropyltoluene	ND	0.50	ug/l	1	01/16/14 01:51	
sec-Butylbenzene	ND	0.50	ug/l	1	01/16/14 01:51	
Styrene	ND	0.50	ug/l	1	01/16/14 01:51	
Tert-amyl methyl ether	ND	2.0	ug/l	1	01/16/14 01:51	
tert-Butylbenzene	ND	0.50	ug/l	1	01/16/14 01:51	
Tetrachloroethene	ND	0.50	ug/l	1	01/16/14 01:51	
THMs, Total	ND	2.0	ug/l	1	01/16/14 01:51	
Toluene	ND	0.50	ug/l	1	01/16/14 01:51	
trans-1,2-Dichloroethene	ND	0.50	ug/l	1	01/16/14 01:51	
trans-1,3-Dichloropropene	ND	0.50	ug/l	1	01/16/14 01:51	
Trichloroethene	ND	0.50	ug/l	1	01/16/14 01:51	
Trichlorofluoromethane	ND	0.50	ug/l	1	01/16/14 01:51	

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4A14003-01 **ML-3 Zone # 2 (103-113 ftbgs)**

Sampled: 01/13/14 11:45 **Sampled By:** Nathan Reynolds **Matrix:** Water

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W4A0558 Prepared: 01/15/14 08:20 Analyst: mdt

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Vinyl chloride	ND		0.50	ug/l	1	01/16/14 01:51	
Xylenes, Total	ND		1.0	ug/l	1	01/16/14 01:51	
Surr: 1,2-Dichlorobenzene-d4	*101 %*	Conc:*10.1*	*70-130*	%			
Surr: 4-Bromofluorobenzene	*91 %*	Conc:*9.13*	*70-130*	%			

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QUALITY CONTROL SECTION

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4A0532 - EPA 300.0

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0532-BLK1)				Analyzed: 01/14/14 11:31						
Chloride, Total	ND	0.50	mg/l							
Fluoride, Total	ND	0.10	mg/l							
Sulfate as SO4	ND	0.50	mg/l							
LCS (W4A0532-BS1)				Analyzed: 01/14/14 11:49						
Chloride, Total	3.81	0.50	mg/l	4.00		95	90-110			
Fluoride, Total	2.06	0.10	mg/l	2.00		103	90-110			
Sulfate as SO4	7.78	0.50	mg/l	8.00		97	90-110			
Matrix Spike (W4A0532-MS1)	**Source: 4A13043-05**			Analyzed: 01/14/14 12:49						
Chloride, Total	45.3	5.0	mg/l	40.0	7.51	94	76-118			
Fluoride, Total	20.3	1.0	mg/l	20.0	0.713	98	86-107			
Sulfate as SO4	92.8	5.0	mg/l	80.0	16.5	95	78-111			
Matrix Spike (W4A0532-MS2)	**Source: 4A13065-02**			Analyzed: 01/14/14 20:15						
Chloride, Total	65.9	5.0	mg/l	40.0	27.3	96	76-118			
Fluoride, Total	21.5	1.0	mg/l	20.0	0.396	105	86-107			
Sulfate as SO4	132	5.0	mg/l	80.0	56.4	95	78-111			
Matrix Spike Dup (W4A0532-MSD1)	**Source: 4A13043-05**			Analyzed: 01/14/14 13:08						
Chloride, Total	46.3	5.0	mg/l	40.0	7.51	97	76-118	2	20	
Fluoride, Total	21.3	1.0	mg/l	20.0	0.713	103	86-107	5	20	
Sulfate as SO4	92.3	5.0	mg/l	80.0	16.5	95	78-111	0.6	20	
Matrix Spike Dup (W4A0532-MSD2)	**Source: 4A13065-02**			Analyzed: 01/14/14 20:34						
Chloride, Total	65.3	5.0	mg/l	40.0	27.3	95	76-118	1	20	
Fluoride, Total	21.4	1.0	mg/l	20.0	0.396	105	86-107	0.5	20	
Sulfate as SO4	132	5.0	mg/l	80.0	56.4	94	78-111	0.7	20	

Batch W4A0844 - EPA 300.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0844-BLK1)				Analyzed: 01/21/14 15:14						
Bromide	ND	10	ug/l							
Surr: Dichloroacetate	*502*		*ug/l*	*500*		*100*	*90-115*			
LCS (W4A0844-BS1)				Analyzed: 01/21/14 15:14						
Bromide	99.2	10	ug/l	100		99	85-115			
Surr: Dichloroacetate	*490*		*ug/l*	*500*		*98*	*90-115*			
Matrix Spike (W4A0844-MS1)	**Source: 4A08035-01**			Analyzed: 01/21/14 15:14						
Bromide	757	20	ug/l	200	605	76	73-125			
Surr: Dichloroacetate	*467*		*ug/l*	*500*		*93*	*90-115*			
Matrix Spike Dup (W4A0844-MSD1)	**Source: 4A08035-01**			Analyzed: 01/21/14 15:14						
Bromide	784	20	ug/l	200	605	89	73-125	4	20	
Surr: Dichloroacetate	*487*		*ug/l*	*500*		*97*	*90-115*			

Batch W4B0889 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers

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Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W4B0889 - EPA 9056A

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0889-BLK1)				Analyzed: 02/20/14 15:41						
Iodide, Dissolved	ND	10	ug/l							
LCS (W4B0889-BS1)				Analyzed: 02/20/14 15:41						
Iodide, Dissolved	40.0	10	ug/l	40.0		100	85-115			
Duplicate (W4B0889-DUP1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide, Dissolved	63.0	25	ug/l		63.9			1	20	
Matrix Spike (W4B0889-MS1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide, Dissolved	176	25	ug/l	100	63.9	112	80-120			
Matrix Spike Dup (W4B0889-MSD1)	**Source: 4B06015-02**			Analyzed: 02/20/14 15:41						
Iodide, Dissolved	149	25	ug/l	100	63.9	85	80-120	17	20	

Carbamates and Urea Pesticides - Quality Control

Batch W4A0802 - EPA 531.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0802-BLK1)				Analyzed: 01/20/14 23:50						
3-Hydroxycarbofuran	ND	2.0	ug/l							
Aldicarb	ND	2.0	ug/l							
Aldicarb sulfone	ND	2.0	ug/l							
Aldicarb sulfoxide	ND	2.0	ug/l							
Carbaryl	ND	2.0	ug/l							
Carbofuran	ND	2.0	ug/l							
Methiocarb	ND	2.0	ug/l							
Methomyl	ND	2.0	ug/l							
Oxamyl	ND	2.0	ug/l							
Propoxur (Baygon)	ND	2.0	ug/l							
LCS (W4A0802-BS1)				Analyzed: 01/20/14 23:50						
3-Hydroxycarbofuran	10.3	2.0	ug/l	10.0		103	80-120			
Aldicarb	11.1	2.0	ug/l	10.0		111	80-120			
Aldicarb sulfone	9.86	2.0	ug/l	10.0		99	80-120			
Aldicarb sulfoxide	10.3	2.0	ug/l	10.0		103	80-120			
Carbaryl	11.1	2.0	ug/l	10.0		111	80-120			
Carbofuran	9.64	2.0	ug/l	10.0		96	80-120			
Methiocarb	11.7	2.0	ug/l	10.0		117	80-120			
Methomyl	9.53	2.0	ug/l	10.0		95	80-120			
Oxamyl	10.1	2.0	ug/l	10.0		101	80-120			
Propoxur (Baygon)	9.79	2.0	ug/l	10.0		98	80-120			
Matrix Spike (W4A0802-MS1)	**Source: 4A13019-01**			Analyzed: 01/20/14 23:50						
3-Hydroxycarbofuran	8.26	2.0	ug/l	10.0	ND	83	65-135			
Aldicarb	10.3	2.0	ug/l	10.0	ND	103	65-135			
Aldicarb sulfone	9.41	2.0	ug/l	10.0	ND	94	65-135			
Aldicarb sulfoxide	10.3	2.0	ug/l	10.0	ND	103	65-135			

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Carbamates and Urea Pesticides - Quality Control

Batch W4A0802 - EPA 531.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Matrix Spike (W4A0802-MS1)	**Source: 4A13019-01**			Analyzed: 01/20/14 23:50						
Carbaryl	9.56	2.0	ug/l	10.0	ND	96	65-135			
Carbofuran	10.2	2.0	ug/l	10.0	ND	102	65-135			
Methiocarb	10.0	2.0	ug/l	10.0	ND	100	65-135			
Methomyl	9.17	2.0	ug/l	10.0	ND	92	65-135			
Oxamyl	8.48	2.0	ug/l	10.0	ND	85	65-135			
Propoxur (Baygon)	8.94	2.0	ug/l	10.0	ND	89	65-135			
Matrix Spike Dup (W4A0802-MSD1)	**Source: 4A13019-01**			Analyzed: 01/20/14 23:50						
3-Hydroxycarbofuran	8.62	2.0	ug/l	10.0	ND	86	65-135	4	30	
Aldicarb	10.1	2.0	ug/l	10.0	ND	101	65-135	2	30	
Aldicarb sulfone	9.03	2.0	ug/l	10.0	ND	90	65-135	4	30	
Aldicarb sulfoxide	10.9	2.0	ug/l	10.0	ND	109	65-135	6	30	
Carbaryl	9.23	2.0	ug/l	10.0	ND	92	65-135	4	30	
Carbofuran	8.51	2.0	ug/l	10.0	ND	85	65-135	18	30	
Methiocarb	9.94	2.0	ug/l	10.0	ND	99	65-135	1	30	
Methomyl	9.60	2.0	ug/l	10.0	ND	96	65-135	5	30	
Oxamyl	7.27	2.0	ug/l	10.0	ND	73	65-135	15	30	
Propoxur (Baygon)	8.90	2.0	ug/l	10.0	ND	89	65-135	0.4	30	

Chlorinated Herbicides - Quality Control

Batch W4A0564 - EPA 515.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0564-BLK1)				Analyzed: 01/24/14 22:44						
2,4,5-T	ND	0.20	ug/l							
2,4,5-TP (Silvex)	ND	0.20	ug/l							
2,4-D	ND	0.40	ug/l							
2,4-DB	ND	2.0	ug/l							
3,5-Dichlorobenzoic acid	ND	1.0	ug/l							
Acifluorfen	ND	0.40	ug/l							
Bentazon	ND	2.0	ug/l							
Dalapon	ND	0.40	ug/l							
DCPA	ND	0.10	ug/l							
Dicamba	ND	0.60	ug/l							
Dichloroprop	ND	0.30	ug/l							
Dinoseb	ND	0.40	ug/l							
Pentachlorophenol	ND	0.20	ug/l							
Picloram	ND	0.60	ug/l							
Surr: 2,4-DCAA	*9.76*		*ug/l*	*10.0*		*98*	*70-130*			
LCS (W4A0564-BS1)				Analyzed: 01/24/14 23:12						
2,4,5-T	4.09	0.20	ug/l	4.00		102	70-130			
2,4,5-TP (Silvex)	3.98	0.20	ug/l	4.00		99	70-130			
2,4-D	9.60	0.40	ug/l	8.00		120	70-130			

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Date Reported: 03/06/14 09:25

Chlorinated Herbicides - Quality Control

Batch W4A0564 - EPA 515.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0564-BS1)				Analyzed: 01/24/14 23:12						
2,4-DB	13.9	2.0	ug/l	16.0		87	70-130			
3,5-Dichlorobenzoic acid	8.32	1.0	ug/l	8.00		104	70-130			
Acifluorfen	4.36	0.40	ug/l	4.00		109	70-130			
Bentazon	15.0	2.0	ug/l	16.0		94	70-130			
Dalapon	9.17	0.40	ug/l	8.00		115	70-130			
DCPA	3.66	0.10	ug/l	4.00		92	70-130			
Dicamba	7.56	0.60	ug/l	8.00		95	70-130			
Dichloroprop	9.26	0.30	ug/l	8.00		116	70-130			
Dinoseb	4.08	0.40	ug/l	4.00		102	70-130			
Pentachlorophenol	3.85	0.20	ug/l	4.00		96	70-130			
Picloram	4.39	0.60	ug/l	4.00		110	70-130			
Surr: 2,4-DCAA	*10.4*		*ug/l*	*10.0*		*104*	*70-130*			
Matrix Spike (W4A0564-MS1)	**Source: 4A14003-01**			Analyzed: 01/24/14 23:40						
2,4,5-T	3.92	0.20	ug/l	4.00	ND	98	70-130			
2,4,5-TP (Silvex)	3.77	0.20	ug/l	4.00	ND	94	70-130			
2,4-D	9.09	0.40	ug/l	8.00	ND	114	70-130			
2,4-DB	12.1	2.0	ug/l	16.0	ND	75	70-130			
3,5-Dichlorobenzoic acid	7.35	1.0	ug/l	8.00	ND	92	70-130			
Acifluorfen	4.70	0.40	ug/l	4.00	ND	118	70-130			
Bentazon	7.01	2.0	ug/l	16.0	ND	44	70-130			MS-05
Dalapon	9.15	0.40	ug/l	8.00	ND	114	70-130			
DCPA	3.46	0.10	ug/l	4.00	ND	86	70-130			
Dicamba	7.07	0.60	ug/l	8.00	ND	88	70-130			
Dichloroprop	9.83	0.30	ug/l	8.00	ND	123	70-130			
Dinoseb	2.26	0.40	ug/l	4.00	ND	57	70-130			MS-05
Pentachlorophenol	1.51	0.20	ug/l	4.00	ND	38	70-130			MS-05
Picloram	4.30	0.60	ug/l	4.00	ND	108	70-130			
Surr: 2,4-DCAA	*9.06*		*ug/l*	*10.0*		*91*	*70-130*			
Matrix Spike Dup (W4A0564-MSD1)	**Source: 4A14003-01**			Analyzed: 01/25/14 00:08						
2,4,5-T	3.93	0.20	ug/l	4.00	ND	98	70-130	0.3	30	
2,4,5-TP (Silvex)	3.76	0.20	ug/l	4.00	ND	94	70-130	0.4	30	
2,4-D	9.31	0.40	ug/l	8.00	ND	116	70-130	2	30	
2,4-DB	12.6	2.0	ug/l	16.0	ND	79	70-130	4	30	
3,5-Dichlorobenzoic acid	7.91	1.0	ug/l	8.00	ND	99	70-130	7	30	
Acifluorfen	4.85	0.40	ug/l	4.00	ND	121	70-130	3	30	
Bentazon	7.48	2.0	ug/l	16.0	ND	47	70-130	6	30	MS-05
Dalapon	9.18	0.40	ug/l	8.00	ND	115	70-130	0.2	30	
DCPA	3.47	0.10	ug/l	4.00	ND	87	70-130	0.3	30	
Dicamba	7.51	0.60	ug/l	8.00	ND	94	70-130	6	30	
Dichloroprop	9.85	0.30	ug/l	8.00	ND	123	70-130	0.2	30	
Dinoseb	2.08	0.40	ug/l	4.00	ND	52	70-130	8	30	MS-05
Pentachlorophenol	1.57	0.20	ug/l	4.00	ND	39	70-130	4	30	MS-05
Picloram	4.46	0.60	ug/l	4.00	ND	111	70-130	3	30	
Surr: 2,4-DCAA	*9.38*		*ug/l*	*10.0*		*94*	*70-130*			

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Chlorinated Pesticides and/or PCBs - Quality Control

Batch W4A0617 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0617-BLK1)				Analyzed: 01/29/14 19:18						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							
Surr: Decachlorobiphenyl	*0.103*		*ug/l*	*0.100*		*103*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0743*		*ug/l*	*0.100*		*74*	*70-130*			
LCS (W4A0617-BS1)				Analyzed: 01/29/14 19:48						
4,4´-DDD	0.125	0.010	ug/l	0.100		125	55-142			
4,4´-DDE	0.111	0.010	ug/l	0.100		111	49-129			
4,4´-DDT	0.110	0.010	ug/l	0.100		110	54-160			
Aldrin	0.0542	0.010	ug/l	0.100		54	29-115			
alpha-BHC	0.0952	0.010	ug/l	0.100		95	59-131			
beta-BHC	0.0982	0.010	ug/l	0.100		98	63-136			
delta-BHC	0.101	0.010	ug/l	0.100		101	59-137			
Dieldrin	0.0796	0.010	ug/l	0.100		80	59-135			
Endosulfan I	0.0907	0.010	ug/l	0.100		91	28-138			

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Batch W4A0617 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0617-BS1)				Analyzed: 01/29/14 19:48						
Endosulfan II	0.103	0.010	ug/l	0.100		103	53-133			
Endosulfan sulfate	0.117	0.010	ug/l	0.100		117	58-155			
Endrin	0.0972	0.010	ug/l	0.100		97	57-148			
Endrin aldehyde	0.0318	0.010	ug/l	0.100		32	45-139			Q-02
gamma-BHC (Lindane)	0.0931	0.010	ug/l	0.100		93	59-129			
Heptachlor	0.0855	0.010	ug/l	0.100		85	42-136			
Heptachlor epoxide	0.0922	0.010	ug/l	0.100		92	59-134			
Methoxychlor	0.114	0.010	ug/l	0.100		114	56-167			
Surr: Decachlorobiphenyl	*0.103*		*ug/l*	*0.100*		*103*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0773*		*ug/l*	*0.100*		*77*	*70-130*			
LCS Dup (W4A0617-BSD1)				Analyzed: 01/29/14 20:19						
4,4´-DDD	0.140	0.010	ug/l	0.100		140	55-142	12	25	
4,4´-DDE	0.123	0.010	ug/l	0.100		123	49-129	10	25	
4,4´-DDT	0.124	0.010	ug/l	0.100		124	54-160	12	25	
Aldrin	0.0604	0.010	ug/l	0.100		60	29-115	11	25	
alpha-BHC	0.101	0.010	ug/l	0.100		101	59-131	6	25	
beta-BHC	0.107	0.010	ug/l	0.100		107	63-136	9	25	
delta-BHC	0.111	0.010	ug/l	0.100		111	59-137	9	25	
Dieldrin	0.0854	0.010	ug/l	0.100		85	59-135	7	25	
Endosulfan I	0.100	0.010	ug/l	0.100		100	28-138	10	25	
Endosulfan II	0.114	0.010	ug/l	0.100		114	53-133	11	25	
Endosulfan sulfate	0.134	0.010	ug/l	0.100		134	58-155	14	25	
Endrin	0.109	0.010	ug/l	0.100		109	57-148	11	25	
Endrin aldehyde	0.0339	0.010	ug/l	0.100		34	45-139	6	25	Q-02
gamma-BHC (Lindane)	0.100	0.010	ug/l	0.100		100	59-129	8	25	
Heptachlor	0.0935	0.010	ug/l	0.100		93	42-136	9	25	
Heptachlor epoxide	0.100	0.010	ug/l	0.100		100	59-134	8	25	
Methoxychlor	0.127	0.010	ug/l	0.100		127	56-167	11	25	
Surr: Decachlorobiphenyl	*0.101*		*ug/l*	*0.100*		*101*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0792*		*ug/l*	*0.100*		*79*	*70-130*			

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4A0520 - EPA 180.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0520-BLK1)				Analyzed: 01/14/14 11:24						
Turbidity	ND	0.10	NTU							
LCS (W4A0520-BS1)				Analyzed: 01/14/14 11:24						
Turbidity	11.0	0.10	NTU	11.0		100	90-110			
Duplicate (W4A0520-DUP1)	**Source: 4A13062-01**			Analyzed: 01/14/14 11:24						
Turbidity	ND	0.10	NTU		ND					

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4A0522 - EPA 140.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Duplicate (W4A0522-DUP1)	**Source: 4A14003-01**			Analyzed: 01/14/14 11:52						
Threshold Odor Number	2.0	1.0	T.O.N.		2.0			NR	20	

Batch W4A0524 - EPA 351.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0524-BLK1)				Analyzed: 01/17/14 17:00						
TKN, Soluble	ND	0.10	mg/l							
Blank (W4A0524-BLK2)				Analyzed: 01/17/14 17:00						
TKN, Soluble	ND	0.10	mg/l							
LCS (W4A0524-BS1)				Analyzed: 01/17/14 17:00						
TKN, Soluble	0.970	0.10	mg/l	1.00		97	90-110			
LCS (W4A0524-BS2)				Analyzed: 01/17/14 17:00						
TKN, Soluble	0.963	0.10	mg/l	1.00		96	90-110			

Batch W4A0533 - SM 2120B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0533-BS1)				Analyzed: 01/14/14 13:28						
Color	10.0	3.0	Color Units	10.0		100	95-105			
Duplicate (W4A0533-DUP1)	**Source: 4A13077-04**			Analyzed: 01/14/14 13:28						
Color	ND	3.0	Color Units		0.00					

Batch W4A0535 - EPA 353.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0535-BLK1)				Analyzed: 01/14/14 15:36						
Nitrate as NO3	ND	0.50	mg/l							
NO2+NO3 as N	ND	100	ug/l							
LCS (W4A0535-BS1)				Analyzed: 01/14/14 15:38						
Nitrate as NO3	4.40	0.50	mg/l	4.43		99	90-110			
NO2+NO3 as N	994	100	ug/l	1000		99	90-110			
Matrix Spike (W4A0535-MS1)	**Source: 4A13065-02**			Analyzed: 01/14/14 15:42						
Nitrate as NO3	39.4	0.50	mg/l	8.86	30.1	104	90-110			
NO2+NO3 as N	8880	100	ug/l	2000	6800	104	90-110			
Matrix Spike (W4A0535-MS2)	**Source: 4A13065-03**			Analyzed: 01/14/14 19:38						
Nitrate as NO3	38.9	0.50	mg/l	8.86	30.3	97	90-110			
NO2+NO3 as N	8790	100	ug/l	2000	6840	97	90-110			
Matrix Spike Dup (W4A0535-MSD1)	**Source: 4A13065-02**			Analyzed: 01/14/14 15:44						
Nitrate as NO3	39.3	0.50	mg/l	8.86	30.1	104	90-110	0.06	20	
NO2+NO3 as N	8880	100	ug/l	2000	6800	104	90-110	0.06	20	
Matrix Spike Dup (W4A0535-MSD2)	**Source: 4A13065-03**			Analyzed: 01/14/14 19:41						
Nitrate as NO3	39.8	0.50	mg/l	8.86	30.3	107	90-110	2	20	

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Batch W4A0535 - EPA 353.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Matrix Spike Dup (W4A0535-MSD2)	**Source: 4A13065-03**			Analyzed: 01/14/14 19:41						
NO2+NO3 as N	8980	100	ug/l	2000	6840	107	90-110	2	20	

Batch W4A0544 - EPA 365.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0544-BLK1)				Analyzed: 01/14/14 15:42						
o-Phosphate as P	ND	0.0020	mg/l							
LCS (W4A0544-BS1)				Analyzed: 01/14/14 15:43						
o-Phosphate as P	0.0503	0.0020	mg/l	0.0500		101	90-110			
Matrix Spike (W4A0544-MS1)	**Source: 4A14003-01**			Analyzed: 01/14/14 15:50						
o-Phosphate as P	0.0609	0.0020	mg/l	0.0500	0.0117	98	90-110			
Matrix Spike Dup (W4A0544-MSD1)	**Source: 4A14003-01**			Analyzed: 01/14/14 15:52						
o-Phosphate as P	0.0591	0.0020	mg/l	0.0500	0.0117	95	90-110	3	20	

Batch W4A0545 - SM 5540C

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0545-BLK1)				Analyzed: 01/14/14 16:49						
MBAS	ND	0.050	mg/l							
LCS (W4A0545-BS1)				Analyzed: 01/14/14 16:49						
MBAS	0.187	0.050	mg/l	0.200		94	82-115			
Matrix Spike (W4A0545-MS1)	**Source: 4A13077-04**			Analyzed: 01/14/14 16:49						
MBAS	0.205	0.050	mg/l	0.200	0.0223	91	74-123			
Matrix Spike Dup (W4A0545-MSD1)	**Source: 4A13077-04**			Analyzed: 01/14/14 16:49						
MBAS	0.209	0.050	mg/l	0.200	0.0223	93	74-123	2	20	

Batch W4A0555 - SM 4500H+-B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0555-BS1)				Analyzed: 01/14/14 17:38						
pH	7.34	0.10	Units	7.41		99	98.8-101			
Duplicate (W4A0555-DUP1)	**Source: 4A14003-01**			Analyzed: 01/14/14 17:38						
pH	7.31	0.10	Units		7.22			1	3.1	

Batch W4A0596 - EPA 350.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0596-BLK1)				Analyzed: 01/17/14 14:26						
Ammonia as N, Dissolved	ND	0.10	mg/l							
LCS (W4A0596-BS1)				Analyzed: 01/17/14 14:26						
Ammonia as N, Dissolved	0.257	0.10	mg/l	0.250		103	90-110			

Batch W4A0644 - SM 2540C M

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Batch W4A0644 - SM 2540C M

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0644-BLK1)				Analyzed: 01/16/14 15:10						
Total Dissolved Solids	ND	10	mg/l							
LCS (W4A0644-BS1)				Analyzed: 01/16/14 15:10						
Total Dissolved Solids	802	10	mg/l	824		97	96-102			
Duplicate (W4A0644-DUP1)	**Source: 4A14063-01**			Analyzed: 01/16/14 15:10						
Total Dissolved Solids	3150	10	mg/l		3170			0.8	10	

Batch W4A0723 - SM 2320B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0723-BLK1)				Analyzed: 01/17/14 16:43						
Alkalinity as CaCO3	ND	2.0	mg/l							
Alkalinity as CaCO3	ND	2.0	mg/l							
Bicarbonate Alkalinity as HCO3	ND	2.0	mg/l							
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l							
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l							
LCS (W4A0723-BS1)				Analyzed: 01/17/14 16:43						
Alkalinity as CaCO3	246	2.0	mg/l	250		98	94-108			
Alkalinity as CaCO3	246	2.0	mg/l	250		98	94-108			
Bicarbonate Alkalinity as HCO3	300	2.0	mg/l	305		98	95-108			
Duplicate (W4A0723-DUP1)	**Source: 4A14003-01**			Analyzed: 01/17/14 16:43						
Alkalinity as CaCO3	183	2.0	mg/l		185			1	15	
Alkalinity as CaCO3	183	2.0	mg/l		185			1	15	
Bicarbonate Alkalinity as HCO3	223	2.0	mg/l		226			1	15	
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l		ND					
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l		ND					

Batch W4A0809 - EPA 365.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0809-BLK1)				Analyzed: 01/23/14 10:39						
Phosphorus, Dissolved	ND	0.010	mg/l							
LCS (W4A0809-BS1)				Analyzed: 01/23/14 10:40						
Phosphorus, Dissolved	0.0485	0.010	mg/l	0.0500		97	90-110			
Duplicate (W4A0809-DUP1)	**Source: 4A14072-01**			Analyzed: 01/23/14 10:50						
Phosphorus, Dissolved	ND	0.010	mg/l		0.00300			NR	20	Q-R-01
Matrix Spike (W4A0809-MS1)	**Source: 4A14076-04**			Analyzed: 01/23/14 10:43						
Phosphorus, Dissolved	0.0622	0.010	mg/l	0.0500	0.0144	96	90-110			
Matrix Spike Dup (W4A0809-MSD1)	**Source: 4A14076-04**			Analyzed: 01/23/14 10:44						
Phosphorus, Dissolved	0.0630	0.010	mg/l	0.0500	0.0144	97	90-110	1	20	

Batch W4A0928 - SM 2510B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0928-BLK1)				Analyzed: 01/23/14 10:38						

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W4A0928 - SM 2510B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Specific Conductance (EC)	ND	2.0	umhos/cm							
LCS (W4A0928-BS1)				Analyzed: 01/23/14 10:38						
Specific Conductance (EC)	5080	2.0	umhos/cm	5000		102	95-105			
Duplicate (W4A0928-DUP1)	**Source: 4A14003-01**			Analyzed: 01/23/14 10:38						
Specific Conductance (EC)	7550	2.0	umhos/cm		7780			3	5	

Diquat and Paraquat by EPA 549.2 - Quality Control

Batch W4A0444 - EPA 549.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0444-BLK1)				Analyzed: 01/16/14 15:28						
Diquat	ND	4.0	ug/l							
LCS (W4A0444-BS1)				Analyzed: 01/16/14 15:28						
Diquat	14.9	4.0	ug/l	20.0		74	48-130			
Matrix Spike (W4A0444-MS1)	**Source: 4A14004-01**			Analyzed: 01/16/14 15:28						
Diquat	12.0	4.0	ug/l	20.0	ND	60	46-122			
Matrix Spike (W4A0444-MS2)	**Source: 4A14010-01**			Analyzed: 01/16/14 15:28						
Diquat	16.1	4.0	ug/l	20.0	ND	81	46-122			
Matrix Spike Dup (W4A0444-MSD1)	**Source: 4A14004-01**			Analyzed: 01/16/14 15:28						
Diquat	11.4	4.0	ug/l	20.0	ND	57	46-122	5	30	
Matrix Spike Dup (W4A0444-MSD2)	**Source: 4A14010-01**			Analyzed: 01/16/14 15:28						
Diquat	16.8	4.0	ug/l	20.0	ND	84	46-122	4	30	

Endothall By EPA 548.1 - Quality Control

Batch W4A0556 - EPA 548.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0556-BLK1)				Analyzed: 01/18/14 18:34						
Endothall	ND	45	ug/l							
LCS (W4A0556-BS1)				Analyzed: 01/18/14 18:47						
Endothall	71.7	45	ug/l	100		72	31-117			
Matrix Spike (W4A0556-MS1)	**Source: 4A14010-01**			Analyzed: 01/18/14 19:01						
Endothall	68.3	90	ug/l	200	ND	34	0.1-109			
Matrix Spike Dup (W4A0556-MSD1)	**Source: 4A14010-01**			Analyzed: 01/18/14 19:14						
Endothall	68.4	90	ug/l	200	ND	34	0.1-109	0.2	30	

Fumigants by EPA Method 504.1 - Quality Control

Batch W4A0789 - EPA 504.1

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Fumigants by EPA Method 504.1 - Quality Control

Batch W4A0789 - EPA 504.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0789-BLK1)				Analyzed: 01/22/14 15:25						
1,2-Dibromo-3-chloropropane	ND	0.010	ug/l							
1,2-Dibromoethane (EDB)	ND	0.020	ug/l							
LCS (W4A0789-BS1)				Analyzed: 01/22/14 16:01						
1,2-Dibromo-3-chloropropane	0.0910	0.010	ug/l	0.100		91	70-130			
1,2-Dibromoethane (EDB)	0.0780	0.020	ug/l	0.100		78	70-130			
LCS (W4A0789-BS2)				Analyzed: 01/22/14 16:38						
1,2-Dibromo-3-chloropropane	0.0180	0.010	ug/l	0.0200		90	70-130			
1,2-Dibromoethane (EDB)	0.0160	0.020	ug/l	0.0200		80	70-130			
LCS Dup (W4A0789-BSD1)				Analyzed: 01/22/14 17:08						
1,2-Dibromo-3-chloropropane	0.106	0.010	ug/l	0.100		106	70-130	15	30	
1,2-Dibromoethane (EDB)	0.100	0.020	ug/l	0.100		100	70-130	25	30	

Glyphosate by EPA 547 - Quality Control

Batch W4A0601 - EPA 547

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0601-BLK1)				Analyzed: 01/15/14 17:04						
Glyphosate	ND	5.0	ug/l							
LCS (W4A0601-BS1)				Analyzed: 01/15/14 17:04						
Glyphosate	19.9	5.0	ug/l	25.0		80	62-130			
Matrix Spike (W4A0601-MS1)	**Source: 4A14010-01**			Analyzed: 01/15/14 17:04						
Glyphosate	18.4	5.0	ug/l	25.0	ND	74	41-149			
Matrix Spike Dup (W4A0601-MSD1)	**Source: 4A14010-01**			Analyzed: 01/15/14 17:04						
Glyphosate	17.3	5.0	ug/l	25.0	ND	69	41-149	6	30	

Metals by EPA 200 Series Methods - Quality Control

Batch W4A0592 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0592-BLK1)				Analyzed: 01/17/14 09:21						
Barium, Dissolved	ND	0.0020	mg/l							
Boron, Dissolved	ND	10	ug/l							
Calcium, Dissolved	ND	0.100	mg/l							
Calcium, Total	ND	0.100	mg/l							
Iron, Dissolved	ND	10	ug/l							
Iron, Total	ND	0.010	mg/l							
Magnesium, Dissolved	ND	0.100	mg/l							
Magnesium, Total	ND	0.100	mg/l							
Manganese, Dissolved	ND	5.0	ug/l							

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Metals by EPA 200 Series Methods - Quality Control

Batch W4A0592 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0592-BLK1)				Analyzed: 01/17/14 09:18						
Manganese, Total	ND	0.0050	mg/l							
Potassium, Dissolved	0.301	0.10	mg/l							B-06
Potassium, Total	0.394	0.10	mg/l							B-06
Silica as SiO2, Dissolved	ND	0.10	mg/l							
Sodium, Dissolved	0.854	0.50	mg/l							B-06
Sodium, Total	ND	0.50	mg/l							
Strontium, Dissolved	ND	2.0	ug/l							
LCS (W4A0592-BS1)				Analyzed: 01/17/14 09:16						
Barium, Dissolved	0.196	0.0020	mg/l	0.200		98	85-115			
Boron, Dissolved	221	10	ug/l	200		110	85-115			
Calcium, Dissolved	50.8	0.100	mg/l	50.2		101	85-115			
Calcium, Total	50.8	0.100	mg/l	50.2		101	85-115			
Iron, Dissolved	192	10	ug/l	200		96	85-115			
Iron, Total	0.192	0.010	mg/l	0.200		96	85-115			
Magnesium, Dissolved	50.4	0.100	mg/l	50.0		101	85-115			
Magnesium, Total	50.4	0.100	mg/l	50.2		100	85-115			
Manganese, Dissolved	192	5.0	ug/l	200		96	85-115			
Manganese, Total	0.192	0.0050	mg/l	0.200		96	85-115			
Potassium, Dissolved	54.2	0.10	mg/l	52.0		104	85-115			
Potassium, Total	54.2	0.10	mg/l	52.0		104	85-115			
Silica as SiO2, Dissolved	45.8	0.10	mg/l	43.2		106	85-115			
Sodium, Dissolved	83.8	0.50	mg/l	82.6		102	85-115			
Sodium, Total	83.8	0.50	mg/l	82.6		102	85-115			
Strontium, Dissolved	993	2.0	ug/l	1000		99	85-115			
Matrix Spike (W4A0592-MS1)	**Source: 4A14064-01**			Analyzed: 01/17/14 09:46						
Calcium, Total	311	0.100	mg/l	50.2	254	113	70-130			
Iron, Total	3.44	0.010	mg/l	0.200	3.16	140	70-130			MS-02
Magnesium, Total	166	0.100	mg/l	50.2	111	110	70-130			
Manganese, Total	0.557	0.0050	mg/l	0.200	0.344	106	70-130			
Potassium, Total	78.0	0.10	mg/l	52.0	18.8	114	70-130			
Sodium, Total	427	0.50	mg/l	82.6	345	99	70-130			
Matrix Spike Dup (W4A0592-MSD1)	**Source: 4A14064-01**			Analyzed: 01/17/14 09:49						
Calcium, Total	305	0.100	mg/l	50.2	254	100	70-130	2	30	
Iron, Total	3.37	0.010	mg/l	0.200	3.16	108	70-130	2	30	
Magnesium, Total	164	0.100	mg/l	50.2	111	106	70-130	1	30	
Manganese, Total	0.548	0.0050	mg/l	0.200	0.344	102	70-130	2	30	
Potassium, Total	76.6	0.10	mg/l	52.0	18.8	111	70-130	2	30	
Sodium, Total	420	0.50	mg/l	82.6	345	92	70-130	2	30	

Batch W4A0619 - EPA 200.8

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0619-BLK1)				Analyzed: 01/20/14 19:31						
Aluminum, Total	ND	5.0	ug/l							

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Batch W4A0619 - EPA 200.8

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0619-BLK1)				Analyzed: 01/20/14 19:31						
Arsenic, Total	ND	0.40	ug/l							
Copper, Total	ND	0.50	ug/l							
Zinc, Total	ND	5.0	ug/l							
LCS (W4A0619-BS1)				Analyzed: 01/20/14 19:23						
Aluminum, Total	55.0	5.0	ug/l	50.0		110	85-115			
Arsenic, Total	52.4	0.40	ug/l	50.0		105	85-115			
Copper, Total	55.0	0.50	ug/l	50.0		110	85-115			
Zinc, Total	55.6	5.0	ug/l	50.0		111	85-115			
Matrix Spike (W4A0619-MS1)	**Source: 4A14003-01**			Analyzed: 01/20/14 19:55						
Aluminum, Total	148	5.0	ug/l	50.0	46.8	203	70-130			MS-02
Arsenic, Total	57.2	0.40	ug/l	50.0	5.11	104	70-130			
Copper, Total	45.6	0.50	ug/l	50.0	3.36	84	70-130			
Zinc, Total	76.9	5.0	ug/l	50.0	30.9	92	70-130			
Matrix Spike Dup (W4A0619-MSD1)	**Source: 4A14003-01**			Analyzed: 01/20/14 20:03						
Aluminum, Total	152	5.0	ug/l	50.0	46.8	210	70-130	2	30	MS-02
Arsenic, Total	56.3	0.40	ug/l	50.0	5.11	102	70-130	2	30	
Copper, Total	45.2	0.50	ug/l	50.0	3.36	84	70-130	0.8	30	
Zinc, Total	75.2	5.0	ug/l	50.0	30.9	89	70-130	2	30	

Batch W4B0893 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4B0893-BLK1)				Analyzed: 02/21/14 10:36						
Lithium, Total	ND	10	ug/l							
LCS (W4B0893-BS1)				Analyzed: 02/21/14 10:38						
Lithium, Total	1060	10	ug/l	1000		106	85-115			
Matrix Spike (W4B0893-MS1)	**Source: 3L09093-01**			Analyzed: 02/21/14 10:48						
Lithium, Total	1210	20	ug/l	1000	91.2	112	70-130			
Matrix Spike Dup (W4B0893-MSD1)	**Source: 3L09093-01**			Analyzed: 02/21/14 10:50						
Lithium, Total	1250	20	ug/l	1000	91.2	116	70-130	3	30	

Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W4A0574 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0574-BLK1)				Analyzed: 01/23/14 03:32						
Alachlor	ND	0.10	ug/l							
Atrazine	ND	0.10	ug/l							
Benzo (a) pyrene	ND	0.10	ug/l							
Bis(2-ethylhexyl)adipate	ND	5.0	ug/l							
Bis(2-ethylhexyl)phthalate	ND	3.0	ug/l							

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Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W4A0574 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0574-BLK1)				Analyzed: 01/23/14 03:32						
Bromacil	ND	0.50	ug/l							
Butachlor	ND	0.10	ug/l							
Captan	ND	1.0	ug/l							
Chloropropham	ND	0.10	ug/l							
Cyanazine	ND	0.10	ug/l							
Diazinon	ND	0.10	ug/l							
Dimethoate	ND	0.20	ug/l							
Diphenamid	ND	0.10	ug/l							
Disulfoton	ND	0.10	ug/l							
EPTC	ND	0.10	ug/l							
Metolachlor	ND	0.10	ug/l							
Metribuzin	ND	0.10	ug/l							
Molinate	ND	0.10	ug/l							
Prometon	ND	0.10	ug/l							
Prometryn	ND	0.10	ug/l							
Simazine	ND	0.10	ug/l							
Terbacil	ND	2.0	ug/l							
Thiobencarb	ND	0.10	ug/l							
Trithion	ND	0.10	ug/l							
Surr: 1,3-Dimethyl-2-nitrobenzene	*5.15*		*ug/l*	*5.00*		*103*	*73-138*			
Surr: Perylene-d12	*4.11*		*ug/l*	*5.00*		*82*	*30-118*			
Surr: Triphenyl phosphate	*5.59*		*ug/l*	*5.00*		*112*	*70-149*			
LCS (W4A0574-BS1)				Analyzed: 01/23/14 03:57						
Alachlor	3.52	0.10	ug/l	5.00		70	55-124			
Atrazine	5.03	0.10	ug/l	5.00		101	67-131			
Benzo (a) pyrene	4.44	0.10	ug/l	5.00		89	40-147			
Bis(2-ethylhexyl)adipate	7.42	5.0	ug/l	5.00		148	71-158			
Bis(2-ethylhexyl)phthalate	7.36	3.0	ug/l	5.00		147	68-154			
Bromacil	3.71	0.50	ug/l	5.00		74	62-139			
Butachlor	3.91	0.10	ug/l	5.00		78	61-127			
Captan	5.69	1.0	ug/l	5.00		114	14-159			
Chloropropham	5.35	0.10	ug/l	5.00		107	77-143			
Cyanazine	5.55	0.10	ug/l	5.00		111	61-129			
Diazinon	3.13	0.10	ug/l	5.00		63	30-120			
Dimethoate	3.52	0.20	ug/l	5.00		70	38-102			
Diphenamid	5.43	0.10	ug/l	5.00		109	77-124			
Disulfoton	4.47	0.10	ug/l	5.00		89	54-156			
EPTC	4.84	0.10	ug/l	5.00		97	82-116			
Metolachlor	3.72	0.10	ug/l	5.00		74	61-123			
Metribuzin	4.01	0.10	ug/l	5.00		80	50-121			
Molinate	4.99	0.10	ug/l	5.00		100	82-117			
Prometon	2.63	0.10	ug/l	5.00		53	17-101			
Prometryn	3.98	0.10	ug/l	5.00		80	57-122			
Simazine	3.54	0.10	ug/l	5.00		71	53-116			

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Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W4A0574 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0574-BS1)				Analyzed: 01/23/14 03:57						
Terbacil	5.14	2.0	ug/l	5.00		103	70-135			
Thiobencarb	3.69	0.10	ug/l	5.00		74	56-125			
Trithion	4.44	0.10	ug/l	5.00		89	60-124			
Surr: 1,3-Dimethyl-2-nitrobenzene	*4.92*		*ug/l*	*5.00*		*98*	*73-138*			
Surr: Perylene-d12	*9.45*		*ug/l*	*5.00*		*189*	*30-118*			*S-11*
Surr: Triphenyl phosphate	*6.75*		*ug/l*	*5.00*		*135*	*70-149*			
LCS Dup (W4A0574-BSD1)				Analyzed: 01/23/14 04:22						
Alachlor	3.76	0.10	ug/l	5.00		75	55-124	7	30	
Atrazine	5.39	0.10	ug/l	5.00		108	67-131	7	30	
Benzo (a) pyrene	4.25	0.10	ug/l	5.00		85	40-147	4	30	
Bis(2-ethylhexyl)adipate	7.00	5.0	ug/l	5.00		140	71-158	6	30	
Bis(2-ethylhexyl)phthalate	6.92	3.0	ug/l	5.00		138	68-154	6	30	
Bromacil	4.13	0.50	ug/l	5.00		83	62-139	11	30	
Butachlor	4.26	0.10	ug/l	5.00		85	61-127	9	30	
Captan	5.70	1.0	ug/l	5.00		114	14-159	0.2	30	
Chloropropham	5.69	0.10	ug/l	5.00		114	77-143	6	30	
Cyanazine	5.83	0.10	ug/l	5.00		117	61-129	5	30	
Diazinon	3.46	0.10	ug/l	5.00		69	30-120	10	30	
Dimethoate	4.04	0.20	ug/l	5.00		81	38-102	14	30	
Diphenamid	5.74	0.10	ug/l	5.00		115	77-124	6	30	
Disulfoton	4.75	0.10	ug/l	5.00		95	54-156	6	30	
EPTC	5.09	0.10	ug/l	5.00		102	82-116	5	30	
Metolachlor	4.15	0.10	ug/l	5.00		83	61-123	11	30	
Metribuzin	4.32	0.10	ug/l	5.00		86	50-121	7	30	
Molinate	5.40	0.10	ug/l	5.00		108	82-117	8	30	
Prometon	2.65	0.10	ug/l	5.00		53	17-101	0.8	30	
Prometryn	4.01	0.10	ug/l	5.00		80	57-122	0.8	30	
Simazine	3.91	0.10	ug/l	5.00		78	53-116	10	30	
Terbacil	5.39	2.0	ug/l	5.00		108	70-135	5	30	
Thiobencarb	3.95	0.10	ug/l	5.00		79	56-125	7	30	
Trithion	4.92	0.10	ug/l	5.00		98	60-124	10	30	
Surr: 1,3-Dimethyl-2-nitrobenzene	*5.10*		*ug/l*	*5.00*		*102*	*73-138*			
Surr: Perylene-d12	*9.13*		*ug/l*	*5.00*		*183*	*30-118*			*S-11*
Surr: Triphenyl phosphate	*6.62*		*ug/l*	*5.00*		*132*	*70-149*			

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0558-BLK1)				Analyzed: 01/15/14 17:33						
1,1,1,2-Tetrachloroethane	ND	0.50	ug/l							
1,1,1-Trichloroethane	ND	0.50	ug/l							

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0558-BLK1)				Analyzed: 01/15/14 17:33						
1,1,2,2-Tetrachloroethane	ND	0.50	ug/l							
1,1,2-Trichloroethane	ND	0.50	ug/l							
1,1-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	0.50	ug/l							
1,2,3-Trichlorobenzene	ND	0.50	ug/l							
1,2,3-Trichloropropane	ND	0.50	ug/l							
1,2,4-Trichlorobenzene	ND	0.50	ug/l							
1,2,4-Trimethylbenzene	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,2-Dichloropropane	ND	0.50	ug/l							
1,3,5-Trimethylbenzene	ND	0.50	ug/l							
1,3-Dichloropropane	ND	0.50	ug/l							
1,3-Dichloropropene, Total	ND	0.50	ug/l							
2,2-Dichloropropane	ND	0.50	ug/l							
2-Butanone	ND	5.0	ug/l							
2-Chloroethyl vinyl ether	ND	1.0	ug/l							
2-Chlorotoluene	ND	0.50	ug/l							
2-Hexanone	ND	5.0	ug/l							
4-Chlorotoluene	ND	0.50	ug/l							
4-Methyl-2-pentanone	ND	5.0	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	0.50	ug/l							
Bromochloromethane	ND	0.50	ug/l							
Bromodichloromethane	ND	0.50	ug/l							
Bromoform	ND	0.50	ug/l							
Bromomethane	ND	0.50	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	0.50	ug/l							
Chloroethane	ND	0.50	ug/l							
Chloroform	ND	0.50	ug/l							
Chloromethane	ND	0.50	ug/l							
cis-1,2-Dichloroethene	ND	0.50	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
Dibromochloromethane	ND	0.50	ug/l							
Dibromomethane	ND	0.50	ug/l							
Dichlorodifluoromethane (Freon 12)	ND	0.50	ug/l							
Di-isopropyl ether	ND	2.0	ug/l							
Ethyl tert-butyl ether	ND	2.0	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Freon 113	ND	5.0	ug/l							
Hexachlorobutadiene	ND	0.50	ug/l							
Isopropylbenzene	ND	0.50	ug/l							
m,p-Xylene	ND	0.50	ug/l							

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W4A0558-BLK1)				Analyzed: 01/15/14 17:33						
m-Dichlorobenzene	ND	0.50	ug/l							
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l							
Methylene chloride	ND	0.50	ug/l							
Naphthalene	ND	0.50	ug/l							
n-Butylbenzene	ND	0.50	ug/l							
n-Propylbenzene	ND	0.50	ug/l							
o-Dichlorobenzene	ND	0.50	ug/l							
o-Xylene	ND	0.50	ug/l							
p-Dichlorobenzene	ND	0.50	ug/l							
p-Isopropyltoluene	ND	0.50	ug/l							
sec-Butylbenzene	ND	0.50	ug/l							
Styrene	ND	0.50	ug/l							
Tert-amyl methyl ether	ND	2.0	ug/l							
tert-Butylbenzene	ND	0.50	ug/l							
Tetrachloroethene	ND	0.50	ug/l							
THMs, Total	ND	2.0	ug/l							
Toluene	ND	0.50	ug/l							
trans-1,2-Dichloroethene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
Trichloroethene	ND	0.50	ug/l							
Trichlorofluoromethane	ND	0.50	ug/l							
Vinyl chloride	ND	0.50	ug/l							
Xylenes, Total	ND	1.0	ug/l							
Surr: 1,2-Dichlorobenzene-d4	*10.1*		*ug/l*	*10.0*		*101*	*70-130*			
Surr: 4-Bromofluorobenzene	*8.88*		*ug/l*	*10.0*		*89*	*70-130*			
LCS (W4A0558-BS1)				Analyzed: 01/15/14 15:18						
1,1,1,2-Tetrachloroethane	5.90	0.50	ug/l	6.00		98	70-130			
1,1,1-Trichloroethane	6.00	0.50	ug/l	6.00		100	70-130			
1,1,2,2-Tetrachloroethane	5.87	0.50	ug/l	6.00		98	70-130			
1,1,2-Trichloroethane	6.19	0.50	ug/l	6.00		103	70-130			
1,1-Dichloroethane	6.07	0.50	ug/l	6.00		101	70-130			
1,1-Dichloroethene	6.33	0.50	ug/l	6.00		106	70-130			
1,1-Dichloropropene	5.49	0.50	ug/l	6.00		92	70-130			
1,2,3-Trichlorobenzene	5.45	0.50	ug/l	6.00		91	70-130			
1,2,3-Trichloropropane	5.78	0.50	ug/l	6.00		96	70-130			
1,2,4-Trichlorobenzene	5.47	0.50	ug/l	6.00		91	70-130			
1,2,4-Trimethylbenzene	6.19	0.50	ug/l	6.00		103	70-130			
1,2-Dichloroethane	5.97	0.50	ug/l	6.00		100	70-130			
1,2-Dichloropropane	5.37	0.50	ug/l	6.00		90	70-130			
1,3,5-Trimethylbenzene	6.52	0.50	ug/l	6.00		109	70-130			
1,3-Dichloropropane	5.43	0.50	ug/l	6.00		90	70-130			
2,2-Dichloropropane	6.32	0.50	ug/l	6.00		105	70-130			
2-Butanone	5.62	5.0	ug/l	6.00		94	70-130			
2-Chloroethyl vinyl ether	5.57	1.0	ug/l	6.00		93	70-130			

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0558-BS1)				Analyzed: 01/15/14 15:18						
2-Chlorotoluene	5.97	0.50	ug/l	6.00		100	70-130			
2-Hexanone	5.72	5.0	ug/l	6.00		95	70-130			
4-Chlorotoluene	5.53	0.50	ug/l	6.00		92	70-130			
4-Methyl-2-pentanone	5.84	5.0	ug/l	6.00		97	70-130			
Benzene	6.49	0.50	ug/l	6.00		108	70-130			
Bromobenzene	6.24	0.50	ug/l	6.00		104	70-130			
Bromochloromethane	6.19	0.50	ug/l	6.00		103	70-130			
Bromodichloromethane	5.62	0.50	ug/l	6.00		94	70-130			
Bromoform	5.38	0.50	ug/l	6.00		90	70-130			
Bromomethane	6.79	0.50	ug/l	6.00		113	70-130			
Carbon tetrachloride	5.87	0.50	ug/l	6.00		98	70-130			
Chlorobenzene	6.42	0.50	ug/l	6.00		107	70-130			
Chloroethane	6.51	0.50	ug/l	6.00		108	70-130			
Chloroform	6.18	0.50	ug/l	6.00		103	70-130			
Chloromethane	6.30	0.50	ug/l	6.00		105	70-130			
cis-1,2-Dichloroethene	6.35	0.50	ug/l	6.00		106	70-130			
cis-1,3-Dichloropropene	5.20	0.50	ug/l	6.00		87	70-130			
Dibromochloromethane	5.63	0.50	ug/l	6.00		94	70-130			
Dibromomethane	5.90	0.50	ug/l	6.00		98	70-130			
Dichlorodifluoromethane (Freon 12)	6.62	0.50	ug/l	6.00		110	70-130			
Di-isopropyl ether	5.82	2.0	ug/l	6.00		97	70-130			
Ethyl tert-butyl ether	6.29	2.0	ug/l	6.00		105	70-130			
Ethylbenzene	6.40	0.50	ug/l	6.00		107	70-130			
Freon 113	6.04	5.0	ug/l	6.00		101	70-130			
Hexachlorobutadiene	6.42	0.50	ug/l	6.00		107	70-130			
Isopropylbenzene	5.77	0.50	ug/l	6.00		96	70-130			
m,p-Xylene	6.36	0.50	ug/l	6.00		106	70-130			
m-Dichlorobenzene	6.40	0.50	ug/l	6.00		107	70-130			
Methyl tert-butyl ether (MTBE)	6.06	2.0	ug/l	6.00		101	70-130			
Methylene chloride	6.11	0.50	ug/l	6.00		102	70-130			
Naphthalene	5.17	0.50	ug/l	6.00		86	70-130			
n-Butylbenzene	5.52	0.50	ug/l	6.00		92	70-130			
n-Propylbenzene	5.78	0.50	ug/l	6.00		96	70-130			
o-Dichlorobenzene	6.15	0.50	ug/l	6.00		102	70-130			
o-Xylene	6.69	0.50	ug/l	6.00		112	70-130			
p-Dichlorobenzene	6.01	0.50	ug/l	6.00		100	70-130			
p-Isopropyltoluene	5.42	0.50	ug/l	6.00		90	70-130			
sec-Butylbenzene	5.20	0.50	ug/l	6.00		87	70-130			
Styrene	6.39	0.50	ug/l	6.00		106	70-130			
Tert-amyl methyl ether	5.86	2.0	ug/l	6.00		98	70-130			
tert-Butylbenzene	5.14	0.50	ug/l	6.00		86	70-130			
Tetrachloroethene	6.31	0.50	ug/l	6.00		105	70-130			
Toluene	6.47	0.50	ug/l	6.00		108	70-130			
trans-1,2-Dichloroethene	6.41	0.50	ug/l	6.00		107	70-130			

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W4A0558-BS1)				Analyzed: 01/15/14 15:18						
trans-1,3-Dichloropropene	5.04	0.50	ug/l	6.00		84	70-130			
Trichloroethene	6.28	0.50	ug/l	6.00		105	70-130			
Trichlorofluoromethane	6.36	0.50	ug/l	6.00		106	70-130			
Vinyl chloride	6.19	0.50	ug/l	6.00		103	70-130			
Surr: 1,2-Dichlorobenzene-d4	*17.1*		*ug/l*	*10.0*		*171*	*70-130*			*S-BS*
Surr: 4-Bromofluorobenzene	*12.1*		*ug/l*	*10.0*		*121*	*70-130*			
LCS Dup (W4A0558-BSD1)				Analyzed: 01/15/14 15:51						
1,1,1,2-Tetrachloroethane	5.74	0.50	ug/l	6.00		96	70-130	3	30	
1,1,1-Trichloroethane	5.77	0.50	ug/l	6.00		96	70-130	4	30	
1,1,2,2-Tetrachloroethane	5.68	0.50	ug/l	6.00		95	70-130	3	30	
1,1,2-Trichloroethane	5.89	0.50	ug/l	6.00		98	70-130	5	30	
1,1-Dichloroethane	5.92	0.50	ug/l	6.00		99	70-130	3	30	
1,1-Dichloroethene	6.27	0.50	ug/l	6.00		104	70-130	1	30	
1,1-Dichloropropene	5.36	0.50	ug/l	6.00		89	70-130	2	30	
1,2,3-Trichlorobenzene	5.37	0.50	ug/l	6.00		90	70-130	1	30	
1,2,3-Trichloropropane	5.35	0.50	ug/l	6.00		89	70-130	8	30	
1,2,4-Trichlorobenzene	5.31	0.50	ug/l	6.00		88	70-130	3	30	
1,2,4-Trimethylbenzene	6.17	0.50	ug/l	6.00		103	70-130	0.3	30	
1,2-Dichloroethane	5.91	0.50	ug/l	6.00		98	70-130	1	30	
1,2-Dichloropropane	5.32	0.50	ug/l	6.00		89	70-130	0.9	30	
1,3,5-Trimethylbenzene	6.13	0.50	ug/l	6.00		102	70-130	6	30	
1,3-Dichloropropane	5.31	0.50	ug/l	6.00		88	70-130	2	30	
2,2-Dichloropropane	6.04	0.50	ug/l	6.00		101	70-130	5	30	
2-Butanone	5.49	5.0	ug/l	6.00		92	70-130	2	30	
2-Chloroethyl vinyl ether	5.40	1.0	ug/l	6.00		90	70-130	3	30	
2-Chlorotoluene	5.46	0.50	ug/l	6.00		91	70-130	9	30	
2-Hexanone	5.65	5.0	ug/l	6.00		94	70-130	1	30	
4-Chlorotoluene	5.32	0.50	ug/l	6.00		89	70-130	4	30	
4-Methyl-2-pentanone	5.84	5.0	ug/l	6.00		97	70-130	NR	30	
Benzene	6.28	0.50	ug/l	6.00		105	70-130	3	30	
Bromobenzene	5.55	0.50	ug/l	6.00		92	70-130	12	30	
Bromochloromethane	6.11	0.50	ug/l	6.00		102	70-130	1	30	
Bromodichloromethane	5.47	0.50	ug/l	6.00		91	70-130	3	30	
Bromoform	5.31	0.50	ug/l	6.00		88	70-130	1	30	
Bromomethane	6.89	0.50	ug/l	6.00		115	70-130	1	30	
Carbon tetrachloride	5.74	0.50	ug/l	6.00		96	70-130	2	30	
Chlorobenzene	6.27	0.50	ug/l	6.00		104	70-130	2	30	
Chloroethane	6.24	0.50	ug/l	6.00		104	70-130	4	30	
Chloroform	5.99	0.50	ug/l	6.00		100	70-130	3	30	
Chloromethane	6.40	0.50	ug/l	6.00		107	70-130	2	30	
cis-1,2-Dichloroethene	6.21	0.50	ug/l	6.00		104	70-130	2	30	
cis-1,3-Dichloropropene	5.12	0.50	ug/l	6.00		85	70-130	2	30	
Dibromochloromethane	5.45	0.50	ug/l	6.00		91	70-130	3	30	
Dibromomethane	5.84	0.50	ug/l	6.00		97	70-130	1	30	

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Date Received: 01/14/14 09:15
Date Reported: 03/06/14 09:25

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W4A0558 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W4A0558-BSD1)				Analyzed: 01/15/14 15:51						
Dichlorodifluoromethane (Freon 12)	6.25	0.50	ug/l	6.00		104	70-130	6	30	
Di-isopropyl ether	5.81	2.0	ug/l	6.00		97	70-130	0.2	30	
Ethyl tert-butyl ether	6.30	2.0	ug/l	6.00		105	70-130	0.2	30	
Ethylbenzene	6.28	0.50	ug/l	6.00		105	70-130	2	30	
Freon 113	5.85	5.0	ug/l	6.00		98	70-130	3	30	
Hexachlorobutadiene	6.16	0.50	ug/l	6.00		103	70-130	4	30	
Isopropylbenzene	5.41	0.50	ug/l	6.00		90	70-130	6	30	
m,p-Xylene	6.18	0.50	ug/l	6.00		103	70-130	3	30	
m-Dichlorobenzene	6.36	0.50	ug/l	6.00		106	70-130	0.6	30	
Methyl tert-butyl ether (MTBE)	6.22	2.0	ug/l	6.00		104	70-130	3	30	
Methylene chloride	5.92	0.50	ug/l	6.00		99	70-130	3	30	
Naphthalene	5.05	0.50	ug/l	6.00		84	70-130	2	30	
n-Butylbenzene	5.41	0.50	ug/l	6.00		90	70-130	2	30	
n-Propylbenzene	5.22	0.50	ug/l	6.00		87	70-130	10	30	
o-Dichlorobenzene	6.01	0.50	ug/l	6.00		100	70-130	2	30	
o-Xylene	6.46	0.50	ug/l	6.00		108	70-130	3	30	
p-Dichlorobenzene	6.08	0.50	ug/l	6.00		101	70-130	1	30	
p-Isopropyltoluene	5.42	0.50	ug/l	6.00		90	70-130	NR	30	
sec-Butylbenzene	5.26	0.50	ug/l	6.00		88	70-130	1	30	
Styrene	6.22	0.50	ug/l	6.00		104	70-130	3	30	
Tert-amyl methyl ether	5.92	2.0	ug/l	6.00		99	70-130	1	30	
tert-Butylbenzene	4.72	0.50	ug/l	6.00		79	70-130	9	30	
Tetrachloroethene	6.15	0.50	ug/l	6.00		102	70-130	3	30	
Toluene	6.29	0.50	ug/l	6.00		105	70-130	3	30	
trans-1,2-Dichloroethene	6.24	0.50	ug/l	6.00		104	70-130	3	30	
trans-1,3-Dichloropropene	4.92	0.50	ug/l	6.00		82	70-130	2	30	
Trichloroethene	6.05	0.50	ug/l	6.00		101	70-130	4	30	
Trichlorofluoromethane	6.16	0.50	ug/l	6.00		103	70-130	3	30	
Vinyl chloride	6.01	0.50	ug/l	6.00		100	70-130	3	30	
Surr: 1,2-Dichlorobenzene-d4	*17.4*		*ug/l*	*10.0*		*174*	*70-130*			*S-BS*
Surr: 4-Bromofluorobenzene	*11.2*		*ug/l*	*10.0*		*112*	*70-130*			

EPA 1613B mod. - Quality Control

Batch 3522182 - EPA 1613B mod.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (3522182-BLK)				Analyzed: 02/26/14 00:00						
2,3,7,8-Tetra CDD	ND	4.2	pg/L			NR	-			S_MAXX
Surr: 37CL4 2378 Tetra CDD	*288*		*pg/L*	*200*		*144*	*40-130*			*A3826, A1, S_MAXX*
Surr: C13-2378 TetraCDD	*274*		*pg/L*	*200*		*137*	*24-164*			*S_MAXX*
LCS (3522182-LCS)				Analyzed: 02/26/14 00:00						

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EPA 1613B mod. - Quality Control

Batch 3522182 - EPA 1613B mod.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (3522182-LCS)				Analyzed: 02/26/14 00:00						
2,3,7,8-Tetra CDD	194	4.2	pg/L	200		97	67-158			S_MAXX
Surr: 37CL4 2378 Tetra CDD	*166*		*pg/L*	*200*		*83*	*40-130*			*S_MAXX*
Surr: C13-2378 TetraCDD	*232*		*pg/L*	*200*		*116*	*24-164*			*S_MAXX*
LCS Dup (3522182-LCS Dup)				Analyzed: 02/26/14 00:00						
2,3,7,8-Tetra CDD	200	4.2	pg/L	200		100	67-158	2.7	25	S_MAXX
Surr: 37CL4 2378 Tetra CDD	*170*		*pg/L*	*200*		*85*	*40-130*			*S_MAXX*
Surr: C13-2378 TetraCDD	*242*		*pg/L*	*200*		*121*	*24-164*			*S_MAXX*

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Notes and Definitions

MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
*	The recommended holding time for this analysis is only 15 minutes. The sample was analyzed as soon as it was possible but it was received and analyzed past holding time.
**	The recommended holding time for field filtering is only 15 minutes. The sample was filtered as soon as possible but it was filtered past holding time. However, the sample was analyzed within holding time.
A-01	Analysis subcontracted to Pace Analytical Services, Inc. NELAP Certificate 04222CA
A1	Exceedence
A3826	Recovery of clean-up spike meets 1613 method criteria range of 42-164%
B-06	This analyte was found in the method blank, which was possibly contaminated during sample preparation. The batch was accepted since this analyte was either not detected or more than 10 times of the blank value for all the samples in the batch.
S_MAXX	[Undefined]
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
S-GC	Surrogate recovery outside of control limits due to a possible matrix effect . The data was accepted based on valid recovery of the remaining surrogate.
O-14	This analysis was requested by the client after the holding time was exceeded.
Q-02	Low recovery of this analyte in the QC sample. The analysis of the low level standard produced acceptable recovery indicating that the sample result might be accurately reported as Not Detected.
Q-R-01	Analyses are not controlled on RPD values from sample concentrations less than the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
S_MAXX	Analysis subcontracted to Maxxam Analytical, Inc. NELAP Certificate 02106A
S-11	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
S-BS	Surrogate recovery outside of control limits for LCS. The data was accepted based on valid recovery of the target analytes.
M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.

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ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

BSK Associates Engineers & Laboratories

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1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3L0508 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 12/6/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Kasanna Coulter, Quality Assurance Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	Accounts Payable
Project #:	Water Quality Analysis-MPWSP	**Project PO#:**	-
Received:	12/06/2013 - 12:43		
Report Due:	12/20/2013		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 3.3

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Detailed Narrative

Report Amendments

Date: 01-14-14

Initials: MSN

This amended report supersedes any previous reports issued by the laboratory. Amendments to this report are as follows: ***Per Andrew Kieta (GeoScience), sample description is amended to read "ML-4 Zone #1".***

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

B2.0	Analyte present in the method blank above the method detection limit (MDL). Laboratory does not determine batch acceptance on detections below the reporting limit (RL).
B2.4	Analyte detected in associated method blank below the reporting limit. Sample concentration exceeds 10x the amount present and is not materially impacted by this condition.
BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
BS3.0	BS/BSD RPD exceeded the acceptance limit. Recovery met acceptance criteria.
DL1.0	Sample required a dilution due to the matrix or high concentration of a non-target analyte.
DP01	Sample Duplicate RPD exceeded the method acceptance limit.
HT1.0	Holding time exceeded. Sample was received at the lab past holding time.
HT1.6	Holding time exceeded. The holding time for this analysis is a recommendation and is not mandated by any state or federal agency.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
MS1.1	Matrix spike recovery exceeds upper control limit. Reported results for parent matrix may be biased high due to matrix interferences.
MS2.1	MS/MSD RPD exceeds control limit. Reportable results in parent sample may have some degree of variability, higher than that inherent in the method.

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt
Sarp Sekeroglu	Final.rpt
Andrew Kieta	final.rpt

Certificate of Analysis

Sample ID: A3L0508-01
Sampled By: Nathan Reynolds
Sample Description: ML-4 Zone #1 (163.5-173.5 ft. bgs)

Sample Date - Time: 12/05/13 - 10:25
Matrix: Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**460**	3.0	mg/L	1	A314523	12/07/13	12/07/13	
Bicarbonate as CaCO3	SM 2320 B	**460**	3.0	mg/L	1	A314523	12/07/13	12/07/13	
Carbonate as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A314523	12/07/13	12/07/13	
Hydroxide as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A314523	12/07/13	12/07/13	
Ammonia as N	SM 4500-NH3 G	**9.5**	0.10	mg/L	1	A314798	12/13/13	12/17/13	
Bromide	EPA 300.1	**43**	1.2	mg/L	250	A314619	12/10/13	12/10/13	
Surrogate: Dichloroacetate	EPA 300.1	112 %	*Acceptable range: 90-115 %*						
Chloride	EPA 300.0	**10000**	200	mg/L	200	A314503	12/06/13	12/06/13	
Color, Apparent	SM 2120 B	**40**	1.0	CU	1	A314478	12/06/13 18:23	12/06/13	
Conductivity @ 25C	SM 2510 B	**29000**	1.0	umhos/cm	1	A314523	12/07/13	12/07/13	
Fluoride	EPA 300.0	ND	10	mg/L	100	A314711	12/12/13	12/12/13	DL1.0
Mass Balance-Anions		**320**		meq/L					
Mass Balance-Dissolved Cations		**340**		meq/L					
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.050	mg/L	1	A314485	12/06/13 15:37	12/06/13	
Nitrate as NO3	EPA 300.0	ND	200	mg/L	200	A314503	12/06/13 15:00	12/06/13	DL1.0
Nitrite as N	EPA 300.0	ND	10	mg/L	200	A314503	12/06/13 15:00	12/06/13	DL1.0
Threshold Odor	SM 2150 B	**1.0**	1.0	T.O.N.	1	A314478	12/06/13 18:23	12/06/13	HT1.0, HT1.6
Orthophosphate as P	SM 4500-P E	**0.12**	0.010	mg/L	1	A314530	12/05/13 18:30	12/05/13	
pH (1)	SM 4500-H+ B	**7.6**		pH Units	1	A314523	12/07/13	12/07/13	
pH Temperature in °C		**21.9**							
Phosphorus - Dissolved (1)	EPA 365.4	ND	0.10	mg/L	1	A314666	12/11/13	12/12/13	
Sulfate as SO4	EPA 300.0	**960**	400	mg/L	200	A314503	12/06/13	12/06/13	
Total Dissolved Solids	SM 2540C	**21000**	5.0	mg/L	1	A314595	12/10/13	12/13/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	**11**	1.0	mg/L	1	A314666	12/11/13	12/17/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A314815	12/13/13	12/13/13	
Turbidity	SM 2130 B	**6.6**	0.10	NTU	1	A314478	12/06/13 18:23	12/06/13	

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	ND	0.050	mg/L	1	A314550	12/09/13	12/10/13	
Arsenic	EPA 200.8	ND	10	ug/L	5	A314550	12/09/13	12/18/13	
Barium - Dissolved (1)	EPA 200.7	**0.084**	0.050	mg/L	1	A314641	12/10/13	12/13/13	
Boron - Dissolved (1)	EPA 200.7	**1.1**	0.10	mg/L	1	A314641	12/10/13	12/13/13	
Calcium	EPA 200.7	**860**	0.10	mg/L	1	A314550	12/09/13	12/10/13	
Calcium - Dissolved (1)	EPA 200.7	**850**	0.10	mg/L	1	A314641	12/10/13	12/13/13	
Copper	EPA 200.8	**37**	25	ug/L	5	A314550	12/09/13	12/18/13	
Hardness as CaCO3	SM 2340B	**6100**	0.41	mg/L					
Iron	EPA 200.7	**1.2**	0.030	mg/L	1	A314550	12/09/13	12/10/13	
Iron - Dissolved (1)	EPA 200.7	ND	0.030	mg/L	1	A314641	12/10/13	12/13/13	
Magnesium	EPA 200.7	**960**	0.10	mg/L	1	A314550	12/09/13	12/10/13	

Certificate of Analysis

Sample ID: A3L0508-01
Sampled By: Nathan Reynolds
Sample Description: ML-4 Zone #1 (163.5-173.5 ft. bgs)

Sample Date - Time: 12/05/13 - 10:25
Matrix: Water
Sample Type: Grab

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Magnesium - Dissolved (1)	EPA 200.7	**970**	0.10	mg/L	1	A314641	12/10/13	12/13/13	
Manganese	EPA 200.7	**6.4**	0.010	mg/L	1	A314550	12/09/13	12/10/13	
Manganese - Dissolved (1)	EPA 200.7	**6.4**	0.010	mg/L	1	A314641	12/10/13	12/13/13	
Potassium - Dissolved (1)	EPA 200.7	**98**	2.0	mg/L	1	A314641	12/10/13	12/13/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**34**	0.20	mg/L	1	A314641	12/10/13	12/13/13	
Sodium - Dissolved (1)	EPA 200.7	**5000**	10	mg/L	10	A314641	12/10/13	12/17/13	
Strontium - Dissolved (1)	EPA 200.8	**8600**	10	ug/L	10	A314641	12/10/13	12/17/13	
Zinc	EPA 200.7	ND	0.050	mg/L	1	A314550	12/09/13	12/10/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A314630	12/11/13	12/13/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A314630	12/11/13	12/13/13	
Surrogate: TCMX	EPA 504.1	80 %	*Acceptable range: 70-130 %*						
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A314630	12/11/13	12/13/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A314630	12/11/13	12/13/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A314630	12/11/13	12/13/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A314630	12/11/13	12/13/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A314630	12/11/13	12/13/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A314630	12/11/13	12/13/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A314630	12/11/13	12/13/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A314630	12/11/13	12/13/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A314630	12/11/13	12/13/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A314630	12/11/13	12/13/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A314630	12/11/13	12/13/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A314630	12/11/13	12/13/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A314630	12/11/13	12/13/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A314630	12/11/13	12/13/13	
Surrogate: TCMX	EPA 505	80 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A314761	12/15/13	12/17/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A314761	12/15/13	12/17/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A314761	12/15/13	12/17/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A314761	12/15/13	12/17/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A314761	12/15/13	12/17/13	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A314761	12/15/13	12/17/13	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A314761	12/15/13	12/17/13	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A314761	12/15/13	12/17/13	

Certificate of Analysis

Sample ID: A3L0508-01
Sampled By: Nathan Reynolds
Sample Description: ML-4 Zone #1 (163.5-173.5 ft. bgs)

Sample Date - Time: 12/05/13 - 10:25
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Picloram	EPA 515.3	ND	1.0	ug/L	1	A314761	12/15/13	12/17/13	
Surrogate: DCPAA	EPA 515.3	81 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A314729	12/12/13	12/12/13	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A314729	12/12/13	12/12/13	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A314729	12/12/13	12/12/13	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A314729	12/12/13	12/12/13	BS1.0
Acetone	EPA 524.2	ND	10	ug/L	1	A314729	12/12/13	12/12/13	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	

Certificate of Analysis

Sample ID: A3L0508-01
Sampled By: Nathan Reynolds
Sample Description: ML-4 Zone #1 (163.5-173.5 ft. bgs)

Sample Date - Time: 12/05/13 - 10:25
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A314729	12/12/13	12/12/13	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A314729	12/12/13	12/12/13	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A314729	12/12/13	12/12/13	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A314729	12/12/13	12/12/13	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A314729	12/12/13	12/12/13	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	96 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	102 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A314794	12/13/13	12/14/13	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A314794	12/13/13	12/14/13	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A314794	12/13/13	12/14/13	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A314794	12/13/13	12/14/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A314794	12/13/13	12/14/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A314794	12/13/13	12/14/13	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A314794	12/13/13	12/14/13	

Certificate of Analysis

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Sampled By: Nathan Reynolds
Sample Description: ML-4 Zone #1 (163.5-173.5 ft. bgs)

Sample Date - Time: 12/05/13 - 10:25
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Semi-Volatile Organics by GC-MS									
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A314794	12/13/13	12/14/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A314794	12/13/13	12/14/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A314794	12/13/13	12/14/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A314794	12/13/13	12/14/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A314794	12/13/13	12/14/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A314794	12/13/13	12/14/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A314794	12/13/13	12/14/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A314794	12/13/13	12/14/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	100 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A314582	12/09/13	12/10/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A314582	12/09/13	12/10/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A314582	12/09/13	12/10/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A314582	12/09/13	12/10/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A314582	12/09/13	12/10/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A314582	12/09/13	12/10/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A314582	12/09/13	12/10/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A314582	12/09/13	12/10/13	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A314544	12/09/13	12/09/13	
Surrogate: AMPA	EPA 547	94 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A314594	12/09/13	12/11/13	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A314617	12/10/13	12/16/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A314503										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: EMH	
Blank (A314503-BLK1)											
Chloride	ND	1.0	mg/L							12/06/13	
Nitrate as NO3	ND	1.0	mg/L							12/06/13	
Nitrite as N	ND	0.050	mg/L							12/06/13	
Sulfate as SO4	ND	2.0	mg/L							12/06/13	
Blank Spike (A314503-BS1)											
Chloride	49	1.0	mg/L	50		99	90-110			12/06/13	
Nitrate as NO3	50	1.0	mg/L	50		100	90-110			12/06/13	
Nitrite as N	0.50	0.050	mg/L	0.50		100	90-110			12/06/13	
Sulfate as SO4	50	2.0	mg/L	50		100	90-110			12/06/13	
Blank Spike Dup (A314503-BSD1)											
Chloride	49	1.0	mg/L	50		99	90-110	0	20	12/06/13	
Nitrate as NO3	50	1.0	mg/L	50		100	90-110	0	20	12/06/13	
Nitrite as N	0.50	0.050	mg/L	0.50		100	90-110	0	20	12/06/13	
Sulfate as SO4	49	2.0	mg/L	50		99	90-110	1	20	12/06/13	
Matrix Spike (A314503-MS1), Source: A3L0485-01											
Chloride	120	2.0	mg/L	100	18	98	80-120			12/06/13	
Nitrate as NO3	120	2.0	mg/L	100	21	101	80-120			12/06/13	
Nitrite as N	0.97	0.10	mg/L	1.0	ND	97	80-120			12/06/13	
Sulfate as SO4	140	4.0	mg/L	100	40	97	80-120			12/06/13	
Matrix Spike (A314503-MS2), Source: A3L0511-01											
Chloride	100	2.0	mg/L	100	5.9	98	80-120			12/06/13	
Nitrate as NO3	100	2.0	mg/L	100	4.6	100	80-120			12/06/13	
Nitrite as N	0.99	0.10	mg/L	1.0	ND	99	80-120			12/06/13	
Sulfate as SO4	110	4.0	mg/L	100	6.7	99	80-120			12/06/13	
Matrix Spike Dup (A314503-MSD1), Source: A3L0485-01											
Chloride	120	2.0	mg/L	100	18	99	80-120	1	20	12/06/13	
Nitrate as NO3	120	2.0	mg/L	100	21	100	80-120	1	20	12/06/13	
Nitrite as N	0.97	0.10	mg/L	1.0	ND	97	80-120	0	20	12/06/13	
Sulfate as SO4	140	4.0	mg/L	100	40	99	80-120	1	20	12/06/13	
Matrix Spike Dup (A314503-MSD2), Source: A3L0511-01											
Chloride	100	2.0	mg/L	100	5.9	99	80-120	0	20	12/06/13	
Nitrate as NO3	110	2.0	mg/L	100	4.6	100	80-120	0	20	12/06/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	101	80-120	2	20	12/06/13	
Sulfate as SO4	110	4.0	mg/L	100	6.7	99	80-120	0	20	12/06/13	
EPA 300.0 - Quality Control											
Batch: A314711										Prepared: 12/11/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314711-BLK1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A314711										Prepared: 12/11/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314711-BLK1)											
Fluoride	ND	0.10	mg/L							12/11/13	
Blank Spike (A314711-BS1)											
Fluoride	0.51	0.10	mg/L	0.50		102	90-110			12/11/13	
Blank Spike Dup (A314711-BSD1)											
Fluoride	0.51	0.10	mg/L	0.50		101	90-110	1	10	12/11/13	
Matrix Spike (A314711-MS1), Source: A3L0459-06											
Fluoride	1.2	0.20	mg/L	1.0	0.23	100	80-120			12/12/13	
Matrix Spike (A314711-MS2), Source: A3L0518-04											
Fluoride	1.4	0.20	mg/L	1.0	0.37	99	80-120			12/12/13	
Matrix Spike Dup (A314711-MSD1), Source: A3L0459-06											
Fluoride	1.2	0.20	mg/L	1.0	0.23	102	80-120	2	10	12/12/13	
Matrix Spike Dup (A314711-MSD2), Source: A3L0518-04											
Fluoride	1.4	0.20	mg/L	1.0	0.37	101	80-120	2	10	12/12/13	
EPA 300.1 - Quality Control											
Batch: A314619										Prepared: 12/10/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314619-BLK1)											
Bromide	ND	0.0050	mg/L							12/10/13	
Surrogate: Dichloroacetate	*0.552*			*0.50*		*110*	*90-115*			12/10/13	
Blank Spike (A314619-BS1)											
Bromide	0.20	0.0050	mg/L	0.20		100	85-115			12/10/13	
Surrogate: Dichloroacetate	*0.507*			*0.50*		*101*	*90-115*			12/10/13	
Blank Spike Dup (A314619-BSD1)											
Bromide	0.20	0.0050	mg/L	0.20		100	85-115	0	10	12/10/13	
Surrogate: Dichloroacetate	*0.512*			*0.50*		*102*	*90-115*			12/10/13	
Matrix Spike (A314619-MS1), Source: A3L0575-02											
Bromide	0.23	0.010	mg/L	0.20	0.030	98	75-125			12/10/13	
Surrogate: Dichloroacetate	*1.07*			*1.0*		*107*	*90-115*			12/10/13	
Matrix Spike (A314619-MS2), Source: A3L0659-05											
Bromide	0.24	0.010	mg/L	0.20	0.041	99	75-125			12/10/13	
Surrogate: Dichloroacetate	*1.05*			*1.0*		*105*	*90-115*			12/10/13	
Matrix Spike Dup (A314619-MSD1), Source: A3L0575-02											
Bromide	0.23	0.010	mg/L	0.20	0.030	99	75-125	1	10	12/10/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.1 - Quality Control											
Batch: A314619										Prepared: 12/10/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Matrix Spike Dup (A314619-MSD1), Source: A3L0575-02											
Surrogate: Dichloroacetate	*1.11*			*1.0*		*111*	*90-115*			12/10/13	
Matrix Spike Dup (A314619-MSD2), Source: A3L0659-05											
Bromide	0.24	0.010	mg/L	0.20	0.041	100	75-125	0	10	12/10/13	
Surrogate: Dichloroacetate	*1.12*			*1.0*		*112*	*90-115*			12/10/13	
EPA 351.2 - Quality Control											
Batch: A314666										Prepared: 12/11/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A314666-BLK2)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							12/17/13	
Blank Spike (A314666-BS2)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		102	90-110			12/17/13	
Blank Spike Dup (A314666-BSD2)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		102	90-110	0	10	12/17/13	
Matrix Spike (A314666-MS2), Source: A3L0544-09											
Total Kjeldahl Nitrogen - Dissolved (1)	8.1	1.0	mg/L	10	ND	81	90-110			12/17/13	MS1.0 ***Low***
Matrix Spike (A314666-MS3), Source: A3L0659-05											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10	ND	101	90-110			12/17/13	
Matrix Spike Dup (A314666-MSD2), Source: A3L0544-09											
Total Kjeldahl Nitrogen - Dissolved (1)	9.5	1.0	mg/L	10	ND	95	90-110	17	10	12/17/13	MS2.1
Matrix Spike Dup (A314666-MSD3), Source: A3L0659-05											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10	ND	100	90-110	2	10	12/17/13	
EPA 365.4 - Quality Control											
Batch: A314666										Prepared: 12/11/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A314666-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							12/12/13	
Blank Spike (A314666-BS1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		101	90-110			12/12/13	
Blank Spike Dup (A314666-BSD1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		103	90-110	2	10	12/12/13	
Matrix Spike (A314666-MS1), Source: A3L0659-05											
Phosphorus - Dissolved (1)	9.7	0.10	mg/L	10	ND	97	90-110			12/12/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 365.4 - Quality Control											
Batch: A314666										Prepared: 12/11/2013	
Prep Method: Digestion										Analyst: KKC	
Matrix Spike Dup (A314666-MSD1), Source: A3L0659-05											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10	ND	94	90-110	3	10	12/12/13	
SM 2120 B - Quality Control											
Batch: A314478										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314478-BLK1)											
Color, Apparent	ND	1.0	CU							12/06/13	
Duplicate (A314478-DUP1), Source: A3L0440-01											
Color, Apparent	ND	1.0	CU		ND				20	12/06/13	
Duplicate (A314478-DUP2), Source: A3L0508-01											
Color, Apparent	40	1.0	CU		40			0	20	12/06/13	
SM 2130 B - Quality Control											
Batch: A314478										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314478-BLK1)											
Turbidity	ND	0.10	NTU							12/06/13	
Duplicate (A314478-DUP1), Source: A3L0440-01											
Turbidity	ND	0.10	NTU		ND				20	12/06/13	DP01
Duplicate (A314478-DUP2), Source: A3L0508-01											
Turbidity	6.6	0.10	NTU		6.6			1	20	12/06/13	
SM 2150 B - Quality Control											
Batch: A314478										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314478-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							12/06/13	
Duplicate (A314478-DUP1), Source: A3L0440-01											
Threshold Odor	ND	1.0	T.O.N.		ND				20	12/06/13	
Duplicate (A314478-DUP2), Source: A3L0508-01											
Threshold Odor	1.0	1.0	T.O.N.		1.0			0	20	12/06/13	
SM 2320 B - Quality Control											
Batch: A314523										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2320 B - Quality Control											
Batch: A314523										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314523-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							12/06/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							12/06/13	
Carbonate as CaCO3	ND	3.0	mg/L							12/06/13	
Hydroxide as CaCO3	ND	3.0	mg/L							12/06/13	
Blank Spike (A314523-BS1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		103	80-120			12/06/13	
Blank Spike Dup (A314523-BSD1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		102	80-120	1	20	12/06/13	
Duplicate (A314523-DUP1), Source: A3L0563-03											
Alkalinity as CaCO3	23	3.0	mg/L		25			9	10	12/07/13	
Bicarbonate as CaCO3	23	3.0	mg/L		25			9	10	12/07/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	12/07/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	12/07/13	
Duplicate (A314523-DUP2), Source: A3L0508-01											
Alkalinity as CaCO3	460	3.0	mg/L		460			0	10	12/07/13	
Bicarbonate as CaCO3	460	3.0	mg/L		460			0	10	12/07/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	12/07/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	12/07/13	
SM 2510 B - Quality Control											
Batch: A314523										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314523-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							12/06/13	
Duplicate (A314523-DUP1), Source: A3L0563-03											
Conductivity @ 25C	530	1.0	umhos/cm		530			0	20	12/07/13	
Duplicate (A314523-DUP2), Source: A3L0508-01											
Conductivity @ 25C	28000	1.0	umhos/cm		29000			1	20	12/07/13	
SM 2540C - Quality Control											
Batch: A314595										Prepared: 12/10/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A314595-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							12/13/13	
Blank Spike (A314595-BS1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2540C - Quality Control											
Batch: A314595										Prepared: 12/10/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank Spike (A314595-BS1)											
Total Dissolved Solids	990	5.0	mg/L	1000		99	70-130			12/13/13	
Duplicate (A314595-DUP1), Source: A3L0444-02											
Total Dissolved Solids	570	5.0	mg/L		570			0	20	12/13/13	
SM 4500-H+ B - Quality Control											
Batch: A314523										Prepared: 12/7/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A314523-DUP1), Source: A3L0563-03											
pH (1)	7.2		pH Units		7.1			0	20	12/07/13	
Duplicate (A314523-DUP2), Source: A3L0508-01											
pH (1)	7.6		pH Units		7.6			0	20	12/07/13	
SM 4500-NH3 G - Quality Control											
Batch: A314798										Prepared: 12/13/2013	
Prep Method: Ammonia Distillation										Analyst: KKC	
Blank (A314798-BLK1)											
Ammonia as N	ND	0.10	mg/L							12/17/13	B2.0
Blank Spike (A314798-BS1)											
Ammonia as N	9.6	0.10	mg/L	10		96	80-120			12/17/13	
Blank Spike Dup (A314798-BSD1)											
Ammonia as N	9.8	0.10	mg/L	10		98	80-120	2	20	12/17/13	
Matrix Spike (A314798-MS1), Source: A3L0458-01											
Ammonia as N	10	0.10	mg/L	10	0.50	97	80-120			12/17/13	
Matrix Spike (A314798-MS2), Source: A3L0499-05											
Ammonia as N	8.6	0.10	mg/L	10	0.17	85	80-120			12/17/13	
Matrix Spike Dup (A314798-MSD1), Source: A3L0458-01											
Ammonia as N	10	0.10	mg/L	10	0.50	98	80-120	1	20	12/17/13	
Matrix Spike Dup (A314798-MSD2), Source: A3L0499-05											
Ammonia as N	9.7	0.10	mg/L	10	0.17	95	80-120	11	20	12/17/13	
SM 4500-NO3 F - Quality Control											
Batch: A314815										Prepared: 12/13/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314815-BLK1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							12/13/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NO3 F - Quality Control											
Batch: A314815										Prepared: 12/13/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank Spike (A314815-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		101	80-120			12/13/13	
Blank Spike Dup (A314815-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		100	80-120	0	20	12/13/13	
Matrix Spike (A314815-MS1), Source: A3L0545-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	8.9	0.10	mg/L	10	1.5	73	80-120			12/13/13	MS1.0 ***Low***
Matrix Spike (A314815-MS2), Source: A3L0508-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.3	0.10	mg/L	10	ND	92	80-120			12/13/13	
Matrix Spike Dup (A314815-MSD1), Source: A3L0545-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	8.9	0.10	mg/L	10	1.5	74	80-120	1	20	12/13/13	MS1.0 ***Low***
Matrix Spike Dup (A314815-MSD2), Source: A3L0508-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.4	0.10	mg/L	10	ND	93	80-120	1	20	12/13/13	
SM 4500-P E - Quality Control											
Batch: A314530										Prepared: 12/5/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314530-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							12/05/13	
Blank Spike (A314530-BS1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		100	90-110			12/05/13	
Blank Spike Dup (A314530-BSD1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		101	90-110	0	20	12/05/13	
Matrix Spike (A314530-MS1), Source: A3L0508-01											
Orthophosphate as P	0.62	0.020	mg/L	0.50	0.12	99	80-120			12/05/13	
Matrix Spike Dup (A314530-MSD1), Source: A3L0508-01											
Orthophosphate as P	0.61	0.020	mg/L	0.50	0.12	98	80-120	1	20	12/05/13	
SM 5540 C - Quality Control											
Batch: A314485										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A314485-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							12/06/13	
Blank Spike (A314485-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.92	0.050	mg/L	1.0		92	80-120			12/06/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 5540 C - Quality Control											
Batch: A314485										Prepared: 12/6/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank Spike Dup (A314485-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.93	0.050	mg/L	1.0		93	80-120	2	20	12/06/13	
Matrix Spike (A314485-MS1), Source: A3L0459-06											
MBAS, Calculated as LAS, mol wt 340	0.99	0.050	mg/L	1.0	ND	99	80-120			12/06/13	
Matrix Spike Dup (A314485-MSD1), Source: A3L0459-06											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	103	80-120	4	20	12/06/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314550										Prepared: 12/9/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A314550-BLK2)											
Aluminum	ND	0.050	mg/L							12/10/13	
Calcium	ND	0.10	mg/L							12/10/13	
Iron	ND	0.030	mg/L							12/10/13	
Magnesium	ND	0.10	mg/L							12/10/13	
Manganese	ND	0.010	mg/L							12/10/13	
Zinc	ND	0.050	mg/L							12/10/13	
Blank Spike (A314550-BS2)											
Aluminum	0.20	0.050	mg/L	0.20		99	85-115			12/10/13	
Calcium	10	0.10	mg/L	10		104	85-115			12/10/13	
Iron	2.0	0.030	mg/L	2.0		101	85-115			12/10/13	
Magnesium	9.9	0.10	mg/L	10		99	85-115			12/10/13	
Manganese	0.20	0.010	mg/L	0.20		102	85-115			12/10/13	
Zinc	0.22	0.050	mg/L	0.20		108	85-115			12/10/13	
Blank Spike Dup (A314550-BSD2)											
Aluminum	0.21	0.050	mg/L	0.20		106	85-115	7	20	12/10/13	
Calcium	11	0.10	mg/L	10		108	85-115	3	20	12/10/13	
Iron	2.1	0.030	mg/L	2.0		104	85-115	2	20	12/10/13	
Magnesium	10	0.10	mg/L	10		101	85-115	3	20	12/10/13	
Manganese	0.21	0.010	mg/L	0.20		104	85-115	2	20	12/10/13	
Zinc	0.22	0.050	mg/L	0.20		111	85-115	2	20	12/10/13	
Matrix Spike (A314550-MS3), Source: A3L0454-01											
Aluminum	0.43	0.050	mg/L	0.20	0.19	122	70-130			12/10/13	
Calcium	13	0.10	mg/L	10	2.7	104	70-130			12/10/13	
Iron	2.3	0.030	mg/L	2.0	0.21	104	70-130			12/10/13	
Magnesium	11	0.10	mg/L	10	0.52	100	70-130			12/10/13	
Manganese	0.22	0.010	mg/L	0.20	0.013	103	70-130			12/10/13	
Zinc	0.23	0.050	mg/L	0.20	ND	113	70-130			12/10/13	
Matrix Spike (A314550-MS4), Source: A3L0456-02											
Aluminum	0.28	0.050	mg/L	0.20	0.072	105	70-130			12/10/13	
Calcium	49	0.10	mg/L	10	37	116	70-130			12/10/13	
Iron	2.3	0.030	mg/L	2.0	0.17	104	70-130			12/10/13	
Magnesium	14	0.10	mg/L	10	3.8	102	70-130			12/10/13	
Manganese	0.25	0.010	mg/L	0.20	0.045	104	70-130			12/10/13	
Zinc	0.69	0.050	mg/L	0.20	0.45	116	70-130			12/10/13	
Matrix Spike Dup (A314550-MSD3), Source: A3L0454-01											
Aluminum	0.43	0.050	mg/L	0.20	0.19	118	70-130	2	20	12/10/13	
Calcium	13	0.10	mg/L	10	2.7	104	70-130	0	20	12/10/13	
Iron	2.3	0.030	mg/L	2.0	0.21	104	70-130	0	20	12/10/13	
Magnesium	11	0.10	mg/L	10	0.52	100	70-130	0	20	12/10/13	
Manganese	0.22	0.010	mg/L	0.20	0.013	103	70-130	0	20	12/10/13	
Zinc	0.22	0.050	mg/L	0.20	ND	112	70-130	0	20	12/10/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314550										Prepared: 12/9/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Matrix Spike Dup (A314550-MSD4), Source: A3L0456-02											
Aluminum	0.28	0.050	mg/L	0.20	0.072	102	70-130	2	20	12/10/13	
Calcium	49	0.10	mg/L	10	37	112	70-130	1	20	12/10/13	
Iron	2.2	0.030	mg/L	2.0	0.17	102	70-130	2	20	12/10/13	
Magnesium	14	0.10	mg/L	10	3.8	101	70-130	1	20	12/10/13	
Manganese	0.25	0.010	mg/L	0.20	0.045	101	70-130	3	20	12/10/13	
Zinc	0.74	0.050	mg/L	0.20	0.45	142	70-130	7	20	12/10/13	MS1.1 ***High***
EPA 200.7 - Quality Control											
Batch: A314641										Prepared: 12/10/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A314641-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							12/13/13	
Boron - Dissolved (1)	ND	0.10	mg/L							12/13/13	
Calcium - Dissolved (1)	ND	0.10	mg/L							12/13/13	B2.4
Iron - Dissolved (1)	ND	0.030	mg/L							12/13/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							12/13/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							12/13/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							12/13/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							12/13/13	
Sodium - Dissolved (1)	ND	1.0	mg/L							12/13/13	
Blank Spike (A314641-BS2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115			12/13/13	
Boron - Dissolved (1)	0.59	0.10	mg/L	0.60		99	85-115			12/13/13	
Calcium - Dissolved (1)	10	0.10	mg/L	10		102	85-115			12/13/13	
Iron - Dissolved (1)	1.9	0.030	mg/L	2.0		97	85-115			12/13/13	
Magnesium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115			12/13/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		99	85-115			12/13/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10		100	85-115			12/13/13	
Silica (SiO2) - Dissolved (1)	2.1	0.20	mg/L	2.1		97	85-115			12/13/13	
Sodium - Dissolved (1)	9.8	1.0	mg/L	10		98	85-115			12/13/13	
Blank Spike Dup (A314641-BSD2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115	0	20	12/13/13	
Boron - Dissolved (1)	0.60	0.10	mg/L	0.60		101	85-115	2	20	12/13/13	
Calcium - Dissolved (1)	10	0.10	mg/L	10		103	85-115	1	20	12/13/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		98	85-115	1	20	12/13/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10		100	85-115	2	20	12/13/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		99	85-115	1	20	12/13/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10		101	85-115	1	20	12/13/13	
Silica (SiO2) - Dissolved (1)	2.1	0.20	mg/L	2.1		99	85-115	2	20	12/13/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		100	85-115	1	20	12/13/13	
Matrix Spike (A314641-MS3), Source: A3L0544-01											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20	ND	105	70-130			12/13/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314641										Prepared: 12/10/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Matrix Spike (A314641-MS3), Source: A3L0544-01											
Boron - Dissolved (1)	0.62	0.10	mg/L	0.60	ND	103	70-130			12/13/13	
Calcium - Dissolved (1)	17	0.10	mg/L	10	6.5	103	70-130			12/13/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	0.053	100	70-130			12/13/13	
Magnesium - Dissolved (1)	12	0.10	mg/L	10	2.1	100	70-130			12/13/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20	ND	102	70-130			12/13/13	
Potassium - Dissolved (1)	11	2.0	mg/L	10	ND	102	70-130			12/13/13	
Silica (SiO2) - Dissolved (1)	18	0.20	mg/L	2.1	16	105	70-130			12/13/13	
Sodium - Dissolved (1)	13	1.0	mg/L	10	3.3	100	70-130			12/13/13	
Matrix Spike (A314641-MS4), Source: A3L0544-03											
Barium - Dissolved (1)	0.23	0.050	mg/L	0.20	ND	102	70-130			12/13/13	
Boron - Dissolved (1)	0.64	0.10	mg/L	0.60	ND	106	70-130			12/13/13	
Calcium - Dissolved (1)	45	0.10	mg/L	10	35	102	70-130			12/13/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.098	99	70-130			12/13/13	
Magnesium - Dissolved (1)	23	0.10	mg/L	10	13	100	70-130			12/13/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20	ND	100	70-130			12/13/13	
Potassium - Dissolved (1)	13	2.0	mg/L	10	2.7	101	70-130			12/13/13	
Silica (SiO2) - Dissolved (1)	42	0.20	mg/L	2.1	40	102	70-130			12/13/13	
Sodium - Dissolved (1)	18	1.0	mg/L	10	8.5	98	70-130			12/13/13	
Matrix Spike Dup (A314641-MSD3), Source: A3L0544-01											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20	ND	101	70-130	3	20	12/13/13	
Boron - Dissolved (1)	0.61	0.10	mg/L	0.60	ND	101	70-130	2	20	12/13/13	
Calcium - Dissolved (1)	17	0.10	mg/L	10	6.5	103	70-130	0	20	12/13/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0	0.053	98	70-130	2	20	12/13/13	
Magnesium - Dissolved (1)	12	0.10	mg/L	10	2.1	100	70-130	0	20	12/13/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20	ND	100	70-130	2	20	12/13/13	
Potassium - Dissolved (1)	11	2.0	mg/L	10	ND	101	70-130	1	20	12/13/13	
Silica (SiO2) - Dissolved (1)	18	0.20	mg/L	2.1	16	112	70-130	1	20	12/13/13	
Sodium - Dissolved (1)	13	1.0	mg/L	10	3.3	99	70-130	1	20	12/13/13	
Matrix Spike Dup (A314641-MSD4), Source: A3L0544-03											
Barium - Dissolved (1)	0.23	0.050	mg/L	0.20	ND	101	70-130	1	20	12/13/13	
Boron - Dissolved (1)	0.64	0.10	mg/L	0.60	ND	107	70-130	1	20	12/13/13	
Calcium - Dissolved (1)	45	0.10	mg/L	10	35	96	70-130	1	20	12/13/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.098	99	70-130	0	20	12/13/13	
Magnesium - Dissolved (1)	23	0.10	mg/L	10	13	98	70-130	1	20	12/13/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20	ND	101	70-130	0	20	12/13/13	
Potassium - Dissolved (1)	13	2.0	mg/L	10	2.7	100	70-130	0	20	12/13/13	
Silica (SiO2) - Dissolved (1)	41	0.20	mg/L	2.1	40	76	70-130	1	20	12/13/13	
Sodium - Dissolved (1)	18	1.0	mg/L	10	8.5	96	70-130	1	20	12/13/13	
EPA 200.8 - Quality Control											
Batch: A314550										Prepared: 12/9/2013	
Prep Method: EPA 200.2										Analyst: MAS	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A314550										Prepared: 12/9/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Blank (A314550-BLK1)											
Arsenic	ND	2.0	ug/L							12/17/13	
Copper	ND	5.0	ug/L							12/17/13	
Blank Spike (A314550-BS1)											
Arsenic	200	2.0	ug/L	200		101	85-115			12/17/13	
Copper	200	5.0	ug/L	200		98	85-115			12/17/13	
Blank Spike Dup (A314550-BSD1)											
Arsenic	200	2.0	ug/L	200		102	85-115	1	20	12/17/13	
Copper	200	5.0	ug/L	200		99	85-115	1	20	12/17/13	
Matrix Spike (A314550-MS1), Source: A3L0454-01											
Arsenic	200	2.0	ug/L	200	ND	99	70-130			12/17/13	
Copper	190	5.0	ug/L	200	ND	96	70-130			12/17/13	
Matrix Spike (A314550-MS2), Source: A3L0456-02											
Arsenic	210	2.0	ug/L	200	5.9	101	70-130			12/17/13	
Copper	200	5.0	ug/L	200	10	94	70-130			12/17/13	
Matrix Spike Dup (A314550-MSD1), Source: A3L0454-01											
Arsenic	200	2.0	ug/L	200	ND	98	70-130	0	20	12/17/13	
Copper	200	5.0	ug/L	200	ND	98	70-130	2	20	12/17/13	
Matrix Spike Dup (A314550-MSD2), Source: A3L0456-02											
Arsenic	200	2.0	ug/L	200	5.9	98	70-130	3	20	12/17/13	
Copper	200	5.0	ug/L	200	10	93	70-130	1	20	12/17/13	
EPA 200.8 - Quality Control											
Batch: A314641										Prepared: 12/10/2013	
Prep Method: Filtration - Metals										Analyst: MAS	
Blank (A314641-BLK1)											
Strontium - Dissolved (1)	ND	1.0	ug/L							12/17/13	
Blank Spike (A314641-BS1)											
Strontium - Dissolved (1)	210	1.0	ug/L	200		103	85-115			12/17/13	
Blank Spike Dup (A314641-BSD1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		101	85-115	2	20	12/17/13	
Matrix Spike (A314641-MS1), Source: A3L0544-01											
Strontium - Dissolved (1)	260	1.0	ug/L	200	59	102	70-130			12/17/13	
Matrix Spike Dup (A314641-MSD1), Source: A3L0544-01											
Strontium - Dissolved (1)	250	1.0	ug/L	200	59	98	70-130	3	20	12/17/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A314630										Prepared: 12/10/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A314630-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							12/12/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							12/12/13	
Surrogate: TCMX	*4.5*			*4.5*		*102*	*70-130*			12/12/13	
Blank Spike (A314630-BS1)											
Dibromochloropropane (DBCP)	0.19	0.010	ug/L	0.20		94	70-130			12/12/13	
Ethylene Dibromide (EDB)	0.17	0.020	ug/L	0.20		87	70-130			12/12/13	
Surrogate: TCMX	*4.1*			*4.5*		*93*	*70-130*			12/12/13	
Blank Spike Dup (A314630-BSD1)											
Dibromochloropropane (DBCP)	0.19	0.010	ug/L	0.20		97	70-130	3	20	12/12/13	
Ethylene Dibromide (EDB)	0.18	0.020	ug/L	0.20		89	70-130	2	20	12/12/13	
Surrogate: TCMX	*4.2*			*4.5*		*94*	*70-130*			12/12/13	
Matrix Spike (A314630-MS1), Source: A3L0420-01											
Dibromochloropropane (DBCP)	0.36	0.010	ug/L	0.21	0.18	88	65-135			12/12/13	
Ethylene Dibromide (EDB)	0.20	0.020	ug/L	0.21	ND	96	65-135			12/12/13	
Surrogate: TCMX	*4.5*			*4.6*		*98*	*70-130*			12/12/13	
Matrix Spike Dup (A314630-MSD1), Source: A3L0420-01											
Dibromochloropropane (DBCP)	0.41	0.010	ug/L	0.21	0.18	114	65-135	14	20	12/12/13	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.21	ND	99	65-135	3	20	12/12/13	
Surrogate: TCMX	*4.8*			*4.6*		*105*	*70-130*			12/12/13	
EPA 505 - Quality Control											
Batch: A314630										Prepared: 12/10/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A314630-BLK1)											
Aldrin	ND	0.075	ug/L							12/12/13	
Chlordane	ND	0.10	ug/L							12/12/13	
Chlorothalonil	ND	5.0	ug/L							12/12/13	
Dieldrin	ND	0.020	ug/L							12/12/13	
Endrin	ND	0.10	ug/L							12/12/13	
Heptachlor	ND	0.010	ug/L							12/12/13	
Heptachlor Epoxide	ND	0.010	ug/L							12/12/13	
Hexachlorobenzene	ND	0.50	ug/L							12/12/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							12/12/13	
Lindane	ND	0.20	ug/L							12/12/13	
Methoxychlor	ND	10	ug/L							12/12/13	
PCB Aroclor Screen	ND	0.50	ug/L							12/12/13	
Toxaphene	ND	1.0	ug/L							12/12/13	
Trifluralin	ND	1.0	ug/L							12/12/13	
Surrogate: TCMX	*4.5*			*4.5*		*102*	*70-130*			12/12/13	
Blank Spike (A314630-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A314630										Prepared: 12/10/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A314630-BS1)											
Aldrin	0.89	0.075	ug/L	1.0		89	70-130			12/12/13	
Chlorothalonil	10	5.0	ug/L	10		102	70-130			12/12/13	
Dieldrin	0.41	0.020	ug/L	0.40		102	70-130			12/12/13	
Endrin	0.19	0.10	ug/L	0.20		96	70-130			12/12/13	
Heptachlor	0.18	0.010	ug/L	0.20		90	70-130			12/12/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20		100	70-130			12/12/13	
Hexachlorobenzene	1.9	0.50	ug/L	2.0		95	70-130			12/12/13	
Hexachlorocyclopentadiene	1.7	1.0	ug/L	2.0		84	70-130			12/12/13	
Lindane	0.39	0.20	ug/L	0.40		96	70-130			12/12/13	
Methoxychlor	2.2	10	ug/L	2.0		109	70-130			12/12/13	
Trifluralin	1.9	1.0	ug/L	2.0		95	70-130			12/12/13	
Surrogate: TCMX	*4.1*			*4.5*		*93*	*70-130*			12/12/13	
Blank Spike Dup (A314630-BSD1)											
Aldrin	0.88	0.075	ug/L	1.0		88	70-130	0	20	12/12/13	
Chlorothalonil	10	5.0	ug/L	10		100	70-130	2	20	12/12/13	
Dieldrin	0.40	0.020	ug/L	0.40		101	70-130	1	20	12/12/13	
Endrin	0.20	0.10	ug/L	0.20		99	70-130	3	20	12/12/13	
Heptachlor	0.18	0.010	ug/L	0.20		91	70-130	1	20	12/12/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20		98	70-130	2	20	12/12/13	
Hexachlorobenzene	1.9	0.50	ug/L	2.0		96	70-130	2	20	12/12/13	
Hexachlorocyclopentadiene	1.7	1.0	ug/L	2.0		83	70-130	1	20	12/12/13	
Lindane	0.41	0.20	ug/L	0.40		102	70-130	6	20	12/12/13	
Methoxychlor	2.1	10	ug/L	2.0		106	70-130	3	20	12/12/13	
Trifluralin	1.9	1.0	ug/L	2.0		95	70-130	0	20	12/12/13	
Surrogate: TCMX	*4.2*			*4.5*		*94*	*70-130*			12/12/13	
Matrix Spike (A314630-MS1), Source: A3L0420-01											
Aldrin	0.97	0.075	ug/L	1.0	ND	93	65-135			12/12/13	
Chlorothalonil	10	5.0	ug/L	10	ND	101	65-135			12/12/13	
Dieldrin	0.42	0.020	ug/L	0.41	ND	101	65-135			12/12/13	
Endrin	0.21	0.10	ug/L	0.21	ND	101	65-135			12/12/13	
Heptachlor	0.20	0.010	ug/L	0.21	ND	96	65-135			12/12/13	
Heptachlor Epoxide	0.21	0.010	ug/L	0.21	ND	104	65-135			12/12/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.1	ND	101	65-135			12/12/13	
Hexachlorocyclopentadiene	1.8	1.0	ug/L	2.1	ND	84	65-135			12/12/13	
Lindane	0.43	0.20	ug/L	0.41	ND	104	65-135			12/12/13	
Methoxychlor	2.2	10	ug/L	2.1	ND	107	65-135			12/12/13	
Trifluralin	2.1	1.0	ug/L	2.1	ND	100	65-135			12/12/13	
Surrogate: TCMX	*4.5*			*4.6*		*98*	*70-130*			12/12/13	
Matrix Spike Dup (A314630-MSD1), Source: A3L0420-01											
Aldrin	1.0	0.075	ug/L	1.0	ND	99	65-135	6	20	12/12/13	
Chlorothalonil	12	5.0	ug/L	10	ND	112	65-135	10	20	12/12/13	
Dieldrin	0.47	0.020	ug/L	0.42	ND	113	65-135	11	20	12/12/13	
Endrin	0.23	0.10	ug/L	0.21	ND	108	65-135	7	20	12/12/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A314630										Prepared: 12/11/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A314630-MSD1), Source: A3L0420-01											
Heptachlor	0.22	0.010	ug/L	0.21	ND	105	65-135	9	20	12/12/13	
Heptachlor Epoxide	0.23	0.010	ug/L	0.21	ND	113	65-135	9	20	12/12/13	
Hexachlorobenzene	2.3	0.50	ug/L	2.1	ND	110	65-135	9	20	12/12/13	
Hexachlorocyclopentadiene	1.7	1.0	ug/L	2.1	ND	81	65-135	3	20	12/12/13	
Lindane	0.48	0.20	ug/L	0.42	ND	115	65-135	10	20	12/12/13	
Methoxychlor	2.4	10	ug/L	2.1	ND	116	65-135	8	20	12/12/13	
Trifluralin	2.2	1.0	ug/L	2.1	ND	108	65-135	8	20	12/12/13	
Surrogate: TCMX	*4.8*			*4.6*		*105*	*70-130*			12/12/13	
EPA 515.3 - Quality Control											
Batch: A314761										Prepared: 12/15/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A314761-BLK1)											
2,4,5-T	ND	1.0	ug/L							12/16/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							12/16/13	
2,4-D	ND	10	ug/L							12/16/13	
Bentazon	ND	2.0	ug/L							12/16/13	
Dalapon	ND	10	ug/L							12/16/13	
Dicamba	ND	1.5	ug/L							12/16/13	B2.0
Dinoseb	ND	2.0	ug/L							12/16/13	
Pentachlorophenol	ND	0.20	ug/L							12/16/13	
Picloram	ND	1.0	ug/L							12/16/13	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			12/16/13	
Blank Spike (A314761-BS1)											
2,4,5-T	4.1	1.0	ug/L	4.0		102	70-130			12/16/13	
2,4,5-TP (Silvex)	0.80	1.0	ug/L	0.80		100	70-130			12/16/13	
2,4-D	0.41	10	ug/L	0.40		102	70-130			12/16/13	
Bentazon	8.4	2.0	ug/L	8.0		105	70-130			12/16/13	
Dalapon	4.0	10	ug/L	4.0		99	70-130			12/16/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130			12/16/13	
Dinoseb	0.80	2.0	ug/L	0.80		99	70-130			12/16/13	
Pentachlorophenol	0.15	0.20	ug/L	0.16		93	70-130			12/16/13	
Picloram	0.40	1.0	ug/L	0.40		100	70-130			12/16/13	
Surrogate: DCPAA	*46*			*58*		*79*	*70-130*			12/16/13	
Blank Spike Dup (A314761-BSD1)											
2,4,5-T	3.9	1.0	ug/L	4.0		98	70-130	4	20	12/17/13	
2,4,5-TP (Silvex)	0.77	1.0	ug/L	0.80		96	70-130	3	20	12/17/13	
2,4-D	0.39	10	ug/L	0.40		97	70-130	5	20	12/17/13	
Bentazon	8.1	2.0	ug/L	8.0		101	70-130	4	20	12/17/13	
Dalapon	3.6	10	ug/L	4.0		89	70-130	11	20	12/17/13	
Dicamba	5.6	1.5	ug/L	6.0		93	70-130	6	20	12/17/13	
Dinoseb	0.79	2.0	ug/L	0.80		99	70-130	1	20	12/17/13	
Pentachlorophenol	0.15	0.20	ug/L	0.16		91	70-130	2	20	12/17/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A314761										Prepared: 12/15/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A314761-BSD1)											
Picloram	0.31	1.0	ug/L	0.40		77	70-130	26	20	12/17/13	BS3.0
Surrogate: DCPAA	*45*			*58*		*77*	*70-130*			12/17/13	
Matrix Spike (A314761-MS1), Source: A3L0661-01											
2,4,5-T	4.3	1.0	ug/L	4.0	ND	108	70-130			12/16/13	
2,4,5-TP (Silvex)	0.81	1.0	ug/L	0.80	ND	101	70-130			12/16/13	
2,4-D	0.43	10	ug/L	0.40	ND	107	70-130			12/16/13	
Bentazon	8.6	2.0	ug/L	8.0	ND	108	70-130			12/16/13	
Dalapon	4.2	10	ug/L	4.0	ND	104	70-130			12/16/13	
Dicamba	6.3	1.5	ug/L	6.0	ND	105	70-130			12/16/13	
Dinoseb	0.80	2.0	ug/L	0.80	ND	100	70-130			12/16/13	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	93	70-130			12/16/13	
Picloram	0.44	1.0	ug/L	0.40	ND	109	70-130			12/16/13	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			12/16/13	
Matrix Spike Dup (A314761-MSD1), Source: A3L0661-01											
2,4,5-T	4.4	1.0	ug/L	4.0	ND	109	70-130	1	20	12/16/13	
2,4,5-TP (Silvex)	0.82	1.0	ug/L	0.80	ND	103	70-130	2	20	12/16/13	
2,4-D	0.43	10	ug/L	0.40	ND	108	70-130	1	20	12/16/13	
Bentazon	8.7	2.0	ug/L	8.0	ND	109	70-130	1	20	12/16/13	
Dalapon	4.6	10	ug/L	4.0	ND	115	70-130	10	20	12/16/13	
Dicamba	6.5	1.5	ug/L	6.0	ND	108	70-130	3	20	12/16/13	
Dinoseb	0.84	2.0	ug/L	0.80	ND	105	70-130	5	20	12/16/13	
Pentachlorophenol	0.15	0.20	ug/L	0.16	ND	96	70-130	3	20	12/16/13	
Picloram	0.45	1.0	ug/L	0.40	ND	111	70-130	2	20	12/16/13	
Surrogate: DCPAA	*48*			*58*		*82*	*70-130*			12/16/13	
EPA 524.2 - Quality Control											
Batch: A314729										Prepared: 12/12/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A314729-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							12/12/13	
1,1,1-Trichloroethane	ND	0.50	ug/L							12/12/13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							12/12/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							12/12/13	
1,1,2-Trichloroethane	ND	0.50	ug/L							12/12/13	
1,1-Dichloroethane	ND	0.50	ug/L							12/12/13	
1,1-Dichloroethene	ND	0.50	ug/L							12/12/13	
1,1-Dichloropropene	ND	0.50	ug/L							12/12/13	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							12/12/13	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							12/12/13	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							12/12/13	
1,2-Dichlorobenzene	ND	0.50	ug/L							12/12/13	
1,2-Dichloroethane	ND	0.50	ug/L							12/12/13	
1,2-Dichloropropane	ND	0.50	ug/L							12/12/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A314729										Prepared: 12/12/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A314729-BLK1)											
1,3,5-Trimethylbenzene	ND	0.50	ug/L							12/12/13	
1,3-Dichlorobenzene	ND	0.50	ug/L							12/12/13	
1,3-Dichloropropane	ND	0.50	ug/L							12/12/13	
1,4-Dichlorobenzene	ND	0.50	ug/L							12/12/13	
2,2-Dichloropropane	ND	0.50	ug/L							12/12/13	
2-Butanone	ND	5.0	ug/L							12/12/13	
2-Chlorotoluene	ND	0.50	ug/L							12/12/13	
2-Hexanone	ND	10	ug/L							12/12/13	
4-Chlorotoluene	ND	0.50	ug/L							12/12/13	
4-Methyl-2-pentanone	ND	5.0	ug/L							12/12/13	
Acetone	ND	10	ug/L							12/12/13	
Benzene	ND	0.50	ug/L							12/12/13	
Bromobenzene	ND	0.50	ug/L							12/12/13	
Bromochloromethane	ND	0.50	ug/L							12/12/13	
Bromodichloromethane	ND	0.50	ug/L							12/12/13	
Bromoform	ND	0.50	ug/L							12/12/13	
Bromomethane	ND	0.50	ug/L							12/12/13	
Carbon Tetrachloride	ND	0.50	ug/L							12/12/13	
Chlorobenzene	ND	0.50	ug/L							12/12/13	
Chloroethane	ND	0.50	ug/L							12/12/13	
Chloroform	ND	0.50	ug/L							12/12/13	
Chloromethane	ND	0.50	ug/L							12/12/13	
cis-1,2-Dichloroethene	ND	0.50	ug/L							12/12/13	
cis-1,3-Dichloropropene	ND	0.50	ug/L							12/12/13	
Dibromochloromethane	ND	0.50	ug/L							12/12/13	
Dibromomethane	ND	0.50	ug/L							12/12/13	
Dichlorodifluoromethane	ND	0.50	ug/L							12/12/13	
Dichloromethane	ND	0.50	ug/L							12/12/13	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							12/12/13	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							12/12/13	
Ethylbenzene	ND	0.50	ug/L							12/12/13	
Hexachlorobutadiene	ND	0.50	ug/L							12/12/13	
Isopropylbenzene	ND	0.50	ug/L							12/12/13	
m,p-Xylenes	ND	0.50	ug/L							12/12/13	
Methyl-t-butyl ether	ND	0.50	ug/L							12/12/13	
Naphthalene	ND	0.50	ug/L							12/12/13	
n-Butylbenzene	ND	0.50	ug/L							12/12/13	
n-Propylbenzene	ND	0.50	ug/L							12/12/13	
o-Xylene	ND	0.50	ug/L							12/12/13	
p-Isopropyltoluene	ND	0.50	ug/L							12/12/13	
sec-Butylbenzene	ND	0.50	ug/L							12/12/13	
Styrene	ND	0.50	ug/L							12/12/13	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							12/12/13	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							12/12/13	
tert-Butylbenzene	ND	0.50	ug/L							12/12/13	
Tetrachloroethene (PCE)	ND	0.50	ug/L							12/12/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A314729										Prepared: 12/12/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A314729-BLK1)											
Toluene	ND	0.50	ug/L							12/12/13	
trans-1,2-Dichloroethene	ND	0.50	ug/L							12/12/13	
trans-1,3-Dichloropropene	ND	0.50	ug/L							12/12/13	
Trichloroethene (TCE)	ND	0.50	ug/L							12/12/13	
Trichlorofluoromethane	ND	5.0	ug/L							12/12/13	
Vinyl Chloride	ND	0.50	ug/L							12/12/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*97*	*70-130*			12/12/13	
Surrogate: Bromofluorobenzene	*50*			*50*		*100*	*70-130*			12/12/13	
Blank Spike (A314729-BS1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		102	70-130			12/12/13	
1,1,1-Trichloroethane	11	0.50	ug/L	10		110	70-130			12/12/13	
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		104	70-130			12/12/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		110	70-130			12/12/13	
1,1,2-Trichloroethane	10	0.50	ug/L	10		103	70-130			12/12/13	
1,1-Dichloroethane	10	0.50	ug/L	10		105	70-130			12/12/13	
1,1-Dichloroethene	11	0.50	ug/L	10		107	70-130			12/12/13	
1,1-Dichloropropene	10	0.50	ug/L	10		105	70-130			12/12/13	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		105	70-130			12/12/13	
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		108	70-130			12/12/13	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		104	70-130			12/12/13	
1,2-Dichlorobenzene	10	0.50	ug/L	10		104	70-130			12/12/13	
1,2-Dichloroethane	11	0.50	ug/L	10		112	70-130			12/12/13	
1,2-Dichloropropane	10	0.50	ug/L	10		104	70-130			12/12/13	
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		108	70-130			12/12/13	
1,3-Dichlorobenzene	10	0.50	ug/L	10		104	70-130			12/12/13	
1,3-Dichloropropane	10	0.50	ug/L	10		104	70-130			12/12/13	
1,4-Dichlorobenzene	10	0.50	ug/L	10		105	70-130			12/12/13	
2,2-Dichloropropane	11	0.50	ug/L	10		113	70-130			12/12/13	
2-Butanone	10	5.0	ug/L	10		105	70-130			12/12/13	
2-Chlorotoluene	10	0.50	ug/L	10		105	70-130			12/12/13	
2-Hexanone	10	10	ug/L	10		102	70-130			12/12/13	
4-Chlorotoluene	11	0.50	ug/L	10		108	70-130			12/12/13	
4-Methyl-2-pentanone	13	5.0	ug/L	10		129	70-130			12/12/13	
Acetone	10	10	ug/L	10		102	70-130			12/12/13	
Benzene	11	0.50	ug/L	10		109	70-130			12/12/13	
Bromobenzene	11	0.50	ug/L	10		107	70-130			12/12/13	
Bromochloromethane	11	0.50	ug/L	10		106	70-130			12/12/13	
Bromodichloromethane	10	0.50	ug/L	10		105	70-130			12/12/13	
Bromoform	11	0.50	ug/L	10		106	70-130			12/12/13	
Bromomethane	11	0.50	ug/L	10		112	70-130			12/12/13	
Carbon Tetrachloride	11	0.50	ug/L	10		108	70-130			12/12/13	
Chlorobenzene	10	0.50	ug/L	10		104	70-130			12/12/13	
Chloroethane	11	0.50	ug/L	10		108	70-130			12/12/13	
Chloroform	11	0.50	ug/L	10		105	70-130			12/12/13	
Chloromethane	11	0.50	ug/L	10		110	70-130			12/12/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A314729										Prepared: 12/12/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A314729-BS1)											
cis-1,2-Dichloroethene	11	0.50	ug/L	10		110	70-130			12/12/13	
cis-1,3-Dichloropropene	11	0.50	ug/L	10		110	70-130			12/12/13	
Dibromochloromethane	10	0.50	ug/L	10		101	70-130			12/12/13	
Dibromomethane	11	0.50	ug/L	10		106	70-130			12/12/13	
Dichlorodifluoromethane	10	0.50	ug/L	10		104	70-130			12/12/13	
Dichloromethane	11	0.50	ug/L	10		106	70-130			12/12/13	
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		103	70-130			12/12/13	
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		105	70-130			12/12/13	
Ethylbenzene	11	0.50	ug/L	10		106	70-130			12/12/13	
Hexachlorobutadiene	11	0.50	ug/L	10		109	70-130			12/12/13	
Isopropylbenzene	10	0.50	ug/L	10		105	70-130			12/12/13	
m,p-Xylenes	21	0.50	ug/L	20		105	70-130			12/12/13	
Methyl-t-butyl ether	21	0.50	ug/L	20		104	70-130			12/12/13	
Naphthalene	10	0.50	ug/L	10		104	70-130			12/12/13	
n-Butylbenzene	11	0.50	ug/L	10		107	70-130			12/12/13	
n-Propylbenzene	11	0.50	ug/L	10		105	70-130			12/12/13	
o-Xylene	10	0.50	ug/L	10		105	70-130			12/12/13	
p-Isopropyltoluene	11	0.50	ug/L	10		105	70-130			12/12/13	
sec-Butylbenzene	11	0.50	ug/L	10		105	70-130			12/12/13	
Styrene	8.9	0.50	ug/L	10		89	70-130			12/12/13	
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		104	70-130			12/12/13	
tert-Butyl alcohol (TBA)	12	2.0	ug/L	10		118	70-130			12/12/13	
tert-Butylbenzene	11	0.50	ug/L	10		105	70-130			12/12/13	
Tetrachloroethene (PCE)	11	0.50	ug/L	10		105	70-130			12/12/13	
Toluene	11	0.50	ug/L	10		106	70-130			12/12/13	
trans-1,2-Dichloroethene	11	0.50	ug/L	10		106	70-130			12/12/13	
trans-1,3-Dichloropropene	10	0.50	ug/L	10		105	70-130			12/12/13	
Trichloroethene (TCE)	10	0.50	ug/L	10		104	70-130			12/12/13	
Trichlorofluoromethane	11	5.0	ug/L	10		108	70-130			12/12/13	
Vinyl Chloride	11	0.50	ug/L	10		108	70-130			12/12/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.9*			*5.0*		*99*	*70-130*			12/12/13	
Surrogate: Bromofluorobenzene	*50*			*50*		*100*	*70-130*			12/12/13	
Blank Spike Dup (A314729-BSD1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		100	70-130	2	30	12/12/13	
1,1,1-Trichloroethane	10	0.50	ug/L	10		104	70-130	6	30	12/12/13	
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		103	70-130	1	30	12/12/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	11	10	ug/L	10		110	70-130	0	30	12/12/13	
1,1,2-Trichloroethane	10	0.50	ug/L	10		101	70-130	2	30	12/12/13	
1,1-Dichloroethane	10	0.50	ug/L	10		102	70-130	3	30	12/12/13	
1,1-Dichloroethene	10	0.50	ug/L	10		105	70-130	2	30	12/12/13	
1,1-Dichloropropene	10	0.50	ug/L	10		104	70-130	1	30	12/12/13	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		102	70-130	3	30	12/12/13	
1,2,4-Trichlorobenzene	10	0.50	ug/L	10		104	70-130	4	30	12/12/13	
1,2,4-Trimethylbenzene	10	0.50	ug/L	10		102	70-130	2	30	12/12/13	
1,2-Dichlorobenzene	10	0.50	ug/L	10		102	70-130	2	30	12/12/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A314729										Prepared: 12/12/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike Dup (A314729-BSD1)												
1,2-Dichloroethane	11	0.50	ug/L	10		108	70-130	3	30	12/12/13		
1,2-Dichloropropane	10	0.50	ug/L	10		101	70-130	2	30	12/12/13		
1,3,5-Trimethylbenzene	10	0.50	ug/L	10		105	70-130	3	30	12/12/13		
1,3-Dichlorobenzene	10	0.50	ug/L	10		101	70-130	2	30	12/12/13		
1,3-Dichloropropane	10	0.50	ug/L	10		102	70-130	2	30	12/12/13		
1,4-Dichlorobenzene	10	0.50	ug/L	10		102	70-130	3	30	12/12/13		
2,2-Dichloropropane	11	0.50	ug/L	10		106	70-130	7	30	12/12/13		
2-Butanone	11	5.0	ug/L	10		114	70-130	8	30	12/12/13		
2-Chlorotoluene	10	0.50	ug/L	10		103	70-130	2	30	12/12/13		
2-Hexanone	10	10	ug/L	10		104	70-130	2	30	12/12/13		
4-Chlorotoluene	10	0.50	ug/L	10		104	70-130	4	30	12/12/13		
4-Methyl-2-pentanone	13	5.0	ug/L	10		131	70-130	2	30	12/12/13	BS	***High***
Acetone	10	10	ug/L	10		102	70-130	1	30	12/12/13		
Benzene	11	0.50	ug/L	10		108	70-130	1	30	12/12/13		
Bromobenzene	11	0.50	ug/L	10		106	70-130	1	30	12/12/13		
Bromochloromethane	10	0.50	ug/L	10		100	70-130	6	30	12/12/13		
Bromodichloromethane	10	0.50	ug/L	10		101	70-130	3	30	12/12/13		
Bromoform	10	0.50	ug/L	10		104	70-130	2	30	12/12/13		
Bromomethane	11	0.50	ug/L	10		110	70-130	2	30	12/12/13		
Carbon Tetrachloride	11	0.50	ug/L	10		105	70-130	3	30	12/12/13		
Chlorobenzene	10	0.50	ug/L	10		102	70-130	2	30	12/12/13		
Chloroethane	10	0.50	ug/L	10		102	70-130	6	30	12/12/13		
Chloroform	10	0.50	ug/L	10		102	70-130	3	30	12/12/13		
Chloromethane	9.5	0.50	ug/L	10		95	70-130	14	30	12/12/13		
cis-1,2-Dichloroethene	11	0.50	ug/L	10		106	70-130	3	30	12/12/13		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		108	70-130	1	30	12/12/13		
Dibromochloromethane	9.9	0.50	ug/L	10		99	70-130	3	30	12/12/13		
Dibromomethane	10	0.50	ug/L	10		103	70-130	4	30	12/12/13		
Dichlorodifluoromethane	9.4	0.50	ug/L	10		94	70-130	10	30	12/12/13		
Dichloromethane	10	0.50	ug/L	10		103	70-130	3	30	12/12/13		
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		102	70-130	1	30	12/12/13		
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		104	70-130	1	30	12/12/13		
Ethylbenzene	10	0.50	ug/L	10		105	70-130	1	30	12/12/13		
Hexachlorobutadiene	11	0.50	ug/L	10		106	70-130	3	30	12/12/13		
Isopropylbenzene	10	0.50	ug/L	10		102	70-130	3	30	12/12/13		
m,p-Xylenes	21	0.50	ug/L	20		103	70-130	1	30	12/12/13		
Methyl-t-butyl ether	21	0.50	ug/L	20		103	70-130	1	30	12/12/13		
Naphthalene	10	0.50	ug/L	10		102	70-130	1	30	12/12/13		
n-Butylbenzene	10	0.50	ug/L	10		104	70-130	3	30	12/12/13		
n-Propylbenzene	10	0.50	ug/L	10		103	70-130	2	30	12/12/13		
o-Xylene	10	0.50	ug/L	10		103	70-130	2	30	12/12/13		
p-Isopropyltoluene	10	0.50	ug/L	10		103	70-130	2	30	12/12/13		
sec-Butylbenzene	10	0.50	ug/L	10		103	70-130	2	30	12/12/13		
Styrene	7.5	0.50	ug/L	10		75	70-130	17	30	12/12/13		
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		104	70-130	1	30	12/12/13		
tert-Butyl alcohol (TBA)	11	2.0	ug/L	10		105	70-130	12	30	12/12/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A314729										Prepared: 12/12/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A314729-BSD1)											
tert-Butylbenzene	10	0.50	ug/L	10		103	70-130	2	30	12/12/13	
Tetrachloroethene (PCE)	10	0.50	ug/L	10		104	70-130	1	30	12/12/13	
Toluene	10	0.50	ug/L	10		104	70-130	2	30	12/12/13	
trans-1,2-Dichloroethene	10	0.50	ug/L	10		103	70-130	2	30	12/12/13	
trans-1,3-Dichloropropene	10	0.50	ug/L	10		102	70-130	3	30	12/12/13	
Trichloroethene (TCE)	10	0.50	ug/L	10		104	70-130	0	30	12/12/13	
Trichlorofluoromethane	11	5.0	ug/L	10		107	70-130	1	30	12/12/13	
Vinyl Chloride	10	0.50	ug/L	10		100	70-130	8	30	12/12/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*96*	*70-130*			12/12/13	
Surrogate: Bromofluorobenzene	*50*			*50*		*99*	*70-130*			12/12/13	
EPA 525.2 - Quality Control											
Batch: A314794										Prepared: 12/13/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A314794-BLK1)											
Alachlor	ND	1.0	ug/L							12/14/13	
Atrazine	ND	0.50	ug/L							12/14/13	
Benzo(a)pyrene	ND	0.10	ug/L							12/14/13	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							12/14/13	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							12/14/13	
Bromacil	ND	1.0	ug/L							12/14/13	
Butachlor	ND	0.38	ug/L							12/14/13	
Diazinon	ND	0.25	ug/L							12/14/13	
Dimethoate	ND	10	ug/L							12/14/13	
Metolachlor	ND	0.50	ug/L							12/14/13	
Metribuzin	ND	0.50	ug/L							12/14/13	
Molinate	ND	2.0	ug/L							12/14/13	
Propachlor	ND	0.50	ug/L							12/14/13	
Simazine	ND	1.0	ug/L							12/14/13	
Thiobencarb	ND	1.0	ug/L							12/14/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.0*		*101*	*70-130*			12/14/13	
Blank Spike (A314794-BS1)											
Alachlor	0.53	1.0	ug/L	0.50		105	70-130			12/14/13	
Atrazine	0.56	0.50	ug/L	0.50		110	70-130			12/14/13	
Benzo(a)pyrene	0.12	0.10	ug/L	0.10		115	70-130			12/14/13	
Bis(2-ethylhexyl) adipate	3.2	3.0	ug/L	3.0		106	70-130			12/14/13	
Bis(2-ethylhexyl) phthalate	3.2	3.0	ug/L	3.0		105	70-130			12/14/13	
Bromacil	2.6	1.0	ug/L	2.0		127	70-130			12/14/13	
Butachlor	1.4	0.38	ug/L	1.3		111	70-130			12/14/13	
Diazinon	0.038	0.25	ug/L	0.050		76	70-130			12/14/13	
Dimethoate	0.63	10	ug/L	0.50		125	70-130			12/14/13	
Metolachlor	2.8	0.50	ug/L	2.5		110	70-130			12/14/13	
Metribuzin	2.9	0.50	ug/L	2.5		115	70-130			12/14/13	
Molinate	2.6	2.0	ug/L	2.5		104	70-130			12/14/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A314794										Prepared: 12/13/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A314794-BS1)											
Propachlor	2.7	0.50	ug/L	2.5		107	70-130			12/14/13	
Simazine	0.40	1.0	ug/L	0.35		114	70-130			12/14/13	
Thiobencarb	0.61	1.0	ug/L	0.50		121	70-130			12/14/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.9*			*5.0*		*97*	*70-130*			12/14/13	
Blank Spike Dup (A314794-BSD1)											
Alachlor	0.52	1.0	ug/L	0.51		102	70-130	3	30	12/14/13	
Atrazine	0.54	0.50	ug/L	0.51		106	70-130	4	30	12/14/13	
Benzo(a)pyrene	0.12	0.10	ug/L	0.10		120	70-130	5	30	12/14/13	
Bis(2-ethylhexyl) adipate	3.2	3.0	ug/L	3.0		105	70-130	1	30	12/14/13	
Bis(2-ethylhexyl) phthalate	3.2	3.0	ug/L	3.0		105	70-130	0	30	12/14/13	
Bromacil	2.4	1.0	ug/L	2.0		119	70-130	6	30	12/14/13	
Butachlor	1.4	0.38	ug/L	1.3		113	70-130	2	30	12/14/13	
Diazinon	0.036	0.25	ug/L	0.051		72	70-130	5	30	12/14/13	
Dimethoate	0.63	10	ug/L	0.51		125	70-130	0	30	12/14/13	
Metolachlor	2.8	0.50	ug/L	2.5		109	70-130	1	30	12/14/13	
Metribuzin	2.8	0.50	ug/L	2.5		109	70-130	5	30	12/14/13	
Molinate	2.8	2.0	ug/L	2.5		110	70-130	6	30	12/14/13	
Propachlor	2.7	0.50	ug/L	2.5		109	70-130	2	30	12/14/13	
Simazine	0.39	1.0	ug/L	0.35		111	70-130	2	30	12/14/13	
Thiobencarb	0.54	1.0	ug/L	0.51		106	70-130	13	30	12/14/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.1*			*5.1*		*101*	*70-130*			12/14/13	
Matrix Spike (A314794-MS1), Source: A3L0708-01											
Alachlor	0.47	1.0	ug/L	0.50	ND	93	70-130			12/14/13	
Atrazine	0.51	0.50	ug/L	0.50	ND	101	70-130			12/14/13	
Benzo(a)pyrene	0.13	0.10	ug/L	0.10	ND	126	70-130			12/14/13	
Bis(2-ethylhexyl) adipate	3.1	3.0	ug/L	3.0	ND	103	70-130			12/14/13	
Bis(2-ethylhexyl) phthalate	3.4	3.0	ug/L	3.0	ND	112	70-130			12/14/13	
Bromacil	2.5	1.0	ug/L	2.0	ND	123	70-130			12/14/13	
Butachlor	1.3	0.38	ug/L	1.3	ND	106	70-130			12/14/13	
Diazinon	0.043	0.25	ug/L	0.050	ND	86	70-130			12/14/13	
Dimethoate	0.63	10	ug/L	0.50	ND	126	70-130			12/14/13	
Metolachlor	2.5	0.50	ug/L	2.5	ND	100	70-130			12/14/13	
Metribuzin	2.8	0.50	ug/L	2.5	ND	111	70-130			12/14/13	
Molinate	2.7	2.0	ug/L	2.5	ND	108	70-130			12/14/13	
Propachlor	2.8	0.50	ug/L	2.5	ND	112	70-130			12/14/13	
Simazine	0.39	1.0	ug/L	0.35	ND	110	70-130			12/14/13	
Thiobencarb	0.56	1.0	ug/L	0.50	ND	112	70-130			12/14/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.1*			*5.0*		*101*	*70-130*			12/14/13	
EPA 531.1 - Quality Control											
Batch: A314582										Prepared: 12/9/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A314582-BLK1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A314582										Prepared: 12/9/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A314582-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							12/09/13	
Aldicarb	ND	3.0	ug/L							12/09/13	
Aldicarb Sulfone	ND	2.0	ug/L							12/09/13	
Aldicarb Sulfoxide	ND	3.0	ug/L							12/09/13	
Carbaryl	ND	5.0	ug/L							12/09/13	
Carbofuran	ND	5.0	ug/L							12/09/13	
Methomyl	ND	2.0	ug/L							12/09/13	
Oxamyl	ND	20	ug/L							12/09/13	
Blank Spike (A314582-BS1)											
3-Hydroxycarbofuran	3.9	3.0	ug/L	4.2		94	80-120			12/10/13	
Aldicarb	3.8	3.0	ug/L	4.2		91	80-120			12/10/13	
Aldicarb Sulfone	4.1	2.0	ug/L	4.2		98	80-120			12/10/13	
Aldicarb Sulfoxide	4.1	3.0	ug/L	4.2		98	80-120			12/10/13	
Carbaryl	3.9	5.0	ug/L	4.2		93	80-120			12/10/13	
Carbofuran	4.0	5.0	ug/L	4.2		95	80-120			12/10/13	
Methomyl	4.0	2.0	ug/L	4.2		96	80-120			12/10/13	
Oxamyl	4.1	20	ug/L	4.2		99	80-120			12/10/13	
Blank Spike Dup (A314582-BSD1)											
3-Hydroxycarbofuran	4.1	3.0	ug/L	4.2		98	80-120	4	20	12/10/13	
Aldicarb	4.0	3.0	ug/L	4.2		95	80-120	5	20	12/10/13	
Aldicarb Sulfone	4.1	2.0	ug/L	4.2		99	80-120	1	20	12/10/13	
Aldicarb Sulfoxide	4.2	3.0	ug/L	4.2		100	80-120	2	20	12/10/13	
Carbaryl	4.0	5.0	ug/L	4.2		97	80-120	4	20	12/10/13	
Carbofuran	4.2	5.0	ug/L	4.2		100	80-120	5	20	12/10/13	
Methomyl	4.1	2.0	ug/L	4.2		98	80-120	2	20	12/10/13	
Oxamyl	4.1	20	ug/L	4.2		99	80-120	0	20	12/10/13	
Matrix Spike (A314582-MS1), Source: A3K1962-02											
3-Hydroxycarbofuran	3.9	3.0	ug/L	4.2	ND	95	65-135			12/10/13	
Aldicarb	4.0	3.0	ug/L	4.2	ND	96	65-135			12/10/13	
Aldicarb Sulfone	4.0	2.0	ug/L	4.2	ND	96	65-135			12/10/13	
Aldicarb Sulfoxide	4.0	3.0	ug/L	4.2	ND	95	65-135			12/10/13	
Carbaryl	3.8	5.0	ug/L	4.2	ND	85	65-135			12/10/13	
Carbofuran	3.9	5.0	ug/L	4.2	ND	93	65-135			12/10/13	
Methomyl	3.8	2.0	ug/L	4.2	ND	85	65-135			12/10/13	
Oxamyl	3.9	20	ug/L	4.2	ND	91	65-135			12/10/13	
EPA 547 - Quality Control											
Batch: A314544										Prepared: 12/9/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank (A314544-BLK1)											
Glyphosate	ND	25	ug/L							12/09/13	
Surrogate: AMPA	*91*			*100*		*91*	*70-130*			12/09/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A314544										Prepared: 12/9/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank Spike (A314544-BS1)											
Glyphosate	95	25	ug/L	100		95	70-130			12/09/13	
Surrogate: AMPA	*97*			*100*		*97*	*70-130*			12/09/13	
Blank Spike Dup (A314544-BSD1)											
Glyphosate	100	25	ug/L	100		100	70-130	5	30	12/09/13	
Surrogate: AMPA	*91*			*100*		*91*	*70-130*			12/09/13	
Matrix Spike (A314544-MS1), Source: A3L0226-01											
Glyphosate	100	25	ug/L	100	ND	98	70-130			12/09/13	
Surrogate: AMPA	*99*			*100*		*97*	*70-130*			12/09/13	
Matrix Spike Dup (A314544-MSD1), Source: A3L0226-01											
Glyphosate	110	25	ug/L	100	ND	104	70-130	6	30	12/09/13	
Surrogate: AMPA	*94*			*100*		*93*	*70-130*			12/09/13	
EPA 548.1 - Quality Control											
Batch: A314594										Prepared: 12/9/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A314594-BLK1)											
Endothall	ND	45	ug/L							12/11/13	
Blank Spike (A314594-BS1)											
Endothall	13	45	ug/L	20		64	60-111			12/11/13	
Blank Spike Dup (A314594-BSD1)											
Endothall	15	45	ug/L	20		77	60-111	19	46	12/11/13	
Matrix Spike (A314594-MS1), Source: A3L0383-01											
Endothall	ND	45	ug/L	20	ND	0	10-122			12/11/13	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A314617										Prepared: 12/10/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A314617-BLK1)											
Diquat	ND	4.0	ug/L							12/16/13	
Blank Spike (A314617-BS1)											
Diquat	3.7	4.0	ug/L	4.0		92	70-130			12/16/13	
Blank Spike Dup (A314617-BSD1)											
Diquat	3.7	4.0	ug/L	4.0		93	70-130	1	30	12/16/13	
Matrix Spike (A314617-MS1), Source: A3L0576-01											
Diquat	3.5	4.0	ug/L	4.0	ND	88	70-130			12/16/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 549.2 - Quality Control

Batch: A314617 Prepared: 12/10/2013

Prep Method: EPA 549.2 Analyst: PYA

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792009A
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron
Silica (SiO2)
Strontium
Threshold Odor

A3L0508

California American Water

Calif3295

12062013

Turnaround: Standard

Due Date: 12/20/2013

Printed: 12/6/2013 2:19:56PM

Page 1 of 1

BSK Associates
Engineers & Laboratories
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

A3L0508
Calif3295

12/06/2013
Appendix G 10

*Required Fields

Temp: 3.3

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water	Travis Peterson Additional cc's: Sarp Sekeroglu, RBF Consulting	Accounts Payable PO#:	(831) 646-3295/(831) 646-3269	(831) 333-1343

E-mail*: susan.jacobson@amwater.com,travis.peterson@amwater.com

Address*:	City*:	State*:	Zip*:
PO Box 951	Monterey	CA	93942-0951

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: _____

Project: Water Quality Analysis – MPWSP

Project #:

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: _____

How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH System Number*: _____

Sampler Name (Printed/Signature)*: Nathan Reynolds

TAT* **Surcharge: ☒ Standard - 10 Business Days ☐ **Rush: Date Needed _____

☐ Geotracker #: _____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alkalinity, Hardness, MBAS,Color, Odor, TDS, pH, Turbidity, EC	Mass Balance-Dissolved: Cations and Anions	Dissolved Metals: Ba, B, Ca, Fe, Mg, Mn, K, Na, Sr, silica	Total Metals: Al, As, Cu, Fe, Mn, Zn	Dissolved: Bromide, Chloride, Nitrite, Fluoride, Sulfate, Orthophosphate-P	Dissolved: Ammonia, TKN, Phosphorus	Nitrate+Nitrite as N, Nitrate-NO3,	EPA 524, 504, 505, 515, 525, 531, 547, 548, 549	EXT-Tritium, EXT-Lithium, EXT-Dissolved Iodide, EXT-Dioxin
26	ML-4 Zone #1 (163.5 - 173.5 ftbgs)	12-5-13	10:25	water	Seawater salinity levels.	X	X	X	X	X	X	X	X	X
					Lab to filter dissolved metals.									
					Lab to filter Diss. Ammonia, TKN, P									
					~~Okay to analyze out of holdtimes~~									

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Nathan Reynolds	GEOSCIENCE				
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
	RBF Consulting	12/5	1:30 pm		
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: PIA#: Check / Cash Init.	
		12/6	1243		

Shipping Method: ONTRAC UPS GSO WALK-IN (FED EX) Courier: _____

Cooling Method: (Wet) Blue None

Custody Seal: Y (N)

Chilling Process Begun: (Y) N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes (No) NA NR
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes (No)
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received — "_|_" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1					
Bacti $Na_2S_2O_3$	—	—						
None (P) White Cap	—	—	2C,1B,1A					
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N						
HNO_3 (P) Red Cap	—	—	2B					
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	1A				12/6/13	
NaOH (P) Green Cap	Cl, pH ≥12	Y N						
NaOH + ZnAc (P)	pH ≥ 9	Y N					NR	
Dissolved Oxygen 300ml (g)	—	—						
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	2C,1B,1A					
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—						
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C					
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C,2A					
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—						
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	4V					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	1V					
NH_4Cl (AG) Purple Label 552	—	—						
EDA (AG) Brown Label DBPs	—	—	1A					
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—						
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V					
Buffer pH 4 (CG)	—	—						
None (CG) Kerr Jar	—	—	1C					
H_3PO_4 (CG) Salmon Label	—	—						
Other:								
Asbestos 1Liter Plastic w/ Foil	—	—						
Low Level Hg / Metals Double Baggie	—	—						
Bottled Water	—	—						
Clear Glass Jar: 250 / 500 / 1 Liter	—	—						
Soil Tube Brass / Steel / Plastic	—	—						
Tedlar Bag / Plastic Bag	—	—						

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: JR @ 1330 Labels checked by: G-9772 @ 13:35 RUSH Paged by: @

External

A3L0508

Maxxam

Your Project #: A3L0508
Your C.O.C. #: na

Attention:Michael Ng
BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2014/01/02

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3L4273
Received: 2013/12/11, 12:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
2,3,7,8-TCDD in Water (1613B)	1	2013/12/17	2013/12/20	BRL SOP-00410	EPA 1613B mod.

Remarks:

The lab certifies that the test results meet all requirements of NELAC, where applicable.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.

Encryption Key

Ivana Vukovic
03 Jan 2014 10:48:30 -05:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ivana Vukovic, Env Project Manager
Email: IVukovic@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3L4273
Report Date: 2014/01/02

BSK Analytical Laboratories
Client Project #: A3L0508

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		UG2716						
Sampling Date		2013/12/05 10:25						
COC Number		na			TOXIC EQUIVALENCY		# of	
	Units	A3L0508-01	EDL	RDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Dioxins & Furans								
2,3,7,8-Tetra CDD *	pg/L	1.1 U	1.1	4.1	1.00	1.10		3463429
TOTAL TOXIC EQUIVALENCY	pg/L					1.10		
Surrogate Recovery (%)								
37CL4 2378 Tetra CDD *	%	130						3463429
C13-2378 TetraCDD *	%	142						3463429

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3L4273
Report Date: 2014/01/02

BSK Analytical Laboratories
Client Project #: A3L0508

TEST SUMMARY

Maxxam ID: UG2716
Sample ID: A3L0508-01
Matrix: Water

Collected: 2013/12/05
Shipped:
Received: 2013/12/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
2,3,7,8-TCDD in Water (1613B)	HRMS/MS	3463429	2013/12/17	2013/12/20	Cathy Xu

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800 563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3L4273
Report Date: 2014/01/02

BSK Analytical Laboratories
Client Project #: A3L0508

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817 5700 Toll Free: 800 563 6266 Fax: (905) 817 5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3L4273
Report Date: 2014/01/02

BSK Analytical Laboratories
Client Project #: A3L0508

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
3463429	CXU	Spiked Blank	2,3,7,8-Tetra CDD	2013/12/20		90	%	67 - 158
			37CL4 2378 Tetra CDD	2013/12/20		100	%	40 - 130
			C13-2378 TetraCDD	2013/12/20		101	%	24 - 164
3463429	CXU	Method Blank	2,3,7,8-Tetra CDD	2013/12/20	1.9, EDL=1.9		pg/L	
			37CL4 2378 Tetra CDD	2013/12/20		109	%	40 - 130
			C13-2378 TetraCDD	2013/12/20		114	%	24 - 164

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800 563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3L4273
Report Date: 2014/01/02

BSK Analytical Laboratories
Client Project #: A3L0508

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Owen Cosby, BSc.C.Chem, Supervisor, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

BSK Analytical Laboratories

SUBCONTRACT ORDER

A3L0508

11-Dec-13 12:50
Ivana Vukovic
BJL1273
FW LNV-898

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno CA 93706
Phone: 559-497-2868
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Maxxam Analytics
PO Box 57437 Station A
Toronto ON M5W5M6
Phone: (905) 817-5784
Fax:
Turnaround (Days): Standard
QC Deliverables: I II III IV

Sample ID	Samp Desc	Sample Date
A3L0508-01	MW-4 Zone 54 (350,6 173,5 ft bgs.	12/05/2013 10:25

Matrix: Water

Analysis (1) + AG w/ none

PCDD-Dioxin-DW matrix: EPA 1613 2,3,7,8-TCDD

Relinquished By — Date — Received By — Date: 2013/12/11 12:50

Relinquished By — Date — Received By — Date

3.1/3.9/4.2.2

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Report Date: 12/17/13 11:09
Received Date: 12/10/13 09:45
Turnaround Time: Normal

Project: A3L0508

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 12/10/2013 with the Chain of Custody document. The samples were received in good condition, at 3.1 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3L10011-01 **Sample ID:** A3L0508-01 **Matrix:** Water
Sampled by: Client **Sampled:** 12/05/13 10:25

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	**240**		10	ug/l	1	EPA 200.7	12/10/13	12/11/13 13:08	W3L0516	
Iodide, Dissolved	**640**		250	ug/l	25	EPA 9056A	12/12/13	12/12/13 22:54	W3L0678	

Certificate of Analysis

Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W3L0678 - EPA 9056A

Blank (W3L0678-BLK1) — Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W3L0678-BS1) — Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		38.9		ug/l	40.0	97	85-115		

Duplicate (W3L0678-DUP1) — Source: 3L03045-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	623	661		ug/l				6	20

Duplicate (W3L0678-DUP2) — Source: 3L03048-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	378	336		ug/l				12	20

Duplicate (W3L0678-DUP3) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	658		ug/l				2	20

Matrix Spike (W3L0678-MS1) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	1100		ug/l	500	92	80-120		

Matrix Spike Dup (W3L0678-MSD1) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	1100		ug/l	500	92	80-120	0.2	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3L0516 - EPA 200.7

Blank (W3L0516-BLK1) — Prepared: 12/10/13 Analyzed: 12/11/13 12:56

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		ND		ug/l					

LCS (W3L0516-BS1) — Prepared: 12/10/13 Analyzed: 12/11/13 12:59

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		965		ug/l	1000	97	85-115		

Matrix Spike (W3L0516-MS1) — Source: 3L10044-04 Prepared: 12/10/13 Analyzed: 12/11/13 13:29

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	37.3	1020		ug/l	1000	98	70-130		

Matrix Spike Dup (W3L0516-MSD1) — Source: 3L10044-04 Prepared: 12/10/13 Analyzed: 12/11/13 13:32

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	37.3	995		ug/l	1000	96	70-130	2	30

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1954

Certificate of Analysis

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

3L10011

A3L0508

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Weck Laboratories, Inc.
14859 E Clark Avenue
City of Industry, CA 91745-1396
Phone :(626) 336-2139
Fax: (626) 336-2634
Turnaround (Days): ~~Standard~~ Std
QC Deliverables: I II III IV

Sample ID	Samp Desc	Sample Date
A3L0508-01	ML-4 Zone #4 (163.5-173.5 ft. bgs)	12/05/2013 10:25

Matrix: Water

Analysis (17 LP w/ none

EXT-Iodide	Dissolved
EXT-Miscellaneous	Lithium

Released By — Date: 12/9/13 — Received By: Ontrac — Date: 3:1

Released By: Ontrac — Date — Received By: Jaime Gomez — Date: 12/10/13 09:45

Page 3 of 3

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Sample Receipt Acknowledgement

WORK ORDER: 3L10011
Printed: 12/11/2013 11:57:33AM

Client: BSK Analytical Laboratories
Project: Metals
Project Manager: Kim G Tu
Project Number: A3L0508

Report To:
BSK Analytical Laboratories
Michael Ng
550 West Locust Avenue
Fresno, CA 93650
Phone: (559) 497-2888
Fax: (559) 485-6935

Invoice To:
BSK Analytical Laboratories
Accounts Payable - Anise Foote
550 West Locust Avenue
Fresno, CA 93650
Phone :(559) 497-2888
Fax: (559) 485-6935

Date Due: **12/24/13 15:00 (10 day TAT)**

Received By: Adrian Talabis
Date Received: 12/10/13 09:45
Logged In By: Adrian Talabis
Date Logged In: 12/10/13 11:56

Samples Received at:	**3.1°C**	All containers intact:	**Yes**	Chain of custody completed	**Yes**
Number of Ice chests/packages:		Custody seals presen		Sample labels & COC agree	**Yes**
		Custody seals intact:		Samples preserved properly	**Yes**
Appropriate Sample Containers:		Samples received on ice		Sample volume sufficient	**Yes**
		Custody Seals	**No**	Sufficient holding time for all tests	**Yes**

Analysis	TAT	Expires	Comments
3L10011-01 A3L0508-01 [Water] Sampled 12/05/13 10:25 Pacific			
Iodide water 9056M_Diss	10	01/02/14 10:25	
200.7 Li	10	06/03/14 10:25	Preserved @ lab 10:10 On 12/10/13 by JG

Comments:

Authorized Signature

12/11/2013
Date

Note:
If any of the information included in this sample receipt acknowledgement is incorrect (sample information, analysis, etc), please contact the lab at (626) 336-2139. Thank you.

14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

Pace Analytical®
www.pacelabs.com

January 06, 2014

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3L0508
Pace Project No.: 30109731

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
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Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: A3L0508
Pace Project No.: 30109731

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: A3L0508
Pace Project No.: 30109731

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30109731001	**A3L0508-01**	Water	12/05/13 10:25	12/17/13 10:30

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: A3L0508
Pace Project No.: 30109731

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30109731001	A3L0508-01	EPA 906.0	SLA	1	PASI-PA

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Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: A3L0508
Pace Project No.: 30109731

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: January 06, 2014

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: A3L0508
Pace Project No.: 30109731

Sample: A3L0508-01 **Lab ID: 30109731001** Collected: 12/05/13 10:25 Received: 12/17/13 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-118 ± 123 (231)**	pCi/L	12/21/13 15:24	10028-17-8	

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QUALITY CONTROL DATA

Project: A3L0508
Pace Project No.: 30109731

QC Batch: RADC/18120 Analysis Method: EPA 906.0
QC Batch Method: EPA 906.0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 30109731001

METHOD BLANK: 671627 Matrix: Water
Associated Lab Samples: 30109731001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	-43.1 ± 116 (211)	pCi/L	12/21/13 09:16	

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QUALIFIERS

Project: A3L0508
Pace Project No.: 30109731

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineering Laboratories

SUBCONTRACT ORDER

A3L0508

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): Standard
QC Deliverables: I II III IV

30109781

Sample ID	Samp Desc	Sample Date
A3L0508-01	ML-4 Zone #4 (163.5-173.5 ft. bgs)	12/05/2013 10:25 001

Matrix: Water

Analysis 250 mL AG w/ NONE
EXT-Tritium — Non preserved glass container

Released By 12/10/13 Date — Received By — Date

Released By — Date — Received By — Date

Sample Condition Upon Receipt

Pace Analytical

Client Name: BSC

Project # 30109731

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 12 5Y6 921 03 6491 9459

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 5 6 7 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature N/A Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: [illegible]

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☐Yes	☑No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed MAT / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] **Date:** 12/19/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALL-C003-6 SCURF front 2April2012.xls

Pace Analytical

Project Number: 30109731

Client Name:

Item No.	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.L)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
6.1	W	C																						
Page 11 of 11																								

SCURF Back (C016-4 15May2012).xls

QA Assessment Spreadsheet
PACE Analytical Services

Quality Control Sample Performance Assessment

Pace Analytical

Analyst: SJA
Date: 12/23/2013 Method: EPA 906.0
Worklist: 15120 SOP: PGH-R-021
Matrix: GW MB Sample ID: 571627

Method Blank Assessment						
Analyte	Activity	1.96 Sig Unc.	MDC	Critical Value	Flag	Assessment
Tritium	43.1220	116.3000	210.6000	106.270.00		

Laboratory Control Sample Assessment						
	LCS	LCSD	LCS	LCSD	LCS	LCSD
Analyte:	Tritium					
Count Date:	12/28/13 1:31	12/28/13 2:37				
Spike I.D.:	10.003	10.003				
Spike Concentration (pCi/L):	2511.796	2511.796				
Volume Used (mL):	0.100	0.100				
Aliquot Volume (L, g, F):	0.110	0.112				
Target Conc. (pCi/L, g, F):	2285.113	2292.717				
1.96 Sigma Uncertainty (Calculated):	82.76%	81.61%				
Result (pCi/L, g, F):	2381.969	2053.036				
1.96 Sigma Unc:	229.900	217.900				
% Recovery:	91.02%	81.14%				
Assessment:	Pass	Pass				
Upper % Recovery Limits:	125.00%	125.00%				
Lower % Recovery Limits:	75.00%	75.00%				

Duplicate Sample Assessment	
LCS/LCSD Y or N?:	Y
Analyte:	Tritium
Sample I.D.:	[illegible]
Duplicate Sample I.D.:	LCSD15120
Sample Result (pCi/L, g, F):	2381.9690
1.96 Sigma Unc:	229.9000
Sample Duplicate Result (pCi/L, g, F):	2053.0360
Duplicate Sample 1.96 Sigma Unc.:	217.9000
Either results below MDC?	N
Relative Percent Difference:	1.39%
Assessment:	Pass
% RPD Limit:	25.00%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC

Sample Matrix Spike Control Assessment		
Analyte:	Tritium	Tritium
Sample Collection Date:	12/6/2013	12/13/2013
Sample I.D.:	30109532001	30109729001
Sample MS I.D.:	30109532001MS	30109729001MS
Sample MSD I.D.:		
Spike I.D.:	10.003	10.003
MS/MSD Decay Corrected Spike Conc. (pCi/L):	2517.894	2516.037
Spike Volume Used in MS (mL):	0.20	0.20
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.1067	0.1020
MS Target Conc.(pCi/L, g, F):	4739.576	4931.445
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike uncertainty (calculated):	126.506	126.319
MSD Spike uncertainty (calculated):		
Sample Result:	3496.280	38.060
Sample 1.96 Sigma Unc.:	284.900	123.700
Sample Matrix Spike Result:	7693.990	4546.940
Sample MS 1.96 Sigma Unc.:	376.600	408.800
Sample Matrix Spike Duplicate Result:		
Sample MSD 1.96 Sigma Unc.:		
MS % Recovery:	92.70%	92.88%
MSD % Recovery:		
MS Assessment:	Pass	Pass
MSD Assessment:		
MS/MSD Upper % Recovery Limits:	125.00%	125.00%
MS/MSD Lower % Recovery Limits:	75.00%	75.00%

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Analyte:	
Sample I.D.:	
Sample MS I.D.:	
Sample MSD I.D.:	
Sample Matrix Spike Result:	
Sample Matrix Spike 1.96 Sigma Unc.:	
Sample Matrix Spike Duplicate Result:	
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:	
MS/MSD Relative Percent Difference:	
MS/ MSD RPD Assessment:	
% RPD Limit:	

Comments:

QC Sheet.frxg
Printed: 1/6/2014 11:44 AM

Page 1

P:\...\GW_QC.xls
Rad QC Templates\2013\12 Dec 2013.xls

QA Assessment Spreadsheet
PACE Analytical Services

Quality Control Sample Performance Assessment

Pace Analytical

Analyst: SLA
Date: 12/23/2013 Method: EPA 906.0
Worklist: 15120 SOP: PCH-R-02
Matrix: DW MB Sample ID: 671627

Method Blank Assessment

Analyte	Activity	1.96 Sig Unc.	MDC	Critical Value	Flag	Assessment
Tritium	-42.1263	116.3000	218.8000	100.2700		

Laboratory Control Sample Assessment

	LCS	LCSD	LCS	LCSD	LCS	LCSD
Analyte:	Tritium					
Count Date:	12/23/13 17:34	12/23/13 17:37				
Spike I.D.:	10-003	10-003				
Spike Concentration (pCi/L):	2510.796	2511.779				
Volume Used (mL):	0.100	0.100				
Aliquot Volume (L, g, F):	0.110	0.112				
Target Conc. (pCi/L, g, F):	2285.313	2252.717				
1.96 Sigma Uncertainty (Calculated):	62.703	61.815				
Result (pCi/L, g, F):	2061.850	2053.800				
1.96 Sigma Unc:	223.300	217.900				
% Recovery:	90.20%	91.14%				
Assessment:	Pass	Pass				
Upper % Recovery Limits:	125.00%	125.00%				
Lower % Recovery Limits:	75.00%	75.00%				

Duplicate Sample Assessment

LCS/LCSD Y or N?:	Y
Analyte:	Tritium
Sample I.D.:	LCS#6120
Duplicate Sample I.D.:	LCSD#6121
Sample Result (pCi/L, g, F):	2061.8500
1.96 Sigma Unc.:	223.3000
Sample Duplicate Result (pCi/L, g, F):	2053.8000
Duplicate Sample 1.96 Sigma Unc.:	217.9000
Either results below MDC?	N
Relative Percent Difference:	1.39%
Assessment:	Pass
% RPD Limit:	25.00%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Sample Matrix Spike Control Assessment

Analyte:	Tritium	Tritium
Sample Collection Date:	12/6/2013	12/13/2013
Sample I.D.:	30108932001	30109229001
Sample MS I.D.:	30108932001MS	30109229001MS
Sample MSD I.D.:		
Spike I.D.:	10-003	10-003
MS/MSD Decay Corrected Spike Conc. (pCi/L):	2517.894	2513.037
Spike Volume Used in MS (mL):	0.10	0.20
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.1357	0.1220
MS Target Conc. (pCi/L, g, F):	4713.576	4931.445
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike uncertainty (calculated):	129.505	135.310
MSD Spike uncertainty (calculated):		
Sample Result:	3424.850	456.060
Sample 1.96 Sigma Unc.:	289.900	123.700
Sample Matrix Spike Result:	7843.900	4546.580
Sample MS 1.96 Sigma Unc.:	376.000	302.600
Sample Matrix Spike Duplicate Result:		
Sample MSD 1.96 Sigma Unc.:		
MS % Recovery:	94.99%	92.68%
MSD % Recovery:		
MS Assessment:	Pass	Pass
MSD Assessment:		
MS/MSD Upper % Recovery Limits:	125.00%	125.00%
MS/MSD Lower % Recovery Limits:	75.00%	75.00%

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Analyte:		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Sample Matrix Spike 1.96 Sigma Unc.:		
Sample Matrix Spike Duplicate Result:		
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:		
MS/MSD Relative Percent Difference:		
MS/ MSD RPD Assessment:		
% RPD Limit:		

Comments:

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

CERTIFICATE OF ANALYSIS

Client:	California American Water-Monterey P.O.BOX 951 Monterey CA, 93942-0951	**Report Date:**	01/06/14 12:51
		Received Date:	12/09/13 19:49
		Turn Around:	Normal
Attention:	Travis Peterson	**Client Project:**	Water Quality Analysis- MPWSP
Phone:	(831) 464-3269		
Fax:	-		
Work Order(s):	3L09093		

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Travis Peterson :

Enclosed are the results of analyses for samples received 12/09/13 19:49 with the Chain of Custody document. The samples were received in good condition, at 3.4 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Case Narrative:

Reviewed by:

Hai Van Nguyen
Project Manager

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 12/09/13 19:49
Date Reported: 01/06/14 12:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Lab ID	Matrix	Date Sampled
ML-4 Zone # 2 (74.5-84.5 ftbgs)	Nathan Reynolds		3L09093-01	Water	12/06/13 12:25

ANALYSES

Anions by IC, EPA Method 300.0/300.1/326
Carbamates and Urea Pesticides
Chlorinated Herbicides
Chlorinated Pesticides and/or PCBs
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods
Diquat and Paraquat by EPA 549.2
Endothall By EPA 548.1
Fumigants by EPA Method 504.1
Glyphosate by EPA 547
Metals by EPA 200 Series Methods
Semivolatile Organic Compounds by GC/MS
Subcontracted Analyses
Volatile Organic Compounds by EPA Method 524.2

Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634

www.wecklabs.com

Weck Laboratories, Inc.
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California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 12/09/13 19:49
Date Reported: 01/06/14 12:51

3L09093-01 ML-4 Zone # 2 (74.5-84.5 ftbgs)

Sampled: 12/06/13 12:25 **Sampled By:** Nathan Reynolds **Matrix:** Water

Anions by IC, EPA Method 300.0/300.1/326

Method: EPA 300.0 Batch: W3L0726 Prepared: 12/13/13 15:22 Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Chloride, Total	**4600**	250	mg/l	500	12/13/13 21:24	
Fluoride, Total	ND	0.50	mg/l	5	12/13/13 21:24	M-05
Sulfate as SO4	**420**	250	mg/l	500	12/13/13 21:24	

Method: EPA 300.1 Batch: W3L0650 Prepared: 12/12/13 13:00 Analyst: cwh

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Bromide	**16000**		1000	ug/l	100	12/13/13 17:23	
Surr: Dichloroacetate	*96 %*	Conc:*480*	*90-115*	%			

Carbamates and Urea Pesticides

Method: EPA 531.1 Batch: W3L0819 Prepared: 12/16/13 13:19 Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
3-Hydroxycarbofuran	ND	2.0	ug/l	1	12/17/13 01:13	
Aldicarb	ND	2.0	ug/l	1	12/17/13 01:13	
Aldicarb sulfone	ND	2.0	ug/l	1	12/17/13 01:13	
Aldicarb sulfoxide	ND	2.0	ug/l	1	12/17/13 01:13	
Carbaryl	ND	2.0	ug/l	1	12/17/13 01:13	
Carbofuran	ND	2.0	ug/l	1	12/17/13 01:13	
Methiocarb	ND	2.0	ug/l	1	12/17/13 01:13	
Methomyl	ND	2.0	ug/l	1	12/17/13 01:13	
Oxamyl	ND	2.0	ug/l	1	12/17/13 01:13	
Propoxur (Baygon)	ND	2.0	ug/l	1	12/17/13 01:13	

Chlorinated Herbicides

Method: EPA 515.3 Batch: W3L0427 Prepared: 12/09/13 19:54 Analyst: mxw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
2,4,5-T	ND	0.20	ug/l	1	12/13/13 04:55	
2,4,5-TP (Silvex)	ND	0.20	ug/l	1	12/13/13 04:55	
2,4-D	ND	0.40	ug/l	1	12/13/13 04:55	
2,4-DB	ND	2.0	ug/l	1	12/13/13 04:55	
3,5-Dichlorobenzoic acid	ND	1.0	ug/l	1	12/13/13 04:55	
Acifluorfen	ND	0.40	ug/l	1	12/13/13 04:55	
Bentazon	ND	2.0	ug/l	1	12/13/13 04:55	
Dalapon	ND	0.40	ug/l	1	12/13/13 04:55	
DCPA	ND	0.10	ug/l	1	12/13/13 04:55	
Dicamba	ND	0.60	ug/l	1	12/13/13 04:55	
Dichloroprop	ND	0.30	ug/l	1	12/13/13 04:55	
Dinoseb	ND	0.40	ug/l	1	12/13/13 04:55	
Pentachlorophenol	ND	0.20	ug/l	1	12/13/13 04:55	
Picloram	ND	0.60	ug/l	1	12/13/13 04:55	

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Date Received: 12/09/13 19:49
Date Reported: 01/06/14 12:51

3L09093-01 **ML-4 Zone # 2 (74.5-84.5 ftbgs)**

Sampled: 12/06/13 12:25 **Sampled By:** Nathan Reynolds **Matrix:** Water

Chlorinated Herbicides

Method: EPA 515.3 Batch: W3L0427 Prepared: 12/09/13 19:54 Analyst: mxw

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Surr: 2,4-DCAA	*83 %*	Conc:*8.27*	*70-130*	%			

Chlorinated Pesticides and/or PCBs

Method: EPA 508 Batch: W3L0474 Prepared: 12/10/13 10:12 Analyst: mxw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
4,4´-DDD	ND	0.010	ug/l	1	12/17/13 09:43	
4,4´-DDE	ND	0.010	ug/l	1	12/17/13 09:43	
4,4´-DDT	ND	0.010	ug/l	1	12/17/13 09:43	
Aldrin	ND	0.010	ug/l	1	12/17/13 09:43	
alpha-BHC	ND	0.010	ug/l	1	12/17/13 09:43	
Aroclor 1016	ND	0.10	ug/l	1	12/17/13 09:43	
Aroclor 1221	ND	0.10	ug/l	1	12/17/13 09:43	
Aroclor 1232	ND	0.10	ug/l	1	12/17/13 09:43	
Aroclor 1242	ND	0.10	ug/l	1	12/17/13 09:43	
Aroclor 1248	ND	0.10	ug/l	1	12/17/13 09:43	
Aroclor 1254	ND	0.10	ug/l	1	12/17/13 09:43	
Aroclor 1260	ND	0.10	ug/l	1	12/17/13 09:43	
beta-BHC	ND	0.010	ug/l	1	12/17/13 09:43	
Chlordane (tech)	ND	0.10	ug/l	1	12/17/13 09:43	
Chlorothalonil	ND	0.050	ug/l	1	12/17/13 09:43	
delta-BHC	ND	0.010	ug/l	1	12/17/13 09:43	
Dieldrin	ND	0.010	ug/l	1	12/17/13 09:43	
Endosulfan I	ND	0.010	ug/l	1	12/17/13 09:43	
Endosulfan II	ND	0.010	ug/l	1	12/17/13 09:43	
Endosulfan sulfate	ND	0.010	ug/l	1	12/17/13 09:43	
Endrin	ND	0.010	ug/l	1	12/17/13 09:43	
Endrin aldehyde	ND	0.010	ug/l	1	12/17/13 09:43	
gamma-BHC (Lindane)	ND	0.010	ug/l	1	12/17/13 09:43	
Heptachlor	ND	0.010	ug/l	1	12/17/13 09:43	
Heptachlor epoxide	ND	0.010	ug/l	1	12/17/13 09:43	
Hexachlorobenzene	ND	0.010	ug/l	1	12/17/13 09:43	
Hexachlorocyclopentadiene	ND	0.050	ug/l	1	12/17/13 09:43	
Methoxychlor	ND	0.010	ug/l	1	12/17/13 09:43	
PCBs, Total	ND	0.50	ug/l	1	12/17/13 09:43	
Propachlor	ND	0.050	ug/l	1	12/17/13 09:43	
Toxaphene	ND	1.0	ug/l	1	12/17/13 09:43	
Trifluralin	ND	0.010	ug/l	1	12/17/13 09:43	
Surr: Decachlorobiphenyl	*83 %*	Conc:*0.0788*	*70-130*	%		
Surr: Tetrachloro-meta-xylene	*92 %*	Conc:*0.0877*	*70-130*	%		

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Date Received: 12/09/13 19:49
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3L09093-01 ML-4 Zone # 2 (74.5-84.5 ftbgs)

Sampled: 12/06/13 12:25 **Sampled By:** Nathan Reynolds **Matrix:** Water

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: EPA 140.1 Batch: W3L0372 Prepared: 12/07/13 12:00 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Threshold Odor Number	**1.0**	1.0	T.O.N.	1	12/07/13 12:30	

Method: EPA 180.1 Batch: W3L0373 Prepared: 12/07/13 11:30 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Turbidity	**2.8**	0.10	NTU	1	12/07/13 11:55	

Method: EPA 350.1 Batch: W3L0783 Prepared: 12/16/13 10:05 Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Ammonia as N, Dissolved	**1.7**	0.20	mg/l	2	12/16/13 16:55	

Method: EPA 351.2 Batch: W3L0717 Prepared: 12/13/13 12:12 Analyst: rjs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
TKN, Soluble	**0.15**	0.10	mg/l	1	12/19/13 12:07	

Method: EPA 353.2 Batch: W3L0369 Prepared: 12/07/13 15:00 Analyst: mbc

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Nitrate as NO3	ND	0.50	mg/l	1	12/07/13 16:24	
NO2+NO3 as N	ND	100	ug/l	1	12/07/13 15:19	

Method: EPA 365.3 Batch: W3L0379 Prepared: 12/07/13 14:45 Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
o-Phosphate as P	**0.077**	0.010	mg/l	1	12/07/13 18:32	**

Method: EPA 365.3 Batch: W3L0675 Prepared: 12/12/13 16:24 Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Phosphorus, Dissolved	**0.047**	0.010	mg/l	1	12/19/13 11:48	

Method: SM 2120B Batch: W3L0371 Prepared: 12/07/13 11:30 Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Color	ND	3.0	Color Units	1	12/07/13 11:40	

Method: SM 2320B Batch: W3L0691 Prepared: 12/13/13 08:27 Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Alkalinity as CaCO3	**200**	2.0	mg/l	1	12/13/13 10:54	
Alkalinity as CaCO3	**200**	2.0	mg/l	1	12/13/13 10:54	
Bicarbonate Alkalinity as HCO3	**240**	2.0	mg/l	1	12/13/13 10:54	
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l	1	12/13/13 10:54	
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l	1	12/13/13 10:54	

Method: SM 2510B Batch: W3L0862 Prepared: 12/17/13 11:10 Analyst: ajp

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3L09093-01 ML-4 Zone # 2 (74.5-84.5 ftbgs)

Sampled: 12/06/13 12:25 **Sampled By:** Nathan Reynolds **Matrix:** Water

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: SM 2510B | Batch: W3L0862 | Prepared: 12/17/13 11:10 | Analyst: ajp

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Specific Conductance (EC)	**13000**	2.0	umhos/cm	1	12/17/13 12:58	

Method: SM 2540C | Batch: W3L0566 | Prepared: 12/11/13 10:57 | Analyst: ajw

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Dissolved Solids	**8600**	10	mg/l	1	12/11/13 13:35	

Method: SM 4500H+-B | Batch: W3L0378 | Prepared: 12/07/13 13:40 | Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
pH	**6.79**	0.10	Units	1	12/07/13 18:47	*

Method: SM 5540C | Batch: W3L0375 | Prepared: 12/07/13 13:53 | Analyst: nra

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
MBAS	ND	0.050	mg/l	1	12/07/13 13:56	

Method: Various | Batch: [CALC] | Prepared: 12/13/13 15:22 | Analyst: atl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Anions	**140**	12	meq/l	500	12/13/13 21:24	

Diquat and Paraquat by EPA 549.2

Method: EPA 549.2 | Batch: W3L0464 | Prepared: 12/10/13 09:23 | Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Diquat	ND	4.0	ug/l	1	12/11/13 13:51	

Endothall By EPA 548.1

Method: EPA 548.1 | Batch: W3L0699 | Prepared: 12/13/13 09:37 | Analyst: abj

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Endothall	ND	45	ug/l	1	12/23/13 11:06	

Fumigants by EPA Method 504.1

Method: EPA 504.1 | Batch: W3L0818 | Prepared: 12/16/13 13:07 | Analyst: jch

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
1,2-Dibromo-3-chloropropane	ND	0.010	ug/l	1	12/20/13 00:14	
1,2-Dibromoethane (EDB)	ND	0.020	ug/l	1	12/20/13 00:14	

Glyphosate by EPA 547

Method: EPA 547 | Batch: W3L0486 | Prepared: 12/10/13 11:37 | Analyst: cwh

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Glyphosate	ND	5.0	ug/l	1	12/10/13 13:00	

Metals by EPA 200 Series Methods

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3L09093-01 ML-4 Zone # 2 (74.5-84.5 ftbgs)

Sampled: 12/06/13 12:25 **Sampled By:** Nathan Reynolds **Matrix:** Water

Metals by EPA 200 Series Methods

Method: [CALC] Batch: [CALC] Prepared: 12/20/13 16:38 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Total Cations	**140**	0.037	meq/l	1	12/24/13 10:59	

Method: EPA 200.7 Batch: [CALC] Prepared: 12/20/13 16:38 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Calcium Hardness as CaCO3	**1830**	0.250	mg/l	1	12/24/13 10:59	

Method: EPA 200.7 Batch: W3L1101 Prepared: 12/20/13 16:38 Analyst: jck

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Barium, Dissolved	**0.34**	0.0020	mg/l	1	12/24/13 10:56	
Boron, Dissolved	**190**	10	ug/l	1	12/24/13 10:56	
Calcium, Dissolved	**730**	0.100	mg/l	1	12/24/13 10:56	
Calcium, Total	**734**	0.100	mg/l	1	12/24/13 10:59	
Iron, Dissolved	ND	20	ug/l	2	12/24/13 11:06	M-04
Iron, Total	**10**	0.010	mg/l	1	12/24/13 10:59	
Magnesium, Dissolved	**507**	0.100	mg/l	1	12/24/13 10:56	
Magnesium, Total	**512**	0.100	mg/l	1	12/24/13 10:59	
Manganese, Dissolved	**5000**	5.0	ug/l	1	12/24/13 10:56	
Manganese, Total	**5.1**	0.0050	mg/l	1	12/24/13 10:59	
Potassium, Dissolved	**36**	0.10	mg/l	1	12/24/13 10:56	
Potassium, Total	**37**	0.10	mg/l	1	12/24/13 10:59	
Silica as SiO2, Dissolved	**40**	0.10	mg/l	1	12/24/13 10:56	
Sodium, Dissolved	**1400**	0.50	mg/l	1	12/24/13 10:56	
Sodium, Total	**1400**	0.50	mg/l	1	12/24/13 10:59	
Strontium, Dissolved	**5300**	2.0	ug/l	1	12/24/13 10:56	

Method: EPA 200.8 Batch: W3L1103 Prepared: 12/20/13 16:44 Analyst: rrl

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Aluminum, Total	**17**	5.0	ug/l	1	12/27/13 01:50	
Arsenic, Total	**0.71**	0.40	ug/l	1	12/27/13 01:50	
Copper, Total	**11**	0.50	ug/l	1	12/27/13 01:50	
Zinc, Total	**29**	5.0	ug/l	1	12/27/13 01:50	

Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2 Batch: W3L0431 Prepared: 12/10/13 10:34 Analyst: abj

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Alachlor	ND	0.10	ug/l	1	12/13/13 20:07	
Atrazine	ND	0.10	ug/l	1	12/13/13 20:07	
Benzo (a) pyrene	ND	0.10	ug/l	1	12/13/13 20:07	
Bis(2-ethylhexyl)adipate	ND	5.0	ug/l	1	12/13/13 20:07	
Bis(2-ethylhexyl)phthalate	ND	3.0	ug/l	1	12/13/13 20:07	

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3L09093-01 ML-4 Zone # 2 (74.5-84.5 ftbgs)

Sampled: 12/06/13 12:25 **Sampled By:** Nathan Reynolds **Matrix:** Water

Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2 Batch: W3L0431 Prepared: 12/10/13 10:34 Analyst: abj

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Bromacil	ND		0.50	ug/l	1	12/13/13 20:07	
Butachlor	ND		0.10	ug/l	1	12/13/13 20:07	
Captan	ND		1.0	ug/l	1	12/13/13 20:07	
Chloropropham	ND		0.10	ug/l	1	12/13/13 20:07	
Cyanazine	ND		0.10	ug/l	1	12/13/13 20:07	
Diazinon	ND		0.10	ug/l	1	12/13/13 20:07	
Dimethoate	ND		0.20	ug/l	1	12/13/13 20:07	
Diphenamid	ND		0.10	ug/l	1	12/13/13 20:07	
Disulfoton	ND		0.10	ug/l	1	12/13/13 20:07	
EPTC	ND		0.10	ug/l	1	12/13/13 20:07	
Metolachlor	ND		0.10	ug/l	1	12/13/13 20:07	
Metribuzin	ND		0.10	ug/l	1	12/13/13 20:07	
Molinate	ND		0.10	ug/l	1	12/13/13 20:07	
Prometon	ND		0.10	ug/l	1	12/13/13 20:07	
Prometryn	ND		0.10	ug/l	1	12/13/13 20:07	
Simazine	ND		0.10	ug/l	1	12/13/13 20:07	
Terbacil	ND		2.0	ug/l	1	12/13/13 20:07	
Thiobencarb	ND		0.10	ug/l	1	12/13/13 20:07	
Trithion	ND		0.10	ug/l	1	12/13/13 20:07	
Surr: 1,3-Dimethyl-2-nitrobenzene	*99 %*	Conc:*4.94*	*73-138*	%			
Surr: Perylene-d12	*28 %*	Conc:*1.38*	*30-118*	%			*S-11*
Surr: Triphenyl phosphate	*105 %*	Conc:*5.24*	*70-149*	%			

Subcontracted Analyses

Method: EPA 906.0 Batch: W4A0158 Prepared: 12/19/13 15:48 Analyst: sub

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Tritium	**-110**		pCi/L	1	12/19/13 15:48	A-01
Counting Error (+/-): 130 MDA: 240						

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W3L0452 Prepared: 12/10/13 08:29 Analyst: mdt

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
1,1,1,2-Tetrachloroethane	ND	0.50	ug/l	1	12/10/13 22:45	
1,1,1-Trichloroethane	ND	0.50	ug/l	1	12/10/13 22:45	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	1	12/10/13 22:45	
1,1,2-Trichloroethane	ND	0.50	ug/l	1	12/10/13 22:45	
1,1-Dichloroethane	ND	0.50	ug/l	1	12/10/13 22:45	
1,1-Dichloroethene	ND	0.50	ug/l	1	12/10/13 22:45	
1,1-Dichloropropene	ND	0.50	ug/l	1	12/10/13 22:45	
1,2,3-Trichlorobenzene	ND	0.50	ug/l	1	12/10/13 22:45	

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3L09093-01 **ML-4 Zone # 2 (74.5-84.5 ftbgs)**

Sampled: 12/06/13 12:25 **Sampled By:** Nathan Reynolds **Matrix:** Water

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W3L0452 Prepared: 12/10/13 08:29 Analyst: mdt

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
1,2,3-Trichloropropane	ND	0.50	ug/l	1	12/10/13 22:45	
1,2,4-Trichlorobenzene	ND	0.50	ug/l	1	12/10/13 22:45	
1,2,4-Trimethylbenzene	ND	0.50	ug/l	1	12/10/13 22:45	
1,2-Dichloroethane	ND	0.50	ug/l	1	12/10/13 22:45	
1,2-Dichloropropane	ND	0.50	ug/l	1	12/10/13 22:45	
1,3,5-Trimethylbenzene	ND	0.50	ug/l	1	12/10/13 22:45	
1,3-Dichloropropane	ND	0.50	ug/l	1	12/10/13 22:45	
1,3-Dichloropropene, Total	ND	0.50	ug/l	1	12/10/13 22:45	
2,2-Dichloropropane	ND	0.50	ug/l	1	12/10/13 22:45	
2-Butanone	ND	5.0	ug/l	1	12/10/13 22:45	
2-Chloroethyl vinyl ether	ND	1.0	ug/l	1	12/10/13 22:45	
2-Chlorotoluene	ND	0.50	ug/l	1	12/10/13 22:45	
2-Hexanone	ND	5.0	ug/l	1	12/10/13 22:45	
4-Chlorotoluene	ND	0.50	ug/l	1	12/10/13 22:45	
4-Methyl-2-pentanone	ND	5.0	ug/l	1	12/10/13 22:45	
Benzene	ND	0.50	ug/l	1	12/10/13 22:45	
Bromobenzene	ND	0.50	ug/l	1	12/10/13 22:45	
Bromochloromethane	ND	0.50	ug/l	1	12/10/13 22:45	
Bromodichloromethane	ND	0.50	ug/l	1	12/10/13 22:45	
Bromoform	ND	0.50	ug/l	1	12/10/13 22:45	
Bromomethane	ND	0.50	ug/l	1	12/10/13 22:45	
Carbon tetrachloride	ND	0.50	ug/l	1	12/10/13 22:45	
Chlorobenzene	ND	0.50	ug/l	1	12/10/13 22:45	
Chloroethane	ND	0.50	ug/l	1	12/10/13 22:45	
Chloroform	ND	0.50	ug/l	1	12/10/13 22:45	
Chloromethane	ND	0.50	ug/l	1	12/10/13 22:45	
cis-1,2-Dichloroethene	ND	0.50	ug/l	1	12/10/13 22:45	
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	12/10/13 22:45	
Dibromochloromethane	ND	0.50	ug/l	1	12/10/13 22:45	
Dibromomethane	ND	0.50	ug/l	1	12/10/13 22:45	
Dichlorodifluoromethane (Freon 12)	ND	0.50	ug/l	1	12/10/13 22:45	
Di-isopropyl ether	ND	2.0	ug/l	1	12/10/13 22:45	
Ethyl tert-butyl ether	ND	2.0	ug/l	1	12/10/13 22:45	
Ethylbenzene	ND	0.50	ug/l	1	12/10/13 22:45	
Freon 113	ND	5.0	ug/l	1	12/10/13 22:45	
Hexachlorobutadiene	ND	0.50	ug/l	1	12/10/13 22:45	
Isopropylbenzene	ND	0.50	ug/l	1	12/10/13 22:45	
m,p-Xylene	ND	0.50	ug/l	1	12/10/13 22:45	
m-Dichlorobenzene	ND	0.50	ug/l	1	12/10/13 22:45	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	12/10/13 22:45	

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3L09093-01 **ML-4 Zone # 2 (74.5-84.5 ftbgs)**

Sampled: 12/06/13 12:25 **Sampled By:** Nathan Reynolds **Matrix:** Water

Volatile Organic Compounds by EPA Method 524.2

Method: EPA 524.2 Batch: W3L0452 Prepared: 12/10/13 08:29 Analyst: mdt

Analyte	Result		MRL	Units	Dil	Analyzed	Qualifier
Methylene chloride	ND		0.50	ug/l	1	12/10/13 22:45	
Naphthalene	ND		0.50	ug/l	1	12/10/13 22:45	
n-Butylbenzene	ND		0.50	ug/l	1	12/10/13 22:45	
n-Propylbenzene	ND		0.50	ug/l	1	12/10/13 22:45	
o-Dichlorobenzene	ND		0.50	ug/l	1	12/10/13 22:45	
o-Xylene	ND		0.50	ug/l	1	12/10/13 22:45	
p-Dichlorobenzene	ND		0.50	ug/l	1	12/10/13 22:45	
p-Isopropyltoluene	ND		0.50	ug/l	1	12/10/13 22:45	
sec-Butylbenzene	ND		0.50	ug/l	1	12/10/13 22:45	
Styrene	ND		0.50	ug/l	1	12/10/13 22:45	
Tert-amyl methyl ether	ND		2.0	ug/l	1	12/10/13 22:45	
tert-Butylbenzene	ND		0.50	ug/l	1	12/10/13 22:45	
Tetrachloroethene	ND		0.50	ug/l	1	12/10/13 22:45	
THMs, Total	ND		2.0	ug/l	1	12/10/13 22:45	
Toluene	ND		0.50	ug/l	1	12/10/13 22:45	
trans-1,2-Dichloroethene	ND		0.50	ug/l	1	12/10/13 22:45	
trans-1,3-Dichloropropene	ND		0.50	ug/l	1	12/10/13 22:45	
Trichloroethene	ND		0.50	ug/l	1	12/10/13 22:45	
Trichlorofluoromethane	ND		0.50	ug/l	1	12/10/13 22:45	
Vinyl chloride	ND		0.50	ug/l	1	12/10/13 22:45	
Xylenes, Total	ND		1.0	ug/l	1	12/10/13 22:45	
Surr: 1,2-Dichlorobenzene-d4	*81 %*	Conc:*8.06*	*70-130*	%			
Surr: 4-Bromofluorobenzene	*97 %*	Conc:*9.69*	*70-130*	%			

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QUALITY CONTROL SECTION

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Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W3L0650 - EPA 300.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0650-BLK1)				Analyzed: 12/13/13 17:23						
Bromide	ND	10	ug/l							
Surr: Dichloroacetate	*497*		*ug/l*	*500*		*99*	*90-115*			
LCS (W3L0650-BS1)				Analyzed: 12/13/13 17:23						
Bromide	106	10	ug/l	100		106	85-115			
Surr: Dichloroacetate	*480*		*ug/l*	*500*		*96*	*90-115*			
Matrix Spike (W3L0650-MS1)	**Source: 3L10068-02**			Analyzed: 12/13/13 17:23						
Bromide	102	10	ug/l	100	ND	102	73-125			
Surr: Dichloroacetate	*489*		*ug/l*	*500*		*98*	*90-115*			
Matrix Spike Dup (W3L0650-MSD1)	**Source: 3L10068-02**			Analyzed: 12/13/13 17:23						
Bromide	103	10	ug/l	100	ND	103	73-125	0.6	20	
Surr: Dichloroacetate	*500*		*ug/l*	*500*		*100*	*90-115*			

Batch W3L0726 - EPA 300.0

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0726-BLK1)				Analyzed: 12/13/13 21:24						
Chloride, Total	ND	0.50	mg/l							
Fluoride, Total	ND	0.10	mg/l							
Sulfate as SO4	ND	0.50	mg/l							
LCS (W3L0726-BS1)				Analyzed: 12/13/13 21:24						
Chloride, Total	3.93	0.50	mg/l	4.00		98	90-110			
Fluoride, Total	1.96	0.10	mg/l	2.00		98	90-110			
Sulfate as SO4	8.54	0.50	mg/l	8.00		107	90-110			
Matrix Spike (W3L0726-MS1)	**Source: 3L11073-01**			Analyzed: 12/13/13 21:24						
Chloride, Total	166	12	mg/l	100	69.0	97	76-118			
Fluoride, Total	47.9	2.5	mg/l	50.0	1.31	93	86-107			
Sulfate as SO4	499	12	mg/l	200	304	98	78-111			
Matrix Spike Dup (W3L0726-MSD1)	**Source: 3L11073-01**			Analyzed: 12/13/13 21:24						
Chloride, Total	166	12	mg/l	100	69.0	97	76-118	0.2	20	
Fluoride, Total	48.3	2.5	mg/l	50.0	1.31	94	86-107	0.8	20	
Sulfate as SO4	515	12	mg/l	200	304	105	78-111	3	20	

Carbamates and Urea Pesticides - Quality Control

Batch W3L0819 - EPA 531.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0819-BLK1)				Analyzed: 12/17/13 01:13						
3-Hydroxycarbofuran	ND	2.0	ug/l							
Aldicarb	ND	2.0	ug/l							
Aldicarb sulfone	ND	2.0	ug/l							
Aldicarb sulfoxide	ND	2.0	ug/l							

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Carbamates and Urea Pesticides - Quality Control

Batch W3L0819 - EPA 531.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0819-BLK1)				Analyzed: 12/17/13 01:13						
Carbaryl	ND	2.0	ug/l							
Carbofuran	ND	2.0	ug/l							
Methiocarb	ND	2.0	ug/l							
Methomyl	ND	2.0	ug/l							
Oxamyl	ND	2.0	ug/l							
Propoxur (Baygon)	ND	2.0	ug/l							
LCS (W3L0819-BS1)				Analyzed: 12/17/13 01:13						
3-Hydroxycarbofuran	10.6	2.0	ug/l	10.0		106	80-120			
Aldicarb	11.1	2.0	ug/l	10.0		111	80-120			
Aldicarb sulfone	10.6	2.0	ug/l	10.0		106	80-120			
Aldicarb sulfoxide	11.4	2.0	ug/l	10.0		114	80-120			
Carbaryl	11.6	2.0	ug/l	10.0		116	80-120			
Carbofuran	11.0	2.0	ug/l	10.0		110	80-120			
Methiocarb	11.5	2.0	ug/l	10.0		115	80-120			
Methomyl	10.5	2.0	ug/l	10.0		105	80-120			
Oxamyl	11.1	2.0	ug/l	10.0		111	80-120			
Propoxur (Baygon)	10.4	2.0	ug/l	10.0		104	80-120			
Matrix Spike (W3L0819-MS1)	**Source: 3L09082-05**			Analyzed: 12/17/13 01:13						
3-Hydroxycarbofuran	8.90	2.0	ug/l	10.0	ND	89	65-135			
Aldicarb	9.90	2.0	ug/l	10.0	ND	99	65-135			
Aldicarb sulfone	7.56	2.0	ug/l	10.0	ND	76	65-135			
Aldicarb sulfoxide	8.52	2.0	ug/l	10.0	ND	85	65-135			
Carbaryl	9.23	2.0	ug/l	10.0	ND	92	65-135			
Carbofuran	9.92	2.0	ug/l	10.0	ND	99	65-135			
Methiocarb	9.54	2.0	ug/l	10.0	ND	95	65-135			
Methomyl	8.36	2.0	ug/l	10.0	ND	84	65-135			
Oxamyl	8.08	2.0	ug/l	10.0	ND	81	65-135			
Propoxur (Baygon)	7.58	2.0	ug/l	10.0	ND	76	65-135			
Matrix Spike Dup (W3L0819-MSD1)	**Source: 3L09082-05**			Analyzed: 12/17/13 01:13						
3-Hydroxycarbofuran	7.88	2.0	ug/l	10.0	ND	79	65-135	12	30	
Aldicarb	9.44	2.0	ug/l	10.0	ND	94	65-135	5	30	
Aldicarb sulfone	8.02	2.0	ug/l	10.0	ND	80	65-135	6	30	
Aldicarb sulfoxide	9.49	2.0	ug/l	10.0	ND	95	65-135	11	30	
Carbaryl	9.66	2.0	ug/l	10.0	ND	97	65-135	5	30	
Carbofuran	8.36	2.0	ug/l	10.0	ND	84	65-135	17	30	
Methiocarb	7.58	2.0	ug/l	10.0	ND	76	65-135	23	30	
Methomyl	9.07	2.0	ug/l	10.0	ND	91	65-135	8	30	
Oxamyl	9.58	2.0	ug/l	10.0	ND	96	65-135	17	30	
Propoxur (Baygon)	7.77	2.0	ug/l	10.0	ND	78	65-135	3	30	

Chlorinated Herbicides - Quality Control

Batch W3L0427 - EPA 515.3

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Chlorinated Herbicides - Quality Control

Batch W3L0427 - EPA 515.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0427-BLK1)				Analyzed: 12/12/13 17:48						
2,4,5-T	ND	0.20	ug/l							
2,4,5-TP (Silvex)	ND	0.20	ug/l							
2,4-D	ND	0.40	ug/l							
2,4-DB	ND	2.0	ug/l							
3,5-Dichlorobenzoic acid	ND	1.0	ug/l							
Acifluorfen	ND	0.40	ug/l							
Bentazon	ND	2.0	ug/l							
Dalapon	ND	0.40	ug/l							
DCPA	ND	0.10	ug/l							
Dicamba	ND	0.60	ug/l							
Dichloroprop	ND	0.30	ug/l							
Dinoseb	ND	0.40	ug/l							
Pentachlorophenol	ND	0.20	ug/l							
Picloram	ND	0.60	ug/l							
Surr: 2,4-DCAA	*7.91*		*ug/l*	*10.0*		*79*	*70-130*			
LCS (W3L0427-BS1)				Analyzed: 12/12/13 18:16						
2,4,5-T	3.65	0.20	ug/l	4.00		91	70-130			
2,4,5-TP (Silvex)	3.68	0.20	ug/l	4.00		92	70-130			
2,4-D	8.45	0.40	ug/l	8.00		106	70-130			
2,4-DB	12.3	2.0	ug/l	16.0		77	70-130			
3,5-Dichlorobenzoic acid	8.17	1.0	ug/l	8.00		102	70-130			
Acifluorfen	3.09	0.40	ug/l	4.00		77	70-130			
Bentazon	13.4	2.0	ug/l	16.0		84	70-130			
Dalapon	7.70	0.40	ug/l	8.00		96	70-130			
DCPA	3.36	0.10	ug/l	4.00		84	70-130			
Dicamba	7.08	0.60	ug/l	8.00		88	70-130			
Dichloroprop	8.47	0.30	ug/l	8.00		106	70-130			
Dinoseb	2.98	0.40	ug/l	4.00		74	70-130			
Pentachlorophenol	3.45	0.20	ug/l	4.00		86	70-130			
Picloram	3.81	0.60	ug/l	4.00		95	70-130			
Surr: 2,4-DCAA	*8.85*		*ug/l*	*10.0*		*89*	*70-130*			
Matrix Spike (W3L0427-MS1)	**Source: 3L04018-01**			Analyzed: 12/12/13 18:44						
2,4,5-T	3.55	0.20	ug/l	4.00	ND	89	70-130			
2,4,5-TP (Silvex)	3.59	0.20	ug/l	4.00	ND	90	70-130			
2,4-D	8.23	0.40	ug/l	8.00	ND	103	70-130			
2,4-DB	15.1	2.0	ug/l	16.0	ND	94	70-130			
3,5-Dichlorobenzoic acid	6.67	1.0	ug/l	8.00	ND	83	70-130			
Acifluorfen	2.74	0.40	ug/l	4.00	ND	68	70-130			MS-05
Bentazon	12.9	2.0	ug/l	16.0	ND	80	70-130			
Dalapon	7.67	0.40	ug/l	8.00	ND	96	70-130			
DCPA	3.25	0.10	ug/l	4.00	ND	81	70-130			
Dicamba	6.73	0.60	ug/l	8.00	ND	84	70-130			
Dichloroprop	8.23	0.30	ug/l	8.00	ND	103	70-130			
Dinoseb	2.87	0.40	ug/l	4.00	ND	72	70-130			

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Chlorinated Herbicides - Quality Control

Batch W3L0427 - EPA 515.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Matrix Spike (W3L0427-MS1)	**Source: 3L04018-01**			Analyzed: 12/12/13 18:44						
Pentachlorophenol	3.36	0.20	ug/l	4.00	ND	84	70-130			
Picloram	3.14	0.60	ug/l	4.00	ND	78	70-130			
Surr: 2,4-DCAA	*8.49*		*ug/l*	*10.0*		*85*	*70-130*			
Matrix Spike (W3L0427-MS2)	**Source: 3L09001-01**			Analyzed: 12/12/13 19:39						
2,4,5-T	3.74	0.20	ug/l	4.00	ND	94	70-130			
2,4,5-TP (Silvex)	3.40	0.20	ug/l	4.00	ND	85	70-130			
2,4-D	9.62	0.40	ug/l	8.00	ND	120	70-130			
2,4-DB	15.9	2.0	ug/l	16.0	ND	99	70-130			
3,5-Dichlorobenzoic acid	6.65	1.0	ug/l	8.00	ND	83	70-130			
Acifluorfen	5.46	0.40	ug/l	4.00	ND	137	70-130			MS-05
Bentazon	13.5	2.0	ug/l	16.0	ND	84	70-130			
Dalapon	7.43	0.40	ug/l	8.00	ND	93	70-130			
DCPA	3.32	0.10	ug/l	4.00	ND	83	70-130			
Dicamba	6.79	0.60	ug/l	8.00	ND	85	70-130			
Dichloroprop	8.61	0.30	ug/l	8.00	ND	108	70-130			
Dinoseb	3.42	0.40	ug/l	4.00	ND	86	70-130			
Pentachlorophenol	3.58	0.20	ug/l	4.00	0.253	83	70-130			
Picloram	4.12	0.60	ug/l	4.00	ND	103	70-130			
Surr: 2,4-DCAA	*9.21*		*ug/l*	*10.0*		*92*	*70-130*			
Matrix Spike Dup (W3L0427-MSD1)	**Source: 3L04018-01**			Analyzed: 12/12/13 19:11						
2,4,5-T	3.56	0.20	ug/l	4.00	ND	89	70-130	0.3	30	
2,4,5-TP (Silvex)	3.60	0.20	ug/l	4.00	ND	90	70-130	0.3	30	
2,4-D	8.31	0.40	ug/l	8.00	ND	104	70-130	1	30	
2,4-DB	15.1	2.0	ug/l	16.0	ND	94	70-130	0.06	30	
3,5-Dichlorobenzoic acid	6.74	1.0	ug/l	8.00	ND	84	70-130	1	30	
Acifluorfen	2.83	0.40	ug/l	4.00	ND	71	70-130	4	30	
Bentazon	12.9	2.0	ug/l	16.0	ND	81	70-130	0.5	30	
Dalapon	7.75	0.40	ug/l	8.00	ND	97	70-130	1	30	
DCPA	3.21	0.10	ug/l	4.00	ND	80	70-130	1	30	
Dicamba	6.80	0.60	ug/l	8.00	ND	85	70-130	1	30	
Dichloroprop	8.21	0.30	ug/l	8.00	ND	103	70-130	0.2	30	
Dinoseb	2.93	0.40	ug/l	4.00	ND	73	70-130	2	30	
Pentachlorophenol	3.37	0.20	ug/l	4.00	ND	84	70-130	0.6	30	
Picloram	3.16	0.60	ug/l	4.00	ND	79	70-130	0.8	30	
Surr: 2,4-DCAA	*8.70*		*ug/l*	*10.0*		*87*	*70-130*			
Matrix Spike Dup (W3L0427-MSD2)	**Source: 3L09001-01**			Analyzed: 12/12/13 20:07						
2,4,5-T	3.81	0.20	ug/l	4.00	ND	95	70-130	2	30	
2,4,5-TP (Silvex)	3.42	0.20	ug/l	4.00	ND	86	70-130	0.8	30	
2,4-D	9.76	0.40	ug/l	8.00	ND	122	70-130	2	30	
2,4-DB	15.8	2.0	ug/l	16.0	ND	99	70-130	0.3	30	
3,5-Dichlorobenzoic acid	6.78	1.0	ug/l	8.00	ND	85	70-130	2	30	
Acifluorfen	5.94	0.40	ug/l	4.00	ND	149	70-130	8	30	MS-05
Bentazon	13.6	2.0	ug/l	16.0	ND	85	70-130	1	30	
Dalapon	7.46	0.40	ug/l	8.00	ND	93	70-130	0.4	30	

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Chlorinated Herbicides - Quality Control

Batch W3L0427 - EPA 515.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Matrix Spike Dup (W3L0427-MSD2)	**Source: 3L09001-01**			Analyzed: 12/12/13 20:07						
DCPA	3.30	0.10	ug/l	4.00	ND	82	70-130	0.6	30	
Dicamba	7.00	0.60	ug/l	8.00	ND	88	70-130	3	30	
Dichloroprop	8.71	0.30	ug/l	8.00	ND	109	70-130	1	30	
Dinoseb	3.80	0.40	ug/l	4.00	ND	95	70-130	10	30	
Pentachlorophenol	3.57	0.20	ug/l	4.00	0.253	83	70-130	0.3	30	
Picloram	3.70	0.60	ug/l	4.00	ND	92	70-130	11	30	
Surr: 2,4-DCAA	*9.36*		*ug/l*	*10.0*		*94*	*70-130*			

Batch W3L0474 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0474-BLK1)				Analyzed: 12/14/13 02:44						
4,4´-DDD	ND	0.010	ug/l							
4,4´-DDE	ND	0.010	ug/l							
4,4´-DDT	ND	0.010	ug/l							
Aldrin	ND	0.010	ug/l							
alpha-BHC	ND	0.010	ug/l							
Aroclor 1016	ND	0.10	ug/l							
Aroclor 1221	ND	0.10	ug/l							
Aroclor 1232	ND	0.10	ug/l							
Aroclor 1242	ND	0.10	ug/l							
Aroclor 1248	ND	0.10	ug/l							
Aroclor 1254	ND	0.10	ug/l							
Aroclor 1260	ND	0.10	ug/l							
beta-BHC	ND	0.010	ug/l							
Chlordane (tech)	ND	0.10	ug/l							
Chlorothalonil	ND	0.050	ug/l							
delta-BHC	ND	0.010	ug/l							
Dieldrin	ND	0.010	ug/l							
Endosulfan I	ND	0.010	ug/l							
Endosulfan II	ND	0.010	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.010	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.010	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.010	ug/l							
Hexachlorobenzene	ND	0.010	ug/l							
Hexachlorocyclopentadiene	ND	0.050	ug/l							
Methoxychlor	ND	0.010	ug/l							
PCBs, Total	ND	0.50	ug/l							
Propachlor	ND	0.050	ug/l							
Toxaphene	ND	1.0	ug/l							
Trifluralin	ND	0.010	ug/l							

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Chlorinated Pesticides and/or PCBs - Quality Control

Batch W3L0474 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0474-BLK1)				Analyzed: 12/14/13 02:44						
Surr: Decachlorobiphenyl	*0.0758*		*ug/l*	*0.100*		*76*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0860*		*ug/l*	*0.100*		*86*	*70-130*			
Blank (W3L0474-BLK2)				Analyzed: 12/16/13 16:26						
4,4´-DDD	ND	0.010	ug/l							QC-2
4,4´-DDE	ND	0.010	ug/l							QC-2
4,4´-DDT	ND	0.010	ug/l							QC-2
Aldrin	ND	0.010	ug/l							QC-2
alpha-BHC	ND	0.010	ug/l							QC-2
Aroclor 1016	ND	0.10	ug/l							QC-2
Aroclor 1221	ND	0.10	ug/l							QC-2
Aroclor 1232	ND	0.10	ug/l							QC-2
Aroclor 1242	ND	0.10	ug/l							QC-2
Aroclor 1248	ND	0.10	ug/l							QC-2
Aroclor 1254	ND	0.10	ug/l							QC-2
Aroclor 1260	ND	0.10	ug/l							QC-2
beta-BHC	ND	0.010	ug/l							QC-2
Chlordane (tech)	ND	0.10	ug/l							QC-2
Chlorothalonil	ND	0.050	ug/l							QC-2
delta-BHC	ND	0.010	ug/l							QC-2
Dieldrin	ND	0.010	ug/l							QC-2
Endosulfan I	ND	0.010	ug/l							QC-2
Endosulfan II	ND	0.010	ug/l							QC-2
Endosulfan sulfate	ND	0.010	ug/l							QC-2
Endrin	ND	0.010	ug/l							QC-2
Endrin aldehyde	ND	0.010	ug/l							QC-2
gamma-BHC (Lindane)	ND	0.010	ug/l							QC-2
Heptachlor	ND	0.010	ug/l							QC-2
Heptachlor epoxide	ND	0.010	ug/l							QC-2
Hexachlorobenzene	ND	0.010	ug/l							QC-2
Hexachlorocyclopentadiene	ND	0.050	ug/l							QC-2
Methoxychlor	ND	0.010	ug/l							QC-2
PCBs, Total	ND	0.50	ug/l							QC-2
Propachlor	ND	0.050	ug/l							QC-2
Toxaphene	ND	1.0	ug/l							QC-2
Trifluralin	ND	0.010	ug/l							QC-2
Surr: Decachlorobiphenyl	*0.0786*		*ug/l*	*0.100*		*79*	*70-130*			*QC-2*
Surr: Tetrachloro-meta-xylene	*0.0916*		*ug/l*	*0.100*		*92*	*70-130*			*QC-2*
LCS (W3L0474-BS1)				Analyzed: 12/14/13 03:15						
4,4´-DDD	0.0844	0.010	ug/l	0.100		84	55-142			
4,4´-DDE	0.0833	0.010	ug/l	0.100		83	49-129			
4,4´-DDT	0.0958	0.010	ug/l	0.100		96	54-160			
Aldrin	0.0750	0.010	ug/l	0.100		75	29-115			
alpha-BHC	0.0818	0.010	ug/l	0.100		82	59-131			
beta-BHC	0.0807	0.010	ug/l	0.100		81	63-136			

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Chlorinated Pesticides and/or PCBs - Quality Control

Batch W3L0474 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W3L0474-BS1)				Analyzed: 12/14/13 03:15						
delta-BHC	0.0861	0.010	ug/l	0.100		86	59-137			
Dieldrin	0.0787	0.010	ug/l	0.100		79	59-135			
Endosulfan I	0.0644	0.010	ug/l	0.100		64	28-138			
Endosulfan II	0.0689	0.010	ug/l	0.100		69	53-133			
Endosulfan sulfate	0.0870	0.010	ug/l	0.100		87	58-155			
Endrin	0.0775	0.010	ug/l	0.100		77	57-148			
Endrin aldehyde	0.0951	0.010	ug/l	0.100		95	45-139			
gamma-BHC (Lindane)	0.0811	0.010	ug/l	0.100		81	59-129			
Heptachlor	0.0826	0.010	ug/l	0.100		83	42-136			
Heptachlor epoxide	0.0774	0.010	ug/l	0.100		77	59-134			
Methoxychlor	0.0831	0.010	ug/l	0.100		83	56-167			
Surr: Decachlorobiphenyl	*0.0808*		*ug/l*	*0.100*		*81*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0895*		*ug/l*	*0.100*		*90*	*70-130*			
LCS (W3L0474-BS2)				Analyzed: 12/16/13 16:57						
4,4´-DDD	0.0877	0.010	ug/l	0.100		88	55-142			QC-2
4,4´-DDE	0.0905	0.010	ug/l	0.100		90	49-129			QC-2
4,4´-DDT	0.102	0.010	ug/l	0.100		102	54-160			QC-2
Aldrin	0.0805	0.010	ug/l	0.100		80	29-115			QC-2
alpha-BHC	0.0887	0.010	ug/l	0.100		89	59-131			QC-2
beta-BHC	0.0887	0.010	ug/l	0.100		89	63-136			QC-2
delta-BHC	0.0969	0.010	ug/l	0.100		97	59-137			QC-2
Dieldrin	0.0841	0.010	ug/l	0.100		84	59-135			QC-2
Endosulfan I	0.0699	0.010	ug/l	0.100		70	28-138			QC-2
Endosulfan II	0.0749	0.010	ug/l	0.100		75	53-133			QC-2
Endosulfan sulfate	0.0959	0.010	ug/l	0.100		96	58-155			QC-2
Endrin	0.0820	0.010	ug/l	0.100		82	57-148			QC-2
Endrin aldehyde	0.0946	0.010	ug/l	0.100		95	45-139			QC-2
gamma-BHC (Lindane)	0.0883	0.010	ug/l	0.100		88	59-129			QC-2
Heptachlor	0.0856	0.010	ug/l	0.100		86	42-136			QC-2
Heptachlor epoxide	0.0842	0.010	ug/l	0.100		84	59-134			QC-2
Methoxychlor	0.0853	0.010	ug/l	0.100		85	56-167			QC-2
Surr: Decachlorobiphenyl	*0.0871*		*ug/l*	*0.100*		*87*	*70-130*			QC-2
Surr: Tetrachloro-meta-xylene	*0.0971*		*ug/l*	*0.100*		*97*	*70-130*			QC-2
LCS Dup (W3L0474-BSD1)				Analyzed: 12/14/13 03:45						
4,4´-DDD	0.0883	0.010	ug/l	0.100		88	55-142	4	25	
4,4´-DDE	0.0854	0.010	ug/l	0.100		85	49-129	2	25	
4,4´-DDT	0.0999	0.010	ug/l	0.100		100	54-160	4	25	
Aldrin	0.0751	0.010	ug/l	0.100		75	29-115	0.2	25	
alpha-BHC	0.0823	0.010	ug/l	0.100		82	59-131	0.5	25	
beta-BHC	0.0831	0.010	ug/l	0.100		83	63-136	3	25	
delta-BHC	0.0922	0.010	ug/l	0.100		92	59-137	7	25	
Dieldrin	0.0797	0.010	ug/l	0.100		80	59-135	1	25	
Endosulfan I	0.0652	0.010	ug/l	0.100		65	28-138	1	25	
Endosulfan II	0.0702	0.010	ug/l	0.100		70	53-133	2	25	

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Batch W3L0474 - EPA 508

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W3L0474-BSD1)				Analyzed: 12/14/13 03:45						
Endosulfan sulfate	0.0899	0.010	ug/l	0.100		90	58-155	3	25	
Endrin	0.0784	0.010	ug/l	0.100		78	57-148	1	25	
Endrin aldehyde	0.0991	0.010	ug/l	0.100		99	45-139	4	25	
gamma-BHC (Lindane)	0.0824	0.010	ug/l	0.100		82	59-129	2	25	
Heptachlor	0.0846	0.010	ug/l	0.100		85	42-136	2	25	
Heptachlor epoxide	0.0780	0.010	ug/l	0.100		78	59-134	0.9	25	
Methoxychlor	0.0852	0.010	ug/l	0.100		85	56-167	3	25	
Surr: Decachlorobiphenyl	*0.0775*		*ug/l*	*0.100*		*78*	*70-130*			
Surr: Tetrachloro-meta-xylene	*0.0852*		*ug/l*	*0.100*		*85*	*70-130*			
LCS Dup (W3L0474-BSD2)				Analyzed: 12/16/13 17:27						
4,4´-DDD	0.0838	0.010	ug/l	0.100		84	55-142	5	25	QC-2
4,4´-DDE	0.0873	0.010	ug/l	0.100		87	49-129	4	25	QC-2
4,4´-DDT	0.0975	0.010	ug/l	0.100		98	54-160	5	25	QC-2
Aldrin	0.0803	0.010	ug/l	0.100		80	29-115	0.2	25	QC-2
alpha-BHC	0.0872	0.010	ug/l	0.100		87	59-131	2	25	QC-2
beta-BHC	0.0863	0.010	ug/l	0.100		86	63-136	3	25	QC-2
delta-BHC	0.0944	0.010	ug/l	0.100		94	59-137	3	25	QC-2
Dieldrin	0.0831	0.010	ug/l	0.100		83	59-135	1	25	QC-2
Endosulfan I	0.0689	0.010	ug/l	0.100		69	28-138	1	25	QC-2
Endosulfan II	0.0730	0.010	ug/l	0.100		73	53-133	3	25	QC-2
Endosulfan sulfate	0.0911	0.010	ug/l	0.100		91	58-155	5	25	QC-2
Endrin	0.0793	0.010	ug/l	0.100		79	57-148	3	25	QC-2
Endrin aldehyde	0.100	0.010	ug/l	0.100		100	45-139	6	25	QC-2
gamma-BHC (Lindane)	0.0866	0.010	ug/l	0.100		87	59-129	2	25	QC-2
Heptachlor	0.0849	0.010	ug/l	0.100		85	42-136	0.9	25	QC-2
Heptachlor epoxide	0.0827	0.010	ug/l	0.100		83	59-134	2	25	QC-2
Methoxychlor	0.0783	0.010	ug/l	0.100		78	56-167	9	25	QC-2
Surr: Decachlorobiphenyl	*0.0765*		*ug/l*	*0.100*		*77*	*70-130*			QC-2
Surr: Tetrachloro-meta-xylene	*0.0900*		*ug/l*	*0.100*		*90*	*70-130*			QC-2

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W3L0369 - EPA 353.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0369-BLK1)				Analyzed: 12/07/13 16:23						
Nitrate as NO3	ND	0.50	mg/l							B-07
NO2+NO3 as N	ND	100	ug/l							B-07
LCS (W3L0369-BS1)				Analyzed: 12/07/13 15:14						
Nitrate as NO3	4.74	0.50	mg/l	4.43		107	90-110			
NO2+NO3 as N	1070	100	ug/l	1000		107	90-110			
Matrix Spike (W3L0369-MS1)	**Source: 3L09093-01**			Analyzed: 12/07/13 15:21						
Nitrate as NO3	9.04	0.50	mg/l	8.86	0.322	98	90-110			

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W3L0369 - EPA 353.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Matrix Spike (W3L0369-MS1)	**Source: 3L09093-01**			Analyzed: 12/07/13 15:21						
NO2+NO3 as N	2040	100	ug/l	2000	73.0	98	90-110			
Matrix Spike Dup (W3L0369-MSD1)	**Source: 3L09093-01**			Analyzed: 12/07/13 15:23						
Nitrate as NO3	8.87	0.50	mg/l	8.86	0.322	96	90-110	2	20	
NO2+NO3 as N	2000	100	ug/l	2000	73.0	96	90-110	2	20	

Batch W3L0371 - SM 2120B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W3L0371-BS1)				Analyzed: 12/07/13 11:40						
Color	10.0	3.0	Color Units	10.0		100	95-105			
Duplicate (W3L0371-DUP1)	**Source: 3L09093-01**			Analyzed: 12/07/13 11:40						
Color	ND	3.0	Color Units		0.00					

Batch W3L0372 - EPA 140.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Duplicate (W3L0372-DUP1)	**Source: 3L09093-01**			Analyzed: 12/07/13 12:30						
Threshold Odor Number	1.0	1.0	T.O.N.		1.0			NR	20	

Batch W3L0373 - EPA 180.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0373-BLK1)				Analyzed: 12/07/13 11:55						
Turbidity	ND	0.10	NTU							
LCS (W3L0373-BS1)				Analyzed: 12/07/13 11:55						
Turbidity	11.1	0.10	NTU	11.0		101	90-110			
Duplicate (W3L0373-DUP1)	**Source: 3L09093-01**			Analyzed: 12/07/13 11:55						
Turbidity	2.78	0.10	NTU		2.78			NR	10	

Batch W3L0375 - SM 5540C

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0375-BLK1)				Analyzed: 12/07/13 13:56						
MBAS	ND	0.050	mg/l							
LCS (W3L0375-BS1)				Analyzed: 12/07/13 13:56						
MBAS	0.204	0.050	mg/l	0.200		102	82-115			
Matrix Spike (W3L0375-MS1)	**Source: 3L09093-01**			Analyzed: 12/07/13 13:56						
MBAS	0.249	0.050	mg/l	0.200	0.0375	106	74-123			
Matrix Spike Dup (W3L0375-MSD1)	**Source: 3L09093-01**			Analyzed: 12/07/13 13:56						
MBAS	0.233	0.050	mg/l	0.200	0.0375	98	74-123	7	20	

Batch W3L0378 - SM 4500H+-B

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W3L0378 - SM 4500H+-B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W3L0378-BS1)				Analyzed: 12/07/13 18:47						
pH	7.34	0.10	Units	7.41		99	98.8-101			
Duplicate (W3L0378-DUP1)	**Source: 3L09050-01**			Analyzed: 12/07/13 18:47						
pH	7.46	0.10	Units		7.55			1	3.1	

Batch W3L0379 - EPA 365.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0379-BLK1)				Analyzed: 12/07/13 18:32						
o-Phosphate as P	ND	0.010	mg/l							
LCS (W3L0379-BS1)				Analyzed: 12/07/13 18:32						
o-Phosphate as P	0.202	0.010	mg/l	0.200		101	88-111			
Matrix Spike (W3L0379-MS1)	**Source: 3L09093-01**			Analyzed: 12/07/13 18:32						
o-Phosphate as P	0.263	0.010	mg/l	0.200	0.0767	93	85-112			
Matrix Spike Dup (W3L0379-MSD1)	**Source: 3L09093-01**			Analyzed: 12/07/13 18:32						
o-Phosphate as P	0.280	0.010	mg/l	0.200	0.0767	102	85-112	6	20	

Batch W3L0566 - SM 2540C

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0566-BLK1)				Analyzed: 12/11/13 13:35						
Total Dissolved Solids	ND	10	mg/l							
LCS (W3L0566-BS1)				Analyzed: 12/11/13 13:35						
Total Dissolved Solids	823	10	mg/l	824		100	96-102			
Duplicate (W3L0566-DUP1)	**Source: 3L09015-01**			Analyzed: 12/11/13 13:35						
Total Dissolved Solids	748	10	mg/l		802			7	10	
Duplicate (W3L0566-DUP2)	**Source: 3L09021-01**			Analyzed: 12/11/13 13:35						
Total Dissolved Solids	97.0	10	mg/l		97.0			NR	10	

Batch W3L0675 - EPA 365.3

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0675-BLK1)				Analyzed: 12/19/13 11:48						
Phosphorus, Dissolved	ND	0.010	mg/l							
LCS (W3L0675-BS1)				Analyzed: 12/19/13 11:48						
Phosphorus, Dissolved	0.191	0.010	mg/l	0.200		95	90-110			
Matrix Spike (W3L0675-MS1)	**Source: 3L09093-01**			Analyzed: 12/19/13 11:48						
Phosphorus, Dissolved	0.251	0.010	mg/l	0.200	0.0467	102	85-108			
Matrix Spike Dup (W3L0675-MSD1)	**Source: 3L09093-01**			Analyzed: 12/19/13 11:48						
Phosphorus, Dissolved	0.258	0.010	mg/l	0.200	0.0467	106	85-108	3	20	

Batch W3L0691 - SM 2320B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers

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Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods - Quality Control

Batch W3L0691 - SM 2320B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0691-BLK1)				Analyzed: 12/13/13 10:54						
Alkalinity as CaCO3	ND	2.0	mg/l							
Alkalinity as CaCO3	ND	2.0	mg/l							
Bicarbonate Alkalinity as HCO3	ND	2.0	mg/l							
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l							
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l							
LCS (W3L0691-BS1)				Analyzed: 12/13/13 10:54						
Alkalinity as CaCO3	255	2.0	mg/l	250		102	94-108			
Alkalinity as CaCO3	255	2.0	mg/l	250		102	94-108			
Bicarbonate Alkalinity as HCO3	311	2.0	mg/l	305		102	95-108			
Duplicate (W3L0691-DUP1)	**Source: 3L09001-03RE1**			Analyzed: 12/13/13 10:54						
Alkalinity as CaCO3	109	2.0	mg/l		108			0.6	15	
Alkalinity as CaCO3	109	2.0	mg/l		108			0.6	15	
Bicarbonate Alkalinity as HCO3	133	2.0	mg/l		132			0.6	15	
Carbonate Alkalinity as CaCO3	ND	2.0	mg/l		ND					
Hydroxide Alkalinity as CaCO3	ND	2.0	mg/l		ND					

Batch W3L0717 - EPA 351.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0717-BLK1)				Analyzed: 12/19/13 12:07						
TKN, Soluble	ND	0.10	mg/l							
Blank (W3L0717-BLK2)				Analyzed: 12/19/13 12:07						
TKN, Soluble	ND	0.10	mg/l							
LCS (W3L0717-BS1)				Analyzed: 12/19/13 12:07						
TKN, Soluble	1.01	0.10	mg/l	1.00		101	90-110			
LCS (W3L0717-BS2)				Analyzed: 12/19/13 12:07						
TKN, Soluble	1.02	0.10	mg/l	1.00		102	90-110			
Matrix Spike (W3L0717-MS1)	**Source: 3L09015-01**			Analyzed: 12/19/13 12:07						
TKN, Soluble	30.2	1.0	mg/l	10.0	19.5	107	90-110			
Matrix Spike (W3L0717-MS2)	**Source: 3L09027-02**			Analyzed: 12/19/13 12:07						
TKN, Soluble	5.46	0.40	mg/l	4.00	1.28	104	90-110			
Matrix Spike Dup (W3L0717-MSD1)	**Source: 3L09015-01**			Analyzed: 12/19/13 12:07						
TKN, Soluble	30.2	1.0	mg/l	10.0	19.5	107	90-110	0.04	10	
Matrix Spike Dup (W3L0717-MSD2)	**Source: 3L09027-02**			Analyzed: 12/19/13 12:07						
TKN, Soluble	5.42	0.40	mg/l	4.00	1.28	104	90-110	0.7	10	

Batch W3L0783 - EPA 350.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0783-BLK1)				Analyzed: 12/16/13 16:55						
Ammonia as N, Dissolved	ND	0.10	mg/l							
LCS (W3L0783-BS1)				Analyzed: 12/16/13 16:55						
Ammonia as N, Dissolved	0.271	0.10	mg/l	0.250		109	90-110			

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Batch W3L0783 - EPA 350.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Matrix Spike (W3L0783-MS1)	**Source: 3L12030-01**			Analyzed: 12/16/13 16:55						
Ammonia as N, Dissolved	0.306	0.10	mg/l	0.250	0.0584	99	90-110			
Matrix Spike Dup (W3L0783-MSD1)	**Source: 3L12030-01**			Analyzed: 12/16/13 16:55						
Ammonia as N, Dissolved	0.304	0.10	mg/l	0.250	0.0584	98	90-110	0.8	15	

Batch W3L0862 - SM 2510B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0862-BLK1)				Analyzed: 12/17/13 12:58						
Specific Conductance (EC)	ND	2.0	umhos/cm							
LCS (W3L0862-BS1)				Analyzed: 12/17/13 12:58						
Specific Conductance (EC)	5000	2.0	umhos/cm	5000		100	95-105			
Duplicate (W3L0862-DUP1)	**Source: 3L09001-07**			Analyzed: 12/17/13 12:58						
Specific Conductance (EC)	9630	2.0	umhos/cm		9620			0.1	5	

Diquat and Paraquat by EPA 549.2 - Quality Control

Batch W3L0464 - EPA 549.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0464-BLK1)				Analyzed: 12/11/13 13:51						
Diquat	ND	4.0	ug/l							
LCS (W3L0464-BS1)				Analyzed: 12/11/13 13:51						
Diquat	10.1	4.0	ug/l	20.0		51	48-130			
Matrix Spike (W3L0464-MS1)	**Source: 3L05081-01**			Analyzed: 12/11/13 13:51						
Diquat	18.4	4.0	ug/l	20.0	ND	92	46-122			
Matrix Spike Dup (W3L0464-MSD1)	**Source: 3L05081-01**			Analyzed: 12/11/13 13:51						
Diquat	19.3	4.0	ug/l	20.0	ND	96	46-122	5	30	

Endothall By EPA 548.1 - Quality Control

Batch W3L0699 - EPA 548.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0699-BLK1)				Analyzed: 12/23/13 10:05						
Endothall	ND	45	ug/l							
LCS (W3L0699-BS1)				Analyzed: 12/23/13 10:25						
Endothall	97.1	45	ug/l	100		97	31-117			
Matrix Spike (W3L0699-MS1)	**Source: 3L09093-01**			Analyzed: 12/23/13 10:39						
Endothall	ND	45	ug/l	100	ND	NR	0.1-109			MS-05
Matrix Spike Dup (W3L0699-MSD1)	**Source: 3L09093-01**			Analyzed: 12/23/13 10:53						
Endothall	ND	45	ug/l	100	ND	NR	0.1-109			MS-05

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Fumigants by EPA Method 504.1 - Quality Control

Batch W3L0818 - EPA 504.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0818-BLK1)				Analyzed: 12/19/13 21:50						
1,2-Dibromo-3-chloropropane	ND	0.010	ug/l							
1,2-Dibromoethane (EDB)	ND	0.020	ug/l							
LCS (W3L0818-BS1)				Analyzed: 12/19/13 22:19						
1,2-Dibromo-3-chloropropane	0.0980	0.010	ug/l	0.100		98	70-130			
1,2-Dibromoethane (EDB)	0.113	0.020	ug/l	0.100		113	70-130			
LCS (W3L0818-BS2)				Analyzed: 12/19/13 22:49						
1,2-Dibromo-3-chloropropane	0.0180	0.010	ug/l	0.0200		90	70-130			
1,2-Dibromoethane (EDB)	0.0170	0.020	ug/l	0.0200		85	70-130			
Matrix Spike (W3L0818-MS1)	**Source: 3L12021-04**			Analyzed: 12/19/13 23:17						
1,2-Dibromo-3-chloropropane	0.0990	0.010	ug/l	0.100	ND	99	65-135			
1,2-Dibromoethane (EDB)	0.113	0.020	ug/l	0.100	ND	113	65-135			
Matrix Spike Dup (W3L0818-MSD1)	**Source: 3L12021-04**			Analyzed: 12/19/13 23:46						
1,2-Dibromo-3-chloropropane	0.110	0.010	ug/l	0.100	ND	110	65-135	11	30	
1,2-Dibromoethane (EDB)	0.109	0.020	ug/l	0.100	ND	109	65-135	4	30	

Glyphosate by EPA 547 - Quality Control

Batch W3L0486 - EPA 547

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0486-BLK1)				Analyzed: 12/10/13 13:00						
Glyphosate	ND	5.0	ug/l							
LCS (W3L0486-BS1)				Analyzed: 12/10/13 13:00						
Glyphosate	26.4	5.0	ug/l	25.0		106	62-130			
Matrix Spike (W3L0486-MS1)	**Source: 3L09082-02**			Analyzed: 12/10/13 13:00						
Glyphosate	18.7	5.0	ug/l	25.0	9.51	37	41-149			MS-05
Matrix Spike Dup (W3L0486-MSD1)	**Source: 3L09082-02**			Analyzed: 12/10/13 13:00						
Glyphosate	20.8	5.0	ug/l	25.0	9.51	45	41-149	11	30	

Metals by EPA 200 Series Methods - Quality Control

Batch W3L1101 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1101-BLK1)				Analyzed: 12/24/13 10:53						
Barium, Dissolved	ND	0.0020	mg/l							
Boron, Dissolved	ND	10	ug/l							
Calcium, Dissolved	ND	0.100	mg/l							
Calcium, Total	ND	0.100	mg/l							
Iron, Dissolved	ND	10	ug/l							
Iron, Total	ND	0.010	mg/l							

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Metals by EPA 200 Series Methods - Quality Control

Batch W3L1101 - EPA 200.7

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1101-BLK1)				Analyzed: 12/24/13 10:53						
Magnesium, Dissolved	ND	0.100	mg/l							
Magnesium, Total	ND	0.100	mg/l							
Manganese, Dissolved	ND	5.0	ug/l							
Manganese, Total	ND	0.0050	mg/l							
Potassium, Dissolved	ND	0.10	mg/l							
Potassium, Total	ND	0.10	mg/l							
Silica as SiO2, Dissolved	ND	0.10	mg/l							
Sodium, Dissolved	ND	0.50	mg/l							
Sodium, Total	ND	0.50	mg/l							
Strontium, Dissolved	ND	2.0	ug/l							
LCS (W3L1101-BS1)				Analyzed: 12/24/13 11:04						
Barium, Dissolved	0.191	0.0020	mg/l	0.200		95	85-115			
Boron, Dissolved	211	10	ug/l	200		105	85-115			
Calcium, Dissolved	50.9	0.100	mg/l	50.2		101	85-115			
Calcium, Total	50.9	0.100	mg/l	50.2		101	85-115			
Iron, Dissolved	199	10	ug/l	200		100	85-115			
Iron, Total	0.199	0.010	mg/l	0.200		100	85-115			
Magnesium, Dissolved	50.1	0.100	mg/l	50.0		100	85-115			
Magnesium, Total	50.1	0.100	mg/l	50.2		100	85-115			
Manganese, Dissolved	198	5.0	ug/l	200		99	85-115			
Manganese, Total	0.198	0.0050	mg/l	0.200		99	85-115			
Potassium, Dissolved	52.2	0.10	mg/l	52.0		100	85-115			
Potassium, Total	52.2	0.10	mg/l	52.0		100	85-115			
Silica as SiO2, Dissolved	47.6	0.10	mg/l	43.3		110	85-115			
Sodium, Dissolved	82.7	0.50	mg/l	82.6		100	85-115			
Sodium, Total	82.7	0.50	mg/l	82.6		100	85-115			
Strontium, Dissolved	987	2.0	ug/l	1000		99	85-115			
Matrix Spike (W3L1101-MS1)	**Source: 3L13055-03**			Analyzed: 12/24/13 11:31						
Calcium, Total	78.1	0.200	mg/l	50.2	28.5	99	70-130			
Iron, Total	0.692	0.020	mg/l	0.200	0.492	100	70-130			
Magnesium, Total	51.4	0.200	mg/l	50.2	5.24	92	70-130			
Manganese, Total	0.248	0.010	mg/l	0.200	0.0503	99	70-130			
Potassium, Total	315	0.20	mg/l	52.0	246	132	70-130			MS-02
Sodium, Total	14000	1.0	mg/l	82.6	14000	2	70-130			MS-02
Matrix Spike Dup (W3L1101-MSD1)	**Source: 3L13055-03**			Analyzed: 12/24/13 11:34						
Calcium, Total	78.0	0.200	mg/l	50.2	28.5	99	70-130	0.1	30	
Iron, Total	0.694	0.020	mg/l	0.200	0.492	101	70-130	0.3	30	
Magnesium, Total	51.1	0.200	mg/l	50.2	5.24	91	70-130	0.6	30	
Manganese, Total	0.246	0.010	mg/l	0.200	0.0503	98	70-130	0.9	30	
Potassium, Total	320	0.20	mg/l	52.0	246	143	70-130	2	30	MS-02
Sodium, Total	14300	1.0	mg/l	82.6	14000	366	70-130	2	30	MS-02
Batch W3L1103 - EPA 200.8										

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Metals by EPA 200 Series Methods - Quality Control

Batch W3L1103 - EPA 200.8

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L1103-BLK1)				Analyzed: 12/27/13 01:17						
Aluminum, Total	ND	5.0	ug/l							
Arsenic, Total	ND	0.40	ug/l							
Copper, Total	ND	0.50	ug/l							
Zinc, Total	ND	5.0	ug/l							
LCS (W3L1103-BS1)				Analyzed: 12/27/13 01:25						
Aluminum, Total	49.4	5.0	ug/l	50.0		99	85-115			
Arsenic, Total	48.1	0.40	ug/l	50.0		96	85-115			
Copper, Total	50.8	0.50	ug/l	50.0		102	85-115			
Zinc, Total	50.4	5.0	ug/l	50.0		101	85-115			
Matrix Spike (W3L1103-MS1)	**Source: 3L09093-01**			Analyzed: 12/27/13 02:14						
Aluminum, Total	84.1	5.0	ug/l	50.0	17.5	133	70-130			MS-02
Arsenic, Total	50.2	0.40	ug/l	50.0	0.710	99	70-130			
Copper, Total	48.6	0.50	ug/l	50.0	11.3	75	70-130			
Zinc, Total	71.2	5.0	ug/l	50.0	29.3	84	70-130			
Matrix Spike Dup (W3L1103-MSD1)	**Source: 3L09093-01**			Analyzed: 12/27/13 02:22						
Aluminum, Total	84.3	5.0	ug/l	50.0	17.5	134	70-130	0.2	30	MS-02
Arsenic, Total	51.5	0.40	ug/l	50.0	0.710	102	70-130	3	30	
Copper, Total	49.2	0.50	ug/l	50.0	11.3	76	70-130	1	30	
Zinc, Total	72.5	5.0	ug/l	50.0	29.3	86	70-130	2	30	

Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W3L0431 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0431-BLK1)				Analyzed: 12/13/13 12:12						
Alachlor	ND	0.10	ug/l							
Atrazine	ND	0.10	ug/l							
Benzo (a) pyrene	ND	0.10	ug/l							
Bis(2-ethylhexyl)adipate	ND	5.0	ug/l							
Bis(2-ethylhexyl)phthalate	ND	3.0	ug/l							
Bromacil	ND	0.50	ug/l							
Butachlor	ND	0.10	ug/l							
Captan	ND	1.0	ug/l							
Chloropropham	ND	0.10	ug/l							
Cyanazine	ND	0.10	ug/l							
Diazinon	ND	0.10	ug/l							
Dimethoate	ND	0.20	ug/l							
Diphenamid	ND	0.10	ug/l							
Disulfoton	ND	0.10	ug/l							
EPTC	ND	0.10	ug/l							
Metolachlor	ND	0.10	ug/l							
Metribuzin	ND	0.10	ug/l							

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Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W3L0431 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0431-BLK1)				Analyzed: 12/13/13 12:12						
Molinate	ND	0.10	ug/l							
Prometon	ND	0.10	ug/l							
Prometryn	ND	0.10	ug/l							
Simazine	ND	0.10	ug/l							
Terbacil	ND	2.0	ug/l							
Thiobencarb	ND	0.10	ug/l							
Trithion	ND	0.10	ug/l							
Surr: 1,3-Dimethyl-2-nitrobenzene	*5.16*		*ug/l*	*5.00*		*103*	*73-138*			
Surr: Perylene-d12	*3.65*		*ug/l*	*5.00*		*73*	*30-118*			
Surr: Triphenyl phosphate	*4.82*		*ug/l*	*5.00*		*96*	*70-149*			
LCS (W3L0431-BS1)				Analyzed: 12/13/13 12:37						
Alachlor	3.57	0.10	ug/l	5.00		71	55-124			
Atrazine	5.00	0.10	ug/l	5.00		100	67-131			
Benzo (a) pyrene	4.54	0.10	ug/l	5.00		91	40-147			
Bis(2-ethylhexyl)adipate	6.30	5.0	ug/l	5.00		126	71-158			
Bis(2-ethylhexyl)phthalate	5.88	3.0	ug/l	5.00		118	68-154			
Bromacil	4.64	0.50	ug/l	5.00		93	62-139			
Butachlor	4.05	0.10	ug/l	5.00		81	61-127			
Captan	3.94	1.0	ug/l	5.00		79	14-159			
Chloropropham	6.53	0.10	ug/l	5.00		131	77-143			
Cyanazine	5.45	0.10	ug/l	5.00		109	61-129			
Diazinon	3.53	0.10	ug/l	5.00		71	30-120			
Dimethoate	4.75	0.20	ug/l	5.00		95	38-102			
Diphenamid	5.32	0.10	ug/l	5.00		106	77-124			
Disulfoton	5.83	0.10	ug/l	5.00		117	54-156			
EPTC	5.40	0.10	ug/l	5.00		108	82-116			
Metolachlor	4.08	0.10	ug/l	5.00		82	61-123			
Metribuzin	4.14	0.10	ug/l	5.00		83	50-121			
Molinate	5.45	0.10	ug/l	5.00		109	82-117			
Prometon	2.02	0.10	ug/l	5.00		40	17-101			
Prometryn	3.74	0.10	ug/l	5.00		75	57-122			
Simazine	3.82	0.10	ug/l	5.00		76	53-116			
Terbacil	5.79	2.0	ug/l	5.00		116	70-135			
Thiobencarb	4.02	0.10	ug/l	5.00		80	56-125			
Trithion	4.54	0.10	ug/l	5.00		91	60-124			
Surr: 1,3-Dimethyl-2-nitrobenzene	*5.15*		*ug/l*	*5.00*		*103*	*73-138*			
Surr: Perylene-d12	*6.65*		*ug/l*	*5.00*		*133*	*30-118*			*S-11*
Surr: Triphenyl phosphate	*5.29*		*ug/l*	*5.00*		*106*	*70-149*			
LCS Dup (W3L0431-BSD1)				Analyzed: 12/13/13 13:02						
Alachlor	3.79	0.10	ug/l	5.00		76	55-124	6	30	
Atrazine	5.49	0.10	ug/l	5.00		110	67-131	9	30	
Benzo (a) pyrene	4.74	0.10	ug/l	5.00		95	40-147	4	30	
Bis(2-ethylhexyl)adipate	6.70	5.0	ug/l	5.00		134	71-158	6	30	
Bis(2-ethylhexyl)phthalate	6.05	3.0	ug/l	5.00		121	68-154	3	30	

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Semivolatile Organic Compounds by GC/MS - Quality Control

Batch W3L0431 - EPA 525.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W3L0431-BSD1)				Analyzed: 12/13/13 13:02						
Bromacil	5.04	0.50	ug/l	5.00		101	62-139	8	30	
Butachlor	4.22	0.10	ug/l	5.00		84	61-127	4	30	
Captan	3.94	1.0	ug/l	5.00		79	14-159	NR	30	
Chloropropham	6.72	0.10	ug/l	5.00		134	77-143	3	30	
Cyanazine	5.25	0.10	ug/l	5.00		105	61-129	4	30	
Diazinon	3.64	0.10	ug/l	5.00		73	30-120	3	30	
Dimethoate	5.23	0.20	ug/l	5.00		105	38-102	10	30	Q-08
Diphenamid	5.17	0.10	ug/l	5.00		103	77-124	3	30	
Disulfoton	5.97	0.10	ug/l	5.00		119	54-156	2	30	
EPTC	5.64	0.10	ug/l	5.00		113	82-116	4	30	
Metolachlor	4.21	0.10	ug/l	5.00		84	61-123	3	30	
Metribuzin	4.25	0.10	ug/l	5.00		85	50-121	3	30	
Molinate	5.70	0.10	ug/l	5.00		114	82-117	4	30	
Prometon	2.18	0.10	ug/l	5.00		44	17-101	8	30	
Prometryn	3.90	0.10	ug/l	5.00		78	57-122	4	30	
Simazine	3.88	0.10	ug/l	5.00		78	53-116	2	30	
Terbacil	5.51	2.0	ug/l	5.00		110	70-135	5	30	
Thiobencarb	4.06	0.10	ug/l	5.00		81	56-125	1	30	
Trithion	4.74	0.10	ug/l	5.00		95	60-124	4	30	
Surr: 1,3-Dimethyl-2-nitrobenzene	*5.24*		*ug/l*	*5.00*		*105*	*73-138*			
Surr: Perylene-d12	*6.74*		*ug/l*	*5.00*		*135*	*30-118*			*S-11*
Surr: Triphenyl phosphate	*5.32*		*ug/l*	*5.00*		*106*	*70-149*			

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L0452 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0452-BLK1)				Analyzed: 12/10/13 12:17						
1,1,1,2-Tetrachloroethane	ND	0.50	ug/l							
1,1,1-Trichloroethane	ND	0.50	ug/l							
1,1,2,2-Tetrachloroethane	ND	0.50	ug/l							
1,1,2-Trichloroethane	ND	0.50	ug/l							
1,1-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	0.50	ug/l							
1,2,3-Trichlorobenzene	ND	0.50	ug/l							
1,2,3-Trichloropropane	ND	0.50	ug/l							
1,2,4-Trichlorobenzene	ND	0.50	ug/l							
1,2,4-Trimethylbenzene	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,2-Dichloropropane	ND	0.50	ug/l							
1,3,5-Trimethylbenzene	ND	0.50	ug/l							

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L0452 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0452-BLK1)				Analyzed: 12/10/13 12:17						
1,3-Dichloropropane	ND	0.50	ug/l							
1,3-Dichloropropene, Total	ND	0.50	ug/l							
2,2-Dichloropropane	ND	0.50	ug/l							
2-Butanone	ND	5.0	ug/l							
2-Chloroethyl vinyl ether	ND	1.0	ug/l							
2-Chlorotoluene	ND	0.50	ug/l							
2-Hexanone	ND	5.0	ug/l							
4-Chlorotoluene	ND	0.50	ug/l							
4-Methyl-2-pentanone	ND	5.0	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	0.50	ug/l							
Bromochloromethane	ND	0.50	ug/l							
Bromodichloromethane	ND	0.50	ug/l							
Bromoform	ND	0.50	ug/l							
Bromomethane	ND	0.50	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	0.50	ug/l							
Chloroethane	ND	0.50	ug/l							
Chloroform	ND	0.50	ug/l							
Chloromethane	ND	0.50	ug/l							
cis-1,2-Dichloroethene	ND	0.50	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
Dibromochloromethane	ND	0.50	ug/l							
Dibromomethane	ND	0.50	ug/l							
Dichlorodifluoromethane (Freon 12)	ND	0.50	ug/l							
Di-isopropyl ether	ND	2.0	ug/l							
Ethyl tert-butyl ether	ND	2.0	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Freon 113	ND	5.0	ug/l							
Hexachlorobutadiene	ND	0.50	ug/l							
Isopropylbenzene	ND	0.50	ug/l							
m,p-Xylene	ND	0.50	ug/l							
m-Dichlorobenzene	ND	0.50	ug/l							
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l							
Methylene chloride	ND	0.50	ug/l							
Naphthalene	ND	0.50	ug/l							
n-Butylbenzene	ND	0.50	ug/l							
n-Propylbenzene	ND	0.50	ug/l							
o-Dichlorobenzene	ND	0.50	ug/l							
o-Xylene	ND	0.50	ug/l							
p-Dichlorobenzene	ND	0.50	ug/l							
p-Isopropyltoluene	ND	0.50	ug/l							
sec-Butylbenzene	ND	0.50	ug/l							
Styrene	ND	0.50	ug/l							

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California American Water-Monterey
P.O.BOX 951
Monterey CA, 93942-0951

Date Received: 12/09/13 19:49
Date Reported: 01/06/14 12:51

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L0452 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W3L0452-BLK1)				Analyzed: 12/10/13 12:17						
Tert-amyl methyl ether	ND	2.0	ug/l							
tert-Butylbenzene	ND	0.50	ug/l							
Tetrachloroethene	ND	0.50	ug/l							
THMs, Total	ND	2.0	ug/l							
Toluene	ND	0.50	ug/l							
trans-1,2-Dichloroethene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
Trichloroethene	ND	0.50	ug/l							
Trichlorofluoromethane	ND	0.50	ug/l							
Vinyl chloride	ND	0.50	ug/l							
Xylenes, Total	ND	1.0	ug/l							
Surr: 1,2-Dichlorobenzene-d4	*8.39*		*ug/l*	*10.0*		*84*	*70-130*			
Surr: 4-Bromofluorobenzene	*9.68*		*ug/l*	*10.0*		*97*	*70-130*			
LCS (W3L0452-BS1)				Analyzed: 12/10/13 10:05						
1,1,1,2-Tetrachloroethane	6.23	0.50	ug/l	6.00		104	70-130			
1,1,1-Trichloroethane	6.56	0.50	ug/l	6.00		109	70-130			
1,1,2,2-Tetrachloroethane	6.20	0.50	ug/l	6.00		103	70-130			
1,1,2-Trichloroethane	6.68	0.50	ug/l	6.00		111	70-130			
1,1-Dichloroethane	6.80	0.50	ug/l	6.00		113	70-130			
1,1-Dichloroethene	6.39	0.50	ug/l	6.00		106	70-130			
1,1-Dichloropropene	7.46	0.50	ug/l	6.00		124	70-130			
1,2,3-Trichlorobenzene	6.04	0.50	ug/l	6.00		101	70-130			
1,2,3-Trichloropropane	7.44	0.50	ug/l	6.00		124	70-130			
1,2,4-Trichlorobenzene	5.86	0.50	ug/l	6.00		98	70-130			
1,2,4-Trimethylbenzene	6.91	0.50	ug/l	6.00		115	70-130			
1,2-Dichloroethane	6.93	0.50	ug/l	6.00		116	70-130			
1,2-Dichloropropane	7.30	0.50	ug/l	6.00		122	70-130			
1,3,5-Trimethylbenzene	6.67	0.50	ug/l	6.00		111	70-130			
1,3-Dichloropropane	7.39	0.50	ug/l	6.00		123	70-130			
2,2-Dichloropropane	5.65	0.50	ug/l	6.00		94	70-130			
2-Butanone	5.54	5.0	ug/l	6.00		92	70-130			
2-Chloroethyl vinyl ether	5.62	1.0	ug/l	6.00		94	70-130			
2-Chlorotoluene	6.80	0.50	ug/l	6.00		113	70-130			
2-Hexanone	5.59	5.0	ug/l	6.00		93	70-130			
4-Chlorotoluene	7.82	0.50	ug/l	6.00		130	70-130			
4-Methyl-2-pentanone	5.48	5.0	ug/l	6.00		91	70-130			
Benzene	6.56	0.50	ug/l	6.00		109	70-130			
Bromobenzene	6.45	0.50	ug/l	6.00		108	70-130			
Bromochloromethane	6.78	0.50	ug/l	6.00		113	70-130			
Bromodichloromethane	6.29	0.50	ug/l	6.00		105	70-130			
Bromoform	6.31	0.50	ug/l	6.00		105	70-130			
Bromomethane	6.81	0.50	ug/l	6.00		114	70-130			
Carbon tetrachloride	6.82	0.50	ug/l	6.00		114	70-130			
Chlorobenzene	6.57	0.50	ug/l	6.00		110	70-130			

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Monterey CA, 93942-0951

Date Received: 12/09/13 19:49
Date Reported: 01/06/14 12:51

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L0452 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS (W3L0452-BS1)				Analyzed: 12/10/13 10:05						
Chloroethane	6.64	0.50	ug/l	6.00		111	70-130			
Chloroform	7.03	0.50	ug/l	6.00		117	70-130			
Chloromethane	6.04	0.50	ug/l	6.00		101	70-130			
cis-1,2-Dichloroethene	6.46	0.50	ug/l	6.00		108	70-130			
cis-1,3-Dichloropropene	5.98	0.50	ug/l	6.00		100	70-130			
Dibromochloromethane	5.78	0.50	ug/l	6.00		96	70-130			
Dibromomethane	6.67	0.50	ug/l	6.00		111	70-130			
Dichlorodifluoromethane (Freon 12)	5.87	0.50	ug/l	6.00		98	70-130			
Di-isopropyl ether	6.23	2.0	ug/l	6.00		104	70-130			
Ethyl tert-butyl ether	5.29	2.0	ug/l	6.00		88	70-130			
Ethylbenzene	6.37	0.50	ug/l	6.00		106	70-130			
Freon 113	7.75	5.0	ug/l	6.00		129	70-130			
Hexachlorobutadiene	6.81	0.50	ug/l	6.00		114	70-130			
Isopropylbenzene	7.24	0.50	ug/l	6.00		121	70-130			
m,p-Xylene	6.41	0.50	ug/l	6.00		107	70-130			
m-Dichlorobenzene	7.35	0.50	ug/l	6.00		122	70-130			
Methyl tert-butyl ether (MTBE)	5.51	2.0	ug/l	6.00		92	70-130			
Methylene chloride	6.84	0.50	ug/l	6.00		114	70-130			
Naphthalene	5.37	0.50	ug/l	6.00		90	70-130			
n-Butylbenzene	6.65	0.50	ug/l	6.00		111	70-130			
n-Propylbenzene	7.50	0.50	ug/l	6.00		125	70-130			
o-Dichlorobenzene	7.33	0.50	ug/l	6.00		122	70-130			
o-Xylene	6.32	0.50	ug/l	6.00		105	70-130			
p-Dichlorobenzene	7.14	0.50	ug/l	6.00		119	70-130			
p-Isopropyltoluene	6.86	0.50	ug/l	6.00		114	70-130			
sec-Butylbenzene	7.67	0.50	ug/l	6.00		128	70-130			
Styrene	6.46	0.50	ug/l	6.00		108	70-130			
Tert-amyl methyl ether	5.37	2.0	ug/l	6.00		90	70-130			
tert-Butylbenzene	7.29	0.50	ug/l	6.00		122	70-130			
Tetrachloroethene	6.99	0.50	ug/l	6.00		116	70-130			
Toluene	6.36	0.50	ug/l	6.00		106	70-130			
trans-1,2-Dichloroethene	6.42	0.50	ug/l	6.00		107	70-130			
trans-1,3-Dichloropropene	5.74	0.50	ug/l	6.00		96	70-130			
Trichloroethene	6.96	0.50	ug/l	6.00		116	70-130			
Trichlorofluoromethane	7.02	0.50	ug/l	6.00		117	70-130			
Vinyl chloride	6.39	0.50	ug/l	6.00		106	70-130			
Surr: 1,2-Dichlorobenzene-d4	*11.5*		*ug/l*	*10.0*		*115*	*70-130*			
Surr: 4-Bromofluorobenzene	*10.2*		*ug/l*	*10.0*		*102*	*70-130*			
LCS Dup (W3L0452-BSD1)				Analyzed: 12/10/13 10:38						
1,1,1,2-Tetrachloroethane	6.43	0.50	ug/l	6.00		107	70-130	3	30	
1,1,1-Trichloroethane	6.70	0.50	ug/l	6.00		112	70-130	2	30	
1,1,2,2-Tetrachloroethane	6.72	0.50	ug/l	6.00		112	70-130	8	30	
1,1,2-Trichloroethane	6.93	0.50	ug/l	6.00		116	70-130	4	30	
1,1-Dichloroethane	6.88	0.50	ug/l	6.00		115	70-130	1	30	

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Date Received: 12/09/13 19:49
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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L0452 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W3L0452-BSD1)				Analyzed: 12/10/13 10:38						
1,1-Dichloroethene	6.52	0.50	ug/l	6.00		109	70-130	2	30	
1,1-Dichloropropene	7.51	0.50	ug/l	6.00		125	70-130	0.7	30	
1,2,3-Trichlorobenzene	6.39	0.50	ug/l	6.00		106	70-130	6	30	
1,2,3-Trichloropropane	8.00	0.50	ug/l	6.00		133	70-130	7	30	BS-03
1,2,4-Trichlorobenzene	5.81	0.50	ug/l	6.00		97	70-130	0.9	30	
1,2,4-Trimethylbenzene	6.88	0.50	ug/l	6.00		115	70-130	0.4	30	
1,2-Dichloroethane	7.20	0.50	ug/l	6.00		120	70-130	4	30	
1,2-Dichloropropane	7.45	0.50	ug/l	6.00		124	70-130	2	30	
1,3,5-Trimethylbenzene	6.71	0.50	ug/l	6.00		112	70-130	0.6	30	
1,3-Dichloropropane	7.54	0.50	ug/l	6.00		126	70-130	2	30	
2,2-Dichloropropane	5.82	0.50	ug/l	6.00		97	70-130	3	30	
2-Butanone	5.75	5.0	ug/l	6.00		96	70-130	4	30	
2-Chloroethyl vinyl ether	5.80	1.0	ug/l	6.00		97	70-130	3	30	
2-Chlorotoluene	7.06	0.50	ug/l	6.00		118	70-130	4	30	
2-Hexanone	6.17	5.0	ug/l	6.00		103	70-130	10	30	
4-Chlorotoluene	7.89	0.50	ug/l	6.00		132	70-130	0.9	30	BS-03
4-Methyl-2-pentanone	5.77	5.0	ug/l	6.00		96	70-130	5	30	
Benzene	6.62	0.50	ug/l	6.00		110	70-130	0.9	30	
Bromobenzene	6.64	0.50	ug/l	6.00		111	70-130	3	30	
Bromochloromethane	6.96	0.50	ug/l	6.00		116	70-130	3	30	
Bromodichloromethane	6.56	0.50	ug/l	6.00		109	70-130	4	30	
Bromoform	6.76	0.50	ug/l	6.00		113	70-130	7	30	
Bromomethane	6.64	0.50	ug/l	6.00		111	70-130	3	30	
Carbon tetrachloride	6.95	0.50	ug/l	6.00		116	70-130	2	30	
Chlorobenzene	6.68	0.50	ug/l	6.00		111	70-130	2	30	
Chloroethane	6.65	0.50	ug/l	6.00		111	70-130	0.2	30	
Chloroform	7.13	0.50	ug/l	6.00		119	70-130	1	30	
Chloromethane	5.85	0.50	ug/l	6.00		98	70-130	3	30	
cis-1,2-Dichloroethene	6.56	0.50	ug/l	6.00		109	70-130	2	30	
cis-1,3-Dichloropropene	6.20	0.50	ug/l	6.00		103	70-130	4	30	
Dibromochloromethane	6.13	0.50	ug/l	6.00		102	70-130	6	30	
Dibromomethane	6.96	0.50	ug/l	6.00		116	70-130	4	30	
Dichlorodifluoromethane (Freon 12)	6.01	0.50	ug/l	6.00		100	70-130	2	30	
Di-isopropyl ether	6.57	2.0	ug/l	6.00		110	70-130	5	30	
Ethyl tert-butyl ether	5.47	2.0	ug/l	6.00		91	70-130	3	30	
Ethylbenzene	6.39	0.50	ug/l	6.00		106	70-130	0.3	30	
Freon 113	7.72	5.0	ug/l	6.00		129	70-130	0.4	30	
Hexachlorobutadiene	6.66	0.50	ug/l	6.00		111	70-130	2	30	
Isopropylbenzene	7.28	0.50	ug/l	6.00		121	70-130	0.6	30	
m,p-Xylene	6.45	0.50	ug/l	6.00		108	70-130	0.6	30	
m-Dichlorobenzene	7.35	0.50	ug/l	6.00		122	70-130	NR	30	
Methyl tert-butyl ether (MTBE)	5.85	2.0	ug/l	6.00		98	70-130	6	30	
Methylene chloride	6.98	0.50	ug/l	6.00		116	70-130	2	30	
Naphthalene	5.58	0.50	ug/l	6.00		93	70-130	4	30	

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Date Received: 12/09/13 19:49
Date Reported: 01/06/14 12:51

Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Batch W3L0452 - EPA 524.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
LCS Dup (W3L0452-BSD1)				Analyzed: 12/10/13 10:38						
n-Butylbenzene	6.50	0.50	ug/l	6.00		108	70-130	2	30	
n-Propylbenzene	7.65	0.50	ug/l	6.00		128	70-130	2	30	
o-Dichlorobenzene	7.43	0.50	ug/l	6.00		124	70-130	1	30	
o-Xylene	6.45	0.50	ug/l	6.00		108	70-130	2	30	
p-Dichlorobenzene	7.11	0.50	ug/l	6.00		118	70-130	0.4	30	
p-Isopropyltoluene	6.82	0.50	ug/l	6.00		114	70-130	0.6	30	
sec-Butylbenzene	7.68	0.50	ug/l	6.00		128	70-130	0.1	30	
Styrene	6.59	0.50	ug/l	6.00		110	70-130	2	30	
Tert-amyl methyl ether	5.60	2.0	ug/l	6.00		93	70-130	4	30	
tert-Butylbenzene	7.49	0.50	ug/l	6.00		125	70-130	3	30	
Tetrachloroethene	7.09	0.50	ug/l	6.00		118	70-130	1	30	
Toluene	6.43	0.50	ug/l	6.00		107	70-130	1	30	
trans-1,2-Dichloroethene	6.64	0.50	ug/l	6.00		111	70-130	3	30	
trans-1,3-Dichloropropene	6.03	0.50	ug/l	6.00		100	70-130	5	30	
Trichloroethene	7.00	0.50	ug/l	6.00		117	70-130	0.6	30	
Trichlorofluoromethane	7.14	0.50	ug/l	6.00		119	70-130	2	30	
Vinyl chloride	6.54	0.50	ug/l	6.00		109	70-130	2	30	
Surr: 1,2-Dichlorobenzene-d4	*11.4*		*ug/l*	*10.0*		*114*	*70-130*			
Surr: 4-Bromofluorobenzene	*10.4*		*ug/l*	*10.0*		*104*	*70-130*			

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Notes and Definitions

S-11	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QC-2	This QC sample was reanalyzed to complement samples that require re-analysis on different date. See analysis date.
Q-08	High bias in the QC sample does not affect sample result since analyte was not detected or below the reporting limit.
MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
M-04	Due to the nature of matrix interferences, sample extract was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
BS-03	The recovery of this analyte in the BS/LCS was outside the control limits. The sample result was accepted based on another acceptable BS/LCS and/or MS and MSD that meet BS criteria.
B-07	This analyte was found in the method blank at levels above the MDL but below the reporting limit.
A-01	Analysis subcontracted to Pace Analytical, NELAP Certified 04222CA
**	The recommended holding time for field filtering is only 15 minutes. The sample was filtered as soon as possible but it was filtered past holding time. However, the sample was analyzed within holding time.
*	The recommended holding time for this analysis is only 15 minutes. The sample was analyzed as soon as it was possible but it was received and analyzed past holding time.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reportable
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity
MRL	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

BSK Associates
Engineers/Laboratories

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Weck Laboratories Inc.
14859 East Clark Avenue
City of Industry, CA 91745
Weck Project Manager: Marilyn Romero

3L09093

Appendix G

ANALYTICAL CHAIN OF CUSTODY

*Required Fields

Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water	Travis Peterson Additional cc's: Sarp Sekeroglu, RBF Consulting	Accounts Payable PO#:	(831) 646-3295/(831) 646-3269	(831) 333-1343

E-mail*: susan.jacobson@amwater.com,travis.peterson@amwater.com

Address*:	City*:	State*:	Zip*:
PO Box 951	Monterey	CA	93942-0951

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: ____

Project: Water Quality Analysis – MPWSP

Project #:

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: ____

How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH System Number*: ____

Sampler Name (Printed/Signature)*: Nathan Reynolds / Nathan Reynolds

TAT* **Surcharge: ☒ Standard - 10 Business Days ☐ **Rush: Date Needed ____

☐ Geotracker #: ____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alkalinity, Hardness, MBAS, Color, Odor, TDS, pH, Turbidity, EC	Mass Balance-Dissolved: Cations and Anions	Dissolved Metals: Ba, B, Ca, Fe, Mg, Mn, K, Na, Sr, silica	Total Metals: Al, As, Cu, Fe, Mn, Zn	Dissolved: Bromide, Chloride, Nitrite, Fluoride, Sulfate, Orthophosphate-P	Dissolved: Ammonia, TKN, Phosphorus	Nitrate+Nitrite as N, Nitrate-NO3,	EPA 524, 504, 505, 515, 525, 531, 547, 548, 549	EXT-Tritium, EXT-Lithium, EXT-Dissolved Iodide, EXT-Dioxin
30	ML-4 Zone #2 (74.5 - 84.5 Abgs)	12-6-13	12:25	water	Seawater salinity levels.	X	X	X	X	X	X	X	X	X
					Lab to filter dissolved metals.									
					Lab to filter Diss. Ammonia, TKN, P									
					~~Okay to analyze out of hold time.~~									
					Please run dissolved and Total Mass Balance.									
					Field Parameters: Temp = 17.7 °C									
					pH = 6.57									
					Sp Cond = 12,933 uS/cm									
					Turb = 0.94 NTU									

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Nathan Reynolds	GEOSCIENCE			Qir 12-7-13 8:30 3.4°C	
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: PIA#:	Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: ____

Cooling Method: Wet Blue None

Custody Seal: Y / N

Chilling Process Begun: Y / N

BSK Associates
Bottle Order Form

Appendix G

Date Needed: 12/5/2013

Client: RBF Consulting
Attention: Sarp Sekeroglu
Address: 3180 Imjin Rd Suite 110
City: Marina State, Zip: CA, 93933
Email: ssekeroglu@rbf.com
Phone: (858) 401-3988 Requested By: MSN
Fax: Date Requested: 12/4/2013
Prepared By: FQ
Date Shipped: 12-4-13

Special Instructions:

Ship Via
ONTRAC

Shipping Details
Box with Ice Chest
Blue Ice
ONTRAC Return Label
COC - Prepared

Tests	Description	Preservative	Sets	Lot Number
Metals: Inorganic / Gen Min.	500mL Plastic red lid / label	HNO3	2	
Chlorite, Bromate, Bromide, Chlorate	250mL AG brown label	EDA	1	
Odor: General Physical	500mL AG	None	1	
Non-Metals: Alk, F, Res. Cl, pH,CO2, Solids, SO4	500mL Plastic white lid / label	None	1	
Gen Mineral/Inorganic; BOD, Pb&Cu,TDS, TSS	1L Plastic white lid / label	None	2	
Ammonia, TKN, Phosphorus Nitrate + Nitrite N	250mL Plastic yellow lid / label	H2SO4	1	
EPA 524.2 & 1,2,3-TCP - Raw Water	3 X 40mL VOAs	HCl	1	
EPA 504 / 505	3 X 40mL VOAs	Na2S2O3	2	
EPA 515	250mL AG blue label	Na2S2O3	1	
EPA 525	2 X 1L AG blue label	Na2S2O3	1	
EPA 531.1	1 x 40mL VOA orange label	MCAA + Na2S2O3	1	
EPA 547-Glyphosate	1 x 40mL VOA blue label	Na2S2O3	1	
EPA 548-Endothall	250mL AG blue label	Na2S2O3	1	
EPA 549-Diquat	1L Plastic (Brown)	Na2S2O3	1	
Dioxin	2 X 1L AG	-	1	
Iodide	250 mL Plastic	None	1	
Tritium	250 mL AG	None	1	

Pace Analytical Services, Inc.
1638 Roseytown Road, Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

December 23, 2013

Mr. Hai Van Nguyen
Weck Laboratories, Inc.
14859 East Clark Avenue
Hacienda Heights, CA 917451396

RE: Project: 3L09093
Pace Project No.: 30109445

Dear Mr. Nguyen:
Enclosed are the analytical results for sample(s) received by the laboratory on December 11, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road, Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: 3L09093
Pace Project No.: 30109445

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road, Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 3L09093
Pace Project No.: 30109445

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30109445001	**3L09093-01**	Water	12/06/13 12:25	12/11/13 11:00

Pace Analytical Services, Inc.
1638 Roseytown Road, Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 3L09093
Pace Project No.: 30109445

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30109445001	**3L09093-01**	EPA 906.0	SLA	1

Pace Analytical Services, Inc.
1638 Roseytown Road, Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: 3L09093
Pace Project No.: 30109445

Sample: 3L09093-01 **Lab ID: 30109445001** Collected: 12/06/13 12:25 Received: 12/11/13 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-110 ± 130 (240)**	pCi/L	12/19/13 15:48	10028-17-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road, Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: 3L09093
Pace Project No.: 30109445

QC Batch: RADC/18077
QC Batch Method: EPA 906.0
Analysis Method: EPA 906.0
Analysis Description: 906.0 Tritium
Associated Lab Samples: 30109445001

METHOD BLANK: 670612
Matrix: Water
Associated Lab Samples: 30109445001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	4.89 ± 127 (224)	pCi/L	12/18/13 22:27	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road, Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 3L09093
Pace Project No.: 30109445

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

SUBCONTRACT ORDER

Subcontract Laboratory:
Pace Analytical Services - Greenburg PA
1638 Roseytown Road Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208

Turn Around Time: Normal
Project Manager: Hai Van Nguyen
Name of Sampler: _____
Sampler Employed by: _____

30109445

Sample ID: 3L09093-01 **Sample ID:** ML-4 Zone # 2 (74.5-84.5 ftbgs) **Matrix:** Water **Date Sampled:** 12/06/13 **Time Sampled:** 12:25
Sample comment:

Analysis	Expires	Comments
Tritium-SUB	06/04/14 12:25	
Containers Supplied:		
125 mL Amber Glass (AF)		

Remarks / Special Comments:

Sample Condition:
Temperature: 0.0
Preserved: Yes / No
Evidence Seal Intact: Yes / No
Container Attacked: Yes / No
Preserved at Lab: Yes / No

Relinquished By	Date / Time:	Received By	Date / Time:
Guangfan	12/10/13 13:20	Fedex	
Relinquished by	Date / Time:	Received By	Date / Time:
			12-11-13 11:00

Appendix G

Sample Condition Upon Receipt

Pace Analytical

Client Name: Wade Laboratories Project # 30109445

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 7473 6334 4814

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used (5) 6 7 Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 0-0 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: MRC 12-11-13

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	☑Yes ☐No ☐N/A	12.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Initial when completed MRC Lot # of added preservative
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: JaCollins **Date:** 12/12/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

Project Number: 30109445

Client Name: Weck Laboratories

Item No.	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.L)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
C01	WT	1																						

BSK Associates Engineers & Laboratories
Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3K1920 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 11/26/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Michael Ng, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	Accounts Payable
Project #:	Water Quality Analysis	**Project PO#:**	-
Received:	11/26/2013 - 10:30		
Report Due:	12/12/2013		

Sample Receipt Conditions

Cooler: Default Cooler

Temperature on Receipt ºC: 2.2

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-SAC

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
BS3.0	BS/BSD RPD exceeded the acceptance limit. Recovery met acceptance criteria.
BS4.0	BS/BSD RPD exceeded the method acceptance limit as one of the blank spikes recovered outside limits.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
DL1.0	Sample required a dilution due to the matrix or high concentration of a non-target analyte.
HT1.0	Holding time exceeded. Sample was received at the lab past holding time.
HT1.6	Holding time exceeded. The holding time for this analysis is a recommendation and is not mandated by any state or federal agency.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
X.0	BS/BSD RPD is outside of acceptance limits

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt
Sarp Sekeroglu	Final.rpt

Certificate of Analysis

Sample ID: A3K1920-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #1 (152-162 ft bgs)

Sample Date - Time: 11/22/13 - 13:35
Matrix: Water
Sample Type: Grab

Field Data: pH=6.63 Temp=16.5 ºC Turb. =1.26 ntu

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**560**	30	mg/L	10	A314185	11/27/13	11/27/13	
Bicarbonate as CaCO3	SM 2320 B	**560**	30	mg/L	10	A314185	11/27/13	11/27/13	
Carbonate as CaCO3	SM 2320 B	ND	30	mg/L	10	A314185	11/27/13	11/27/13	
Hydroxide as CaCO3	SM 2320 B	ND	30	mg/L	10	A314185	11/27/13	11/27/13	
Ammonia as N	SM 4500-NH3 G	**6.8**	0.10	mg/L	1	A314346	12/04/13	12/09/13	
Bromide	EPA 300.1	**68**	1.2	mg/L	250	A314117	11/26/13	11/26/13	
Surrogate: Dichloroacetate	EPA 300.1	106 %	*Acceptable range: 90-115 %*						
Chloride	EPA 300.0	**19000**	200	mg/L	200	A314172	11/27/13	11/27/13	
Color, Apparent	SM 2120 B	**20**	1.0	CU	1	A314113	11/26/13 19:02	11/26/13	HT1.0
Conductivity @ 25C	SM 2510 B	**43000**	1.0	umhos/cm	1	A314132	11/26/13	11/26/13	
Fluoride	EPA 300.0	ND	2.0	mg/L	20	A314220	11/27/13	11/27/13	DL1.0
Mass Balance-Anions		**590**		meq/L					
Mass Balance-Dissolved Cations		**550**		meq/L					
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.10	mg/L	2	A314153	11/27/13 15:20	11/27/13	DL1.0, HT1.0
Nitrate as NO3	EPA 300.0	ND	200	mg/L	200	A314172	11/27/13 15:52	11/27/13	DL1.0, HT1.0
Nitrite as N	EPA 300.0	ND	10	mg/L	200	A314172	11/27/13 15:52	11/27/13	DL1.0, HT1.0
Threshold Odor	SM 2150 B	ND	1.0	T.O.N.	1	A314113	11/26/13 19:02	11/26/13	HT1.6
Orthophosphate as P	SM 4500-P E	**0.14**	0.010	mg/L	1	A314203	11/27/13 18:38	11/27/13	HT1.0
pH (1)	SM 4500-H+ B	**7.4**		pH Units	1	A314132	11/26/13	11/26/13	
pH Temperature in °C		**21.4**							
Phosphorus - Dissolved (1)	EPA 365.4	ND	0.10	mg/L	1	A314666	12/11/13	12/12/13	
Sulfate as SO4	EPA 300.0	**2000**	400	mg/L	200	A314172	11/27/13	11/27/13	
Total Dissolved Solids	SM 2540C	**34000**	5.0	mg/L	1	A314178	11/27/13	12/02/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	**7.3**	1.0	mg/L	1	A314282	12/03/13	12/05/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A314432	12/05/13	12/05/13	
Turbidity	SM 2130 B	**6.5**	0.10	NTU	1	A314113	11/26/13 19:02	11/26/13	HT1.0

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	**0.052**	0.050	mg/L	1	A314146	11/26/13	12/04/13	
Arsenic	EPA 200.8	**4.5**	4.0	ug/L	2	A314146	11/26/13	12/02/13	
Barium - Dissolved (1)	EPA 200.7	ND	0.050	mg/L	1	A314514	12/06/13	12/10/13	
Boron - Dissolved (1)	EPA 200.7	**4.0**	0.10	mg/L	1	A314514	12/06/13	12/10/13	
Calcium	EPA 200.7	**550**	0.10	mg/L	1	A314146	11/26/13	12/04/13	
Calcium - Dissolved (1)	EPA 200.7	**570**	0.10	mg/L	1	A314514	12/06/13	12/10/13	
Copper	EPA 200.8	**58**	10	ug/L	2	A314146	11/26/13	12/02/13	
Hardness as CaCO3	SM 2340B	**6400**	0.41	mg/L					
Iron	EPA 200.7	**3.9**	0.030	mg/L	1	A314146	11/26/13	12/04/13	

Certificate of Analysis

Sample ID: A3K1920-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #1 (152-162 ft bgs)

Sample Date - Time: 11/22/13 - 13:35
Matrix: Water
Sample Type: Grab

Field Data: pH=6.63 Temp=16.5 ºC Turb. =1.26 ntu

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Iron - Dissolved (1)	EPA 200.7	ND	0.030	mg/L	1	A314514	12/06/13	12/10/13	
Magnesium	EPA 200.7	**1200**	0.10	mg/L	1	A314146	11/26/13	12/04/13	
Magnesium - Dissolved (1)	EPA 200.7	**1200**	0.10	mg/L	1	A314514	12/06/13	12/10/13	
Manganese	EPA 200.7	**3.8**	0.010	mg/L	1	A314146	11/26/13	12/04/13	
Manganese - Dissolved (1)	EPA 200.7	**3.9**	0.010	mg/L	1	A314514	12/06/13	12/10/13	
Potassium - Dissolved (1)	EPA 200.7	**250**	2.0	mg/L	1	A314514	12/06/13	12/10/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**32**	0.20	mg/L	1	A314514	12/06/13	12/10/13	
Sodium - Dissolved (1)	EPA 200.7	**9400**	20	mg/L	20	A314514	12/06/13	12/10/13	
Strontium - Dissolved (1)	EPA 200.8	**12000**	10	ug/L	10	A314514	12/06/13	12/10/13	
Zinc	EPA 200.7	ND	0.050	mg/L	1	A314146	11/26/13	12/04/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A314194	11/27/13	11/28/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A314194	11/27/13	11/28/13	
Surrogate: TCMX	EPA 504.1	103 %	*Acceptable range: 70-130 %*						
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A314194	11/27/13	11/28/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A314194	11/27/13	11/28/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A314194	11/27/13	11/28/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A314194	11/27/13	11/28/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A314194	11/27/13	11/28/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A314194	11/27/13	11/28/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A314194	11/27/13	11/28/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A314194	11/27/13	11/28/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A314194	11/27/13	11/28/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A314194	11/27/13	11/28/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A314194	11/27/13	11/28/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A314194	11/27/13	11/28/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A314194	11/27/13	11/28/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A314194	11/27/13	11/28/13	
Surrogate: TCMX	EPA 505	103 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A314421	12/05/13	12/08/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A314421	12/05/13	12/08/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A314421	12/05/13	12/08/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A314421	12/05/13	12/08/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A314421	12/05/13	12/08/13	

Certificate of Analysis

Sample ID: A3K1920-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #1 (152-162 ft bgs)

Sample Date - Time: 11/22/13 - 13:35
Matrix: Water
Sample Type: Grab

Field Data: pH=6.63 Temp=16.5 ºC Turb. =1.26 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A314421	12/05/13	12/08/13	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A314421	12/05/13	12/08/13	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A314421	12/05/13	12/08/13	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A314421	12/05/13	12/08/13	
Surrogate: DCPAA	EPA 515.3	80 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A314277	12/03/13	12/04/13	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A314277	12/03/13	12/04/13	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A314277	12/03/13	12/04/13	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A314277	12/03/13	12/04/13	
Acetone	EPA 524.2	ND	10	ug/L	1	A314277	12/03/13	12/04/13	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	

Certificate of Analysis

Sample ID: A3K1920-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #1 (152-162 ft bgs)

Sample Date - Time: 11/22/13 - 13:35
Matrix: Water
Sample Type: Grab

Field Data: pH=6.63 Temp=16.5 ºC Turb. =1.26 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A314277	12/03/13	12/04/13	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A314277	12/03/13	12/04/13	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A314277	12/03/13	12/04/13	BS1.0, CV0.0
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A314277	12/03/13	12/04/13	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	93 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	104 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A314276	12/03/13	12/04/13	

Certificate of Analysis

Sample ID: A3K1920-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #1 (152-162 ft bgs)

Sample Date - Time: 11/22/13 - 13:35
Matrix: Water
Sample Type: Grab

Field Data: pH=6.63 Temp=16.5 ºC Turb. =1.26 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Semi-Volatile Organics by GC-MS									
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A314276	12/03/13	12/04/13	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A314276	12/03/13	12/04/13	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A314276	12/03/13	12/04/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A314276	12/03/13	12/04/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A314276	12/03/13	12/04/13	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A314276	12/03/13	12/04/13	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A314276	12/03/13	12/04/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A314276	12/03/13	12/04/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A314276	12/03/13	12/04/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A314276	12/03/13	12/04/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A314276	12/03/13	12/04/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A314276	12/03/13	12/04/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A314276	12/03/13	12/04/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A314276	12/03/13	12/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	100 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A314122	11/26/13	11/26/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A314122	11/26/13	11/26/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A314122	11/26/13	11/26/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A314122	11/26/13	11/26/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A314122	11/26/13	11/26/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A314122	11/26/13	11/26/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A314122	11/26/13	11/26/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A314122	11/26/13	11/26/13	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A314204	12/01/13	12/01/13	
Surrogate: AMPA	EPA 547	104 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A314043	11/27/13	11/29/13	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A314169	11/27/13	12/03/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A314172										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: EMH	
Blank (A314172-BLK1)											
Chloride	ND	1.0	mg/L							11/27/13	
Nitrate as NO3	ND	1.0	mg/L							11/27/13	
Nitrite as N	ND	0.050	mg/L							11/27/13	
Sulfate as SO4	ND	2.0	mg/L							11/27/13	
Blank Spike (A314172-BS1)											
Chloride	50	1.0	mg/L	50		99	90-110			11/27/13	
Nitrate as NO3	50	1.0	mg/L	50		99	90-110			11/27/13	
Nitrite as N	0.51	0.050	mg/L	0.50		102	90-110			11/27/13	
Sulfate as SO4	50	2.0	mg/L	50		99	90-110			11/27/13	
Blank Spike Dup (A314172-BSD1)											
Chloride	48	1.0	mg/L	50		97	90-110	3	20	11/27/13	
Nitrate as NO3	48	1.0	mg/L	50		97	90-110	2	20	11/27/13	
Nitrite as N	0.50	0.050	mg/L	0.50		100	90-110	2	20	11/27/13	
Sulfate as SO4	48	2.0	mg/L	50		97	90-110	2	20	11/27/13	
Matrix Spike (A314172-MS1), Source: A3K1922-04											
Chloride	120	2.0	mg/L	100	20	99	80-120			11/27/13	
Nitrate as NO3	100	2.0	mg/L	100	4.8	99	80-120			11/27/13	
Nitrite as N	1.0	0.10	mg/L	1.0		101	80-120			11/27/13	
Sulfate as SO4	100	4.0	mg/L	100	ND	98	80-120			11/27/13	
Matrix Spike (A314172-MS2), Source: A3K1953-01											
Chloride	110	2.0	mg/L	100	8.7	100	80-120			11/27/13	
Nitrate as NO3	110	2.0	mg/L	100	11	101	80-120			11/27/13	
Nitrite as N	0.98	0.10	mg/L	1.0	ND	98	80-120			11/27/13	
Sulfate as SO4	110	4.0	mg/L	100	11	101	80-120			11/27/13	
Matrix Spike Dup (A314172-MSD1), Source: A3K1922-04											
Chloride	120	2.0	mg/L	100	20	100	80-120	1	20	11/27/13	
Nitrate as NO3	100	2.0	mg/L	100	4.8	99	80-120	0	20	11/27/13	
Nitrite as N	1.0	0.10	mg/L	1.0		100	80-120	1	20	11/27/13	
Sulfate as SO4	100	4.0	mg/L	100	ND	97	80-120	1	20	11/27/13	
Matrix Spike Dup (A314172-MSD2), Source: A3K1953-01											
Chloride	110	2.0	mg/L	100	8.7	98	80-120	2	20	11/27/13	
Nitrate as NO3	110	2.0	mg/L	100	11	100	80-120	1	20	11/27/13	
Nitrite as N	0.97	0.10	mg/L	1.0	ND	97	80-120	1	20	11/27/13	
Sulfate as SO4	110	4.0	mg/L	100	11	98	80-120	2	20	11/27/13	
EPA 300.0 - Quality Control											
Batch: A314220										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314220-BLK1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A314220										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314220-BLK1)											
Fluoride	ND	0.10	mg/L							11/27/13	
Blank Spike (A314220-BS1)											
Fluoride	0.50	0.10	mg/L	0.50		99	90-110			11/27/13	
Blank Spike Dup (A314220-BSD1)											
Fluoride	0.49	0.10	mg/L	0.50		99	90-110	1	10	11/27/13	
Matrix Spike (A314220-MS1), Source: A3K1732-04											
Fluoride	0.98	0.20	mg/L	1.0	ND	88	80-120			11/27/13	
Matrix Spike (A314220-MS2), Source: A3K1891-02											
Fluoride	1.3	0.20	mg/L	1.0	0.30	99	80-120			11/27/13	
Matrix Spike Dup (A314220-MSD1), Source: A3K1732-04											
Fluoride	0.99	0.20	mg/L	1.0	ND	89	80-120	1	10	11/27/13	
Matrix Spike Dup (A314220-MSD2), Source: A3K1891-02											
Fluoride	1.3	0.20	mg/L	1.0	0.30	100	80-120	1	10	11/27/13	
EPA 300.1 - Quality Control											
Batch: A314117										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314117-BLK1)											
Bromide	ND	0.0050	mg/L							11/26/13	
Surrogate: Dichloroacetate	*0.451*			*0.50*		*90*	*90-115*			11/26/13	
Blank Spike (A314117-BS1)											
Bromide	0.18	0.0050	mg/L	0.20		92	85-115			11/26/13	
Surrogate: Dichloroacetate	*0.465*			*0.50*		*93*	*90-115*			11/26/13	
Blank Spike Dup (A314117-BSD1)											
Bromide	0.18	0.0050	mg/L	0.20		92	85-115	1	10	11/26/13	
Surrogate: Dichloroacetate	*0.476*			*0.50*		*95*	*90-115*			11/26/13	
Matrix Spike (A314117-MS1), Source: A3K1815-03											
Bromide	1.1	0.050	mg/L	1.0	0.14	95	75-125			11/26/13	
Surrogate: Dichloroacetate	*5.02*			*5.0*		*100*	*90-115*			11/26/13	
Matrix Spike Dup (A314117-MSD1), Source: A3K1815-03											
Bromide	1.1	0.050	mg/L	1.0	0.14	94	75-125	1	10	11/26/13	
Surrogate: Dichloroacetate	*5.30*			*5.0*		*106*	*90-115*			11/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 351.2 - Quality Control											
Batch: A314282										Prepared: 12/3/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A314282-BLK1)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							12/05/13	
Blank Spike (A314282-BS1)											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10		106	90-110			12/05/13	
Blank Spike Dup (A314282-BSD1)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		102	90-110	4	10	12/05/13	
Matrix Spike (A314282-MS1), Source: A3K2014-02											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	109	90-110			12/05/13	
Matrix Spike Dup (A314282-MSD1), Source: A3K2014-02											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	106	90-110	3	10	12/05/13	
EPA 365.4 - Quality Control											
Batch: A314666										Prepared: 12/11/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A314666-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							12/12/13	
Blank Spike (A314666-BS1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		101	90-110			12/12/13	
Blank Spike Dup (A314666-BSD1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		103	90-110	2	10	12/12/13	
Matrix Spike (A314666-MS1), Source: A3L0659-05											
Phosphorus - Dissolved (1)	9.7	0.10	mg/L	10	ND	97	90-110			12/12/13	
Matrix Spike Dup (A314666-MSD1), Source: A3L0659-05											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10	ND	94	90-110	3	10	12/12/13	
SM 2120 B - Quality Control											
Batch: A314113										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314113-BLK1)											
Color, Apparent	ND	1.0	CU							11/26/13	
Duplicate (A314113-DUP1), Source: A3K1910-01											
Color, Apparent	10	1.0	CU		10			0	20	11/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2130 B - Quality Control											
Batch: A314113										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314113-BLK1)											
Turbidity	ND	0.10	NTU							11/26/13	
Duplicate (A314113-DUP1), Source: A3K1910-01											
Turbidity	1.6	0.10	NTU		1.6			4	20	11/26/13	
SM 2150 B - Quality Control											
Batch: A314113										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314113-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							11/26/13	
Duplicate (A314113-DUP1), Source: A3K1910-01											
Threshold Odor	ND	1.0	T.O.N.		ND				20	11/26/13	
SM 2320 B - Quality Control											
Batch: A314185										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314185-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							11/27/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							11/27/13	
Carbonate as CaCO3	ND	3.0	mg/L							11/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L							11/27/13	
Blank Spike (A314185-BS1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		102	80-120			11/27/13	
Blank Spike Dup (A314185-BSD1)											
Alkalinity as CaCO3	96	3.0	mg/L	100		96	80-120	6	20	11/27/13	
Duplicate (A314185-DUP1), Source: A3K1958-01											
Alkalinity as CaCO3	340	3.0	mg/L		340			0	10	11/27/13	
Bicarbonate as CaCO3	320	3.0	mg/L		320			0	10	11/27/13	
Carbonate as CaCO3	17	3.0	mg/L		18			6	10	11/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	11/27/13	
Duplicate (A314185-DUP2), Source: A3K1962-02											
Alkalinity as CaCO3	260	3.0	mg/L		250			5	10	11/27/13	
Bicarbonate as CaCO3	260	3.0	mg/L		250			5	10	11/27/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	11/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	11/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2510 B - Quality Control											
Batch: A314132										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314132-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							11/26/13	
Duplicate (A314132-DUP1), Source: A3K1885-01											
Conductivity @ 25C	1400	1.0	umhos/cm		1400			0	20	11/26/13	
Duplicate (A314132-DUP2), Source: A3K1922-06											
Conductivity @ 25C	210	1.0	umhos/cm		210			0	20	11/26/13	
SM 2540C - Quality Control											
Batch: A314178										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A314178-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							12/02/13	
Blank Spike (A314178-BS1)											
Total Dissolved Solids	990	5.0	mg/L	1000		99	70-130			12/02/13	
Duplicate (A314178-DUP1), Source: A3K1910-01											
Total Dissolved Solids	29000	5.0	mg/L		28000			5	20	12/02/13	
SM 4500-H+ B - Quality Control											
Batch: A314132										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A314132-DUP1), Source: A3K1885-01											
pH (1)	8.1		pH Units		8.1			0	20	11/26/13	
Duplicate (A314132-DUP2), Source: A3K1922-06											
pH (1)	7.9		pH Units		7.9			0	20	11/26/13	
SM 4500-NH3 G - Quality Control											
Batch: A314346										Prepared: 12/4/2013	
Prep Method: Ammonia Distillation										Analyst: KKC	
Blank (A314346-BLK1)											
Ammonia as N	ND	0.10	mg/L							12/09/13	
Blank Spike (A314346-BS1)											
Ammonia as N	9.9	0.10	mg/L	10		99	80-120			12/09/13	
Blank Spike Dup (A314346-BSD1)											
Ammonia as N	10	0.10	mg/L	10		102	80-120	2	20	12/09/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NH3 G - Quality Control											
Batch: A314346										Prepared: 12/4/2013	
Prep Method: Ammonia Distillation										Analyst: KKC	
Matrix Spike (A314346-MS1), Source: A3K1829-06											
Ammonia as N	9.9	0.10	mg/L	10	0.41	94	80-120			12/09/13	
Matrix Spike (A314346-MS2), Source: A3K1880-10											
Ammonia as N	9.3	0.10	mg/L	10	ND	92	80-120			12/09/13	
Matrix Spike Dup (A314346-MSD1), Source: A3K1829-06											
Ammonia as N	10	0.10	mg/L	10	0.41	99	80-120	5	20	12/09/13	
Matrix Spike Dup (A314346-MSD2), Source: A3K1880-10											
Ammonia as N	9.9	0.10	mg/L	10	ND	98	80-120	6	20	12/09/13	
SM 4500-NO3 F - Quality Control											
Batch: A314432										Prepared: 12/5/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314432-BLK1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							12/05/13	
Blank Spike (A314432-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.4	0.10	mg/L	10		94	80-120			12/05/13	
Blank Spike Dup (A314432-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.5	0.10	mg/L	10		95	80-120	1	20	12/05/13	
Matrix Spike (A314432-MS1), Source: A3K1854-02											
Total Oxidizable Nitrogen, as N - Dissolved (1)	14	0.10	mg/L	10	4.9	96	80-120			12/05/13	
Matrix Spike (A314432-MS2), Source: A3K1910-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	8.7	0.10	mg/L	10	ND	87	80-120			12/05/13	
Matrix Spike Dup (A314432-MSD1), Source: A3K1854-02											
Total Oxidizable Nitrogen, as N - Dissolved (1)	15	0.10	mg/L	10	4.9	96	80-120	0	20	12/05/13	
Matrix Spike Dup (A314432-MSD2), Source: A3K1910-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.2	0.10	mg/L	10	ND	92	80-120	5	20	12/05/13	
SM 4500-P E - Quality Control											
Batch: A314203										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314203-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							11/27/13	
Blank Spike (A314203-BS1)											
Orthophosphate as P	0.23	0.010	mg/L	0.25		93	90-110			11/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-P E - Quality Control											
Batch: A314203										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank Spike Dup (A314203-BSD1)											
Orthophosphate as P	0.23	0.010	mg/L	0.25		92	90-110	1	20	11/27/13	
Matrix Spike (A314203-MS1), Source: A3K1964-02											
Orthophosphate as P	0.31	0.010	mg/L	0.25	0.082	91	80-120			11/27/13	
Matrix Spike Dup (A314203-MSD1), Source: A3K1964-02											
Orthophosphate as P	0.31	0.010	mg/L	0.25	0.082	92	80-120	1	20	11/27/13	
SM 5540 C - Quality Control											
Batch: A314153										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A314153-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							11/27/13	
Blank Spike (A314153-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.90	0.050	mg/L	1.0		90	80-120			11/27/13	
Blank Spike Dup (A314153-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.93	0.050	mg/L	1.0		93	80-120	3	20	11/27/13	
Matrix Spike (A314153-MS1), Source: A3K1904-01											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	99	80-120			11/27/13	
Matrix Spike Dup (A314153-MSD1), Source: A3K1904-01											
MBAS, Calculated as LAS, mol wt 340	0.97	0.050	mg/L	1.0	ND	93	80-120	6	20	11/27/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314146										Prepared: 11/26/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A314146-BLK2)											
Aluminum	ND	0.050	mg/L							12/04/13	
Calcium	ND	0.10	mg/L							12/04/13	
Iron	ND	0.030	mg/L							12/04/13	
Magnesium	ND	0.10	mg/L							12/04/13	
Manganese	ND	0.010	mg/L							12/04/13	
Zinc	ND	0.050	mg/L							12/04/13	
Blank Spike (A314146-BS2)											
Aluminum	0.19	0.050	mg/L	0.20		94	85-115			12/04/13	
Calcium	10	0.10	mg/L	10		100	85-115			12/04/13	
Iron	1.9	0.030	mg/L	2.0		97	85-115			12/04/13	
Magnesium	9.9	0.10	mg/L	10		99	85-115			12/04/13	
Manganese	0.20	0.010	mg/L	0.20		98	85-115			12/04/13	
Zinc	0.21	0.050	mg/L	0.20		103	85-115			12/04/13	
Blank Spike Dup (A314146-BSD2)											
Aluminum	0.18	0.050	mg/L	0.20		91	85-115	3	20	12/04/13	
Calcium	10	0.10	mg/L	10		102	85-115	1	20	12/04/13	
Iron	2.0	0.030	mg/L	2.0		98	85-115	0	20	12/04/13	
Magnesium	9.9	0.10	mg/L	10		99	85-115	1	20	12/04/13	
Manganese	0.20	0.010	mg/L	0.20		98	85-115	0	20	12/04/13	
Zinc	0.21	0.050	mg/L	0.20		103	85-115	0	20	12/04/13	
Matrix Spike (A314146-MS3), Source: A3K1935-01											
Aluminum	0.72	0.050	mg/L	0.20	0.42	150	70-130			12/04/13	MS1.0 ***High***
Calcium	53	0.10	mg/L	10	43	101	70-130			12/04/13	
Iron	2.5	0.030	mg/L	2.0	0.52	99	70-130			12/04/13	
Magnesium	11	0.10	mg/L	10	0.68	99	70-130			12/04/13	
Manganese	0.21	0.010	mg/L	0.20	0.020	97	70-130			12/04/13	
Zinc	0.21	0.050	mg/L	0.20	ND	107	70-130			12/04/13	
Matrix Spike Dup (A314146-MSD3), Source: A3K1935-01											
Aluminum	0.71	0.050	mg/L	0.20	0.42	144	70-130	1	20	12/04/13	MS1.0 ***High***
Calcium	52	0.10	mg/L	10	43	92	70-130	2	20	12/04/13	
Iron	2.5	0.030	mg/L	2.0	0.52	99	70-130	0	20	12/04/13	
Magnesium	11	0.10	mg/L	10	0.68	99	70-130	0	20	12/04/13	
Manganese	0.21	0.010	mg/L	0.20	0.020	97	70-130	0	20	12/04/13	
Zinc	0.21	0.050	mg/L	0.20	ND	104	70-130	3	20	12/04/13	
EPA 200.7 - Quality Control											
Batch: A314514										Prepared: 12/6/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A314514-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							12/10/13	
Boron - Dissolved (1)	ND	0.10	mg/L							12/10/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314514										Prepared: 12/6/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A314514-BLK2)											
Calcium - Dissolved (1)	ND	0.10	mg/L							12/10/13	
Iron - Dissolved (1)	ND	0.030	mg/L							12/10/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							12/10/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							12/10/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							12/10/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							12/10/13	
Sodium - Dissolved (1)	ND	1.0	mg/L							12/10/13	
Blank Spike (A314514-BS2)											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20		106	85-115			12/10/13	
Boron - Dissolved (1)	0.63	0.10	mg/L	0.60		106	85-115			12/10/13	
Calcium - Dissolved (1)	11	0.10	mg/L	10		108	85-115			12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0		104	85-115			12/10/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10		105	85-115			12/10/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20		104	85-115			12/10/13	
Potassium - Dissolved (1)	11	2.0	mg/L	10		105	85-115			12/10/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		102	85-115			12/10/13	
Sodium - Dissolved (1)	11	1.0	mg/L	10		106	85-115			12/10/13	
Blank Spike Dup (A314514-BSD2)											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20		105	85-115	1	20	12/10/13	
Boron - Dissolved (1)	0.63	0.10	mg/L	0.60		105	85-115	1	20	12/10/13	
Calcium - Dissolved (1)	11	0.10	mg/L	10		107	85-115	1	20	12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0		104	85-115	0	20	12/10/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10		104	85-115	1	20	12/10/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20		103	85-115	1	20	12/10/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10		103	85-115	2	20	12/10/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		101	85-115	1	20	12/10/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		104	85-115	2	20	12/10/13	
Matrix Spike (A314514-MS3), Source: A3K1890-01											
Barium - Dissolved (1)	0.22	0.050	mg/L	0.20	ND	110	70-130			12/10/13	
Boron - Dissolved (1)	1.1	0.10	mg/L	0.60	0.48	102	70-130			12/10/13	
Calcium - Dissolved (1)	13	0.10	mg/L	10	2.2	106	70-130			12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.089	103	70-130			12/10/13	
Magnesium - Dissolved (1)	11	0.10	mg/L	10	0.27	103	70-130			12/10/13	
Manganese - Dissolved (1)	0.30	0.010	mg/L	0.20	0.091	102	70-130			12/10/13	
Potassium - Dissolved (1)	12	2.0	mg/L	10	ND	103	70-130			12/10/13	
Silica (SiO2) - Dissolved (1)	57	0.20	mg/L	2.1	55	123	70-130			12/10/13	
Sodium - Dissolved (1)	150	1.0	mg/L	10	140	105	70-130			12/10/13	
Matrix Spike (A314514-MS4), Source: A3L0185-01											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20	ND	107	70-130			12/10/13	
Boron - Dissolved (1)	1.1	0.10	mg/L	0.60	0.52	103	70-130			12/10/13	
Calcium - Dissolved (1)	13	0.10	mg/L	10	2.7	106	70-130			12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.051	103	70-130			12/10/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314514										Prepared: 12/6/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Matrix Spike (A314514-MS4), Source: A3L0185-01											
Magnesium - Dissolved (1)	10	0.10	mg/L	10	0.29	101	70-130			12/10/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20	ND	105	70-130			12/10/13	
Potassium - Dissolved (1)	12	2.0	mg/L	10	ND	102	70-130			12/10/13	
Silica (SiO2) - Dissolved (1)	59	0.20	mg/L	2.1	57	116	70-130			12/10/13	
Sodium - Dissolved (1)	160	1.0	mg/L	10	150	124	70-130			12/10/13	
Matrix Spike Dup (A314514-MSD3), Source: A3K1890-01											
Barium - Dissolved (1)	0.22	0.050	mg/L	0.20	ND	111	70-130	1	20	12/10/13	
Boron - Dissolved (1)	1.1	0.10	mg/L	0.60	0.48	102	70-130	0	20	12/10/13	
Calcium - Dissolved (1)	13	0.10	mg/L	10	2.2	104	70-130	1	20	12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.089	103	70-130	0	20	12/10/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10	0.27	102	70-130	1	20	12/10/13	
Manganese - Dissolved (1)	0.29	0.010	mg/L	0.20	0.091	102	70-130	0	20	12/10/13	
Potassium - Dissolved (1)	12	2.0	mg/L	10	ND	103	70-130	0	20	12/10/13	
Silica (SiO2) - Dissolved (1)	57	0.20	mg/L	2.1	55	126	70-130	0	20	12/10/13	
Sodium - Dissolved (1)	150	1.0	mg/L	10	140	110	70-130	0	20	12/10/13	
Matrix Spike Dup (A314514-MSD4), Source: A3L0185-01											
Barium - Dissolved (1)	0.22	0.050	mg/L	0.20	ND	109	70-130	2	20	12/10/13	
Boron - Dissolved (1)	1.2	0.10	mg/L	0.60	0.52	107	70-130	2	20	12/10/13	
Calcium - Dissolved (1)	14	0.10	mg/L	10	2.7	109	70-130	2	20	12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.051	104	70-130	1	20	12/10/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10	0.29	101	70-130	0	20	12/10/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20	ND	105	70-130	0	20	12/10/13	
Potassium - Dissolved (1)	12	2.0	mg/L	10	ND	105	70-130	2	20	12/10/13	
Silica (SiO2) - Dissolved (1)	61	0.20	mg/L	2.1	57	221	70-130	4	20	12/10/13	MS1.0 ***High***
Sodium - Dissolved (1)	160	1.0	mg/L	10	150	166	70-130	3	20	12/10/13	MS1.0 ***High***
EPA 200.8 - Quality Control											
Batch: A314146										Prepared: 11/26/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Blank (A314146-BLK1)											
Arsenic	ND	2.0	ug/L							11/27/13	
Copper	ND	5.0	ug/L							11/27/13	
Blank Spike (A314146-BS1)											
Arsenic	190	2.0	ug/L	200		95	85-115			11/27/13	
Copper	180	5.0	ug/L	200		92	85-115			11/27/13	
Blank Spike Dup (A314146-BSD1)											
Arsenic	190	2.0	ug/L	200		93	85-115	2	20	11/27/13	
Copper	180	5.0	ug/L	200		89	85-115	3	20	11/27/13	
Matrix Spike (A314146-MS1), Source: A3K1935-01											
Arsenic	200	2.0	ug/L	200	10	95	70-130			11/27/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A314146										Prepared: 11/26/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Matrix Spike (A314146-MS1), Source: A3K1935-01											
Copper	180	5.0	ug/L	200	ND	87	70-130			11/27/13	
Matrix Spike (A314146-MS2), Source: A3K1935-02											
Arsenic	210	2.0	ug/L	200	13	99	70-130			11/27/13	
Copper	180	5.0	ug/L	200	ND	91	70-130			11/27/13	
Matrix Spike Dup (A314146-MSD1), Source: A3K1935-01											
Arsenic	200	2.0	ug/L	200	10	96	70-130	1	20	11/27/13	
Copper	180	5.0	ug/L	200	ND	88	70-130	0	20	11/27/13	
Matrix Spike Dup (A314146-MSD2), Source: A3K1935-02											
Arsenic	210	2.0	ug/L	200	13	98	70-130	1	20	11/27/13	
Copper	180	5.0	ug/L	200	ND	91	70-130	0	20	11/27/13	
EPA 200.8 - Quality Control											
Batch: A314514										Prepared: 12/6/2013	
Prep Method: Filtration - Metals										Analyst: MAS	
Blank (A314514-BLK1)											
Strontium - Dissolved (1)	ND	1.0	ug/L							12/10/13	
Blank Spike (A314514-BS1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		99	85-115			12/10/13	
Blank Spike Dup (A314514-BSD1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		98	85-115	1	20	12/10/13	
Matrix Spike (A314514-MS1), Source: A3K1890-01											
Strontium - Dissolved (1)	220	1.0	ug/L	200	23	101	70-130			12/10/13	
Matrix Spike Dup (A314514-MSD1), Source: A3K1890-01											
Strontium - Dissolved (1)	220	1.0	ug/L	200	23	96	70-130	4	20	12/10/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A314194										Prepared: 11/27/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A314194-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							11/27/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							11/27/13	
Surrogate: TCMX	*4.2*			*4.5*		*94*	*70-130*			11/27/13	
Blank Spike (A314194-BS1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		107	70-130			11/27/13	
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20		108	70-130			11/27/13	
Surrogate: TCMX	*4.2*			*4.5*		*93*	*70-130*			11/27/13	
Blank Spike Dup (A314194-BSD1)											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20		108	70-130	1	20	11/28/13	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20		105	70-130	3	20	11/28/13	
Surrogate: TCMX	*4.2*			*4.5*		*95*	*70-130*			11/28/13	
Matrix Spike (A314194-MS1), Source: A3K1596-06											
Dibromochloropropane (DBCP)	0.23	0.010	ug/L	0.20	ND	113	65-135			11/27/13	
Ethylene Dibromide (EDB)	0.20	0.020	ug/L	0.20	ND	98	65-135			11/27/13	
Surrogate: TCMX	*4.0*			*4.5*		*88*	*70-130*			11/27/13	
Matrix Spike Dup (A314194-MSD1), Source: A3K1596-06											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	111	65-135	1	20	11/27/13	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20	ND	105	65-135	7	20	11/27/13	
Surrogate: TCMX	*4.1*			*4.5*		*90*	*70-130*			11/27/13	
EPA 505 - Quality Control											
Batch: A314194										Prepared: 11/27/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A314194-BLK1)											
Aldrin	ND	0.075	ug/L							11/27/13	
Chlordane	ND	0.10	ug/L							11/27/13	
Chlorothalonil	ND	5.0	ug/L							11/27/13	
Dieldrin	ND	0.020	ug/L							11/27/13	
Endrin	ND	0.10	ug/L							11/27/13	
Heptachlor	ND	0.010	ug/L							11/27/13	
Heptachlor Epoxide	ND	0.010	ug/L							11/27/13	
Hexachlorobenzene	ND	0.50	ug/L							11/27/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							11/27/13	
Lindane	ND	0.20	ug/L							11/27/13	
Methoxychlor	ND	10	ug/L							11/27/13	
PCB Aroclor Screen	ND	0.50	ug/L							11/27/13	
Toxaphene	ND	1.0	ug/L							11/27/13	
Trifluralin	ND	1.0	ug/L							11/27/13	
Surrogate: TCMX	*4.2*			*4.5*		*94*	*70-130*			11/27/13	
Blank Spike (A314194-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A314194										Prepared: 11/27/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A314194-BS1)											
Aldrin	1.0	0.075	ug/L	1.0		101	70-130			11/27/13	
Chlorothalonil	9.8	5.0	ug/L	10		98	70-130			11/27/13	
Dieldrin	0.47	0.020	ug/L	0.40		117	70-130			11/27/13	
Endrin	0.23	0.10	ug/L	0.20		115	70-130			11/27/13	
Heptachlor	0.23	0.010	ug/L	0.20		115	70-130			11/27/13	
Heptachlor Epoxide	0.23	0.010	ug/L	0.20		113	70-130			11/27/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0		103	70-130			11/27/13	
Hexachlorocyclopentadiene	2.0	1.0	ug/L	2.0		99	70-130			11/27/13	
Lindane	0.47	0.20	ug/L	0.40		117	70-130			11/27/13	
Methoxychlor	2.5	10	ug/L	2.0		124	70-130			11/27/13	
Trifluralin	2.3	1.0	ug/L	2.0		116	70-130			11/27/13	
Surrogate: TCMX	*4.2*			*4.5*		*93*	*70-130*			11/27/13	
Blank Spike Dup (A314194-BSD1)											
Aldrin	0.98	0.075	ug/L	1.0		98	70-130	3	20	11/28/13	
Chlorothalonil	9.9	5.0	ug/L	10		99	70-130	1	20	11/28/13	
Dieldrin	0.47	0.020	ug/L	0.40		116	70-130	0	20	11/28/13	
Endrin	0.23	0.10	ug/L	0.20		114	70-130	1	20	11/28/13	
Heptachlor	0.23	0.010	ug/L	0.20		113	70-130	2	20	11/28/13	
Heptachlor Epoxide	0.24	0.010	ug/L	0.20		119	70-130	6	20	11/28/13	
Hexachlorobenzene	2.0	0.50	ug/L	2.0		100	70-130	3	20	11/28/13	
Hexachlorocyclopentadiene	1.8	1.0	ug/L	2.0		88	70-130	11	20	11/28/13	
Lindane	0.47	0.20	ug/L	0.40		118	70-130	1	20	11/28/13	
Methoxychlor	2.5	10	ug/L	2.0		125	70-130	1	20	11/28/13	
Trifluralin	2.3	1.0	ug/L	2.0		114	70-130	1	20	11/28/13	
Surrogate: TCMX	*4.2*			*4.5*		*95*	*70-130*			11/28/13	
Matrix Spike (A314194-MS1), Source: A3K1596-06											
Aldrin	0.91	0.075	ug/L	1.0	ND	90	65-135			11/27/13	
Chlorothalonil	10	5.0	ug/L	10	ND	99	65-135			11/27/13	
Dieldrin	0.46	0.020	ug/L	0.40	ND	113	65-135			11/27/13	
Endrin	0.24	0.10	ug/L	0.20	ND	118	65-135			11/27/13	
Heptachlor	0.21	0.010	ug/L	0.20	ND	104	65-135			11/27/13	
Heptachlor Epoxide	0.23	0.010	ug/L	0.20	ND	114	65-135			11/27/13	
Hexachlorobenzene	1.9	0.50	ug/L	2.0	ND	96	65-135			11/27/13	
Hexachlorocyclopentadiene	1.6	1.0	ug/L	2.0	ND	77	65-135			11/27/13	
Lindane	0.47	0.20	ug/L	0.40	ND	117	65-135			11/27/13	
Methoxychlor	2.5	10	ug/L	2.0	ND	126	65-135			11/27/13	
Trifluralin	2.0	1.0	ug/L	2.0	ND	101	65-135			11/27/13	
Surrogate: TCMX	*4.0*			*4.5*		*88*	*70-130*			11/27/13	
Matrix Spike Dup (A314194-MSD1), Source: A3K1596-06											
Aldrin	1.0	0.075	ug/L	1.0	ND	100	65-135	10	20	11/27/13	
Chlorothalonil	10	5.0	ug/L	10	ND	102	65-135	3	20	11/27/13	
Dieldrin	0.47	0.020	ug/L	0.40	ND	117	65-135	4	20	11/27/13	
Endrin	0.24	0.10	ug/L	0.20	ND	119	65-135	1	20	11/27/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A314194										Prepared: 11/27/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A314194-MSD1), Source: A3K1596-06											
Heptachlor	0.23	0.010	ug/L	0.20	ND	114	65-135	9	20	11/27/13	
Heptachlor Epoxide	0.24	0.010	ug/L	0.20	ND	119	65-135	4	20	11/27/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	104	65-135	8	20	11/27/13	
Hexachlorocyclopentadiene	1.8	1.0	ug/L	2.0	ND	90	65-135	15	20	11/27/13	
Lindane	0.48	0.20	ug/L	0.40	ND	118	65-135	1	20	11/27/13	
Methoxychlor	2.6	10	ug/L	2.0	ND	130	65-135	4	20	11/27/13	
Trifluralin	2.1	1.0	ug/L	2.0	ND	106	65-135	5	20	11/27/13	
Surrogate: TCMX	*4.1*			*4.5*		*90*	*70-130*			11/27/13	
EPA 515.3 - Quality Control											
Batch: A314421										Prepared: 12/5/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A314421-BLK1)											
2,4,5-T	ND	1.0	ug/L							12/08/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							12/08/13	
2,4-D	ND	10	ug/L							12/08/13	
Bentazon	ND	2.0	ug/L							12/08/13	
Dalapon	ND	10	ug/L							12/08/13	
Dicamba	ND	1.5	ug/L							12/08/13	
Dinoseb	ND	2.0	ug/L							12/08/13	
Pentachlorophenol	ND	0.20	ug/L							12/08/13	
Picloram	ND	1.0	ug/L							12/08/13	
Surrogate: DCPAA	*43*			*58*		*73*	*70-130*			12/08/13	
Blank Spike (A314421-BS1)											
2,4,5-T	4.2	1.0	ug/L	4.0		104	70-130			12/08/13	
2,4,5-TP (Silvex)	4.1	1.0	ug/L	4.0		104	70-130			12/08/13	
2,4-D	41	10	ug/L	40		103	70-130			12/08/13	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130			12/08/13	
Dalapon	40	10	ug/L	40		99	70-130			12/08/13	
Dicamba	6.1	1.5	ug/L	6.0		101	70-130			12/08/13	
Dinoseb	7.8	2.0	ug/L	8.0		97	70-130			12/08/13	
Pentachlorophenol	0.81	0.20	ug/L	0.80		101	70-130			12/08/13	
Picloram	3.8	1.0	ug/L	4.0		96	70-130			12/08/13	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			12/08/13	
Blank Spike Dup (A314421-BSD1)											
2,4,5-T	4.1	1.0	ug/L	4.0		102	70-130	3	20	12/08/13	
2,4,5-TP (Silvex)	4.1	1.0	ug/L	4.0		101	70-130	2	20	12/08/13	
2,4-D	40	10	ug/L	40		100	70-130	3	20	12/08/13	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130	0	20	12/08/13	
Dalapon	39	10	ug/L	40		99	70-130	0	20	12/08/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130	3	20	12/08/13	
Dinoseb	7.6	2.0	ug/L	8.0		95	70-130	2	20	12/08/13	
Pentachlorophenol	0.80	0.20	ug/L	0.80		100	70-130	1	20	12/08/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A314421										Prepared: 12/5/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A314421-BSD1)											
Picloram	3.9	1.0	ug/L	4.0		97	70-130	1	20	12/08/13	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			12/08/13	
Matrix Spike (A314421-MS1), Source: A3K1910-01											
2,4,5-T	4.2	1.0	ug/L	4.0	ND	104	70-130			12/08/13	
2,4,5-TP (Silvex)	4.1	1.0	ug/L	4.0	ND	102	70-130			12/08/13	
2,4-D	42	10	ug/L	40	ND	105	70-130			12/08/13	
Bentazon	8.7	2.0	ug/L	8.0	ND	109	70-130			12/08/13	
Dalapon	41	10	ug/L	40	ND	102	70-130			12/08/13	
Dicamba	6.2	1.5	ug/L	6.0	ND	103	70-130			12/08/13	
Dinoseb	7.5	2.0	ug/L	8.0	ND	93	70-130			12/08/13	
Pentachlorophenol	0.80	0.20	ug/L	0.80	ND	100	70-130			12/08/13	
Picloram	4.3	1.0	ug/L	4.0	ND	102	70-130			12/08/13	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			12/08/13	
Matrix Spike Dup (A314421-MSD1), Source: A3K1910-01											
2,4,5-T	4.2	1.0	ug/L	4.0	ND	104	70-130	0	20	12/08/13	
2,4,5-TP (Silvex)	4.1	1.0	ug/L	4.0	ND	103	70-130	1	20	12/08/13	
2,4-D	42	10	ug/L	40	ND	106	70-130	1	20	12/08/13	
Bentazon	8.7	2.0	ug/L	8.0	ND	109	70-130	0	20	12/08/13	
Dalapon	41	10	ug/L	40	ND	104	70-130	2	20	12/08/13	
Dicamba	6.2	1.5	ug/L	6.0	ND	104	70-130	1	20	12/08/13	
Dinoseb	7.5	2.0	ug/L	8.0	ND	94	70-130	0	20	12/08/13	
Pentachlorophenol	0.80	0.20	ug/L	0.80	ND	100	70-130	1	20	12/08/13	
Picloram	4.3	1.0	ug/L	4.0	ND	103	70-130	1	20	12/08/13	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			12/08/13	
EPA 524.2 - Quality Control											
Batch: A314277										Prepared: 12/3/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A314277-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							12/04/13	
1,1,1-Trichloroethane	ND	0.50	ug/L							12/04/13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							12/04/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							12/04/13	
1,1,2-Trichloroethane	ND	0.50	ug/L							12/04/13	
1,1-Dichloroethane	ND	0.50	ug/L							12/04/13	
1,1-Dichloroethene	ND	0.50	ug/L							12/04/13	
1,1-Dichloropropene	ND	0.50	ug/L							12/04/13	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							12/04/13	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							12/04/13	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							12/04/13	
1,2-Dichlorobenzene	ND	0.50	ug/L							12/04/13	
1,2-Dichloroethane	ND	0.50	ug/L							12/04/13	
1,2-Dichloropropane	ND	0.50	ug/L							12/04/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 524.2 - Quality Control

Batch: A314277 Prepared: 12/3/2013

Prep Method: EPA 524.2 Analyst: JGB

Blank (A314277-BLK1)

1,3,5-Trimethylbenzene	ND	0.50	ug/L							12/04/13	
1,3-Dichlorobenzene	ND	0.50	ug/L							12/04/13	
1,3-Dichloropropane	ND	0.50	ug/L							12/04/13	
1,4-Dichlorobenzene	ND	0.50	ug/L							12/04/13	
2,2-Dichloropropane	ND	0.50	ug/L							12/04/13	
2-Butanone	ND	5.0	ug/L							12/04/13	
2-Chlorotoluene	ND	0.50	ug/L							12/04/13	
2-Hexanone	ND	10	ug/L							12/04/13	
4-Chlorotoluene	ND	0.50	ug/L							12/04/13	
4-Methyl-2-pentanone	ND	5.0	ug/L							12/04/13	
Acetone	ND	10	ug/L							12/04/13	
Benzene	ND	0.50	ug/L							12/04/13	
Bromobenzene	ND	0.50	ug/L							12/04/13	
Bromochloromethane	ND	0.50	ug/L							12/04/13	
Bromodichloromethane	ND	0.50	ug/L							12/04/13	
Bromoform	ND	0.50	ug/L							12/04/13	
Bromomethane	ND	0.50	ug/L							12/04/13	
Carbon Tetrachloride	ND	0.50	ug/L							12/04/13	
Chlorobenzene	ND	0.50	ug/L							12/04/13	
Chloroethane	ND	0.50	ug/L							12/04/13	
Chloroform	ND	0.50	ug/L							12/04/13	
Chloromethane	ND	0.50	ug/L							12/04/13	
cis-1,2-Dichloroethene	ND	0.50	ug/L							12/04/13	
cis-1,3-Dichloropropene	ND	0.50	ug/L							12/04/13	
Dibromochloromethane	ND	0.50	ug/L							12/04/13	
Dibromomethane	ND	0.50	ug/L							12/04/13	
Dichlorodifluoromethane	ND	0.50	ug/L							12/04/13	
Dichloromethane	ND	0.50	ug/L							12/04/13	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							12/04/13	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							12/04/13	
Ethylbenzene	ND	0.50	ug/L							12/04/13	
Hexachlorobutadiene	ND	0.50	ug/L							12/04/13	
Isopropylbenzene	ND	0.50	ug/L							12/04/13	
m,p-Xylenes	ND	0.50	ug/L							12/04/13	
Methyl-t-butyl ether	ND	0.50	ug/L							12/04/13	
Naphthalene	ND	0.50	ug/L							12/04/13	
n-Butylbenzene	ND	0.50	ug/L							12/04/13	
n-Propylbenzene	ND	0.50	ug/L							12/04/13	
o-Xylene	ND	0.50	ug/L							12/04/13	
p-Isopropyltoluene	ND	0.50	ug/L							12/04/13	
sec-Butylbenzene	ND	0.50	ug/L							12/04/13	
Styrene	ND	0.50	ug/L							12/04/13	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							12/04/13	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							12/04/13	
tert-Butylbenzene	ND	0.50	ug/L							12/04/13	
Tetrachloroethene (PCE)	ND	0.50	ug/L							12/04/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A314277										Prepared: 12/3/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank (A314277-BLK1)												
Toluene	ND	0.50	ug/L							12/04/13		
trans-1,2-Dichloroethene	ND	0.50	ug/L							12/04/13		
trans-1,3-Dichloropropene	ND	0.50	ug/L							12/04/13		
Trichloroethene (TCE)	ND	0.50	ug/L							12/04/13		
Trichlorofluoromethane	ND	5.0	ug/L							12/04/13		
Vinyl Chloride	ND	0.50	ug/L							12/04/13		
Surrogate: 1,2-Dichlorobenzene-d4	*4.5*			*5.0*		*90*	*70-130*			12/04/13		
Surrogate: Bromofluorobenzene	*51*			*50*		*101*	*70-130*			12/04/13		
Blank Spike (A314277-BS1)												
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		104	70-130			12/04/13		
1,1,1-Trichloroethane	12	0.50	ug/L	10		117	70-130			12/04/13		
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		103	70-130			12/04/13		
1,1,2-Trichloro-1,2,2-trifluoroethane	10	10	ug/L	10		102	70-130			12/04/13		
1,1,2-Trichloroethane	10	0.50	ug/L	10		102	70-130			12/04/13		
1,1-Dichloroethane	11	0.50	ug/L	10		112	70-130			12/04/13		
1,1-Dichloroethene	11	0.50	ug/L	10		112	70-130			12/04/13		
1,1-Dichloropropene	11	0.50	ug/L	10		106	70-130			12/04/13		
1,2,3-Trichlorobenzene	11	0.50	ug/L	10		112	70-130			12/04/13		
1,2,4-Trichlorobenzene	12	0.50	ug/L	10		116	70-130			12/04/13		
1,2,4-Trimethylbenzene	11	0.50	ug/L	10		112	70-130			12/04/13		
1,2-Dichlorobenzene	11	0.50	ug/L	10		112	70-130			12/04/13		
1,2-Dichloroethane	12	0.50	ug/L	10		118	70-130			12/04/13		
1,2-Dichloropropane	10	0.50	ug/L	10		103	70-130			12/04/13		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		107	70-130			12/04/13		
1,3-Dichlorobenzene	12	0.50	ug/L	10		121	70-130			12/04/13		
1,3-Dichloropropane	10	0.50	ug/L	10		104	70-130			12/04/13		
1,4-Dichlorobenzene	11	0.50	ug/L	10		111	70-130			12/04/13		
2,2-Dichloropropane	12	0.50	ug/L	10		121	70-130			12/04/13		
2-Butanone	11	5.0	ug/L	10		107	70-130			12/04/13		
2-Chlorotoluene	12	0.50	ug/L	10		116	70-130			12/04/13		
2-Hexanone	11	10	ug/L	10		112	70-130			12/04/13		
4-Chlorotoluene	12	0.50	ug/L	10		120	70-130			12/04/13		
4-Methyl-2-pentanone	8.5	5.0	ug/L	10		85	70-130			12/04/13		
Acetone	12	10	ug/L	10		120	70-130			12/04/13		
Benzene	10	0.50	ug/L	10		105	70-130			12/04/13		
Bromobenzene	11	0.50	ug/L	10		109	70-130			12/04/13		
Bromochloromethane	11	0.50	ug/L	10		112	70-130			12/04/13		
Bromodichloromethane	11	0.50	ug/L	10		112	70-130			12/04/13		
Bromoform	10	0.50	ug/L	10		102	70-130			12/04/13		
Bromomethane	15	0.50	ug/L	10		152	70-130			12/04/13	BS	***High***
Carbon Tetrachloride	11	0.50	ug/L	10		114	70-130			12/04/13		
Chlorobenzene	11	0.50	ug/L	10		107	70-130			12/04/13		
Chloroethane	11	0.50	ug/L	10		110	70-130			12/04/13		
Chloroform	11	0.50	ug/L	10		114	70-130			12/04/13		
Chloromethane	12	0.50	ug/L	10		116	70-130			12/04/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A314277										Prepared: 12/3/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike (A314277-BS1)												
cis-1,2-Dichloroethene	11	0.50	ug/L	10		109	70-130			12/04/13		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		113	70-130			12/04/13		
Dibromochloromethane	10	0.50	ug/L	10		103	70-130			12/04/13		
Dibromomethane	11	0.50	ug/L	10		111	70-130			12/04/13		
Dichlorodifluoromethane	11	0.50	ug/L	10		107	70-130			12/04/13		
Dichloromethane	11	0.50	ug/L	10		110	70-130			12/04/13		
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		104	70-130			12/04/13		
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		105	70-130			12/04/13		
Ethylbenzene	11	0.50	ug/L	10		112	70-130			12/04/13		
Hexachlorobutadiene	12	0.50	ug/L	10		120	70-130			12/04/13		
Isopropylbenzene	10	0.50	ug/L	10		105	70-130			12/04/13		
m,p-Xylenes	22	0.50	ug/L	20		108	70-130			12/04/13		
Methyl-t-butyl ether	21	0.50	ug/L	20		107	70-130			12/04/13		
Naphthalene	9.7	0.50	ug/L	10		97	70-130			12/04/13		
n-Butylbenzene	11	0.50	ug/L	10		109	70-130			12/04/13		
n-Propylbenzene	12	0.50	ug/L	10		116	70-130			12/04/13		
o-Xylene	11	0.50	ug/L	10		114	70-130			12/04/13		
p-Isopropyltoluene	12	0.50	ug/L	10		117	70-130			12/04/13		
sec-Butylbenzene	12	0.50	ug/L	10		119	70-130			12/04/13		
Styrene	7.8	0.50	ug/L	10		78	70-130			12/04/13		
tert-Amyl Methyl Ether (TAME)	9.8	3.0	ug/L	10		98	70-130			12/04/13		
tert-Butyl alcohol (TBA)	14	2.0	ug/L	10		135	70-130			12/04/13	BS	***High***
tert-Butylbenzene	12	0.50	ug/L	10		117	70-130			12/04/13		
Tetrachloroethene (PCE)	11	0.50	ug/L	10		109	70-130			12/04/13		
Toluene	11	0.50	ug/L	10		106	70-130			12/04/13		
trans-1,2-Dichloroethene	11	0.50	ug/L	10		114	70-130			12/04/13		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		111	70-130			12/04/13		
Trichloroethene (TCE)	11	0.50	ug/L	10		106	70-130			12/04/13		
Trichlorofluoromethane	11	5.0	ug/L	10		107	70-130			12/04/13		
Vinyl Chloride	11	0.50	ug/L	10		110	70-130			12/04/13		
Surrogate: 1,2-Dichlorobenzene-d4	*5.4*			*5.0*		*108*	*70-130*			12/04/13		
Surrogate: Bromofluorobenzene	*53*			*50*		*106*	*70-130*			12/04/13		
Blank Spike Dup (A314277-BSD1)												
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		104	70-130	1	30	12/04/13		
1,1,1-Trichloroethane	12	0.50	ug/L	10		123	70-130	5	30	12/04/13		
1,1,2,2-Tetrachloroethane	12	0.50	ug/L	10		123	70-130	18	30	12/04/13		
1,1,2-Trichloro-1,2,2-trifluoroethane	12	10	ug/L	10		118	70-130	14	30	12/04/13		
1,1,2-Trichloroethane	12	0.50	ug/L	10		120	70-130	17	30	12/04/13		
1,1-Dichloroethane	10	0.50	ug/L	10		104	70-130	8	30	12/04/13		
1,1-Dichloroethene	13	0.50	ug/L	10		128	70-130	14	30	12/04/13		
1,1-Dichloropropene	12	0.50	ug/L	10		124	70-130	16	30	12/04/13		
1,2,3-Trichlorobenzene	11	0.50	ug/L	10		108	70-130	3	30	12/04/13		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		111	70-130	4	30	12/04/13		
1,2,4-Trimethylbenzene	12	0.50	ug/L	10		120	70-130	7	30	12/04/13		
1,2-Dichlorobenzene	12	0.50	ug/L	10		123	70-130	9	30	12/04/13		

Organics Quality Control Report

EPA 524.2 - Quality Control

Batch: A314277 Prepared: 12/3/2013

Prep Method: EPA 524.2 Analyst: JGB

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
Blank Spike Dup (A314277-BSD1)												
1,2-Dichloroethane	11	0.50	ug/L	10		109	70-130	9	30	12/04/13		
1,2-Dichloropropane	9.7	0.50	ug/L	10		97	70-130	6	30	12/04/13		
1,3,5-Trimethylbenzene	12	0.50	ug/L	10		117	70-130	9	30	12/04/13		
1,3-Dichlorobenzene	13	0.50	ug/L	10		126	70-130	4	30	12/04/13		
1,3-Dichloropropane	11	0.50	ug/L	10		105	70-130	2	30	12/04/13		
1,4-Dichlorobenzene	12	0.50	ug/L	10		122	70-130	9	30	12/04/13		
2,2-Dichloropropane	13	0.50	ug/L	10		131	70-130	8	30	12/04/13	BS	***High***
2-Butanone	9.3	5.0	ug/L	10		93	70-130	15	30	12/04/13		
2-Chlorotoluene	13	0.50	ug/L	10		130	70-130	11	30	12/04/13		
2-Hexanone	11	10	ug/L	10		113	70-130	1	30	12/04/13		
4-Chlorotoluene	13	0.50	ug/L	10		130	70-130	9	30	12/04/13		
4-Methyl-2-pentanone	11	5.0	ug/L	10		110	70-130	26	30	12/04/13		
Acetone	11	10	ug/L	10		114	70-130	5	30	12/04/13		
Benzene	10	0.50	ug/L	10		102	70-130	3	30	12/04/13		
Bromobenzene	13	0.50	ug/L	10		130	70-130	18	30	12/04/13		
Bromochloromethane	12	0.50	ug/L	10		117	70-130	4	30	12/04/13		
Bromodichloromethane	12	0.50	ug/L	10		117	70-130	5	30	12/04/13		
Bromoform	11	0.50	ug/L	10		110	70-130	8	30	12/04/13		
Bromomethane	28	0.50	ug/L	10		275	70-130	58	30	12/04/13	BS, X.0	***High***
Carbon Tetrachloride	12	0.50	ug/L	10		125	70-130	9	30	12/04/13		
Chlorobenzene	10	0.50	ug/L	10		103	70-130	4	30	12/04/13		
Chloroethane	12	0.50	ug/L	10		122	70-130	11	30	12/04/13		
Chloroform	13	0.50	ug/L	10		128	70-130	12	30	12/04/13		
Chloromethane	14	0.50	ug/L	10		135	70-130	15	30	12/04/13	BS	***High***
cis-1,2-Dichloroethene	11	0.50	ug/L	10		113	70-130	3	30	12/04/13		
cis-1,3-Dichloropropene	12	0.50	ug/L	10		118	70-130	4	30	12/04/13		
Dibromochloromethane	11	0.50	ug/L	10		113	70-130	9	30	12/04/13		
Dibromomethane	11	0.50	ug/L	10		106	70-130	4	30	12/04/13		
Dichlorodifluoromethane	14	0.50	ug/L	10		139	70-130	26	30	12/04/13	BS	***High***
Dichloromethane	12	0.50	ug/L	10		121	70-130	9	30	12/04/13		
Di-isopropyl ether (DIPE)	9.7	3.0	ug/L	10		97	70-130	7	30	12/04/13		
Ethyl tert-Butyl Ether (ETBE)	12	0.50	ug/L	10		119	70-130	13	30	12/04/13		
Ethylbenzene	12	0.50	ug/L	10		121	70-130	8	30	12/04/13		
Hexachlorobutadiene	12	0.50	ug/L	10		120	70-130	0	30	12/04/13		
Isopropylbenzene	13	0.50	ug/L	10		131	70-130	22	30	12/04/13	BS	***High***
m,p-Xylenes	23	0.50	ug/L	20		116	70-130	7	30	12/04/13		
Methyl-t-butyl ether	26	0.50	ug/L	20		132	70-130	21	30	12/04/13	BS	***High***
Naphthalene	8.8	0.50	ug/L	10		88	70-130	10	30	12/04/13		
n-Butylbenzene	11	0.50	ug/L	10		109	70-130	0	30	12/04/13		
n-Propylbenzene	13	0.50	ug/L	10		134	70-130	14	30	12/04/13	BS	***High***
o-Xylene	14	0.50	ug/L	10		144	70-130	23	30	12/04/13	BS	***High***
p-Isopropyltoluene	12	0.50	ug/L	10		122	70-130	4	30	12/04/13		
sec-Butylbenzene	12	0.50	ug/L	10		124	70-130	4	30	12/04/13		
Styrene	8.5	0.50	ug/L	10		85	70-130	8	30	12/04/13		
tert-Amyl Methyl Ether (TAME)	8.9	3.0	ug/L	10		89	70-130	9	30	12/04/13		
tert-Butyl alcohol (TBA)	8.1	2.0	ug/L	10		81	70-130	50	30	12/04/13	BS4.0	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A314277										Prepared: 12/3/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A314277-BSD1)											
tert-Butylbenzene	12	0.50	ug/L	10		122	70-130	4	30	12/04/13	
Tetrachloroethene (PCE)	10	0.50	ug/L	10		104	70-130	4	30	12/04/13	
Toluene	12	0.50	ug/L	10		120	70-130	12	30	12/04/13	
trans-1,2-Dichloroethene	13	0.50	ug/L	10		126	70-130	10	30	12/04/13	
trans-1,3-Dichloropropene	12	0.50	ug/L	10		119	70-130	7	30	12/04/13	
Trichloroethene (TCE)	10	0.50	ug/L	10		105	70-130	1	30	12/04/13	
Trichlorofluoromethane	12	5.0	ug/L	10		123	70-130	13	30	12/04/13	
Vinyl Chloride	13	0.50	ug/L	10		129	70-130	16	30	12/04/13	
Surrogate: 1,2-Dichlorobenzene-d4	*6.1*			*5.0*		*121*	*70-130*			12/04/13	
Surrogate: Bromofluorobenzene	*64*			*50*		*129*	*70-130*			12/04/13	
EPA 525.2 - Quality Control											
Batch: A314276										Prepared: 12/3/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A314276-BLK1)											
Alachlor	ND	1.0	ug/L							12/03/13	
Atrazine	ND	0.50	ug/L							12/03/13	
Benzo(a)pyrene	ND	0.10	ug/L							12/03/13	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							12/03/13	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							12/03/13	
Bromacil	ND	10	ug/L							12/03/13	
Butachlor	ND	0.38	ug/L							12/03/13	
Diazinon	ND	0.25	ug/L							12/03/13	
Dimethoate	ND	10	ug/L							12/03/13	
Metolachlor	ND	0.50	ug/L							12/03/13	
Metribuzin	ND	0.50	ug/L							12/03/13	
Molinate	ND	2.0	ug/L							12/03/13	
Propachlor	ND	0.50	ug/L							12/03/13	
Simazine	ND	1.0	ug/L							12/03/13	
Thiobencarb	ND	1.0	ug/L							12/03/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.6*			*5.0*		*91*	*70-130*			12/03/13	
Blank Spike (A314276-BS1)											
Alachlor	0.54	1.0	ug/L	0.51		105	70-130			12/03/13	
Atrazine	0.52	0.50	ug/L	0.51		102	70-130			12/03/13	
Benzo(a)pyrene	0.11	0.10	ug/L	0.10		109	70-130			12/03/13	
Bis(2-ethylhexyl) adipate	3.4	3.0	ug/L	3.1		109	70-130			12/03/13	
Bis(2-ethylhexyl) phthalate	3.4	3.0	ug/L	3.1		111	70-130			12/03/13	
Bromacil	2.5	10	ug/L	2.0		120	70-130			12/03/13	
Butachlor	1.5	0.38	ug/L	1.3		114	70-130			12/03/13	
Diazinon	0.045	0.25	ug/L	0.051		88	70-130			12/03/13	
Dimethoate	0.60	10	ug/L	0.51		118	70-130			12/03/13	
Metolachlor	2.9	0.50	ug/L	2.6		114	70-130			12/03/13	
Metribuzin	2.8	0.50	ug/L	2.6		110	70-130			12/03/13	
Molinate	2.7	2.0	ug/L	2.6		107	70-130			12/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A314276										Prepared: 12/3/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A314276-BS1)											
Propachlor	2.9	0.50	ug/L	2.6		113	70-130			12/03/13	
Simazine	0.41	1.0	ug/L	0.36		116	70-130			12/03/13	
Thiobencarb	0.59	1.0	ug/L	0.51		115	70-130			12/03/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.6*			*5.1*		*91*	*70-130*			12/03/13	
Blank Spike Dup (A314276-BSD1)											
Alachlor	0.52	1.0	ug/L	0.49		106	70-130	2	30	12/03/13	
Atrazine	0.52	0.50	ug/L	0.49		106	70-130	0	30	12/03/13	
Benzo(a)pyrene	0.11	0.10	ug/L	0.098		113	70-130	0	30	12/03/13	
Bis(2-ethylhexyl) adipate	3.1	3.0	ug/L	3.0		103	70-130	9	30	12/03/13	
Bis(2-ethylhexyl) phthalate	3.2	3.0	ug/L	3.0		108	70-130	6	30	12/03/13	
Bromacil	2.4	10	ug/L	2.0		120	70-130	4	30	12/03/13	
Butachlor	1.4	0.38	ug/L	1.2		110	70-130	7	30	12/03/13	
Diazinon	0.041	0.25	ug/L	0.049		84	70-130	8	30	12/03/13	
Dimethoate	0.59	10	ug/L	0.49		119	70-130	3	30	12/03/13	
Metolachlor	2.7	0.50	ug/L	2.5		111	70-130	7	30	12/03/13	
Metribuzin	2.7	0.50	ug/L	2.5		108	70-130	5	30	12/03/13	
Molinate	2.6	2.0	ug/L	2.5		106	70-130	5	30	12/03/13	
Propachlor	2.5	0.50	ug/L	2.5		101	70-130	15	30	12/03/13	
Simazine	0.38	1.0	ug/L	0.34		111	70-130	8	30	12/03/13	
Thiobencarb	0.56	1.0	ug/L	0.49		113	70-130	5	30	12/03/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.6*			*4.9*		*94*	*70-130*			12/03/13	
Matrix Spike (A314276-MS1), Source: A3K1830-01											
Alachlor	0.54	1.0	ug/L	0.50	ND	109	70-130			12/03/13	
Atrazine	0.53	0.50	ug/L	0.50	ND	108	70-130			12/03/13	
Benzo(a)pyrene	0.13	0.10	ug/L	0.099	ND	131	70-130			12/03/13	MS1.0 ***High***
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.0	ND	117	70-130			12/03/13	
Bis(2-ethylhexyl) phthalate	3.2	3.0	ug/L	3.0	ND	106	70-130			12/03/13	
Bromacil	2.4	10	ug/L	2.0	ND	124	70-130			12/03/13	
Butachlor	1.4	0.38	ug/L	1.2	ND	111	70-130			12/03/13	
Diazinon	0.049	0.25	ug/L	0.050	ND	98	70-130			12/03/13	
Dimethoate	0.56	10	ug/L	0.50	ND	114	70-130			12/03/13	
Metolachlor	2.8	0.50	ug/L	2.5	ND	113	70-130			12/03/13	
Metribuzin	2.7	0.50	ug/L	2.5	ND	109	70-130			12/03/13	
Molinate	2.6	2.0	ug/L	2.5	ND	106	70-130			12/03/13	
Propachlor	2.7	0.50	ug/L	2.5	ND	109	70-130			12/03/13	
Simazine	0.39	1.0	ug/L	0.35	ND	113	70-130			12/03/13	
Thiobencarb	0.56	1.0	ug/L	0.50	ND	114	70-130			12/03/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.6*			*5.0*		*92*	*70-130*			12/03/13	
EPA 531.1 - Quality Control											
Batch: A314122										Prepared: 11/26/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A314122-BLK1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A314122										Prepared: 11/26/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A314122-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							11/26/13	
Aldicarb	ND	3.0	ug/L							11/26/13	
Aldicarb Sulfone	ND	2.0	ug/L							11/26/13	
Aldicarb Sulfoxide	ND	3.0	ug/L							11/26/13	
Carbaryl	ND	5.0	ug/L							11/26/13	
Carbofuran	ND	5.0	ug/L							11/26/13	
Methomyl	ND	2.0	ug/L							11/26/13	
Oxamyl	ND	20	ug/L							11/26/13	
Blank Spike (A314122-BS1)											
3-Hydroxycarbofuran	4.0	3.0	ug/L	4.2		97	80-120			11/26/13	
Aldicarb	4.5	3.0	ug/L	4.2		108	80-120			11/26/13	
Aldicarb Sulfone	4.4	2.0	ug/L	4.2		106	80-120			11/26/13	
Aldicarb Sulfoxide	4.5	3.0	ug/L	4.2		109	80-120			11/26/13	
Carbaryl	4.2	5.0	ug/L	4.2		102	80-120			11/26/13	
Carbofuran	4.5	5.0	ug/L	4.2		109	80-120			11/26/13	
Methomyl	4.5	2.0	ug/L	4.2		109	80-120			11/26/13	
Oxamyl	4.5	20	ug/L	4.2		107	80-120			11/26/13	
Blank Spike Dup (A314122-BSD1)											
3-Hydroxycarbofuran	4.3	3.0	ug/L	4.2		104	80-120	7	20	11/26/13	
Aldicarb	4.5	3.0	ug/L	4.2		107	80-120	1	20	11/26/13	
Aldicarb Sulfone	4.3	2.0	ug/L	4.2		104	80-120	2	20	11/26/13	
Aldicarb Sulfoxide	4.4	3.0	ug/L	4.2		105	80-120	4	20	11/26/13	
Carbaryl	4.3	5.0	ug/L	4.2		103	80-120	2	20	11/26/13	
Carbofuran	4.5	5.0	ug/L	4.2		107	80-120	2	20	11/26/13	
Methomyl	4.6	2.0	ug/L	4.2		110	80-120	1	20	11/26/13	
Oxamyl	4.4	20	ug/L	4.2		106	80-120	1	20	11/26/13	
Matrix Spike (A314122-MS1), Source: A3K1656-01											
3-Hydroxycarbofuran	3.8	3.0	ug/L	4.2	ND	92	65-135			11/26/13	
Aldicarb	4.7	3.0	ug/L	4.2	ND	105	65-135			11/26/13	
Aldicarb Sulfone	4.3	2.0	ug/L	4.2	ND	103	65-135			11/26/13	
Aldicarb Sulfoxide	4.3	3.0	ug/L	4.2	ND	104	65-135			11/26/13	
Carbaryl	4.2	5.0	ug/L	4.2	ND	102	65-135			11/26/13	
Carbofuran	4.3	5.0	ug/L	4.2	ND	97	65-135			11/26/13	
Methomyl	4.4	2.0	ug/L	4.2	ND	100	65-135			11/26/13	
Oxamyl	4.4	20	ug/L	4.2	ND	104	65-135			11/26/13	
EPA 547 - Quality Control											
Batch: A314204										Prepared: 12/1/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank (A314204-BLK1)											
Glyphosate	ND	25	ug/L							12/01/13	
Surrogate: AMPA	*100*			*100*		*103*	*70-130*			12/01/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A314204										Prepared: 12/1/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank Spike (A314204-BS1)											
Glyphosate	100	25	ug/L	100		100	70-130			12/01/13	
Surrogate: AMPA	*100*			*100*		*104*	*70-130*			12/01/13	
Blank Spike Dup (A314204-BSD1)											
Glyphosate	110	25	ug/L	100		106	70-130	6	30	12/01/13	
Surrogate: AMPA	*100*			*100*		*102*	*70-130*			12/01/13	
Matrix Spike (A314204-MS1), Source: A3K1910-01											
Glyphosate	100	25	ug/L	100	ND	100	70-130			12/01/13	
Surrogate: AMPA	*100*			*100*		*98*	*70-130*			12/01/13	
EPA 548.1 - Quality Control											
Batch: A314043										Prepared: 11/27/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A314043-BLK1)											
Endothall	ND	45	ug/L							11/29/13	
Blank Spike (A314043-BS1)											
Endothall	12	45	ug/L	20		61	60-111			11/29/13	
Blank Spike Dup (A314043-BSD1)											
Endothall	22	45	ug/L	20		108	60-111	55	46	11/29/13	BS3.0
Matrix Spike (A314043-MS1), Source: A3K1568-06											
Endothall	ND	45	ug/L	20	ND	0	10-122			11/29/13	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A314169										Prepared: 11/27/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A314169-BLK1)											
Diquat	ND	4.0	ug/L							12/03/13	
Blank Spike (A314169-BS1)											
Diquat	3.4	4.0	ug/L	4.0		85	70-130			12/03/13	
Blank Spike Dup (A314169-BSD1)											
Diquat	3.4	4.0	ug/L	4.0		86	70-130	1	30	12/03/13	
Matrix Spike (A314169-MS1), Source: A3K1719-01											
Diquat	3.4	4.0	ug/L	4.0	ND	84	70-130			12/03/13	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792009A
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron
Silica (SiO2)
Strontium
Threshold Odor

A3K1920

California American Water

Calif3295

11262013

Turnaround: Standard

Due Date: 12/12/2013

Printed: 11/26/2013 5:26:32PM

Page 1 of 1

BSK Associates
Engineers & Laboratories
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

A3K1920
Calif3295

11/26/2013
Appendix G
10

*Required Fields

Temp: 2.2

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water	Travis Peterson Additional cc's: Sarp Sekeroglu, RBF Consulting	Accounts Payable PO#:	(831) 646-3295/(831) 646-3269	(831) 333-1343

E-mail*: susan.jacobson@amwater.com,travis.peterson@amwater.com

Address*:	City*:	State*:	Zip*:
PO Box 951	Monterey	CA	93942-0951

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: ____

Project:	Project #:
Water Quality Analysis	

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: ____

How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH System Number*: ____

Sampler Name (Printed/Signature)*: Nathan Reynolds

TAT* **Surcharge: ☒ Standard - 10 Business Days ☐ **Rush: Date Needed ____

☐ Geotracker #: ____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alkalinity, Hardness, MBAS,Color, Odor, TDS, pH, Turbidity, EC	Mass Balance-Dissolved: Cations and Anions	Dissolved Metals: Ba, B, Ca, Fe, Mg, Mn, K, Na, Sr, silica	Total Metals: Al, As, Cu, Fe, Mn, Zn	Dissolved: Bromide, Chloride, Nitrite, Fluoride, Sulfate, Orthophosphate-P	Dissolved: Ammonia, TKN, Phosphorus	Nitrate+Nitrite as N, Nitrate-NO3,	EPA 524, 504, 505, 515, 525, 531, 547, 548, 549	EXT-Tritium, EXT-Lithium, EXT-Dissolved Iodide, EXT-Dioxin
27	MPWSP ML-6 Zone#1 (152-162 ftbgs)	11-22-13	13:35	water	Seawater salinity levels.	X	X	X	X	X	X	X	X	X
					Lab to filter dissolved metals.									
					Lab to filter Diss. Ammonia, TKN, P									
					Okay to analyze out of hold time.									

Field parameters: Temp = 16.5 °C
pH = 6.63
TDS = 31,284.5 mg/L
Turb = 1.26 NTU

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Nathan Reynolds	GEOSCIENCE	11/25	8:45 AM	Shelly Jeggo	RBF Consulting
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery:	Check / Cash
Lafayette Cobb		11/25/13	1030	Date: Amount: PIA#: Init.	

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: ____
Cooling Method: Wet Blue None
Custody Seal: Y N
Chilling Process Begun: Y / N

BW

bw

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes (No) NA
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	(Yes) No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received — "_" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	2C, 1B, 1A
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	2B
H_2SO_4 (P) Yellow Cap	pH ≤ 2	(Y) N	1A
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	1A, 2C, 1B
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2A, 2C
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	6V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	(Y) N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	1A
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2;BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: MC @ 1611 Labels checked by: G-1083 EG @ 1612 RUSH Paged by:

External

A3K1920

Maxxam

nelac

Your Project #: A3K1920
Your C.O.C. #: na, 3

Attention:Michael Ng

BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2013/12/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3K9585
Received: 2013/12/04, 13:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
2,3,7,8-TCDD in Water (1613B)	1	2013/12/07	2013/12/10	BRL SOP-00410	EPA 1613B mod.

Remarks:

The lab certifies that the test results meet all requirements of NELAC, where applicable.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.

Encryption Key

Ivana Vukovic
12 Dec 2013 14:19:48 -05:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ivana Vukovic, Env Project Manager
Email: IVukovic@maxxam.ca
Phone# (905) 817-5700

This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3K9585
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1920

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		UD8443						
Sampling Date		2013/11/22 13:35						
COC Number		3			TOXIC EQUIVALENCY		# of	
	Units	A3K1920-01	EDL	RDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Dioxins & Furans								
2,3,7,8-Tetra CDD *	pg/L	0.98 U	0.98	4.1	1.00	0.980		3452001
TOTAL TOXIC EQUIVALENCY	pg/L					0.980		
Surrogate Recovery (%)								
37CL4 2378 Tetra CDD *	%	76						3452001
C13-2378 TetraCDD *	%	86						3452001

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

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Maxxam

Maxxam Job #: B3K9585
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1920

TEST SUMMARY

Maxxam ID: UD8443
Sample ID: A3K1920-01
Matrix: Water

Collected: 2013/11/22
Shipped:
Received: 2013/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
2,3,7,8-TCDD in Water (1613B)	HRMS/MS	3452001	2013/12/07	2013/12/10	Vica Cioranic

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario L5N 2L8 Tel: (905) 817-5700 Toll Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3K9585
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1920

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll Free: 800 563 6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3K9585
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1920

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
3457001	VCI	Spiked Blank	2,3,7,8-Tetra CDD	2013/12/10		83	%	67 - 158
	VCI	Spiked Blank	37CL4 2378 Tetra CDD	2013/12/10		71	%	40 - 130
			C13-2378 TetraCDD	2013/12/10		90	%	24 - 164
		Method Blank	2,3,7,8-Tetra CDD	2013/12/10	0.92, EDL=0.92		pg/L	
			37CL4 2378 Tetra CDD	2013/12/10		80	%	40 - 130
			C13-2378 TetraCDD	2013/12/10		81	%	24 - 164

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Maxxam

Maxxam Job #: B3K9585
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1920

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Owen Cosby, BSc.C.Chem, Supervisor, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

BSK Analytical Laboratories

SUBCONTRACT ORDER

A3K1920

4-Dec-13 13:00

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno CA 93706
Phone: 559 497 2868
Fax: 559 485-6935
Project Manager: Jennifer Ng
e-mail: jng@bskinc.com

RECEIVING LABORATORY:

Maxxam Analytics
PO Box 57407, Station A
Toronto, ON M5W5M5
Phone: (905) 817 5784
Fax:
Turnaround Time: Standard
Delivery Instructions:

Diana Vukovic

B3K9585

NLP ENV1769

Sample ID	Samp Desc	Sample Date
A3K1920-01	[illegible]	11/27/2013 10:36

Matrix: Water

Analysis: [illegible]
Bottle: DW metals, EPA 200.8/6020

Relinquished By: Date: Received By: Date:

Relinquished By: Date: Received By: Date:

[illegible]

Page 1 of 1

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1954

Certificate of Analysis

Report Date: 12/17/13 11:10
Received Date: 12/03/13 12:30
Turnaround Time: Normal

Project: A3K1920

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 12/3/2013 with the Chain of Custody document. The samples were received in good condition, at 3.0 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3L03045-01 **Sample ID:** A3K1920-01 **Matrix:** Water
Sampled by: Client **Sampled:** 11/22/13 13:35

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	**390**		10	ug/l	1	EPA 200.7	12/10/13	12/11/13 13:01	W3L0516	
Iodide, Dissolved	**620**		250	ug/l	25	EPA 9056A	12/12/13	12/12/13 22:54	W3L0678	

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Analytical Laboratory Service - Since 1964

Certificate of Analysis

Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W3L0678 - EPA 9056A

Blank (W3L0678-BLK1) — Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W3L0678-BS1) — Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		38.9		ug/l	40.0	97	85-115		

Duplicate (W3L0678-DUP1) — Source: 3L03045-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	623	661		ug/l				6	20

Duplicate (W3L0678-DUP2) — Source: 3L03048-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	378	336		ug/l				12	20

Duplicate (W3L0678-DUP3) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	658		ug/l				2	20

Matrix Spike (W3L0678-MS1) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	1100		ug/l	500	92	80-120		

Matrix Spike Dup (W3L0678-MSD1) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	1100		ug/l	500	92	80-120	0.2	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3L0516 - EPA 200.7

Blank (W3L0516-BLK1) — Prepared: 12/10/13 Analyzed: 12/11/13 12:56

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		ND		ug/l					

LCS (W3L0516-BS1) — Prepared: 12/10/13 Analyzed: 12/11/13 12:59

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		965		ug/l	1000	97	85-115		

Matrix Spike (W3L0516-MS1) — Source: 3L10044-04 Prepared: 12/10/13 Analyzed: 12/11/13 13:29

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	37.3	1020		ug/l	1000	98	70-130		

Matrix Spike Dup (W3L0516-MSD1) — Source: 3L10044-04 Prepared: 12/10/13 Analyzed: 12/11/13 13:32

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	37.3	995		ug/l	1000	96	70-130	2	30

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Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

Weck Laboratories, Inc. 14859 East Clark Avenue City of Industry, California 91745-1220 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3K1920

3L03045

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Weck Laboratories, Inc.
14859 E Clark Avenue
City of Industry, CA 91745-1396
Phone :(626) 336-2139
Fax: (626) 336-2634
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc	Sample Date
A3K1920-01	MPWSP ML-6 Zone #1 (152-162 ft bgs)	11/22/2013 13:35

Matrix: Water

Analysis 500 mL P w/ NONE
EXT-Iodide
EXT-Miscellaneous 500 mL P w/ HNO3 Dissolved Lithium

Released By	Date	Received By	Date
[signature]	12/2/13	Ontrac	
Ontrac		Jaime Gmon	12/3/13 12:30 3.0°C

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Sample Receipt Acknowledgement

WORK ORDER: 3L03045

Printed: 12/4/2013 2:25:29PM

Client: BSK Analytical Laboratories
Project: Metals

Project Manager: Kim G Tu
Project Number: A3K1920

Report To:
BSK Analytical Laboratories
Michael Ng
550 West Locust Avenue
Fresno, CA 93650
Phone: (559) 497-2888
Fax: (559) 485-6935

Invoice To:
BSK Analytical Laboratories
Accounts Payable - Anise Foote
550 West Locust Avenue
Fresno, CA 93650
Phone :(559) 497-2888
Fax: (559) 485-6935

Date Due: **12/17/13 15:00 (10 day TAT)**

Received By: Jaime Gomez
Logged In By: Jaime Gomez

Date Received: 12/03/13 12:30
Date Logged In: 12/03/13 14:52

Samples Received at:	**3°C**	All containers intact:	**Yes**	Chain of custody completed	**Yes**
Number of Ice chests/packages:		Custody seals presen		Sample labels & COC agree	**Yes**
		Custody seals intact:		Samples preserved properly	**Yes**
Appropriate Sample Containers:		Samples received on ice		Sample volume sufficient	**Yes**
		Custody Seals	**No**	Sufficient holding time for all tests	**Yes**

Analysis	TAT	Expires	Comments
3L03045-01 A3K1920-01 [Water] Sampled 11/22/13 13:35 Pacific			
Iodide water 9056M_Diss	10	12/20/13 13:35	
200.7 Li	10	05/21/14 13:35	

Comments:

Kim Tu — 12/4/2013

Authorized Signature — Date

Note:
If any of the information included in this sample receipt acknowledgement is incorrect (sample information, analysis, etc), please contact the lab at (626) 336-2139. Thank you.

14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

Pace Analytical
www.pacelabs.com

January 06, 2014

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3K1920
Pace Project No.: 30109474

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

CERTIFICATIONS

Project: A3K1920
Pace Project No.: 30109474

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: A3K1920
Pace Project No.: 30109474

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30109474001	**A3K1920-01**	Water	11/22/13 13:35	12/12/13 10:50

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: A3K1920
Pace Project No.: 30109474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30109474001	**A3K1920-01**	EPA 906.0	SLA	1	PASI-PA

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: A3K1920
Pace Project No.: 30109474

Method: EPA 906.0
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: January 06, 2014

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

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www.pacelabs.com

ANALYTICAL RESULTS

Project: A3K1920
Pace Project No.: 30109474

Sample: A3K1920-01 **Lab ID: 30109474001** Collected: 11/22/13 13:35 Received: 12/12/13 10:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**10.3 ± 129 (226)**	pCi/L	12/21/13 11:19	10028-17-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: A3K1920
Pace Project No.: 30109474

QC Batch: RADC/18120 Analysis Method: EPA 906.0
QC Batch Method: EPA 906 0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 30109474001

METHOD BLANK: 671627 Matrix: Water
Associated Lab Samples: 30109474001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	-43.1 ± 116 (211)	pCi/L	12/21/13 09:16	

QUALIFIERS

Project: A3K1920
Pace Project No.: 30109474

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineering & Laboratories

SUBCONTRACT ORDER

A3K1920

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): Standard
QC Deliverables: I Std III IV

30109474

Sample ID	Samp Desc	Sample Date
A3K1920-01	MPWSP ML-6 Zone #1 (152-162 ft bgs)	11/22/2013 13:35

Matrix: Water

Analysis	
EXT-Tritium	Non preserved glass container

Released By	Date	Received By	Date
	12/5/13		12-12-13 1050
Released By	Date	Received By	Date

Sample Condition Upon Receipt

Pace Analytical

Client Name: BSK Project # 30109474

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 1Z 93Y 921 63 6157 4770

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other Styrofoam, Plastic Bag

Thermometer Used 5 6 7 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature NA Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: RAC 12-12-13

Comments:

Chain of Custody Present:	☒Yes ☐No ☐N/A	1
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☒No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☒No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked. 12-12-13	☐Yes ☐No ☒N/A	13 ~~Pace~~ Sample is unpreserved
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☒No	Initial when completed RAC / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☒No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

Project Number: 30109473

Client Name: BSK

Item No.	Matrix Code	Glass Jar (120V 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500	Radchem Nalgene (1/2 gal / 1 gal L)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
001	WT																							

Page 11 of 11

SCURF Back (0816.4 15May2012).xls

BSK Associates Engineers & Laboratories
Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3K1910 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 11/26/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Michael Ng, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	Accounts Payable
Project #:	Water Quality Analysis	**Project PO#:**	-
Received:	11/26/2013 - 10:30		
Report Due:	12/12/2013		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 0.7

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-SAC

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

B2.0	Analyte present in the method blank above the method detection limit (MDL). Laboratory does not determine batch acceptance on detections below the reporting limit (RL).
BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
BS3.0	BS/BSD RPD exceeded the acceptance limit. Recovery met acceptance criteria.
BS4.0	BS/BSD RPD exceeded the method acceptance limit as one of the blank spikes recovered outside limits.
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample is ND for this parameter.
DL1.0	Sample required a dilution due to the matrix or high concentration of a non-target analyte.
HT1.0	Holding time exceeded. Sample was received at the lab past holding time.
HT1.6	Holding time exceeded. The holding time for this analysis is a recommendation and is not mandated by any state or federal agency.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
X.0	BS/BSD RPD is outside of acceptance limits

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt
Sarp Sekeroglu	Final.rpt

Certificate of Analysis

Sample ID: A3K1910-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #2 (100-110 ft bgs)

Sample Date - Time: 11/23/13 - 13:00
Matrix: Water
Sample Type: Grab

Field Data: pH=6.58 Temp=15.9 ºC Turb. =1.73 ntu

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**410**	3.0	mg/L	1	A314132	11/26/13	11/26/13	
Bicarbonate as CaCO3	SM 2320 B	**410**	3.0	mg/L	1	A314132	11/26/13	11/26/13	
Carbonate as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A314132	11/26/13	11/26/13	
Hydroxide as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A314132	11/26/13	11/26/13	
Ammonia as N	SM 4500-NH3 G	**1.9**	0.10	mg/L	1	A314346	12/04/13	12/09/13	
Bromide	EPA 300.1	**59**	1.2	mg/L	250	A314117	11/26/13	11/26/13	
Surrogate: Dichloroacetate	EPA 300.1	105 %	*Acceptable range: 90-115 %*						
Chloride	EPA 300.0	**16000**	200	mg/L	200	A314134	11/26/13	11/26/13	
Color, Apparent	SM 2120 B	**10**	1.0	CU	1	A314113	11/26/13 18:58	11/26/13	HT1.0
Conductivity @ 25C	SM 2510 B	**38000**	1.0	umhos/cm	1	A314132	11/26/13	11/26/13	
Fluoride	EPA 300.0	ND	2.0	mg/L	20	A314220	11/27/13	11/27/13	DL1.0
Mass Balance-Anions		**500**		meq/L					
Mass Balance-Dissolved Cations		**480**		meq/L					
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.050	mg/L	1	A314153	11/27/13 15:20	11/27/13	HT1.0
Nitrate as NO3	EPA 300.0	ND	200	mg/L	200	A314134	11/26/13 23:04	11/26/13	DL1.0
Nitrite as N	EPA 300.0	ND	10	mg/L	200	A314134	11/26/13 23:04	11/26/13	DL1.0, HT1.0
Threshold Odor	SM 2150 B	ND	1.0	T.O.N.	1	A314113	11/26/13 18:58	11/26/13	HT1.6
Orthophosphate as P	SM 4500-P E	**0.14**	0.010	mg/L	1	A314203	11/27/13 18:38	11/27/13	HT1.0
pH (1)	SM 4500-H+ B	**7.4**		pH Units	1	A314132	11/26/13	11/26/13	
pH Temperature in °C		**21.0**							
Phosphorus - Dissolved (1)	EPA 365.4	**0.12**	0.10	mg/L	1	A314666	12/11/13	12/12/13	
Sulfate as SO4	EPA 300.0	**1900**	400	mg/L	200	A314134	11/26/13	11/26/13	
Total Dissolved Solids	SM 2540C	**28000**	5.0	mg/L	1	A314178	11/27/13	12/02/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	**2.3**	1.0	mg/L	1	A314282	12/03/13	12/05/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A314432	12/05/13	12/05/13	
Turbidity	SM 2130 B	**1.6**	0.10	NTU	1	A314113	11/26/13 18:58	11/26/13	HT1.0

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	ND	0.050	mg/L	1	A314146	11/26/13	12/04/13	
Arsenic	EPA 200.8	**4.3**	4.0	ug/L	2	A314146	11/26/13	12/02/13	
Barium - Dissolved (1)	EPA 200.7	**0.089**	0.050	mg/L	1	A314514	12/06/13	12/10/13	
Boron - Dissolved (1)	EPA 200.7	**3.3**	0.10	mg/L	1	A314514	12/06/13	12/10/13	
Calcium	EPA 200.7	**580**	0.10	mg/L	1	A314146	11/26/13	12/04/13	
Calcium - Dissolved (1)	EPA 200.7	**600**	0.10	mg/L	1	A314514	12/06/13	12/10/13	
Copper	EPA 200.8	**58**	10	ug/L	2	A314146	11/26/13	12/02/13	
Hardness as CaCO3	SM 2340B	**6000**	0.41	mg/L					
Iron	EPA 200.7	**0.56**	0.030	mg/L	1	A314146	11/26/13	12/04/13	
Iron - Dissolved (1)	EPA 200.7	ND	0.030	mg/L	1	A314514	12/06/13	12/10/13	

Certificate of Analysis

Sample ID: A3K1910-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #2 (100-110 ft bgs)

Sample Date - Time: 11/23/13 - 13:00
Matrix: Water
Sample Type: Grab

Field Data: pH=6.58 Temp=15.9 ºC Turb. =1.73 ntu

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Magnesium	EPA 200.7	**1100**	0.10	mg/L	1	A314146	11/26/13	12/04/13	
Magnesium - Dissolved (1)	EPA 200.7	**1100**	0.10	mg/L	1	A314514	12/06/13	12/10/13	
Manganese	EPA 200.7	**3.5**	0.010	mg/L	1	A314146	11/26/13	12/04/13	
Manganese - Dissolved (1)	EPA 200.7	**3.6**	0.010	mg/L	1	A314514	12/06/13	12/10/13	
Potassium - Dissolved (1)	EPA 200.7	**270**	2.0	mg/L	1	A314514	12/06/13	12/10/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**32**	0.20	mg/L	1	A314514	12/06/13	12/10/13	
Sodium - Dissolved (1)	EPA 200.7	**8100**	20	mg/L	20	A314514	12/06/13	12/10/13	
Strontium - Dissolved (1)	EPA 200.8	**10000**	10	ug/L	10	A314514	12/06/13	12/10/13	
Zinc	EPA 200.7	ND	0.050	mg/L	1	A314146	11/26/13	12/04/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A314194	11/27/13	11/28/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A314194	11/27/13	11/28/13	
Surrogate: TCMX	EPA 504.1	103 %	*Acceptable range: 70-130 %*						
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A314194	11/27/13	11/28/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A314194	11/27/13	11/28/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A314194	11/27/13	11/28/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A314194	11/27/13	11/28/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A314194	11/27/13	11/28/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A314194	11/27/13	11/28/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A314194	11/27/13	11/28/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A314194	11/27/13	11/28/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A314194	11/27/13	11/28/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A314194	11/27/13	11/28/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A314194	11/27/13	11/28/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A314194	11/27/13	11/28/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A314194	11/27/13	11/28/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A314194	11/27/13	11/28/13	
Surrogate: TCMX	EPA 505	103 %	*Acceptable range: 70-130 %*						
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A314421	12/05/13	12/08/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A314421	12/05/13	12/08/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A314421	12/05/13	12/08/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A314421	12/05/13	12/08/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A314421	12/05/13	12/08/13	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A314421	12/05/13	12/08/13	

Certificate of Analysis

Sample ID: A3K1910-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #2 (100-110 ft bgs)

Sample Date - Time: 11/23/13 - 13:00
Matrix: Water
Sample Type: Grab

Field Data: pH=6.58 Temp=15.9 ºC Turb. =1.73 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A314421	12/05/13	12/08/13	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A314421	12/05/13	12/08/13	
Picloram	EPA 515.3	ND	1.0	ug/L	1	A314421	12/05/13	12/08/13	
Surrogate: DCPAA	EPA 515.3	80 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A314277	12/03/13	12/04/13	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A314277	12/03/13	12/04/13	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A314277	12/03/13	12/04/13	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A314277	12/03/13	12/04/13	
Acetone	EPA 524.2	ND	10	ug/L	1	A314277	12/03/13	12/04/13	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	

Certificate of Analysis

Sample ID: A3K1910-01
Sampled By: Nathan Reynolds
Sample Description: MPWSP ML-6 Zone #2 (100-110 ft bgs)

Sample Date - Time: 11/23/13 - 13:00
Matrix: Water
Sample Type: Grab

Field Data: pH=6.58 Temp=15.9 ºC Turb. =1.73 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A314277	12/03/13	12/04/13	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	BS1.0
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A314277	12/03/13	12/04/13	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A314277	12/03/13	12/04/13	BS1.0, CV0.0
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A314277	12/03/13	12/04/13	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A314277	12/03/13	12/04/13	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	96 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	106 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A314276	12/03/13	12/04/13	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A314276	12/03/13	12/04/13	

Certificate of Analysis

Sample ID: A3K1910-01
Sampled By: Nathan Reynolds
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Sample Date - Time: 11/23/13 - 13:00
Matrix: Water
Sample Type: Grab

Field Data: pH=6.58 Temp=15.9 ºC Turb. =1.73 ntu

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Semi-Volatile Organics by GC-MS									
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A314276	12/03/13	12/04/13	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A314276	12/03/13	12/04/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A314276	12/03/13	12/04/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A314276	12/03/13	12/04/13	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A314276	12/03/13	12/04/13	
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A314276	12/03/13	12/04/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A314276	12/03/13	12/04/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A314276	12/03/13	12/04/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A314276	12/03/13	12/04/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A314276	12/03/13	12/04/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A314276	12/03/13	12/04/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A314276	12/03/13	12/04/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A314276	12/03/13	12/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	97 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A314122	11/26/13	11/26/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A314122	11/26/13	11/26/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A314122	11/26/13	11/26/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A314122	11/26/13	11/26/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A314122	11/26/13	11/26/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A314122	11/26/13	11/26/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A314122	11/26/13	11/26/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A314122	11/26/13	11/26/13	
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A314204	12/01/13	12/01/13	
Surrogate: AMPA	EPA 547	95 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A314043	11/27/13	11/29/13	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A314169	11/27/13	12/03/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A314134										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: EMH	
Blank (A314134-BLK1)											
Chloride	ND	1.0	mg/L							11/26/13	B2.0
Nitrate as NO3	ND	1.0	mg/L							11/26/13	
Nitrite as N	ND	0.050	mg/L							11/26/13	
Sulfate as SO4	ND	2.0	mg/L							11/26/13	B2.0
Blank Spike (A314134-BS1)											
Chloride	51	1.0	mg/L	50		101	90-110			11/26/13	
Nitrate as NO3	51	1.0	mg/L	50		101	90-110			11/26/13	
Nitrite as N	0.53	0.050	mg/L	0.50		105	90-110			11/26/13	
Sulfate as SO4	51	2.0	mg/L	50		103	90-110			11/26/13	
Blank Spike Dup (A314134-BSD1)											
Chloride	51	1.0	mg/L	50		102	90-110	1	20	11/26/13	
Nitrate as NO3	51	1.0	mg/L	50		103	90-110	1	20	11/26/13	
Nitrite as N	0.53	0.050	mg/L	0.50		106	90-110	1	20	11/26/13	
Sulfate as SO4	52	2.0	mg/L	50		103	90-110	1	20	11/26/13	
Matrix Spike (A314134-MS1), Source: A3K1880-02											
Chloride	110	2.0	mg/L	100	9.2	105	80-120			11/26/13	
Nitrate as NO3	120	2.0	mg/L	100	16	104	80-120			11/26/13	
Nitrite as N	0.98	0.10	mg/L	1.0	ND	98	80-120			11/26/13	
Sulfate as SO4	120	4.0	mg/L	100	17	106	80-120			11/26/13	
Matrix Spike (A314134-MS2), Source: A3K1891-02											
Chloride	100	2.0	mg/L	100	ND	102	80-120			11/27/13	
Nitrate as NO3	100	2.0	mg/L	100	ND	101	80-120			11/27/13	
Nitrite as N	0.97	0.10	mg/L	1.0	ND	97	80-120			11/27/13	
Sulfate as SO4	100	4.0	mg/L	100	ND	102	80-120			11/27/13	
Matrix Spike Dup (A314134-MSD1), Source: A3K1880-02											
Chloride	110	2.0	mg/L	100	9.2	103	80-120	2	20	11/26/13	
Nitrate as NO3	120	2.0	mg/L	100	16	102	80-120	2	20	11/26/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	103	80-120	5	20	11/26/13	
Sulfate as SO4	120	4.0	mg/L	100	17	103	80-120	2	20	11/26/13	
Matrix Spike Dup (A314134-MSD2), Source: A3K1891-02											
Chloride	100	2.0	mg/L	100	ND	103	80-120	1	20	11/27/13	
Nitrate as NO3	100	2.0	mg/L	100	ND	103	80-120	1	20	11/27/13	
Nitrite as N	0.99	0.10	mg/L	1.0	ND	99	80-120	1	20	11/27/13	
Sulfate as SO4	100	4.0	mg/L	100	ND	103	80-120	1	20	11/27/13	
EPA 300.0 - Quality Control											
Batch: A314220										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314220-BLK1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A314220										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314220-BLK1)											
Fluoride	ND	0.10	mg/L							11/27/13	
Blank Spike (A314220-BS1)											
Fluoride	0.50	0.10	mg/L	0.50		99	90-110			11/27/13	
Blank Spike Dup (A314220-BSD1)											
Fluoride	0.49	0.10	mg/L	0.50		99	90-110	1	10	11/27/13	
Matrix Spike (A314220-MS1), Source: A3K1732-04											
Fluoride	0.98	0.20	mg/L	1.0	ND	88	80-120			11/27/13	
Matrix Spike (A314220-MS2), Source: A3K1891-02											
Fluoride	1.3	0.20	mg/L	1.0	0.30	99	80-120			11/27/13	
Matrix Spike Dup (A314220-MSD1), Source: A3K1732-04											
Fluoride	0.99	0.20	mg/L	1.0	ND	89	80-120	1	10	11/27/13	
Matrix Spike Dup (A314220-MSD2), Source: A3K1891-02											
Fluoride	1.3	0.20	mg/L	1.0	0.30	100	80-120	1	10	11/27/13	
EPA 300.1 - Quality Control											
Batch: A314117										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314117-BLK1)											
Bromide	ND	0.0050	mg/L							11/26/13	
Surrogate: Dichloroacetate	*0.451*			*0.50*		*90*	*90-115*			11/26/13	
Blank Spike (A314117-BS1)											
Bromide	0.18	0.0050	mg/L	0.20		92	85-115			11/26/13	
Surrogate: Dichloroacetate	*0.465*			*0.50*		*93*	*90-115*			11/26/13	
Blank Spike Dup (A314117-BSD1)											
Bromide	0.18	0.0050	mg/L	0.20		92	85-115	1	10	11/26/13	
Surrogate: Dichloroacetate	*0.476*			*0.50*		*95*	*90-115*			11/26/13	
Matrix Spike (A314117-MS1), Source: A3K1815-03											
Bromide	1.1	0.050	mg/L	1.0	0.14	95	75-125			11/26/13	
Surrogate: Dichloroacetate	*5.02*			*5.0*		*100*	*90-115*			11/26/13	
Matrix Spike Dup (A314117-MSD1), Source: A3K1815-03											
Bromide	1.1	0.050	mg/L	1.0	0.14	94	75-125	1	10	11/26/13	
Surrogate: Dichloroacetate	*5.30*			*5.0*		*106*	*90-115*			11/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 351.2 - Quality Control											
Batch: A314282										Prepared: 12/3/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A314282-BLK1)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							12/05/13	
Blank Spike (A314282-BS1)											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10		106	90-110			12/05/13	
Blank Spike Dup (A314282-BSD1)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		102	90-110	4	10	12/05/13	
Matrix Spike (A314282-MS1), Source: A3K2014-02											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	109	90-110			12/05/13	
Matrix Spike Dup (A314282-MSD1), Source: A3K2014-02											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	106	90-110	3	10	12/05/13	
EPA 365.4 - Quality Control											
Batch: A314666										Prepared: 12/11/2013	
Prep Method: Digestion										Analyst: KKC	
Blank (A314666-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							12/12/13	
Blank Spike (A314666-BS1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		101	90-110			12/12/13	
Blank Spike Dup (A314666-BSD1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		103	90-110	2	10	12/12/13	
Matrix Spike (A314666-MS1), Source: A3L0659-05											
Phosphorus - Dissolved (1)	9.7	0.10	mg/L	10	ND	97	90-110			12/12/13	
Matrix Spike Dup (A314666-MSD1), Source: A3L0659-05											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10	ND	94	90-110	3	10	12/12/13	
SM 2120 B - Quality Control											
Batch: A314113										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314113-BLK1)											
Color, Apparent	ND	1.0	CU							11/26/13	
Duplicate (A314113-DUP1), Source: A3K1910-01											
Color, Apparent	10	1.0	CU		10			0	20	11/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2130 B - Quality Control											
Batch: A314113										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314113-BLK1)											
Turbidity	ND	0.10	NTU							11/26/13	
Duplicate (A314113-DUP1), Source: A3K1910-01											
Turbidity	1.6	0.10	NTU		1.6			4	20	11/26/13	
SM 2150 B - Quality Control											
Batch: A314113										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314113-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							11/26/13	
Duplicate (A314113-DUP1), Source: A3K1910-01											
Threshold Odor	ND	1.0	T.O.N.		ND				20	11/26/13	
SM 2320 B - Quality Control											
Batch: A314132										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314132-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							11/26/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							11/26/13	
Carbonate as CaCO3	ND	3.0	mg/L							11/26/13	
Hydroxide as CaCO3	ND	3.0	mg/L							11/26/13	
Blank Spike (A314132-BS1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		100	80-120			11/26/13	
Blank Spike Dup (A314132-BSD1)											
Alkalinity as CaCO3	98	3.0	mg/L	100		98	80-120	2	20	11/26/13	
Duplicate (A314132-DUP1), Source: A3K1885-01											
Alkalinity as CaCO3	230	3.0	mg/L		240			1	10	11/26/13	
Bicarbonate as CaCO3	230	3.0	mg/L		240			1	10	11/26/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	11/26/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	11/26/13	
Duplicate (A314132-DUP2), Source: A3K1922-06											
Alkalinity as CaCO3	72	3.0	mg/L		72			1	10	11/26/13	
Bicarbonate as CaCO3	72	3.0	mg/L		72			1	10	11/26/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	11/26/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	11/26/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2510 B - Quality Control											
Batch: A314132										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A314132-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							11/26/13	
Duplicate (A314132-DUP1), Source: A3K1885-01											
Conductivity @ 25C	1400	1.0	umhos/cm		1400			0	20	11/26/13	
Duplicate (A314132-DUP2), Source: A3K1922-06											
Conductivity @ 25C	210	1.0	umhos/cm		210			0	20	11/26/13	
SM 2540C - Quality Control											
Batch: A314178										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A314178-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							12/02/13	
Blank Spike (A314178-BS1)											
Total Dissolved Solids	990	5.0	mg/L	1000		99	70-130			12/02/13	
Duplicate (A314178-DUP1), Source: A3K1910-01											
Total Dissolved Solids	29000	5.0	mg/L		28000			5	20	12/02/13	
SM 4500-H+ B - Quality Control											
Batch: A314132										Prepared: 11/26/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A314132-DUP1), Source: A3K1885-01											
pH (1)	8.1		pH Units		8.1			0	20	11/26/13	
Duplicate (A314132-DUP2), Source: A3K1922-06											
pH (1)	7.9		pH Units		7.9			0	20	11/26/13	
SM 4500-NH3 G - Quality Control											
Batch: A314346										Prepared: 12/4/2013	
Prep Method: Ammonia Distillation										Analyst: KKC	
Blank (A314346-BLK1)											
Ammonia as N	ND	0.10	mg/L							12/09/13	
Blank Spike (A314346-BS1)											
Ammonia as N	9.9	0.10	mg/L	10		99	80-120			12/09/13	
Blank Spike Dup (A314346-BSD1)											
Ammonia as N	10	0.10	mg/L	10		102	80-120	2	20	12/09/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NH3 G - Quality Control											
Batch: A314346										Prepared: 12/4/2013	
Prep Method: Ammonia Distillation										Analyst: KKC	
Matrix Spike (A314346-MS1), Source: A3K1829-06											
Ammonia as N	9.9	0.10	mg/L	10	0.41	94	80-120			12/09/13	
Matrix Spike (A314346-MS2), Source: A3K1880-10											
Ammonia as N	9.3	0.10	mg/L	10	ND	92	80-120			12/09/13	
Matrix Spike Dup (A314346-MSD1), Source: A3K1829-06											
Ammonia as N	10	0.10	mg/L	10	0.41	99	80-120	5	20	12/09/13	
Matrix Spike Dup (A314346-MSD2), Source: A3K1880-10											
Ammonia as N	9.9	0.10	mg/L	10	ND	98	80-120	6	20	12/09/13	
SM 4500-NO3 F - Quality Control											
Batch: A314432										Prepared: 12/5/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314432-BLK1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							12/05/13	
Blank Spike (A314432-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.4	0.10	mg/L	10		94	80-120			12/05/13	
Blank Spike Dup (A314432-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.5	0.10	mg/L	10		95	80-120	1	20	12/05/13	
Matrix Spike (A314432-MS1), Source: A3K1854-02											
Total Oxidizable Nitrogen, as N - Dissolved (1)	14	0.10	mg/L	10	4.9	96	80-120			12/05/13	
Matrix Spike (A314432-MS2), Source: A3K1910-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	8.7	0.10	mg/L	10	ND	87	80-120			12/05/13	
Matrix Spike Dup (A314432-MSD1), Source: A3K1854-02											
Total Oxidizable Nitrogen, as N - Dissolved (1)	15	0.10	mg/L	10	4.9	96	80-120	0	20	12/05/13	
Matrix Spike Dup (A314432-MSD2), Source: A3K1910-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.2	0.10	mg/L	10	ND	92	80-120	5	20	12/05/13	
SM 4500-P E - Quality Control											
Batch: A314203										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank (A314203-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							11/27/13	
Blank Spike (A314203-BS1)											
Orthophosphate as P	0.23	0.010	mg/L	0.25		93	90-110			11/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-P E - Quality Control											
Batch: A314203										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: KKC	
Blank Spike Dup (A314203-BSD1)											
Orthophosphate as P	0.23	0.010	mg/L	0.25		92	90-110	1	20	11/27/13	
Matrix Spike (A314203-MS1), Source: A3K1964-02											
Orthophosphate as P	0.31	0.010	mg/L	0.25	0.082	91	80-120			11/27/13	
Matrix Spike Dup (A314203-MSD1), Source: A3K1964-02											
Orthophosphate as P	0.31	0.010	mg/L	0.25	0.082	92	80-120	1	20	11/27/13	
SM 5540 C - Quality Control											
Batch: A314153										Prepared: 11/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A314153-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							11/27/13	
Blank Spike (A314153-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.90	0.050	mg/L	1.0		90	80-120			11/27/13	
Blank Spike Dup (A314153-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.93	0.050	mg/L	1.0		93	80-120	3	20	11/27/13	
Matrix Spike (A314153-MS1), Source: A3K1904-01											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	99	80-120			11/27/13	
Matrix Spike Dup (A314153-MSD1), Source: A3K1904-01											
MBAS, Calculated as LAS, mol wt 340	0.97	0.050	mg/L	1.0	ND	93	80-120	6	20	11/27/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314146										Prepared: 11/26/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A314146-BLK2)											
Aluminum	ND	0.050	mg/L							12/04/13	
Calcium	ND	0.10	mg/L							12/04/13	
Iron	ND	0.030	mg/L							12/04/13	
Magnesium	ND	0.10	mg/L							12/04/13	
Manganese	ND	0.010	mg/L							12/04/13	
Zinc	ND	0.050	mg/L							12/04/13	
Blank Spike (A314146-BS2)											
Aluminum	0.19	0.050	mg/L	0.20		94	85-115			12/04/13	
Calcium	10	0.10	mg/L	10		100	85-115			12/04/13	
Iron	1.9	0.030	mg/L	2.0		97	85-115			12/04/13	
Magnesium	9.9	0.10	mg/L	10		99	85-115			12/04/13	
Manganese	0.20	0.010	mg/L	0.20		98	85-115			12/04/13	
Zinc	0.21	0.050	mg/L	0.20		103	85-115			12/04/13	
Blank Spike Dup (A314146-BSD2)											
Aluminum	0.18	0.050	mg/L	0.20		91	85-115	3	20	12/04/13	
Calcium	10	0.10	mg/L	10		102	85-115	1	20	12/04/13	
Iron	2.0	0.030	mg/L	2.0		98	85-115	0	20	12/04/13	
Magnesium	9.9	0.10	mg/L	10		99	85-115	1	20	12/04/13	
Manganese	0.20	0.010	mg/L	0.20		98	85-115	0	20	12/04/13	
Zinc	0.21	0.050	mg/L	0.20		103	85-115	0	20	12/04/13	
Matrix Spike (A314146-MS3), Source: A3K1935-01											
Aluminum	0.72	0.050	mg/L	0.20	0.42	150	70-130			12/04/13	MS1.0 ***High***
Calcium	53	0.10	mg/L	10	43	101	70-130			12/04/13	
Iron	2.5	0.030	mg/L	2.0	0.52	99	70-130			12/04/13	
Magnesium	11	0.10	mg/L	10	0.68	99	70-130			12/04/13	
Manganese	0.21	0.010	mg/L	0.20	0.020	97	70-130			12/04/13	
Zinc	0.21	0.050	mg/L	0.20	ND	107	70-130			12/04/13	
Matrix Spike Dup (A314146-MSD3), Source: A3K1935-01											
Aluminum	0.71	0.050	mg/L	0.20	0.42	144	70-130	1	20	12/04/13	MS1.0 ***High***
Calcium	52	0.10	mg/L	10	43	92	70-130	2	20	12/04/13	
Iron	2.5	0.030	mg/L	2.0	0.52	99	70-130	0	20	12/04/13	
Magnesium	11	0.10	mg/L	10	0.68	99	70-130	0	20	12/04/13	
Manganese	0.21	0.010	mg/L	0.20	0.020	97	70-130	0	20	12/04/13	
Zinc	0.21	0.050	mg/L	0.20	ND	104	70-130	3	20	12/04/13	
EPA 200.7 - Quality Control											
Batch: A314514										Prepared: 12/6/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A314514-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							12/10/13	
Boron - Dissolved (1)	ND	0.10	mg/L							12/10/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314514										Prepared: 12/6/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A314514-BLK2)											
Calcium - Dissolved (1)	ND	0.10	mg/L							12/10/13	
Iron - Dissolved (1)	ND	0.030	mg/L							12/10/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							12/10/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							12/10/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							12/10/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							12/10/13	
Sodium - Dissolved (1)	ND	1.0	mg/L							12/10/13	
Blank Spike (A314514-BS2)											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20		106	85-115			12/10/13	
Boron - Dissolved (1)	0.63	0.10	mg/L	0.60		106	85-115			12/10/13	
Calcium - Dissolved (1)	11	0.10	mg/L	10		108	85-115			12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0		104	85-115			12/10/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10		105	85-115			12/10/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20		104	85-115			12/10/13	
Potassium - Dissolved (1)	11	2.0	mg/L	10		105	85-115			12/10/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		102	85-115			12/10/13	
Sodium - Dissolved (1)	11	1.0	mg/L	10		106	85-115			12/10/13	
Blank Spike Dup (A314514-BSD2)											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20		105	85-115	1	20	12/10/13	
Boron - Dissolved (1)	0.63	0.10	mg/L	0.60		105	85-115	1	20	12/10/13	
Calcium - Dissolved (1)	11	0.10	mg/L	10		107	85-115	1	20	12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0		104	85-115	0	20	12/10/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10		104	85-115	1	20	12/10/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20		103	85-115	1	20	12/10/13	
Potassium - Dissolved (1)	10	2.0	mg/L	10		103	85-115	2	20	12/10/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		101	85-115	1	20	12/10/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		104	85-115	2	20	12/10/13	
Matrix Spike (A314514-MS3), Source: A3K1890-01											
Barium - Dissolved (1)	0.22	0.050	mg/L	0.20	ND	110	70-130			12/10/13	
Boron - Dissolved (1)	1.1	0.10	mg/L	0.60	0.48	102	70-130			12/10/13	
Calcium - Dissolved (1)	13	0.10	mg/L	10	2.2	106	70-130			12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.089	103	70-130			12/10/13	
Magnesium - Dissolved (1)	11	0.10	mg/L	10	0.27	103	70-130			12/10/13	
Manganese - Dissolved (1)	0.30	0.010	mg/L	0.20	0.091	102	70-130			12/10/13	
Potassium - Dissolved (1)	12	2.0	mg/L	10	ND	103	70-130			12/10/13	
Silica (SiO2) - Dissolved (1)	57	0.20	mg/L	2.1	55	123	70-130			12/10/13	
Sodium - Dissolved (1)	150	1.0	mg/L	10	140	105	70-130			12/10/13	
Matrix Spike (A314514-MS4), Source: A3L0185-01											
Barium - Dissolved (1)	0.21	0.050	mg/L	0.20	ND	107	70-130			12/10/13	
Boron - Dissolved (1)	1.1	0.10	mg/L	0.60	0.52	103	70-130			12/10/13	
Calcium - Dissolved (1)	13	0.10	mg/L	10	2.7	106	70-130			12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.051	103	70-130			12/10/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A314514										Prepared: 12/6/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Matrix Spike (A314514-MS4), Source: A3L0185-01											
Magnesium - Dissolved (1)	10	0.10	mg/L	10	0.29	101	70-130			12/10/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20	ND	105	70-130			12/10/13	
Potassium - Dissolved (1)	12	2.0	mg/L	10	ND	102	70-130			12/10/13	
Silica (SiO2) - Dissolved (1)	59	0.20	mg/L	2.1	57	116	70-130			12/10/13	
Sodium - Dissolved (1)	160	1.0	mg/L	10	150	124	70-130			12/10/13	
Matrix Spike Dup (A314514-MSD3), Source: A3K1890-01											
Barium - Dissolved (1)	0.22	0.050	mg/L	0.20	ND	111	70-130	1	20	12/10/13	
Boron - Dissolved (1)	1.1	0.10	mg/L	0.60	0.48	102	70-130	0	20	12/10/13	
Calcium - Dissolved (1)	13	0.10	mg/L	10	2.2	104	70-130	1	20	12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.089	103	70-130	0	20	12/10/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10	0.27	102	70-130	1	20	12/10/13	
Manganese - Dissolved (1)	0.29	0.010	mg/L	0.20	0.091	102	70-130	0	20	12/10/13	
Potassium - Dissolved (1)	12	2.0	mg/L	10	ND	103	70-130	0	20	12/10/13	
Silica (SiO2) - Dissolved (1)	57	0.20	mg/L	2.1	55	126	70-130	0	20	12/10/13	
Sodium - Dissolved (1)	150	1.0	mg/L	10	140	110	70-130	0	20	12/10/13	
Matrix Spike Dup (A314514-MSD4), Source: A3L0185-01											
Barium - Dissolved (1)	0.22	0.050	mg/L	0.20	ND	109	70-130	2	20	12/10/13	
Boron - Dissolved (1)	1.2	0.10	mg/L	0.60	0.52	107	70-130	2	20	12/10/13	
Calcium - Dissolved (1)	14	0.10	mg/L	10	2.7	109	70-130	2	20	12/10/13	
Iron - Dissolved (1)	2.1	0.030	mg/L	2.0	0.051	104	70-130	1	20	12/10/13	
Magnesium - Dissolved (1)	10	0.10	mg/L	10	0.29	101	70-130	0	20	12/10/13	
Manganese - Dissolved (1)	0.21	0.010	mg/L	0.20	ND	105	70-130	0	20	12/10/13	
Potassium - Dissolved (1)	12	2.0	mg/L	10	ND	105	70-130	2	20	12/10/13	
Silica (SiO2) - Dissolved (1)	61	0.20	mg/L	2.1	57	221	70-130	4	20	12/10/13	MS1.0 ***High***
Sodium - Dissolved (1)	160	1.0	mg/L	10	150	166	70-130	3	20	12/10/13	MS1.0 ***High***
EPA 200.8 - Quality Control											
Batch: A314146										Prepared: 11/26/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Blank (A314146-BLK1)											
Arsenic	ND	2.0	ug/L							11/27/13	
Copper	ND	5.0	ug/L							11/27/13	
Blank Spike (A314146-BS1)											
Arsenic	190	2.0	ug/L	200		95	85-115			11/27/13	
Copper	180	5.0	ug/L	200		92	85-115			11/27/13	
Blank Spike Dup (A314146-BSD1)											
Arsenic	190	2.0	ug/L	200		93	85-115	2	20	11/27/13	
Copper	180	5.0	ug/L	200		89	85-115	3	20	11/27/13	
Matrix Spike (A314146-MS1), Source: A3K1935-01											
Arsenic	200	2.0	ug/L	200	10	95	70-130			11/27/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A314146										Prepared: 11/26/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Matrix Spike (A314146-MS1), Source: A3K1935-01											
Copper	180	5.0	ug/L	200	ND	87	70-130			11/27/13	
Matrix Spike (A314146-MS2), Source: A3K1935-02											
Arsenic	210	2.0	ug/L	200	13	99	70-130			11/27/13	
Copper	180	5.0	ug/L	200	ND	91	70-130			11/27/13	
Matrix Spike Dup (A314146-MSD1), Source: A3K1935-01											
Arsenic	200	2.0	ug/L	200	10	96	70-130	1	20	11/27/13	
Copper	180	5.0	ug/L	200	ND	88	70-130	0	20	11/27/13	
Matrix Spike Dup (A314146-MSD2), Source: A3K1935-02											
Arsenic	210	2.0	ug/L	200	13	98	70-130	1	20	11/27/13	
Copper	180	5.0	ug/L	200	ND	91	70-130	0	20	11/27/13	
EPA 200.8 - Quality Control											
Batch: A314514										Prepared: 12/6/2013	
Prep Method: Filtration - Metals										Analyst: MAS	
Blank (A314514-BLK1)											
Strontium - Dissolved (1)	ND	1.0	ug/L							12/10/13	
Blank Spike (A314514-BS1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		99	85-115			12/10/13	
Blank Spike Dup (A314514-BSD1)											
Strontium - Dissolved (1)	200	1.0	ug/L	200		98	85-115	1	20	12/10/13	
Matrix Spike (A314514-MS1), Source: A3K1890-01											
Strontium - Dissolved (1)	220	1.0	ug/L	200	23	101	70-130			12/10/13	
Matrix Spike Dup (A314514-MSD1), Source: A3K1890-01											
Strontium - Dissolved (1)	220	1.0	ug/L	200	23	96	70-130	4	20	12/10/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A314194										Prepared: 11/27/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A314194-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							11/27/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							11/27/13	
Surrogate: TCMX	*4.2*			*4.5*		*94*	*70-130*			11/27/13	
Blank Spike (A314194-BS1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		107	70-130			11/27/13	
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20		108	70-130			11/27/13	
Surrogate: TCMX	*4.2*			*4.5*		*93*	*70-130*			11/27/13	
Blank Spike Dup (A314194-BSD1)											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20		108	70-130	1	20	11/28/13	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20		105	70-130	3	20	11/28/13	
Surrogate: TCMX	*4.2*			*4.5*		*95*	*70-130*			11/28/13	
Matrix Spike (A314194-MS1), Source: A3K1596-06											
Dibromochloropropane (DBCP)	0.23	0.010	ug/L	0.20	ND	113	65-135			11/27/13	
Ethylene Dibromide (EDB)	0.20	0.020	ug/L	0.20	ND	98	65-135			11/27/13	
Surrogate: TCMX	*4.0*			*4.5*		*88*	*70-130*			11/27/13	
Matrix Spike Dup (A314194-MSD1), Source: A3K1596-06											
Dibromochloropropane (DBCP)	0.22	0.010	ug/L	0.20	ND	111	65-135	1	20	11/27/13	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20	ND	105	65-135	7	20	11/27/13	
Surrogate: TCMX	*4.1*			*4.5*		*90*	*70-130*			11/27/13	
EPA 505 - Quality Control											
Batch: A314194										Prepared: 11/27/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A314194-BLK1)											
Aldrin	ND	0.075	ug/L							11/27/13	
Chlordane	ND	0.10	ug/L							11/27/13	
Chlorothalonil	ND	5.0	ug/L							11/27/13	
Dieldrin	ND	0.020	ug/L							11/27/13	
Endrin	ND	0.10	ug/L							11/27/13	
Heptachlor	ND	0.010	ug/L							11/27/13	
Heptachlor Epoxide	ND	0.010	ug/L							11/27/13	
Hexachlorobenzene	ND	0.50	ug/L							11/27/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							11/27/13	
Lindane	ND	0.20	ug/L							11/27/13	
Methoxychlor	ND	10	ug/L							11/27/13	
PCB Aroclor Screen	ND	0.50	ug/L							11/27/13	
Toxaphene	ND	1.0	ug/L							11/27/13	
Trifluralin	ND	1.0	ug/L							11/27/13	
Surrogate: TCMX	*4.2*			*4.5*		*94*	*70-130*			11/27/13	
Blank Spike (A314194-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A314194										Prepared: 11/27/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A314194-BS1)											
Aldrin	1.0	0.075	ug/L	1.0		101	70-130			11/27/13	
Chlorothalonil	9.8	5.0	ug/L	10		98	70-130			11/27/13	
Dieldrin	0.47	0.020	ug/L	0.40		117	70-130			11/27/13	
Endrin	0.23	0.10	ug/L	0.20		115	70-130			11/27/13	
Heptachlor	0.23	0.010	ug/L	0.20		115	70-130			11/27/13	
Heptachlor Epoxide	0.23	0.010	ug/L	0.20		113	70-130			11/27/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0		103	70-130			11/27/13	
Hexachlorocyclopentadiene	2.0	1.0	ug/L	2.0		99	70-130			11/27/13	
Lindane	0.47	0.20	ug/L	0.40		117	70-130			11/27/13	
Methoxychlor	2.5	10	ug/L	2.0		124	70-130			11/27/13	
Trifluralin	2.3	1.0	ug/L	2.0		116	70-130			11/27/13	
Surrogate: TCMX	*4.2*			*4.5*		*93*	*70-130*			11/27/13	
Blank Spike Dup (A314194-BSD1)											
Aldrin	0.98	0.075	ug/L	1.0		98	70-130	3	20	11/28/13	
Chlorothalonil	9.9	5.0	ug/L	10		99	70-130	1	20	11/28/13	
Dieldrin	0.47	0.020	ug/L	0.40		116	70-130	0	20	11/28/13	
Endrin	0.23	0.10	ug/L	0.20		114	70-130	1	20	11/28/13	
Heptachlor	0.23	0.010	ug/L	0.20		113	70-130	2	20	11/28/13	
Heptachlor Epoxide	0.24	0.010	ug/L	0.20		119	70-130	6	20	11/28/13	
Hexachlorobenzene	2.0	0.50	ug/L	2.0		100	70-130	3	20	11/28/13	
Hexachlorocyclopentadiene	1.8	1.0	ug/L	2.0		88	70-130	11	20	11/28/13	
Lindane	0.47	0.20	ug/L	0.40		118	70-130	1	20	11/28/13	
Methoxychlor	2.5	10	ug/L	2.0		125	70-130	1	20	11/28/13	
Trifluralin	2.3	1.0	ug/L	2.0		114	70-130	1	20	11/28/13	
Surrogate: TCMX	*4.2*			*4.5*		*95*	*70-130*			11/28/13	
Matrix Spike (A314194-MS1), Source: A3K1596-06											
Aldrin	0.91	0.075	ug/L	1.0	ND	90	65-135			11/27/13	
Chlorothalonil	10	5.0	ug/L	10	ND	99	65-135			11/27/13	
Dieldrin	0.46	0.020	ug/L	0.40	ND	113	65-135			11/27/13	
Endrin	0.24	0.10	ug/L	0.20	ND	118	65-135			11/27/13	
Heptachlor	0.21	0.010	ug/L	0.20	ND	104	65-135			11/27/13	
Heptachlor Epoxide	0.23	0.010	ug/L	0.20	ND	114	65-135			11/27/13	
Hexachlorobenzene	1.9	0.50	ug/L	2.0	ND	96	65-135			11/27/13	
Hexachlorocyclopentadiene	1.6	1.0	ug/L	2.0	ND	77	65-135			11/27/13	
Lindane	0.47	0.20	ug/L	0.40	ND	117	65-135			11/27/13	
Methoxychlor	2.5	10	ug/L	2.0	ND	126	65-135			11/27/13	
Trifluralin	2.0	1.0	ug/L	2.0	ND	101	65-135			11/27/13	
Surrogate: TCMX	*4.0*			*4.5*		*88*	*70-130*			11/27/13	
Matrix Spike Dup (A314194-MSD1), Source: A3K1596-06											
Aldrin	1.0	0.075	ug/L	1.0	ND	100	65-135	10	20	11/27/13	
Chlorothalonil	10	5.0	ug/L	10	ND	102	65-135	3	20	11/27/13	
Dieldrin	0.47	0.020	ug/L	0.40	ND	117	65-135	4	20	11/27/13	
Endrin	0.24	0.10	ug/L	0.20	ND	119	65-135	1	20	11/27/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A314194										Prepared: 11/27/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A314194-MSD1), Source: A3K1596-06											
Heptachlor	0.23	0.010	ug/L	0.20	ND	114	65-135	9	20	11/27/13	
Heptachlor Epoxide	0.24	0.010	ug/L	0.20	ND	119	65-135	4	20	11/27/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	104	65-135	8	20	11/27/13	
Hexachlorocyclopentadiene	1.8	1.0	ug/L	2.0	ND	90	65-135	15	20	11/27/13	
Lindane	0.48	0.20	ug/L	0.40	ND	118	65-135	1	20	11/27/13	
Methoxychlor	2.6	10	ug/L	2.0	ND	130	65-135	4	20	11/27/13	
Trifluralin	2.1	1.0	ug/L	2.0	ND	106	65-135	5	20	11/27/13	
Surrogate: TCMX	*4.1*			*4.5*		*90*	*70-130*			11/27/13	
EPA 515.3 - Quality Control											
Batch: A314421										Prepared: 12/5/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A314421-BLK1)											
2,4,5-T	ND	1.0	ug/L							12/08/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							12/08/13	
2,4-D	ND	10	ug/L							12/08/13	
Bentazon	ND	2.0	ug/L							12/08/13	
Dalapon	ND	10	ug/L							12/08/13	
Dicamba	ND	1.5	ug/L							12/08/13	
Dinoseb	ND	2.0	ug/L							12/08/13	
Pentachlorophenol	ND	0.20	ug/L							12/08/13	
Picloram	ND	1.0	ug/L							12/08/13	
Surrogate: DCPAA	*43*			*58*		*73*	*70-130*			12/08/13	
Blank Spike (A314421-BS1)											
2,4,5-T	4.2	1.0	ug/L	4.0		104	70-130			12/08/13	
2,4,5-TP (Silvex)	4.1	1.0	ug/L	4.0		104	70-130			12/08/13	
2,4-D	41	10	ug/L	40		103	70-130			12/08/13	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130			12/08/13	
Dalapon	40	10	ug/L	40		99	70-130			12/08/13	
Dicamba	6.1	1.5	ug/L	6.0		101	70-130			12/08/13	
Dinoseb	7.8	2.0	ug/L	8.0		97	70-130			12/08/13	
Pentachlorophenol	0.81	0.20	ug/L	0.80		101	70-130			12/08/13	
Picloram	3.8	1.0	ug/L	4.0		96	70-130			12/08/13	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			12/08/13	
Blank Spike Dup (A314421-BSD1)											
2,4,5-T	4.1	1.0	ug/L	4.0		102	70-130	3	20	12/08/13	
2,4,5-TP (Silvex)	4.1	1.0	ug/L	4.0		101	70-130	2	20	12/08/13	
2,4-D	40	10	ug/L	40		100	70-130	3	20	12/08/13	
Bentazon	8.7	2.0	ug/L	8.0		109	70-130	0	20	12/08/13	
Dalapon	39	10	ug/L	40		99	70-130	0	20	12/08/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130	3	20	12/08/13	
Dinoseb	7.6	2.0	ug/L	8.0		95	70-130	2	20	12/08/13	
Pentachlorophenol	0.80	0.20	ug/L	0.80		100	70-130	1	20	12/08/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A314421										Prepared: 12/5/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A314421-BSD1)											
Picloram	3.9	1.0	ug/L	4.0		97	70-130	1	20	12/08/13	
Surrogate: DCPAA	*45*			*58*		*78*	*70-130*			12/08/13	
Matrix Spike (A314421-MS1), Source: A3K1910-01											
2,4,5-T	4.2	1.0	ug/L	4.0	ND	104	70-130			12/08/13	
2,4,5-TP (Silvex)	4.1	1.0	ug/L	4.0	ND	102	70-130			12/08/13	
2,4-D	42	10	ug/L	40	ND	105	70-130			12/08/13	
Bentazon	8.7	2.0	ug/L	8.0	ND	109	70-130			12/08/13	
Dalapon	41	10	ug/L	40	ND	102	70-130			12/08/13	
Dicamba	6.2	1.5	ug/L	6.0	ND	103	70-130			12/08/13	
Dinoseb	7.5	2.0	ug/L	8.0	ND	93	70-130			12/08/13	
Pentachlorophenol	0.80	0.20	ug/L	0.80	ND	100	70-130			12/08/13	
Picloram	4.3	1.0	ug/L	4.0	ND	102	70-130			12/08/13	
Surrogate: DCPAA	*46*			*58*		*80*	*70-130*			12/08/13	
Matrix Spike Dup (A314421-MSD1), Source: A3K1910-01											
2,4,5-T	4.2	1.0	ug/L	4.0	ND	104	70-130	0	20	12/08/13	
2,4,5-TP (Silvex)	4.1	1.0	ug/L	4.0	ND	103	70-130	1	20	12/08/13	
2,4-D	42	10	ug/L	40	ND	106	70-130	1	20	12/08/13	
Bentazon	8.7	2.0	ug/L	8.0	ND	109	70-130	0	20	12/08/13	
Dalapon	41	10	ug/L	40	ND	104	70-130	2	20	12/08/13	
Dicamba	6.2	1.5	ug/L	6.0	ND	104	70-130	1	20	12/08/13	
Dinoseb	7.5	2.0	ug/L	8.0	ND	94	70-130	0	20	12/08/13	
Pentachlorophenol	0.80	0.20	ug/L	0.80	ND	100	70-130	1	20	12/08/13	
Picloram	4.3	1.0	ug/L	4.0	ND	103	70-130	1	20	12/08/13	
Surrogate: DCPAA	*47*			*58*		*81*	*70-130*			12/08/13	
EPA 524.2 - Quality Control											
Batch: A314277										Prepared: 12/3/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A314277-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							12/04/13	
1,1,1-Trichloroethane	ND	0.50	ug/L							12/04/13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							12/04/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							12/04/13	
1,1,2-Trichloroethane	ND	0.50	ug/L							12/04/13	
1,1-Dichloroethane	ND	0.50	ug/L							12/04/13	
1,1-Dichloroethene	ND	0.50	ug/L							12/04/13	
1,1-Dichloropropene	ND	0.50	ug/L							12/04/13	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							12/04/13	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							12/04/13	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							12/04/13	
1,2-Dichlorobenzene	ND	0.50	ug/L							12/04/13	
1,2-Dichloroethane	ND	0.50	ug/L							12/04/13	
1,2-Dichloropropane	ND	0.50	ug/L							12/04/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A314277										Prepared: 12/3/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A314277-BLK1)											
1,3,5-Trimethylbenzene	ND	0.50	ug/L							12/04/13	
1,3-Dichlorobenzene	ND	0.50	ug/L							12/04/13	
1,3-Dichloropropane	ND	0.50	ug/L							12/04/13	
1,4-Dichlorobenzene	ND	0.50	ug/L							12/04/13	
2,2-Dichloropropane	ND	0.50	ug/L							12/04/13	
2-Butanone	ND	5.0	ug/L							12/04/13	
2-Chlorotoluene	ND	0.50	ug/L							12/04/13	
2-Hexanone	ND	10	ug/L							12/04/13	
4-Chlorotoluene	ND	0.50	ug/L							12/04/13	
4-Methyl-2-pentanone	ND	5.0	ug/L							12/04/13	
Acetone	ND	10	ug/L							12/04/13	
Benzene	ND	0.50	ug/L							12/04/13	
Bromobenzene	ND	0.50	ug/L							12/04/13	
Bromochloromethane	ND	0.50	ug/L							12/04/13	
Bromodichloromethane	ND	0.50	ug/L							12/04/13	
Bromoform	ND	0.50	ug/L							12/04/13	
Bromomethane	ND	0.50	ug/L							12/04/13	
Carbon Tetrachloride	ND	0.50	ug/L							12/04/13	
Chlorobenzene	ND	0.50	ug/L							12/04/13	
Chloroethane	ND	0.50	ug/L							12/04/13	
Chloroform	ND	0.50	ug/L							12/04/13	
Chloromethane	ND	0.50	ug/L							12/04/13	
cis-1,2-Dichloroethene	ND	0.50	ug/L							12/04/13	
cis-1,3-Dichloropropene	ND	0.50	ug/L							12/04/13	
Dibromochloromethane	ND	0.50	ug/L							12/04/13	
Dibromomethane	ND	0.50	ug/L							12/04/13	
Dichlorodifluoromethane	ND	0.50	ug/L							12/04/13	
Dichloromethane	ND	0.50	ug/L							12/04/13	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							12/04/13	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							12/04/13	
Ethylbenzene	ND	0.50	ug/L							12/04/13	
Hexachlorobutadiene	ND	0.50	ug/L							12/04/13	
Isopropylbenzene	ND	0.50	ug/L							12/04/13	
m,p-Xylenes	ND	0.50	ug/L							12/04/13	
Methyl-t-butyl ether	ND	0.50	ug/L							12/04/13	
Naphthalene	ND	0.50	ug/L							12/04/13	
n-Butylbenzene	ND	0.50	ug/L							12/04/13	
n-Propylbenzene	ND	0.50	ug/L							12/04/13	
o-Xylene	ND	0.50	ug/L							12/04/13	
p-Isopropyltoluene	ND	0.50	ug/L							12/04/13	
sec-Butylbenzene	ND	0.50	ug/L							12/04/13	
Styrene	ND	0.50	ug/L							12/04/13	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							12/04/13	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							12/04/13	
tert-Butylbenzene	ND	0.50	ug/L							12/04/13	
Tetrachloroethene (PCE)	ND	0.50	ug/L							12/04/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A314277										Prepared: 12/3/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank (A314277-BLK1)												
Toluene	ND	0.50	ug/L							12/04/13		
trans-1,2-Dichloroethene	ND	0.50	ug/L							12/04/13		
trans-1,3-Dichloropropene	ND	0.50	ug/L							12/04/13		
Trichloroethene (TCE)	ND	0.50	ug/L							12/04/13		
Trichlorofluoromethane	ND	5.0	ug/L							12/04/13		
Vinyl Chloride	ND	0.50	ug/L							12/04/13		
Surrogate: 1,2-Dichlorobenzene-d4	*4.5*			*5.0*		*90*	*70-130*			12/04/13		
Surrogate: Bromofluorobenzene	*51*			*50*		*101*	*70-130*			12/04/13		
Blank Spike (A314277-BS1)												
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		104	70-130			12/04/13		
1,1,1-Trichloroethane	12	0.50	ug/L	10		117	70-130			12/04/13		
1,1,2,2-Tetrachloroethane	10	0.50	ug/L	10		103	70-130			12/04/13		
1,1,2-Trichloro-1,2,2-trifluoroethane	10	10	ug/L	10		102	70-130			12/04/13		
1,1,2-Trichloroethane	10	0.50	ug/L	10		102	70-130			12/04/13		
1,1-Dichloroethane	11	0.50	ug/L	10		112	70-130			12/04/13		
1,1-Dichloroethene	11	0.50	ug/L	10		112	70-130			12/04/13		
1,1-Dichloropropene	11	0.50	ug/L	10		106	70-130			12/04/13		
1,2,3-Trichlorobenzene	11	0.50	ug/L	10		112	70-130			12/04/13		
1,2,4-Trichlorobenzene	12	0.50	ug/L	10		116	70-130			12/04/13		
1,2,4-Trimethylbenzene	11	0.50	ug/L	10		112	70-130			12/04/13		
1,2-Dichlorobenzene	11	0.50	ug/L	10		112	70-130			12/04/13		
1,2-Dichloroethane	12	0.50	ug/L	10		118	70-130			12/04/13		
1,2-Dichloropropane	10	0.50	ug/L	10		103	70-130			12/04/13		
1,3,5-Trimethylbenzene	11	0.50	ug/L	10		107	70-130			12/04/13		
1,3-Dichlorobenzene	12	0.50	ug/L	10		121	70-130			12/04/13		
1,3-Dichloropropane	10	0.50	ug/L	10		104	70-130			12/04/13		
1,4-Dichlorobenzene	11	0.50	ug/L	10		111	70-130			12/04/13		
2,2-Dichloropropane	12	0.50	ug/L	10		121	70-130			12/04/13		
2-Butanone	11	5.0	ug/L	10		107	70-130			12/04/13		
2-Chlorotoluene	12	0.50	ug/L	10		116	70-130			12/04/13		
2-Hexanone	11	10	ug/L	10		112	70-130			12/04/13		
4-Chlorotoluene	12	0.50	ug/L	10		120	70-130			12/04/13		
4-Methyl-2-pentanone	8.5	5.0	ug/L	10		85	70-130			12/04/13		
Acetone	12	10	ug/L	10		120	70-130			12/04/13		
Benzene	10	0.50	ug/L	10		105	70-130			12/04/13		
Bromobenzene	11	0.50	ug/L	10		109	70-130			12/04/13		
Bromochloromethane	11	0.50	ug/L	10		112	70-130			12/04/13		
Bromodichloromethane	11	0.50	ug/L	10		112	70-130			12/04/13		
Bromoform	10	0.50	ug/L	10		102	70-130			12/04/13		
Bromomethane	15	0.50	ug/L	10		152	70-130			12/04/13	BS	***High***
Carbon Tetrachloride	11	0.50	ug/L	10		114	70-130			12/04/13		
Chlorobenzene	11	0.50	ug/L	10		107	70-130			12/04/13		
Chloroethane	11	0.50	ug/L	10		110	70-130			12/04/13		
Chloroform	11	0.50	ug/L	10		114	70-130			12/04/13		
Chloromethane	12	0.50	ug/L	10		116	70-130			12/04/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 524.2 - Quality Control												
Batch: A314277										Prepared: 12/3/2013		
Prep Method: EPA 524.2										Analyst: JGB		
Blank Spike (A314277-BS1)												
cis-1,2-Dichloroethene	11	0.50	ug/L	10		109	70-130			12/04/13		
cis-1,3-Dichloropropene	11	0.50	ug/L	10		113	70-130			12/04/13		
Dibromochloromethane	10	0.50	ug/L	10		103	70-130			12/04/13		
Dibromomethane	11	0.50	ug/L	10		111	70-130			12/04/13		
Dichlorodifluoromethane	11	0.50	ug/L	10		107	70-130			12/04/13		
Dichloromethane	11	0.50	ug/L	10		110	70-130			12/04/13		
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		104	70-130			12/04/13		
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		105	70-130			12/04/13		
Ethylbenzene	11	0.50	ug/L	10		112	70-130			12/04/13		
Hexachlorobutadiene	12	0.50	ug/L	10		120	70-130			12/04/13		
Isopropylbenzene	10	0.50	ug/L	10		105	70-130			12/04/13		
m,p-Xylenes	22	0.50	ug/L	20		108	70-130			12/04/13		
Methyl-t-butyl ether	21	0.50	ug/L	20		107	70-130			12/04/13		
Naphthalene	9.7	0.50	ug/L	10		97	70-130			12/04/13		
n-Butylbenzene	11	0.50	ug/L	10		109	70-130			12/04/13		
n-Propylbenzene	12	0.50	ug/L	10		116	70-130			12/04/13		
o-Xylene	11	0.50	ug/L	10		114	70-130			12/04/13		
p-Isopropyltoluene	12	0.50	ug/L	10		117	70-130			12/04/13		
sec-Butylbenzene	12	0.50	ug/L	10		119	70-130			12/04/13		
Styrene	7.8	0.50	ug/L	10		78	70-130			12/04/13		
tert-Amyl Methyl Ether (TAME)	9.8	3.0	ug/L	10		98	70-130			12/04/13		
tert-Butyl alcohol (TBA)	14	2.0	ug/L	10		135	70-130			12/04/13	BS	***High***
tert-Butylbenzene	12	0.50	ug/L	10		117	70-130			12/04/13		
Tetrachloroethene (PCE)	11	0.50	ug/L	10		109	70-130			12/04/13		
Toluene	11	0.50	ug/L	10		106	70-130			12/04/13		
trans-1,2-Dichloroethene	11	0.50	ug/L	10		114	70-130			12/04/13		
trans-1,3-Dichloropropene	11	0.50	ug/L	10		111	70-130			12/04/13		
Trichloroethene (TCE)	11	0.50	ug/L	10		106	70-130			12/04/13		
Trichlorofluoromethane	11	5.0	ug/L	10		107	70-130			12/04/13		
Vinyl Chloride	11	0.50	ug/L	10		110	70-130			12/04/13		
Surrogate: 1,2-Dichlorobenzene-d4	*5.4*			*5.0*		*108*	*70-130*			12/04/13		
Surrogate: Bromofluorobenzene	*53*			*50*		*106*	*70-130*			12/04/13		
Blank Spike Dup (A314277-BSD1)												
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		104	70-130	1	30	12/04/13		
1,1,1-Trichloroethane	12	0.50	ug/L	10		123	70-130	5	30	12/04/13		
1,1,2,2-Tetrachloroethane	12	0.50	ug/L	10		123	70-130	18	30	12/04/13		
1,1,2-Trichloro-1,2,2-trifluoroethane	12	10	ug/L	10		118	70-130	14	30	12/04/13		
1,1,2-Trichloroethane	12	0.50	ug/L	10		120	70-130	17	30	12/04/13		
1,1-Dichloroethane	10	0.50	ug/L	10		104	70-130	8	30	12/04/13		
1,1-Dichloroethene	13	0.50	ug/L	10		128	70-130	14	30	12/04/13		
1,1-Dichloropropene	12	0.50	ug/L	10		124	70-130	16	30	12/04/13		
1,2,3-Trichlorobenzene	11	0.50	ug/L	10		108	70-130	3	30	12/04/13		
1,2,4-Trichlorobenzene	11	0.50	ug/L	10		111	70-130	4	30	12/04/13		
1,2,4-Trimethylbenzene	12	0.50	ug/L	10		120	70-130	7	30	12/04/13		
1,2-Dichlorobenzene	12	0.50	ug/L	10		123	70-130	9	30	12/04/13		

Organics Quality Control Report

EPA 524.2 - Quality Control

Batch: A314277 Prepared: 12/3/2013

Prep Method: EPA 524.2 Analyst: JGB

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
Blank Spike Dup (A314277-BSD1)												
1,2-Dichloroethane	11	0.50	ug/L	10		109	70-130	9	30	12/04/13		
1,2-Dichloropropane	9.7	0.50	ug/L	10		97	70-130	6	30	12/04/13		
1,3,5-Trimethylbenzene	12	0.50	ug/L	10		117	70-130	9	30	12/04/13		
1,3-Dichlorobenzene	13	0.50	ug/L	10		126	70-130	4	30	12/04/13		
1,3-Dichloropropane	11	0.50	ug/L	10		105	70-130	2	30	12/04/13		
1,4-Dichlorobenzene	12	0.50	ug/L	10		122	70-130	9	30	12/04/13		
2,2-Dichloropropane	13	0.50	ug/L	10		131	70-130	8	30	12/04/13	BS	***High***
2-Butanone	9.3	5.0	ug/L	10		93	70-130	15	30	12/04/13		
2-Chlorotoluene	13	0.50	ug/L	10		130	70-130	11	30	12/04/13		
2-Hexanone	11	10	ug/L	10		113	70-130	1	30	12/04/13		
4-Chlorotoluene	13	0.50	ug/L	10		130	70-130	9	30	12/04/13		
4-Methyl-2-pentanone	11	5.0	ug/L	10		110	70-130	26	30	12/04/13		
Acetone	11	10	ug/L	10		114	70-130	5	30	12/04/13		
Benzene	10	0.50	ug/L	10		102	70-130	3	30	12/04/13		
Bromobenzene	13	0.50	ug/L	10		130	70-130	18	30	12/04/13		
Bromochloromethane	12	0.50	ug/L	10		117	70-130	4	30	12/04/13		
Bromodichloromethane	12	0.50	ug/L	10		117	70-130	5	30	12/04/13		
Bromoform	11	0.50	ug/L	10		110	70-130	8	30	12/04/13		
Bromomethane	28	0.50	ug/L	10		275	70-130	58	30	12/04/13	BS, X.0	***High***
Carbon Tetrachloride	12	0.50	ug/L	10		125	70-130	9	30	12/04/13		
Chlorobenzene	10	0.50	ug/L	10		103	70-130	4	30	12/04/13		
Chloroethane	12	0.50	ug/L	10		122	70-130	11	30	12/04/13		
Chloroform	13	0.50	ug/L	10		128	70-130	12	30	12/04/13		
Chloromethane	14	0.50	ug/L	10		135	70-130	15	30	12/04/13	BS	***High***
cis-1,2-Dichloroethene	11	0.50	ug/L	10		113	70-130	3	30	12/04/13		
cis-1,3-Dichloropropene	12	0.50	ug/L	10		118	70-130	4	30	12/04/13		
Dibromochloromethane	11	0.50	ug/L	10		113	70-130	9	30	12/04/13		
Dibromomethane	11	0.50	ug/L	10		106	70-130	4	30	12/04/13		
Dichlorodifluoromethane	14	0.50	ug/L	10		139	70-130	26	30	12/04/13	BS	***High***
Dichloromethane	12	0.50	ug/L	10		121	70-130	9	30	12/04/13		
Di-isopropyl ether (DIPE)	9.7	3.0	ug/L	10		97	70-130	7	30	12/04/13		
Ethyl tert-Butyl Ether (ETBE)	12	0.50	ug/L	10		119	70-130	13	30	12/04/13		
Ethylbenzene	12	0.50	ug/L	10		121	70-130	8	30	12/04/13		
Hexachlorobutadiene	12	0.50	ug/L	10		120	70-130	0	30	12/04/13		
Isopropylbenzene	13	0.50	ug/L	10		131	70-130	22	30	12/04/13	BS	***High***
m,p-Xylenes	23	0.50	ug/L	20		116	70-130	7	30	12/04/13		
Methyl-t-butyl ether	26	0.50	ug/L	20		132	70-130	21	30	12/04/13	BS	***High***
Naphthalene	8.8	0.50	ug/L	10		88	70-130	10	30	12/04/13		
n-Butylbenzene	11	0.50	ug/L	10		109	70-130	0	30	12/04/13		
n-Propylbenzene	13	0.50	ug/L	10		134	70-130	14	30	12/04/13	BS	***High***
o-Xylene	14	0.50	ug/L	10		144	70-130	23	30	12/04/13	BS	***High***
p-Isopropyltoluene	12	0.50	ug/L	10		122	70-130	4	30	12/04/13		
sec-Butylbenzene	12	0.50	ug/L	10		124	70-130	4	30	12/04/13		
Styrene	8.5	0.50	ug/L	10		85	70-130	8	30	12/04/13		
tert-Amyl Methyl Ether (TAME)	8.9	3.0	ug/L	10		89	70-130	9	30	12/04/13		
tert-Butyl alcohol (TBA)	8.1	2.0	ug/L	10		81	70-130	50	30	12/04/13	BS4.0	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A314277										Prepared: 12/3/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A314277-BSD1)											
tert-Butylbenzene	12	0.50	ug/L	10		122	70-130	4	30	12/04/13	
Tetrachloroethene (PCE)	10	0.50	ug/L	10		104	70-130	4	30	12/04/13	
Toluene	12	0.50	ug/L	10		120	70-130	12	30	12/04/13	
trans-1,2-Dichloroethene	13	0.50	ug/L	10		126	70-130	10	30	12/04/13	
trans-1,3-Dichloropropene	12	0.50	ug/L	10		119	70-130	7	30	12/04/13	
Trichloroethene (TCE)	10	0.50	ug/L	10		105	70-130	1	30	12/04/13	
Trichlorofluoromethane	12	5.0	ug/L	10		123	70-130	13	30	12/04/13	
Vinyl Chloride	13	0.50	ug/L	10		129	70-130	16	30	12/04/13	
Surrogate: 1,2-Dichlorobenzene-d4	*6.1*			*5.0*		*121*	*70-130*			12/04/13	
Surrogate: Bromofluorobenzene	*64*			*50*		*129*	*70-130*			12/04/13	
EPA 525.2 - Quality Control											
Batch: A314276										Prepared: 12/3/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A314276-BLK1)											
Alachlor	ND	1.0	ug/L							12/03/13	
Atrazine	ND	0.50	ug/L							12/03/13	
Benzo(a)pyrene	ND	0.10	ug/L							12/03/13	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							12/03/13	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							12/03/13	
Bromacil	ND	10	ug/L							12/03/13	
Butachlor	ND	0.38	ug/L							12/03/13	
Diazinon	ND	0.25	ug/L							12/03/13	
Dimethoate	ND	10	ug/L							12/03/13	
Metolachlor	ND	0.50	ug/L							12/03/13	
Metribuzin	ND	0.50	ug/L							12/03/13	
Molinate	ND	2.0	ug/L							12/03/13	
Propachlor	ND	0.50	ug/L							12/03/13	
Simazine	ND	1.0	ug/L							12/03/13	
Thiobencarb	ND	1.0	ug/L							12/03/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.6*			*5.0*		*91*	*70-130*			12/03/13	
Blank Spike (A314276-BS1)											
Alachlor	0.54	1.0	ug/L	0.51		105	70-130			12/03/13	
Atrazine	0.52	0.50	ug/L	0.51		102	70-130			12/03/13	
Benzo(a)pyrene	0.11	0.10	ug/L	0.10		109	70-130			12/03/13	
Bis(2-ethylhexyl) adipate	3.4	3.0	ug/L	3.1		109	70-130			12/03/13	
Bis(2-ethylhexyl) phthalate	3.4	3.0	ug/L	3.1		111	70-130			12/03/13	
Bromacil	2.5	10	ug/L	2.0		120	70-130			12/03/13	
Butachlor	1.5	0.38	ug/L	1.3		114	70-130			12/03/13	
Diazinon	0.045	0.25	ug/L	0.051		88	70-130			12/03/13	
Dimethoate	0.60	10	ug/L	0.51		118	70-130			12/03/13	
Metolachlor	2.9	0.50	ug/L	2.6		114	70-130			12/03/13	
Metribuzin	2.8	0.50	ug/L	2.6		110	70-130			12/03/13	
Molinate	2.7	2.0	ug/L	2.6		107	70-130			12/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A314276										Prepared: 12/3/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A314276-BS1)											
Propachlor	2.9	0.50	ug/L	2.6		113	70-130			12/03/13	
Simazine	0.41	1.0	ug/L	0.36		116	70-130			12/03/13	
Thiobencarb	0.59	1.0	ug/L	0.51		115	70-130			12/03/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.6*			*5.1*		*91*	*70-130*			12/03/13	
Blank Spike Dup (A314276-BSD1)											
Alachlor	0.52	1.0	ug/L	0.49		106	70-130	2	30	12/03/13	
Atrazine	0.52	0.50	ug/L	0.49		106	70-130	0	30	12/03/13	
Benzo(a)pyrene	0.11	0.10	ug/L	0.098		113	70-130	0	30	12/03/13	
Bis(2-ethylhexyl) adipate	3.1	3.0	ug/L	3.0		103	70-130	9	30	12/03/13	
Bis(2-ethylhexyl) phthalate	3.2	3.0	ug/L	3.0		108	70-130	6	30	12/03/13	
Bromacil	2.4	10	ug/L	2.0		120	70-130	4	30	12/03/13	
Butachlor	1.4	0.38	ug/L	1.2		110	70-130	7	30	12/03/13	
Diazinon	0.041	0.25	ug/L	0.049		84	70-130	8	30	12/03/13	
Dimethoate	0.59	10	ug/L	0.49		119	70-130	3	30	12/03/13	
Metolachlor	2.7	0.50	ug/L	2.5		111	70-130	7	30	12/03/13	
Metribuzin	2.7	0.50	ug/L	2.5		108	70-130	5	30	12/03/13	
Molinate	2.6	2.0	ug/L	2.5		106	70-130	5	30	12/03/13	
Propachlor	2.5	0.50	ug/L	2.5		101	70-130	15	30	12/03/13	
Simazine	0.38	1.0	ug/L	0.34		111	70-130	8	30	12/03/13	
Thiobencarb	0.56	1.0	ug/L	0.49		113	70-130	5	30	12/03/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.6*			*4.9*		*94*	*70-130*			12/03/13	
Matrix Spike (A314276-MS1), Source: A3K1830-01											
Alachlor	0.54	1.0	ug/L	0.50	ND	109	70-130			12/03/13	
Atrazine	0.53	0.50	ug/L	0.50	ND	108	70-130			12/03/13	
Benzo(a)pyrene	0.13	0.10	ug/L	0.099	ND	131	70-130			12/03/13	MS1.0 ***High***
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.0	ND	117	70-130			12/03/13	
Bis(2-ethylhexyl) phthalate	3.2	3.0	ug/L	3.0	ND	106	70-130			12/03/13	
Bromacil	2.4	10	ug/L	2.0	ND	124	70-130			12/03/13	
Butachlor	1.4	0.38	ug/L	1.2	ND	111	70-130			12/03/13	
Diazinon	0.049	0.25	ug/L	0.050	ND	98	70-130			12/03/13	
Dimethoate	0.56	10	ug/L	0.50	ND	114	70-130			12/03/13	
Metolachlor	2.8	0.50	ug/L	2.5	ND	113	70-130			12/03/13	
Metribuzin	2.7	0.50	ug/L	2.5	ND	109	70-130			12/03/13	
Molinate	2.6	2.0	ug/L	2.5	ND	106	70-130			12/03/13	
Propachlor	2.7	0.50	ug/L	2.5	ND	109	70-130			12/03/13	
Simazine	0.39	1.0	ug/L	0.35	ND	113	70-130			12/03/13	
Thiobencarb	0.56	1.0	ug/L	0.50	ND	114	70-130			12/03/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.6*			*5.0*		*92*	*70-130*			12/03/13	
EPA 531.1 - Quality Control											
Batch: A314122										Prepared: 11/26/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A314122-BLK1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 531.1 - Quality Control											
Batch: A314122										Prepared: 11/26/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A314122-BLK1)											
3-Hydroxycarbofuran	ND	3.0	ug/L							11/26/13	
Aldicarb	ND	3.0	ug/L							11/26/13	
Aldicarb Sulfone	ND	2.0	ug/L							11/26/13	
Aldicarb Sulfoxide	ND	3.0	ug/L							11/26/13	
Carbaryl	ND	5.0	ug/L							11/26/13	
Carbofuran	ND	5.0	ug/L							11/26/13	
Methomyl	ND	2.0	ug/L							11/26/13	
Oxamyl	ND	20	ug/L							11/26/13	
Blank Spike (A314122-BS1)											
3-Hydroxycarbofuran	4.0	3.0	ug/L	4.2		97	80-120			11/26/13	
Aldicarb	4.5	3.0	ug/L	4.2		108	80-120			11/26/13	
Aldicarb Sulfone	4.4	2.0	ug/L	4.2		106	80-120			11/26/13	
Aldicarb Sulfoxide	4.5	3.0	ug/L	4.2		109	80-120			11/26/13	
Carbaryl	4.2	5.0	ug/L	4.2		102	80-120			11/26/13	
Carbofuran	4.5	5.0	ug/L	4.2		109	80-120			11/26/13	
Methomyl	4.5	2.0	ug/L	4.2		109	80-120			11/26/13	
Oxamyl	4.5	20	ug/L	4.2		107	80-120			11/26/13	
Blank Spike Dup (A314122-BSD1)											
3-Hydroxycarbofuran	4.3	3.0	ug/L	4.2		104	80-120	7	20	11/26/13	
Aldicarb	4.5	3.0	ug/L	4.2		107	80-120	1	20	11/26/13	
Aldicarb Sulfone	4.3	2.0	ug/L	4.2		104	80-120	2	20	11/26/13	
Aldicarb Sulfoxide	4.4	3.0	ug/L	4.2		105	80-120	4	20	11/26/13	
Carbaryl	4.3	5.0	ug/L	4.2		103	80-120	2	20	11/26/13	
Carbofuran	4.5	5.0	ug/L	4.2		107	80-120	2	20	11/26/13	
Methomyl	4.6	2.0	ug/L	4.2		110	80-120	1	20	11/26/13	
Oxamyl	4.4	20	ug/L	4.2		106	80-120	1	20	11/26/13	
Matrix Spike (A314122-MS1), Source: A3K1656-01											
3-Hydroxycarbofuran	3.8	3.0	ug/L	4.2	ND	92	65-135			11/26/13	
Aldicarb	4.7	3.0	ug/L	4.2	ND	105	65-135			11/26/13	
Aldicarb Sulfone	4.3	2.0	ug/L	4.2	ND	103	65-135			11/26/13	
Aldicarb Sulfoxide	4.3	3.0	ug/L	4.2	ND	104	65-135			11/26/13	
Carbaryl	4.2	5.0	ug/L	4.2	ND	102	65-135			11/26/13	
Carbofuran	4.3	5.0	ug/L	4.2	ND	97	65-135			11/26/13	
Methomyl	4.4	2.0	ug/L	4.2	ND	100	65-135			11/26/13	
Oxamyl	4.4	20	ug/L	4.2	ND	104	65-135			11/26/13	
EPA 547 - Quality Control											
Batch: A314204										Prepared: 12/1/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank (A314204-BLK1)											
Glyphosate	ND	25	ug/L							12/01/13	
Surrogate: AMPA	*100*			*100*		*103*	*70-130*			12/01/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A314204										Prepared: 12/1/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank Spike (A314204-BS1)											
Glyphosate	100	25	ug/L	100		100	70-130			12/01/13	
Surrogate: AMPA	*100*			*100*		*104*	*70-130*			12/01/13	
Blank Spike Dup (A314204-BSD1)											
Glyphosate	110	25	ug/L	100		106	70-130	6	30	12/01/13	
Surrogate: AMPA	*100*			*100*		*102*	*70-130*			12/01/13	
Matrix Spike (A314204-MS1), Source: A3K1910-01											
Glyphosate	100	25	ug/L	100	ND	100	70-130			12/01/13	
Surrogate: AMPA	*100*			*100*		*98*	*70-130*			12/01/13	
EPA 548.1 - Quality Control											
Batch: A314043										Prepared: 11/27/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A314043-BLK1)											
Endothall	ND	45	ug/L							11/29/13	
Blank Spike (A314043-BS1)											
Endothall	12	45	ug/L	20		61	60-111			11/29/13	
Blank Spike Dup (A314043-BSD1)											
Endothall	22	45	ug/L	20		108	60-111	55	46	11/29/13	BS3.0
Matrix Spike (A314043-MS1), Source: A3K1568-06											
Endothall	ND	45	ug/L	20	ND	0	10-122			11/29/13	MS1.0 ***Low***
EPA 549.2 - Quality Control											
Batch: A314169										Prepared: 11/27/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A314169-BLK1)											
Diquat	ND	4.0	ug/L							12/03/13	
Blank Spike (A314169-BS1)											
Diquat	3.4	4.0	ug/L	4.0		85	70-130			12/03/13	
Blank Spike Dup (A314169-BSD1)											
Diquat	3.4	4.0	ug/L	4.0		86	70-130	1	30	12/03/13	
Matrix Spike (A314169-MS1), Source: A3K1719-01											
Diquat	3.4	4.0	ug/L	4.0	ND	84	70-130			12/03/13	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792009A
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron
Silica (SiO2)
Strontium
Threshold Odor

A3K1910

California American Water

Calif3295

11262013

Turnaround: Standard
Due Date: 12/12/2013

Printed: 11/26/2013 5:26:52PM

BSK Associates Engineers & Laboratories
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

*Required Fields Temp: 0.7

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water	Travis Peterson Additional cc's: Sarp Sekeroglu, RBF Consulting	Accounts Payable PO#:	(831) 646-3295/(831) 646-3269	(831) 333-1343

E-mail*: susan.jacobson@amwater.com,travis.peterson@amwater.com

Address*:	City*:	State*:	Zip*:
PO Box 951	Monterey	CA	93942-0951

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: ____

Project: Water Quality Analysis
Project #:

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: ____

How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH System Number*: ____ ☐ Geotracker #: ____

Sampler Name (Printed/Signature)*: Nathan Reynolds

TAT* **Surcharge: ☒ Standard - 10 Business Days ☐ **Rush: Date Needed ____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alkalinity, Hardness, MBAS,Color, Odor, TDS, pH, Turbidity, EC	Mass Balance-Dissolved: Cations and Anions	Dissolved Metals: Ba, B, Ca, Fe, Mg, Mn, K, Na, Sr, silica	Total Metals: Al, As, Cu, Fe, Mn, Zn	Dissolved: Bromide, Chloride, Nitrite, Fluoride, Sulfate, Orthophosphate-P	Dissolved: Ammonia, TKN, Phosphorus	Nitrate+Nitrite as N, Nitrate-NO3,	EPA 524, 504, 505, 515, 525, 531, 547, 548, 549	EXT-Tritium, EXT-Lithium, EXT-Dissolved Iodide, EXT-Dioxin
1	27 MPWSP ML-6 Zone #2 (100 – 110 ft bgs)	11-23-13	13:00	water	Seawater salinity levels.	X	X	X	X	X	X	X	X	X
					Lab to filter dissolved metals.									
					Lab to filter Diss. Ammonia, TKN, P									
					Okay to analyze out of hold time.									
					Field Parameters:	Temp = 15.9 °C								
						pH = 6.58								
						TDS = 29,002 mg/L								
						Turb = 1.73 NTU								

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Nathan Reynolds	GEOSCIENCE	11/25	8:45 AM	Ashley Seeger	RBF Consulting
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery:	Check / Cash
Lafayette Cobb		11/26/13	1080	Date: Amount: PIA#: Init.	

Shipping Method: CONTRAC UPS GSO WALK-IN FED EX Courier: ____ BW
Cooling Method: Wet Blue None
Custody Seal: Y/N
Chilling Process Begun: Y/N

bw

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes (No) NA
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	(Yes) No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received ("—" means preservation/chlorine checks are either N/A or are performed in the lab)

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	2C, 1B, 1A
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	2B
H_2SO_4 (P) Yellow Cap	pH ≤ 2	(Y) N	1A
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	1A, 2C, 1B
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2A, 2C
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	6V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	(Y) N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	1A
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: JR @ 1558 Labels checked by: G-1141 @ 1613 RUSH Paged by:

External

A3K1910

Maxxam

Your Project #: A3K1910
Your C.O.C. #: na

Attention:Michael Ng

BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2013/12/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3K9569
Received: 2013/12/04, 13:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
2,3,7,8-TCDD in Water (1613B)	1	2013/12/07	2013/12/10	BRL SOP-00410	EPA 1613B mod.

Remarks:

The lab certifies that the test results meet all requirements of NELAC, where applicable.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.

Encryption Key

Ivana Vukovic
12 Dec 2013 14:17:01 -05:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ivana Vukovic, Env Project Manager
Email: IVukovic@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3K9569
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1910

DIOXINS AND FURANS BY HRMS (WATER)

Maxxam ID		UD8357						
Sampling Date		2013/11/23 13:00						
COC Number		na			TOXIC EQUIVALENCY		# of	
	Units	A3K1910-01	EDL	RDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Dioxins & Furans								
2,3,7,8-Tetra CDD *	pg/L	0.90 U	0.90	4.0	1.00	0.900		3452001
TOTAL TOXIC EQUIVALENCY	pg/L					0.900		
Surrogate Recovery (%)								
37CL4 2378 Tetra CDD *	%	82						3452001
C13-2378 TetraCDD *	%	89						3452001

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

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Maxxam

Maxxam Job #: B3K9569
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1910

TEST SUMMARY

Maxxam ID: UD8357
Sample ID: A3K1910-01
Matrix: Water

Collected: 2013/11/23
Shipped:
Received: 2013/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
2,3,7,8-TCDD in Water (1613B)	HRMS/MS	3452001	2013/12/07	2013/12/10	Vica Ciorlanic

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817 5700 Toll Free: 800 563 6266 Fax: (905) 817 5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3K9569
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1910

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800 563 6266 Fax: (905) 817 5777 www.maxxam.ca

Maxxam

Maxxam Job #: B3K9569
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1910

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
3452001	VCI	Spiked Blank	2,3,7,8-Tetra CDD	2013/12/10		83	%	67 - 158
	VCI	Spiked Blank	37CL4 2378 Tetra CDD	2013/12/10		71	%	40 - 130
			C13-2378 TetraCDD	2013/12/10		90	%	24 - 164
		Method Blank	2,3,7,8-Tetra CDD	2013/12/10	0.92, EDL=0.92		pg/L	
			37CL4 2378 Tetra CDD	2013/12/10		80	%	40 - 130
			C13-2378 TetraCDD	2013/12/10		81	%	24 - 164

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Maxxam

Maxxam Job #: B3K9569
Report Date: 2013/12/11

BSK Analytical Laboratories
Client Project #: A3K1910

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Owen Cosby, BSc.C.Chem, Supervisor, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-free: 800 563-6266 Fax: (905) 817-5777 www.maxxam.ca

BSK Analytical Laboratories

SUBCONTRACT ORDER

A3K1910

Ivana Vukovic

B3K9569

FW ENV-996

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
Email: mng@bskinc.com

RECEIVING LABORATORY:

Maxxam Analytics
PO Box 57437, Station A
Toronto, ON M5W5M5
Phone: (905) 817-5784
Fax: -
Turnaround (Days): Standard
QC Deliverables: SD III IV

Sample ID	Samp Desc	Sample Date
A3K1910-01	MP/VSP ML 6 Zone #2 (100-110 ft bgs)	11/23/2013 13:00

Matrix: Water

Analysis
EX1-Dioxin-DW matrix, EPA 1613 2,3,7,8-TCDD

Released By	Date	Received By	Date
Released By	Date	Received By	Date
		G. [illegible]	2013/12/04 13:00

5.0, 4.7, 5.0°C
6.0, 5.2, 4.6°C

Page 1 of 3

Page 1 of 1

Weck Laboratories, Inc.
Analytical Laboratory Services - Since 1964

Certificate of Analysis

Report Date: 12/17/13 11:10
Received Date: 12/03/13 12:30
Turnaround Time: Normal

Project: A3K1910

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 12/3/2013 with the Chain of Custody document. The samples were received in good condition, at 3.0 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3L03048-01 **Sample ID:** A3K1910-01 **Matrix:** Water
Sampled by: Client **Sampled:** 11/23/13 13:00

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	330		10	ug/l	1	EPA 200.7	12/10/13	12/11/13 13:06	W3L0516	
Iodide, Dissolved	380		250	ug/l	25	EPA 9056A	12/12/13	12/12/13 22:54	W3L0678	

Certificate of Analysis

Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W3L0678 - EPA 9056A

Blank (W3L0678-BLK1) — Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W3L0678-BS1) — Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		38.9		ug/l	40.0	97	85-115		

Duplicate (W3L0678-DUP1) — Source: 3L03045-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	623	661		ug/l				6	20

Duplicate (W3L0678-DUP2) — Source: 3L03048-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	378	336		ug/l				12	20

Duplicate (W3L0678-DUP3) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	658		ug/l				2	20

Matrix Spike (W3L0678-MS1) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	1100		ug/l	500	92	80-120		

Matrix Spike Dup (W3L0678-MSD1) — Source: 3L10011-01 Prepared: 12/12/13 Analyzed: 12/12/13 22:54

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	644	1100		ug/l	500	92	80-120	0.2	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3L0516 - EPA 200.7

Blank (W3L0516-BLK1) — Prepared: 12/10/13 Analyzed: 12/11/13 12:56

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		ND		ug/l					

LCS (W3L0516-BS1) — Prepared: 12/10/13 Analyzed: 12/11/13 12:59

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		965		ug/l	1000	97	85-115		

Matrix Spike (W3L0516-MS1) — Source: 3L10044-04 Prepared: 12/10/13 Analyzed: 12/11/13 13:29

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	37.3	1020		ug/l	1000	98	70-130		

Matrix Spike Dup (W3L0516-MSD1) — Source: 3L10044-04 Prepared: 12/10/13 Analyzed: 12/11/13 13:32

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	37.3	995		ug/l	1000	96	70-130	2	30

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Analytical Laboratory Service - Since 1964

Certificate of Analysis

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

www.weckla.com

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3K1910

3L030480

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Weck Laboratories, Inc.
14859 E Clark Avenue
City of Industry, CA 91745-1396
Phone :(626) 336-2139
Fax: (626) 336-2634
Turnaround (Days): Standard
QC Deliverables: I Std II IV

Sample ID	Samp Desc	Sample Date
A3K1910-01	MPWSP ML-6 Zone #2 (100-110 ft bgs)	11/23/2013 13:00

Matrix: Water

Analysis 500 mL P w/ None

EXT-Iodide		Dissolved
EXT-Miscellaneous	500 mL P w/ HNO3	Lithium

Released By	Date	Received By	Date
	12/2/13	Ontrac	
Ontrac		James Owen 12/3/13	12:30 3.0°C
Released By	Date	Received By	Date

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Sample Receipt Acknowledgement

WORK ORDER: 3L03048 Printed: 12/4/2013 2:24:29PM

Client: BSK Analytical Laboratories Project Manager: Kim G Tu
Project: Metals Project Number: A3K1910

Report To:
BSK Analytical Laboratories
Michael Ng
550 West Locust Avenue
Fresno, CA 93650
Phone: (559) 497-2888
Fax: (559) 485-6935

Invoice To:
BSK Analytical Laboratories
Accounts Payable - Anise Foote
550 West Locust Avenue
Fresno, CA 93650
Phone :(559) 497-2888
Fax: (559) 485-6935

Date Due: **12/17/13 15:00 (10 day TAT)**

Received By: Jaime Gomez Date Received: 12/03/13 12:30
Logged In By: Jaime Gomez Date Logged In: 12/03/13 14:58

Samples Received at:	**3°C**	All containers intact:	**Yes**	Chain of custody completed	**Yes**
Number of Ice chests/packages:		Custody seals presen		Sample labels & COC agree	**Yes**
		Custody seals intact:		Samples preserved properly	**Yes**
Appropriate Sample Containers:		Samples received on ice		Sample volume sufficient	**Yes**
		Custody Seals	**No**	Sufficient holding time for all tests	**Yes**

Analysis	TAT	Expires	Comments
3L03048-01 A3K1910-01 [Water] Sampled 11/23/13 13:00 Pacific			
Iodide water 9056M_Diss	10	12/21/13 13:00	
200.7 Li	10	05/22/14 13:00	

Comments:

Kim Tu 12/4/2013

Authorized Signature Date

Note:
If any of the information included in this sample receipt acknowledgement is incorrect (sample information, analysis, etc), please contact the lab at (626) 336-2139. Thank you.

14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

January 06, 2014

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3K1910
Pace Project No.: 30109476

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: A3K1910
Pace Project No.: 30109476

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: A3K1910
Pace Project No.: 30109476

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30109476001	**A3K1910-01**	Water	11/23/13 13:00	12/12/13 10:50

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: A3K1910
Pace Project No.: 30109476

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30109476001	A3K1910-01	EPA 906.0	SLA	1	PASI-PA

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: A3K1910
Pace Project No.: 30109476

Method: EPA 906.0
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: January 06, 2014

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: A3K1910
Pace Project No.: 30109476

Sample: A3K1910-01 **Lab ID: 30109476001** Collected: 11/23/13 13:00 Received: 12/12/13 10:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-15.7 ± 129 (230)**	pCi/L	12/21/13 12:20	10028-17-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: A3K1910
Pace Project No.: 30109476

QC Batch: RADC/18120 Analysis Method: EPA 906.0
QC Batch Method: EPA 906.0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 30109476001

METHOD BLANK: 671627 Matrix: Water
Associated Lab Samples: 30109476001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	-43.1 ± 116 (211)	pCi/L	12/21/13 09:16	

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3 4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: A3K1910
Pace Project No.: 30109476

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineering Laboratories

SUBCONTRACT ORDER

A3K1910

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): ~~Standard~~
QC Deliverables: I ~~Std~~ III IV

30109476

Sample ID	Samp Desc	Sample Date
A3K1910-01	MPWSP ML-6 Zone #2 (100-110 ft bgs)	11/23/2013 13:00 001

Matrix: Water

Analysis: 250 mL AG w/ 100 mL
EXT-Tritium — Non preserved glass container

Released By: [signature] Date: 12/5/13 — Received By: [signature] Date: 12-6-13 1050

Released By — Date — Received By — Date

Sample Condition Upon Receipt

Pace Analytical

Client Name: BSK Project # 30109476

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 1Z 93Y 921 63 6157 4770

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other Styrofoam, Plastic Bag

Thermometer Used 5 6 7 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature N A Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: RAC 12-12-13

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☒No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☒No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:	WT	
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13. ~~pH<2~~ sample is unpreserved
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☒No	Initial when completed RAC / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☒No ☐N/A	15.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Date: 12/13/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALL-C003 6 SCURF front 2April2012.xls

Pace Analytical

Project Number: 30109426

Client Name: BSK

Item No	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SS, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	VOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.)	Cubitainer (500 ml / 4L)	Zplex	Other	Other
001	ST	—																						

BSK Associates Engineers & Laboratories
Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3I2214 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 9/26/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Michael Ng, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	Accounts Payable
Project #:	Water Quality Analysis	**Project PO#:**	-
Received:	9/26/2013 - 17:52		
Report Due:	10/11/2013		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 4.4

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
DL01	Sample required dilution due to matrix or high concentration of non-target analyte.
HT01	Holding time exceeded. Sample was received past holding time.
HT08	Holding time exceeded. The holding time for this analysis is a recommendation and is not mandated by any state or federal agency.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
SR02	Surrogate recovery was above acceptance limits. No target analytes were detected in the sample.
X01	MS/MSD data not available as parent sample was not reportable
X01a	Sample filtered prior to analysis per client request

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt
Sarp Sekeroglu	Final.rpt

Certificate of Analysis

Sample ID: A3I2214-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Sample

Sample Date - Time: 09/24/13 - 15:00
Matrix: Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**190**	3.0	mg/L	1	A311377	09/27/13	09/27/13	
Bicarbonate as CaCO3	SM 2320 B	**190**	3.0	mg/L	1	A311377	09/27/13	09/27/13	
Carbonate as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A311377	09/27/13	09/27/13	
Hydroxide as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A311377	09/27/13	09/27/13	
Ammonia as N	SM 4500-NH3 G	**0.14**	0.10	mg/L	1	A311778	10/07/13	10/08/13	X01a
Bromide	EPA 300.1	**0.80**	0.10	mg/L	20	A311494	09/30/13	09/30/13	X01
Surrogate: Dichloroacetate	EPA 300.1	106 %	*Acceptable range: 90-115 %*			*Qualifiers - X01*			
Chloride	EPA 300.0	**250**	5.0	mg/L	5	A311412	09/28/13	09/28/13	
Color, Apparent	SM 2120 B	**5.0**	1.0	CU	1	A311368	09/27/13 15:30	09/27/13	HT01
Conductivity @ 25C	SM 2510 B	**1200**	1.0	umhos/cm	1	A311377	09/27/13	09/27/13	
Fluoride	EPA 300.0	**0.10**	0.10	mg/L	1	A311437	09/30/13	09/30/13	
Mass Balance-Anions		**12**		meq/L					
Mass Balance-Dissolved Cations		**11**		meq/L					
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.050	mg/L	1	A311369	09/27/13 15:01	09/27/13	HT01
Nitrate as NO3	EPA 300.0	ND	5.0	mg/L	5	A311412	09/28/13 04:03	09/28/13	DL01, HT01
Nitrite as N	EPA 300.0	ND	0.25	mg/L	5	A311412	09/28/13 04:03	09/28/13	DL01, HT01
Threshold Odor	SM 2150 B	**2.0**	1.0	T.O.N.	1	A311368	09/27/13 10:27	09/27/13	HT08
Orthophosphate as P	SM 4500-P E	**0.14**	0.050	mg/L	5	A311398	09/27/13 15:25	09/27/13	HT01
pH (1)	SM 4500-H+ B	**8.2**		pH Units	1	A311377	09/27/13	09/27/13	
pH Temperature in °C		**21.7**							
Phosphorus - Dissolved (1)	EPA 365.4	**0.11**	0.10	mg/L	1	A311800	10/07/13	10/09/13	
Sulfate as SO4	EPA 300.0	**24**	10	mg/L	5	A311412	09/28/13	09/28/13	
Total Dissolved Solids	SM 2540C	**630**	5.0	mg/L	1	A311537	10/01/13	10/04/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	ND	1.0	mg/L	1	A311800	10/07/13	10/09/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A311810	10/07/13	10/07/13	
Turbidity	SM 2130 B	**0.67**	0.10	NTU	1	A311368	09/27/13 15:30	09/27/13	HT01

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	ND	0.050	mg/L	1	A311444	09/30/13	10/01/13	
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A311444	09/30/13	10/08/13	
Barium - Dissolved (1)	EPA 200.7	**0.11**	0.050	mg/L	1	A311497	10/01/13	10/04/13	
Boron - Dissolved (1)	EPA 200.7	ND	0.10	mg/L	1	A311497	10/01/13	10/04/13	
Calcium	EPA 200.7	**52**	0.10	mg/L	1	A311444	09/30/13	10/01/13	
Calcium - Dissolved (1)	EPA 200.7	**50**	0.10	mg/L	1	A311497	10/01/13	10/04/13	
Copper	EPA 200.8	ND	5.0	ug/L	1	A311444	09/30/13	10/08/13	
Hardness as CaCO3	SM 2340B	**240**	0.41	mg/L					
Iron	EPA 200.7	**0.20**	0.030	mg/L	1	A311444	09/30/13	10/01/13	
Iron - Dissolved (1)	EPA 200.7	ND	0.030	mg/L	1	A311497	10/01/13	10/04/13	
Magnesium	EPA 200.7	**28**	0.10	mg/L	1	A311444	09/30/13	10/01/13	

Certificate of Analysis

Sample ID: A3I2214-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Sample

Sample Date - Time: 09/24/13 - 15:00
Matrix: Water
Sample Type: Grab

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Magnesium - Dissolved (1)	EPA 200.7	**27**	0.10	mg/L	1	A311497	10/01/13	10/04/13	
Manganese	EPA 200.7	**0.19**	0.010	mg/L	1	A311444	09/30/13	10/01/13	
Manganese - Dissolved (1)	EPA 200.7	**0.18**	0.010	mg/L	1	A311497	10/01/13	10/04/13	
Potassium - Dissolved (1)	EPA 200.7	**6.0**	2.0	mg/L	1	A311497	10/01/13	10/04/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**30**	0.20	mg/L	1	A311497	10/01/13	10/04/13	
Sodium - Dissolved (1)	EPA 200.7	**140**	1.0	mg/L	1	A311497	10/01/13	10/04/13	
Strontium - Dissolved (1)	EPA 200.8	**400**	5.0	ug/L	5	A311497	10/01/13	10/08/13	
Zinc	EPA 200.7	ND	0.050	mg/L	1	A311444	09/30/13	10/01/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A311476	09/30/13	10/02/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A311476	09/30/13	10/02/13	
Surrogate: TCMX	EPA 504.1	150 %	*Acceptable range: 70-130 %*			*Qualifiers -*	*SR02*		
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A311476	09/30/13	10/02/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A311476	09/30/13	10/02/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A311476	09/30/13	10/02/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A311476	09/30/13	10/02/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A311476	09/30/13	10/02/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A311476	09/30/13	10/02/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A311476	09/30/13	10/02/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A311476	09/30/13	10/02/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A311476	09/30/13	10/02/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A311476	09/30/13	10/02/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A311476	09/30/13	10/02/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A311476	09/30/13	10/02/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A311476	09/30/13	10/02/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A311476	09/30/13	10/02/13	
Surrogate: TCMX	EPA 505	150 %	*Acceptable range: 70-130 %*			*Qualifiers -*	*SR02*		
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A311419	09/29/13	10/04/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A311419	09/29/13	10/04/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A311419	09/29/13	10/04/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A311419	09/29/13	10/04/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A311419	09/29/13	10/04/13	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A311419	09/29/13	10/04/13	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A311419	09/29/13	10/04/13	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A311419	09/29/13	10/04/13	

Certificate of Analysis

Sample ID: A3I2214-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Sample

Sample Date - Time: 09/24/13 - 15:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Picloram	EPA 515.3	ND	1.0	ug/L	1	A311419	09/29/13	10/04/13	
Surrogate: DCPAA	EPA 515.3	123 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A311594	10/02/13	10/03/13	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A311594	10/02/13	10/03/13	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A311594	10/02/13	10/03/13	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A311594	10/02/13	10/03/13	
Acetone	EPA 524.2	ND	10	ug/L	1	A311594	10/02/13	10/03/13	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	

Certificate of Analysis

Sample ID: A3I2214-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Sample

Sample Date - Time: 09/24/13 - 15:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A311594	10/02/13	10/03/13	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A311594	10/02/13	10/03/13	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A311594	10/02/13	10/03/13	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A311594	10/02/13	10/03/13	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	93 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	98 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A311693	10/03/13	10/04/13	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A311693	10/03/13	10/04/13	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A311693	10/03/13	10/04/13	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A311693	10/03/13	10/04/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A311693	10/03/13	10/04/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A311693	10/03/13	10/04/13	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A311693	10/03/13	10/04/13	

Certificate of Analysis

Sample ID: A3I2214-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Sample

Sample Date - Time: 09/24/13 - 15:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Semi-Volatile Organics by GC-MS									
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A311693	10/03/13	10/04/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A311693	10/03/13	10/04/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A311693	10/03/13	10/04/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A311693	10/03/13	10/04/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A311693	10/03/13	10/04/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A311693	10/03/13	10/04/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A311693	10/03/13	10/04/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A311693	10/03/13	10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	106 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A311765	10/06/13	10/11/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A311765	10/06/13	10/11/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A311765	10/06/13	10/11/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A311765	10/06/13	10/11/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A311765	10/06/13	10/11/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A311765	10/06/13	10/11/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A311765	10/06/13	10/11/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A311765	10/06/13	10/11/13	BS1.0
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A311409	09/27/13	09/28/13	
Surrogate: AMPA	EPA 547	110 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A311487	09/30/13	10/02/13	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.0	ug/L	1	A311486	09/30/13	10/03/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A311412										Prepared: 9/28/2013	
Prep Method: Method Specific Preparation										Analyst: AJT	
Blank (A311412-BLK1)											
Chloride	ND	1.0	mg/L							09/28/13	
Nitrate as NO3	ND	1.0	mg/L							09/28/13	
Nitrite as N	ND	0.050	mg/L							09/28/13	
Sulfate as SO4	ND	2.0	mg/L							09/28/13	
Blank Spike (A311412-BS1)											
Chloride	51	1.0	mg/L	50		101	90-110			09/28/13	
Nitrate as NO3	50	1.0	mg/L	50		101	90-110			09/28/13	
Nitrite as N	0.48	0.050	mg/L	0.50		97	90-110			09/28/13	
Sulfate as SO4	51	2.0	mg/L	50		102	90-110			09/28/13	
Blank Spike Dup (A311412-BSD1)											
Chloride	50	1.0	mg/L	50		100	90-110	1	20	09/28/13	
Nitrate as NO3	50	1.0	mg/L	50		100	90-110	1	20	09/28/13	
Nitrite as N	0.48	0.050	mg/L	0.50		95	90-110	1	20	09/28/13	
Sulfate as SO4	50	2.0	mg/L	50		100	90-110	2	20	09/28/13	
Matrix Spike (A311412-MS1), Source: A3I2291-01											
Chloride	160	2.0	mg/L	100	60	97	80-120			09/28/13	
Nitrate as NO3	110	2.0	mg/L	100	9.0	99	80-120			09/28/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	104	80-120			09/28/13	
Sulfate as SO4	180	4.0	mg/L	100	81	95	80-120			09/28/13	
Matrix Spike Dup (A311412-MSD1), Source: A3I2291-01											
Chloride	160	2.0	mg/L	100	60	97	80-120	0	20	09/28/13	
Nitrate as NO3	110	2.0	mg/L	100	9.0	99	80-120	0	20	09/28/13	
Nitrite as N	1.1	0.10	mg/L	1.0	ND	106	80-120	1	20	09/28/13	
Sulfate as SO4	180	4.0	mg/L	100	81	97	80-120	1	20	09/28/13	
EPA 300.0 - Quality Control											
Batch: A311437										Prepared: 9/30/2013	
Prep Method: Method Specific Preparation										Analyst: n.a.	
Blank (A311437-BLK1)											
Fluoride	ND	0.10	mg/L							09/30/13	
Blank Spike (A311437-BS1)											
Fluoride	0.50	0.10	mg/L	0.50		100	90-110			09/30/13	
Blank Spike Dup (A311437-BSD1)											
Fluoride	0.48	0.10	mg/L	0.50		97	90-110	3	10	09/30/13	
Matrix Spike (A311437-MS1), Source: A3I2008-01											
Fluoride	1.6	0.20	mg/L	1.0	0.53	103	80-120			09/30/13	
Matrix Spike (A311437-MS2), Source: A3I2114-01											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A311437										Prepared: 9/30/2013	
Prep Method: Method Specific Preparation										Analyst: n.a.	
Matrix Spike (A311437-MS2), Source: A3I2114-01											
Fluoride	1.1	0.20	mg/L	1.0	ND	100	80-120			09/30/13	
Matrix Spike Dup (A311437-MSD1), Source: A3I2008-01											
Fluoride	1.6	0.20	mg/L	1.0	0.53	106	80-120	2	10	09/30/13	
Matrix Spike Dup (A311437-MSD2), Source: A3I2114-01											
Fluoride	1.1	0.20	mg/L	1.0	ND	101	80-120	1	10	09/30/13	
EPA 300.1 - Quality Control											
Batch: A311494										Prepared: 9/30/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A311494-BLK1)											
Bromide	ND	0.0050	mg/L							09/30/13	
Surrogate: Dichloroacetate	*0.506*			*0.50*		*101*	*90-115*			09/30/13	
Blank Spike (A311494-BS1)											
Bromide	0.20	0.0050	mg/L	0.20		98	85-115			09/30/13	
Surrogate: Dichloroacetate	*0.521*			*0.50*		*104*	*90-115*			09/30/13	
Blank Spike Dup (A311494-BSD1)											
Bromide	0.20	0.0050	mg/L	0.20		98	85-115	1	10	09/30/13	
Surrogate: Dichloroacetate	*0.522*			*0.50*		*104*	*90-115*			09/30/13	
EPA 351.2 - Quality Control											
Batch: A311800										Prepared: 10/7/2013	
Prep Method: Digestion										Analyst: LJL	
Blank (A311800-BLK1)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							10/09/13	
Blank Spike (A311800-BS1)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		104	90-110			10/09/13	
Blank Spike Dup (A311800-BSD1)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		104	90-110	1	10	10/09/13	
Matrix Spike (A311800-MS1), Source: A3I2260-01											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	103	90-110			10/09/13	
Matrix Spike Dup (A311800-MSD1), Source: A3I2260-01											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	103	90-110	0	10	10/09/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 365.4 - Quality Control											
Batch: A311800										Prepared: 10/7/2013	
Prep Method: Digestion										Analyst: LJL	
Blank (A311800-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							10/09/13	
Blank Spike (A311800-BS1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		102	90-110			10/09/13	
Blank Spike Dup (A311800-BSD1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		102	90-110	0	10	10/09/13	
Matrix Spike (A311800-MS1), Source: A3I2260-01											
Phosphorus - Dissolved (1)	9.9	0.10	mg/L	10	ND	98	90-110			10/09/13	
Matrix Spike Dup (A311800-MSD1), Source: A3I2260-01											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10	ND	93	90-110	5	10	10/09/13	
SM 2120 B - Quality Control											
Batch: A311368										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311368-BLK1)											
Color, Apparent	ND	1.0	CU							09/27/13	
Duplicate (A311368-DUP1), Source: A3I2216-01											
Color, Apparent	5.0	1.0	CU		5.0			0	20	09/27/13	
SM 2130 B - Quality Control											
Batch: A311368										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311368-BLK1)											
Turbidity	ND	0.10	NTU							09/27/13	
Duplicate (A311368-DUP1), Source: A3I2216-01											
Turbidity	2.6	0.10	NTU		2.7			4	20	09/27/13	
SM 2150 B - Quality Control											
Batch: A311368										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311368-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							09/27/13	
Duplicate (A311368-DUP1), Source: A3I2216-01											
Threshold Odor	ND	1.0	T.O.N.		ND				20	09/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2320 B - Quality Control											
Batch: A311377										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A311377-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							09/27/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							09/27/13	
Carbonate as CaCO3	ND	3.0	mg/L							09/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L							09/27/13	
Blank Spike (A311377-BS1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		101	80-120			09/27/13	
Blank Spike Dup (A311377-BSD1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		100	80-120	1	20	09/27/13	
Duplicate (A311377-DUP1), Source: A3I2176-02											
Alkalinity as CaCO3	74	3.0	mg/L		74			0	10	09/27/13	
Bicarbonate as CaCO3	73	3.0	mg/L		73			0	10	09/27/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	09/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	09/27/13	
Duplicate (A311377-DUP2), Source: A3I2260-01											
Alkalinity as CaCO3	140	3.0	mg/L		150			0	10	09/27/13	
Bicarbonate as CaCO3	140	3.0	mg/L		150			0	10	09/27/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	09/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	09/27/13	
SM 2510 B - Quality Control											
Batch: A311377										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A311377-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							09/27/13	
Duplicate (A311377-DUP1), Source: A3I2176-02											
Conductivity @ 25C	580	1.0	umhos/cm		580			0	20	09/27/13	
Duplicate (A311377-DUP2), Source: A3I2260-01											
Conductivity @ 25C	43000	1.0	umhos/cm		43000			0	20	09/27/13	
SM 2540C - Quality Control											
Batch: A311537										Prepared: 10/1/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A311537-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							10/04/13	
Blank Spike (A311537-BS1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2540C - Quality Control											
Batch: A311537										Prepared: 10/1/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank Spike (A311537-BS1)											
Total Dissolved Solids	990	5.0	mg/L	1000		99	70-130			10/04/13	
Duplicate (A311537-DUP1), Source: A3I2214-01											
Total Dissolved Solids	620	5.0	mg/L		630			1	20	10/04/13	
SM 4500-H+ B - Quality Control											
Batch: A311377										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A311377-DUP1), Source: A3I2176-02											
pH (1)	8.3		pH Units		8.3			0	20	09/27/13	
Duplicate (A311377-DUP2), Source: A3I2260-01											
pH (1)	7.7		pH Units		7.7			0	20	09/27/13	
SM 4500-NH3 G - Quality Control											
Batch: A311778										Prepared: 10/7/2013	
Prep Method: Ammonia Distillation										Analyst: LJL	
Blank (A311778-BLK1)											
Ammonia as N	ND	0.10	mg/L							10/08/13	
Blank (A311778-BLK2)											
Ammonia as N	ND	0.10	mg/L							10/08/13	
Blank Spike (A311778-BS1)											
Ammonia as N	9.8	0.10	mg/L	10		98	80-120			10/08/13	
Blank Spike Dup (A311778-BSD1)											
Ammonia as N	9.8	0.10	mg/L	10		98	80-120	0	20	10/08/13	
Matrix Spike (A311778-MS1), Source: A3I2168-05											
Ammonia as N	10	0.10	mg/L	10	0.34	97	80-120			10/08/13	
Matrix Spike (A311778-MS2), Source: A3I2246-02											
Ammonia as N	10	0.10	mg/L	10	ND	100	80-120			10/08/13	
Matrix Spike Dup (A311778-MSD1), Source: A3I2168-05											
Ammonia as N	10	0.10	mg/L	10	0.34	96	80-120	1	20	10/08/13	
Matrix Spike Dup (A311778-MSD2), Source: A3I2246-02											
Ammonia as N	9.3	0.10	mg/L	10	ND	92	80-120	8	20	10/08/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NO3 F - Quality Control											
Batch: A311810										Prepared: 10/7/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A311810-BLK2)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							10/07/13	
Blank Spike (A311810-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		102	80-120			10/07/13	
Blank Spike Dup (A311810-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.8	0.10	mg/L	10		98	80-120	4	20	10/07/13	
Matrix Spike (A311810-MS1), Source: A3I2132-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10	0.87	94	80-120			10/07/13	
Matrix Spike (A311810-MS2), Source: A3I2260-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10	ND	105	80-120			10/07/13	
Matrix Spike Dup (A311810-MSD1), Source: A3I2132-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10	0.87	95	80-120	1	20	10/07/13	
Matrix Spike Dup (A311810-MSD2), Source: A3I2260-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	11	0.10	mg/L	10	ND	105	80-120	1	20	10/07/13	
SM 4500-P E - Quality Control											
Batch: A311398										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A311398-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							09/27/13	
Blank Spike (A311398-BS1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		101	90-110			09/27/13	
Blank Spike Dup (A311398-BSD1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		101	90-110	0	20	09/27/13	
Matrix Spike (A311398-MS1), Source: A3I2214-01											
Orthophosphate as P	1.4	0.050	mg/L	1.2	0.14	98	80-120			09/27/13	
Matrix Spike Dup (A311398-MSD1), Source: A3I2214-01											
Orthophosphate as P	1.4	0.050	mg/L	1.2	0.14	99	80-120	1	20	09/27/13	
SM 5540 C - Quality Control											
Batch: A311369										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311369-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							09/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 5540 C - Quality Control											
Batch: A311369										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank Spike (A311369-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.94	0.050	mg/L	1.0		94	80-120			09/27/13	
Blank Spike Dup (A311369-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.96	0.050	mg/L	1.0		96	80-120	1	20	09/27/13	
Matrix Spike (A311369-MS1), Source: A3I2214-01											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	102	80-120			09/27/13	
Matrix Spike Dup (A311369-MSD1), Source: A3I2214-01											
MBAS, Calculated as LAS, mol wt 340	1.1	0.050	mg/L	1.0	ND	104	80-120	2	20	09/27/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A311444										Prepared: 9/30/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A311444-BLK2)											
Aluminum	ND	0.050	mg/L							10/01/13	
Calcium	ND	0.10	mg/L							10/01/13	
Iron	ND	0.030	mg/L							10/01/13	
Magnesium	ND	0.10	mg/L							10/01/13	
Manganese	ND	0.010	mg/L							10/01/13	
Zinc	ND	0.050	mg/L							10/01/13	
Blank Spike (A311444-BS2)											
Aluminum	0.20	0.050	mg/L	0.20		98	85-115			10/01/13	
Calcium	10	0.10	mg/L	10		101	85-115			10/01/13	
Iron	2.1	0.030	mg/L	2.0		103	85-115			10/01/13	
Magnesium	10	0.10	mg/L	10		100	85-115			10/01/13	
Manganese	0.20	0.010	mg/L	0.20		101	85-115			10/01/13	
Zinc	0.21	0.050	mg/L	0.20		105	85-115			10/01/13	
Blank Spike Dup (A311444-BSD2)											
Aluminum	0.20	0.050	mg/L	0.20		99	85-115	1	20	10/01/13	
Calcium	10	0.10	mg/L	10		102	85-115	1	20	10/01/13	
Iron	2.1	0.030	mg/L	2.0		103	85-115	0	20	10/01/13	
Magnesium	10	0.10	mg/L	10		100	85-115	0	20	10/01/13	
Manganese	0.20	0.010	mg/L	0.20		101	85-115	0	20	10/01/13	
Zinc	0.21	0.050	mg/L	0.20		103	85-115	1	20	10/01/13	
Matrix Spike (A311444-MS3), Source: A3I2176-02											
Aluminum	0.24	0.050	mg/L	0.20	ND	121	70-130			10/01/13	
Calcium	28	0.10	mg/L	10	18	103	70-130			10/01/13	
Iron	2.1	0.030	mg/L	2.0	0.11	101	70-130			10/01/13	
Magnesium	24	0.10	mg/L	10	14	102	70-130			10/01/13	
Manganese	0.21	0.010	mg/L	0.20	0.014	99	70-130			10/01/13	
Zinc	0.21	0.050	mg/L	0.20	ND	103	70-130			10/01/13	
Matrix Spike (A311444-MS4), Source: A3I2215-01											
Aluminum	0.19	0.050	mg/L	0.20	ND	94	70-130			10/01/13	
Calcium	41	0.10	mg/L	10	31	107	70-130			10/01/13	
Iron	2.0	0.030	mg/L	2.0	ND	102	70-130			10/01/13	
Magnesium	24	0.10	mg/L	10	14	102	70-130			10/01/13	
Manganese	0.20	0.010	mg/L	0.20	ND	100	70-130			10/01/13	
Zinc	0.27	0.050	mg/L	0.20	0.068	102	70-130			10/01/13	
Matrix Spike Dup (A311444-MSD3), Source: A3I2176-02											
Aluminum	0.24	0.050	mg/L	0.20	ND	118	70-130	3	20	10/01/13	
Calcium	27	0.10	mg/L	10	18	95	70-130	3	20	10/01/13	
Iron	2.1	0.030	mg/L	2.0	0.11	100	70-130	1	20	10/01/13	
Magnesium	23	0.10	mg/L	10	14	96	70-130	2	20	10/01/13	
Manganese	0.21	0.010	mg/L	0.20	0.014	98	70-130	1	20	10/01/13	
Zinc	0.20	0.050	mg/L	0.20	ND	101	70-130	2	20	10/01/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A311444										Prepared: 9/30/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Matrix Spike Dup (A311444-MSD4), Source: A3I2215-01											
Aluminum	0.19	0.050	mg/L	0.20	ND	94	70-130	0	20	10/01/13	
Calcium	41	0.10	mg/L	10	31	105	70-130	1	20	10/01/13	
Iron	2.0	0.030	mg/L	2.0	ND	102	70-130	0	20	10/01/13	
Magnesium	24	0.10	mg/L	10	14	102	70-130	0	20	10/01/13	
Manganese	0.20	0.010	mg/L	0.20	ND	99	70-130	1	20	10/01/13	
Zinc	0.27	0.050	mg/L	0.20	0.068	102	70-130	1	20	10/01/13	
EPA 200.7 - Quality Control											
Batch: A311497										Prepared: 10/1/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A311497-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							10/04/13	
Boron - Dissolved (1)	ND	0.10	mg/L							10/04/13	
Calcium - Dissolved (1)	ND	0.10	mg/L							10/04/13	
Iron - Dissolved (1)	ND	0.030	mg/L							10/04/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							10/04/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							10/04/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							10/04/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							10/04/13	
Sodium - Dissolved (1)	ND	1.0	mg/L							10/04/13	
Blank Spike (A311497-BS2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		99	85-115			10/04/13	
Boron - Dissolved (1)	0.57	0.10	mg/L	0.60		95	85-115			10/04/13	
Calcium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115			10/04/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		99	85-115			10/04/13	
Magnesium - Dissolved (1)	9.6	0.10	mg/L	10		96	85-115			10/04/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20		97	85-115			10/04/13	
Potassium - Dissolved (1)	9.7	2.0	mg/L	10		97	85-115			10/04/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		102	85-115			10/04/13	
Sodium - Dissolved (1)	9.8	1.0	mg/L	10		98	85-115			10/04/13	
Blank Spike Dup (A311497-BSD2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115	2	20	10/04/13	
Boron - Dissolved (1)	0.58	0.10	mg/L	0.60		97	85-115	2	20	10/04/13	
Calcium - Dissolved (1)	10	0.10	mg/L	10		100	85-115	2	20	10/04/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		100	85-115	1	20	10/04/13	
Magnesium - Dissolved (1)	9.7	0.10	mg/L	10		97	85-115	1	20	10/04/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		98	85-115	1	20	10/04/13	
Potassium - Dissolved (1)	9.9	2.0	mg/L	10		99	85-115	2	20	10/04/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		102	85-115	1	20	10/04/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		100	85-115	2	20	10/04/13	
Matrix Spike (A311497-MS2), Source: A3I2260-01											
Barium - Dissolved (1)	0.25	0.50	mg/L	0.20	ND	123	70-130			10/04/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A311497										Prepared: 10/1/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Matrix Spike (A311497-MS2), Source: A3I2260-01											
Boron - Dissolved (1)	4.9	1.0	mg/L	0.60	4.3	100	70-130			10/04/13	
Calcium - Dissolved (1)	410	1.0	mg/L	10	400	184	70-130			10/04/13	MS1.0 ***High***
Iron - Dissolved (1)	2.0	0.30	mg/L	2.0	ND	99	70-130			10/04/13	
Magnesium - Dissolved (1)	1200	1.0	mg/L	10	1200	340	70-130			10/04/13	MS1.0 ***High***
Manganese - Dissolved (1)	1.9	0.10	mg/L	0.20	1.7	114	70-130			10/04/13	
Potassium - Dissolved (1)	390	20	mg/L	10	380	171	70-130			10/04/13	MS1.0 ***High***
Silica (SiO2) - Dissolved (1)	27	2.0	mg/L	2.1	25	128	70-130			10/04/13	
Matrix Spike (A311497-MS3), Source: A3I2260-01											
Sodium - Dissolved (1)	10000	100	mg/L	10	10000	NR	70-130			10/05/13	MS1.0 ***High***
Matrix Spike Dup (A311497-MSD2), Source: A3I2260-01											
Barium - Dissolved (1)	0.24	0.50	mg/L	0.20	ND	122	70-130	1	20	10/04/13	
Boron - Dissolved (1)	4.9	1.0	mg/L	0.60	4.3	108	70-130	1	20	10/04/13	
Calcium - Dissolved (1)	410	1.0	mg/L	10	400	186	70-130	0	20	10/04/13	MS1.0 ***High***
Iron - Dissolved (1)	2.0	0.30	mg/L	2.0	ND	101	70-130	2	20	10/04/13	
Magnesium - Dissolved (1)	1200	1.0	mg/L	10	1200	366	70-130	0	20	10/04/13	MS1.0 ***High***
Manganese - Dissolved (1)	1.9	0.10	mg/L	0.20	1.7	119	70-130	1	20	10/04/13	
Potassium - Dissolved (1)	400	20	mg/L	10	380	185	70-130	0	20	10/04/13	MS1.0 ***High***
Silica (SiO2) - Dissolved (1)	28	2.0	mg/L	2.1	25	141	70-130	1	20	10/04/13	MS1.0 ***High***
Matrix Spike Dup (A311497-MSD3), Source: A3I2260-01											
Sodium - Dissolved (1)	11000	100	mg/L	10	10000	NR	70-130	1	20	10/05/13	MS1.0 ***High***
EPA 200.8 - Quality Control											
Batch: A311444										Prepared: 9/30/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Blank (A311444-BLK1)											
Arsenic	ND	2.0	ug/L							10/08/13	
Copper	ND	5.0	ug/L							10/08/13	
Blank Spike (A311444-BS1)											
Arsenic	200	2.0	ug/L	200		101	85-115			10/08/13	
Copper	200	5.0	ug/L	200		101	85-115			10/08/13	
Blank Spike Dup (A311444-BSD1)											
Arsenic	210	2.0	ug/L	200		106	85-115	5	20	10/08/13	
Copper	200	5.0	ug/L	200		102	85-115	2	20	10/08/13	
Matrix Spike (A311444-MS1), Source: A3I2176-02											
Arsenic	200	2.0	ug/L	200	3.9	100	70-130			10/08/13	
Copper	200	5.0	ug/L	200	ND	100	70-130			10/08/13	
Matrix Spike (A311444-MS2), Source: A3I2215-01											
Arsenic	200	2.0	ug/L	200	ND	102	70-130			10/08/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A311444										Prepared: 9/30/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Matrix Spike (A311444-MS2), Source: A3I2215-01											
Copper	190	5.0	ug/L	200	ND	96	70-130			10/08/13	
Matrix Spike Dup (A311444-MSD1), Source: A3I2176-02											
Arsenic	200	2.0	ug/L	200	3.9	100	70-130	0	20	10/08/13	
Copper	200	5.0	ug/L	200	ND	98	70-130	2	20	10/08/13	
Matrix Spike Dup (A311444-MSD2), Source: A3I2215-01											
Arsenic	200	2.0	ug/L	200	ND	102	70-130	0	20	10/08/13	
Copper	190	5.0	ug/L	200	ND	97	70-130	1	20	10/08/13	
EPA 200.8 - Quality Control											
Batch: A311497										Prepared: 10/1/2013	
Prep Method: Filtration - Metals										Analyst: MAS	
Blank (A311497-BLK1)											
Strontium - Dissolved (1)	ND	1.0	ug/L							10/08/13	
Blank Spike (A311497-BS1)											
Strontium - Dissolved (1)	190	1.0	ug/L	200		93	85-115			10/08/13	
Blank Spike Dup (A311497-BSD1)											
Strontium - Dissolved (1)	190	1.0	ug/L	200		96	85-115	3	20	10/08/13	
Matrix Spike (A311497-MS1), Source: A3I2260-01											
Strontium - Dissolved (1)	8700	10	ug/L	200	7400	673	70-130			10/08/13	MS1.0 ***High***
Matrix Spike Dup (A311497-MSD1), Source: A3I2260-01											
Strontium - Dissolved (1)	8200	10	ug/L	200	7400	401	70-130	6	20	10/08/13	MS1.0 ***High***

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A311476										Prepared: 9/30/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A311476-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							10/02/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							10/02/13	
Surrogate: TCMX	*1.6*			*1.5*		*107*	*70-130*			10/02/13	
Blank Spike (A311476-BS1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		104	70-130			10/02/13	
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20		108	70-130			10/02/13	
Surrogate: TCMX	*1.5*			*1.5*		*102*	*70-130*			10/02/13	
Blank Spike Dup (A311476-BSD1)											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20		101	70-130	2	20	10/02/13	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20		104	70-130	4	20	10/02/13	
Surrogate: TCMX	*1.4*			*1.5*		*91*	*70-130*			10/02/13	
Matrix Spike (A311476-MS1), Source: A3I2242-01											
Dibromochloropropane (DBCP)	0.19	0.010	ug/L	0.20	ND	93	65-135			10/02/13	
Ethylene Dibromide (EDB)	0.19	0.020	ug/L	0.20	ND	96	65-135			10/02/13	
Surrogate: TCMX	*1.5*			*1.5*		*97*	*70-130*			10/02/13	
Matrix Spike Dup (A311476-MSD1), Source: A3I2242-01											
Dibromochloropropane (DBCP)	0.19	0.010	ug/L	0.20	ND	95	65-135	0	20	10/02/13	
Ethylene Dibromide (EDB)	0.18	0.020	ug/L	0.20	ND	94	65-135	4	20	10/02/13	
Surrogate: TCMX	*1.4*			*1.5*		*92*	*70-130*			10/02/13	
EPA 505 - Quality Control											
Batch: A311476										Prepared: 9/30/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A311476-BLK1)											
Aldrin	ND	0.075	ug/L							10/02/13	
Chlordane	ND	0.10	ug/L							10/02/13	
Chlorothalonil	ND	5.0	ug/L							10/02/13	
Dieldrin	ND	0.020	ug/L							10/02/13	
Endrin	ND	0.10	ug/L							10/02/13	
Heptachlor	ND	0.010	ug/L							10/02/13	
Heptachlor Epoxide	ND	0.010	ug/L							10/02/13	
Hexachlorobenzene	ND	0.50	ug/L							10/02/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							10/02/13	
Lindane	ND	0.20	ug/L							10/02/13	
Methoxychlor	ND	10	ug/L							10/02/13	
PCB Aroclor Screen	ND	0.50	ug/L							10/02/13	
Toxaphene	ND	1.0	ug/L							10/02/13	
Trifluralin	ND	1.0	ug/L							10/02/13	
Surrogate: TCMX	*1.6*			*1.5*		*107*	*70-130*			10/02/13	
Blank Spike (A311476-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A311476										Prepared: 9/30/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A311476-BS1)											
Aldrin	1.2	0.075	ug/L	1.0		119	70-130			10/02/13	
Chlorothalonil	11	5.0	ug/L	10		114	70-130			10/02/13	
Dieldrin	0.45	0.020	ug/L	0.40		112	70-130			10/02/13	
Endrin	0.21	0.10	ug/L	0.20		106	70-130			10/02/13	
Heptachlor	0.22	0.010	ug/L	0.20		112	70-130			10/02/13	
Heptachlor Epoxide	0.22	0.010	ug/L	0.20		110	70-130			10/02/13	
Hexachlorobenzene	2.4	0.50	ug/L	2.0		118	70-130			10/02/13	
Hexachlorocyclopentadiene	2.6	1.0	ug/L	2.0		128	70-130			10/02/13	
Lindane	0.46	0.20	ug/L	0.40		116	70-130			10/02/13	
Methoxychlor	2.1	10	ug/L	2.0		104	70-130			10/02/13	
Trifluralin	2.5	1.0	ug/L	2.0		125	70-130			10/02/13	
Surrogate: TCMX	*1.5*			*1.5*		*102*	*70-130*			10/02/13	
Blank Spike Dup (A311476-BSD1)											
Aldrin	1.1	0.075	ug/L	1.0		111	70-130	7	20	10/02/13	
Chlorothalonil	11	5.0	ug/L	10		111	70-130	3	20	10/02/13	
Dieldrin	0.43	0.020	ug/L	0.40		107	70-130	4	20	10/02/13	
Endrin	0.20	0.10	ug/L	0.20		102	70-130	4	20	10/02/13	
Heptachlor	0.21	0.010	ug/L	0.20		107	70-130	5	20	10/02/13	
Heptachlor Epoxide	0.22	0.010	ug/L	0.20		108	70-130	2	20	10/02/13	
Hexachlorobenzene	2.3	0.50	ug/L	2.0		113	70-130	5	20	10/02/13	
Hexachlorocyclopentadiene	2.4	1.0	ug/L	2.0		122	70-130	5	20	10/02/13	
Lindane	0.44	0.20	ug/L	0.40		111	70-130	4	20	10/02/13	
Methoxychlor	2.1	10	ug/L	2.0		103	70-130	1	20	10/02/13	
Trifluralin	2.4	1.0	ug/L	2.0		119	70-130	5	20	10/02/13	
Surrogate: TCMX	*1.4*			*1.5*		*91*	*70-130*			10/02/13	
Matrix Spike (A311476-MS1), Source: A3I2242-01											
Aldrin	0.99	0.075	ug/L	1.0	ND	99	65-135			10/02/13	
Chlorothalonil	10	5.0	ug/L	10	ND	104	65-135			10/02/13	
Dieldrin	0.40	0.020	ug/L	0.40	ND	101	65-135			10/02/13	
Endrin	0.19	0.10	ug/L	0.20	ND	96	65-135			10/02/13	
Heptachlor	0.20	0.010	ug/L	0.20	ND	100	65-135			10/02/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	100	65-135			10/02/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	106	65-135			10/02/13	
Hexachlorocyclopentadiene	2.1	1.0	ug/L	2.0	ND	106	65-135			10/02/13	
Lindane	0.42	0.20	ug/L	0.40	ND	105	65-135			10/02/13	
Methoxychlor	1.9	10	ug/L	2.0	ND	97	65-135			10/02/13	
Trifluralin	2.2	1.0	ug/L	2.0	ND	110	65-135			10/02/13	
Surrogate: TCMX	*1.5*			*1.5*		*97*	*70-130*			10/02/13	
Matrix Spike Dup (A311476-MSD1), Source: A3I2242-01											
Aldrin	0.94	0.075	ug/L	0.99	ND	95	65-135	6	20	10/02/13	
Chlorothalonil	10	5.0	ug/L	9.9	ND	105	65-135	1	20	10/02/13	
Dieldrin	0.41	0.020	ug/L	0.40	ND	103	65-135	1	20	10/02/13	
Endrin	0.19	0.10	ug/L	0.20	ND	98	65-135	1	20	10/02/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A311476										Prepared: 9/30/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A311476-MSD1), Source: A3I2242-01											
Heptachlor	0.19	0.010	ug/L	0.20	ND	98	65-135	4	20	10/02/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	102	65-135	1	20	10/02/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	105	65-135	2	20	10/02/13	
Hexachlorocyclopentadiene	1.9	1.0	ug/L	2.0	ND	97	65-135	10	20	10/02/13	
Lindane	0.42	0.20	ug/L	0.40	ND	106	65-135	0	20	10/02/13	
Methoxychlor	2.0	10	ug/L	2.0	ND	101	65-135	3	20	10/02/13	
Trifluralin	2.2	1.0	ug/L	2.0	ND	111	65-135	0	20	10/02/13	
Surrogate: TCMX	*1.4*			*1.5*		*92*	*70-130*			10/02/13	
EPA 515.3 - Quality Control											
Batch: A311419										Prepared: 9/29/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A311419-BLK1)											
2,4,5-T	ND	1.0	ug/L							10/04/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							10/04/13	
2,4-D	ND	10	ug/L							10/04/13	
Bentazon	ND	2.0	ug/L							10/04/13	
Dalapon	ND	10	ug/L							10/04/13	
Dicamba	ND	1.5	ug/L							10/04/13	
Dinoseb	ND	2.0	ug/L							10/04/13	
Pentachlorophenol	ND	0.20	ug/L							10/04/13	
Picloram	ND	1.0	ug/L							10/04/13	
Surrogate: DCPAA	*71*			*58*		*123*	*70-130*			10/04/13	
Blank Spike (A311419-BS1)											
2,4,5-T	4.1	1.0	ug/L	4.0		102	70-130			10/04/13	
2,4,5-TP (Silvex)	4.2	1.0	ug/L	4.0		106	70-130			10/04/13	
2,4-D	47	10	ug/L	40		118	70-130			10/04/13	
Bentazon	9.8	2.0	ug/L	8.0		122	70-130			10/04/13	
Dalapon	37	10	ug/L	40		92	70-130			10/04/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130			10/04/13	
Dinoseb	8.1	2.0	ug/L	8.0		101	70-130			10/04/13	
Pentachlorophenol	0.68	0.20	ug/L	0.80		85	70-130			10/04/13	
Picloram	3.3	1.0	ug/L	4.0		82	70-130			10/04/13	
Surrogate: DCPAA	*67*			*58*		*115*	*70-130*			10/04/13	
Blank Spike Dup (A311419-BSD1)											
2,4,5-T	3.9	1.0	ug/L	4.0		98	70-130	3	20	10/04/13	
2,4,5-TP (Silvex)	4.2	1.0	ug/L	4.0		104	70-130	2	20	10/04/13	
2,4-D	46	10	ug/L	40		114	70-130	3	20	10/04/13	
Bentazon	8.1	2.0	ug/L	8.0		101	70-130	19	20	10/04/13	
Dalapon	37	10	ug/L	40		91	70-130	1	20	10/04/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130	0	20	10/04/13	
Dinoseb	8.1	2.0	ug/L	8.0		101	70-130	0	20	10/04/13	
Pentachlorophenol	0.72	0.20	ug/L	0.80		90	70-130	6	20	10/04/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A311419										Prepared: 9/29/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A311419-BSD1)											
Picloram	3.9	1.0	ug/L	4.0		97	70-130	17	20	10/04/13	
Surrogate: DCPAA	*67*			*58*		*116*	*70-130*			10/04/13	
Matrix Spike (A311419-MS1), Source: A3I2242-01											
2,4,5-T	4.0	1.0	ug/L	4.0	ND	101	70-130			10/04/13	
2,4,5-TP (Silvex)	4.7	1.0	ug/L	4.0	ND	116	70-130			10/04/13	
2,4-D	47	10	ug/L	40	ND	119	70-130			10/04/13	
Bentazon	8.9	2.0	ug/L	8.0	ND	111	70-130			10/04/13	
Dalapon	37	10	ug/L	40	ND	92	70-130			10/04/13	
Dicamba	6.3	1.5	ug/L	6.0	ND	105	70-130			10/04/13	
Dinoseb	8.1	2.0	ug/L	8.0	ND	102	70-130			10/04/13	
Pentachlorophenol	0.68	0.20	ug/L	0.80	ND	85	70-130			10/04/13	
Picloram	3.3	1.0	ug/L	4.0	ND	82	70-130			10/04/13	
Surrogate: DCPAA	*69*			*58*		*119*	*70-130*			10/04/13	
Matrix Spike Dup (A311419-MSD1), Source: A3I2242-01											
2,4,5-T	4.0	1.0	ug/L	4.0	ND	100	70-130	1	20	10/04/13	
2,4,5-TP (Silvex)	4.0	1.0	ug/L	4.0	ND	100	70-130	16	20	10/04/13	
2,4-D	46	10	ug/L	40	ND	115	70-130	3	20	10/04/13	
Bentazon	8.8	2.0	ug/L	8.0	ND	110	70-130	1	20	10/04/13	
Dalapon	36	10	ug/L	40	ND	89	70-130	3	20	10/04/13	
Dicamba	5.8	1.5	ug/L	6.0	ND	97	70-130	8	20	10/04/13	
Dinoseb	8.0	2.0	ug/L	8.0	ND	100	70-130	1	20	10/04/13	
Pentachlorophenol	0.66	0.20	ug/L	0.80	ND	82	70-130	3	20	10/04/13	
Picloram	3.2	1.0	ug/L	4.0	ND	80	70-130	2	20	10/04/13	
Surrogate: DCPAA	*66*			*58*		*113*	*70-130*			10/04/13	
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A311594-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							10/03/13	
1,1,1-Trichloroethane	ND	0.50	ug/L							10/03/13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							10/03/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							10/03/13	
1,1,2-Trichloroethane	ND	0.50	ug/L							10/03/13	
1,1-Dichloroethane	ND	0.50	ug/L							10/03/13	
1,1-Dichloroethene	ND	0.50	ug/L							10/03/13	
1,1-Dichloropropene	ND	0.50	ug/L							10/03/13	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							10/03/13	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							10/03/13	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							10/03/13	
1,2-Dichlorobenzene	ND	0.50	ug/L							10/03/13	
1,2-Dichloroethane	ND	0.50	ug/L							10/03/13	
1,2-Dichloropropane	ND	0.50	ug/L							10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A311594-BLK1)											
1,3,5-Trimethylbenzene	ND	0.50	ug/L							10/03/13	
1,3-Dichlorobenzene	ND	0.50	ug/L							10/03/13	
1,3-Dichloropropane	ND	0.50	ug/L							10/03/13	
1,4-Dichlorobenzene	ND	0.50	ug/L							10/03/13	
2,2-Dichloropropane	ND	0.50	ug/L							10/03/13	
2-Butanone	ND	5.0	ug/L							10/03/13	
2-Chlorotoluene	ND	0.50	ug/L							10/03/13	
2-Hexanone	ND	10	ug/L							10/03/13	
4-Chlorotoluene	ND	0.50	ug/L							10/03/13	
4-Methyl-2-pentanone	ND	5.0	ug/L							10/03/13	
Acetone	ND	10	ug/L							10/03/13	
Benzene	ND	0.50	ug/L							10/03/13	
Bromobenzene	ND	0.50	ug/L							10/03/13	
Bromochloromethane	ND	0.50	ug/L							10/03/13	
Bromodichloromethane	ND	0.50	ug/L							10/03/13	
Bromoform	ND	0.50	ug/L							10/03/13	
Bromomethane	ND	0.50	ug/L							10/03/13	
Carbon Tetrachloride	ND	0.50	ug/L							10/03/13	
Chlorobenzene	ND	0.50	ug/L							10/03/13	
Chloroethane	ND	0.50	ug/L							10/03/13	
Chloroform	ND	0.50	ug/L							10/03/13	
Chloromethane	ND	0.50	ug/L							10/03/13	
cis-1,2-Dichloroethene	ND	0.50	ug/L							10/03/13	
cis-1,3-Dichloropropene	ND	0.50	ug/L							10/03/13	
Dibromochloromethane	ND	0.50	ug/L							10/03/13	
Dibromomethane	ND	0.50	ug/L							10/03/13	
Dichlorodifluoromethane	ND	0.50	ug/L							10/03/13	
Dichloromethane	ND	0.50	ug/L							10/03/13	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							10/03/13	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							10/03/13	
Ethylbenzene	ND	0.50	ug/L							10/03/13	
Hexachlorobutadiene	ND	0.50	ug/L							10/03/13	
Isopropylbenzene	ND	0.50	ug/L							10/03/13	
m,p-Xylenes	ND	0.50	ug/L							10/03/13	
Methyl-t-butyl ether	ND	0.50	ug/L							10/03/13	
Naphthalene	ND	0.50	ug/L							10/03/13	
n-Butylbenzene	ND	0.50	ug/L							10/03/13	
n-Propylbenzene	ND	0.50	ug/L							10/03/13	
o-Xylene	ND	0.50	ug/L							10/03/13	
p-Isopropyltoluene	ND	0.50	ug/L							10/03/13	
sec-Butylbenzene	ND	0.50	ug/L							10/03/13	
Styrene	ND	0.50	ug/L							10/03/13	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							10/03/13	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							10/03/13	
tert-Butylbenzene	ND	0.50	ug/L							10/03/13	
Tetrachloroethene (PCE)	ND	0.50	ug/L							10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A311594-BLK1)											
Toluene	ND	0.50	ug/L							10/03/13	
trans-1,2-Dichloroethene	ND	0.50	ug/L							10/03/13	
trans-1,3-Dichloropropene	ND	0.50	ug/L							10/03/13	
Trichloroethene (TCE)	ND	0.50	ug/L							10/03/13	
Trichlorofluoromethane	ND	5.0	ug/L							10/03/13	
Vinyl Chloride	ND	0.50	ug/L							10/03/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.5*			*5.0*		*90*	*70-130*			10/03/13	
Surrogate: Bromofluorobenzene	*4.9*			*5.0*		*97*	*70-130*			10/03/13	
Blank Spike (A311594-BS1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		100	70-130			10/03/13	
1,1,1-Trichloroethane	9.2	0.50	ug/L	10		92	70-130			10/03/13	
1,1,2,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130			10/03/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	8.9	10	ug/L	10		89	70-130			10/03/13	
1,1,2-Trichloroethane	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,1-Dichloroethane	9.9	0.50	ug/L	10		99	70-130			10/03/13	
1,1-Dichloroethene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
1,1-Dichloropropene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		100	70-130			10/03/13	
1,2,4-Trichlorobenzene	8.7	0.50	ug/L	10		87	70-130			10/03/13	
1,2,4-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
1,2-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,2-Dichloroethane	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,2-Dichloropropane	10	0.50	ug/L	10		100	70-130			10/03/13	
1,3,5-Trimethylbenzene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,3-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
1,3-Dichloropropane	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
2,2-Dichloropropane	10	0.50	ug/L	10		100	70-130			10/03/13	
2-Butanone	9.7	5.0	ug/L	10		97	70-130			10/03/13	
2-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
2-Hexanone	9.4	10	ug/L	10		94	70-130			10/03/13	
4-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
4-Methyl-2-pentanone	9.5	5.0	ug/L	10		95	70-130			10/03/13	
Acetone	9.8	10	ug/L	10		98	70-130			10/03/13	
Benzene	9.9	0.50	ug/L	10		99	70-130			10/03/13	
Bromobenzene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
Bromochloromethane	9.9	0.50	ug/L	10		99	70-130			10/03/13	
Bromodichloromethane	9.5	0.50	ug/L	10		95	70-130			10/03/13	
Bromoform	9.3	0.50	ug/L	10		93	70-130			10/03/13	
Bromomethane	9.2	0.50	ug/L	10		92	70-130			10/03/13	
Carbon Tetrachloride	8.9	0.50	ug/L	10		89	70-130			10/03/13	
Chlorobenzene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
Chloroethane	9.4	0.50	ug/L	10		94	70-130			10/03/13	
Chloroform	10	0.50	ug/L	10		104	70-130			10/03/13	
Chloromethane	10	0.50	ug/L	10		100	70-130			10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A311594-BS1)											
cis-1,2-Dichloroethene	9.9	0.50	ug/L	10		99	70-130			10/03/13	
cis-1,3-Dichloropropene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
Dibromochloromethane	9.5	0.50	ug/L	10		95	70-130			10/03/13	
Dibromomethane	9.5	0.50	ug/L	10		95	70-130			10/03/13	
Dichlorodifluoromethane	8.1	0.50	ug/L	10		81	70-130			10/03/13	
Dichloromethane	9.7	0.50	ug/L	10		97	70-130			10/03/13	
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		104	70-130			10/03/13	
Ethyl tert-Butyl Ether (ETBE)	9.8	0.50	ug/L	10		98	70-130			10/03/13	
Ethylbenzene	9.2	0.50	ug/L	10		92	70-130			10/03/13	
Hexachlorobutadiene	8.1	0.50	ug/L	10		81	70-130			10/03/13	
Isopropylbenzene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
m,p-Xylenes	18	0.50	ug/L	20		92	70-130			10/03/13	
Methyl-t-butyl ether	21	0.50	ug/L	20		105	70-130			10/03/13	
Naphthalene	8.0	0.50	ug/L	10		80	70-130			10/03/13	
n-Butylbenzene	9.4	0.50	ug/L	10		94	70-130			10/03/13	
n-Propylbenzene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
o-Xylene	9.2	0.50	ug/L	10		92	70-130			10/03/13	
p-Isopropyltoluene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
sec-Butylbenzene	9.5	0.50	ug/L	10		95	70-130			10/03/13	
Styrene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
tert-Amyl Methyl Ether (TAME)	9.1	3.0	ug/L	10		91	70-130			10/03/13	
tert-Butyl alcohol (TBA)	12	2.0	ug/L	10		122	70-130			10/03/13	
tert-Butylbenzene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
Tetrachloroethene (PCE)	9.4	0.50	ug/L	10		94	70-130			10/03/13	
Toluene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
trans-1,2-Dichloroethene	9.9	0.50	ug/L	10		99	70-130			10/03/13	
trans-1,3-Dichloropropene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
Trichloroethene (TCE)	9.8	0.50	ug/L	10		98	70-130			10/03/13	
Trichlorofluoromethane	8.6	5.0	ug/L	10		86	70-130			10/03/13	
Vinyl Chloride	8.9	0.50	ug/L	10		89	70-130			10/03/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*97*	*70-130*			10/03/13	
Surrogate: Bromofluorobenzene	*4.9*			*5.0*		*98*	*70-130*			10/03/13	
Blank Spike Dup (A311594-BSD1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		100	70-130	0	30	10/03/13	
1,1,1-Trichloroethane	9.2	0.50	ug/L	10		92	70-130	0	30	10/03/13	
1,1,2,2-Tetrachloroethane	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	8.9	10	ug/L	10		89	70-130	0	30	10/03/13	
1,1,2-Trichloroethane	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
1,1-Dichloroethane	10	0.50	ug/L	10		100	70-130	1	30	10/03/13	
1,1-Dichloroethene	9.7	0.50	ug/L	10		97	70-130	0	30	10/03/13	
1,1-Dichloropropene	9.3	0.50	ug/L	10		93	70-130	3	30	10/03/13	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		100	70-130	1	30	10/03/13	
1,2,4-Trichlorobenzene	9.6	0.50	ug/L	10		96	70-130	10	30	10/03/13	
1,2,4-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
1,2-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A311594-BSD1)											
1,2-Dichloroethane	9.7	0.50	ug/L	10		97	70-130	1	30	10/03/13	
1,2-Dichloropropane	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
1,3,5-Trimethylbenzene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
1,3-Dichlorobenzene	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
1,3-Dichloropropane	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130	0	30	10/03/13	
2,2-Dichloropropane	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
2-Butanone	10	5.0	ug/L	10		100	70-130	4	30	10/03/13	
2-Chlorotoluene	9.7	0.50	ug/L	10		97	70-130	1	30	10/03/13	
2-Hexanone	9.2	10	ug/L	10		92	70-130	2	30	10/03/13	
4-Chlorotoluene	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
4-Methyl-2-pentanone	9.2	5.0	ug/L	10		92	70-130	3	30	10/03/13	
Acetone	10	10	ug/L	10		100	70-130	2	30	10/03/13	
Benzene	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
Bromobenzene	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
Bromochloromethane	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
Bromodichloromethane	9.5	0.50	ug/L	10		95	70-130	0	30	10/03/13	
Bromoform	9.2	0.50	ug/L	10		92	70-130	0	30	10/03/13	
Bromomethane	9.4	0.50	ug/L	10		94	70-130	2	30	10/03/13	
Carbon Tetrachloride	9.0	0.50	ug/L	10		90	70-130	0	30	10/03/13	
Chlorobenzene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
Chloroethane	9.1	0.50	ug/L	10		91	70-130	2	30	10/03/13	
Chloroform	10	0.50	ug/L	10		105	70-130	1	30	10/03/13	
Chloromethane	8.4	0.50	ug/L	10		84	70-130	18	30	10/03/13	
cis-1,2-Dichloroethene	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
cis-1,3-Dichloropropene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130	4	30	10/03/13	
Dibromomethane	9.6	0.50	ug/L	10		96	70-130	1	30	10/03/13	
Dichlorodifluoromethane	8.1	0.50	ug/L	10		81	70-130	1	30	10/03/13	
Dichloromethane	9.9	0.50	ug/L	10		99	70-130	2	30	10/03/13	
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		100	70-130	4	30	10/03/13	
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		102	70-130	4	30	10/03/13	
Ethylbenzene	9.2	0.50	ug/L	10		92	70-130	0	30	10/03/13	
Hexachlorobutadiene	9.3	0.50	ug/L	10		93	70-130	14	30	10/03/13	
Isopropylbenzene	9.7	0.50	ug/L	10		97	70-130	2	30	10/03/13	
m,p-Xylenes	18	0.50	ug/L	20		92	70-130	1	30	10/03/13	
Methyl-t-butyl ether	21	0.50	ug/L	20		104	70-130	1	30	10/03/13	
Naphthalene	9.3	0.50	ug/L	10		93	70-130	15	30	10/03/13	
n-Butylbenzene	9.4	0.50	ug/L	10		94	70-130	1	30	10/03/13	
n-Propylbenzene	9.6	0.50	ug/L	10		96	70-130	1	30	10/03/13	
o-Xylene	9.2	0.50	ug/L	10		92	70-130	0	30	10/03/13	
p-Isopropyltoluene	9.7	0.50	ug/L	10		97	70-130	1	30	10/03/13	
sec-Butylbenzene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
Styrene	9.5	0.50	ug/L	10		95	70-130	4	30	10/03/13	
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		100	70-130	10	30	10/03/13	
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		103	70-130	17	30	10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A311594-BSD1)											
tert-Butylbenzene	9.4	0.50	ug/L	10		94	70-130	2	30	10/03/13	
Tetrachloroethene (PCE)	9.4	0.50	ug/L	10		94	70-130	0	30	10/03/13	
Toluene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
trans-1,2-Dichloroethene	9.7	0.50	ug/L	10		97	70-130	2	30	10/03/13	
trans-1,3-Dichloropropene	9.5	0.50	ug/L	10		95	70-130	1	30	10/03/13	
Trichloroethene (TCE)	9.7	0.50	ug/L	10		97	70-130	1	30	10/03/13	
Trichlorofluoromethane	8.8	5.0	ug/L	10		88	70-130	2	30	10/03/13	
Vinyl Chloride	8.8	0.50	ug/L	10		88	70-130	1	30	10/03/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.9*			*5.0*		*98*	*70-130*			10/03/13	
Surrogate: Bromofluorobenzene	*4.9*			*5.0*		*99*	*70-130*			10/03/13	
EPA 525.2 - Quality Control											
Batch: A311693										Prepared: 10/3/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A311693-BLK1)											
Alachlor	ND	1.0	ug/L							10/04/13	
Atrazine	ND	0.50	ug/L							10/04/13	
Benzo(a)pyrene	ND	0.10	ug/L							10/04/13	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							10/04/13	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							10/04/13	
Bromacil	ND	10	ug/L							10/04/13	
Butachlor	ND	0.38	ug/L							10/04/13	
Diazinon	ND	0.25	ug/L							10/04/13	
Dimethoate	ND	10	ug/L							10/04/13	
Metolachlor	ND	0.50	ug/L							10/04/13	
Metribuzin	ND	0.50	ug/L							10/04/13	
Molinate	ND	2.0	ug/L							10/04/13	
Propachlor	ND	0.50	ug/L							10/04/13	
Simazine	ND	1.0	ug/L							10/04/13	
Thiobencarb	ND	1.0	ug/L							10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.1*		*100*	*70-130*			10/04/13	
Blank Spike (A311693-BS1)											
Alachlor	0.49	1.0	ug/L	0.50		97	70-130			10/04/13	
Atrazine	0.44	0.50	ug/L	0.50		88	70-130			10/04/13	
Benzo(a)pyrene	0.091	0.10	ug/L	0.10		91	70-130			10/04/13	
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.0		114	70-130			10/04/13	
Bis(2-ethylhexyl) phthalate	3.6	3.0	ug/L	3.0		118	70-130			10/04/13	
Bromacil	1.9	10	ug/L	2.0		94	70-130			10/04/13	
Butachlor	1.1	0.38	ug/L	1.3		91	70-130			10/04/13	
Diazinon	0.050	0.25	ug/L	0.050		100	70-130			10/04/13	
Dimethoate	0.43	10	ug/L	0.50		86	70-130			10/04/13	
Metolachlor	2.5	0.50	ug/L	2.5		100	70-130			10/04/13	
Metribuzin	2.3	0.50	ug/L	2.5		91	70-130			10/04/13	
Molinate	2.8	2.0	ug/L	2.5		113	70-130			10/04/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A311693										Prepared: 10/3/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A311693-BS1)											
Propachlor	2.9	0.50	ug/L	2.5		114	70-130			10/04/13	
Simazine	0.32	1.0	ug/L	0.35		92	70-130			10/04/13	
Thiobencarb	0.47	1.0	ug/L	0.50		94	70-130			10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.0*		*99*	*70-130*			10/04/13	
Blank Spike Dup (A311693-BSD1)											
Alachlor	0.50	1.0	ug/L	0.50		99	70-130	2	30	10/04/13	
Atrazine	0.47	0.50	ug/L	0.50		94	70-130	6	30	10/04/13	
Benzo(a)pyrene	0.088	0.10	ug/L	0.10		88	70-130	4	30	10/04/13	
Bis(2-ethylhexyl) adipate	3.2	3.0	ug/L	3.0		105	70-130	9	30	10/04/13	
Bis(2-ethylhexyl) phthalate	3.2	3.0	ug/L	3.0		108	70-130	10	30	10/04/13	
Bromacil	2.2	10	ug/L	2.0		110	70-130	15	30	10/04/13	
Butachlor	1.3	0.38	ug/L	1.2		101	70-130	9	30	10/04/13	
Diazinon	0.044	0.25	ug/L	0.050		88	70-130	13	30	10/04/13	
Dimethoate	0.49	10	ug/L	0.50		99	70-130	14	30	10/04/13	
Metolachlor	2.6	0.50	ug/L	2.5		104	70-130	4	30	10/04/13	
Metribuzin	2.7	0.50	ug/L	2.5		106	70-130	15	30	10/04/13	
Molinate	2.7	2.0	ug/L	2.5		107	70-130	6	30	10/04/13	
Propachlor	2.9	0.50	ug/L	2.5		116	70-130	1	30	10/04/13	
Simazine	0.34	1.0	ug/L	0.35		97	70-130	5	30	10/04/13	
Thiobencarb	0.53	1.0	ug/L	0.50		106	70-130	11	30	10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.3*			*5.0*		*106*	*70-130*			10/04/13	
Matrix Spike (A311693-MS1), Source: A3I1912-02											
Alachlor	0.51	1.0	ug/L	0.50	ND	102	70-130			10/04/13	
Atrazine	0.48	0.50	ug/L	0.50	ND	95	70-130			10/04/13	
Benzo(a)pyrene	0.12	0.10	ug/L	0.10	ND	122	70-130			10/04/13	
Bis(2-ethylhexyl) adipate	3.1	3.0	ug/L	3.0	ND	104	70-130			10/04/13	
Bis(2-ethylhexyl) phthalate	3.7	3.0	ug/L	3.0	ND	122	70-130			10/04/13	
Bromacil	2.3	10	ug/L	2.0	ND	118	70-130			10/04/13	
Butachlor	1.4	0.38	ug/L	1.2	ND	109	70-130			10/04/13	
Diazinon	0.044	0.25	ug/L	0.050	ND	88	70-130			10/04/13	
Dimethoate	0.58	10	ug/L	0.50	ND	117	70-130			10/04/13	
Metolachlor	2.7	0.50	ug/L	2.5	ND	109	70-130			10/04/13	
Metribuzin	2.9	0.50	ug/L	2.5	ND	115	70-130			10/04/13	
Molinate	3.0	2.0	ug/L	2.5	ND	118	70-130			10/04/13	
Propachlor	3.1	0.50	ug/L	2.5	ND	124	70-130			10/04/13	
Simazine	0.37	1.0	ug/L	0.35	ND	107	70-130			10/04/13	
Thiobencarb	0.51	1.0	ug/L	0.50	ND	101	70-130			10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.3*			*5.0*		*107*	*70-130*			10/04/13	
EPA 531.1 - Quality Control											
Batch: A311765										Prepared: 10/6/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A311765-BLK1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 531.1 - Quality Control												
Batch: A311765										Prepared: 10/6/2013		
Prep Method: EPA 531.1										Analyst: AAR		
Blank (A311765-BLK1)												
3-Hydroxycarbofuran	ND	2.0	ug/L							10/11/13		
Aldicarb	ND	2.0	ug/L							10/11/13		
Aldicarb Sulfone	ND	2.0	ug/L							10/11/13		
Aldicarb Sulfoxide	ND	2.0	ug/L							10/11/13		
Carbaryl	ND	2.0	ug/L							10/11/13		
Carbofuran	ND	2.0	ug/L							10/11/13		
Methomyl	ND	2.0	ug/L							10/11/13		
Oxamyl	ND	2.0	ug/L							10/11/13		
Blank Spike (A311765-BS1)												
3-Hydroxycarbofuran	4.5	2.0	ug/L	4.2		109	80-120			10/11/13		
Aldicarb	4.2	2.0	ug/L	4.2		101	80-120			10/11/13		
Aldicarb Sulfone	4.6	2.0	ug/L	4.2		110	80-120			10/11/13		
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.2		97	80-120			10/11/13		
Carbaryl	4.4	2.0	ug/L	4.2		105	80-120			10/11/13		
Carbofuran	4.4	2.0	ug/L	4.2		105	80-120			10/11/13		
Methomyl	4.2	2.0	ug/L	4.2		100	80-120			10/11/13		
Oxamyl	5.1	2.0	ug/L	4.2		123	80-120			10/11/13	BS	***High***
Blank Spike Dup (A311765-BSD1)												
3-Hydroxycarbofuran	4.4	2.0	ug/L	4.2		105	80-120	4	20	10/11/13		
Aldicarb	4.2	2.0	ug/L	4.2		101	80-120	0	20	10/11/13		
Aldicarb Sulfone	4.3	2.0	ug/L	4.2		103	80-120	6	20	10/11/13		
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.2		95	80-120	2	20	10/11/13		
Carbaryl	4.4	2.0	ug/L	4.2		105	80-120	1	20	10/11/13		
Carbofuran	4.3	2.0	ug/L	4.2		102	80-120	3	20	10/11/13		
Methomyl	4.1	2.0	ug/L	4.2		99	80-120	1	20	10/11/13		
Oxamyl	4.9	2.0	ug/L	4.2		117	80-120	5	20	10/11/13		
Matrix Spike (A311765-MS1), Source: A3J0471-01												
3-Hydroxycarbofuran	4.2	2.0	ug/L	4.2	ND	100	65-135			10/11/13		
Aldicarb	4.7	2.0	ug/L	4.2	ND	114	65-135			10/11/13		
Aldicarb Sulfone	4.8	2.0	ug/L	4.2	ND	102	65-135			10/11/13		
Aldicarb Sulfoxide	4.7	2.0	ug/L	4.2	ND	99	65-135			10/11/13		
Carbaryl	4.2	2.0	ug/L	4.2	ND	101	65-135			10/11/13		
Carbofuran	4.0	2.0	ug/L	4.2	ND	96	65-135			10/11/13		
Methomyl	4.4	2.0	ug/L	4.2	ND	106	65-135			10/11/13		
Oxamyl	5.5	2.0	ug/L	4.2	ND	122	65-135			10/11/13		
EPA 547 - Quality Control												
Batch: A311409										Prepared: 9/27/2013		
Prep Method: EPA 547										Analyst: RJB		
Blank (A311409-BLK1)												
Glyphosate	ND	25	ug/L							09/27/13		
Surrogate: AMPA	*110*			*100*		*109*	*70-130*			09/27/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A311409										Prepared: 9/27/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank Spike (A311409-BS1)											
Glyphosate	120	25	ug/L	100		116	70-130			09/27/13	
Surrogate: AMPA	*100*			*100*		*104*	*70-130*			09/27/13	
Blank Spike Dup (A311409-BSD1)											
Glyphosate	100	25	ug/L	100		105	70-130	10	30	09/27/13	
Surrogate: AMPA	*110*			*100*		*106*	*70-130*			09/27/13	
Matrix Spike (A311409-MS1), Source: A3I1911-01											
Glyphosate	110	25	ug/L	100	ND	104	70-130			09/28/13	
Surrogate: AMPA	*100*			*100*		*101*	*70-130*			09/28/13	
Matrix Spike (A311409-MS2), Source: A3I2214-01											
Glyphosate	110	25	ug/L	100	ND	108	70-130			09/28/13	
Surrogate: AMPA	*110*			*100*		*106*	*70-130*			09/28/13	
Matrix Spike Dup (A311409-MSD1), Source: A3I1911-01											
Glyphosate	110	25	ug/L	100	ND	107	70-130	3	30	09/28/13	
Surrogate: AMPA	*110*			*100*		*106*	*70-130*			09/28/13	
EPA 548.1 - Quality Control											
Batch: A311487										Prepared: 9/30/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A311487-BLK1)											
Endothall	ND	45	ug/L							10/02/13	
Blank Spike (A311487-BS1)											
Endothall	14	45	ug/L	20		69	60-111			10/02/13	
Blank Spike Dup (A311487-BSD1)											
Endothall	14	45	ug/L	20		72	60-111	4	46	10/02/13	
Matrix Spike (A311487-MS1), Source: A3I1912-01											
Endothall	3.9	45	ug/L	20	ND	20	10-122			10/02/13	
EPA 549.2 - Quality Control											
Batch: A311486										Prepared: 9/30/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A311486-BLK1)											
Diquat	ND	4.0	ug/L							10/03/13	
Blank Spike (A311486-BS1)											
Diquat	3.5	4.0	ug/L	4.0		88	70-130			10/03/13	
Blank Spike Dup (A311486-BSD1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A311486										Prepared: 9/30/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank Spike Dup (A311486-BSD1)											
Diquat	3.5	4.0	ug/L	4.0		88	70-130	1	30	10/03/13	
Matrix Spike (A311486-MS1), Source: A3I1911-01											
Diquat	3.1	4.0	ug/L	4.0	ND	77	70-130			10/03/13	
Matrix Spike (A311486-MS2), Source: A3I1911-02											
Diquat	3.4	4.0	ug/L	4.0	ND	86	70-130			10/03/13	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792009A
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron
Silica (SiO2)
Strontium
Threshold Odor

A3I2214

California American Water

Calif3295

09262013

Turnaround: Standard
Due Date: 10/11/2013

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(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

A3I2214
Calif3295

Appendix G 13
10

*Required Fields

Temp: 4.4

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water-Monterey	Travis Peterson Additional cc's: Sarp Sekeroglu	PO#:	831-646-329	

E-mail*: travis.peterson@amwater.com & ssekeroglu@rbf.com

Address*:	City*:	State*:	Zip*:
PO Box 951	Monterey	CA	93942

Regulatory Carbon Copies: CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other: ____

Project:	Project #:
Water Quality Analysis	

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type: ____

How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH System Number*: ____ ☐ Geotracker #: ____

Sampler Name (Printed/Signature)*: Sarp Sekeroglu

TAT* **Surcharge
☒ **Standard** - 10 Business Days
☐ **Rush: Date Needed ____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alk,Hardness,MBAS,Color, Odor,TDS,pH,Turbidity,EC	Dissolved Metals (lab to filter) Ba,B,Ca,Cu,Fe,Mg,K,Si,Na,St	Total Metals: Al, As, Fe, Mn, Zn	Dissolved: Fl, Bromide,Chloride,P, orthod-P,Sulfate, Mass Balance	Dissolved: TKN, Ammonia, Nitrite	Nitrate +Nitrite as N, NO3	EPA 524 ,504, 505, 515, 525, 531, 547, 548, 549		EXT-Lithium, EXT-Dioxin,EXT-Tritium, EXT-Dissolved Iodide
1	As listed in the attached sheet	9/24	3:00P		seawater salinity levels	X	X	X	X	X	X	X		X

Route to run out of holding time MD 9/26/13

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Sarp Sekeroglu	RBF	9/25			
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Received for Lab by: (Signature and Printed Name)		Date: 9/25/13	Time: 1750	Payment Received at Delivery: Date: Amount: PIA#:	Check / Cash Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: ____
Cooling Method: Wet Blue None
Custody Seal: Y N
Chilling Process Begun: Y N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

SR-FL-0012-05 Analytical Chain of Custody

Sample Integrity

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Were there bubbles in the VOA vials? (Volatiles Only)	Yes (No) NA
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	(Yes) No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: Renea By/Time:	(Yes) No NA

Bottles Received — "—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?						
Bacti $Na_2S_2O_3$	—	—						
None (P) White Cap	—	—	2C, 1B, 1A					
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N						
HNO_3 (P) Red Cap	—	—	2B					
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N						
NaOH (P) Green Cap	Cl, pH ≥12	Y N						
NaOH + ZnAc (P)	pH ≥ 9	Y N						
Dissolved Oxygen 300ml (g)	—	—						
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	2C, 1A, 1B					
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—						
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C					
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C, 2A					
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—						
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	1V					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH ≈ 3	(Y) N	1V					
NH_4Cl (AG) Purple Label 552	—	—						
EDA (AG) Brown Label DBPs	—	—	1A					
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—						
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	3V					
Buffer pH 4 (CG)	—	—						
None (CG)	—	—						
H_3PO_4 (CG) Salmon Label	—	—						
Other:								
Asbestos 1Liter Plastic w/ Foil	—	—						
Low Level Hg / Metals Double Baggie	—	—						
Bottled Water	—	—						
Clear Glass Jar: 250 / 500 / 1 Liter	—	—						
Soil Tube Brass / Steel / Plastic	—	—						
Tedlar Bag / Plastic Bag	—	—						

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Out of hold time for 48 hr tests Rec.

Labeled by: NR @ 1814 Labels checked by: JRW @ 18:19 RUSH Paged by: @

External

A3I2214

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 21, 2013

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3I2214
Pace Project No.: 30104560

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: A3I2214
Pace Project No.: 30104560

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: A3I2214
Pace Project No.: 30104560

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30104560001	**A3I2214-01**	Water	09/24/13 15:00	10/07/13 09:45

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: A3I2214
Pace Project No.: 30104560

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30104560001	**A3I2214-01**	EPA 906.0	SLA	1	PASI-PA

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Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: A3I2214
Pace Project No.: 30104560

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: October 21, 2013

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: A3I2214
Pace Project No.: 30104560

Sample: A3I2214-01 **Lab ID: 30104560001** Collected: 09/24/13 15:00 Received: 10/07/13 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-68.2 ± 108 (199)**	pCi/L	10/12/13 22:15	10028-17-8	

Pace Analytical Services, Inc.
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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: A3I2214
Pace Project No.: 30104560

QC Batch: RADC/17374
QC Batch Method: EPA 906.0
Analysis Method: EPA 906.0
Analysis Description: 906.0 Tritium
Associated Lab Samples: 30104560001

METHOD BLANK: 641961
Matrix: Water
Associated Lab Samples: 30104560001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	89.3 ± 124 (208)	pCi/L	10/12/13 14:06	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: A3I2214
Pace Project No.: 30104560

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineering Laboratories

SUBCONTRACT ORDER

A3I2214

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): Standard
QC Deliverables: I (Std) II IV

3010456O

Sample ID	Samp Desc	Comments	Sample Date
A3I2214-01	Seawater		09/24/2013 15:00 001

Matrix: Water

Analysis: 250 mL AG w/ NONE
EXT-Tritium

High salinity sample.

Non preserved glass container

Released By	Date	Received By	Date
	9.30.13		10-2-13 0945
Released By	Date	Received By	Date

Sample Condition Upon Receipt

Pace Analytical

Client Name: BSK

Project # 30104560

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 1Z93X9210356748799

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer Used 5 6 7 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature NA Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 10-7-13

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WA		
All containers needing preservation have been checked. (5071A)	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: VH / Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: [signature] **Date:** 10/8/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Face Analytical

Project Number: 30104560

Client Name: BSK

Item No.	Matrix Code	Glass Jar (1 / 2 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radcham Nalgene (125 / 250 / 500 / 1L)	Radcham Nalgene (1/2 gal. / 1 gal.L)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
20	WT	~																						

QA Assessment Spreadsheet
PADE Analytical Services

Quality Control Sample Performance Assessment

Analyst:	SLA		
Date:	10/14/2013	Method:	EPA 906.0
Worklist:	17374	SOP:	PQH-R-021
Matrix:	DW	MB Sample ID:	641561

Method Blank Assessment

Analyte	Activity	1.96 Sig Unc.	MDC	Critical Value	Flag	Assessment
Tritium	39.2600	123.3000	269.2000	98.71000		

Laboratory Control Sample Assessment

	LCS	LCSD	LCS	LCSD	LCS	LCSD
Analyte:	Tritium					
Count Date:	10/13/13 4:23	10/13/13 5:24				
Spike I.D.:	13-003	13-003				
Spike Concentration (pCi/L):	2539.642	2539.642				
Volume Used (mL):	0.100	0.100				
Aliquot Volume (L, g, F):	0.100	0.107				
Target Conc. (pCi/L, g, F):	2392.086	2173.360				
1.96 Sigma Uncertainty (Calculated):	65.636	59.628				
Result (pCi/L, g, F):	2165.150	1992.980				
1.96 Sigma Unc:	224.450	211.400				
% Recovery:	90.55%	91.70%				
Assessment:	Pass	Pass				
Upper % Recovery Limits:	125.00%	125.00%				
Lower % Recovery Limits:	75.00%	75.00%				

Duplicate Sample Assessment

LCS/LCSD Y or N?:	Y
Analyte:	Tritium
Sample I.D.:	LCS17374
Duplicate Sample I.D.	LCSD17374
Sample Result (pCi/L, g, F):	2165.1500
1.96 Sigma Unc:	224.4600
Sample Duplicate Result (pCi/L, g, F):	1992.9800
Duplicate Sample 1.96 Sigma Unc.	211.4000
Either results below MDC?	N
Relative Percent Difference:	8.33%
Assessment:	Pass
% RPD Limit:	25.00%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC

Sample Matrix Spike Control Assessment

Analyte:	Tritium	Tritium
Sample Collection Date:	10/3/2013	9/24/2013
Sample I.D.	3010462[illegible]0001	3010459[illegible]0001
Sample MS I.D.	3010462[illegible]0001MS	3010459[illegible]0001MS
Sample MSD I.D.		
Spike I.D.:	13-003	13-003
MS/MSD Decay Corrected Spike Conc. (pCi/L):	2542.770	2548.221
Spike Volume Used in MS (mL):	0.20	0.20
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.1012	0.1015
MS Target Conc.(pCi/L, g, F):	5027.223	5019.173
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike uncertainty (calculated):	137.947	137.399
MSD Spike uncertainty (calculated):		
Sample Result:	32.950	-56.220
Sample 1.96 Sigma Unc.:	118.900	107.100
Sample Matrix Spike Result:	4913.240	4725.690
Sample MS 1.96 Sigma Unc.:	305.100	301.000
Sample Matrix Spike Duplicate Result:		
Sample MSD 1.96 Sigma Unc.:		
MS % Recovery:	97.09%	95.53%
MSD % Recovery:		
MS Assessment:	Pass	Pass
MSD Assessment:		
MS/MSD Upper % Recovery Limits:	125.00%	125.00%
MS/MSD Lower % Recovery Limits:	75.00%	75.00%

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Analyte:			
Sample I.D.			
Sample MS I.D.			
Sample MSD I.D.			
Sample Matrix Spike Result:			
Sample Matrix Spike 1.96 Sigma Unc.:			
Sample Matrix Spike Duplicate Result:			
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:			
MS/MSD Relative Percent Difference:			
MS/ MSD RPD Assessment:			
% RPD Limit:			

Comments:

Pace Analytical®
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1638 Roseytown Road
Greensburg, PA 15601
(724)850-5600

SAMPLE ACKNOWLEDGMENT

Samples Submitted By: BSK Analytical Laboratories
Client Project ID: A3I2214
Client PO#:

Pace Project Manager: Jacquelyn Collins
Phone (724)850-5600
jacquelyn.collins@pacelabs.com
Pace Analytical Project ID: 30104560
Samples Received: October 7, 2013 09:45 AM
Estimated Completion: October 28, 2013

CC: Mr. Michael Ng

Customer Sample ID	Pace Analytical Lab ID	Matrix	Date/Time Collected	Method
A3I2214-01	30104560001	Water	09/24/13 15:00	906.0 Tritium

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.

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www.pacelabs.com

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Greensburg, PA 15601
(724)850-5600

SAMPLE ACKNOWLEDGMENT

Analyte List

Customer Sample ID	Method	Compound	Reporting Limit	Units
A3I2214-01	906.0 Tritium	Tritium		

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your proje

Thank you for choosing Pace Analytical Services, Inc.

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Michael Ng
BSK Analytical Laboratories
1414 Stanislaus Street
Fresno CA 93706

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

Report Prepared Date:

October 15, 2013

Report Information:

Pace Project #: 10243972
Sample Receipt Date: 10/01/2013
Client Project #: A3I2214
Client Sub PO #: N/A
State Cert #: 01155CA

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Brittany Hansen, your Pace Project Manager.

This report has been reviewed by:

Brittany J. Hansen

October 15, 2013

Brittany Hansen, Project Manager
(612) 607-6429
(612) 607-6444 (fax)
brittany.hansen@pacelabs.com

Report of Laboratory Analysis

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Mississippi	MN00064
Alaska	MN00064	Montana	92
Arizona	AZ0014	Nebraska	
Arkansas	88-0680	Nevada	MN_00064_200
California	01155CA	New Jersey (NE	MN002
Colorado	MN00064	New Mexico	MN00064
Connecticut	PH-0256	New York (NEL	11647
EPA Region 5	WD-15J	North Carolina	27700
EPA Region 8	8TMS-Q	North Dakota	R-036
Florida (NELAP	E87605	Ohio	4150
Georgia (DNR)	959	Oklahoma	D9922
Guam	959	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN300001-001
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	03086	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

1024397

BSK Analytical Laboratories
Engineers & Laboratories

1131

SUBCONTRACT ORDER

A3I2214

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Dioxin
1700 Elm Street S.E. Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc	Comments	Sample Date
A3I2214-01	Seawater		09/24/2013 15:00

Matrix: Water

High salinity sample.

Analysis (1) L AG W / NONE
EXT-Dioxin-DW matrix, EPA 1613 2,3,7,8-TCDD

T=0.7°C

Released By	Date	Received By	Date
[signature]	9.30.13	CSI/PACE	10-1-13 858
Released By	Date	Received By	Date

Pace Analytical®	Document Name: Sample Condition Upon Receipt Form	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.07	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: BSK

Project #: WO# : 10243972

10243972

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7968 6029 8922

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☐ Yes ☒ No

Thermom. Used: ☐ 80512447 ☐ 72337080 ☐ B88A912167504 ☒ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.9 **Cooler Temp Corrected (°C):** 0.7 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** -0.2 **Date and Initials of Person Examining Contents:** CST 10.1.13

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☐ Yes	☒ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☐ Yes	☐ No	☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐ Yes	☒ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: BH2 **Date:** 10/2/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace AnalyticalServices, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID.....A3I2214-01 Seawater
Client..... BSK Analytical Laboratories
Lab Sample ID..... 10243972001

Date Collected.....09/24/2013
Date Received.....10/01/2013
Date Extracted.....10/03/2013

	Sample A3I2214-01 Seawa	Method Blank	Lab Spike	Lab Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
RL	5.0 pg/L	5.0 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	121%	94%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			25.6%	
IS Recovery	**62%**	68%	70%	59%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**73%**	96%	83%	67%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	F131011A_10	R131008A_09	R131008A_07	F131009A_13
Analysis Date	10/11/2013	10/08/2013	10/08/2013	10/09/2013
Analysis Time	10:40	16:56	15:47	17:23
Analyst	CVS	CVS	CVS	SMT
Volume	1.011L	1.005L	1.005L	1.014L
Dilution	NA	NA	NA	NA
ICAL Date	10/09/2013	07/19/2013	07/19/2013	10/09/2013
CCAL Filename	F131011A_05	R131008A_06	R131008A_06	F131009A_06

! = Outside the Control Limits
ND = Not Detected
RL = Reporting Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD- $^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD- $^{37}Cl_4$]

Analyst: Chuck Simpson

Project No.....10243972

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Report Date: 11/06/13 13:57
Received Date: 10/01/13 08:50
Turnaround Time: Normal

Project: A3I2214

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 10/1/2013 with the Chain of Custody document. The samples were received in good condition, at 3.0 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3J01002-01 **Sample ID:** A3I2214-01 **Matrix:** Water
Sampled by: Client **Sampled:** 09/24/13 15:00

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	27	1.4	10	ug/l	1	EPA 200.7	10/3/13	10/4/13 10:39	W3J0195	
Iodide, Dissolved	64	0.21	10	ug/l	1	EPA 9056A	11/5/13	11/5/13 19:57	W3K0192	O-14

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Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W3K0192 - EPA 9056A

Blank (W3K0192-BLK1) — Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W3K0192-BS1) — Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		35.3		ug/l	40.0	88	85-115		

Matrix Spike (W3K0192-MS1) — Source: 3J15074-01 Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	179	368		ug/l	200	94	80-120		

Matrix Spike Dup (W3K0192-MSD1) — Source: 3J15074-01 Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	179	355		ug/l	200	88	80-120	3	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3J0195 - EPA 200.7

Blank (W3J0195-BLK1) — Prepared: 10/03/13 Analyzed: 10/04/13 10:37

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		ND		ug/l					

LCS (W3J0195-BS1) — Prepared: 10/03/13 Analyzed: 10/04/13 10:34

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		972		ug/l	1000	97	85-115		

Matrix Spike (W3J0195-MS1) — Source: 3J02035-01 Prepared: 10/03/13 Analyzed: 10/04/13 10:59

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	11.7	1040		ug/l	1000	103	70-130		

Matrix Spike Dup (W3J0195-MSD1) — Source: 3J02035-01 Prepared: 10/03/13 Analyzed: 10/04/13 11:02

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	11.7	1030		ug/l	1000	102	70-130	0.8	30

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Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

O-14	This analysis was requested by the client after the holding time was exceeded.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

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BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3I2214

3J01002

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Weck Laboratories, Inc.
14859 E Clark Avenue
City of Industry, CA 91745-1396
Phone :(626) 336-2139
Fax: (626) 336-2634
Turnaround (Days): Standard
QC Deliverables: I (Std) III IV

Sample ID	Samp Desc	Comments	Sample Date
A3I2214-01	Seawater		09/24/2013 15:00
Matrix: Water		High salinity sample.	
Analysis	250 mL P w/ NONE		
EXT-Iodide	500 mL P w/ HNO3	Dissolved	
EXT-Miscellaneous		Lithium	

Released By	Date	Received By	Date
	9/30/13	Ontrac	
Ontrac		Jaime Omer	10/1/13 0850 3.0°C
Released By	Date	Received By	Date

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Sample Receipt Acknowledgement

WORK ORDER: 3J01002 Printed: 10/2/2013 3:00:24PM

Client: BSK Analytical Laboratories Project Manager: Kim G Tu
Project: Metals Project Number: A3I2214

Report To:
BSK Analytical Laboratories
Michael Ng
550 West Locust Avenue
Fresno, CA 93650
Phone: (559) 497-2888
Fax: (559) 485-6935

Invoice To:
BSK Analytical Laboratories
Accounts Payable - Anise Foote
550 West Locust Avenue
Fresno, CA 93650
Phone :(559) 497-2888
Fax: (559) 485-6935

Date Due: **10/15/13 15:00 (10 day TAT)**

Received By: Jaime Gomez Date Received: 10/01/13 08:50
Logged In By: Jaime Gomez Date Logged In: 10/01/13 08:57

Samples Received at:	**3°C**	All containers intact:	**Yes**	Chain of custody completed:	**Yes**
Number of Ice chests/packages:	**1**	Custody seals presen	**NA**	Sample labels & COC agree:	**Yes**
		Custody seals intact:	**NA**	Samples preserved properly:	**Yes**
Appropriate Sample Containers:	**Yes**	Samples received on ice	**Yes**	Sample volume sufficient:	**Yes**
		Custody Seals	**No**	Sufficient holding time for all tests:	**Yes**

Analysis	TAT	Expires	Comments
3J01002-01 A3I2214-01 [Water] Sampled 09/24/13 15:00 Pacific			
Iodide water 9056M	10	10/22/13 15:00	
200.7 Li_diss	10	03/23/14 15:00	

Comments:

Kim Tu 10/2/2013
Authorized Signature Date

Note:
If any of the information included in this sample receipt acknowledgement is incorrect (sample information, analysis, etc), please contact the lab at (626) 336-2139. Thank you.

14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

BSK Associates Engineers & Laboratories
Fresno Analytical Laboratory
1414 Stanislaus St.
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (Fax)

Travis Peterson
California American Water
836 Carmel Ave.
Monterey, CA 93940

RE: Report for A3I2260 Water Quality Analysis

Dear Travis Peterson,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 9/27/2013. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2003 NELAC Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an fias receivedfl basis.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Michael Ng, Project Manager

If additional clarification of any information is required, please contact your Project Manager, Michael Ng , at (800) 877-8310 or (559) 497-2888 x118.

Case Narrative

Project and Report Details		Invoice Details	
Client:	California American Water	**Invoice To:**	California American Water
Report To:	Travis Peterson	**Invoice Attn:**	Accounts Payable
Project #:	Water Quality Analysis	**Project PO#:**	-
Received:	9/27/2013 - 08:30		
Report Due:	10/11/2013		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 12.5

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-SAC

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

BS	Blank spike recoveries did not meet acceptance limits.
BS1.0	Blank spike recovery for this analyte was biased high; no material impact on reported result as sample is ND for this parameter.
DL01	Sample required dilution due to matrix or high concentration of non-target analyte.
HT04	Holding time exceeded. Sample analysis performed past holding time.
HT08	Holding time exceeded. The holding time for this analysis is a recommendation and is not mandated by any state or federal agency.
MS02	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
MS1.0	Matrix spike recoveries exceed control limits. No material impact as Blank Spike recoveries are within method control limits.
SR02	Surrogate recovery was above acceptance limits. No target analytes were detected in the sample.
X01	Sample filtered prior to analysis per client request

Report Distribution

Recipient(s)	Report Format
Travis Peterson	Final.rpt
Sarp Sekeroglu	Final.rpt

Certificate of Analysis

Sample ID: A3I2260-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Samples

Sample Date - Time: 09/25/13 - 17:00
Matrix: Water
Sample Type: Grab

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Alkalinity as CaCO3	SM 2320 B	**150**	3.0	mg/L	1	A311377	09/27/13	09/27/13	
Bicarbonate as CaCO3	SM 2320 B	**150**	3.0	mg/L	1	A311377	09/27/13	09/27/13	
Carbonate as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A311377	09/27/13	09/27/13	
Hydroxide as CaCO3	SM 2320 B	ND	3.0	mg/L	1	A311377	09/27/13	09/27/13	
Ammonia as N	SM 4500-NH3 G	**0.78**	0.10	mg/L	1	A311778	10/07/13	10/08/13	X01
Bromide	EPA 300.1	**65**	5.0	mg/L	1000	A311561	10/02/13	10/02/13	
Surrogate: Dichloroacetate	EPA 300.1	108 %	*Acceptable range: 90-115 %*						
Chloride	EPA 300.0	**19000**	500	mg/L	500	A311404	09/27/13	09/27/13	
Color, Apparent	SM 2120 B	**20**	1.0	CU	1	A311368	09/27/13 15:37	09/27/13	
Conductivity @ 25C	SM 2510 B	**43000**	1.0	umhos/cm	1	A311377	09/27/13	09/27/13	
Fluoride	EPA 300.0	ND	0.50	mg/L	5	A311580	10/02/13	10/02/13	DL01
Mass Balance-Anions		**580**		meq/L					
Mass Balance-Dissolved Cations		**570**		meq/L					
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	0.050	mg/L	1	A311369	09/27/13 15:46	09/27/13	
Nitrate as NO3	EPA 300.0	ND	500	mg/L	500	A311404	09/27/13 19:21	09/27/13	DL01, HT04
Nitrite as N	EPA 300.0	ND	25	mg/L	500	A311404	09/27/13 19:21	09/27/13	DL01, HT04
Threshold Odor	SM 2150 B	**10**	1.0	T.O.N.	1	A311368	09/27/13 15:37	09/27/13	HT08
Orthophosphate as P	SM 4500-P E	**0.042**	0.010	mg/L	1	A311398	09/27/13 15:25	09/27/13	
pH (1)	SM 4500-H+ B	**7.7**		pH Units	1	A311377	09/27/13	09/27/13	
pH Temperature in °C		**21.9**							
Phosphorus - Dissolved (1)	EPA 365.4	ND	0.10	mg/L	1	A311800	10/07/13	10/09/13	
Sulfate as SO4	EPA 300.0	**2500**	1000	mg/L	500	A311404	09/27/13	09/27/13	
Total Dissolved Solids	SM 2540C	**34000**	5.0	mg/L	1	A311575	10/02/13	10/07/13	
Total Kjeldahl Nitrogen - Dissolved (1)	EPA 351.2	ND	1.0	mg/L	1	A311800	10/07/13	10/09/13	
Total Oxidizable Nitrogen, as N - Dissolved (1)	SM 4500-NO3 F	ND	0.10	mg/L	1	A311810	10/07/13	10/07/13	
Turbidity	SM 2130 B	**5.1**	0.10	NTU	1	A311368	09/27/13 15:37	09/27/13	

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Aluminum	EPA 200.7	**0.068**	0.050	mg/L	1	A311463	10/01/13	10/05/13	
Arsenic	EPA 200.8	**13**	4.0	ug/L	2	A311463	10/01/13	10/09/13	
Barium - Dissolved (1)	EPA 200.7	ND	0.50	mg/L	10	A311497	10/01/13	10/04/13	
Boron - Dissolved (1)	EPA 200.7	**4.3**	1.0	mg/L	10	A311497	10/01/13	10/04/13	
Calcium	EPA 200.7	**340**	0.10	mg/L	1	A311463	10/01/13	10/05/13	
Calcium - Dissolved (1)	EPA 200.7	**400**	1.0	mg/L	10	A311497	10/01/13	10/04/13	
Copper	EPA 200.8	**54**	10	ug/L	2	A311463	10/01/13	10/09/13	
Hardness as CaCO3	SM 2340B	**5300**	0.41	mg/L					
Iron	EPA 200.7	**0.65**	0.030	mg/L	1	A311463	10/01/13	10/05/13	
Iron - Dissolved (1)	EPA 200.7	ND	0.30	mg/L	10	A311497	10/01/13	10/04/13	
Magnesium	EPA 200.7	**1100**	0.10	mg/L	1	A311463	10/01/13	10/05/13	

Certificate of Analysis

Sample ID: A3I2260-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Samples

Sample Date - Time: 09/25/13 - 17:00
Matrix: Water
Sample Type: Grab

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Magnesium - Dissolved (1)	EPA 200.7	**1200**	1.0	mg/L	10	A311497	10/01/13	10/04/13	
Manganese	EPA 200.7	**1.5**	0.010	mg/L	1	A311463	10/01/13	10/05/13	
Manganese - Dissolved (1)	EPA 200.7	**1.7**	0.10	mg/L	10	A311497	10/01/13	10/04/13	
Potassium - Dissolved (1)	EPA 200.7	**380**	20	mg/L	10	A311497	10/01/13	10/04/13	
Silica (SiO2) - Dissolved (1)	EPA 200.7	**25**	2.0	mg/L	10	A311497	10/01/13	10/04/13	
Sodium - Dissolved (1)	EPA 200.7	**10000**	100	mg/L	100	A311497	10/01/13	10/05/13	
Strontium - Dissolved (1)	EPA 200.8	**7400**	10	ug/L	10	A311497	10/01/13	10/08/13	
Zinc	EPA 200.7	ND	0.050	mg/L	1	A311463	10/01/13	10/05/13	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
EDB and DBCP by GC-ECD									
Dibromochloropropane (DBCP)	EPA 504.1	ND	0.010	ug/L	1	A311476	09/30/13	10/02/13	
Ethylene Dibromide (EDB)	EPA 504.1	ND	0.020	ug/L	1	A311476	09/30/13	10/02/13	
Surrogate: TCMX	EPA 504.1	146 %	*Acceptable range: 70-130 %*			*Qualifiers -*	*SR02*		
Organohalide Pesticides and PCBs by GC-ECD									
Aldrin	EPA 505	ND	0.075	ug/L	1	A311476	09/30/13	10/02/13	
Chlordane	EPA 505	ND	0.10	ug/L	1	A311476	09/30/13	10/02/13	
Chlorothalonil	EPA 505	ND	5.0	ug/L	1	A311476	09/30/13	10/02/13	
Dieldrin	EPA 505	ND	0.020	ug/L	1	A311476	09/30/13	10/02/13	
Endrin	EPA 505	ND	0.10	ug/L	1	A311476	09/30/13	10/02/13	
Heptachlor	EPA 505	ND	0.010	ug/L	1	A311476	09/30/13	10/02/13	
Heptachlor Epoxide	EPA 505	ND	0.010	ug/L	1	A311476	09/30/13	10/02/13	
Hexachlorobenzene	EPA 505	ND	0.50	ug/L	1	A311476	09/30/13	10/02/13	
Hexachlorocyclopentadiene	EPA 505	ND	1.0	ug/L	1	A311476	09/30/13	10/02/13	
Lindane	EPA 505	ND	0.20	ug/L	1	A311476	09/30/13	10/02/13	
Methoxychlor	EPA 505	ND	10	ug/L	1	A311476	09/30/13	10/02/13	
PCB Aroclor Screen	EPA 505	ND	0.50	ug/L	1	A311476	09/30/13	10/02/13	
Toxaphene	EPA 505	ND	1.0	ug/L	1	A311476	09/30/13	10/02/13	
Trifluralin	EPA 505	ND	1.0	ug/L	1	A311476	09/30/13	10/02/13	
Surrogate: TCMX	EPA 505	146 %	*Acceptable range: 70-130 %*			*Qualifiers -*	*SR02*		
Chlorinated Acid Herbicides by GC-ECD									
2,4,5-T	EPA 515.3	ND	1.0	ug/L	1	A311419	09/29/13	10/04/13	
2,4,5-TP (Silvex)	EPA 515.3	ND	1.0	ug/L	1	A311419	09/29/13	10/04/13	
2,4-D	EPA 515.3	ND	10	ug/L	1	A311419	09/29/13	10/04/13	
Bentazon	EPA 515.3	ND	2.0	ug/L	1	A311419	09/29/13	10/04/13	
Dalapon	EPA 515.3	ND	10	ug/L	1	A311419	09/29/13	10/04/13	
Dicamba	EPA 515.3	ND	1.5	ug/L	1	A311419	09/29/13	10/04/13	
Dinoseb	EPA 515.3	ND	2.0	ug/L	1	A311419	09/29/13	10/04/13	
Pentachlorophenol	EPA 515.3	ND	0.20	ug/L	1	A311419	09/29/13	10/04/13	

Certificate of Analysis

Sample ID: A3I2260-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Samples

Sample Date - Time: 09/25/13 - 17:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Chlorinated Acid Herbicides by GC-ECD									
Picloram	EPA 515.3	ND	1.0	ug/L	1	A311419	09/29/13	10/04/13	
Surrogate: DCPAA	EPA 515.3	109 %	*Acceptable range: 70-130 %*						
Volatile Organics by GC-MS									
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1,1-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 524.2	ND	10	ug/L	1	A311594	10/02/13	10/03/13	
1,1,2-Trichloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,1-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2,3-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2,4-Trichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2,4-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2-Dichloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,3,5-Trimethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,3-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,3-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
1,4-Dichlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
2,2-Dichloropropane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
2-Butanone	EPA 524.2	ND	5.0	ug/L	1	A311594	10/02/13	10/03/13	
2-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
2-Hexanone	EPA 524.2	ND	10	ug/L	1	A311594	10/02/13	10/03/13	
4-Chlorotoluene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
4-Methyl-2-pentanone	EPA 524.2	ND	5.0	ug/L	1	A311594	10/02/13	10/03/13	
Acetone	EPA 524.2	ND	10	ug/L	1	A311594	10/02/13	10/03/13	
Benzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Bromomethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Carbon Tetrachloride	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Chlorobenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Chloroethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Chloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
cis-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
cis-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	

Certificate of Analysis

Sample ID: A3I2260-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Samples

Sample Date - Time: 09/25/13 - 17:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Dibromomethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Dichlorodifluoromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Dichloromethane	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Di-isopropyl ether (DIPE)	EPA 524.2	ND	3.0	ug/L	1	A311594	10/02/13	10/03/13	
Ethyl tert-Butyl Ether (ETBE)	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Ethylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Hexachlorobutadiene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Isopropylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
m,p-Xylenes	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Methyl-t-butyl ether	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Naphthalene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
n-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
n-Propylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
o-Xylene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
p-Isopropyltoluene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
sec-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Styrene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
tert-Amyl Methyl Ether (TAME)	EPA 524.2	ND	3.0	ug/L	1	A311594	10/02/13	10/03/13	
tert-Butyl alcohol (TBA)	EPA 524.2	ND	2.0	ug/L	1	A311594	10/02/13	10/03/13	
tert-Butylbenzene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Tetrachloroethene (PCE)	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Toluene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
trans-1,2-Dichloroethene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
trans-1,3-Dichloropropene	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Trichloroethene (TCE)	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Trichlorofluoromethane	EPA 524.2	ND	5.0	ug/L	1	A311594	10/02/13	10/03/13	
Vinyl Chloride	EPA 524.2	ND	0.50	ug/L	1	A311594	10/02/13	10/03/13	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	95 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 524.2	100 %	*Acceptable range: 70-130 %*						
Total 1,3-Dichloropropene, EPA 524.2		ND	0.50	ug/L					
Total Trihalomethanes, EPA 524.2		ND	0.50	ug/L					
Total Xylenes, EPA 524.2		ND	0.50	ug/L					
Semi-Volatile Organics by GC-MS									
Alachlor	EPA 525.2	ND	1.0	ug/L	1	A311693	10/03/13	10/04/13	
Atrazine	EPA 525.2	ND	0.50	ug/L	1	A311693	10/03/13	10/04/13	
Benzo(a)pyrene	EPA 525.2	ND	0.10	ug/L	1	A311693	10/03/13	10/04/13	
Bis(2-ethylhexyl) adipate	EPA 525.2	ND	3.0	ug/L	1	A311693	10/03/13	10/04/13	
Bis(2-ethylhexyl) phthalate	EPA 525.2	ND	3.0	ug/L	1	A311693	10/03/13	10/04/13	
Bromacil	EPA 525.2	ND	10	ug/L	1	A311693	10/03/13	10/04/13	
Butachlor	EPA 525.2	ND	0.38	ug/L	1	A311693	10/03/13	10/04/13	

Certificate of Analysis

Sample ID: A3I2260-01
Sampled By: Sarp Sekeroglu
Sample Description: Water Samples

Sample Date - Time: 09/25/13 - 17:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Semi-Volatile Organics by GC-MS									
Diazinon	EPA 525.2	ND	0.25	ug/L	1	A311693	10/03/13	10/04/13	
Dimethoate	EPA 525.2	ND	10	ug/L	1	A311693	10/03/13	10/04/13	
Metolachlor	EPA 525.2	ND	0.50	ug/L	1	A311693	10/03/13	10/04/13	
Metribuzin	EPA 525.2	ND	0.50	ug/L	1	A311693	10/03/13	10/04/13	
Molinate	EPA 525.2	ND	2.0	ug/L	1	A311693	10/03/13	10/04/13	
Propachlor	EPA 525.2	ND	0.50	ug/L	1	A311693	10/03/13	10/04/13	
Simazine	EPA 525.2	ND	1.0	ug/L	1	A311693	10/03/13	10/04/13	
Thiobencarb	EPA 525.2	ND	1.0	ug/L	1	A311693	10/03/13	10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	EPA 525.2	105 %	*Acceptable range: 70-130 %*						
Carbamates by HPLC									
3-Hydroxycarbofuran	EPA 531.1	ND	3.0	ug/L	1	A311765	10/06/13	10/11/13	
Aldicarb	EPA 531.1	ND	3.0	ug/L	1	A311765	10/06/13	10/11/13	
Aldicarb Sulfone	EPA 531.1	ND	2.0	ug/L	1	A311765	10/06/13	10/11/13	
Aldicarb Sulfoxide	EPA 531.1	ND	3.0	ug/L	1	A311765	10/06/13	10/11/13	
Carbaryl	EPA 531.1	ND	5.0	ug/L	1	A311765	10/06/13	10/11/13	
Carbofuran	EPA 531.1	ND	5.0	ug/L	1	A311765	10/06/13	10/11/13	
Methomyl	EPA 531.1	ND	2.0	ug/L	1	A311765	10/06/13	10/11/13	
Oxamyl	EPA 531.1	ND	20	ug/L	1	A311765	10/06/13	10/11/13	BS1.0
Glyphosate by HPLC									
Glyphosate	EPA 547	ND	25	ug/L	1	A311763	10/04/13	10/05/13	
Surrogate: AMPA	EPA 547	107 %	*Acceptable range: 70-130 %*						
Endothall by GC-MS									
Endothall	EPA 548.1	ND	45	ug/L	1	A311487	09/30/13	10/02/13	
Diquat by HPLC									
Diquat	EPA 549.2	ND	4.9	ug/L	1.2	A311596	10/02/13	10/03/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A311404										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: AJT	
Blank (A311404-BLK1)											
Chloride	ND	1.0	mg/L							09/27/13	
Nitrate as NO3	ND	1.0	mg/L							09/27/13	
Nitrite as N	ND	0.050	mg/L							09/27/13	
Sulfate as SO4	ND	2.0	mg/L							09/27/13	
Blank Spike (A311404-BS1)											
Chloride	51	1.0	mg/L	50		102	90-110			09/27/13	
Nitrate as NO3	51	1.0	mg/L	50		102	90-110			09/27/13	
Nitrite as N	0.50	0.050	mg/L	0.50		100	90-110			09/27/13	
Sulfate as SO4	51	2.0	mg/L	50		102	90-110			09/27/13	
Blank Spike Dup (A311404-BSD1)											
Chloride	51	1.0	mg/L	50		103	90-110	1	20	09/27/13	
Nitrate as NO3	51	1.0	mg/L	50		102	90-110	1	20	09/27/13	
Nitrite as N	0.50	0.050	mg/L	0.50		100	90-110	0	20	09/27/13	
Sulfate as SO4	51	2.0	mg/L	50		103	90-110	1	20	09/27/13	
Matrix Spike (A311404-MS1), Source: A3I2247-01											
Chloride	140	2.0	mg/L	100	32	104	80-120			09/27/13	
Nitrate as NO3	110	2.0	mg/L	100	9.0	105	80-120			09/27/13	
Nitrite as N	0.36	0.10	mg/L	1.0	ND	36	80-120			09/27/13	MS02 ***Low***
Sulfate as SO4	150	4.0	mg/L	100	41	107	80-120			09/27/13	
Matrix Spike (A311404-MS2), Source: A3I2222-01											
Chloride	150	2.0	mg/L	100	51	102	80-120			09/27/13	
Nitrate as NO3	100	2.0	mg/L	100	ND	102	80-120			09/27/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	104	80-120			09/27/13	
Sulfate as SO4	160	4.0	mg/L	100	59	102	80-120			09/27/13	
Matrix Spike Dup (A311404-MSD1), Source: A3I2247-01											
Chloride	130	2.0	mg/L	100	32	102	80-120	1	20	09/27/13	
Nitrate as NO3	110	2.0	mg/L	100	9.0	100	80-120	4	20	09/27/13	
Nitrite as N	0.33	0.10	mg/L	1.0	ND	33	80-120	7	20	09/27/13	MS02 ***Low***
Sulfate as SO4	150	4.0	mg/L	100	41	107	80-120	1	20	09/27/13	
Matrix Spike Dup (A311404-MSD2), Source: A3I2222-01											
Chloride	150	2.0	mg/L	100	51	102	80-120	0	20	09/27/13	
Nitrate as NO3	100	2.0	mg/L	100	ND	102	80-120	1	20	09/27/13	
Nitrite as N	1.0	0.10	mg/L	1.0	ND	105	80-120	1	20	09/27/13	
Sulfate as SO4	160	4.0	mg/L	100	59	103	80-120	0	20	09/27/13	
EPA 300.0 - Quality Control											
Batch: A311580										Prepared: 10/2/2013	
Prep Method: Method Specific Preparation										Analyst: AJT	
Blank (A311580-BLK1)											

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control											
Batch: A311580										Prepared: 10/2/2013	
Prep Method: Method Specific Preparation										Analyst: AJT	
Blank (A311580-BLK1)											
Fluoride	ND	0.10	mg/L							10/02/13	
Blank Spike (A311580-BS1)											
Fluoride	0.48	0.10	mg/L	0.50		96	90-110			10/02/13	
Blank Spike Dup (A311580-BSD1)											
Fluoride	0.49	0.10	mg/L	0.50		98	90-110	2	10	10/02/13	
Matrix Spike (A311580-MS1), Source: A3I2049-19											
Fluoride	1.4	0.20	mg/L	1.0	0.40	96	80-120			10/02/13	
Matrix Spike (A311580-MS2), Source: A3I2049-20											
Fluoride	1.3	0.20	mg/L	1.0	0.37	97	80-120			10/02/13	
Matrix Spike Dup (A311580-MSD1), Source: A3I2049-19											
Fluoride	1.4	0.20	mg/L	1.0	0.40	97	80-120	1	10	10/02/13	
Matrix Spike Dup (A311580-MSD2), Source: A3I2049-20											
Fluoride	1.3	0.20	mg/L	1.0	0.37	97	80-120	1	10	10/02/13	
EPA 300.1 - Quality Control											
Batch: A311561										Prepared: 10/2/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A311561-BLK1)											
Bromide	ND	0.0050	mg/L							10/02/13	
Surrogate: Dichloroacetate	*0.527*			*0.50*		*105*	*90-115*			10/02/13	
Blank Spike (A311561-BS1)											
Bromide	0.19	0.0050	mg/L	0.20		97	85-115			10/02/13	
Surrogate: Dichloroacetate	*0.549*			*0.50*		*110*	*90-115*			10/02/13	
Blank Spike Dup (A311561-BSD1)											
Bromide	0.19	0.0050	mg/L	0.20		93	85-115	4	10	10/02/13	
Surrogate: Dichloroacetate	*0.524*			*0.50*		*105*	*90-115*			10/02/13	
Matrix Spike (A311561-MS1), Source: A3J0132-03											
Bromide	1.1	0.050	mg/L	1.0	0.18	95	75-125			10/02/13	
Surrogate: Dichloroacetate	*5.34*			*5.0*		*107*	*90-115*			10/02/13	
Matrix Spike Dup (A311561-MSD1), Source: A3J0132-03											
Bromide	1.1	0.050	mg/L	1.0	0.18	97	75-125	1	10	10/02/13	
Surrogate: Dichloroacetate	*5.62*			*5.0*		*112*	*90-115*			10/02/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 351.2 - Quality Control											
Batch: A311800										Prepared: 10/7/2013	
Prep Method: Digestion										Analyst: LJL	
Blank (A311800-BLK1)											
Total Kjeldahl Nitrogen - Dissolved (1)	ND	1.0	mg/L							10/09/13	
Blank Spike (A311800-BS1)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		104	90-110			10/09/13	
Blank Spike Dup (A311800-BSD1)											
Total Kjeldahl Nitrogen - Dissolved (1)	10	1.0	mg/L	10		104	90-110	1	10	10/09/13	
Matrix Spike (A311800-MS1), Source: A3I2260-01											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	103	90-110			10/09/13	
Matrix Spike Dup (A311800-MSD1), Source: A3I2260-01											
Total Kjeldahl Nitrogen - Dissolved (1)	11	1.0	mg/L	10	ND	103	90-110	0	10	10/09/13	
EPA 365.4 - Quality Control											
Batch: A311800										Prepared: 10/7/2013	
Prep Method: Digestion										Analyst: LJL	
Blank (A311800-BLK1)											
Phosphorus - Dissolved (1)	ND	0.10	mg/L							10/09/13	
Blank Spike (A311800-BS1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		102	90-110			10/09/13	
Blank Spike Dup (A311800-BSD1)											
Phosphorus - Dissolved (1)	10	0.10	mg/L	10		102	90-110	0	10	10/09/13	
Matrix Spike (A311800-MS1), Source: A3I2260-01											
Phosphorus - Dissolved (1)	9.9	0.10	mg/L	10	ND	98	90-110			10/09/13	
Matrix Spike Dup (A311800-MSD1), Source: A3I2260-01											
Phosphorus - Dissolved (1)	9.4	0.10	mg/L	10	ND	93	90-110	5	10	10/09/13	
SM 2120 B - Quality Control											
Batch: A311368										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311368-BLK1)											
Color, Apparent	ND	1.0	CU							09/27/13	
Duplicate (A311368-DUP1), Source: A3I2216-01											
Color, Apparent	5.0	1.0	CU		5.0			0	20	09/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2130 B - Quality Control											
Batch: A311368										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311368-BLK1)											
Turbidity	ND	0.10	NTU							09/27/13	
Duplicate (A311368-DUP1), Source: A3I2216-01											
Turbidity	2.6	0.10	NTU		2.7			4	20	09/27/13	
SM 2150 B - Quality Control											
Batch: A311368										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311368-BLK1)											
Threshold Odor	ND	1.0	T.O.N.							09/27/13	
Duplicate (A311368-DUP1), Source: A3I2216-01											
Threshold Odor	ND	1.0	T.O.N.		ND				20	09/27/13	
SM 2320 B - Quality Control											
Batch: A311377										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A311377-BLK1)											
Alkalinity as CaCO3	ND	3.0	mg/L							09/27/13	
Bicarbonate as CaCO3	ND	3.0	mg/L							09/27/13	
Carbonate as CaCO3	ND	3.0	mg/L							09/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L							09/27/13	
Blank Spike (A311377-BS1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		101	80-120			09/27/13	
Blank Spike Dup (A311377-BSD1)											
Alkalinity as CaCO3	100	3.0	mg/L	100		100	80-120	1	20	09/27/13	
Duplicate (A311377-DUP1), Source: A3I2176-02											
Alkalinity as CaCO3	74	3.0	mg/L		74			0	10	09/27/13	
Bicarbonate as CaCO3	73	3.0	mg/L		73			0	10	09/27/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	09/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	09/27/13	
Duplicate (A311377-DUP2), Source: A3I2260-01											
Alkalinity as CaCO3	140	3.0	mg/L		150			0	10	09/27/13	
Bicarbonate as CaCO3	140	3.0	mg/L		150			0	10	09/27/13	
Carbonate as CaCO3	ND	3.0	mg/L		ND				10	09/27/13	
Hydroxide as CaCO3	ND	3.0	mg/L		ND				10	09/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2510 B - Quality Control											
Batch: A311377										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Blank (A311377-BLK1)											
Conductivity @ 25C	ND	1.0	umhos/cm							09/27/13	
Duplicate (A311377-DUP1), Source: A3I2176-02											
Conductivity @ 25C	580	1.0	umhos/cm		580			0	20	09/27/13	
Duplicate (A311377-DUP2), Source: A3I2260-01											
Conductivity @ 25C	43000	1.0	umhos/cm		43000			0	20	09/27/13	
SM 2540C - Quality Control											
Batch: A311575										Prepared: 10/2/2013	
Prep Method: Method Specific Preparation										Analyst: DEH	
Blank (A311575-BLK1)											
Total Dissolved Solids	ND	5.0	mg/L							10/07/13	
Blank Spike (A311575-BS1)											
Total Dissolved Solids	1000	5.0	mg/L	1000		100	70-130			10/07/13	
Duplicate (A311575-DUP1), Source: A3I2260-01											
Total Dissolved Solids	34000	5.0	mg/L		34000			0	20	10/07/13	
SM 4500-H+ B - Quality Control											
Batch: A311377										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CEG	
Duplicate (A311377-DUP1), Source: A3I2176-02											
pH (1)	8.3		pH Units		8.3			0	20	09/27/13	
Duplicate (A311377-DUP2), Source: A3I2260-01											
pH (1)	7.7		pH Units		7.7			0	20	09/27/13	
SM 4500-NH3 G - Quality Control											
Batch: A311778										Prepared: 10/7/2013	
Prep Method: Ammonia Distillation										Analyst: LJL	
Blank (A311778-BLK1)											
Ammonia as N	ND	0.10	mg/L							10/08/13	
Blank (A311778-BLK2)											
Ammonia as N	ND	0.10	mg/L							10/08/13	
Blank Spike (A311778-BS1)											
Ammonia as N	9.8	0.10	mg/L	10		98	80-120			10/08/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-NH3 G - Quality Control											
Batch: A311778										Prepared: 10/7/2013	
Prep Method: Ammonia Distillation										Analyst: LJL	
Blank Spike Dup (A311778-BSD1)											
Ammonia as N	9.8	0.10	mg/L	10		98	80-120	0	20	10/08/13	
Matrix Spike (A311778-MS1), Source: A3I2168-05											
Ammonia as N	10	0.10	mg/L	10	0.34	97	80-120			10/08/13	
Matrix Spike (A311778-MS2), Source: A3I2246-02											
Ammonia as N	10	0.10	mg/L	10	ND	100	80-120			10/08/13	
Matrix Spike Dup (A311778-MSD1), Source: A3I2168-05											
Ammonia as N	10	0.10	mg/L	10	0.34	96	80-120	1	20	10/08/13	
Matrix Spike Dup (A311778-MSD2), Source: A3I2246-02											
Ammonia as N	9.3	0.10	mg/L	10	ND	92	80-120	8	20	10/08/13	
SM 4500-NO3 F - Quality Control											
Batch: A311810										Prepared: 10/7/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A311810-BLK2)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	ND	0.10	mg/L							10/07/13	
Blank Spike (A311810-BS1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10		102	80-120			10/07/13	
Blank Spike Dup (A311810-BSD1)											
Total Oxidizable Nitrogen, as N - Dissolved (1)	9.8	0.10	mg/L	10		98	80-120	4	20	10/07/13	
Matrix Spike (A311810-MS1), Source: A3I2132-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10	0.87	94	80-120			10/07/13	
Matrix Spike (A311810-MS2), Source: A3I2260-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10	ND	105	80-120			10/07/13	
Matrix Spike Dup (A311810-MSD1), Source: A3I2132-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	10	0.10	mg/L	10	0.87	95	80-120	1	20	10/07/13	
Matrix Spike Dup (A311810-MSD2), Source: A3I2260-01											
Total Oxidizable Nitrogen, as N - Dissolved (1)	11	0.10	mg/L	10	ND	105	80-120	1	20	10/07/13	
SM 4500-P E - Quality Control											
Batch: A311398										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank (A311398-BLK1)											
Orthophosphate as P	ND	0.010	mg/L							09/27/13	

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 4500-P E - Quality Control											
Batch: A311398										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: LJL	
Blank Spike (A311398-BS1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		101	90-110			09/27/13	
Blank Spike Dup (A311398-BSD1)											
Orthophosphate as P	0.25	0.010	mg/L	0.25		101	90-110	0	20	09/27/13	
Matrix Spike (A311398-MS1), Source: A3I2214-01											
Orthophosphate as P	1.4	0.050	mg/L	1.2	0.14	98	80-120			09/27/13	
Matrix Spike Dup (A311398-MSD1), Source: A3I2214-01											
Orthophosphate as P	1.4	0.050	mg/L	1.2	0.14	99	80-120	1	20	09/27/13	
SM 5540 C - Quality Control											
Batch: A311369										Prepared: 9/27/2013	
Prep Method: Method Specific Preparation										Analyst: CCH	
Blank (A311369-BLK1)											
MBAS, Calculated as LAS, mol wt 340	ND	0.050	mg/L							09/27/13	
Blank Spike (A311369-BS1)											
MBAS, Calculated as LAS, mol wt 340	0.94	0.050	mg/L	1.0		94	80-120			09/27/13	
Blank Spike Dup (A311369-BSD1)											
MBAS, Calculated as LAS, mol wt 340	0.96	0.050	mg/L	1.0		96	80-120	1	20	09/27/13	
Matrix Spike (A311369-MS1), Source: A3I2214-01											
MBAS, Calculated as LAS, mol wt 340	1.0	0.050	mg/L	1.0	ND	102	80-120			09/27/13	
Matrix Spike Dup (A311369-MSD1), Source: A3I2214-01											
MBAS, Calculated as LAS, mol wt 340	1.1	0.050	mg/L	1.0	ND	104	80-120	2	20	09/27/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A311463										Prepared: 10/1/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Blank (A311463-BLK2)											
Aluminum	ND	0.050	mg/L							10/04/13	
Calcium	ND	0.10	mg/L							10/04/13	
Iron	ND	0.030	mg/L							10/04/13	
Magnesium	ND	0.10	mg/L							10/04/13	
Manganese	ND	0.010	mg/L							10/04/13	
Zinc	ND	0.050	mg/L							10/04/13	
Blank Spike (A311463-BS2)											
Aluminum	0.18	0.050	mg/L	0.20		91	85-115			10/04/13	
Calcium	9.7	0.10	mg/L	10		97	85-115			10/04/13	
Iron	1.9	0.030	mg/L	2.0		97	85-115			10/04/13	
Magnesium	9.3	0.10	mg/L	10		93	85-115			10/04/13	
Manganese	0.19	0.010	mg/L	0.20		95	85-115			10/04/13	
Zinc	0.20	0.050	mg/L	0.20		100	85-115			10/04/13	
Blank Spike Dup (A311463-BSD2)											
Aluminum	0.18	0.050	mg/L	0.20		91	85-115	0	20	10/05/13	
Calcium	9.8	0.10	mg/L	10		98	85-115	0	20	10/05/13	
Iron	2.0	0.030	mg/L	2.0		98	85-115	1	20	10/05/13	
Magnesium	9.3	0.10	mg/L	10		93	85-115	1	20	10/05/13	
Manganese	0.19	0.010	mg/L	0.20		96	85-115	1	20	10/05/13	
Zinc	0.20	0.050	mg/L	0.20		102	85-115	2	20	10/05/13	
Matrix Spike (A311463-MS3), Source: A3I2246-01											
Aluminum	0.43	0.050	mg/L	0.20	0.13	151	70-130			10/05/13	MS1.0 ***High***
Calcium	21	0.10	mg/L	10	11	98	70-130			10/05/13	
Iron	2.2	0.030	mg/L	2.0	0.19	99	70-130			10/05/13	
Magnesium	15	0.10	mg/L	10	5.2	94	70-130			10/05/13	
Manganese	0.21	0.010	mg/L	0.20	0.020	95	70-130			10/05/13	
Zinc	0.20	0.050	mg/L	0.20	ND	100	70-130			10/05/13	
Matrix Spike (A311463-MS4), Source: A3I2246-13											
Aluminum	0.83	0.050	mg/L	0.20	0.39	222	70-130			10/05/13	MS1.0 ***High***
Calcium	35	0.10	mg/L	10	25	99	70-130			10/05/13	
Iron	3.2	0.030	mg/L	2.0	1.1	102	70-130			10/05/13	
Magnesium	25	0.10	mg/L	10	16	93	70-130			10/05/13	
Manganese	0.38	0.010	mg/L	0.20	0.19	93	70-130			10/05/13	
Zinc	0.20	0.050	mg/L	0.20	ND	99	70-130			10/05/13	
Matrix Spike Dup (A311463-MSD3), Source: A3I2246-01											
Aluminum	0.41	0.050	mg/L	0.20	0.13	140	70-130	5	20	10/05/13	MS1.0 ***High***
Calcium	20	0.10	mg/L	10	11	93	70-130	2	20	10/05/13	
Iron	2.1	0.030	mg/L	2.0	0.19	98	70-130	1	20	10/05/13	
Magnesium	14	0.10	mg/L	10	5.2	92	70-130	2	20	10/05/13	
Manganese	0.21	0.010	mg/L	0.20	0.020	94	70-130	1	20	10/05/13	
Zinc	0.20	0.050	mg/L	0.20	ND	100	70-130	1	20	10/05/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A311463										Prepared: 10/1/2013	
Prep Method: EPA 200.2										Analyst: NRE	
Matrix Spike Dup (A311463-MSD4), Source: A3I2246-13											
Aluminum	0.81	0.050	mg/L	0.20	0.39	210	70-130	3	20	10/05/13	MS1.0 ***High***
Calcium	34	0.10	mg/L	10	25	91	70-130	2	20	10/05/13	
Iron	3.2	0.030	mg/L	2.0	1.1	102	70-130	0	20	10/05/13	
Magnesium	25	0.10	mg/L	10	16	89	70-130	2	20	10/05/13	
Manganese	0.37	0.010	mg/L	0.20	0.19	90	70-130	2	20	10/05/13	
Zinc	0.20	0.050	mg/L	0.20	ND	99	70-130	0	20	10/05/13	
EPA 200.7 - Quality Control											
Batch: A311497										Prepared: 10/1/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Blank (A311497-BLK2)											
Barium - Dissolved (1)	ND	0.050	mg/L							10/04/13	
Boron - Dissolved (1)	ND	0.10	mg/L							10/04/13	
Calcium - Dissolved (1)	ND	0.10	mg/L							10/04/13	
Iron - Dissolved (1)	ND	0.030	mg/L							10/04/13	
Magnesium - Dissolved (1)	ND	0.10	mg/L							10/04/13	
Manganese - Dissolved (1)	ND	0.010	mg/L							10/04/13	
Potassium - Dissolved (1)	ND	2.0	mg/L							10/04/13	
Silica (SiO2) - Dissolved (1)	ND	0.20	mg/L							10/04/13	
Sodium - Dissolved (1)	ND	1.0	mg/L							10/04/13	
Blank Spike (A311497-BS2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		99	85-115			10/04/13	
Boron - Dissolved (1)	0.57	0.10	mg/L	0.60		95	85-115			10/04/13	
Calcium - Dissolved (1)	9.8	0.10	mg/L	10		98	85-115			10/04/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		99	85-115			10/04/13	
Magnesium - Dissolved (1)	9.6	0.10	mg/L	10		96	85-115			10/04/13	
Manganese - Dissolved (1)	0.19	0.010	mg/L	0.20		97	85-115			10/04/13	
Potassium - Dissolved (1)	9.7	2.0	mg/L	10		97	85-115			10/04/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		102	85-115			10/04/13	
Sodium - Dissolved (1)	9.8	1.0	mg/L	10		98	85-115			10/04/13	
Blank Spike Dup (A311497-BSD2)											
Barium - Dissolved (1)	0.20	0.050	mg/L	0.20		100	85-115	2	20	10/04/13	
Boron - Dissolved (1)	0.58	0.10	mg/L	0.60		97	85-115	2	20	10/04/13	
Calcium - Dissolved (1)	10	0.10	mg/L	10		100	85-115	2	20	10/04/13	
Iron - Dissolved (1)	2.0	0.030	mg/L	2.0		100	85-115	1	20	10/04/13	
Magnesium - Dissolved (1)	9.7	0.10	mg/L	10		97	85-115	1	20	10/04/13	
Manganese - Dissolved (1)	0.20	0.010	mg/L	0.20		98	85-115	1	20	10/04/13	
Potassium - Dissolved (1)	9.9	2.0	mg/L	10		99	85-115	2	20	10/04/13	
Silica (SiO2) - Dissolved (1)	2.2	0.20	mg/L	2.1		102	85-115	1	20	10/04/13	
Sodium - Dissolved (1)	10	1.0	mg/L	10		100	85-115	2	20	10/04/13	
Matrix Spike (A311497-MS2), Source: A3I2260-01											
Barium - Dissolved (1)	0.25	0.50	mg/L	0.20	ND	123	70-130			10/04/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.7 - Quality Control											
Batch: A311497										Prepared: 10/1/2013	
Prep Method: Filtration - Metals										Analyst: NRE	
Matrix Spike (A311497-MS2), Source: A3I2260-01											
Boron - Dissolved (1)	4.9	1.0	mg/L	0.60	4.3	100	70-130			10/04/13	
Calcium - Dissolved (1)	410	1.0	mg/L	10	400	184	70-130			10/04/13	MS1.0 ***High***
Iron - Dissolved (1)	2.0	0.30	mg/L	2.0	ND	99	70-130			10/04/13	
Magnesium - Dissolved (1)	1200	1.0	mg/L	10	1200	340	70-130			10/04/13	MS1.0 ***High***
Manganese - Dissolved (1)	1.9	0.10	mg/L	0.20	1.7	114	70-130			10/04/13	
Potassium - Dissolved (1)	390	20	mg/L	10	380	171	70-130			10/04/13	MS1.0 ***High***
Silica (SiO2) - Dissolved (1)	27	2.0	mg/L	2.1	25	128	70-130			10/04/13	
Matrix Spike (A311497-MS3), Source: A3I2260-01											
Sodium - Dissolved (1)	10000	100	mg/L	10	10000	NR	70-130			10/05/13	MS1.0 ***High***
Matrix Spike Dup (A311497-MSD2), Source: A3I2260-01											
Barium - Dissolved (1)	0.24	0.50	mg/L	0.20	ND	122	70-130	1	20	10/04/13	
Boron - Dissolved (1)	4.9	1.0	mg/L	0.60	4.3	108	70-130	1	20	10/04/13	
Calcium - Dissolved (1)	410	1.0	mg/L	10	400	186	70-130	0	20	10/04/13	MS1.0 ***High***
Iron - Dissolved (1)	2.0	0.30	mg/L	2.0	ND	101	70-130	2	20	10/04/13	
Magnesium - Dissolved (1)	1200	1.0	mg/L	10	1200	366	70-130	0	20	10/04/13	MS1.0 ***High***
Manganese - Dissolved (1)	1.9	0.10	mg/L	0.20	1.7	119	70-130	1	20	10/04/13	
Potassium - Dissolved (1)	400	20	mg/L	10	380	185	70-130	0	20	10/04/13	MS1.0 ***High***
Silica (SiO2) - Dissolved (1)	28	2.0	mg/L	2.1	25	141	70-130	1	20	10/04/13	MS1.0 ***High***
Matrix Spike Dup (A311497-MSD3), Source: A3I2260-01											
Sodium - Dissolved (1)	11000	100	mg/L	10	10000	NR	70-130	1	20	10/05/13	MS1.0 ***High***
EPA 200.8 - Quality Control											
Batch: A311463										Prepared: 10/1/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Blank (A311463-BLK1)											
Arsenic	ND	2.0	ug/L							10/08/13	
Copper	ND	5.0	ug/L							10/08/13	
Blank Spike (A311463-BS1)											
Arsenic	200	2.0	ug/L	200		98	85-115			10/08/13	
Copper	200	5.0	ug/L	200		101	85-115			10/08/13	
Blank Spike Dup (A311463-BSD1)											
Arsenic	200	2.0	ug/L	200		98	85-115	1	20	10/08/13	
Copper	200	5.0	ug/L	200		101	85-115	0	20	10/08/13	
Matrix Spike (A311463-MS1), Source: A3I2246-01											
Arsenic	190	2.0	ug/L	200	ND	97	70-130			10/08/13	
Copper	200	5.0	ug/L	200	ND	98	70-130			10/08/13	
Matrix Spike (A311463-MS2), Source: A3I2246-13											
Arsenic	190	2.0	ug/L	200	3.8	95	70-130			10/08/13	

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A311463										Prepared: 10/1/2013	
Prep Method: EPA 200.2										Analyst: MAS	
Matrix Spike (A311463-MS2), Source: A3I2246-13											
Copper	200	5.0	ug/L	200	ND	96	70-130			10/08/13	
Matrix Spike Dup (A311463-MSD1), Source: A3I2246-01											
Arsenic	190	2.0	ug/L	200	ND	96	70-130	2	20	10/08/13	
Copper	200	5.0	ug/L	200	ND	98	70-130	1	20	10/08/13	
Matrix Spike Dup (A311463-MSD2), Source: A3I2246-13											
Arsenic	200	2.0	ug/L	200	3.8	96	70-130	1	20	10/08/13	
Copper	200	5.0	ug/L	200	ND	98	70-130	2	20	10/08/13	
EPA 200.8 - Quality Control											
Batch: A311497										Prepared: 10/1/2013	
Prep Method: Filtration - Metals										Analyst: MAS	
Blank (A311497-BLK1)											
Strontium - Dissolved (1)	ND	1.0	ug/L							10/08/13	
Blank Spike (A311497-BS1)											
Strontium - Dissolved (1)	190	1.0	ug/L	200		93	85-115			10/08/13	
Blank Spike Dup (A311497-BSD1)											
Strontium - Dissolved (1)	190	1.0	ug/L	200		96	85-115	3	20	10/08/13	
Matrix Spike (A311497-MS1), Source: A3I2260-01											
Strontium - Dissolved (1)	8700	10	ug/L	200	7400	673	70-130			10/08/13	MS1.0 ***High***
Matrix Spike Dup (A311497-MSD1), Source: A3I2260-01											
Strontium - Dissolved (1)	8200	10	ug/L	200	7400	401	70-130	6	20	10/08/13	MS1.0 ***High***

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 504.1 - Quality Control											
Batch: A311476										Prepared: 9/30/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A311476-BLK1)											
Dibromochloropropane (DBCP)	ND	0.010	ug/L							10/02/13	
Ethylene Dibromide (EDB)	ND	0.020	ug/L							10/02/13	
Surrogate: TCMX	*1.6*			*1.5*		*107*	*70-130*			10/02/13	
Blank Spike (A311476-BS1)											
Dibromochloropropane (DBCP)	0.21	0.010	ug/L	0.20		104	70-130			10/02/13	
Ethylene Dibromide (EDB)	0.22	0.020	ug/L	0.20		108	70-130			10/02/13	
Surrogate: TCMX	*1.5*			*1.5*		*102*	*70-130*			10/02/13	
Blank Spike Dup (A311476-BSD1)											
Dibromochloropropane (DBCP)	0.20	0.010	ug/L	0.20		101	70-130	2	20	10/02/13	
Ethylene Dibromide (EDB)	0.21	0.020	ug/L	0.20		104	70-130	4	20	10/02/13	
Surrogate: TCMX	*1.4*			*1.5*		*91*	*70-130*			10/02/13	
Matrix Spike (A311476-MS1), Source: A3I2242-01											
Dibromochloropropane (DBCP)	0.19	0.010	ug/L	0.20	ND	93	65-135			10/02/13	
Ethylene Dibromide (EDB)	0.19	0.020	ug/L	0.20	ND	96	65-135			10/02/13	
Surrogate: TCMX	*1.5*			*1.5*		*97*	*70-130*			10/02/13	
Matrix Spike Dup (A311476-MSD1), Source: A3I2242-01											
Dibromochloropropane (DBCP)	0.19	0.010	ug/L	0.20	ND	95	65-135	0	20	10/02/13	
Ethylene Dibromide (EDB)	0.18	0.020	ug/L	0.20	ND	94	65-135	4	20	10/02/13	
Surrogate: TCMX	*1.4*			*1.5*		*92*	*70-130*			10/02/13	
EPA 505 - Quality Control											
Batch: A311476										Prepared: 9/30/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank (A311476-BLK1)											
Aldrin	ND	0.075	ug/L							10/02/13	
Chlordane	ND	0.10	ug/L							10/02/13	
Chlorothalonil	ND	5.0	ug/L							10/02/13	
Dieldrin	ND	0.020	ug/L							10/02/13	
Endrin	ND	0.10	ug/L							10/02/13	
Heptachlor	ND	0.010	ug/L							10/02/13	
Heptachlor Epoxide	ND	0.010	ug/L							10/02/13	
Hexachlorobenzene	ND	0.50	ug/L							10/02/13	
Hexachlorocyclopentadiene	ND	1.0	ug/L							10/02/13	
Lindane	ND	0.20	ug/L							10/02/13	
Methoxychlor	ND	10	ug/L							10/02/13	
PCB Aroclor Screen	ND	0.50	ug/L							10/02/13	
Toxaphene	ND	1.0	ug/L							10/02/13	
Trifluralin	ND	1.0	ug/L							10/02/13	
Surrogate: TCMX	*1.6*			*1.5*		*107*	*70-130*			10/02/13	
Blank Spike (A311476-BS1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A311476										Prepared: 9/30/2013	
Prep Method: EPA 505										Analyst: GAK	
Blank Spike (A311476-BS1)											
Aldrin	1.2	0.075	ug/L	1.0		119	70-130			10/02/13	
Chlorothalonil	11	5.0	ug/L	10		114	70-130			10/02/13	
Dieldrin	0.45	0.020	ug/L	0.40		112	70-130			10/02/13	
Endrin	0.21	0.10	ug/L	0.20		106	70-130			10/02/13	
Heptachlor	0.22	0.010	ug/L	0.20		112	70-130			10/02/13	
Heptachlor Epoxide	0.22	0.010	ug/L	0.20		110	70-130			10/02/13	
Hexachlorobenzene	2.4	0.50	ug/L	2.0		118	70-130			10/02/13	
Hexachlorocyclopentadiene	2.6	1.0	ug/L	2.0		128	70-130			10/02/13	
Lindane	0.46	0.20	ug/L	0.40		116	70-130			10/02/13	
Methoxychlor	2.1	10	ug/L	2.0		104	70-130			10/02/13	
Trifluralin	2.5	1.0	ug/L	2.0		125	70-130			10/02/13	
Surrogate: TCMX	*1.5*			*1.5*		*102*	*70-130*			10/02/13	
Blank Spike Dup (A311476-BSD1)											
Aldrin	1.1	0.075	ug/L	1.0		111	70-130	7	20	10/02/13	
Chlorothalonil	11	5.0	ug/L	10		111	70-130	3	20	10/02/13	
Dieldrin	0.43	0.020	ug/L	0.40		107	70-130	4	20	10/02/13	
Endrin	0.20	0.10	ug/L	0.20		102	70-130	4	20	10/02/13	
Heptachlor	0.21	0.010	ug/L	0.20		107	70-130	5	20	10/02/13	
Heptachlor Epoxide	0.22	0.010	ug/L	0.20		108	70-130	2	20	10/02/13	
Hexachlorobenzene	2.3	0.50	ug/L	2.0		113	70-130	5	20	10/02/13	
Hexachlorocyclopentadiene	2.4	1.0	ug/L	2.0		122	70-130	5	20	10/02/13	
Lindane	0.44	0.20	ug/L	0.40		111	70-130	4	20	10/02/13	
Methoxychlor	2.1	10	ug/L	2.0		103	70-130	1	20	10/02/13	
Trifluralin	2.4	1.0	ug/L	2.0		119	70-130	5	20	10/02/13	
Surrogate: TCMX	*1.4*			*1.5*		*91*	*70-130*			10/02/13	
Matrix Spike (A311476-MS1), Source: A3I2242-01											
Aldrin	0.99	0.075	ug/L	1.0	ND	99	65-135			10/02/13	
Chlorothalonil	10	5.0	ug/L	10	ND	104	65-135			10/02/13	
Dieldrin	0.40	0.020	ug/L	0.40	ND	101	65-135			10/02/13	
Endrin	0.19	0.10	ug/L	0.20	ND	96	65-135			10/02/13	
Heptachlor	0.20	0.010	ug/L	0.20	ND	100	65-135			10/02/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	100	65-135			10/02/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	106	65-135			10/02/13	
Hexachlorocyclopentadiene	2.1	1.0	ug/L	2.0	ND	106	65-135			10/02/13	
Lindane	0.42	0.20	ug/L	0.40	ND	105	65-135			10/02/13	
Methoxychlor	1.9	10	ug/L	2.0	ND	97	65-135			10/02/13	
Trifluralin	2.2	1.0	ug/L	2.0	ND	110	65-135			10/02/13	
Surrogate: TCMX	*1.5*			*1.5*		*97*	*70-130*			10/02/13	
Matrix Spike Dup (A311476-MSD1), Source: A3I2242-01											
Aldrin	0.94	0.075	ug/L	0.99	ND	95	65-135	6	20	10/02/13	
Chlorothalonil	10	5.0	ug/L	9.9	ND	105	65-135	1	20	10/02/13	
Dieldrin	0.41	0.020	ug/L	0.40	ND	103	65-135	1	20	10/02/13	
Endrin	0.19	0.10	ug/L	0.20	ND	98	65-135	1	20	10/02/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 505 - Quality Control											
Batch: A311476										Prepared: 9/30/2013	
Prep Method: EPA 505										Analyst: GAK	
Matrix Spike Dup (A311476-MSD1), Source: A3I2242-01											
Heptachlor	0.19	0.010	ug/L	0.20	ND	98	65-135	4	20	10/02/13	
Heptachlor Epoxide	0.20	0.010	ug/L	0.20	ND	102	65-135	1	20	10/02/13	
Hexachlorobenzene	2.1	0.50	ug/L	2.0	ND	105	65-135	2	20	10/02/13	
Hexachlorocyclopentadiene	1.9	1.0	ug/L	2.0	ND	97	65-135	10	20	10/02/13	
Lindane	0.42	0.20	ug/L	0.40	ND	106	65-135	0	20	10/02/13	
Methoxychlor	2.0	10	ug/L	2.0	ND	101	65-135	3	20	10/02/13	
Trifluralin	2.2	1.0	ug/L	2.0	ND	111	65-135	0	20	10/02/13	
Surrogate: TCMX	*1.4*			*1.5*		*92*	*70-130*			10/02/13	
EPA 515.3 - Quality Control											
Batch: A311419										Prepared: 9/29/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank (A311419-BLK1)											
2,4,5-T	ND	1.0	ug/L							10/04/13	
2,4,5-TP (Silvex)	ND	1.0	ug/L							10/04/13	
2,4-D	ND	10	ug/L							10/04/13	
Bentazon	ND	2.0	ug/L							10/04/13	
Dalapon	ND	10	ug/L							10/04/13	
Dicamba	ND	1.5	ug/L							10/04/13	
Dinoseb	ND	2.0	ug/L							10/04/13	
Pentachlorophenol	ND	0.20	ug/L							10/04/13	
Picloram	ND	1.0	ug/L							10/04/13	
Surrogate: DCPAA	*71*			*58*		*123*	*70-130*			10/04/13	
Blank Spike (A311419-BS1)											
2,4,5-T	4.1	1.0	ug/L	4.0		102	70-130			10/04/13	
2,4,5-TP (Silvex)	4.2	1.0	ug/L	4.0		106	70-130			10/04/13	
2,4-D	47	10	ug/L	40		118	70-130			10/04/13	
Bentazon	9.8	2.0	ug/L	8.0		122	70-130			10/04/13	
Dalapon	37	10	ug/L	40		92	70-130			10/04/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130			10/04/13	
Dinoseb	8.1	2.0	ug/L	8.0		101	70-130			10/04/13	
Pentachlorophenol	0.68	0.20	ug/L	0.80		85	70-130			10/04/13	
Picloram	3.3	1.0	ug/L	4.0		82	70-130			10/04/13	
Surrogate: DCPAA	*67*			*58*		*115*	*70-130*			10/04/13	
Blank Spike Dup (A311419-BSD1)											
2,4,5-T	3.9	1.0	ug/L	4.0		98	70-130	3	20	10/04/13	
2,4,5-TP (Silvex)	4.2	1.0	ug/L	4.0		104	70-130	2	20	10/04/13	
2,4-D	46	10	ug/L	40		114	70-130	3	20	10/04/13	
Bentazon	8.1	2.0	ug/L	8.0		101	70-130	19	20	10/04/13	
Dalapon	37	10	ug/L	40		91	70-130	1	20	10/04/13	
Dicamba	5.9	1.5	ug/L	6.0		98	70-130	0	20	10/04/13	
Dinoseb	8.1	2.0	ug/L	8.0		101	70-130	0	20	10/04/13	
Pentachlorophenol	0.72	0.20	ug/L	0.80		90	70-130	6	20	10/04/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 515.3 - Quality Control											
Batch: A311419										Prepared: 9/29/2013	
Prep Method: EPA 515.3										Analyst: GAK	
Blank Spike Dup (A311419-BSD1)											
Picloram	3.9	1.0	ug/L	4.0		97	70-130	17	20	10/04/13	
Surrogate: DCPAA	*67*			*58*		*116*	*70-130*			10/04/13	
Matrix Spike (A311419-MS1), Source: A3I2242-01											
2,4,5-T	4.0	1.0	ug/L	4.0	ND	101	70-130			10/04/13	
2,4,5-TP (Silvex)	4.7	1.0	ug/L	4.0	ND	116	70-130			10/04/13	
2,4-D	47	10	ug/L	40	ND	119	70-130			10/04/13	
Bentazon	8.9	2.0	ug/L	8.0	ND	111	70-130			10/04/13	
Dalapon	37	10	ug/L	40	ND	92	70-130			10/04/13	
Dicamba	6.3	1.5	ug/L	6.0	ND	105	70-130			10/04/13	
Dinoseb	8.1	2.0	ug/L	8.0	ND	102	70-130			10/04/13	
Pentachlorophenol	0.68	0.20	ug/L	0.80	ND	85	70-130			10/04/13	
Picloram	3.3	1.0	ug/L	4.0	ND	82	70-130			10/04/13	
Surrogate: DCPAA	*69*			*58*		*119*	*70-130*			10/04/13	
Matrix Spike Dup (A311419-MSD1), Source: A3I2242-01											
2,4,5-T	4.0	1.0	ug/L	4.0	ND	100	70-130	1	20	10/04/13	
2,4,5-TP (Silvex)	4.0	1.0	ug/L	4.0	ND	100	70-130	16	20	10/04/13	
2,4-D	46	10	ug/L	40	ND	115	70-130	3	20	10/04/13	
Bentazon	8.8	2.0	ug/L	8.0	ND	110	70-130	1	20	10/04/13	
Dalapon	36	10	ug/L	40	ND	89	70-130	3	20	10/04/13	
Dicamba	5.8	1.5	ug/L	6.0	ND	97	70-130	8	20	10/04/13	
Dinoseb	8.0	2.0	ug/L	8.0	ND	100	70-130	1	20	10/04/13	
Pentachlorophenol	0.66	0.20	ug/L	0.80	ND	82	70-130	3	20	10/04/13	
Picloram	3.2	1.0	ug/L	4.0	ND	80	70-130	2	20	10/04/13	
Surrogate: DCPAA	*66*			*58*		*113*	*70-130*			10/04/13	
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A311594-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							10/03/13	
1,1,1-Trichloroethane	ND	0.50	ug/L							10/03/13	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							10/03/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	ug/L							10/03/13	
1,1,2-Trichloroethane	ND	0.50	ug/L							10/03/13	
1,1-Dichloroethane	ND	0.50	ug/L							10/03/13	
1,1-Dichloroethene	ND	0.50	ug/L							10/03/13	
1,1-Dichloropropene	ND	0.50	ug/L							10/03/13	
1,2,3-Trichlorobenzene	ND	0.50	ug/L							10/03/13	
1,2,4-Trichlorobenzene	ND	0.50	ug/L							10/03/13	
1,2,4-Trimethylbenzene	ND	0.50	ug/L							10/03/13	
1,2-Dichlorobenzene	ND	0.50	ug/L							10/03/13	
1,2-Dichloroethane	ND	0.50	ug/L							10/03/13	
1,2-Dichloropropane	ND	0.50	ug/L							10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A311594-BLK1)											
1,3,5-Trimethylbenzene	ND	0.50	ug/L							10/03/13	
1,3-Dichlorobenzene	ND	0.50	ug/L							10/03/13	
1,3-Dichloropropane	ND	0.50	ug/L							10/03/13	
1,4-Dichlorobenzene	ND	0.50	ug/L							10/03/13	
2,2-Dichloropropane	ND	0.50	ug/L							10/03/13	
2-Butanone	ND	5.0	ug/L							10/03/13	
2-Chlorotoluene	ND	0.50	ug/L							10/03/13	
2-Hexanone	ND	10	ug/L							10/03/13	
4-Chlorotoluene	ND	0.50	ug/L							10/03/13	
4-Methyl-2-pentanone	ND	5.0	ug/L							10/03/13	
Acetone	ND	10	ug/L							10/03/13	
Benzene	ND	0.50	ug/L							10/03/13	
Bromobenzene	ND	0.50	ug/L							10/03/13	
Bromochloromethane	ND	0.50	ug/L							10/03/13	
Bromodichloromethane	ND	0.50	ug/L							10/03/13	
Bromoform	ND	0.50	ug/L							10/03/13	
Bromomethane	ND	0.50	ug/L							10/03/13	
Carbon Tetrachloride	ND	0.50	ug/L							10/03/13	
Chlorobenzene	ND	0.50	ug/L							10/03/13	
Chloroethane	ND	0.50	ug/L							10/03/13	
Chloroform	ND	0.50	ug/L							10/03/13	
Chloromethane	ND	0.50	ug/L							10/03/13	
cis-1,2-Dichloroethene	ND	0.50	ug/L							10/03/13	
cis-1,3-Dichloropropene	ND	0.50	ug/L							10/03/13	
Dibromochloromethane	ND	0.50	ug/L							10/03/13	
Dibromomethane	ND	0.50	ug/L							10/03/13	
Dichlorodifluoromethane	ND	0.50	ug/L							10/03/13	
Dichloromethane	ND	0.50	ug/L							10/03/13	
Di-isopropyl ether (DIPE)	ND	3.0	ug/L							10/03/13	
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	ug/L							10/03/13	
Ethylbenzene	ND	0.50	ug/L							10/03/13	
Hexachlorobutadiene	ND	0.50	ug/L							10/03/13	
Isopropylbenzene	ND	0.50	ug/L							10/03/13	
m,p-Xylenes	ND	0.50	ug/L							10/03/13	
Methyl-t-butyl ether	ND	0.50	ug/L							10/03/13	
Naphthalene	ND	0.50	ug/L							10/03/13	
n-Butylbenzene	ND	0.50	ug/L							10/03/13	
n-Propylbenzene	ND	0.50	ug/L							10/03/13	
o-Xylene	ND	0.50	ug/L							10/03/13	
p-Isopropyltoluene	ND	0.50	ug/L							10/03/13	
sec-Butylbenzene	ND	0.50	ug/L							10/03/13	
Styrene	ND	0.50	ug/L							10/03/13	
tert-Amyl Methyl Ether (TAME)	ND	3.0	ug/L							10/03/13	
tert-Butyl alcohol (TBA)	ND	2.0	ug/L							10/03/13	
tert-Butylbenzene	ND	0.50	ug/L							10/03/13	
Tetrachloroethene (PCE)	ND	0.50	ug/L							10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank (A311594-BLK1)											
Toluene	ND	0.50	ug/L							10/03/13	
trans-1,2-Dichloroethene	ND	0.50	ug/L							10/03/13	
trans-1,3-Dichloropropene	ND	0.50	ug/L							10/03/13	
Trichloroethene (TCE)	ND	0.50	ug/L							10/03/13	
Trichlorofluoromethane	ND	5.0	ug/L							10/03/13	
Vinyl Chloride	ND	0.50	ug/L							10/03/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.5*			*5.0*		*90*	*70-130*			10/03/13	
Surrogate: Bromofluorobenzene	*4.9*			*5.0*		*97*	*70-130*			10/03/13	
Blank Spike (A311594-BS1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		100	70-130			10/03/13	
1,1,1-Trichloroethane	9.2	0.50	ug/L	10		92	70-130			10/03/13	
1,1,2,2-Tetrachloroethane	9.8	0.50	ug/L	10		98	70-130			10/03/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	8.9	10	ug/L	10		89	70-130			10/03/13	
1,1,2-Trichloroethane	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,1-Dichloroethane	9.9	0.50	ug/L	10		99	70-130			10/03/13	
1,1-Dichloroethene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
1,1-Dichloropropene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		100	70-130			10/03/13	
1,2,4-Trichlorobenzene	8.7	0.50	ug/L	10		87	70-130			10/03/13	
1,2,4-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
1,2-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,2-Dichloroethane	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,2-Dichloropropane	10	0.50	ug/L	10		100	70-130			10/03/13	
1,3,5-Trimethylbenzene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,3-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
1,3-Dichloropropane	9.6	0.50	ug/L	10		96	70-130			10/03/13	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
2,2-Dichloropropane	10	0.50	ug/L	10		100	70-130			10/03/13	
2-Butanone	9.7	5.0	ug/L	10		97	70-130			10/03/13	
2-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
2-Hexanone	9.4	10	ug/L	10		94	70-130			10/03/13	
4-Chlorotoluene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
4-Methyl-2-pentanone	9.5	5.0	ug/L	10		95	70-130			10/03/13	
Acetone	9.8	10	ug/L	10		98	70-130			10/03/13	
Benzene	9.9	0.50	ug/L	10		99	70-130			10/03/13	
Bromobenzene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
Bromochloromethane	9.9	0.50	ug/L	10		99	70-130			10/03/13	
Bromodichloromethane	9.5	0.50	ug/L	10		95	70-130			10/03/13	
Bromoform	9.3	0.50	ug/L	10		93	70-130			10/03/13	
Bromomethane	9.2	0.50	ug/L	10		92	70-130			10/03/13	
Carbon Tetrachloride	8.9	0.50	ug/L	10		89	70-130			10/03/13	
Chlorobenzene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
Chloroethane	9.4	0.50	ug/L	10		94	70-130			10/03/13	
Chloroform	10	0.50	ug/L	10		104	70-130			10/03/13	
Chloromethane	10	0.50	ug/L	10		100	70-130			10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike (A311594-BS1)											
cis-1,2-Dichloroethene	9.9	0.50	ug/L	10		99	70-130			10/03/13	
cis-1,3-Dichloropropene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
Dibromochloromethane	9.5	0.50	ug/L	10		95	70-130			10/03/13	
Dibromomethane	9.5	0.50	ug/L	10		95	70-130			10/03/13	
Dichlorodifluoromethane	8.1	0.50	ug/L	10		81	70-130			10/03/13	
Dichloromethane	9.7	0.50	ug/L	10		97	70-130			10/03/13	
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		104	70-130			10/03/13	
Ethyl tert-Butyl Ether (ETBE)	9.8	0.50	ug/L	10		98	70-130			10/03/13	
Ethylbenzene	9.2	0.50	ug/L	10		92	70-130			10/03/13	
Hexachlorobutadiene	8.1	0.50	ug/L	10		81	70-130			10/03/13	
Isopropylbenzene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
m,p-Xylenes	18	0.50	ug/L	20		92	70-130			10/03/13	
Methyl-t-butyl ether	21	0.50	ug/L	20		105	70-130			10/03/13	
Naphthalene	8.0	0.50	ug/L	10		80	70-130			10/03/13	
n-Butylbenzene	9.4	0.50	ug/L	10		94	70-130			10/03/13	
n-Propylbenzene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
o-Xylene	9.2	0.50	ug/L	10		92	70-130			10/03/13	
p-Isopropyltoluene	9.7	0.50	ug/L	10		97	70-130			10/03/13	
sec-Butylbenzene	9.5	0.50	ug/L	10		95	70-130			10/03/13	
Styrene	9.8	0.50	ug/L	10		98	70-130			10/03/13	
tert-Amyl Methyl Ether (TAME)	9.1	3.0	ug/L	10		91	70-130			10/03/13	
tert-Butyl alcohol (TBA)	12	2.0	ug/L	10		122	70-130			10/03/13	
tert-Butylbenzene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
Tetrachloroethene (PCE)	9.4	0.50	ug/L	10		94	70-130			10/03/13	
Toluene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
trans-1,2-Dichloroethene	9.9	0.50	ug/L	10		99	70-130			10/03/13	
trans-1,3-Dichloropropene	9.6	0.50	ug/L	10		96	70-130			10/03/13	
Trichloroethene (TCE)	9.8	0.50	ug/L	10		98	70-130			10/03/13	
Trichlorofluoromethane	8.6	5.0	ug/L	10		86	70-130			10/03/13	
Vinyl Chloride	8.9	0.50	ug/L	10		89	70-130			10/03/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.8*			*5.0*		*97*	*70-130*			10/03/13	
Surrogate: Bromofluorobenzene	*4.9*			*5.0*		*98*	*70-130*			10/03/13	
Blank Spike Dup (A311594-BSD1)											
1,1,1,2-Tetrachloroethane	10	0.50	ug/L	10		100	70-130	0	30	10/03/13	
1,1,1-Trichloroethane	9.2	0.50	ug/L	10		92	70-130	0	30	10/03/13	
1,1,2,2-Tetrachloroethane	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
1,1,2-Trichloro-1,2,2-trifluoroethane	8.9	10	ug/L	10		89	70-130	0	30	10/03/13	
1,1,2-Trichloroethane	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
1,1-Dichloroethane	10	0.50	ug/L	10		100	70-130	1	30	10/03/13	
1,1-Dichloroethene	9.7	0.50	ug/L	10		97	70-130	0	30	10/03/13	
1,1-Dichloropropene	9.3	0.50	ug/L	10		93	70-130	3	30	10/03/13	
1,2,3-Trichlorobenzene	10	0.50	ug/L	10		100	70-130	1	30	10/03/13	
1,2,4-Trichlorobenzene	9.6	0.50	ug/L	10		96	70-130	10	30	10/03/13	
1,2,4-Trimethylbenzene	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
1,2-Dichlorobenzene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A311594-BSD1)											
1,2-Dichloroethane	9.7	0.50	ug/L	10		97	70-130	1	30	10/03/13	
1,2-Dichloropropane	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
1,3,5-Trimethylbenzene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
1,3-Dichlorobenzene	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
1,3-Dichloropropane	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10		97	70-130	0	30	10/03/13	
2,2-Dichloropropane	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
2-Butanone	10	5.0	ug/L	10		100	70-130	4	30	10/03/13	
2-Chlorotoluene	9.7	0.50	ug/L	10		97	70-130	1	30	10/03/13	
2-Hexanone	9.2	10	ug/L	10		92	70-130	2	30	10/03/13	
4-Chlorotoluene	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
4-Methyl-2-pentanone	9.2	5.0	ug/L	10		92	70-130	3	30	10/03/13	
Acetone	10	10	ug/L	10		100	70-130	2	30	10/03/13	
Benzene	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
Bromobenzene	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
Bromochloromethane	9.8	0.50	ug/L	10		98	70-130	1	30	10/03/13	
Bromodichloromethane	9.5	0.50	ug/L	10		95	70-130	0	30	10/03/13	
Bromoform	9.2	0.50	ug/L	10		92	70-130	0	30	10/03/13	
Bromomethane	9.4	0.50	ug/L	10		94	70-130	2	30	10/03/13	
Carbon Tetrachloride	9.0	0.50	ug/L	10		90	70-130	0	30	10/03/13	
Chlorobenzene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
Chloroethane	9.1	0.50	ug/L	10		91	70-130	2	30	10/03/13	
Chloroform	10	0.50	ug/L	10		105	70-130	1	30	10/03/13	
Chloromethane	8.4	0.50	ug/L	10		84	70-130	18	30	10/03/13	
cis-1,2-Dichloroethene	9.9	0.50	ug/L	10		99	70-130	1	30	10/03/13	
cis-1,3-Dichloropropene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
Dibromochloromethane	9.8	0.50	ug/L	10		98	70-130	4	30	10/03/13	
Dibromomethane	9.6	0.50	ug/L	10		96	70-130	1	30	10/03/13	
Dichlorodifluoromethane	8.1	0.50	ug/L	10		81	70-130	1	30	10/03/13	
Dichloromethane	9.9	0.50	ug/L	10		99	70-130	2	30	10/03/13	
Di-isopropyl ether (DIPE)	10	3.0	ug/L	10		100	70-130	4	30	10/03/13	
Ethyl tert-Butyl Ether (ETBE)	10	0.50	ug/L	10		102	70-130	4	30	10/03/13	
Ethylbenzene	9.2	0.50	ug/L	10		92	70-130	0	30	10/03/13	
Hexachlorobutadiene	9.3	0.50	ug/L	10		93	70-130	14	30	10/03/13	
Isopropylbenzene	9.7	0.50	ug/L	10		97	70-130	2	30	10/03/13	
m,p-Xylenes	18	0.50	ug/L	20		92	70-130	1	30	10/03/13	
Methyl-t-butyl ether	21	0.50	ug/L	20		104	70-130	1	30	10/03/13	
Naphthalene	9.3	0.50	ug/L	10		93	70-130	15	30	10/03/13	
n-Butylbenzene	9.4	0.50	ug/L	10		94	70-130	1	30	10/03/13	
n-Propylbenzene	9.6	0.50	ug/L	10		96	70-130	1	30	10/03/13	
o-Xylene	9.2	0.50	ug/L	10		92	70-130	0	30	10/03/13	
p-Isopropyltoluene	9.7	0.50	ug/L	10		97	70-130	1	30	10/03/13	
sec-Butylbenzene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
Styrene	9.5	0.50	ug/L	10		95	70-130	4	30	10/03/13	
tert-Amyl Methyl Ether (TAME)	10	3.0	ug/L	10		100	70-130	10	30	10/03/13	
tert-Butyl alcohol (TBA)	10	2.0	ug/L	10		103	70-130	17	30	10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 524.2 - Quality Control											
Batch: A311594										Prepared: 10/2/2013	
Prep Method: EPA 524.2										Analyst: JGB	
Blank Spike Dup (A311594-BSD1)											
tert-Butylbenzene	9.4	0.50	ug/L	10		94	70-130	2	30	10/03/13	
Tetrachloroethene (PCE)	9.4	0.50	ug/L	10		94	70-130	0	30	10/03/13	
Toluene	9.6	0.50	ug/L	10		96	70-130	0	30	10/03/13	
trans-1,2-Dichloroethene	9.7	0.50	ug/L	10		97	70-130	2	30	10/03/13	
trans-1,3-Dichloropropene	9.5	0.50	ug/L	10		95	70-130	1	30	10/03/13	
Trichloroethene (TCE)	9.7	0.50	ug/L	10		97	70-130	1	30	10/03/13	
Trichlorofluoromethane	8.8	5.0	ug/L	10		88	70-130	2	30	10/03/13	
Vinyl Chloride	8.8	0.50	ug/L	10		88	70-130	1	30	10/03/13	
Surrogate: 1,2-Dichlorobenzene-d4	*4.9*			*5.0*		*98*	*70-130*			10/03/13	
Surrogate: Bromofluorobenzene	*4.9*			*5.0*		*99*	*70-130*			10/03/13	
EPA 525.2 - Quality Control											
Batch: A311693										Prepared: 10/3/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank (A311693-BLK1)											
Alachlor	ND	1.0	ug/L							10/04/13	
Atrazine	ND	0.50	ug/L							10/04/13	
Benzo(a)pyrene	ND	0.10	ug/L							10/04/13	
Bis(2-ethylhexyl) adipate	ND	3.0	ug/L							10/04/13	
Bis(2-ethylhexyl) phthalate	ND	3.0	ug/L							10/04/13	
Bromacil	ND	10	ug/L							10/04/13	
Butachlor	ND	0.38	ug/L							10/04/13	
Diazinon	ND	0.25	ug/L							10/04/13	
Dimethoate	ND	10	ug/L							10/04/13	
Metolachlor	ND	0.50	ug/L							10/04/13	
Metribuzin	ND	0.50	ug/L							10/04/13	
Molinate	ND	2.0	ug/L							10/04/13	
Propachlor	ND	0.50	ug/L							10/04/13	
Simazine	ND	1.0	ug/L							10/04/13	
Thiobencarb	ND	1.0	ug/L							10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.1*		*100*	*70-130*			10/04/13	
Blank Spike (A311693-BS1)											
Alachlor	0.49	1.0	ug/L	0.50		97	70-130			10/04/13	
Atrazine	0.44	0.50	ug/L	0.50		88	70-130			10/04/13	
Benzo(a)pyrene	0.091	0.10	ug/L	0.10		91	70-130			10/04/13	
Bis(2-ethylhexyl) adipate	3.5	3.0	ug/L	3.0		114	70-130			10/04/13	
Bis(2-ethylhexyl) phthalate	3.6	3.0	ug/L	3.0		118	70-130			10/04/13	
Bromacil	1.9	10	ug/L	2.0		94	70-130			10/04/13	
Butachlor	1.1	0.38	ug/L	1.3		91	70-130			10/04/13	
Diazinon	0.050	0.25	ug/L	0.050		100	70-130			10/04/13	
Dimethoate	0.43	10	ug/L	0.50		86	70-130			10/04/13	
Metolachlor	2.5	0.50	ug/L	2.5		100	70-130			10/04/13	
Metribuzin	2.3	0.50	ug/L	2.5		91	70-130			10/04/13	
Molinate	2.8	2.0	ug/L	2.5		113	70-130			10/04/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 525.2 - Quality Control											
Batch: A311693										Prepared: 10/3/2013	
Prep Method: EPA 525.2										Analyst: KHH	
Blank Spike (A311693-BS1)											
Propachlor	2.9	0.50	ug/L	2.5		114	70-130			10/04/13	
Simazine	0.32	1.0	ug/L	0.35		92	70-130			10/04/13	
Thiobencarb	0.47	1.0	ug/L	0.50		94	70-130			10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.0*			*5.0*		*99*	*70-130*			10/04/13	
Blank Spike Dup (A311693-BSD1)											
Alachlor	0.50	1.0	ug/L	0.50		99	70-130	2	30	10/04/13	
Atrazine	0.47	0.50	ug/L	0.50		94	70-130	6	30	10/04/13	
Benzo(a)pyrene	0.088	0.10	ug/L	0.10		88	70-130	4	30	10/04/13	
Bis(2-ethylhexyl) adipate	3.2	3.0	ug/L	3.0		105	70-130	9	30	10/04/13	
Bis(2-ethylhexyl) phthalate	3.2	3.0	ug/L	3.0		108	70-130	10	30	10/04/13	
Bromacil	2.2	10	ug/L	2.0		110	70-130	15	30	10/04/13	
Butachlor	1.3	0.38	ug/L	1.2		101	70-130	9	30	10/04/13	
Diazinon	0.044	0.25	ug/L	0.050		88	70-130	13	30	10/04/13	
Dimethoate	0.49	10	ug/L	0.50		99	70-130	14	30	10/04/13	
Metolachlor	2.6	0.50	ug/L	2.5		104	70-130	4	30	10/04/13	
Metribuzin	2.7	0.50	ug/L	2.5		106	70-130	15	30	10/04/13	
Molinate	2.7	2.0	ug/L	2.5		107	70-130	6	30	10/04/13	
Propachlor	2.9	0.50	ug/L	2.5		116	70-130	1	30	10/04/13	
Simazine	0.34	1.0	ug/L	0.35		97	70-130	5	30	10/04/13	
Thiobencarb	0.53	1.0	ug/L	0.50		106	70-130	11	30	10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.3*			*5.0*		*106*	*70-130*			10/04/13	
Matrix Spike (A311693-MS1), Source: A3I1912-02											
Alachlor	0.51	1.0	ug/L	0.50	ND	102	70-130			10/04/13	
Atrazine	0.48	0.50	ug/L	0.50	ND	95	70-130			10/04/13	
Benzo(a)pyrene	0.12	0.10	ug/L	0.10	ND	122	70-130			10/04/13	
Bis(2-ethylhexyl) adipate	3.1	3.0	ug/L	3.0	ND	104	70-130			10/04/13	
Bis(2-ethylhexyl) phthalate	3.7	3.0	ug/L	3.0	ND	122	70-130			10/04/13	
Bromacil	2.3	10	ug/L	2.0	ND	118	70-130			10/04/13	
Butachlor	1.4	0.38	ug/L	1.2	ND	109	70-130			10/04/13	
Diazinon	0.044	0.25	ug/L	0.050	ND	88	70-130			10/04/13	
Dimethoate	0.58	10	ug/L	0.50	ND	117	70-130			10/04/13	
Metolachlor	2.7	0.50	ug/L	2.5	ND	109	70-130			10/04/13	
Metribuzin	2.9	0.50	ug/L	2.5	ND	115	70-130			10/04/13	
Molinate	3.0	2.0	ug/L	2.5	ND	118	70-130			10/04/13	
Propachlor	3.1	0.50	ug/L	2.5	ND	124	70-130			10/04/13	
Simazine	0.37	1.0	ug/L	0.35	ND	107	70-130			10/04/13	
Thiobencarb	0.51	1.0	ug/L	0.50	ND	101	70-130			10/04/13	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.3*			*5.0*		*107*	*70-130*			10/04/13	
EPA 531.1 - Quality Control											
Batch: A311765										Prepared: 10/6/2013	
Prep Method: EPA 531.1										Analyst: AAR	
Blank (A311765-BLK1)											

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
EPA 531.1 - Quality Control												
Batch: A311765										Prepared: 10/6/2013		
Prep Method: EPA 531.1										Analyst: AAR		
Blank (A311765-BLK1)												
3-Hydroxycarbofuran	ND	2.0	ug/L							10/11/13		
Aldicarb	ND	2.0	ug/L							10/11/13		
Aldicarb Sulfone	ND	2.0	ug/L							10/11/13		
Aldicarb Sulfoxide	ND	2.0	ug/L							10/11/13		
Carbaryl	ND	2.0	ug/L							10/11/13		
Carbofuran	ND	2.0	ug/L							10/11/13		
Methomyl	ND	2.0	ug/L							10/11/13		
Oxamyl	ND	2.0	ug/L							10/11/13		
Blank Spike (A311765-BS1)												
3-Hydroxycarbofuran	4.5	2.0	ug/L	4.2		109	80-120			10/11/13		
Aldicarb	4.2	2.0	ug/L	4.2		101	80-120			10/11/13		
Aldicarb Sulfone	4.6	2.0	ug/L	4.2		110	80-120			10/11/13		
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.2		97	80-120			10/11/13		
Carbaryl	4.4	2.0	ug/L	4.2		105	80-120			10/11/13		
Carbofuran	4.4	2.0	ug/L	4.2		105	80-120			10/11/13		
Methomyl	4.2	2.0	ug/L	4.2		100	80-120			10/11/13		
Oxamyl	5.1	2.0	ug/L	4.2		123	80-120			10/11/13	BS	***High***
Blank Spike Dup (A311765-BSD1)												
3-Hydroxycarbofuran	4.4	2.0	ug/L	4.2		105	80-120	4	20	10/11/13		
Aldicarb	4.2	2.0	ug/L	4.2		101	80-120	0	20	10/11/13		
Aldicarb Sulfone	4.3	2.0	ug/L	4.2		103	80-120	6	20	10/11/13		
Aldicarb Sulfoxide	4.0	2.0	ug/L	4.2		95	80-120	2	20	10/11/13		
Carbaryl	4.4	2.0	ug/L	4.2		105	80-120	1	20	10/11/13		
Carbofuran	4.3	2.0	ug/L	4.2		102	80-120	3	20	10/11/13		
Methomyl	4.1	2.0	ug/L	4.2		99	80-120	1	20	10/11/13		
Oxamyl	4.9	2.0	ug/L	4.2		117	80-120	5	20	10/11/13		
Matrix Spike (A311765-MS1), Source: A3J0471-01												
3-Hydroxycarbofuran	4.2	2.0	ug/L	4.2	ND	100	65-135			10/11/13		
Aldicarb	4.7	2.0	ug/L	4.2	ND	114	65-135			10/11/13		
Aldicarb Sulfone	4.8	2.0	ug/L	4.2	ND	102	65-135			10/11/13		
Aldicarb Sulfoxide	4.7	2.0	ug/L	4.2	ND	99	65-135			10/11/13		
Carbaryl	4.2	2.0	ug/L	4.2	ND	101	65-135			10/11/13		
Carbofuran	4.0	2.0	ug/L	4.2	ND	96	65-135			10/11/13		
Methomyl	4.4	2.0	ug/L	4.2	ND	106	65-135			10/11/13		
Oxamyl	5.5	2.0	ug/L	4.2	ND	122	65-135			10/11/13		
EPA 547 - Quality Control												
Batch: A311763										Prepared: 10/4/2013		
Prep Method: EPA 547										Analyst: RJB		
Blank (A311763-BLK1)												
Glyphosate	ND	25	ug/L							10/04/13		
Surrogate: AMPA	*110*			*100*		*112*	*70-130*			10/04/13		

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 547 - Quality Control											
Batch: A311763										Prepared: 10/4/2013	
Prep Method: EPA 547										Analyst: RJB	
Blank Spike (A311763-BS1)											
Glyphosate	96	25	ug/L	100		96	70-130			10/04/13	
Surrogate: AMPA	*110*			*100*		*112*	*70-130*			10/04/13	
Blank Spike Dup (A311763-BSD1)											
Glyphosate	100	25	ug/L	100		101	70-130	5	30	10/04/13	
Surrogate: AMPA	*110*			*100*		*112*	*70-130*			10/04/13	
Matrix Spike (A311763-MS1), Source: A3J0044-01											
Glyphosate	100	25	ug/L	100	ND	99	70-130			10/04/13	
Surrogate: AMPA	*110*			*100*		*107*	*70-130*			10/04/13	
Matrix Spike Dup (A311763-MSD1), Source: A3J0044-01											
Glyphosate	100	25	ug/L	100	ND	102	70-130	3	30	10/04/13	
Surrogate: AMPA	*110*			*100*		*109*	*70-130*			10/04/13	
EPA 548.1 - Quality Control											
Batch: A311487										Prepared: 9/30/2013	
Prep Method: EPA 548.1										Analyst: KHH	
Blank (A311487-BLK1)											
Endothall	ND	45	ug/L							10/02/13	
Blank Spike (A311487-BS1)											
Endothall	14	45	ug/L	20		69	60-111			10/02/13	
Blank Spike Dup (A311487-BSD1)											
Endothall	14	45	ug/L	20		72	60-111	4	46	10/02/13	
Matrix Spike (A311487-MS1), Source: A3I1912-01											
Endothall	3.9	45	ug/L	20	ND	20	10-122			10/02/13	
EPA 549.2 - Quality Control											
Batch: A311596										Prepared: 10/2/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Blank (A311596-BLK1)											
Diquat	ND	4.0	ug/L							10/03/13	
Blank Spike (A311596-BS1)											
Diquat	3.6	4.0	ug/L	4.0		91	70-130			10/03/13	
Blank Spike Dup (A311596-BSD1)											
Diquat	3.7	4.0	ug/L	4.0		93	70-130	3	30	10/03/13	
Matrix Spike (A311596-MS1), Source: A3I2272-01											
Diquat	3.8	4.0	ug/L	4.0	ND	94	70-130			10/03/13	

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 549.2 - Quality Control											
Batch: A311596										Prepared: 10/2/2013	
Prep Method: EPA 549.2										Analyst: PYA	
Matrix Spike (A311596-MS2), Source: A3I2272-02											
Diquat	3.7	4.0	ug/L	4.0	ND	93	70-130			10/03/13	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable				

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certificattion.**

State of California - ELAP	1180	State of Nevada	CA000792009A
State of California - ELAP (Rancho Cordova)	2435	State of Hawaii	04227CA
State of California - NELAP	04227CA	State of Oregon	4017
State of Washington	C997	State of Oregon - NWTPH	4021

BSK is not accredited under the NELAC program for the following parameters:

Boron Silica (SiO2) Strontium
Threshold Odor

A3I2260

California American Water

Calif3295

09272013

Turnaround: Standard

Due Date: 10/11/2013

Printed: 9/27/2013 3:36:20PM

Page 1 of 1

BSK Associates
Engineers & Laboratories
1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 Fax (559) 497-2893
www.bskassociates.com

12.5

A3I2260
Calif3295

Appendix G 09/27/2013
10

*Required Fields

Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
California American Water-Monterey	Travis Peterson Additional cc's: Sarp Sekeroglu	PO#:	831-646-329	

E-mail*: travis.peterson@amwater.com & ssekeroglu@rbf.com

Address*:	City*:	State*:	Zip*:
PO Box 951	Monterey	CA	93942

Regulatory Carbon Copies: ☐ CDPH ☐ Fresno Co ☐ Merced Co ☐ Tulare Co ☐ Madera Co ☐ Other

Project:	Project #
Water Quality Analysis	

Reporting Options: ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type:

How would you like your completed results sent?* ☒ E-Mail ☐ Fax ☐ Mail

Regulatory Compliance: ☐ EDT to California DPH; System Number*:

Sampler Name (Printed/Signature)*: Sarp Sekeroglu

TAT* **Surcharge: ☒ Standard - 10 Business Days; ☐ **Rush: Date Needed

☐ Geotracker #:

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled* Date	Sampled* Time	Matrix*	Comments / Station Code / WTRAX	Alk,Hardness,MBAS,Color, Odor,TDS,pH,Turbidity,EC	Dissolved Metals (lab to filter) Ba,B,Ca,Cu,Fe,Mg,K,Si,Na,St	Total Metals: Al, As, Fe, Mn, Zn	Dissolved: Fl, Bromide,Chloride,P: orthod-P,Sulfate, Mass Balance	Dissolved: TKN, Ammonia, Nitrite	Nitrate +Nitrite as N, NO3	EPA 524 ,504, 505, 515, 525, 531, 547, 548, 549		EXT-Lithium, EXT-Dioxin,EXT-Tritium, EXT-Dissolved Iodide
1	Water Sampled	9/25	5pm		seawater salinity levels	X	X	X	X	X	X	X		X

9/27/13 Per Sarp Sekeroglu, notified of temperature anomaly, ok to proceed with analysis. (MW)

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Shelly Tegge	RBF	9/27	10		

Received for Lab by: (Signature and Printed Name) BSK 9/27/2013 1000

Payment Received at Delivery: Check / Cash; Date: Amount: PIA#: Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier:

Cooling Method: Wet Blue None

Custody Seal: Y/N

Chilling Process Begun: Y/N

bw, ICL

SR-FL-0012-05 Analytical Chain of Custody

BSK Associates
Bottle Order Form

A3I2260
Calif3295

Date Needed: 09/23/2013

Client: RBF Consulting

Attention: Sarp Sekeroglu

Address: 3180 Imjin Rd Suite 110

City: Marina State, Zip: CA, 93933

Email:

Phone: Requested By: RLR

Fax: Date Requested: 09/20/2013

Prepared By: TSC

Date Shipped: 9-20-13

Special Instructions:

box as 2 kits, place 1 COC in each box

Ship Via
Shipping Details
Box with Ice Chest

Tests	Description	Preservative	Sets	Lot Number
Metals: Inorganic / Gen Min.	500mL Plastic red lid / label	HNO3	4	
Chlorite, Bromate, Bromide, Chlorate	250mL AG brown label	EDA	2	
Odor: General Physical	500mL AG	None	2	
Non-Metals: Alk, F, Res. Cl, pH,CO2, Solids, SO4	500mL Plastic white lid / label	None	2	
Gen Mineral/Inorganic; BOD, Pb&Cu,TDS, TSS	1L Plastic white lid / label	None	4	
EPA 524.2 & 1,2,3-TCP - Raw Water	3 X 40mL VOAs	HCl	2	
EPA 504 / 505	3 X 40mL VOAs	Na2S2O3	2	
EPA 515	250mL AG blue label	Na2S2O3	2	
EPA 525	2 X 1L AG blue label	Na2S2O3	2	
EPA 531.1	1 x 40mL VOA orange label	MCAA + Na2S2O3	2	
EPA 547-Glyphosate	1 x 40mL VOA blue label	Na2S2O3	2	
EPA 548-Endothall	250mL AG blue label	Na2S2O3	2	
EPA 549-Diquat	1L Plastic (Brown)	Na2S2O3	2	
Dioxin	2 X 1L AG	-	2	
Iodide	250 mL Plastic	None	2	
Tritium	250 mL AG	None	2	

Sample Integrity

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C 12.5	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: Michael By/Time: 9/27 1000	Yes No NA

Bottles Received ("—" means preservation/chlorine checks are either N/A or are performed in the lab)

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	
Bacti $Na_2S_2O_3$	—	—	
None (P) White Cap	—	—	2C,1B,1a
Cr6 Buffer (P) Blue Cap	pH 9-9.5	Y N	
HNO_3 (P) Red Cap	—	—	2D
H_2SO_4 (P) Yellow Cap	pH ≤ 2	Y N	
NaOH (P) Green Cap	Cl, pH ≥12	Y N	
NaOH + ZnAc (P)	pH ≥ 9	Y N	
Dissolved Oxygen 300ml (g)	—	—	
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—	2C,1B,1a
H_2SO_4 (AG) Yellow Label O&G, Diesel	—	—	
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—	1C
$Na_2S_2O_3$ (AG) Blue Label 547, 515, 525, 548	—	—	2C,2D
$Na_2S_2O_3$ (AG) Blue Label THMs 524.2 or 524.3	—	—	
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—	1V
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH = 3	Y N	1V
NH_4Cl (AG) Purple Label 552	—	—	
EDA (AG) Brown Label DBPs	—	—	1a
Ascorbic + Maleic (AG) Lt Green Label 524.3	—	—	
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—	
Buffer pH 4 (CG)	—	—	
None (CG)	—	—	
H_3PO_4 (CG) Salmon Label	—	—	
Other:			
Asbestos 1Liter Plastic w/ Foil	—	—	
Low Level Hg / Metals Double Baggie	—	—	
Bottled Water	—	—	
Clear Glass Jar: 250 / 500 / 1 Liter	—	—	
Soil Tube Brass / Steel / Plastic	—	—	
Tedlar Bag / Plastic Bag	—	—	

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: DHD @ 14:27 Labels checked by: CE @ 1438 RUSH Paged by: @

External

A3I2260

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 24, 2013

Mr. Michael Ng
BSK Analytical Laboratories
1414 Stanislaus St.
Fresno, CA 93706

RE: Project: A3I2260
Pace Project No.: 30105077

Dear Mr. Ng:
Enclosed are the analytical results for sample(s) received by the laboratory on October 11, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: A3I2260
Pace Project No.: 30105077

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: A3I2260
Pace Project No.: 30105077

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30105077001	A3I2260-01	Water	09/25/13 17:00	10/11/13 09:45

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: A3I2260
Pace Project No.: 30105077

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30105077001	**A3I2260-01**	EPA 906.0	SLA	1	PASI-PA

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: A3I2260
Pace Project No.: 30105077

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: BSK Analytical Laboratories
Date: October 24, 2013

General Information:
1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: A3I2260
Pace Project No.: 30105077

Sample: A3I2260-01 **Lab ID: 30105077001** Collected: 09/25/13 17:00 Received: 10/11/13 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**38.7 ± 122 (212)**	pCi/L	10/18/13 22:02	10028-17-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: A3I2260
Pace Project No.: 30105077

QC Batch: RADC/17468
QC Batch Method: EPA 906.0
Analysis Method: EPA 906.0
Analysis Description: 906.0 Tritium
Associated Lab Samples: 30105077001

METHOD BLANK: 645156
Matrix: Water
Associated Lab Samples: 30105077001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Tritium	2.51 ± 116 (206)	pCi/L	10/22/13 10:25	

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: A3I2260
Pace Project No.: 30105077

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3I2260

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Radiochem
1638 Roseytown Rd Ste 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600
Fax: (724) 722-5208
Turnaround (Days): Standard
QC Deliverables: I (Std) III IV

3210507

Sample ID	Samp Desc	Sample Date 001
A3I2260-01	Water Samples	09/25/2013 17:00

Matrix: Water

Analysis 250 mL AG w/ NONE
EXT-Tritium — Non preserved glass container

Released By 10/4/13 Date — Received By 10-11-13 0945 Date

Released By — Received By

Sample Condition Upon Receipt

Pace Analytical

Client Name: BSK Project # 30160677

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z 93X 921 0358 3761 51

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Ziploc

Thermometer Used 5 6 7 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature NA Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: TAW 10-11-13

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	TAW 10-11-13 ☑Yes ☐No ☑N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:	WT	
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13. NP
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed TAW / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 10/11/13

...is a ... ...les a ... of this ... will be ... to the N... ... DEHNR

Pace Analytical

Project Number: 30105077

Client Name: BSL

Item No.	Matrix Code	Glass Jar (120 (250) 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y N	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 gal.)	Cubitainer (500 ml / 4L)	Ziploc	Other	Other
01	WT	1																						

SCURF Back (C016-4 15May2012).xls

QA Assessment Spreadsheet
PACE Analytical Services

Quality Control Sample Performance Assessment

Pace Analytical

Analyst:	SLA		
Date:	10/22/2013	Method:	EPA 906.0
Worklist:	17468	SOP:	PCH-R-021
Matrix:	DW	MB Sample ID:	645156

Method Blank Assessment

Analyte	Activity	1.96 Sig Unc.	MDC	Critical Value	Flag	Assessment
Tritium	2.5100	116.2000	205.9000	97.66000		

Laboratory Control Sample Assessment

	LCS	LCSD	LCS	LCSD	LCS	LCSD
Analyte:	Tritium					
Count Date:	10/19/13 0:04	10/19/13 1:06				
Spike I.D.:	10-003	10-003				
Spike Concentration (pCi/L):	2536.885	2536.668				
Volume Used (mL):	0.100	0.100				
Aliquot Volume (L, g, F):	0.100	0.100				
Target Conc. (pCi/L, g, F):	2536.885	2536.668				
1.96 Sigma Uncertainty (Calculated):	69.607	69.606				
Result (pCi/L, g, F):	2160.070	2310.830				
1.96 Sigma Unc:	223.600	225.700				
% Recovery:	85.15%	91.10%				
Assessment:	Pass	Pass				
Upper % Recovery Limits:	125.00%	125.00%				
Lower % Recovery Limits:	75.00%	75.00%				

Duplicate Sample Assessment

LCS/LCSD Y or N?:	Y					
Analyte:	Tritium					
Sample I.D.:	LCS17468					
Duplicate Sample I.D.:	LCSD17468					
Sample Result (pCi/L, g, F):	2160.0700					
1.96 Sigma Unc:	223.6000					
Sample Duplicate Result (pCi/L, g, F):	2310.8300					
Duplicate Sample 1.96 Sigma Unc.:	225.7000					
Either results below MDC?:	N					
Relative Percent Difference:	6.74%					
Assessment:	Pass					
% RPD Limit:	25.00%					

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC

Sample Matrix Spike Control Assessment

Analyte:	Tritium	Tritium
Sample Collection Date:	9/24/2013	10/8/2013
Sample I.D.:	35109631004	35111260001
Sample MS I.D.:	35109631004MS	35111260001MS
Sample MSD I.D.:		
Spike I.D.:	10-003	10-003
MS/MSD Decay Corrected Spike Conc. (pCi/L):	2546.281	2540.756
Spike Volume Used in MS (mL):	0.20	0.20
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.1000	0.0500
MS Target Conc.(pCi/L, g, F):	5092.562	10163.025
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike uncertainty (calculated):	139.740	278.973
MSD Spike uncertainty (calculated):		
Sample Result:	117.680	54.420
Sample 1.96 Sigma Unc.:	126.400	123.600
Sample Matrix Spike Result:	4659.060	9351.770
Sample MS 1.96 Sigma Unc.:	908.800	407.700
Sample Matrix Spike Duplicate Result:		
Sample MSD 1.96 Sigma Unc.:		
MS % Recovery:	93.10%	91.48%
MSD % Recovery:		
MS Assessment:	Pass	Pass
MSD Assessment:		
MS/MSD Upper % Recovery Limits:	125.00%	125.00%
MS/MSD Lower % Recovery Limits:	75.00%	75.00%

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Analyte:			
Sample I.D.:			
Sample MS I.D.:			
Sample MSD I.D.:			
Sample Matrix Spike Result:			
Sample Matrix Spike 1.96 Sigma Unc.:			
Sample Matrix Spike Duplicate Result:			
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:			
MS/MSD Relative Percent Difference:			
MS/ MSD RPD Assessment:			
% RPD Limit:			

Comments:

1638 Roseytown Road
Greensburg, PA 15601
(724)850-5600

SAMPLE ACKNOWLEDGMENT

Samples Submitted By: BSK Analytical Laboratories
Client Project ID: A3I2260
Client PO#:

Pace Project Manager: Jacquelyn Collins
Phone (724)850-5600
jacquelyn.collins@pacelabs.com
Pace Analytical Project ID: 30105077
Samples Received: October 11, 2013 09:45 AM
Estimated Completion: November 01, 2013

CC: Mr. Michael Ng

Customer Sample ID	Pace Analytical Lab ID	Matrix	Date/Time Collected	Method
A3I2260-01	30105077001	Water	09/25/13 17:00	906.0 Tritium

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your proje

Pace Analytical®
www.pacelabs.com

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Greensburg, PA 15601
(724)850-5600

SAMPLE ACKNOWLEDGMENT

Analyte List

Customer Sample ID	Method	Compound	Reporting Limit	Units
A3I2260-01	906.0 Tritium	Tritium		

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.

Thank you for choosing Pace Analytical Services, Inc.

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Michael Ng
BSK Analytical Laboratories
1414 Stanislaus Street
Fresno CA 93706

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

Report Prepared Date:

October 17, 2013

Report Information:

Pace Project #: 10244542
Sample Receipt Date: 10/04/2013
Client Project #: A3I2260
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Brittany Hansen, your Pace Project Manager.

This report has been reviewed by:

October 17, 2013

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

The results relate only to the samples included in th

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Mississippi	MN00064
Alaska	MN00064	Montana	92
Arizona	AZ0014	Nebraska	
Arkansas	88-0680	Nevada	MN_00064_200
California	01155CA	New Jersey (NE	MN002
Colorado	MN00064	New Mexico	MN00064
Connecticut	PH-0256	New York (NEL	11647
EPA Region 5	WD-15J	North Carolina	27700
EPA Region 8	8TMS-Q	North Dakota	R-036
Florida (NELAP	E87605	Ohio	4150
Georgia (DNR)	959	Oklahoma	D9922
Guam	959	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN300001-001
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	03086	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q

REPORT OF LABORATORY ANALYSIS

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

REPORT OF LABORATORY ANALYSIS

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3I2260

11 51

10244542

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Pace Analytical-Dioxin
1700 Elm Street S.E. Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Turnaround (Days): Standard
QC Deliverables: I (Std) III IV

Sample ID	Samp Desc		Sample Date
A3I2260-01	Water Samples	10244542001	09/25/2013 17:00

Matrix: Water

Analysis 1 L AG w/ none
EXT-Dioxin-DW matrix, EPA 1613 2,3,7,8-TCDD

T=4.8°C

Released By	Date	Received By	Date
	10/3/13		10-4-13 08:49

Released By	Date	Received By	Date

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.07	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: ISSIC

Project #: WO#: 10244542

10244542

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7968 3079 5640

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☐ Yes ☑ No

Thermom. Used: ☐ 80512447 ☐ 72337080 ☐ B88A912167504 ☑ B88A9132521491 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 5.0 **Cooler Temp Corrected (°C):** 4.8 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** -.2 **Date and Initials of Person Examining Contents:** CM 10-4-13

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☐ Yes	☑ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☐ No	☑ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☐ No	☑ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes	☐ No	☑ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☐ Yes	☐ No	☑ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐ Yes	☑ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: BH2 **Date:** 10/7/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace AnalyticalServices, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID.....A3I2260-01
Client..... BSK Analytical Laboratories
Lab Sample ID..... 10244542001

Date Collected.....09/25/2013
Date Received.....10/04/2013
Date Extracted.....10/11/2013

	Sample A3I2260-01	Method Blank	Lab Spike	Lab Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
RL	5.0 pg/L	5.0 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	116%	103%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			11.9%	
IS Recovery	**81%**	67%	81%	57%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**90%**	90%	93%	63%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	F131016A_20	F131016A_06	F131016A_03	F131016A_04
Analysis Date	10/16/2013	10/16/2013	10/16/2013	10/16/2013
Analysis Time	13:10	06:08	04:45	05:13
Analyst	BAL	BAL	BAL	BAL
Volume	1.047L	1.002L	1.013L	1.006L
Dilution	NA	NA	NA	NA
ICAL Date	10/09/2013	10/09/2013	10/09/2013	10/09/2013
CCAL Filename	F131016A_09	F131016A_02	F131016A_02	F131016A_02

! = Outside the Control Limits
ND = Not Detected
RL = Reporting Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD- $^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD- $^{37}Cl_4$]

Analyst: Barn A Lark

Project No.....10244542

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Report Date: 11/06/13 13:57
Received Date: 10/02/13 08:30
Turnaround Time: Normal

Project: A3I2260

Phones: (559) 497-2888
Fax: (559) 485-6935

P.O. #:

Attn: Michael Ng

Client: BSK Analytical Laboratories
550 West Locust Avenue
Fresno, CA 93650

Dear Michael Ng :

Enclosed are the results of analyses for samples received 10/2/2013 with the Chain of Custody document. The samples were received in good condition, at 3.2 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3J02006-01 **Sample ID:** A3I2260-01 **Matrix:** Water
Sampled by: Client **Sampled:** 09/25/13 17:00

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Lithium, Total	**150**	7.0	50	ug/l	5	EPA 200.7	10/10/13	10/11/13 11:32	W3J0563	
Iodide, Dissolved	ND	21	500	ug/l	50	EPA 9056A	11/5/13	11/5/13 19:57	W3K0192	M-05, Q-14

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Quality Control Section

Anions by IC, EPA Method 300.0/300.1/326 - Quality Control

Batch W3K0192 - EPA 9056A

Blank (W3K0192-BLK1) — Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		ND		ug/l					

LCS (W3K0192-BS1) — Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved		35.3		ug/l	40.0	88	85-115		

Matrix Spike (W3K0192-MS1) — Source: 3J15074-01 Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	179	368		ug/l	200	94	80-120		

Matrix Spike Dup (W3K0192-MSD1) — Source: 3J15074-01 Prepared: 11/05/13 Analyzed: 11/05/13 19:57

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Iodide, Dissolved	179	355		ug/l	200	88	80-120	3	20

Metals by EPA 200 Series Methods - Quality Control

Batch W3J0563 - EPA 200.7

Blank (W3J0563-BLK1) — Prepared: 10/10/13 Analyzed: 10/11/13 10:46

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		ND		ug/l					

LCS (W3J0563-BS1) — Prepared: 10/10/13 Analyzed: 10/11/13 11:24

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total		957		ug/l	1000	96	85-115		

Matrix Spike (W3J0563-MS1) — Source: 3J09027-11 Prepared: 10/10/13 Analyzed: 10/11/13 11:04

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	ND	963		ug/l	1000	96	70-130		

Matrix Spike (W3J0563-MS2) — Source: 3J09027-14 Prepared: 10/10/13 Analyzed: 10/11/13 11:09

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	2.18	958		ug/l	1000	96	70-130		

Matrix Spike Dup (W3J0563-MSD1) — Source: 3J09027-11 Prepared: 10/10/13 Analyzed: 10/11/13 11:06

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	ND	975		ug/l	1000	97	70-130	1	30

Matrix Spike Dup (W3J0563-MSD2) — Source: 3J09027-14 Prepared: 10/10/13 Analyzed: 10/11/13 11:12

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Lithium, Total	2.18	968		ug/l	1000	97	70-130	1	30

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Certificate of Analysis

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

M-05	Due to the nature of matrix interferences, sample was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
Q-14	This analysis was requested by the client after the holding time was exceeded.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

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BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

A3I2260

3502006

SENDING LABORATORY:

BSK Associates
1414 Stanislaus St
Fresno, CA 93706
Phone: 559-497-2888
Fax: 559-485-6935
Project Manager: Michael Ng
E-mail: mng@bskinc.com

RECEIVING LABORATORY:

Weck Laboratories, Inc.
14859 E Clark Avenue
City of Industry, CA 91745-1396
Phone :(626) 336-2139
Fax: (626) 336-2634
Turnaround (Days): Standard
QC Deliverables: I (II) III IV

Sample ID	Samp Desc	Sample Date
A3I2260-01	Water Samples	09/25/2013 17:00

Matrix: Water

Analysis 250 mL PW | NONE
EXT-Iodide
EXT-Miscellaneous 500 mL PW | HNO3 Dissolved Lithium

3.2C

Released By — Date 10.1.13 — Received By — Date

Released By — Date — Received By Huangtian — Date 10/02/13 0830

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Sample Receipt Acknowledgement

WORK ORDER: 3J02006
Printed: 10/3/2013 10:53:46AM

Client: BSK Analytical Laboratories
Project: Metals
Project Manager: Kim G Tu
Project Number: A3I2260

Report To:
BSK Analytical Laboratories
Michael Ng
550 West Locust Avenue
Fresno, CA 93650
Phone: (559) 497-2888
Fax: (559) 485-6935

Invoice To:
BSK Analytical Laboratories
Accounts Payable - Anise Foote
550 West Locust Avenue
Fresno, CA 93650
Phone :(559) 497-2888
Fax: (559) 485-6935

Date Due: **10/16/13 15:00 (10 day TAT)**

Received By: Lian Guang Liao
Date Received: 10/02/13 08:30
Logged In By: Jaime Gomez
Date Logged In: 10/02/13 09:31

Samples Received at:	**3.2°C**	All containers intact:	**Yes**	Chain of custody completed:	**Yes**
Number of Ice chests/packages:	**1**	Custody seals presen	**NA**	Sample labels & COC agree:	**Yes**
		Custody seals intact:	**NA**	Samples preserved properly:	**Yes**
Appropriate Sample Containers:	**Yes**	Samples received on ice	**Yes**	Sample volume sufficient:	**Yes**
		Custody Seals	**No**	Sufficient holding time for all tests:	**Yes**

Analysis	TAT	Expires	Comments
3J02006-01 A3I2260-01 [Water] Sampled 09/25/13 17:00 Pacific			
Iodide water 9056M	10	10/23/13 17:00	
200.7 Li_diss	10	03/24/14 17:00	

Comments:

Kim Tu
Authorized Signature

10/3/2013
Date

Note:
If any of the information included in this sample receipt acknowledgement is incorrect (sample information, analysis, etc), please contact the lab at (626) 336-2139. Thank you.

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