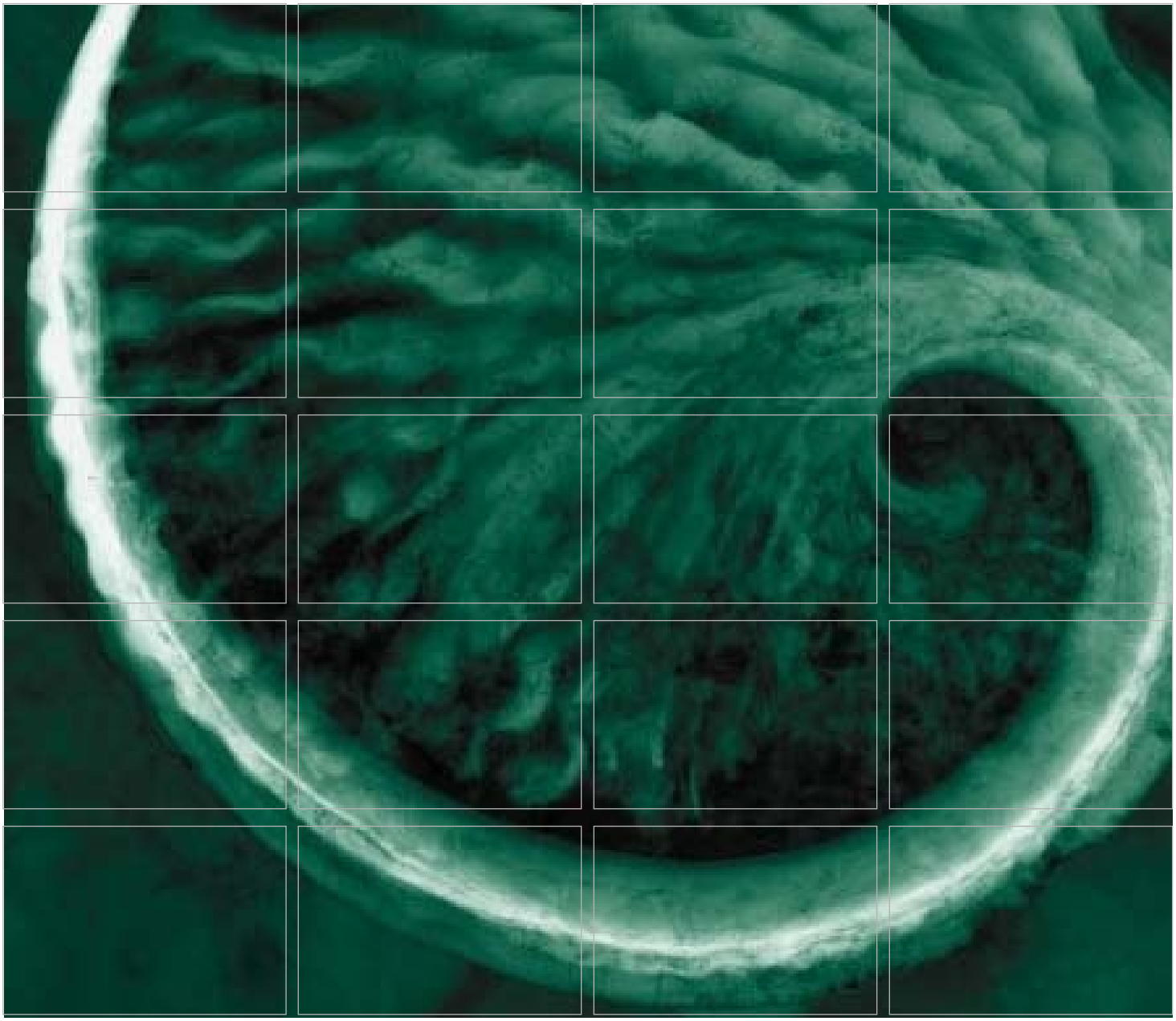

Phase II Environmental and Geotechnical Feasibility Investigation Report

Prepared for:
Sonoma Valley County
Sanitation District

20-Acre Parcel
22333 8th Street East
Sonoma, California

June 2010

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Sonoma Valley County Sanitation District

Phase II Environmental and Geotechnical Feasibility Investigation Report

20-Acre Parcel
22333 8th Street East
Sonoma, California

June 2010

Project No. 0112574

PROFESSIONAL GEOLOGIST
JIM WARNER
No. 5314
EXP. 5/2011
STATE OF CALIFORNIA

Jim Warner, P.G.
Partner-in-Charge

Peter Baty
Project Manager

Chimi Yi
Geologist

Environmental Resources Management
1277 Treat Boulevard, Suite 500
Walnut Creek, California 94597
T: 925-946-0455
F: 925-946-9968

TABLE OF CONTENTS

LIST OF APPENDICES *iii*

LIST OF FIGURES *iii*

LIST OF TABLES *iii*

1.0 INTRODUCTION *1*

2.0 OBJECTIVES *2*

3.0 PHASE II ENVIRONMENTAL INVESTIGATION ACTIVITIES *3*

3.1 PERMITTING, HEALTH & SAFETY, AND UTILITY CLEARANCE *3*

3.2 SOIL, GROUNDWATER, AND SLUDGE SAMPLING *3*

3.3 PIEZOMETER INSTALLATION AND SAMPLING *5*

4.0 PHASE II ENVIRONMENTAL INVESTIGATION RESULTS *6*

4.1 GEOLOGY AND GROUNDWATER *6*

4.2 SOIL AND SLUDGE ANALYTICAL RESULTS *6*

4.2.1 Metals *7*

4.2.2 Organochlorine Pesticides *7*

4.2.3 Total Petroleum Hydrocarbons *8*

4.2.4 Fuel Compounds *8*

4.2.5 Total Coliforms and E. Coli *8*

4.3 GROUNDWATER ANALYTICAL RESULTS *8*

4.3.1 Metals *9*

4.3.2 Organochlorine Pesticides *9*

4.3.3 Total Petroleum Hydrocarbons *10*

4.3.4 VOCs *10*

4.3.5 Total Coliforms and E. Coli *10*

4.4 DATA QA/QC REVIEW *10*

5.0 GEOTECHNICAL FEASIBILITY INVESTIGATION *11*

6.0 SUMMARY AND CONCLUSIONS *12*

7.0 REFERENCES *14*

LIST OF APPENDICES

ATTACHMENT A – GEOTECHNICAL FEASIBILITY INVESTIGATION REPORT (SFB, 29 JUNE 2010)

ATTACHMENT B – ANALYTICAL LABORATORY REPORTS AND DATA QUALITY REVIEW

LIST OF FIGURES

(Figures immediately follow the text)

1 ***Site Location Map***

2 ***Sampling Locations***

LIST OF TABLES

(Tables immediately follow the figures)

1 ***Soil and Sludge Analytical Results***

2 ***Groundwater Analytical Results***

1.0 INTRODUCTION

On behalf of Sonoma Valley County Sanitation District (SVCSD), ERM-West, Inc. (ERM) has prepared this soil and groundwater investigation (Phase II) and geotechnical feasibility investigation report for a 20-acre portion of the property located at 22333 8th Street East in Sonoma, California (the "subject property" or "site"). SVCSD also refers to this property as the "North Property".

In March 2010, ERM conducted a Phase I Environmental Site Assessment (ESA) of the subject property. Based on the Phase I ESA findings, ERM developed a scope of work to complete a limited Phase II investigation of the subject property. Upon approval by SVCSD, ERM conducted the Phase II investigation in April 2010. A geotechnical feasibility investigation was conducted simultaneously by Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) to characterize the geologic/geotechnical conditions at the subject property. The investigation summarized herein was completed in support of the potential purchase and development of the subject property.

The subject property is located in an agricultural area of Sonoma County, California (Figure 1). The subject property is part of Sonoma County Assessor's Parcel Number (APN) 128-422-064 and consists of approximately 20 acres of mostly undeveloped land, a portion of which contains vineyards. Currently, the western/northwestern portions of the subject property are being used as vineyards. A north/south-trending seasonal creek is located on the eastern portion of the subject property.

This report documents the activities conducted during the environmental and geotechnical feasibility investigations and presents the results. Figures, tables, and attachments are included at the end of this report.

2.0 OBJECTIVES

The Phase II environmental investigation and geotechnical feasibility investigation were performed for the SVCSD, which is managed by Sonoma County Water Agency (SCWA), in anticipation of a purchase of the subject property. Plans for the subject property potentially include use as a buffer zone for the existing Sonoma Valley County Sanitation District Treatment Plant (SVTP), use for recycled water storage ponds, or other uses connected with the SVTP operations and/or other district initiatives.

Several potential environmental issues of concern associated with the subject property were identified in ERM's April 2010 Phase I ESA report (*Phase I ESA, 20-Acre Parcel, 22333 8th Street East, Sonoma, California*, ERM, April 2010). These included potential impacts related to on-site historical vineyard agrochemical use, historical sanitary wastewater management at adjacent properties, and potential impacts to the on-site creek from up-gradient historical dairy operations.

The objective of the Phase II environmental investigation was to identify the potential presence of contaminants within the subject property's soil and groundwater, assess the potential for contamination (if present) to represent a significant liability, and to determine the potential influence of contamination (if present) on the future proposed uses of the subject property.

The objective of the geotechnical feasibility investigation was to characterize the existing geologic and geotechnical conditions at the subject property to determine the suitability of the subject property for future development plans. The geotechnical feasibility investigation focused on issues specific to reservoir and earthen embankment construction (e.g., consolidation, settlement, liquefaction, slope stability, permeability, soil suitability for embankment fill, groundwater influence, etc.) and general design guidance for site preparation and grading.

3.0 PHASE II ENVIRONMENTAL INVESTIGATION ACTIVITIES

As part of the investigation activities, five soil borings were advanced throughout the site to collect soil and/or groundwater samples for physical characterization and chemical analysis (refer to Figure 2). One boring location (B-2) was converted to a 2-inch diameter piezometer for future groundwater level monitoring by SCWA. Additionally, surface soil samples and sludge samples from an on-site creek were collected for chemical analysis. Field investigation activities and methodologies are described below.

3.1 PERMITTING, HEALTH & SAFETY, AND UTILITY CLEARANCE

Prior to initiating the investigation, the following activities were completed:

- A site-specific Health and Safety Plan (HASP) was prepared and reviewed by SVCSD;
- Underground Services Alert (USA), a notification service for marking underground utilities on public rights-of-way, was notified of the proposed work; and
- A private utility-locating service was contracted to mark underground utilities in the vicinity of the proposed drilling locations.

3.2 SOIL, GROUNDWATER, AND SLUDGE SAMPLING

Five soil borings were advanced to facilitate the collection of soil and/or groundwater samples for physical characterization and chemical analysis. Boring B-1 was advanced on 9 April 2010, B-2 and B-3 were advanced on 12 April 2010, and B-4 and B-5 were advanced on 14 April 2010. On 8 April 2010, two surface soil samples (SS-1 and SS-2) were collected from the old-growth grapevine areas located on the western portion of the site and composited into one soil sample (SS-Grapevine). On 9 April 2010, two sludge samples (Creek-1 and Creek-2) were collected from the seasonal creek that runs through the eastern portion of the site and composited into one sludge sample (Sludge-Creek). Sampling locations are presented on Figure 2.

All borings were hand augered to at least 5 feet below ground surface (bgs) to minimize the potential for encountering underground utilities during drilling activities. Borings B-1, B-2, B-3, B-4, and B-5 were advanced to total depths of 41.5, 26, 24.5, 26.5, and 26.5 feet bgs, respectively, using a hollow stem auger rig. Depth-discrete groundwater sampling was conducted at B-1, B-3, and B-5

between 16 and 19 feet bgs using a HydroPunch sampler during drilling. Groundwater samples were collected from B-2 after the borehole was converted into a piezometer, as described below in Section 3.3.

Soil samples were logged continuously at each boring. The soils were (1) visually examined to characterize the subsurface geology according to the Unified Soil Classification System, (2) evaluated for visible evidence of contamination, and (3) field-screened with a photoionization detector (PID) for the presence of organic vapors. Soil boring logs are included in Appendix A of the SFB Geotechnical Feasibility Investigation Report, which is included as Attachment A of this report.

Soil samples were collected from all boring locations from 0 to 0.5 foot bgs with a slide hammer and placed in brass sleeves, covered with Teflon tape, and capped with plastic end caps. Soil samples were also collected from each boring location at the capillary fringe and were placed on hold at the laboratory pending the results of the shallow analyses. Additional soil samples were collected from each boring location as part of the geotechnical feasibility investigation; more detailed information about these samples is provided in the geotechnical feasibility investigation report (Attachment A). The surface soil and sludge samples were collected with a trowel from the ground surface to approximately 0.5 foot bgs and placed in 8-ounce glass jars. The trowel was decontaminated after each use with an Alconox solution and rinsed with de-ionized water. All soil and sludge samples were labeled, sealed in plastic bags, and stored in an iced cooler.

Groundwater samples were collected at B-1, B-3, and B-5 from the HydroPunch sampling rods with disposable bailer and/or peristaltic pump and transferred into the appropriate, laboratory-provided sample containers. Groundwater samples collected for metals analysis from B-1 and B-5 were filtered in the field. The metals sample from B-3 was filtered in the laboratory. All groundwater samples were labeled, sealed in plastic bags, and stored in an iced cooler.

The soil and groundwater samples were submitted under proper chain of custody to Accutest Laboratories in San Jose, California. Copies of the chain-of-custody forms are provided in Attachment B. The samples were analyzed for the following constituents:

- California Title 22 Metals by United States Environmental Protection Agency (USEPA) Method 6010/7471 (soil, groundwater, and sludge samples);
- Organochlorine Pesticides by USEPA Method 8081 (soil, groundwater, and sludge samples);
- Diesel- and motor-oil-range total petroleum hydrocarbons (TPH-d and TPH-mo) by USEPA Method 8015M with silica gel clean-up (soil and groundwater samples);

- Gasoline-range total petroleum hydrocarbons (TPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX), and fuel oxygenates by USEPA Method 8260B (soil samples only);
- Volatile Organic Compounds (VOCs) and TPH-g by USEPA Method 8260B (groundwater samples only); and
- Total coliforms and *Escherichia coli* (*E. coli*) by Method FM9223B (groundwater and sludge samples).

Upon completion of sampling activities at each location, all borings, with the exception of B-2, were tremie grouted from bottom to top with a cement-bentonite grout, consistent with Sonoma County ordinances. Boring B-2 was converted to a 2-inch piezometer, as described below, for future groundwater level monitoring by SCWA. The soil cuttings and decontamination water generated from the drilling activities were containerized in six 55-gallon drums. The drums are temporarily being stored on the subject property, and based on the analytical results, are pending disposal as non-hazardous waste.

3.3 PIEZOMETER INSTALLATION AND SAMPLING

At boring B-2, upon reaching total depth at 26 feet bgs, the borehole was backfilled with bentonite chips to 18 feet bgs. A 2-inch diameter, Schedule 40 polyvinyl chloride (PVC)-cased well was constructed in the borehole, with 5 feet of 0.02-inch PVC machine-slotted screen from 13 to 18 feet bgs. The annular space was backfilled with #3 filter pack sand, a sanitary seal, and cement grout. The piezometer was completed with a steel, aboveground stovepipe enclosure.

Following installation, the piezometer was developed by purging at least three well casing volumes of water with a disposable bailer. Groundwater field parameters (temperature, pH, and electrical conductivity) were allowed to stabilize prior to sampling. Upon the stabilization of groundwater parameters, the piezometer was sampled using a disposable bailer and/or peristaltic pump. The groundwater sample collected for metals analysis was filtered in the field. The groundwater samples were submitted under proper chain of custody to Accutest Laboratories and analyzed for the constituents noted above.

4.0 PHASE II ENVIRONMENTAL INVESTIGATION RESULTS

The results of the Phase II environmental investigation are presented in the following subsections.

4.1 GEOLOGY AND GROUNDWATER

Soils encountered during drilling activities included gray to brown clays and silts to depths of 2 to 5.5 feet bgs and interbedded gray to brown clay/silt and sand/gravel layers below these depths. A more detailed description of the site geology is provided in the geotechnical feasibility investigation report (Attachment A). No evidence of impacts such as odor or staining was observed in any of the borings. PID readings ranged from 0 to 0.7 parts per million (ppm).

Groundwater was first encountered in B-1 through B-5 between 1 and 4 feet bgs and varying degrees of saturation were observed throughout the total depths of the boreholes. The drilling was conducted during a rainy period; therefore, it is possible that the most shallow groundwater encountered in the borings is related to surface infiltration/perched water. It is also possible that the near surface groundwater in the borings represents the water table. ERM recommends monitoring the new piezometer if the depth of the water table is required for planning. While groundwater flow direction at the subject property has not been confirmed by ERM, based on the regional topography and information obtained from environmental documentation from nearby properties, it is expected that shallow groundwater generally flows to the south.

4.2 SOIL AND SLUDGE ANALYTICAL RESULTS

Soil and sludge analytical results are summarized on Table 1. The laboratory analytical reports and the data quality review are provided in Attachment B.

Table 1 also includes San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for shallow soils in commercial/industrial land use (where groundwater is a potential drinking water source), for comparison purposes only (*Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, November 2007 [Revised May 2008]). The ESLs were developed to address environmental protection goals. For soil, these goals include protection of human health (direct exposure), protection against leaching and subsequent impacts to groundwater, protection of terrestrial biota, and protection against adverse nuisance conditions. The

presence of chemicals at concentrations above the ESLs does not necessarily indicate that a significant risk exists at a site; however, it does generally indicate that additional investigation or evaluation of potential environmental concerns is warranted.

4.2.1 *Metals*

Ten out of 17 metals (arsenic, barium, chromium, cobalt, copper, lead, mercury, nickel, vanadium, and zinc) were detected in at least one soil sample and in the sludge sample. Detected metals concentrations were below the commercial/ industrial ESLs with the exception of arsenic. Antimony, beryllium, cadmium, molybdenum, selenium, silver, and thallium were not detected above the method detection limits in any of the samples analyzed.

Arsenic was detected in soil samples B-1 through B-4, the surface soil sample from the grapevine area, and the sludge sample from the creek, at concentrations ranging from 1.9 to 3.6 milligrams per kilogram (mg/kg). As shown on Table 1, all of the detected concentrations marginally exceed the commercial/industrial ESL for arsenic of 1.6 mg/kg. Existing data are not sufficient to determine whether the detected arsenic is natural or anthropogenic in origin. Arsenic is naturally occurring in California soils, and background concentrations of arsenic in various geologic units prevalent throughout the San Francisco Bay Area region range from 1.2 to 31 mg/kg, as presented in *Results of Chemical Testing on Background Soil Samples, Area 2 Investigation Completion Report, Roberts Landing Development Site, San Leandro, California* (1994) and *Protocol for Determining Background Concentrations of Metals in Soil at Lawrence Berkeley National Laboratory (LBNL)* (August 1995). Arsenic is also used in pesticides/herbicides and can be present in soil due to agricultural activity.

4.2.2 *Organochlorine Pesticides*

Organochlorine pesticides were not detected above the method detection limits in any of the samples analyzed; however, it should be noted that the method detection limits for some pesticides are higher than the applicable ESLs. The method detection limits for pesticides presented on Table 1 are standard for the analytical method used, and no special interferences that would result in elevated detection limits were identified by the laboratory. The results suggest that organochlorine pesticides are not present in soil at the site. It is, however, possible that low concentrations above the ESL and below the detection limit are present.

4.2.3 *Total Petroleum Hydrocarbons*

TPH-mo was detected in the soil sample from boring B-5 at a concentration of 12.9 mg/kg, which is below the commercial/industrial ESL. The laboratory qualified this detection as an estimated value due to the presence of discrete peaks in the chromatographic pattern that were not representative of motor oil, but were within the carbon range for motor oil (C28-C40). TPH-mo was not detected in the remaining samples. TPH-g and TPH-d were not detected above the method detection limit in any of the samples analyzed.

4.2.4 *Fuel Compounds*

BTEX and fuel oxygenates were not detected above the method detection limits in any of the samples analyzed. All method detection limits for BTEX and fuel oxygenates are lower than the applicable ESLs.

4.2.5 *Total Coliforms and E. Coli*

Only the sludge sample collected from the creek was analyzed for total coliforms and *E. coli*. 50,000,000 most probable number per gram (MPN/g) of total coliforms and 24,000,000 MPN/g of *E. coli* was detected in this sample. ESLs for total coliforms and *E. coli* in soil have not been established.

4.3 *GROUNDWATER ANALYTICAL RESULTS*

Groundwater analytical results are summarized on Table 2. The laboratory analytical reports and the data quality review are provided in Attachment B. Table 2 also includes the RWQCB ESLs for groundwater (where ground groundwater is a potential drinking water source) and California Maximum Contaminant Levels (MCLs) for groundwater (*Title 22 California Code of Regulations, Maximum Contaminant Levels and Regulatory Dates for Drinking Water, U.S. EPA vs. California*, November 2008).

The ESLs were developed to address environmental protection goals. For groundwater, these goals include protection of drinking water resources and aquatic habitats, protection against vapor intrusion into buildings, and protection against adverse nuisance conditions. Similar to soil ESLs, the presence of chemicals at concentrations above the groundwater ESLs does not necessarily indicate that a significant risk exists at a site; however, it does generally indicate that additional investigation or evaluation of potential environmental concerns may be warranted.

The MCLs are standards that are applied for regulatory compliance and enforcement actions involving drinking water and potential drinking water resources. We understand that shallow groundwater at the site is not being used for drinking water and present the MCLs for comparative purposes only.

4.3.1 *Metals*

Six out of 17 metals (barium, copper, mercury, nickel, vanadium, and zinc) were detected in at least one groundwater sample. Antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, molybdenum, selenium, silver, and thallium were not detected above the method detection limits in any of the samples analyzed.

Detected metals concentrations were below the groundwater ESLs with the exception of copper, mercury, and nickel in the sample from B-3. B-3 is located on the northern boundary of the subject property and may represent up-gradient water quality flowing onto the subject property. As discussed in Section 4.1, the direction of groundwater flow in the area was not determined during this investigation but has been estimated based on topography and surface drainage features. The detections in B-3 above the ESLs include the following:

- Copper was detected in the groundwater sample from B-3 at a concentration of 5.5 micrograms per liter (µg/L), slightly exceeding the groundwater ESL of 3.1 µg/L.
- Mercury was detected in the groundwater sample from B-3 at a concentration of 0.21 µg/L, which only slightly exceeds the laboratory reporting limit of 0.20 µg/L and which exceeds the groundwater ESL of 0.025 µg/L by an order-of-magnitude.
- Nickel was detected in the groundwater sample from B-3 at a concentration of 20.1, which marginally exceeds the groundwater ESL of 8.2 µg/L.

All detected metals concentrations are below MCLs.

4.3.2 *Organochlorine Pesticides*

Organochlorine pesticides were not detected above the method detection limits in any of the samples analyzed; however, it should be noted that the method detection limits for some pesticides are higher than the ESLs and the MCL for Chlordane. The method detection limits for pesticides presented on Table 1 are standard for the analytical method used, and no special interferences that would result in elevated detection limits were identified by the laboratory. The results suggest that organochlorine pesticides are not present in groundwater at the site. It is, however, possible that low concentrations above the ESL (and MCL for Chlordane) and below the detection limit are present.

4.3.3 *Total Petroleum Hydrocarbons*

TPH-mo was detected in one groundwater sample from B-5 at a concentration of 238 µg/L, in exceedance of the groundwater ESL of 100 µg/L. No MCL is established for TPH compounds. This is the same location where TPH-mo was detected in soil. TPH-g and TPH-d were not detected above the method detection limit in any of the samples analyzed.

4.3.4 *VOCs*

VOCs were not detected above the method detection limit in any of the samples analyzed. All method detection limits for VOCs, except for 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, and hexachlorobutadiene, are lower than the applicable ESLs and MCLs. The results suggest that VOCs are not present in groundwater at the site. It is, however, possible that for the above three compounds, low concentrations above the ESL and below the detection limit are present.

4.3.5 *Total Coliforms and E. Coli*

Two groundwater samples collected from the northern portion of the property (B-3 and B-5) and one sample collected from the southern portion of the property (B-1) were analyzed for total coliforms and *E. coli*. Total coliform concentrations ranged from 3,000 MPN per 100 milliliters (MPN/100 ml) at B-3 to 3,000,000 MPN/g at B-1. *E. coli* was not detected above the method detection limit in any of the samples analyzed. ESLs have not been established for total coliforms and *E. coli* in groundwater.

4.4 *DATA QA/QC REVIEW*

ERM performed a data quality review of the analytical results in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* October 1999, and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review,* October 2004. The data quality review evaluated holding times, preservation methods, method blank and trip blank sample results, laboratory control sample recoveries, and matrix and surrogate spike recoveries. A copy of the data quality review is provided in Attachment B along with the analytical laboratory reports. The quality of the data generated during this investigation is acceptable for the preparation of technically-defensible documents.

5.0 GEOTECHNICAL FEASIBILITY INVESTIGATION

The results of the geotechnical feasibility investigation performed by SFB are included as Attachment A (*Geotechnical Feasibility Investigation, SVCSD Storage Ponds, Sonoma, California*, SFB, 10 May 2010). The report concluded that the subject property is suitable for the proposed site development objectives from a geotechnical engineering standpoint. Conclusions and recommendations associated with the geologic and geotechnical aspects of site development are presented in Section 4.0 of Attachment A.

6.0 SUMMARY AND CONCLUSIONS

ERM conducted a Phase II environmental investigation of a 20-acre portion of the property located at 22333 8th Street East in Sonoma, California. Based on the results of this investigation, ERM concludes the following:

- ***Metals in Soil, Sludge, and Groundwater:*** With the exception of arsenic, metals detected in soil and sludge were below the ESLs for commercial/industrial land use. Arsenic was detected throughout the site at concentrations marginally exceeding the ESL, but within the range of background arsenic concentrations (1.2 to 31 mg/kg) for soils in the Bay Area. The arsenic concentrations may be naturally occurring or related to historical on-site pesticide application. It is beyond the scope of this investigation to determine the source of the arsenic. ERM does not consider the detections of arsenic in soil to represent a significant source of environmental concern for the site. Three metals (copper, mercury, and nickel) were detected in the groundwater sample from B-3 at concentrations above their respective ESLs. Boring B-3 is located along the up-gradient property boundary. These detections may be related to natural background conditions and/or an anthropogenic source(s) along the presumed up-gradient property boundary. It is beyond the scope of this investigation to determine the source of these metals. ERM does not consider the detections of metals in groundwater to represent a significant source of environmental concern for the site.

- ***Pesticides:*** Organochlorine pesticides were not detected in any soil, sludge, or groundwater samples. ERM does not consider pesticides to represent a significant source of environmental concern for the site.

- ***TPH in Soil and Groundwater:*** TPH-mo was detected in the soil sample from B-5 at a concentration of 12.9 mg/kg, which is below the soil ESL (2,500 mg/kg). TPH-mo was detected in the groundwater sample from B-5 at a concentration of 238 µg/L, which exceeds the ESL (100 µg/L). Boring B-5 is located along the up-gradient property boundary and the TPH-mo concentrations in soil and groundwater at this location may originate from an up-gradient source. No known TPH sources are present on the subject property and a residence with outdoor storage of vehicles and equipment is located immediately up-gradient of this location. No other TPH compounds were detected in the soil and groundwater samples. Although TPH-mo was detected in soil and groundwater at one location, the magnitude and extent of the impacts do not appear to represent a significant environmental

concern. The detected concentrations do not typically result in significant regulatory enforcement actions or restrict land use.

- ***Volatile Compounds:*** VOCs were not detected in any soil, sludge, or groundwater samples.

- ***Total Coliforms and E. coli :*** Total coliforms and *E. coli* were detected in the sludge sample from the creek at concentrations of 50,000,000 and 24,000,000 MPN/g, respectively. In addition, total coliforms were detected in two groundwater samples collected from the northern boundary of the property (B-3 and B-5) and one sample collected from the southern portion of the property (B-1). Total coliform concentrations ranged from 3,000 MPN/100 ml at B-3 to 3,000,000 MPN/g at B-1. *E. coli* was not detected above the method detection limit in any groundwater samples. ESLs for total coliforms and *E. coli* in soil/sludge have not been established by the RWQCB. The detected concentrations of total coliforms and *E. coli* in sludge indicate potential impacts to the on-site creek from up-gradient sources. These may potentially include historical dairy operations and sanitary wastewater management (e.g., septic systems) at adjacent/up-gradient properties. Total coliforms in groundwater could be related to both on-site and off-site sources. ERM does not consider the detections of total coliforms and *E. coli* in sludge and groundwater to represent a significant source of environmental concern for the site.

In summary, the results of the Phase II investigation have not identified environmental impacts that represent significant concerns. The concentrations of metals, TPH-mo, and bacteria that were detected in site media typically do not prompt regulatory enforcement action and do not represent a constraint on the planned use of the property. In addition, the results of the geotechnical investigation indicate that site conditions are conducive to the potential types of development and use that are currently envisioned for the property.

7.0 REFERENCES

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Figures

Project No. 0112574.00

Date: 03/29/10

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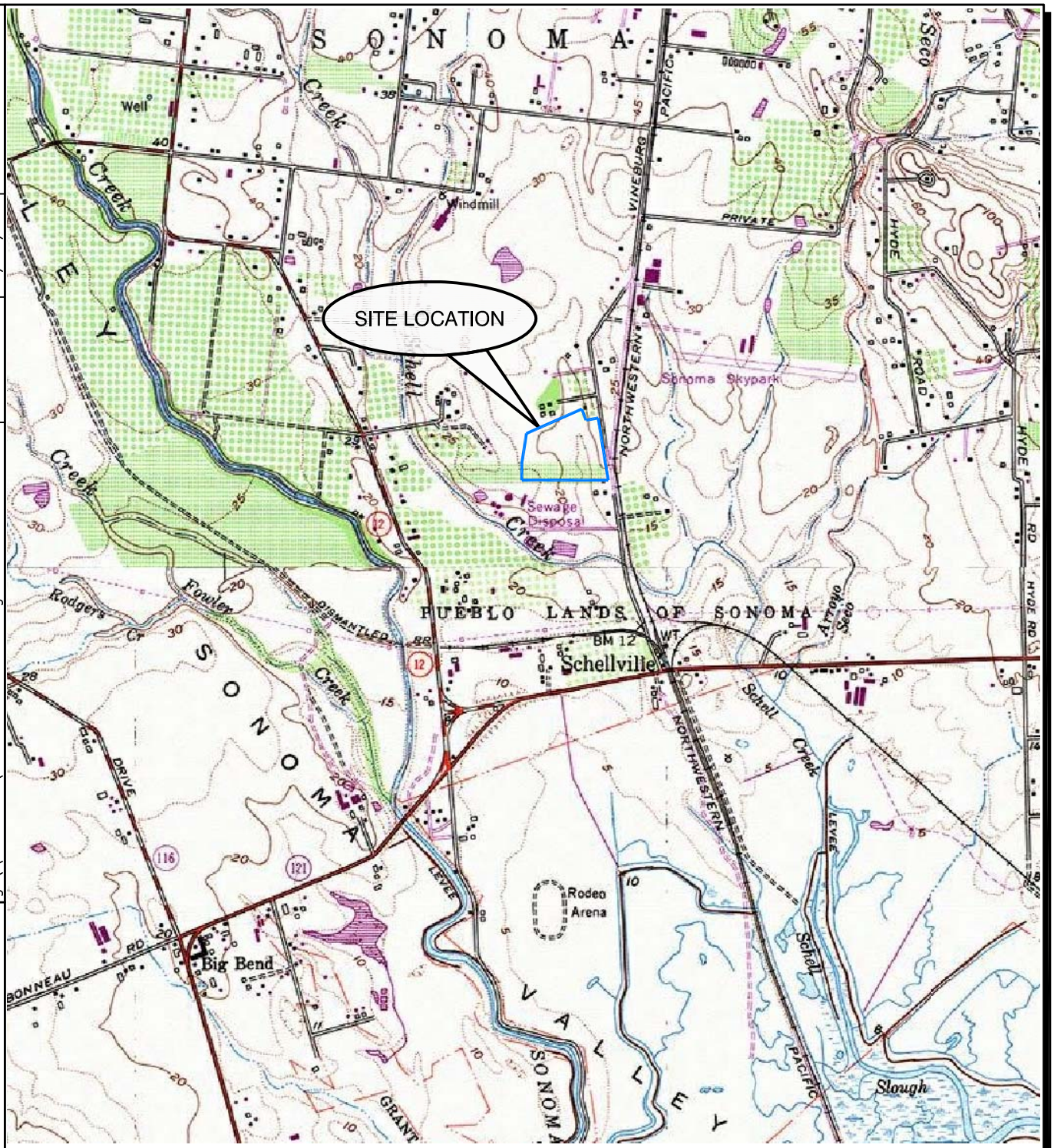

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References:
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Sonoma, California
Dated: 1980

Figure 1
Site Location Map
22333 8th St. E
Sonoma, California

ERM *03/10*

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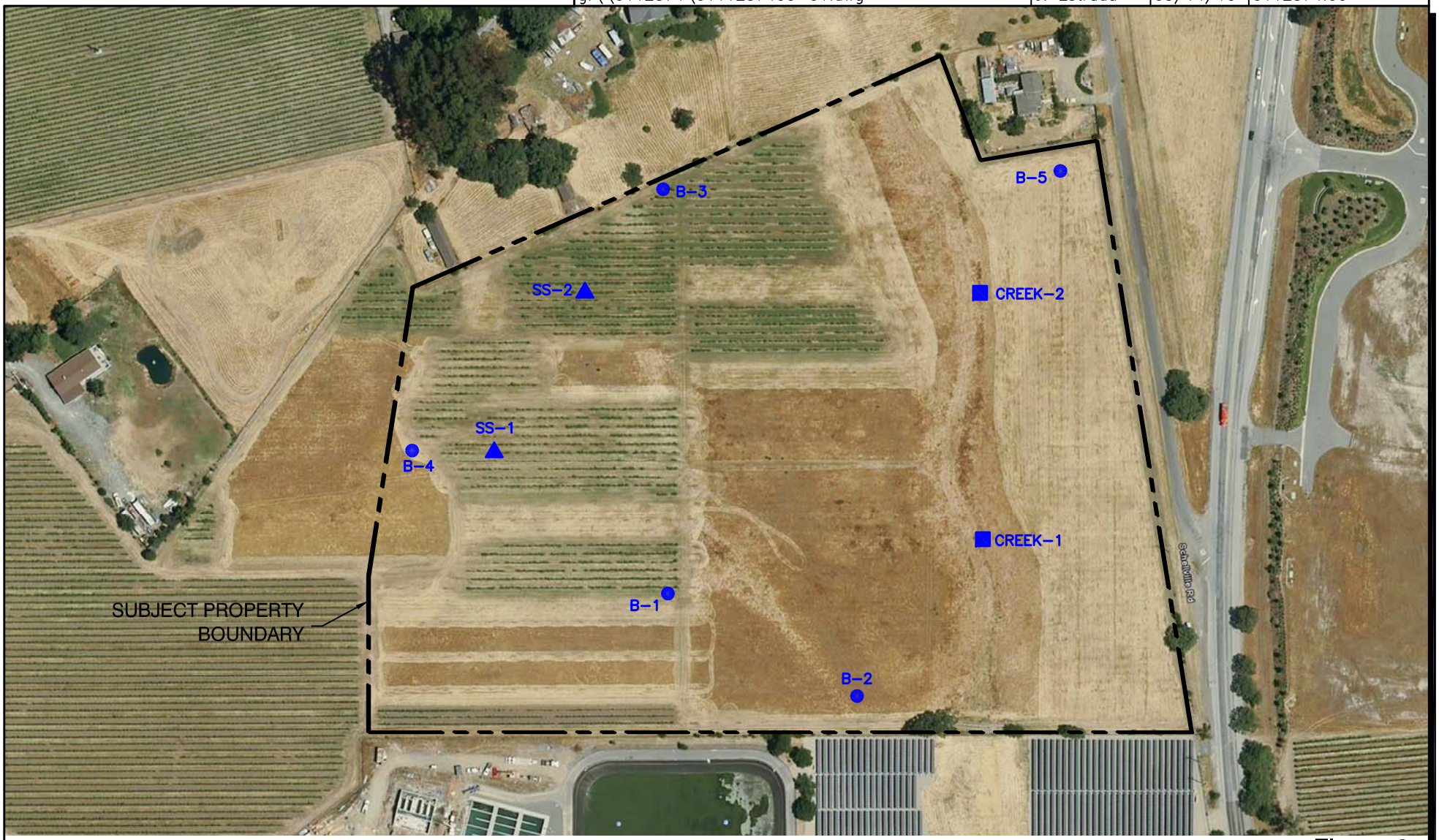

Aerial Photo Source: © 2009 Google Earth Pro Ver 5.0.11733.9347

0 200
Approx. Scale (feet)

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LEGEND
- Boring Location
- Surface Sample Location
- Sludge Sample Location

Figure 2
Sampling Locations
22333 8th St. E
Sonoma, California

ERM *05/10*

Tables

Table 1
Soil and Sludge Analytical Results
22333 8th Street East, Sonoma, California

Compound	Screening Level	Soil Sample Locations						
	Industrial ESL (mg/kg)	B-1 (mg/kg)	B-2 (mg/kg)	B-3 (mg/kg)	B-4 (mg/kg)	B-5 (mg/kg)	SS - Grapevine (mg/kg)	Sludge - Creek (mg/kg)
Metals								
Antimony	40	<1.9	<1.9	<1.9	<1.9	<1.9	<1.8	<1.8
Arsenic	1.6[a]	**2.5**	**3.2**	**3.5**	**2.5**	<1.9	**3.6**	**1.9**
Barium	1,500	**126**	**126**	**98.1**	**98.2**	**139**	**84.4**	**42.6**
Beryllium	8.0	<0.97	<0.95	<0.93	<0.97	<0.94	<0.92	<0.92
Cadmium	7.4	<0.97	<0.95	<0.93	<0.97	<0.94	<0.92	<0.92
Chromium	2,500	**86.9**	**48.0**	**32.0**	**67**	**57.5**	**96.1**	**12.3**
Cobalt	80	**11.8**	**14.8**	**12.3**	**9.6**	**10.7**	**9.1**	**3.0**
Copper	230	**15.3**	**10.8**	**9.0**	**9.5**	**14.4**	**21.8**	**6.1**
Lead	750	**6.2**	**8.8**	**10.4**	**7.6**	**8.9**	**7.6**	**5.3**
Mercury	10	**0.066**	**0.041**	**0.077**	<0.038	<0.039	<0.037	<0.036
Molybdenum	40	<0.97	<0.95	<0.93	<0.97	<0.94	<0.92	<0.92
Nickel	150	**80.9**	**37.5**	**25.0**	**39.4**	**49.1**	**53.4**	**10.3**
Selenium	10	<1.9	<1.9	<1.9	<1.9	<1.9	<1.8	<1.8
Silver	40	<0.97	<0.95	<0.93	<0.97	<0.94	<0.92	<0.92
Thallium	16	<1.9	<1.9	<1.9	<1.9	<1.9	<1.8	<1.8
Vanadium	200	**49.5**	**37.9**	**24.4**	**37.0**	**36.8**	**43.2**	**11.1**
Zinc	600	**33.8**	**27.6**	**19.6**	**24.2**	**38.7**	**53.9**	**28.8**
Organochlorine Pesticides								
Aldrin	0.13	<0.0093	<0.010	<0.0098	<0.010	<0.0098	<0.020	<0.098
alpha-BHC	NS	<0.010	<0.011	<0.011	<0.011	<0.011	<0.022	<0.110
beta-BHC	NS	<0.0032	<0.0035	<0.0034	<0.0035	<0.0034	<0.0069	<0.034
delta-BHC	NS	<0.0032	<0.0035	<0.0034	<0.0035	<0.0034	<0.0069	<0.034
gamma-BHC (Lindane)	0.0098	<0.0069	<0.0075	<0.0074	<0.0076	<0.0074	<0.015	<0.073
Chlordane	1.7	<0.093	<0.100	<0.098	<0.100	<0.098	<0.200	<0.980
Dieldrin	0.0023	<0.0028	<0.0030	<0.0029	<0.0030	<0.0029	<0.006	<0.029
4,4′-DDD	10	<0.0032	<0.0035	<0.0034	<0.0035	<0.0034	<0.0069	<0.034
4,4′-DDE	4.0	<0.0028	<0.0030	<0.0029	<0.0030	<0.0029	<0.006	<0.029
4,4′-DDT	4.0	<0.0028	<0.0030	<0.0029	<0.0030	<0.0029	<0.006	<0.029
Endrin	0.00065	<0.0028	<0.0030	<0.0029	<0.0030	<0.0029	<0.006	<0.029
Endrin aldehyde	NS	<0.0056	<0.0060	<0.0059	<0.0061	<0.0059	<0.012	<0.059
Endosulfan-I	0.0046[b]	<0.0032	<0.0035	<0.0034	<0.0035	<0.0034	<0.0069	<0.034
Endosulfan-II	0.0046[b]	<0.0032	<0.0035	<0.0034	<0.0035	<0.0034	<0.0069	<0.034
Endosulfan sulfate	NS	<0.0074	<0.0080	<0.0078	<0.0081	<0.0078	<0.016	<0.078
Heptachlor	0.013	<0.0056	<0.0060	<0.0059	<0.0061	<0.0059	<0.012	<0.059
Heptachlor epoxide	0.014	<0.0037	<0.0040	<0.0039	<0.0040	<0.0039	<0.0079	<0.039
Methoxychlor	19	<0.0032	<0.0035	<0.0034	<0.0035	<0.0034	<0.0069	<0.034
Toxaphene	0.00042	<0.093	<0.100	<0.098	<0.100	<0.098	<0.200	<0.980

Table 1
Soil and Sludge Analytical Results
22333 8th Street East, Sonoma, California

Compound	Screening Level	Soil Sample Locations						
	Industrial ESL (mg/kg)	B-1 (mg/kg)	B-2 (mg/kg)	B-3 (mg/kg)	B-4 (mg/kg)	B-5 (mg/kg)	SS - Grapevine (mg/kg)	Sludge - Creek (mg/kg)
TPH								
TPH-Diesel	83	<9.6	<9.7	<10	<10	<10	NA	NA
TPH-Motor Oil	2,500	<19	<19	<20	<21	**12.9 J**	NA	NA
TPH-Gasoline	83	<0.099	<0.100	<0.099	<0.099	<0.100	NA	NA
Fuel Compounds								
Benzene	0.044	<0.005	<0.005	<0.0049	<0.0049	<0.0049	NA	NA
Toluene	2.9	<0.005	<0.005	<0.0049	<0.0049	<0.0049	NA	NA
Ethylbenzene	3.3	<0.005	<0.005	<0.0049	<0.0049	<0.0049	NA	NA
Xylene (total)	2.3	<0.0099	<0.010	<0.0099	<0.0049	<0.0049	NA	NA
Di-Isopropyl Ether	NS	<0.005	<0.005	<0.0049	<0.0049	<0.0049	NA	NA
Ethyl Tert-Butyl Ether	NS	<0.005	<0.005	<0.0049	<0.0049	<0.0049	NA	NA
Methyl Tert Butyl Ether	0.023	<0.005	<0.005	<0.0049	<0.0049	<0.0049	NA	NA
Tert-Amyl Methyl Ether	NS	<0.005	<0.005	<0.0049	<0.0049	<0.0049	NA	NA
Tert Butyl Alcohol	0.075	<0.040	<0.040	<0.039	<0.0049	<0.0049	NA	NA
Other Parameters								
Total coliforms	NS	NA	NA	NA	NA	NA	NA	**50,000,000 (MPN/g)**
Escherichia coli	NS	NA	NA	NA	NA	NA	NA	**24,000,000 (MPN/g)**

Notes:
All soil samples were collected from 0-0.5 foot below ground surface.
Sample SS - Grapevine was collected on 8 April 2010; Sludge - Creek and B-1 were collected on 9 April 2010; B-2 and B-3 were collected on 12 April 2010; and B-4 and B-5 were collected on 14 April 2010.
All concentrations in milligrams per kilogram (mg/kg), unless otherwise indicated.
Industrial ESL = Commercial/Industrial Environmental Screening Level for shallow soils (<3 meters below ground surface) where groundwater is a current or potential drinking water source (SF Bay RWQCB ESL Table A; November 2007, Revised May 2008)
<0.5 = Compound not detetected at or above the laboratory reporting limit (for organochlorine pesticides, compound not detected at or above the laboratory method detection limit).
Highlighted cells indicate an exceedance of the industrial ESL.
J = laboratory qualifier; Estimated value due to discrete peaks
NS = No screening level established
NA = Not analyzed
MPN/g = Most probable number per gram
[a] = Background concentrations of arsenic in various geologic units prevalent throughout the region range from 1.2 to 31 mg/kg, as presented in *Results of Chemical Testing on Background Soil Samples, Area 2 Investigation Completion Report, Roberts Landing Development Site, San Leandro, California* (1994) and *Protocol for Determining Background Concentrations of Metals in Soil at Lawrence Berkeley National Laboratory (LBNL)* (August 1995).
[b] = ESL is for endosulfan.

Table 2
Groundwater Analytical Results
22333 8th Street East, Sonoma, California

Compound	Screening Levels		Ground Water Sample Locations			
	MCL (µg/L)	Groundwater ESL (µg/L)	B-1 (µg/L)	B-2 (µg/L)	B-3 (µg/L)	B-5 (µg/L)
Metals						
Antimony	6.0	6.0	NA	<10	<10	<10
Arsenic	10	36	NA	<10	<10	<10
Barium	1,000	1,000	NA	**53.2**	**40.5**	**41.5**
Beryllium	4.0	0.53	NA	<5.0	<5.0	<5.0
Cadmium	5.0	0.25	NA	<2.0	<2.0	<2.0
Chromium	50	50	NA	<5.0	<5.0	<5.0
Cobalt	NS	3.0	NA	<5.0	<5.0	<5.0
Copper	1,300[a]	3.1	NA	<5.0	**5.5**	<5.0
Lead	15[a]	2.5	NA	<5.0	<5.0	<5.0
Mercury	2.0	0.025	NA	<0.20	**0.21**	<0.20
Molybdenum	NS	35	NA	<5.0	<5.0	<5.0
Nickel	100	8.2	NA	<5.0	**20.1**	**6.6**
Selenium	50	5.0	NA	<20	<20	<20
Silver	100[b]	0.19	NA	<5.0	<5.0	<5.0
Thallium	2.0	2.0	NA	<20	<20	<20
Vanadium	NS	15	NA	**7.0**	**5.7**	**10.9**
Zinc	5,000[b]	81	NA	<10	**32.2**	**21.4**
Organochlorine Pesticides						
Aldrin	NS	0.002	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
alpha-BHC	NS	NS	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
beta-BHC	NS	NS	NA	<0.0038 UJ	<0.0038 UJ	<0.0038
delta-BHC	NS	NS	NA	<0.0038 UJ	<0.0038 UJ	<0.0038
gamma-BHC (Lindane)	0.2	0.016	NA	<0.0038 UJ	<0.0038 UJ	<0.0038
Chlordane	0.1	0.004	NA	<0.19 UJ	<0.19 UJ	<0.19
Dieldrin	NS	0.0019	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
4,4′-DDD	NS	0.001	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
4,4′-DDE	NS	0.001	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
4,4′-DDT	NS	0.001	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
Endrin	2.0	0.0023	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
Endrin aldehyde	NS	NS	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
Endosulfan-I	NS	0.0087[d]	NA	<0.0038 UJ	<0.0038 UJ	<0.0038
Endosulfan-II	NS	0.0087[d]	NA	<0.0038 UJ	<0.0038 UJ	<0.0038
Endosulfan sulfate	NS	NS	NA	<0.0047 UJ	<0.0047 UJ	<0.0047
Heptachlor	0.01	0.0036	NA	<0.0038 UJ	<0.0038 UJ	<0.0038
Heptachlor epoxide	0.01	0.0036	NA	<0.0038 UJ	<0.0038 UJ	<0.0038
Methoxychlor	30	0.003	NA	<0.0028 UJ	<0.0028 UJ	<0.0028
Toxaphene	3.0	0.0002	NA	<0.19 UJ	<0.19 UJ	<0.19
TPH						
TPH-Diesel	NS	100	NA	<95	NA	<94
TPH-Motor Oil	NS	100	NA	<190	NA	**238**
TPH-Gasoline	NS	100	NA	<50	<50	<50
Volatile Organic Compounds						
VOCs	various	various	NA	ND	ND	ND
Other Parameters						
Total coliforms	5%[c]	NS	**3,000,000 (MPN/g)**	NA	**3,000 (MPN/100 ml)**	**17,000 (MPN/100 ml)**
Escherichia coli	5%[c]	NS	<2.0 (MPN/g)	NA	<2.0 (MPN/100 ml)	<2.0 (MPN/100 ml)

Table 2
Groundwater Analytical Results
22333 8th Street East, Sonoma, California

Compound	Screening Levels		Ground Water Sample Locations			
	MCL (µg/L)	Groundwater ESL (µg/L)	B-1 (µg/L)	B-2 (µg/L)	B-3 (µg/L)	B-5 (µg/L)

Notes:
Sample B-1 was collected on 9 April 2010; B-3 was collected on 12 April 2010; and B-2 and B-5 were collected on 14 April 2010.
All concentrations in micrograms per liter (µg/L), unless otherwise indicated.
MCL = Maximum Contaminant Level (Maximum Contaminant Levels and Regulatory Dates for Drinking Water, US EPA vs. California, November 2008)
Groundwater ESL = Groundwater Environmental Screening Level where groundwater is a current or potential drinking water source (SF Bay RWQCB ESL Table A; November 2007, Revised May 2008)
ND, <0.5 = Compound not detetected at or above the laboratory reporting limit (for organochlorine pesticides, compound not detected at or above the laboratory method detection limit).
Highlighted cells indicate an exceedance of the groundwater ESL.
UJ = ERM qualifier; Nondetected sample result qualified as estimated
NS = No screening level established
NA = Not analyzed
MPN/g = Most probable number per gram
MPN/100 ml = Most probable number per 100 milliliters
[a] = Regulatory Action Level; replaces MCL. The MCL for lead was rescinded with the adoption of the regulatory action level.
[b] = Secondary MCL (non-enforceable guideline regulating contaminants that may cause cosmetic effects [such as skin or tooth discoloration] or aesthetic effects [such as taste, odor, or color] in drinking water.
[c] = No more than 5.0% samples total coliform-positive in a month (public water systems).
[d] = ESL is for endosulfan.

Attachment A
Geotechnical Feasibility
Investigation Report
(SFB, 29 June 2010)

Stevens, Ferrone & Bailey
Engineering Company, Inc.

Geotechnical Engineering
Engineering Geology
Storm Water Management
Construction Observation & Testing Services

June 29, 2010

Mr. Peter Baty
ERM
1277 Treat Boulevard, Suite 500
Walnut Creek, CA 94597

Re: Geotechnical Feasibility Investigation
20-Acre Site, North of Sonoma Valley Treatment Plant, Sonoma
SFB Project No.: 496-1

Mr. Baty:

As requested, Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) has performed a geotechnical feasibility investigation for the 20-acres of land (APN 128-422-064) located immediately north of the Sonoma Valley Treatment Plant in Sonoma. The accompanying report presents the results of our preliminary engineering analyses. The purpose of the report is to provide information for the planning and cost estimating phases of the project.

Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Stevens, Ferrone & Bailey
Engineering Company, Inc.

Ken Ferrone
Vice President

TC/KCF:ka\encl.
Copies: Addressee (5)

1600 Willow Pass Court • Concord, CA 94520 • TEL 925.688.1001 • FAX 925.688.1005
21860 Rosehart Way • Salinas, CA 93908 • TEL 831.757.2201 • FAX 831.757.2202

Stevens, Ferrone & Bailey
Engineering Company, Inc.

Geotechnical Engineering
Engineering Geology
Storm Water Management
Construction Observation & Testing Services

June 29, 2010

GEOTECHNICAL FEASIBILITY INVESTIGATION
SVCSD STORAGE PONDS
SONOMA, CALIFORNIA
SFB PROJECT NO. 496-1

Prepared For:

Mr. Peter Baty
ERM
1277 Treat Boulevard, Suite 500
Walnut Creek, CA 94597

Prepared By:

Stevens, Ferrone & Bailey Engineering Company, Inc.

Taiming Chen, P.E.
Civil Engineer

Kenneth C. Ferrone, P.E., G.E., C.E.G.
Civil/Geotechnical Engineer
Certified Engineering Geologist

1600 Willow Pass Court • Concord, CA 94520 • TEL 925.688.1001 • FAX 925.688.1005
21860 Rosehart Way • Salinas, CA 93908 • TEL 831.757.2201 • FAX 831.757.2202

TABLE OF CONTENTS

1.0 INTRODUCTION **1**

2.0 SCOPE OF WORK **2**

3.0 SITE INVESTIGATION **3**

3.1 Surface 3
3.2 Subsurface 3
3.3 Ground Water 4
3.4 Geology and Seismicity 4
3.5 Liquefaction & Lateral Spreading 5

4.0 PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS **8**

4.1 Earthwork 9

5.0 CONDITIONS AND LIMITATIONS **11**

FIGURES

1 Site Plan

APPENDICES

A Field Investigation A-1
Figure A-1 Key to Exploration Logs
SFB Exploratory Boring Logs (B-1 through B-5)

B Laboratory Investigation B-1
Figure B-1, Grain Size Distribution

1.0 INTRODUCTION

This report presents the results of our geotechnical feasibility investigation for the 20-acres of land (APN 128-422-064) located immediately north of the Sonoma Valley Treatment Plant in Sonoma, California, as shown on the Site Plan, Figure 1. The purpose of our feasibility study was to evaluate the subsurface conditions and provide preliminary conclusions and recommendations regarding the geotechnical engineering aspects of the project.

Based on the information indicated on the Site Plan, as well as information provided by Mr. Kent Gylfe of SVCSD, it is our understanding that the project will consist of developing new tertiary storage ponds, each having an exposed water surface of approximately 3.3 acres. Each pond will have plan dimensions of approximately 300 feet by 475 feet, with embankments ranging from about 14 to 16 feet in height. The top of embankments will be about 5 to 10 feet above road grades of East 8th Street. The existing facilities onsite will be demolished prior to new construction. Cuts and fills are anticipated. The conclusions and recommendations provided in this report are based upon the information described above; SFB should be consulted if any changes to the project occur to assess if the changes affect the validity of this report.

2.0 SCOPE OF WORK

This preliminary investigation included the following scope of work:

- Reviewing published and unpublished geotechnical and geological literature relevant to the development of the site and the vicinity;
- Performing a reconnaissance of the site and surrounding area;
- Drilling five borings to a maximum depth of about 41-1/2 feet;
- Performing laboratory testing of samples retrieved from the borings;
- Performing engineering analysis of the field and laboratory data; and
- Preparing this report.

The data obtained and the analyses performed were for the purpose of providing feasibility level geotechnical information for planning and cost estimating purposes. More detailed geotechnical studies will be necessary in the future in order to provide site specific, detailed geotechnical design and construction criteria and to confirm the preliminary recommendations provided in this report. Assessing, evaluating, and testing of onsite materials or ground water for corrosion or toxicity potential were beyond our scope of work. Evaluating the potential for flooding was also beyond our scope of work.

Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) performed a reconnaissance of the site and surrounding area on April 9, 2010. Subsurface exploration was performed using a track-mounted drill rig equipped with 8 inch diameter, hollow-stem, continuous flight augers. Five exploratory borings were drilled on April 9, 12, & 14, 2010 to a maximum depth of about 41-1/2 feet. Boring B-2 (located at the south of the site) was converted to an open standpipe piezometer for future groundwater level monitoring by SVCSD. The approximate locations of our borings are shown on the Site Plan, Figure 1. Logs of the exploratory borings and details regarding our field investigation are included in Appendix A. The results of our laboratory testing on selected samples are included in Appendix B. It should be noted that changes in the surface and subsurface conditions can occur over time as a result of either natural processes or human activity and may affect the validity of the conclusions and recommendations in this report.

3.1 Surface

At the time of our investigation and as shown on Figure 1, the site was bounded by East 8th Street and Schellville Road on the east, the Sonoma Valley Treatment Plant on the south, and agricultural lands on the west and north. A shallow southerly flowing creek divides the site into two parts. The eastern part contains about one-quarter of the site; the western part contains about three-quarters of the site. A steel culvert bridge at the southern site boundary provided access to areas west of the creek. The general site grades sloped slightly to very gently from site boundaries toward the creek with surface elevations ranging from about 27 feet to 12 feet (datum unknown).

At the time of our field exploration, the west and northwest portions of the site was occupied by an existing vineyard. The rest of the site was vacant and contained a heavy growth of grasses and weeds. It is our understanding that underground irrigation pipes are located throughout the site. Several wet areas with standing surface water were observed near the center and at the north portion of the site. Large and small diameter trees were located on the existing access roads near the southeastern corner of the site.

3.2 Subsurface

The subsurface materials encountered in SFB's borings generally consisted of very soft to firm clays and silts that extended to depths of about 2 to 5-1/2 feet below the existing ground surface. The upper 1 to 3 feet of soils were generally weak and potentially compressible. Below these surface soils, interbedded stiff to hard clay and silt layers and medium dense to very dense sand and gravel layers were encountered that extended to the maximum depth explored of about 41-

1/2 feet. In Borings B-1 through B-4 (located to the west of the creek), a hard pan layer that consisted of clayey gravels was generally encountered at depths between 2 and 5 feet. No noticeable hard pan was encountered in Boring B-5 (located to the east of the creek). According to the results of laboratory testing, the near-surface more clayey soils have a high plasticity and high expansion potential.

Detailed descriptions of the materials encountered in our exploratory borings are presented on the boring logs in Appendix A. The results of our laboratory testing are presented in Appendix B. Our exploratory boring logs and related information depict location specific subsurface conditions encountered during our field investigation. The approximate locations of our exploratory borings were determined by pacing and landmark references, and should be considered accurate only to the degree implied by the method used.

3.3 Ground Water

Ground water was encountered in the borings at depths between 1 to 4 feet below the existing ground surface at the time of drilling. The borings were backfilled with lean cement grout prior to leaving the site, except that Boring B-2 was converted to an open standpipe piezometer for future ground water monitoring. It should be noted that the borings might not have been left open for a sufficient period of time to establish equilibrium ground water conditions. In addition, fluctuations in the ground water level could occur due to change in seasons, variations in rainfall, and other factors.

3.4 Geology and Seismicity

According to Sowers, et al. (1998), the site is underlain by early to middle Pleistocene fan or terrace deposits that have been previously mapped as moderately to deeply dissected alluvial deposits capped by alfisols, ultisols, or soils containing a silica or calcic hardpan[1].

The surface soils have been mapped as Huichica Loam (to the east of the creek) and Wright Loam (to the west of the creek) and were assigned to Hydrologic Soil Groups C and D, respectively, by USDA Natural Resources Conservation Service (NRCS) and have been categorized as having very low to moderately low transmission rates (approximately 0 to 0.06 inches per hour). The Group C soil is considered as having a slow infiltration rate when thoroughly wet and may consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. The Group D soil is considered as having a very slow infiltration rate when thoroughly wet (high runoff potential)

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[1]Sowers, Noller & Lettis, 1998, *Maps Showing Quaternary Geology and Liquefaction Susceptibility, Napa, California, 1: 100,000 Quadrangle: A Digital Database*, USGS Open File Report 98-460.

and may consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material.

The site is located near the San Francisco Bay Area that is considered one of the most seismically active regions in the United States. Significant earthquakes have occurred in the San Francisco Bay Area and are believed to be associated with crustal movements along a system of subparallel fault zones that generally trend in a northwesterly direction. The site is not located within an Alquist-Priolo Earthquake Fault Zone as designated by the State of California[2]. According to Jennings (1994)[3], a concealed unnamed fault (west of Carneros Creek) has been mapped to the east of the site vicinity (about 0.5 mile from the site); however, the fault is not classified as an active fault (showing evidence of movement in the past 11,000 years) by the State of California. This fault has been classified as showing evidence of movement during Pre-Quaternary time (more than 1.6 million years before present).

Earthquake intensities will vary throughout the Bay Area, depending upon numerous factors including the magnitude of earthquake, the distance of the site from the causative fault, and the type of materials underlying the site. The U.S. Geological Survey (2003) indicates that there is a 62 percent chance of at least one magnitude 6.7 or greater earthquake striking the San Francisco Bay region between 2003 and 2032[4]. Therefore, the project will probably be subjected to at least one moderate to severe earthquake that will cause strong ground shaking.

According to the Probabilistic Seismic Hazard Analysis (NSHMP PSHA) interactive deaggregation model developed by U.S. Geological Survey (2008), the site has a 10% probability of exceeding a peak ground acceleration of about 0.47g in 50 years (design basis ground motion based on alluvium site condition). The actual ground surface acceleration might vary depending upon the local seismic characteristics of the underlying bedrock and the overlying unconsolidated soils.

3.5 Liquefaction & Lateral Spreading

Soil liquefaction is a phenomenon primarily associated with saturated, cohesionless, soil layers located close to the ground surface. These soils lose strength during cyclic loading, such as imposed by earthquakes. During the loss of strength, the soil acquires mobility sufficient to

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[2]Hart and Bryant, *Fault-Rupture Hazard Zones in California*, CDMG Special Publication 42, Interim Revision 2007.

[3]Information based on Jennings, 1994, *Fault Activity Map of California and Adjacent Areas*, CDMG Geological Data Map No.6.

[4]U.S. Geological Survey, 2003, Fact Sheet 039-03.

permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie close to the ground surface. According to ABAG and the U.S. Geological Survey, the site is located in an area mapped as having a very low likelihood of liquefaction in an earthquake and has been characterized as having very low liquefaction susceptibility[5,6]. According to Sowers, et al. (1998), the site is located within an area that has been mapped as having very low liquefaction susceptibility. As of the date of this report, the liquefaction potential of the site has not been evaluated by the State of California[7].

SFB performed both SPT-based liquefaction analyses using procedures described by the Southern California Earthquake Center (SCEC, Martin and Lew, 1999) and research papers by Seed (2001)[8]. A peak ground acceleration having a 10% probability of being exceeded in a 50-year period was used in our analyses (this resulted in an onsite peak ground acceleration of 0.47g as described above). Ground water levels measured in SFB's borings during exploration were used in our analyses to assess the impact on liquefaction and ground surface damage potential.

The results of our analyses indicate that several isolated, relatively thin, saturated sand lenses encountered in the borings, of about 3 to 10 feet thick, have a moderate to high potential for liquefying when subjected to a design basis earthquake. The earthquake induced liquefaction in these sand and silt layers could result in residual volumetric strains varying from about 1% to 3%. We estimate that the liquefaction of these soils, if subjected to a design basis earthquake, may cause total aerial ground surface settlements of about 1 to 2 inches. The actual ground surface damage will vary depending on the thickness of the overlying non-liquefiable soils and the underlying liquefiable soils[9]. Due to the highly variable extent of these liquefiable sands across the site, it is our opinion that ground surface damage, if it were to occur, will be isolated in local areas.

As part of our analyses, we evaluated the potential for lateral spreading impacting the proposed pond embankments. Lateral spreading occurs when soils liquefy during an earthquake event and the liquefied soils with the overlying soils move laterally to unconfined spaces (such as an unconfined creek bank or the unconfined portion of an excavation that extends below grade),

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[5]Association of Bay Area Governments, 1980, *Liquefaction Susceptibility, San Francisco Bay Region.*

[6]Knudsen, Sowers, Witter, Wentworth, and Helly, 2000, "*Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region, California*", USGS Open File Report 00-444.

[7]Seismic Hazards Mapping Act, 1990.

[8]Seed et al., 2001, *Recent Advances in Soil Liquefaction Engineering and Seismic Site Response Evaluation, Fourth International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics and Symposium in Honor of Professor W.D. Liam Finn, San Diego, California.*

[9]Ishihara, K., 1985, *Stability of Natural Deposits During Earthquakes*, Proceedings of the Eleventh International Conference on Soil Mechanics and Foundation Engineering, San Francisco, CA Volume 1, p. 321-376, August.

which can cause significant horizontal ground displacements. Since the liquefiable soils encountered during our subsurface exploration were isolated and limited in extent and most of these soils have a SPT blow count greater than 15, it is our opinion that the potential for lateral spreading of the proposed pond embankments is low according to the analysis method published by Youd (2002)[10].

[10]Youd, Hansen, and Bartlett, 2002, Revised Multilinear Regression Equations for Prediction of Lateral Spread Displacement

4.0 PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

It is our opinion that the site is suitable for the proposed project from a geotechnical engineering standpoint. The following discussion provides geologic and geotechnical considerations for development of the site.

LIQUEFACTION: As presented in Section 3.5 of this report, a potential exists for liquefaction induced ground surface settlement as a result of earthquake shaking. Our analyses indicate that if ground surface settlement occurs, isolated areas of the site may experience total aerial settlements of about 1 to 2 inches. The actual ground surface damage will vary depending on the thickness of the overlying non-liquefiable soils and the underlying liquefiable soils. Due to the highly variable extent of the liquefiable sands across the site, it is our opinion that ground surface damage, if it were to occur, will be isolated in local areas. It may not be feasible to delineate the actual boundaries between areas affected by liquefaction and areas not affected by liquefaction due to the geomorphology of the area (a depositional environment). We recommend that future investigations include a detailed liquefaction assessment at the proposed pond footprints to verify our findings and ground settlement estimates.

GROUNDWATER: Groundwater was encountered as shallow as 1 foot in the borings drilled for this investigation. Therefore, free groundwater could be encountered in pond and trench excavations. Depending on the depth of the excavations and the amount of time they are left open, dewatering may be required. Monitoring of the open standpipe piezometer installed at Boring B-2 location should be performed periodically to provide groundwater level information to aid in design and construction of the project.

Due to the variable lateral and vertical extent of sand and gravel layers across the site, the size of the proposed ponds, and the existing creek, it is our opinion that the near-surface sand and gravel layers should be considered as highly permeable and water bearing.

GROUND SETTLEMENT DUE TO CONSOLIDATION: The site, below the surficial soils, is underlain by stiff to hard clays and silts or medium dense to very dense sands and gravels. These soils are generally considered as over-consolidated. It is our opinion that the potential for detrimental soil consolidation under the proposed project load (up to 5 to 10 feet high of fill for embankments) is low.

SLOPE STABILITY: It is our opinion, for preliminary design purposes, the inclination of the proposed pond embankments can be as steep as 2:1 (horizontal to vertical) without the need for engineering reinforcement provided the embankments are constructed in accordance with

accepted engineering standards. Steeper slopes are feasible with geogrid or ground improvements. The on-site soils can be used for embankment fills. We recommend a detailed slope stability analysis be performed during a future geotechnical study once the location and geometry of the embankments are known.

FUTURE INVESTIGATION: A design-level geotechnical investigation including additional borings, laboratory testing, and engineering analyses will need to be performed in order to provide detailed earthwork, drainage, pavement, and foundation recommendations for use in the actual design and construction of the project. The preliminary recommendations provided below are based upon the collected data and may require modification after additional borings, laboratory testing, and analyses are performed.

4.1 Earthwork

The site should be cleared of all obstructions including existing above grade and below grade structures and their associated foundations, designated trees and their associated root systems, existing irrigation pipelines and associated trench backfills, and debris. Holes resulting from the removal of underground obstructions extending below the finished grade should be cleared and backfilled. Existing underground utilities and associated trench backfills should be abandoned or removed in accordance with acceptable engineering standards. Designated wells and septic systems should be abandoned in accordance with Sonoma County standards.

Weak and potentially compressible surface soils exist at the site that extended to depths of about 1 to 3 feet. We recommend removing the upper 2 feet of soil, scarifying and compacting the bottom 12 inches of the resulting excavation, and placing compacted fill over the properly prepared subgrade to strengthen the soils. On-site soils having an organic content of less than 3 percent by volume can be used as new fill provided the materials do not contain rocks or lumps larger than 6 inches in greatest dimension with not more than 15 percent larger than 2.5 inches. If required, imported fill should have a plasticity index of about 20 or less and have a significant amount of cohesive fines.

In addition to the mechanical properties specifications, all imported fill material should have a resistivity (100% saturated) no less than the resistivity for the onsite soils, a pH of between about 6.0 and 8.5, a total water soluble chloride concentration less than 300 ppm, and a total water soluble sulfate concentration less than 500 ppm.

We recommend all cut and fill slopes not exceed an inclination of 2:1 (horizontal to vertical) and be constructed with surface drainage. All structural fill should be compacted to at least 90 percent relative compaction. The upper 6 inches of subgrade soils beneath pavements should be

compacted to at least 95 percent relative compaction. Fill material should be spread and compacted in lifts not exceeding approximately 8 to 12 inches in uncompacted thickness. Surface water should not be allowed to flow over the top of slopes and down slope faces.

5.0 CONDITIONS AND LIMITATIONS

Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) cannot be held responsible for the validity or accuracy of information, analyses, test results, or designs provided to SFB by others. The analysis, designs, opinions, and recommendations submitted in this report are based in part upon the data obtained from our field work and upon information provided by others. Site exploration and testing characterizes subsurface conditions only at the locations where the explorations or tests are performed; actual subsurface conditions between explorations or tests may be different than those described in this report. Variations of subsurface conditions from those analyzed or characterized in this report are not uncommon and may become evident during construction. In addition, changes in the condition of the site can occur over time as a result of either natural processes (such as earthquakes, flooding, or changes in ground water levels) or human activity (such as construction adjacent to the site, dumping of fill, or excavating). If changes to the site's surface or subsurface conditions occur since the performance of the field work described in this report, or if changes to the project are made, SFB should be contacted immediately to evaluate the differing conditions to assess if the preliminary opinions, conclusions, and recommendations provided in this report are still applicable or should be amended.

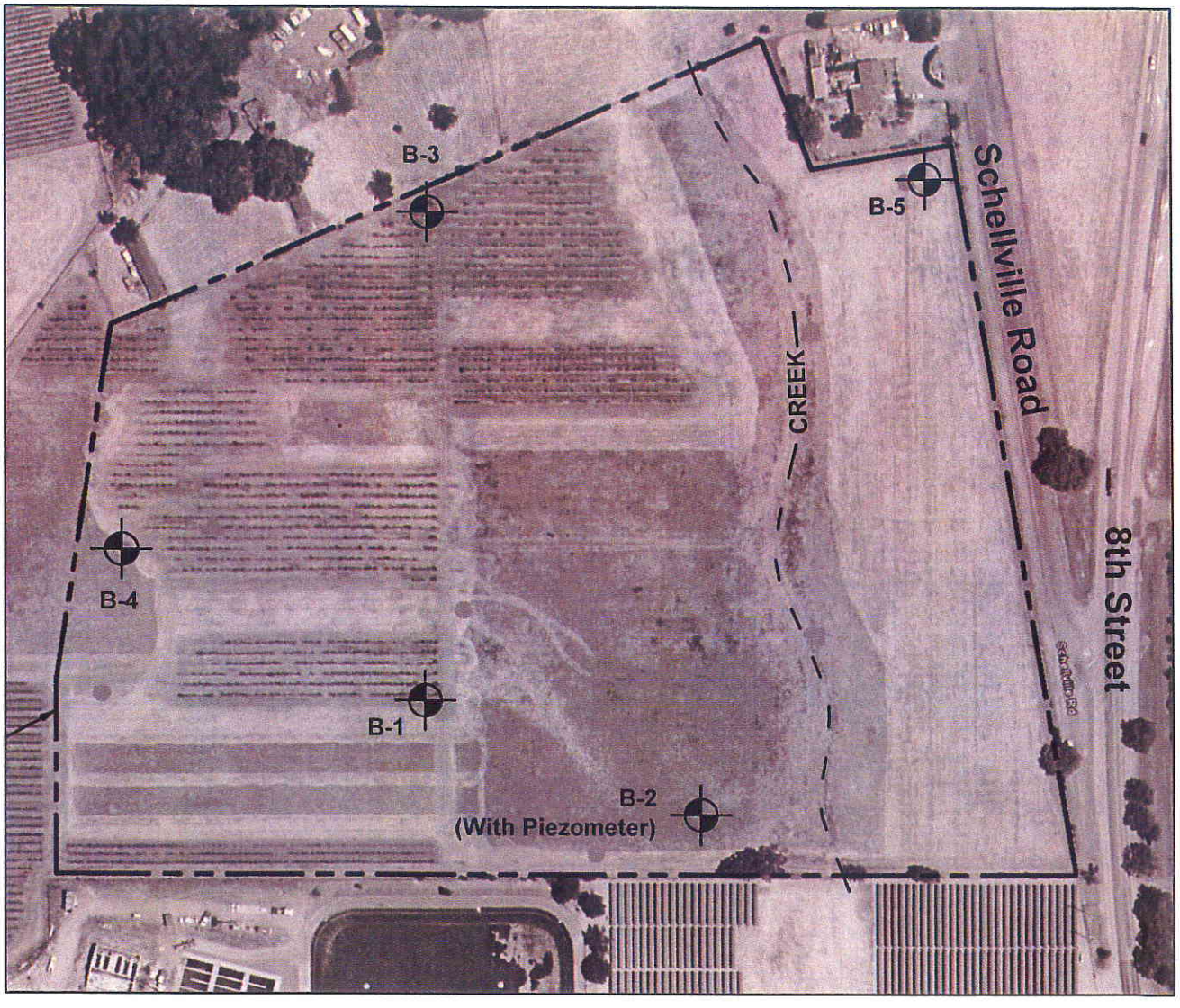
This report is a preliminary document that has been prepared in accordance with generally accepted geological and geotechnical engineering practices for the exclusive use of ERM, Sonoma County Water Agency, and their consultants for specific application to the preliminary planning and cost estimating for the proposed project at the 20-acres of land (APN 128-422-064) located immediately north of the Sonoma Valley Treatment Plant in Sonoma, California. This report is not intended to provide detailed design and construction criteria for the project. The preliminary conclusions and recommendations contained in this report are solely professional opinions.

It should be understood that advancements in the practice of geotechnical engineering and engineering geology, or discovery of differing surface or subsurface conditions, may affect the validity of this report and are not uncommon. We strive to perform our services in a proper and professional manner with reasonable care and competence but it is not infallible. Geological engineering and geotechnical engineering are disciplines that are far less exact than other engineering disciplines; we should be consulted if it is not completely understood what the limitations to using this report are.

This report does not necessarily represent all of the information that has been communicated by us to ERM, Sonoma County Water Agency, and their consultants during the course of this

engagement and our rendering of professional services. Reliance on this report by parties other than those described above must be at their own risk unless we are first consulted as to the parties' intended use of this report and only after we obtain the written consent of ERM or Sonoma County Water Agency to divulge information that may have been communicated to ERM or the Sonoma County Water Agency. We cannot accept consequences for un-consulted use of segregated portions of this report.

FIGURE



KEY

B-5 APPROXIMATE LOCATION OF SFB EXPLORATORY BORING (4/9/10, 4/12/10 & 4/14/10)

N

APPROXIMATE SCALE: 1" = 200'

0 200' 400'

NOTE: Base Map Provided by ERM.

DATE			SITE PLAN	FIGURE
June 2010	Stevens Ferrone & Bailey Engineering Company, Inc	1600 Willow Pass Court Concord, CA 94520 Tel 925.688.1001 Fax 925.688.1005 www.SFandB.com	SVCSD STORAGE PONDS Sonoma, California	1
PROJECT NO.				
496-1				

APPENDIX A

Field Investigation

APPENDIX A

SFB's Field Investigation

The preliminary field investigation for the 20-acres of land (APN 128-422-064) in Sonoma, California consisted of a surface reconnaissance and a subsurface exploration program using a track-mounted drill rig equipped with 8 inch hollow-stem, continuous flight augers. Five exploratory borings were drilled on April 9, 12, & 14, 2010, to a maximum depth of about 41-1/2 feet. The locations of the borings are shown on the Site Plan, Figure 1. Our representative continuously logged the soils encountered in SFB's borings in the field. The soils are described in general accordance with the Unified Soil Classification System (ASTM D-2487). The logs of the borings as well as a key for the classification of the soil (Figure A-1) are included as part of this appendix.

Representative samples were obtained from our exploratory borings at selected depths appropriate to the investigation. Relatively undisturbed samples were obtained using a 3-inch O.D. split barrel sampler with liners, and disturbed samples were obtained using the 2-inch O.D. split barrel sampler. All samples were transmitted to our offices for evaluation and appropriate testing. Both sampler types are indicated in the "Sampler" column of the boring logs as designated in Figure A-1.

Resistance blow counts were obtained in our borings with the samplers by dropping a 140-pound, automatic hammer through a 30-inch free fall. The sampler was driven 18 inches, or a shorter distance where hard resistance was encountered, and the number of blows were recorded for each 6 inches of penetration. The blows per foot recorded on the boring logs represent the accumulated number of converted blows that were required to drive the last 12 inches, or the number of inches indicated where hard resistance was encountered. The blow counts recorded on the boring logs have been converted to equivalent SPT field blowcounts, but have not been corrected for overburden, silt content, or other factors.

Our boring logs and related information show our interpretation of the subsurface conditions at the dates and locations indicated, and it is not warranted that they are representative of subsurface conditions at other locations and times.

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		grf	ltr	Description
Coarse Grained Soils	Gravel Gravelly Soils		GW	Well-graded gravels or gravel sand mixtures, little or no fines
			GP	Poorly-graded gravels or gravel sand mixture, little or no fines
			GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sand And Sandy Soils		SW	Well-graded sands or gravelly sands, little or no fines
			SP	Poorly-graded sands or gravelly sands, little or no fines
			SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, and-clay mixtures

Major Divisions		grf	ltr	Description
Soils	Silts And Clays LL < 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silt-clays of low plasticity
	Silts And Clays LL > 50		MH	Inorganic silts, micaceous or diatomaceous fine or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
Highly Organic Soils			PT	Peat and other highly organic soils

GRAIN SIZES

U.S. STANDARD SERIES SIEVE: 200, 40, 10, 4

CLEAR SQUARE SIEVE OPENINGS: 3/4", 3", 12"

Silts and Clays	Sand			Gravel		Cobbles	Boulders
	Fine	Medium	Coarse	Fine	Coarse		

RELATIVE DENSITY

Sands and Gravels	Blows/Foot*
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

CONSISTENCY

Silts and Clays	Blows/Foot*	Strength (tsf)**
Very Soft	0 - 2	0 - 1/4
Soft	2 - 4	1/4 - 1/2
Firm	4 - 8	1/2 - 1
Stiff	8 - 16	1 - 2
Very Stiff	16 - 32	2 - 4
Hard	Over 32	Over 4

*Number of Blows for a 140-pound hammer falling 30 inches, driving a 2-inch O.D. (1-3/8" I.D.) split spoon sampler.
**Unconfined compressive strength.

SYMBOLS & NOTES

- Standard Penetration sampler (2" OD Split Barrel)
- Modified California sampler (3" OD Split Barrel)
- California Sampler (2.5" OD Split Barrel)
- Shelby Tube
- Pitcher Barrel
- HQ Core
- Ground Water level initially encountered
- Ground Water level at end of drilling

PI = Plasticity Index
LL = Liquid Limit
R = R-Value

Increasing Visual Moisture Content

Saturated
Wet
Moist
Damp
Dry

Constituent Percentage

trace	<5%
some	5-15%
with	16-30%
-y	31-49%

Stevens, Ferrone & Bailey Engineering Company, Inc.
1600 Willow Pass Court
Concord, CA 94520
Telephone: 925-688-1001
Fax: 925-688-1005

KEY TO EXPLORATORY BORING LOGS

SVCSD STORAGE PONDS
Sonoma, CA

PROJECT NO.	DATE	FIGURE NO.
496-1	June 2010	A-1

DRILL RIG CME 850, HSA	SURFACE ELEVATION ---	LOGGED BY TC
DEPTH TO GROUND WATER 3 feet	BORING DIAMETER 8-inch	DATE DRILLED 04/09/10

DESCRIPTION AND CLASSIFICATION: DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
CLAY (CH), dark grayish brown, silty, some sand(fine-grained), damp to moist.	firm		0						LL = 58, PI = 39
GRAVEL (GC/SC), mottled gray yellowish brown, fine to coarse, subangular to subrounded, sandy(fine- to coarse-grained), clayey, with silt, moist. Some large rock fragments.	medium dense		5	X	16	20	107		See Figure B-1 for Gradation Test Results
CLAY (CL), brown, silty, some gravel(fine, subangular to subrounded), damp.	stiff								
	very stiff		10	X	26	25	101		
			15	X	20				
1" thick gray fine- to coarse-grained sand (SP-SM) some silt at 21'.			20	X	25				Passing # 200 Sieve = 28%
SAND (SM), gray, fine- to medium-grained, with to silty, moist to wet.	medium dense								
Clayey, wet.			25	X	29				
CLAY (CL), brown, silty, some sand(fine-grained), damp.	very stiff								
CLAY (CH), dark bluish gray, silty, some sand(fine- to medium-grained), damp.	very stiff		30		21				

Stevens, Ferrone & Bailey Engineering Company, Inc.
1600 Willow Pass Court
Concord, CA 94520
Telephone: 925-688-1001
Fax: 925-688-1005

EXPLORATORY BORING LOG

SVCSD STORAGE PONDS
Sonoma, CA

PROJECT NO.	DATE	BORING NO.
496-1	June 2010	B-1

DRILL RIG CME 850, HSA	SURFACE ELEVATION ---	LOGGED BY TC
DEPTH TO GROUND WATER 3 feet	BORING DIAMETER 8-inch	DATE DRILLED 04/09/10

DESCRIPTION AND CLASSIFICATION			DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE							
CLAY (CH), Continued, damp.	very stiff		35		24				
SILT (ML), dark bluish gray, clayey, with silt(fine-grained), damp.	very stiff		40		22				
Bottom of Boring = 41.5 feet Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			45 50 55 60 65						

Stevens, Ferrone & Bailey Engineering Company, Inc.
1600 Willow Pass Court
Concord, CA 94520
Telephone: 925-688-1001
Fax: 925-688-1005

EXPLORATORY BORING LOG

SVCSD STORAGE PONDS
Sonoma, CA

PROJECT NO.	DATE	BORING NO.
496-1	June 2010	B-1

DRILL RIG CME 850, HSA	SURFACE ELEVATION ---	LOGGED BY NSK
DEPTH TO GROUND WATER 1 feet	BORING DIAMETER 8-inch	DATE DRILLED 04/12/10

DESCRIPTION AND CLASSIFICATION: DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	PIEZOMETER INFORMATION: NOTES	GRAPHIC
CLAY (CH), dark grayish brown, silty, some sand(fine- to medium-grained), moist.	soft		0		3				Solid pipe Section: 0 to 13'	
GRAVEL (GC), mottled reddish orange brown, fine to coarse, subangular to subrounded, clayey, sandy(fine- to coarse-grained), some silt, moist.	medium dense		5		22				Slotted pipe section: 13' to 18' Cement grout: 0 to 9'	
SAND (SM), brown with dark gray mottles, fine- to medium-grained, some silt, some clay, trace gravel, moist. Gravelly at 12.5' to 13'.	medium dense		10		16				See Figure B-1 for Gradation Test Results Bentonite chip: 9' to 11'	
			15		17				Filter sand: 11' to 18'	
CLAY (CL), brown, silty, with sand(fine-grained), damp.	hard		20		34				Bentonite chip: 18' to 26'	
Boring converted to piezometer.	very stiff		25		27					
Bottom of Boring = 26 feet Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			30							

Stevens, Ferrone & Bailey Engineering Company, Inc.
1600 Willow Pass Court
Concord, CA 94520
Telephone: 925-688-1001
Fax: 925-688-1005

EXPLORATORY BORING LOG

SVCSD STORAGE PONDS
Sonoma, CA

PROJECT NO.	DATE	BORING NO.
496-1	June 2010	B-2

DRILL RIG CME 850, HSA	SURFACE ELEVATION ---	LOGGED BY NSK
DEPTH TO GROUND WATER 1.5 feet	BORING DIAMETER 8-inch	DATE DRILLED 04/12/10

DESCRIPTION AND CLASSIFICATION: DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
SILT (ML), gray clayey, some sand(fine-grained), wet.	very soft		0		0				
Gravels at 2.5' to 3'.									
CLAY (CL), brown, sandy(fine-grained), damp to moist.	hard								
No recovery at 4.5' to 6'.			5		91				
					33				
Very sandy at 7.5'.									
SAND (SM), grayish brown, fine-grained, silty, damp.	medium dense		10		21				
Gravels at 12.5'.									
Fine- to coarse-grained at 15', damp.	loose		15		9				Passing # 200 Sieve = 19%
Fine- to coarse-grained at 21'. Gravelly at 21.5'.	very dense		20		65				
Bottom of Boring = 24.5 feet			25						
Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			30						

EXPLORATORY BORING LOG 496-1.GPJ STEVENS FERRONE BAILEY.GDT 6/28/10

Stevens, Ferrone & Bailey Engineering Company, Inc.
1600 Willow Pass Court
Concord, CA 94520
Telephone: 925-688-1001
Fax: 925-688-1005

EXPLORATORY BORING LOG

SVCSD STORAGE PONDS
Sonoma, CA

PROJECT NO.	DATE	BORING NO.
496-1	June 2010	B-3

DRILL RIG CME 850, HSA	SURFACE ELEVATION ---	LOGGED BY NSK
DEPTH TO GROUND WATER 4 feet	BORING DIAMETER 8-inch	DATE DRILLED 04/14/10

DESCRIPTION AND CLASSIFICATION: DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
CLAY (CH), dark brown, some silt, moist.	firm		0						
Hard pan layer at 3' to 4'.	stiff								
Sandy(fine- to medium-grained), with gravel.									
GRAVEL (GC), dark gray brown, fine to coarse, subangular to subrounded, clayey, some sand(fine- to coarse-grained), moist.	very dense		5	X	50/6"				
CLAY (CL), mottled grayish brown, silty, some sand(fine-grained), damp.	stiff								
No recovery at 10' to 11.5'.			10	X	8				
Some gravel at 13'.									
	hard		15	X	38				
	very stiff		20	X	25				
			25	X	26				
Bottom of Boring = 26.5 feet Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			30						

Stevens, Ferrone & Bailey Engineering Company, Inc.
1600 Willow Pass Court
Concord, CA 94520
Telephone: 925-688-1001
Fax: 925-688-1005

EXPLORATORY BORING LOG

SVCSD STORAGE PONDS
Sonoma, CA

PROJECT NO.	DATE	BORING NO.
496-1	June 2010	B-4

DRILL RIG CME 850, HSA	SURFACE ELEVATION ---	LOGGED BY NSK
DEPTH TO GROUND WATER 4 feet	BORING DIAMETER 8-inch	DATE DRILLED 04/14/10

DESCRIPTION AND CLASSIFICATION: DESCRIPTION AND REMARKS	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	SPT N-VALUE	WATER CONTENT (%)	DRY DENSITY (PCF)	UNC. COMP. (KSF)	OTHER TESTS
CLAY (CH), dark brown, silty, some sand(fine-grained), moist.	firm		0						
SAND (SC), dark gray brown, fine- to coarse-grained, clayey, some gravel, wet.	medium dense		5		14				Passing # 200 Sieve = 20 %
GRAVEL (GC), mottled dark gray brown, fine to coarse, subangular to subrounded, clayey, with sand(fine- to coarse-grained), wet.	medium dense		10		24				
CLAY (CL), mottled gray brown, silty, damp.	very stiff		15		42				
GRAVEL (GC), gray brown, fine to coarse, subangular to subrounded, clayey, with sand(fine- to coarse-grained), moist.	dense								
SILT (ML), gray brown, with sand(fine-grained), some clay, moist.	stiff		20		14				Passing # 200 Sieve = 25%
SAND (SM), brown, fine- to medium-grained, with silt and clay, moist.	medium dense								
SILT (ML), brown, clayey, some sand(fine- to coarse-grained), moist.	hard		25		35				
Bottom of Boring = 26.5 feet Notes: Stratification is approximate, variations must be expected. Blowcounts converted to SPT N-values. See Report for additional details.			30						

Stevens, Ferrone & Bailey Engineering Company, Inc.
1600 Willow Pass Court
Concord, CA 94520
Telephone: 925-688-1001
Fax: 925-688-1005

EXPLORATORY BORING LOG

SVCSD STORAGE PONDS
Sonoma, CA

PROJECT NO.	DATE	BORING NO.
496-1	June 2010	B-5

EXPLORATORY BORING LOG 496-1.GPJ STEVENS FERRONE BAILEY.GDT 6/28/10

APPENDIX B

Laboratory Investigation

APPENDIX B

Laboratory Investigation

SFB's laboratory testing program for the 20-acres of land (APN 128-422-064) in Sonoma, California was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site.

The natural water content was determined on two samples of the subsurface soils. The water contents are recorded on the boring logs at the appropriate sample depths.

Dry density determination was performed on two samples of the subsurface soils to evaluate their physical properties. The results of the test are shown on the boring logs at the appropriate sample depths.

Atterberg Limit determinations were performed on one sample of the subsurface soils to determine the range of water content over which these materials exhibit plasticity. These values are used to classify the soil in accordance with the Unified Soil Classification System and to indicate the soil's compressibility and expansion potentials. The results of the test are presented on the boring log at the appropriate sample depth.

Gradation and hydrometer tests were performed on two samples of the subsurface soils. These tests were performed to assist in the classification of the soil and to determine its grain size distribution. The results of these tests are shown on the boring logs at the appropriate sample depths. The results of the tests are presented on Figure B-1.

The percent passing the #200 sieve was determined on four samples of the subsurface soils to aid in the classification of these soils. The results of these tests are shown on the boring logs at the appropriate sample depths.

Attachment B
Analytical Laboratory Reports
and Data Quality Review

Memorandum

Environmental Resources Management

2875 Michelle Drive
Suite 200
Irvine, CA 92606
(949) 623-4700
(949) 623-2940 (fax)

To: Chimi Yi

From: Irene Lavigne

Date: 18 May 2010

Subject: Data Review of SCWA Phase II Soil and Groundwater Samples Collected April 2010

Project Number: 0112574

Data Package: Accutest Data Packages C10583X, C10599X, C10607, C10629X and C10633

The quality of the data was assessed and any necessary qualifiers were applied following the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* October 1999 and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review,* October 2004.

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method-prescribed time period from the date of collection. The sample shipments were received at the laboratory within the method-prescribed preservation requirements. None of the data were qualified based on holding time or temperature preservation exceedances.

BLANK EVALUATION

The method blank sample results were nondetected for each of the target analytes with one exception. A detection of beta-BHC in a method blank did not result in qualification of sample data because associated samples were nondetected for this compound. The method blank detection is shown in Table 1.

BLANK SPIKE EVALUATION

The laboratory control sample (LCS) recoveries were within the laboratory's limits of acceptance with limited exceptions. Two outlying recoveries for acetone did not result in qualification of sample data because the recoveries were biased high and the samples were nondetected for this compound. The outlying LCS recoveries are presented in Table 2.

MATRIX SPIKE EVALUATION

The matrix spike (MS)/matrix spike duplicate (MSD) recoveries were within the laboratory's limits of acceptance with limited exceptions; however, no sample data were qualified as a result of the MS outliers. Data were not qualified on the basis of MS recoveries if only one recovery in a MS/MSD pair exceeded control limits, or if the spike sample was prepared using a non-client sample. The MS outliers are listed in Table 3.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits with several exceptions. Nondetected results for two samples submitted for organochlorine pesticide analyses were qualified as estimated (UJ) due to recoveries that were below the minimum acceptable limits. Outlying surrogate recoveries are shown in Table 4.

CALIBRATION EVALUATION

The laboratory noted that the continuing calibration verification (CCV) recoveries associated with two samples were outside of acceptable control limits. The outlying CCV recoveries did not require qualification of sample data because the recoveries were biased high and the sample results were nondetected for the corresponding compounds. The CCV outliers are presented in Table 5.

OVERALL ASSESSMENT

No data were determined to be unusable. All of the data, including qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically-defensible documents.

Table 1
Blank and Associated Suspect Sample Detections
Soil & Groundwater Samples Collected April 2010
SCWA Phase II
Sonoma, California

Lab Package	Blank ID	Associated Samples	Detected Compound	Reported Concentration	Report Limit	Units	ERM Qualifier
C10607	MB OP2017	NA	beta-BHC	0.0064	0.025	µg/L	--

Data packages reviewed: C10583X, C10599X, C10607, C10629X, C10633

Key:
MB = Method blank
NA = Not applicable; associated sample data not affected
µg/L = Micrograms per liter

Table 2
Blank Spike Recoveries Outside of Acceptable Limits
Soil & Groundwater Samples Collected April 2010
SCWA Phase II
Sonoma, California

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	Sample Result	ERM Qualifier
LCS							
C10607	LCS VN491-BS	NA	Acetone	160	60-130	--	--
C10633	LCS VN491-BS	NA	Acetone	160	60-130	--	--

Data packages reviewed: C10583X, C10599X, C10607, C10629X, C10633

Key:
LCS = Laboratory control sample (blank spike)
NA = Not applicable; associated samples not qualified

Table 3
Matrix Spike Recoveries Outside of Acceptable Limits
Soil & Groundwater Samples Collected April 2010
SCWA Phase II
Sonoma, California

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Sample Result	ERM Qualifier
MS/MSD									
C10607	Batch MS/MSD	NA	Bromodichloromethane	131/127	60-130	3	25	--	--
C10607	Batch MS/MSD	NA	Bromoform	131/130	60-130	1	25	--	--
C10607	Batch MS/MSD	NA	1,2-Dichloroethena	134/126	60-130	7	25	--	--
C10607	Batch MS/MSD	NA	Di-isopropyl ether	134/132	60-130	2	25	--	--
C10607	Batch MS/MSD	NA	trans-1,3-Dichlropropene	131/128	60-130	2	25	--	--
C10607	Batch MS/MSD	NA	Ethyl tert butyl ether	136/131	60-130	4	25	--	--
C10607	Batch MS/MSD	NA	2-Hexanone	141/135	60-130	5	25	--	--
C10607	Batch MS/MSD	NA	Methylene chloride	142/138	60-130	3	25	--	--
C10607	Batch MS/MSD	NA	Methyl ethyl ketone	136/126	60-130	8	25	--	--
C10607	Batch MS/MSD	NA	Methyl tert butyl ether	132/126	60-130	5	25	--	--
C10607	Batch MS/MSD	NA	tert-Amyl methyl ether	133/127	60-130	5	25	--	--
C10607	Batch MS/MSD	NA	tert-Butyl alcohol	135/123	60-130	9	25	--	--
C10607	Batch MS/MSD	NA	1,1,2,2-Tetrachloroethane	133/126	60-130	6	25	--	--
C10607	Batch MS/MSD	NA	1,2,3-Trichloropropane	132/128	60-130	3	25	--	--
C10607	Batch MS/MSD	NA	Antimony	33.7/33.7	80-120	1.8	20		
C10633	Batch MS/MSD	NA	Antimony	31.8/32.9	80-120	4.7	20	--	--

Data packages reviewed: C10583X, C10599X, C10607, C10629X, C10633

Key:
MS/MSD = Matrix spike/matrix spike duplicate
RPD = Relative percent difference
Batch = Spike sample prepared using non-client sample
NA = Not applicable; associated samples not qualified

Table 4
Surrogate Recovery Results Outside of Acceptable Limits
Soil & Groundwater Samples Collected April 2010
SCWA Phase II
Sonoma, California

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	Notes	ERM Qualifier
C10607	SB-3-GW	Pesticides	Tetrachloro-m-xylene	29	44-140	--	UJ
C10607	SB-3-GW	Pesticides	Tetrachloro-m-xylene	25	44-140	--	UJ
C10607	SB-3-GW	Pesticides	Decachlorobiphenyl	29	44-140	--	UJ
C10607	SB-3-GW	Pesticides	Decachlorobiphenyl	27	44-140	--	UJ
C10633	SB-2-GW	Pesticides	Tetrachloro-m-xylene	33	44-140	--	UJ
C10633	SB-2-GW	Pesticides	Tetrachloro-m-xylene	33	44-140	--	UJ
C10633	SB-2-GW	Pesticides	Decachlorobiphenyl	32	44-140	--	UJ
C10633	SB-2-GW	Pesticides	Decachlorobiphenyl	32	44-140	--	UJ

Data packages reviewed: C10583X, C10599X, C10607, C10629X, C10633

Key:
UJ = Nondetected sample result qualified as estimated

Table 5
Continuing Calibration Verification Recoveries Outside of Acceptable Limits
Soil & Groundwater Samples Collected April 2010
SCWA Phase II
Sonoma, California

Lab Package	Sample ID	Compound	CCV Recovery	Reported Concentration	Units	ERM Qualifier
C10633	SB-5-GW	Acetone	High	< 20	µg/L	--
C10633	SB-5-GW	Methyl chloride	High	< 1.0	µg/L	--
C10633	SB-2-GW	Acetone	High	< 20	µg/L	--
C10633	SB-2-GW	Methyl chloride	High	< 1.0	µg/L	--

Data packages reviewed: C10583X, C10599X, C10607, C10629X, C10633

Key:
CCV = Continuing calibration verification
High = CCV above maximum acceptable limit
µg/L = Micrograms per liter

Northern California ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

04/26/10

Technical Report for

ERM-West, Inc.

SCWA Phase II - Sonoma, CA

0112574

Accutest Job Number: C10607

Sampling Dates: 04/08/10 - 04/12/10

Report to:

ERM-West, Inc.
1277 Treat Blvd. Suite 500
Walnut Creek, CA 94597
Chimi.Yi@erm.com; Peter.Baty@erm.com

ATTN: Chimi Yi

Total number of pages in report: **92**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

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Certifications: CA (08258CA)

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Test results relate only to samples analyzed.

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Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Sample Results **4**
2.1: C10607-3: SS-GRAPEVINE 5
2.2: C10607-6: SLUDGE CREEK 7
2.3: C10607-7: SB-1-(0-0.5') 9
2.4: C10607-9: SB-2-(0-0.5') 13
2.5: C10607-11: SB-3-(0-0.5') 17
2.6: C10607-13: SB-3-GW 21
2.7: C10607-13F: SB-3-GW 25
2.8: C10607-14: TRIP BLANK 26
Section 3: Misc. Forms **29**
3.1: Chain of Custody 30
Section 4: GC/MS Volatiles - QC Data Summaries **33**
4.1: Method Blank Summary 34
4.2: Blank Spike Summary 42
4.3: Matrix Spike/Matrix Spike Duplicate Summary 54
Section 5: GC Semi-volatiles - QC Data Summaries **62**
5.1: Method Blank Summary 63
5.2: Blank Spike/Blank Spike Duplicate Summary 66
5.3: Matrix Spike/Matrix Spike Duplicate Summary 69
Section 6: Metals Analysis - QC Data Summaries **72**
6.1: Prep QC MP2282: Sb,As,Ba,Be,Cd,Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,V,Zn 73
6.2: Prep QC MP2290: Hg 79
6.3: Prep QC MP2296: Sb,As,Ba,Be,Cd,Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,V,Zn 83
6.4: Prep QC MP2298: Hg 89

Accutest Laboratories

Sample Summary

ERM-West, Inc.

Job No: C10607

SCWA Phase II - Sonoma, CA
Project No: 0112574

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C10607-1	04/08/10	10:05	CY	04/13/10	SO	Soil	SS-1
C10607-2	04/08/10	10:10	CY	04/13/10	SO	Soil	SS-2
C10607-3	04/08/10	00:00	CY	04/13/10	SO	Soil	SS-GRAPEVINE
C10607-4	04/09/10	11:40	CY	04/13/10	SO	Soil	CREEK-1
C10607-5	04/09/10	11:45	CY	04/13/10	SO	Soil	CREEK-2
C10607-6	04/09/10	00:00	CY	04/13/10	SO	Soil	SLUDGE CREEK
C10607-7	04/09/10	09:15	CY	04/13/10	SO	Soil	SB-1-(0-0.5')
C10607-9	04/09/10	10:20	CY	04/13/10	SO	Soil	SB-2-(0-0.5')
C10607-11	04/09/10	14:32	CY	04/13/10	SO	Soil	SB-3-(0-0.5')
C10607-13	04/12/10	15:45	CY	04/13/10	AQ	Ground Water	SB-3-GW
C10607-13F	04/12/10	15:45	CY	04/13/10	AQ	Groundwater Filtered	SB-3-GW
C10607-14	04/12/10	00:00	CY	04/13/10	AQ	Trip Blank Water	TRIP BLANK

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS-GRAPEVINE		
Lab Sample ID:	C10607-3	**Date Sampled:**	04/08/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8081A SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [b]	PP9346.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
Run #2							

	Initial Weight	Final Volume
Run #1	5.04 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	50	20	ug/kg	
319-84-6	alpha-BHC	ND	50	22	ug/kg	
319-85-7	beta-BHC	ND	50	6.9	ug/kg	
319-86-8	delta-BHC	ND	50	6.9	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	50	15	ug/kg	
12789-03-6	Chlordane	ND	200	200	ug/kg	
60-57-1	Dieldrin	ND	50	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	50	6.9	ug/kg	
72-55-9	4,4'-DDE	ND	50	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	50	6.0	ug/kg	
72-20-8	Endrin	ND	50	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	50	12	ug/kg	
959-98-8	Endosulfan-I	ND	50	6.9	ug/kg	
33213-65-9	Endosulfan-II	ND	50	6.9	ug/kg	
1031-07-8	Endosulfan sulfate	ND	50	16	ug/kg	
76-44-8	Heptachlor	ND	50	12	ug/kg	
1024-57-3	Heptachlor epoxide	ND	50	7.9	ug/kg	
72-43-5	Methoxychlor	ND	50	6.9	ug/kg	
8001-35-2	Toxaphene	ND	200	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	65%		35-132%
877-09-8	Tetrachloro-m-xylene	72%		35-132%
2051-24-3	Decachlorobiphenyl	106%		35-132%
2051-24-3	Decachlorobiphenyl	110%		35-132%

(a) All results reported on wet weight basis.
(b) Reporting Limit increased due to high moisture in the sample. 5grams prepared instead of the standard 10grams.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS-GRAPEVINE		
Lab Sample ID:	C10607-3	**Date Sampled:**	04/08/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
		Percent Solids:	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 1.8	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Arsenic	3.6	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Barium	84.4	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Beryllium	< 0.92	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Cadmium	< 0.92	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Chromium	96.1	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Cobalt	9.1	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Copper	21.8	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Lead	7.6	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Mercury	< 0.037	0.037	mg/kg	1	04/16/10	04/16/10	RW	SW846 7471A [2]	SW846 7471A [4]
Molybdenum	< 0.92	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Nickel	53.4	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Selenium	< 1.8	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Silver	< 0.92	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Thallium	< 1.8	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Vanadium	43.2	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Zinc	53.9	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA1169
(2) Instrument QC Batch: MA1170
(3) Prep QC Batch: MP2282
(4) Prep QC Batch: MP2290

(a) All results reported on wet weight basis.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SLUDGE CREEK		
Lab Sample ID:	C10607-6	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8081A SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [b]	PP9347.D	5	04/20/10	NB	04/15/10	OP2027	GPP349
Run #2							

	Initial Weight	Final Volume
Run #1	5.11 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	240	98	ug/kg	
319-84-6	alpha-BHC	ND	240	110	ug/kg	
319-85-7	beta-BHC	ND	240	34	ug/kg	
319-86-8	delta-BHC	ND	240	34	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	240	73	ug/kg	
12789-03-6	Chlordane	ND	980	980	ug/kg	
60-57-1	Dieldrin	ND	240	29	ug/kg	
72-54-8	4,4'-DDD	ND	240	34	ug/kg	
72-55-9	4,4'-DDE	ND	240	29	ug/kg	
50-29-3	4,4'-DDT	ND	240	29	ug/kg	
72-20-8	Endrin	ND	240	29	ug/kg	
7421-93-4	Endrin aldehyde	ND	240	59	ug/kg	
959-98-8	Endosulfan-I	ND	240	34	ug/kg	
33213-65-9	Endosulfan-II	ND	240	34	ug/kg	
1031-07-8	Endosulfan sulfate	ND	240	78	ug/kg	
76-44-8	Heptachlor	ND	240	59	ug/kg	
1024-57-3	Heptachlor epoxide	ND	240	39	ug/kg	
72-43-5	Methoxychlor	ND	240	34	ug/kg	
8001-35-2	Toxaphene	ND	980	980	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	61%		35-132%
877-09-8	Tetrachloro-m-xylene	53%		35-132%
2051-24-3	Decachlorobiphenyl	98%		35-132%
2051-24-3	Decachlorobiphenyl	97%		35-132%

(a) All results reported on wet weight basis.
(b) Reporting Limit increased due to high moisture in the sample(5grams prepared instead of the standard 10grams) and nature of sample matrix.(Non-target compounds).

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SLUDGE CREEK		
Lab Sample ID:	C10607-6	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
		Percent Solids:	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 1.8	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Arsenic	1.9	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Barium	42.6	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Beryllium	< 0.92	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Cadmium	< 0.92	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Chromium	12.3	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Cobalt	3.0	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Copper	6.1	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Lead	5.3	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Mercury	< 0.036	0.036	mg/kg	1	04/16/10	04/16/10	RW	SW846 7471A [2]	SW846 7471A [4]
Molybdenum	< 0.92	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Nickel	10.3	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Selenium	< 1.8	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Silver	< 0.92	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Thallium	< 1.8	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Vanadium	11.1	0.92	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Zinc	28.8	1.8	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA1169
(2) Instrument QC Batch: MA1170
(3) Prep QC Batch: MP2282
(4) Prep QC Batch: MP2290

(a) All results reported on wet weight basis.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-1-(0-0.5')		
Lab Sample ID:	C10607-7	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M14015.D	1	04/15/10	XB	n/a	n/a	VM456
Run #2							

	Initial Weight
Run #1	5.05 g
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.9	4.0	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	1.5	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	1.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	0.99	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	1.2	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	40	9.9	ug/kg	
	TPH-GRO (C6-C10)	ND	99	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	93%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-1-(0-0.5')		
Lab Sample ID:	C10607-7	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8081A SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PP9348.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
Run #2							

	Initial Weight	Final Volume
Run #1	10.8 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	23	9.3	ug/kg	
319-84-6	alpha-BHC	ND	23	10	ug/kg	
319-85-7	beta-BHC	ND	23	3.2	ug/kg	
319-86-8	delta-BHC	ND	23	3.2	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	23	6.9	ug/kg	
12789-03-6	Chlordane	ND	93	93	ug/kg	
60-57-1	Dieldrin	ND	23	2.8	ug/kg	
72-54-8	4,4'-DDD	ND	23	3.2	ug/kg	
72-55-9	4,4'-DDE	ND	23	2.8	ug/kg	
50-29-3	4,4'-DDT	ND	23	2.8	ug/kg	
72-20-8	Endrin	ND	23	2.8	ug/kg	
7421-93-4	Endrin aldehyde	ND	23	5.6	ug/kg	
959-98-8	Endosulfan-I	ND	23	3.2	ug/kg	
33213-65-9	Endosulfan-II	ND	23	3.2	ug/kg	
1031-07-8	Endosulfan sulfate	ND	23	7.4	ug/kg	
76-44-8	Heptachlor	ND	23	5.6	ug/kg	
1024-57-3	Heptachlor epoxide	ND	23	3.7	ug/kg	
72-43-5	Methoxychlor	ND	23	3.2	ug/kg	
8001-35-2	Toxaphene	ND	93	93	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	50%		35-132%
877-09-8	Tetrachloro-m-xylene	52%		35-132%
2051-24-3	Decachlorobiphenyl	79%		35-132%
2051-24-3	Decachlorobiphenyl	85%		35-132%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-1-(0-0.5')		
Lab Sample ID:	C10607-7	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH6313.D	1	04/20/10	JH	04/19/10	OP2035	GHH276
Run #2							

	Initial Weight	Final Volume
Run #1	10.4 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	9.6	4.8	mg/kg	
	TPH (Motor Oil)	ND	19	9.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	70%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-1-(0-0.5')		
Lab Sample ID:	C10607-7	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
		Percent Solids:	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 1.9	1.9	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Arsenic	2.5	1.9	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Barium	126	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Beryllium	< 0.97	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Cadmium	< 0.97	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Chromium	86.9	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Cobalt	11.8	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Copper	15.3	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Lead	6.2	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Mercury	0.066	0.041	mg/kg	1	04/16/10	04/16/10	RW	SW846 7471A [1]	SW846 7471A [4]
Molybdenum	< 0.97	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Nickel	80.9	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Selenium	< 1.9	1.9	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Silver	< 0.97	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Thallium	< 1.9	1.9	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Vanadium	49.5	0.97	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]
Zinc	33.8	1.9	mg/kg	1	04/15/10	04/19/10	CT	SW846 6010B [2]	SW846 3050B [3]

(1) Instrument QC Batch: MA1170
(2) Instrument QC Batch: MA1171
(3) Prep QC Batch: MP2282
(4) Prep QC Batch: MP2290

(a) All results reported on wet weight basis.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-(0-0.5')		
Lab Sample ID:	C10607-9	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M14016.D	1	04/15/10	XB	n/a	n/a	VM456
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	1.5	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	1.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	1.2	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	40	10	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		60-130%
2037-26-5	Toluene-D8	103%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-(0-0.5')		
Lab Sample ID:	C10607-9	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8081A SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OO11188.D	1	04/20/10	NB	04/15/10	OP2027	GOO382
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	25	10	ug/kg	
319-84-6	alpha-BHC	ND	25	11	ug/kg	
319-85-7	beta-BHC	ND	25	3.5	ug/kg	
319-86-8	delta-BHC	ND	25	3.5	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	25	7.5	ug/kg	
12789-03-6	Chlordane	ND	100	100	ug/kg	
60-57-1	Dieldrin	ND	25	3.0	ug/kg	
72-54-8	4,4'-DDD	ND	25	3.5	ug/kg	
72-55-9	4,4'-DDE	ND	25	3.0	ug/kg	
50-29-3	4,4'-DDT	ND	25	3.0	ug/kg	
72-20-8	Endrin	ND	25	3.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	25	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	25	3.5	ug/kg	
33213-65-9	Endosulfan-II	ND	25	3.5	ug/kg	
1031-07-8	Endosulfan sulfate	ND	25	8.0	ug/kg	
76-44-8	Heptachlor	ND	25	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	25	4.0	ug/kg	
72-43-5	Methoxychlor	ND	25	3.5	ug/kg	
8001-35-2	Toxaphene	ND	100	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	45%		35-132%
877-09-8	Tetrachloro-m-xylene	44%		35-132%
2051-24-3	Decachlorobiphenyl	81%		35-132%
2051-24-3	Decachlorobiphenyl	84%		35-132%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-(0-0.5')		
Lab Sample ID:	C10607-9	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH6314.D	1	04/20/10	JH	04/19/10	OP2035	GHH276
Run #2							

	Initial Weight	Final Volume
Run #1	10.3 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	9.7	4.9	mg/kg	
	TPH (Motor Oil)	ND	19	9.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	65%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-(0-0.5')		
Lab Sample ID:	C10607-9	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
		Percent Solids:	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 1.9	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Arsenic	3.2	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Barium	126	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Beryllium	< 0.95	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Cadmium	< 0.95	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Chromium	48.0	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Cobalt	14.8	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Copper	10.8	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Lead	8.8	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.041	0.038	mg/kg	1	04/16/10	04/16/10	RW	SW846 7471A [2]	SW846 7471A [4]
Molybdenum	< 0.95	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Nickel	37.5	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Selenium	< 1.9	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Silver	< 0.95	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Thallium	< 1.9	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Vanadium	37.9	0.95	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Zinc	27.6	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA1169
(2) Instrument QC Batch: MA1170
(3) Prep QC Batch: MP2282
(4) Prep QC Batch: MP2290

(a) All results reported on wet weight basis.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-(0-0.5')		
Lab Sample ID:	C10607-11	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M14033.D	1	04/16/10	XB	n/a	n/a	VM457
Run #2							

	Initial Weight
Run #1	5.07 g
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.9	1.5	ug/kg	
108-88-3	Toluene	ND	4.9	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	4.9	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.9	3.9	ug/kg	
108-20-3	Di-Isopropyl ether	ND	4.9	1.5	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	4.9	1.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.9	0.99	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	4.9	1.2	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	39	9.9	ug/kg	
	TPH-GRO (C6-C10)	ND	99	49	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-(0-0.5')		
Lab Sample ID:	C10607-11	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8081A SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PP9349.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
Run #2							

	Initial Weight	Final Volume
Run #1	10.2 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	25	9.8	ug/kg	
319-84-6	alpha-BHC	ND	25	11	ug/kg	
319-85-7	beta-BHC	ND	25	3.4	ug/kg	
319-86-8	delta-BHC	ND	25	3.4	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	25	7.4	ug/kg	
12789-03-6	Chlordane	ND	98	98	ug/kg	
60-57-1	Dieldrin	ND	25	2.9	ug/kg	
72-54-8	4,4'-DDD	ND	25	3.4	ug/kg	
72-55-9	4,4'-DDE	ND	25	2.9	ug/kg	
50-29-3	4,4'-DDT	ND	25	2.9	ug/kg	
72-20-8	Endrin	ND	25	2.9	ug/kg	
7421-93-4	Endrin aldehyde	ND	25	5.9	ug/kg	
959-98-8	Endosulfan-I	ND	25	3.4	ug/kg	
33213-65-9	Endosulfan-II	ND	25	3.4	ug/kg	
1031-07-8	Endosulfan sulfate	ND	25	7.8	ug/kg	
76-44-8	Heptachlor	ND	25	5.9	ug/kg	
1024-57-3	Heptachlor epoxide	ND	25	3.9	ug/kg	
72-43-5	Methoxychlor	ND	25	3.4	ug/kg	
8001-35-2	Toxaphene	ND	98	98	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	53%		35-132%
877-09-8	Tetrachloro-m-xylene	56%		35-132%
2051-24-3	Decachlorobiphenyl	87%		35-132%
2051-24-3	Decachlorobiphenyl	95%		35-132%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-(0-0.5')		
Lab Sample ID:	C10607-11	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH6315.D	1	04/20/10	JH	04/19/10	OP2035	GHH276
Run #2							

	Initial Weight	Final Volume
Run #1	9.90 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.1	mg/kg	
	TPH (Motor Oil)	ND	20	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	69%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-(0-0.5')		
Lab Sample ID:	C10607-11	**Date Sampled:**	04/09/10
Matrix:	SO - Soil	**Date Received:**	04/13/10
		Percent Solids:	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 1.9	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Arsenic	3.5	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Barium	98.1	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Beryllium	< 0.93	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Cadmium	< 0.93	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Chromium	32.0	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Cobalt	12.3	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Copper	9.0	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Lead	10.4	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.077	0.037	mg/kg	1	04/16/10	04/16/10	RW	SW846 7471A [2]	SW846 7471A [4]
Molybdenum	< 0.93	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Nickel	25.0	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Selenium	< 1.9	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Silver	< 0.93	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Thallium	< 1.9	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Vanadium	24.4	0.93	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]
Zinc	19.6	1.9	mg/kg	1	04/15/10	04/16/10	CT	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA1169
(2) Instrument QC Batch: MA1170
(3) Prep QC Batch: MP2282
(4) Prep QC Batch: MP2290

(a) All results reported on wet weight basis.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-GW		
Lab Sample ID:	C10607-13	**Date Sampled:**	04/12/10
Matrix:	AQ - Ground Water	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W12663.D	1	04/14/10	BD	n/a	n/a	VW442
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-GW		
Lab Sample ID:	C10607-13	**Date Sampled:**	04/12/10
Matrix:	AQ - Ground Water	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-GW		
Lab Sample ID:	C10607-13	**Date Sampled:**	04/12/10
Matrix:	AQ - Ground Water	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	103%		60-130%
460-00-4	4-Bromofluorobenzene	102%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-GW		
Lab Sample ID:	C10607-13	**Date Sampled:**	04/12/10
Matrix:	AQ - Ground Water	**Date Received:**	04/13/10
Method:	SW846 8081A SW846 3510C	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OO11138.D	1	04/17/10	NB	04/14/10	OP2017	GOO380
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.024	0.0028	ug/l	
319-84-6	alpha-BHC	ND	0.024	0.0028	ug/l	
319-85-7	beta-BHC	ND	0.024	0.0038	ug/l	
319-86-8	delta-BHC	ND	0.024	0.0038	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.024	0.0038	ug/l	
12789-03-6	Chlordane	ND	0.19	0.19	ug/l	
60-57-1	Dieldrin	ND	0.024	0.0028	ug/l	
72-54-8	4,4'-DDD	ND	0.024	0.0028	ug/l	
72-55-9	4,4'-DDE	ND	0.024	0.0028	ug/l	
50-29-3	4,4'-DDT	ND	0.024	0.0028	ug/l	
72-20-8	Endrin	ND	0.024	0.0028	ug/l	
7421-93-4	Endrin aldehyde	ND	0.024	0.0028	ug/l	
959-98-8	Endosulfan-I	ND	0.024	0.0038	ug/l	
33213-65-9	Endosulfan-II	ND	0.024	0.0038	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.024	0.0047	ug/l	
76-44-8	Heptachlor	ND	0.024	0.0038	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.024	0.0038	ug/l	
72-43-5	Methoxychlor	ND	0.024	0.0028	ug/l	
8001-35-2	Toxaphene	ND	0.19	0.19	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	29% [a]		44-140%
877-09-8	Tetrachloro-m-xylene	25% [a]		44-140%
2051-24-3	Decachlorobiphenyl	29% [a]		44-140%
2051-24-3	Decachlorobiphenyl	27% [a]		44-140%

(a) Outside control limits due to nature of sample matrix. (Non-target compounds)

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-3-GW		
Lab Sample ID:	C10607-13F	**Date Sampled:**	04/12/10
Matrix:	AQ - Groundwater Filtered	**Date Received:**	04/13/10
		Percent Solids:	n/a
Project:	SCWA Phase II - Sonoma, CA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 10	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Arsenic	< 10	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Barium	40.5	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Beryllium	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Cadmium	< 2.0	2.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Chromium	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Cobalt	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Copper	5.5	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Lead	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Mercury	0.21	0.20	ug/l	1	04/20/10	04/21/10	RW	EPA 245.1 [1]	EPA 245.1/SW7470A [4]
Molybdenum	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Nickel	20.1	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Selenium	< 20	20	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Silver	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Thallium	< 20	20	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Vanadium	5.7	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Zinc	32.2	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]

(1) Instrument QC Batch: MA1177
(2) Instrument QC Batch: MA1180
(3) Prep QC Batch: MP2296
(4) Prep QC Batch: MP2298

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	C10607-14	**Date Sampled:**	04/12/10
Matrix:	AQ - Trip Blank Water	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N14490.D	1	04/15/10	TF	n/a	n/a	VN491
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	C10607-14	**Date Sampled:**	04/12/10
Matrix:	AQ - Trip Blank Water	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride [a]	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		60-130%
2037-26-5	Toluene-D8	104%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	C10607-14	**Date Sampled:**	04/12/10
Matrix:	AQ - Trip Blank Water	**Date Received:**	04/13/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits (biased high); not detected in sample.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Environmental Resources Management

CHAIN OF CUSTODY RECORD

C10607

"ERMCAWC8672"

NO: 6144

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Page 1 of

PROJECT #: 0112574

PROJECT NAME: SCWA Phase II

SAMPLER: (PRINT NAME): Chimi Yi

(SIGNATURE): Chimi Yi

RECEIVING LABORATORY: Accutest

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	MATRIX SOIL	MATRIX WATER	MATRIX GAS	California Title 22 Metals (CAM-17) - 6010	Organochlorine Pesticides - 8081	TPH-diesel, motor oil w/silica gel cleanup - 8015M	TPH-gas, BTEX, fuel oxygenates - 8015	VOCs, TPH-gas - 8260							
SS-1	4-8-10	1005		X	Shovel	—	Y	8oz	1	X			X	X	-1	-3		composite SS-1 and SS-2						
SS-2	"	1010		X	"	—	"	"	1	X					-2	2:1-comp		into "SS-grapevine"						
Creek-1	4-9-10	1140		X	"	—	"	"	1	X			X	X	-4	-6		SS-grapevine Composite Creek-1 and Creek-2						
Creek-2	"	1145		X	"	—	"	"	1	X					-5	2:1-comp		into "Sludge-Creek"						
SB-1-(0-0.5')	"	0915		X	Slide hammer	—	"	2"x6"	1	X			X	X	X	X	-7	sludge creek						
SB-1-(3-3.5')	"	0925		X	hand auger	—	"	8oz	1	X			HOLD				-8							
SB-2-(0-0.5')	"	1020		X	Split spoon	—	Y	3"x6"	1	X			X	X	X	X	-9	6x 8oz glass jars.						
SB-2-(20-20.5') 4-12-10		1110		X	"	—	Y	3"x6"	1	X			HOLD				-10	1x (2"x6") SST						
SB-3-(0-0.5')	"	1432		X	Slide hammer	—	Y	3"x6"	1	X			X	X	X	X	-11	3 (2"x6") Brass Tubes.						
SB-3-(9.5-10')	"	1500		X	Split spoon	—	Y	8oz	1	X			HOLD				-12							

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
Chimi Yi	4-12-10	1645			
	4-12-10	1815		4-12-10	1815
Ray Luzi	4-13-10	14:30		4/13/10	1435

FIELD REMARKS:
- Standard TAT
- Composite SS-1 and SS-2, Creek-1 and creek-2 as noted above.

Cooler Temp: 5.4 + 0.3 = 5.7°C

REMARKS ON SAMPLE RECEIPT: ☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED ☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS:

SEND REPORT TO: chimi.yi@erm.com peter.baty@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

C10607: Chain of Custody

Page 1 of 3

Environmental Resources Management

CHAIN OF CUSTODY RECORD

C10607

NO: 6145

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Page 2 of 2

PROJECT #: 0112574

PROJECT NAME: SCW A Phase II

SAMPLER: (PRINT NAME): Chimi Yi

(SIGNATURE): Chimi Yi

RECEIVING LABORATORY: Accutest

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	MATRIX SOIL	MATRIX WATER	MATRIX GAS	California Title 22 metals (CAM-17) - 6010 dissolved (Lab-Filter)	organo chlorine pesticides - 8081	TPH-diesel, -motor oil w/ SGCU - 8015m	TPH-gas, BTEX, fuel oxygenates - 8015	VOCs, TPH-gas - 8260	VOCs only - 8260						
SB-3-GW	4-12-10	1545		X	bailer	varies	Y	varies	6		X		X	X	X		X		-13					
Trip Blank	—	—		—	—	HCl	Y	40mL	3		X							X	-14					

3 vials each (w/ HCl) (x2)
250mL poly (w/ HNO3) pH<2 (x1)
2x1L Amber N/P (x1)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
Chimi Yi	4-12-10	1646	[illegible]	[illegible]	[illegible]
[illegible]	4-12-10	1815	[illegible]	4-12-10	1815
Zaylizzi	4-13-10	14:35	[illegible]	4/13/10	1435

FIELD REMARKS:
- GW samples - CAM-17 was not field filtered and was preserved w/ HNO3.
- Could only collect one 1-L amber for pest. and TPH-extract.

REMARKS ON SAMPLE RECEIPT:
☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS:

SEND REPORT TO:

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

C10607: Chain of Custody
Page 2 of 3

Accutest Laboratories Northern California
Sample Receiving Check List

Job#: C10607
Sample Control Rep. Initial: EK

ERMCAWC2672

Review Chain of Custody **Chain of Custody is to be complete and legible.**

- ☑ Are these regulatory (NPDES) samples? CWA — Yes / No
- ☑ Is pH requested? — Yes / No
  - ☐ Was Client informed that hold time is 15 min? **Yes / No** Continue **Yes / No**
  - NA ☑ Was ortho-Phosphate filtered with in 15 min? **Yes / No** Continue **Yes / No**
- ☑ Are sample within hold time? — Yes / No
  - Are sample in danger of exceeding hold-time — Yes / No
- ☑ Existing Client? Yes / No Existing Project? Yes / No
  - **If No:** Is Report to info complete and legible, including;
    - ☐ deliverable ☐ Name ☐ Address ☐ phone ☐ e-mail
    - Is Bill to info complete and legible, including;
    - ☐ PO# ☐ Credit card ☐ Contact ☐address ☐ phone ☐ e-mail
    - Is Contact and/or Project Manager identified, including;
    - ☐ phone ☐ e-mail
- ☑ Project name / number ☐ Special requirements? — Yes / No
- ☑ Sample IDs / date & time of collection provided? — Yes / No
- ☑ Is Matrix listed and correct? — Yes / No
- ☑ Analyses listed we do or client has authorized a subcontract? — Yes / No
- ☑ Chain is signed and dated by both client and sample custodian? — Yes / No
- ☑ TAT requested available? Yes / No Approved by pm

Review Coolers:

- ☑ Were Coolers temperatures measured at ≤6°C? Cooler # 1 Temp 5.7 °C
  - If cooler is outside the ≤6°C; note down below the affected bottles in that cooler
  - Note that ANC does NOT accept evidentiary samples. (We do not lock refrigerators)
- ☑ Shipment Received Method Alpha courier
- ☑ Custody Seals: Present: **Yes / No** If Yes; Unbroken: **Yes / No**

Review of Sample Bottles: If you answer no, explain to the side

- ☑ Chain matches bottle labels? Yes / No ☑ Sample bottle intact? Yes / No
- ☑ Is there enough sample volume in proper bottle for requested analyses? Yes / No
- ☑ Proper Preservatives? Yes / No Check pH on preserved samples except 1664, 625, 8270 and VOAs.
- ☑ Headspace-VOAs? **Greater than 6mm in diameter Yes / No**
  List sample ID and affected container

Client Sample ID	pH Check	Other Comments/Issues
-13		* For "dissolved" metals, used 1 lit Amber to transfer into a 250mL poly N/P for (Lab-Filtration).
		* to be run as dissolved Cam-17 metals per client (Chimi-yi @ Erm_wc) EK 4/13/10

Non-Compliance issues and discrepancies on the COC are forwarded to Project Management

\\Anc-srv-file1\d$\Entech-Data\Laboratory\SOPs\SOP_CompleteListing\SC001F1_1_Form1_SampleControl_SampleReceivingChecklist_2010-02-15.doc

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW442-MB	W12652.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW442-MB	W12652.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Compound	Result	RL	MDL	Units	Q
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW442-MB	W12652.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	60-130%
2037-26-5	Toluene-D8	102%	60-130%
460-00-4	4-Bromofluorobenzene	100%	60-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM456-MB	M13998.D	1	04/15/10	XB	n/a	n/a	VM456

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-7, C10607-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	1.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	1.2	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	40	10	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	60-130%
2037-26-5	Toluene-D8	104%	60-130%
460-00-4	4-Bromofluorobenzene	97%	60-130%

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-MB	N14487.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-MB	N14487.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Compound	Result	RL	MDL	Units	Q
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	60-130%

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-MB	N14487.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Surrogate Recoveries		Limits
2037-26-5	Toluene-D8	105%	60-130%
460-00-4	4-Bromofluorobenzene	99%	60-130%

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM457-MB	M14029.D	1	04/16/10	XB	n/a	n/a	VM457

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-11

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	1.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	1.2	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	40	10	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	60-130%
2037-26-5	Toluene-D8	103%	60-130%
460-00-4	4-Bromofluorobenzene	97%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW442-BS	W12649.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	86.0	108	60-130
71-43-2	Benzene	20	20.5	103	60-130
108-86-1	Bromobenzene	20	19.9	100	60-130
74-97-5	Bromochloromethane	20	20.3	102	60-130
75-27-4	Bromodichloromethane	20	20.7	104	60-130
75-25-2	Bromoform	20	21.0	105	60-130
104-51-8	n-Butylbenzene	20	22.1	111	60-130
135-98-8	sec-Butylbenzene	20	22.1	111	60-130
98-06-6	tert-Butylbenzene	20	21.2	106	60-130
108-90-7	Chlorobenzene	20	20.5	103	60-130
75-00-3	Chloroethane	20	21.3	107	60-130
67-66-3	Chloroform	20	21.2	106	60-130
95-49-8	o-Chlorotoluene	20	19.9	100	60-130
106-43-4	p-Chlorotoluene	20	20.7	104	60-130
56-23-5	Carbon tetrachloride	20	21.2	106	60-130
75-34-3	1,1-Dichloroethane	20	21.9	110	60-130
75-35-4	1,1-Dichloroethylene	20	21.6	108	60-130
563-58-6	1,1-Dichloropropene	20	21.7	109	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	19.6	98	60-130
106-93-4	1,2-Dibromoethane	20	21.1	106	60-130
107-06-2	1,2-Dichloroethane	20	19.8	99	60-130
78-87-5	1,2-Dichloropropane	20	20.6	103	60-130
142-28-9	1,3-Dichloropropane	20	20.3	102	60-130
108-20-3	Di-Isopropyl ether	20	21.7	109	60-130
594-20-7	2,2-Dichloropropane	20	22.6	113	60-130
124-48-1	Dibromochloromethane	20	20.1	101	60-130
75-71-8	Dichlorodifluoromethane	20	15.1	76	60-130
156-59-2	cis-1,2-Dichloroethylene	20	21.3	107	60-130
10061-01-5	cis-1,3-Dichloropropene	20	20.8	104	60-130
541-73-1	m-Dichlorobenzene	20	20.4	102	60-130
95-50-1	o-Dichlorobenzene	20	19.9	100	60-130
106-46-7	p-Dichlorobenzene	20	20.1	101	60-130
156-60-5	trans-1,2-Dichloroethylene	20	21.7	109	60-130
10061-02-6	trans-1,3-Dichloropropene	20	21.1	106	60-130
100-41-4	Ethylbenzene	20	21.3	107	60-130
637-92-3	Ethyl Tert Butyl Ether	20	21.5	108	60-130

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW442-BS	W12649.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
591-78-6	2-Hexanone	80	85.7	107	60-130
87-68-3	Hexachlorobutadiene	20	21.9	110	60-130
98-82-8	Isopropylbenzene	20	21.9	110	60-130
99-87-6	p-Isopropyltoluene	20	21.5	108	60-130
108-10-1	4-Methyl-2-pentanone	80	82.6	103	60-130
74-83-9	Methyl bromide	20	20.6	103	60-130
74-87-3	Methyl chloride	20	17.8	89	60-130
74-95-3	Methylene bromide	20	20.0	100	60-130
75-09-2	Methylene chloride	20	22.9	115	60-130
78-93-3	Methyl ethyl ketone	80	86.3	108	60-130
1634-04-4	Methyl Tert Butyl Ether	20	20.8	104	60-130
91-20-3	Naphthalene	20	20.1	101	60-130
103-65-1	n-Propylbenzene	20	22.0	110	60-130
100-42-5	Styrene	20	21.7	109	60-130
994-05-8	Tert-Amyl Methyl Ether	20	21.1	106	60-130
75-65-0	Tert-Butyl Alcohol	100	106	106	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	20.2	101	60-130
71-55-6	1,1,1-Trichloroethane	20	21.9	110	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	21.0	105	60-130
79-00-5	1,1,2-Trichloroethane	20	20.2	101	60-130
87-61-6	1,2,3-Trichlorobenzene	20	19.4	97	60-130
96-18-4	1,2,3-Trichloropropane	20	21.2	106	60-130
120-82-1	1,2,4-Trichlorobenzene	20	20.6	103	60-130
95-63-6	1,2,4-Trimethylbenzene	20	21.1	106	60-130
108-67-8	1,3,5-Trimethylbenzene	20	21.5	108	60-130
127-18-4	Tetrachloroethylene	20	18.7	94	60-130
108-88-3	Toluene	20	20.9	105	60-130
79-01-6	Trichloroethylene	20	20.9	105	60-130
75-69-4	Trichlorofluoromethane	20	22.7	114	60-130
75-01-4	Vinyl chloride	20	20.6	103	60-130
1330-20-7	Xylene (total)	60	63.9	107	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW442-BS	W12649.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	102%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW442-BS	W12651.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	TPH-GRO (C6-C10)	125	138	110	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	60-130%
2037-26-5	Toluene-D8	103%	60-130%
460-00-4	4-Bromofluorobenzene	100%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM456-BS	M13996.D	1	04/15/10	XB	n/a	n/a	VM456

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-7, C10607-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	40	40.5	101	60-130
108-20-3	Di-Isopropyl ether	40	39.1	98	60-130
100-41-4	Ethylbenzene	40	41.7	104	60-130
637-92-3	Ethyl tert-Butyl Ether	40	38.7	97	60-130
1634-04-4	Methyl Tert Butyl Ether	40	39.3	98	60-130
994-05-8	Tert-Amyl Methyl Ether	40	39.2	98	60-130
75-65-0	Tert Butyl Alcohol	200	242	121	60-130
108-88-3	Toluene	40	42.5	106	60-130
1330-20-7	Xylene (total)	120	129	108	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	60-130%
2037-26-5	Toluene-D8	100%	60-130%
460-00-4	4-Bromofluorobenzene	97%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-BS	N14488.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	128	160* [a]	60-130
71-43-2	Benzene	20	18.7	94	60-130
108-86-1	Bromobenzene	20	20.0	100	60-130
74-97-5	Bromochloromethane	20	19.6	98	60-130
75-27-4	Bromodichloromethane	20	21.3	107	60-130
75-25-2	Bromoform	20	19.8	99	60-130
104-51-8	n-Butylbenzene	20	20.3	102	60-130
135-98-8	sec-Butylbenzene	20	21.2	106	60-130
98-06-6	tert-Butylbenzene	20	21.0	105	60-130
108-90-7	Chlorobenzene	20	20.0	100	60-130
75-00-3	Chloroethane	20	19.8	99	60-130
67-66-3	Chloroform	20	19.4	97	60-130
95-49-8	o-Chlorotoluene	20	20.4	102	60-130
106-43-4	p-Chlorotoluene	20	21.1	106	60-130
56-23-5	Carbon tetrachloride	20	19.0	95	60-130
75-34-3	1,1-Dichloroethane	20	20.2	101	60-130
75-35-4	1,1-Dichloroethylene	20	17.5	88	60-130
563-58-6	1,1-Dichloropropene	20	16.2	81	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	24.1	121	60-130
106-93-4	1,2-Dibromoethane	20	21.0	105	60-130
107-06-2	1,2-Dichloroethane	20	18.7	94	60-130
78-87-5	1,2-Dichloropropane	20	20.6	103	60-130
142-28-9	1,3-Dichloropropane	20	20.4	102	60-130
108-20-3	Di-Isopropyl ether	20	17.9	90	60-130
594-20-7	2,2-Dichloropropane	20	19.0	95	60-130
124-48-1	Dibromochloromethane	20	22.0	110	60-130
75-71-8	Dichlorodifluoromethane	20	18.7	94	60-130
156-59-2	cis-1,2-Dichloroethylene	20	19.4	97	60-130
10061-01-5	cis-1,3-Dichloropropene	20	21.2	106	60-130
541-73-1	m-Dichlorobenzene	20	20.5	103	60-130
95-50-1	o-Dichlorobenzene	20	20.8	104	60-130
106-46-7	p-Dichlorobenzene	20	19.9	100	60-130
156-60-5	trans-1,2-Dichloroethylene	20	18.6	93	60-130
10061-02-6	trans-1,3-Dichloropropene	20	21.0	105	60-130
100-41-4	Ethylbenzene	20	20.6	103	60-130
637-92-3	Ethyl Tert Butyl Ether	20	18.8	94	60-130

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-BS	N14488.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
591-78-6	2-Hexanone	80	87.7	110	60-130
87-68-3	Hexachlorobutadiene	20	19.3	97	60-130
98-82-8	Isopropylbenzene	20	20.0	100	60-130
99-87-6	p-Isopropyltoluene	20	20.4	102	60-130
108-10-1	4-Methyl-2-pentanone	80	81.7	102	60-130
74-83-9	Methyl bromide	20	19.0	95	60-130
74-87-3	Methyl chloride	20	20.2	101	60-130
74-95-3	Methylene bromide	20	21.3	107	60-130
75-09-2	Methylene chloride	20	18.9	95	60-130
78-93-3	Methyl ethyl ketone	80	86.9	109	60-130
1634-04-4	Methyl Tert Butyl Ether	20	17.7	89	60-130
91-20-3	Naphthalene	20	20.9	105	60-130
103-65-1	n-Propylbenzene	20	21.1	106	60-130
100-42-5	Styrene	20	21.8	109	60-130
994-05-8	Tert-Amyl Methyl Ether	20	19.0	95	60-130
75-65-0	Tert-Butyl Alcohol	100	110	110	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	20.6	103	60-130
71-55-6	1,1,1-Trichloroethane	20	19.1	96	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	22.0	110	60-130
79-00-5	1,1,2-Trichloroethane	20	20.8	104	60-130
87-61-6	1,2,3-Trichlorobenzene	20	19.8	99	60-130
96-18-4	1,2,3-Trichloropropane	20	20.1	101	60-130
120-82-1	1,2,4-Trichlorobenzene	20	19.3	97	60-130
95-63-6	1,2,4-Trimethylbenzene	20	21.2	106	60-130
108-67-8	1,3,5-Trimethylbenzene	20	21.0	105	60-130
127-18-4	Tetrachloroethylene	20	21.8	109	60-130
108-88-3	Toluene	20	19.5	98	60-130
79-01-6	Trichloroethylene	20	19.7	99	60-130
75-69-4	Trichlorofluoromethane	20	18.5	93	60-130
75-01-4	Vinyl chloride	20	20.4	102	60-130
1330-20-7	Xylene (total)	60	62.1	104	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-BS	N14488.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	104%	60-130%
460-00-4	4-Bromofluorobenzene	103%	60-130%

(a) Outside of in-house control limits.

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-BS	N14489.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	60-130%
2037-26-5	Toluene-D8	105%	60-130%
460-00-4	4-Bromofluorobenzene	101%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM456-BS	M14008.D	1	04/15/10	XB	n/a	n/a	VM456

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-7, C10607-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
	TPH-GRO (C6-C10)	250	241	96	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	60-130%
2037-26-5	Toluene-D8	102%	60-130%
460-00-4	4-Bromofluorobenzene	96%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM457-BS	M14027.D	1	04/16/10	XB	n/a	n/a	VM457

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	40	38.8	97	60-130
108-20-3	Di-Isopropyl ether	40	36.9	92	60-130
100-41-4	Ethylbenzene	40	38.5	96	60-130
637-92-3	Ethyl tert-Butyl Ether	40	36.7	92	60-130
1634-04-4	Methyl Tert Butyl Ether	40	37.0	93	60-130
994-05-8	Tert-Amyl Methyl Ether	40	36.9	92	60-130
75-65-0	Tert Butyl Alcohol	200	212	106	60-130
108-88-3	Toluene	40	40.7	102	60-130
1330-20-7	Xylene (total)	120	119	99	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	60-130%
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	97%	60-130%

Blank Spike Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM457-BS	M14028.D	1	04/16/10	XB	n/a	n/a	VM457

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
	TPH-GRO (C6-C10)	250	249	100	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	60-130%
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	95%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10573-1MS	W12667.D	1	04/14/10	BD	n/a	n/a	VW442
C10573-1MSD	W12668.D	1	04/14/10	BD	n/a	n/a	VW442
C10573-1	W12665.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Compound	C10573-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	100	125	94.5	118	6	60-130/25
71-43-2	Benzene	ND		20	23.6	118	23.4	117	1	60-130/25
108-86-1	Bromobenzene	ND		20	23.0	115	23.0	115	0	60-130/25
74-97-5	Bromochloromethane	ND		20	23.9	120	23.3	117	3	60-130/25
75-27-4	Bromodichloromethane	ND		20	26.2	131* [a]	25.4	127	3	60-130/25
75-25-2	Bromoform	ND		20	26.2	131* [a]	25.9	130	1	60-130/25
104-51-8	n-Butylbenzene	ND		20	23.5	118	23.5	118	0	60-130/25
135-98-8	sec-Butylbenzene	ND		20	22.9	115	23.4	117	2	60-130/25
98-06-6	tert-Butylbenzene	ND		20	22.3	112	22.8	114	2	60-130/25
108-90-7	Chlorobenzene	ND		20	23.5	118	23.9	120	2	60-130/25
75-00-3	Chloroethane	ND		20	22.7	114	23.1	116	2	60-130/25
67-66-3	Chloroform	ND		20	25.5	128	24.8	124	3	60-130/25
95-49-8	o-Chlorotoluene	ND		20	22.4	112	24.7	124	10	60-130/25
106-43-4	p-Chlorotoluene	ND		20	23.2	116	23.3	117	0	60-130/25
56-23-5	Carbon tetrachloride	ND		20	23.9	120	24.0	120	0	60-130/25
75-34-3	1,1-Dichloroethane	ND		20	25.7	129	25.2	126	2	60-130/25
75-35-4	1,1-Dichloroethylene	ND		20	22.2	111	22.5	113	1	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	23.8	119	24.1	121	1	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	25.6	128	24.7	124	4	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	25.5	128	25.3	127	1	60-130/25
107-06-2	1,2-Dichloroethane	ND		20	26.8	134* [a]	25.1	126	7	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	25.2	126	24.7	124	2	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	25.5	128	25.2	126	1	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	26.8	134* [a]	26.4	132* [a]	2	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	24.3	122	23.4	117	4	60-130/25
124-48-1	Dibromochloromethane	ND		20	25.0	125	24.8	124	1	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	16.8	84	16.1	81	4	60-130/25
156-59-2	cis-1,2-Dichloroethylene	ND		20	24.8	124	24.5	123	1	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	25.6	128	24.9	125	3	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	23.0	115	23.1	116	0	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	24.0	120	23.4	117	3	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	23.0	115	23.0	115	0	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	23.4	117	23.5	118	0	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	26.1	131* [a]	25.6	128	2	60-130/25
100-41-4	Ethylbenzene	ND		20	23.6	118	24.3	122	3	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND		20	27.1	136* [a]	26.1	131* [a]	4	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10573-1MS	W12667.D	1	04/14/10	BD	n/a	n/a	VW442
C10573-1MSD	W12668.D	1	04/14/10	BD	n/a	n/a	VW442
C10573-1	W12665.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Compound	C10573-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
591-78-6	2-Hexanone	ND		80	113	141* [a]	108	135* [a]	5	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	24.0	120	23.2	116	3	60-130/25
98-82-8	Isopropylbenzene	ND		20	23.3	117	24.3	122	4	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	22.4	112	22.8	114	2	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	104	130	99.0	124	5	60-130/25
74-83-9	Methyl bromide	ND		20	22.6	113	22.0	110	3	60-130/25
74-87-3	Methyl chloride	ND		20	21.2	106	19.4	97	9	60-130/25
74-95-3	Methylene bromide	ND		20	25.8	129	24.6	123	5	60-130/25
75-09-2	Methylene chloride	ND		20	28.3	142* [a]	27.6	138* [a]	3	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	109	136* [a]	101	126	8	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	26.4	132* [a]	25.1	126	5	60-130/25
91-20-3	Naphthalene	ND		20	24.7	124	24.1	121	2	60-130/25
103-65-1	n-Propylbenzene	ND		20	23.6	118	23.8	119	1	60-130/25
100-42-5	Styrene	ND		20	21.9	110	22.3	112	2	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	26.5	133* [a]	25.3	127	5	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	135	135* [a]	123	123	9	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	24.1	121	23.7	119	2	60-130/25
71-55-6	1,1,1-Trichloroethane	ND		20	25.0	125	24.3	122	3	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	26.6	133* [a]	25.1	126	6	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	24.7	124	24.9	125	1	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	23.6	118	23.0	115	3	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	26.4	132* [a]	25.5	128	3	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	24.1	121	23.6	118	2	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	22.1	111	22.1	111	0	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	22.7	114	22.9	115	1	60-130/25
127-18-4	Tetrachloroethylene	ND		20	18.8	94	19.8	99	5	60-130/25
108-88-3	Toluene	ND		20	22.4	112	23.4	117	4	60-130/25
79-01-6	Trichloroethylene	ND		20	23.3	117	23.2	116	0	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	24.6	123	24.4	122	1	60-130/25
75-01-4	Vinyl chloride	ND		20	22.1	111	21.7	109	2	60-130/25
1330-20-7	Xylene (total)	ND		60	69.9	117	71.4	119	2	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C10573-1	Limits
1868-53-7	Dibromofluoromethane	108%	106%	101%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10573-1MS	W12667.D	1	04/14/10	BD	n/a	n/a	VW442
C10573-1MSD	W12668.D	1	04/14/10	BD	n/a	n/a	VW442
C10573-1	W12665.D	1	04/14/10	BD	n/a	n/a	VW442

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-13

CAS No.	Surrogate Recoveries	MS	MSD	C10573-1	Limits
2037-26-5	Toluene-D8	99%	102%	104%	60-130%
460-00-4	4-Bromofluorobenzene	104%	107%	103%	60-130%

(a) Outside control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10628-1MS	M14006.D	1	04/15/10	XB	n/a	n/a	VM456
C10628-1MSD	M14007.D	1	04/15/10	XB	n/a	n/a	VM456
C10628-1	M14002.D	1	04/15/10	XB	n/a	n/a	VM456

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-7, C10607-9

CAS No.	Compound	C10628-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		39.5	40.7	103	40.0	101	2	60-130/30
108-20-3	Di-Isopropyl ether	ND		39.5	37.8	96	38.2	96	1	60-130/30
100-41-4	Ethylbenzene	ND		39.5	40.2	102	40.4	102	0	60-130/30
637-92-3	Ethyl tert-Butyl Ether	ND		39.5	37.9	96	38.8	98	2	60-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		39.5	38.0	96	38.5	97	1	60-130/30
994-05-8	Tert-Amyl Methyl Ether	ND		39.5	37.5	95	38.4	97	2	60-130/30
75-65-0	Tert Butyl Alcohol	ND		198	215	109	238	120	10	60-130/30
108-88-3	Toluene	ND		39.5	40.9	103	41.1	104	0	60-130/30
1330-20-7	Xylene (total)	ND		119	123	104	123	103	0	60-130/30

CAS No.	Surrogate Recoveries	MS	MSD	C10628-1	Limits
1868-53-7	Dibromofluoromethane	98%	98%	95%	60-130%
2037-26-5	Toluene-D8	100%	99%	103%	60-130%
460-00-4	4-Bromofluorobenzene	97%	96%	93%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10614-1MS	N14503.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1MSD	N14504.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1	N14497.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Compound	C10614-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	67.0	84	74.6	93	11	60-130/25
71-43-2	Benzene	ND		20	19.1	96	18.9	95	1	60-130/25
108-86-1	Bromobenzene	ND		20	20.1	101	20.2	101	0	60-130/25
74-97-5	Bromochloromethane	ND		20	20.2	101	20.2	101	0	60-130/25
75-27-4	Bromodichloromethane	ND		20	21.8	109	21.7	109	0	60-130/25
75-25-2	Bromoform	ND		20	20.7	104	21.0	105	1	60-130/25
104-51-8	n-Butylbenzene	ND		20	20.1	101	19.6	98	3	60-130/25
135-98-8	sec-Butylbenzene	ND		20	21.4	107	20.9	105	2	60-130/25
98-06-6	tert-Butylbenzene	ND		20	20.9	105	20.6	103	1	60-130/25
108-90-7	Chlorobenzene	ND		20	20.8	104	20.3	102	2	60-130/25
75-00-3	Chloroethane	ND		20	18.5	93	19.6	98	6	60-130/25
67-66-3	Chloroform	ND		20	20.1	101	19.8	99	2	60-130/25
95-49-8	o-Chlorotoluene	ND		20	21.4	107	21.0	105	2	60-130/25
106-43-4	p-Chlorotoluene	ND		20	20.5	103	20.5	103	0	60-130/25
56-23-5	Carbon tetrachloride	ND		20	19.4	97	19.0	95	2	60-130/25
75-34-3	1,1-Dichloroethane	ND		20	20.7	104	20.4	102	1	60-130/25
75-35-4	1,1-Dichloroethylene	ND		20	17.1	86	17.1	86	0	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	16.5	83	16.2	81	2	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	23.2	116	25.7	129	10	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	21.3	107	21.8	109	2	60-130/25
107-06-2	1,2-Dichloroethane	ND		20	19.4	97	19.5	98	1	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	21.4	107	21.0	105	2	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	21.0	105	21.4	107	2	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	18.6	93	18.6	93	0	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	18.5	93	18.2	91	2	60-130/25
124-48-1	Dibromochloromethane	ND		20	22.7	114	23.0	115	1	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	17.5	88	17.9	90	2	60-130/25
156-59-2	cis-1,2-Dichloroethylene	ND		20	20.0	100	19.9	100	1	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	21.7	109	21.6	108	0	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	20.9	105	20.6	103	1	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	21.1	106	21.1	106	0	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	20.3	102	20.1	101	1	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	18.6	93	18.6	93	0	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	21.3	107	21.6	108	1	60-130/25
100-41-4	Ethylbenzene	ND		20	21.4	107	20.7	104	3	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND		20	19.4	97	19.8	99	2	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10614-1MS	N14503.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1MSD	N14504.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1	N14497.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Compound	C10614-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
591-78-6	2-Hexanone	ND		80	80.4	101	86.2	108	7	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	18.7	94	18.7	94	0	60-130/25
98-82-8	Isopropylbenzene	ND		20	21.2	106	20.3	102	4	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	20.3	102	19.8	99	2	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	79.7	100	88.1	110	10	60-130/25
74-83-9	Methyl bromide	ND		20	17.2	86	18.9	95	9	60-130/25
74-87-3	Methyl chloride	ND		20	25.4	127	23.1	116	9	60-130/25
74-95-3	Methylene bromide	ND		20	21.9	110	22.2	111	1	60-130/25
75-09-2	Methylene chloride	ND		20	18.7	94	18.9	95	1	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	75.2	94	82.2	103	9	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	17.6	88	18.6	93	6	60-130/25
91-20-3	Naphthalene	ND		20	20.7	104	22.4	112	8	60-130/25
103-65-1	n-Propylbenzene	ND		20	21.1	106	20.9	105	1	60-130/25
100-42-5	Styrene	ND		20	21.7	109	21.0	105	3	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	19.4	97	20.0	100	3	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	103	103	119	119	14	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	21.6	108	21.3	107	1	60-130/25
71-55-6	1,1,1-Trichloroethane	ND		20	19.5	98	19.4	97	1	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	22.2	111	23.5	118	6	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	21.5	108	21.9	110	2	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	19.8	99	20.3	102	2	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	20.6	103	21.4	107	4	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	19.1	96	19.1	96	0	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	21.2	106	20.8	104	2	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	21.0	105	20.8	104	1	60-130/25
127-18-4	Tetrachloroethylene	ND		20	19.3	97	18.5	93	4	60-130/25
108-88-3	Toluene	ND		20	20.1	101	19.5	98	3	60-130/25
79-01-6	Trichloroethylene	ND		20	20.1	101	19.6	98	3	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	17.5	88	18.3	92	4	60-130/25
75-01-4	Vinyl chloride	ND		20	25.0	125	21.7	109	14	60-130/25
1330-20-7	Xylene (total)	ND		60	65.4	109	63.0	105	4	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C10614-1	Limits
1868-53-7	Dibromofluoromethane	107%	108%	106%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10614-1MS	N14503.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1MSD	N14504.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1	N14497.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-14

CAS No.	Surrogate Recoveries	MS	MSD	C10614-1	Limits
2037-26-5	Toluene-D8	104%	104%	105%	60-130%
460-00-4	4-Bromofluorobenzene	106%	105%	100%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10607-11MS	M14035.D	1	04/16/10	XB	n/a	n/a	VM457
C10607-11MSD	M14036.D	1	04/16/10	XB	n/a	n/a	VM457
C10607-11	M14033.D	1	04/16/10	XB	n/a	n/a	VM457

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10607-11

CAS No.	Compound	C10607-11 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		39.4	37.5	95	39.0	98	4	60-130/30
108-20-3	Di-Isopropyl ether	ND		39.4	36.2	92	37.9	95	5	60-130/30
100-41-4	Ethylbenzene	ND		39.4	37.3	95	38.2	96	2	60-130/30
637-92-3	Ethyl tert-Butyl Ether	ND		39.4	36.6	93	37.9	95	3	60-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		39.4	37.2	94	38.7	97	4	60-130/30
994-05-8	Tert-Amyl Methyl Ether	ND		39.4	36.5	93	38.3	96	5	60-130/30
75-65-0	Tert Butyl Alcohol	ND		197	218	111	224	112	3	60-130/30
108-88-3	Toluene	ND		39.4	37.4	95	38.8	97	4	60-130/30
1330-20-7	Xylene (total)	ND		118	113	96	117	98	3	60-130/30

CAS No.	Surrogate Recoveries	MS	MSD	C10607-11	Limits
1868-53-7	Dibromofluoromethane	99%	98%	97%	60-130%
2037-26-5	Toluene-D8	98%	98%	100%	60-130%
460-00-4	4-Bromofluorobenzene	96%	98%	94%	60-130%

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2017-MB	OO11129.D	1	04/17/10	NB	04/13/10	OP2017	GOO380

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10607-13

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.025	0.0030	ug/l	
319-84-6	alpha-BHC	ND	0.025	0.0030	ug/l	
319-85-7	beta-BHC	0.0064	0.025	0.0040	ug/l	J
319-86-8	delta-BHC	ND	0.025	0.0040	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.025	0.0040	ug/l	
12789-03-6	Chlordane	ND	0.20	0.20	ug/l	
60-57-1	Dieldrin	ND	0.025	0.0030	ug/l	
72-54-8	4,4'-DDD	ND	0.025	0.0030	ug/l	
72-55-9	4,4'-DDE	ND	0.025	0.0030	ug/l	
50-29-3	4,4'-DDT	ND	0.025	0.0030	ug/l	
72-20-8	Endrin	ND	0.025	0.0030	ug/l	
7421-93-4	Endrin aldehyde	ND	0.025	0.0030	ug/l	
959-98-8	Endosulfan-I	ND	0.025	0.0040	ug/l	
33213-65-9	Endosulfan-II	ND	0.025	0.0040	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.025	0.0050	ug/l	
76-44-8	Heptachlor	ND	0.025	0.0040	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.025	0.0040	ug/l	
72-43-5	Methoxychlor	ND	0.025	0.0030	ug/l	
8001-35-2	Toxaphene	ND	0.20	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	72%	44-140%
877-09-8	Tetrachloro-m-xylene	54%	44-140%
2051-24-3	Decachlorobiphenyl	70%	44-140%
2051-24-3	Decachlorobiphenyl	69%	44-140%

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2027-MB	PP9352.D	1	04/20/10	NB	04/15/10	OP2027	GPP349

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	25	10	ug/kg	
319-84-6	alpha-BHC	ND	25	11	ug/kg	
319-85-7	beta-BHC	ND	25	3.5	ug/kg	
319-86-8	delta-BHC	ND	25	3.5	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	25	7.5	ug/kg	
12789-03-6	Chlordane	ND	100	100	ug/kg	
60-57-1	Dieldrin	ND	25	3.0	ug/kg	
72-54-8	4,4'-DDD	ND	25	3.5	ug/kg	
72-55-9	4,4'-DDE	ND	25	3.0	ug/kg	
50-29-3	4,4'-DDT	ND	25	3.0	ug/kg	
72-20-8	Endrin	ND	25	3.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	25	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	25	3.5	ug/kg	
33213-65-9	Endosulfan-II	ND	25	3.5	ug/kg	
1031-07-8	Endosulfan sulfate	ND	25	8.0	ug/kg	
76-44-8	Heptachlor	ND	25	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	25	4.0	ug/kg	
72-43-5	Methoxychlor	ND	25	3.5	ug/kg	
8001-35-2	Toxaphene	ND	100	100	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	72%	35-132%
877-09-8	Tetrachloro-m-xylene	77%	35-132%
2051-24-3	Decachlorobiphenyl	107%	35-132%
2051-24-3	Decachlorobiphenyl	115%	35-132%

Method Blank Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2035-MB	HH6297.D	1	04/19/10	JH	04/19/10	OP2035	GHH275

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C10607-7, C10607-9, C10607-11

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	10	mg/kg	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	64%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2017-BS	OO11130.D	1	04/17/10	NB	04/13/10	OP2017	GOO380
OP2017-BSD	OO11131.D	1	04/17/10	NB	04/13/10	OP2017	GOO380

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10607-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	0.1	0.066	66	0.065	65	2	35-130/30
319-84-6	alpha-BHC	0.1	0.064	64	0.066	66	3	35-130/30
319-85-7	beta-BHC	0.1	0.068	68	0.074	74	8	35-130/30
319-86-8	delta-BHC	0.1	0.063	63	0.068	68	8	35-130/30
58-89-9	gamma-BHC (Lindane)	0.1	0.063	63	0.066	66	5	35-130/30
60-57-1	Dieldrin	0.1	0.070	70	0.073	73	4	35-130/30
72-54-8	4,4'-DDD	0.1	0.075	75	0.082	82	9	35-130/30
72-55-9	4,4'-DDE	0.1	0.073	73	0.076	76	4	35-130/30
50-29-3	4,4'-DDT	0.1	0.083	83	0.088	88	6	35-130/30
72-20-8	Endrin	0.1	0.075	75	0.079	79	5	35-130/30
7421-93-4	Endrin aldehyde	0.1	0.067	67	0.072	72	7	35-130/30
959-98-8	Endosulfan-I	0.1	0.072	72	0.073	73	1	35-130/30
33213-65-9	Endosulfan-II	0.1	0.074	74	0.078	78	5	35-130/30
1031-07-8	Endosulfan sulfate	0.1	0.082	82	0.087	87	6	35-130/30
76-44-8	Heptachlor	0.1	0.071	71	0.071	71	0	35-130/30
1024-57-3	Heptachlor epoxide	0.1	0.069	69	0.071	71	3	35-130/30
72-43-5	Methoxychlor	0.1	0.083	83	0.090	90	8	35-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	77%	76%	44-140%
877-09-8	Tetrachloro-m-xylene	59%	58%	44-140%
2051-24-3	Decachlorobiphenyl	68%	73%	44-140%
2051-24-3	Decachlorobiphenyl	67%	71%	44-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2027-BS	PP9353.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
OP2027-BSD	PP9354.D	1	04/20/10	NB	04/15/10	OP2027	GPP349

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	100	61.2	61	81.1	81	28	40-140/30
319-84-6	alpha-BHC	100	66.4	66	87.2	87	27	40-140/30
319-85-7	beta-BHC	100	76.3	76	89.1	89	15	40-140/30
319-86-8	delta-BHC	100	82.6	83	94.6	95	14	40-140/30
58-89-9	gamma-BHC (Lindane)	100	66.6	67	86.7	87	26	40-140/30
60-57-1	Dieldrin	100	83.2	83	93.2	93	11	40-145/30
72-54-8	4,4'-DDD	100	116	116	117	117	1	40-140/30
72-55-9	4,4'-DDE	100	88.1	88	95.0	95	8	40-140/30
50-29-3	4,4'-DDT	100	115	115	115	115	0	40-140/30
72-20-8	Endrin	100	87.4	87	96.4	96	10	40-140/30
7421-93-4	Endrin aldehyde	100	118	118	117	117	1	40-140/30
959-98-8	Endosulfan-I	100	75.2	75	87.0	87	15	40-140/30
33213-65-9	Endosulfan-II	100	107	107	109	109	2	40-140/30
1031-07-8	Endosulfan sulfate	100	124	124	123	123	1	40-140/30
76-44-8	Heptachlor	100	65.9	66	85.6	86	26	40-140/30
1024-57-3	Heptachlor epoxide	100	71.8	72	86.6	87	19	40-140/30
72-43-5	Methoxychlor	100	119	119	118	118	1	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	65%	81%	35-132%
877-09-8	Tetrachloro-m-xylene	69%	87%	35-132%
2051-24-3	Decachlorobiphenyl	108%	107%	35-132%
2051-24-3	Decachlorobiphenyl	116%	114%	35-132%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2035-BS	HH6298.D	1	04/19/10	JH	04/19/10	OP2035	GHH275
OP2035-BSD	HH6299.D	1	04/19/10	JH	04/19/10	OP2035	GHH275

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C10607-7, C10607-9, C10607-11

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	100	56.1	56	57.6	58	3	45-140/30
	TPH (Motor Oil)	100	56.1	56	62.2	62	10	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	63%	67%	45-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2017-MS	OO11136.D	1	04/17/10	NB	04/13/10	OP2017	GOO380
OP2017-MSD	OO11137.D	1	04/17/10	NB	04/13/10	OP2017	GOO380
C10559-1 [a]	OO11135.D	2	04/17/10	NB	04/13/10	OP2017	GOO380

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10607-13

CAS No.	Compound	C10559-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		0.189	0.13	69	0.14	73	7	35-130/35
319-84-6	alpha-BHC	ND		0.189	0.14	74	0.15	78	7	35-130/35
319-85-7	beta-BHC	ND		0.189	0.15	80	0.15	78	0	35-130/35
319-86-8	delta-BHC	ND		0.189	0.15	80	0.15	78	0	35-130/35
58-89-9	gamma-BHC (Lindane)	ND		0.189	0.15	80	0.15	78	0	35-130/35
60-57-1	Dieldrin	ND		0.189	0.15	80	0.15	78	0	35-130/35
72-54-8	4,4'-DDD	ND		0.189	0.16	85	0.16	83	0	35-130/35
72-55-9	4,4'-DDE	ND		0.189	0.15	80	0.16	83	6	35-130/35
50-29-3	4,4'-DDT	ND		0.189	0.17	90	0.18	94	6	35-130/35
72-20-8	Endrin	ND		0.189	0.16	85	0.16	83	0	35-130/35
7421-93-4	Endrin aldehyde	ND		0.189	0.15	80	0.16	83	6	35-130/35
959-98-8	Endosulfan-I	ND		0.189	0.15	80	0.15	78	0	35-130/35
33213-65-9	Endosulfan-II	ND		0.189	0.15	80	0.16	83	6	35-130/35
1031-07-8	Endosulfan sulfate	ND		0.189	0.17	90	0.17	88	0	35-130/35
76-44-8	Heptachlor	ND		0.189	0.15	80	0.15	78	0	35-130/35
1024-57-3	Heptachlor epoxide	ND		0.189	0.15	80	0.15	78	0	35-130/35
72-43-5	Methoxychlor	ND		0.189	0.17	90	0.18	94	6	35-130/35

CAS No.	Surrogate Recoveries	MS	MSD	C10559-1	Limits
877-09-8	Tetrachloro-m-xylene	72%	71%	79%	44-140%
877-09-8	Tetrachloro-m-xylene	68%	66%	79%	44-140%
2051-24-3	Decachlorobiphenyl	84%	84%	81%	44-140%
2051-24-3	Decachlorobiphenyl	83%	83%	81%	44-140%

(a) Reporting limits raised due to nature of sample matrix.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2027-MS	PP9350.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
OP2027-MSD	PP9351.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
C10607-11	PP9349.D	1	04/20/10	NB	04/15/10	OP2027	GPP349

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

CAS No.	Compound	C10607-11 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		100	53.9	54	50.7	51	6	40-140/40
319-84-6	alpha-BHC	ND		100	50.4	50	47.0	47	7	40-140/40
319-85-7	beta-BHC	ND		100	76.2	76	73.0	74	4	40-140/40
319-86-8	delta-BHC	ND		100	80.8	81	77.6	78	4	40-140/40
58-89-9	gamma-BHC (Lindane)	ND		100	55.3	55	52.3	53	6	40-140/40
60-57-1	Dieldrin	ND		100	75.7	76	73.1	74	3	40-145/40
72-54-8	4,4'-DDD	ND		100	89.7	90	85.6	86	5	40-140/40
72-55-9	4,4'-DDE	ND		100	79.0	79	75.5	76	5	40-140/40
50-29-3	4,4'-DDT	ND		100	86.3	86	83.2	84	4	40-140/40
72-20-8	Endrin	ND		100	78.7	79	76.2	77	3	40-145/40
7421-93-4	Endrin aldehyde	ND		100	81.9	82	79.9	81	2	40-140/40
959-98-8	Endosulfan-I	ND		100	70.9	71	67.8	68	4	40-140/40
33213-65-9	Endosulfan-II	ND		100	84.2	84	81.7	83	3	40-140/40
1031-07-8	Endosulfan sulfate	ND		100	91.1	91	88.9	90	2	40-140/40
76-44-8	Heptachlor	ND		100	54.8	55	52.1	53	5	40-140/40
1024-57-3	Heptachlor epoxide	ND		100	68.3	68	65.5	66	4	40-140/40
72-43-5	Methoxychlor	ND		100	82.9	83	80.1	81	3	40-140/40

CAS No.	Surrogate Recoveries	MS	MSD	C10607-11	Limits
877-09-8	Tetrachloro-m-xylene	45%	44%	53%	35-132%
877-09-8	Tetrachloro-m-xylene	47%	45%	56%	35-132%
2051-24-3	Decachlorobiphenyl	77%	76%	87%	35-132%
2051-24-3	Decachlorobiphenyl	84%	83%	95%	35-132%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10607
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2035-MS	GG13301.D	1	04/21/10	JH	04/19/10	OP2035	GGG419
OP2035-MSD	GG13302.D	1	04/21/10	JH	04/19/10	OP2035	GGG419
C10633-4	HH6312.D	1	04/20/10	JH	04/19/10	OP2035	GHH276

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C10607-7, C10607-9, C10607-11

CAS No.	Compound	C10633-4 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	ND		100	69.9	70	72.6	73	4	45-140/30
	TPH (Motor Oil)	12.9	J	100	72.2	59	79.0	66	9	45-140/30

CAS No.	Surrogate Recoveries	MS	MSD	C10633-4	Limits
630-01-3	Hexacosane	80%	82%	65%	45-140%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2282
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/15/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1.4	1.5		
Antimony	2.0	.69	1.2	0.38	<2.0
Arsenic	2.0	.44	.51	-0.43	<2.0
Barium	1.0	.06	.11	0.020	<1.0
Beryllium	1.0	.01	.02	-0.010	<1.0
Boron	2.0	.86	.29		
Cadmium	1.0	.03	.05	-0.010	<1.0
Calcium	50	2.9	6.9		
Chromium	1.0	.04	.06	0.050	<1.0
Cobalt	1.0	.04	.06	-0.060	<1.0
Copper	1.0	.08	.51	0.090	<1.0
Iron	10	.26	.43		
Lead	1.0	.33	.54	0.090	<1.0
Lithium	1.0	.22	.12		
Magnesium	10	.96	1.4		
Manganese	1.0	.01	.04		
Molybdenum	1.0	.13	.19	-0.010	<1.0
Nickel	1.0	.08	.1	-0.090	<1.0
Potassium	50	5.8	6.2		
Selenium	2.0	1.4	1.5	0.020	<2.0
Silicon	20	.34	7		
Silver	1.0	.09	.13	-0.010	<1.0
Sodium	50	1.5	3		
Strontium	1.0	.03	.04		
Thallium	2.0	.65	.74	-0.48	<2.0
Tin	50	.23	2		
Titanium	1.0	.02	.15		
Vanadium	1.0	.07	.045	0.050	<1.0
Zinc	2.0	.09	.24	0.14	<2.0

Associated samples MP2282: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2282
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/15/10

Metal	C10595-8 Original	MS	Spikelot MPIR1	% Rec	QC Limits
Aluminum					
Antimony	1.5	16.7	46.3	33.7N(a)	80-120
Arsenic	4.6	52.9	46.3	104.5	80-120
Barium	112	159	46.3	105.8	80-120
Beryllium	0.43	46.4	46.3	99.3	80-120
Boron					
Cadmium	0.12	44.6	46.3	96.2	80-120
Calcium					
Chromium	42.0	93.6	46.3	111.0	80-120
Cobalt	9.7	54.7	46.3	97.2	80-120
Copper	21.0	70.4	46.3	106.9	80-120
Iron					
Lead	7.8	52.3	46.3	96.3	80-120
Lithium					
Magnesium					
Manganese					
Molybdenum	0.20	45.9	46.3	98.7	80-120
Nickel	39.9	92.9	46.3	113.6	80-120
Potassium					
Selenium	0.0	42.2	46.3	91.2	80-120
Silicon					
Silver	0.0	45.4	46.3	98.1	80-120
Sodium					
Strontium					
Thallium	2.5	42.0	46.3	87.0	80-120
Tin					
Titanium					
Vanadium	53.3	101	46.3	102.4	80-120
Zinc	40.6	86.1	46.3	97.6	80-120

Associated samples MP2282: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2282
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/15/10

Metal	C10595-8 Original	MSD	Spikelot MPIR1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	1.5	17.0	47.2	33.7N(a)	1.8	20
Arsenic	4.6	53.3	47.2	103.5	0.8	20
Barium	112	161	47.2	108.1	1.3	20
Beryllium	0.43	47.4	47.2	99.6	2.1	20
Boron						
Cadmium	0.12	45.6	47.2	96.5	2.2	20
Calcium						
Chromium	42.0	94.8	47.2	111.5	1.3	20
Cobalt	9.7	56.4	47.2	99.0	3.1	20
Copper	21.0	71.1	47.2	106.4	1.0	20
Iron						
Lead	7.8	54.3	47.2	98.8	3.8	20
Lithium						
Magnesium						
Manganese						
Molybdenum	0.20	47.3	47.2	99.9	3.0	20
Nickel	39.9	94.1	47.2	114.1	1.3	20
Potassium						
Selenium	0.0	44.4	47.2	94.1	5.1	20
Silicon						
Silver	0.0	46.5	47.2	98.6	2.4	20
Sodium						
Strontium						
Thallium	2.5	42.9	47.2	87.3	2.1	20
Tin						
Titanium						
Vanadium	53.3	102	47.2	102.6	1.0	20
Zinc	40.6	87.2	47.2	98.2	1.3	20

Associated samples MP2282: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2282
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:			04/15/10					04/15/10	
Metal	BSP Result	Spikelot MPIR1	% Rec	QC Limits	BSD Result	Spikelot MPIR1	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	50.7	50	101.4	80-120	49.7	50	99.4	2.0	
Arsenic	54.4	50	108.8	80-120	51.9	50	103.8	4.7	
Barium	48.8	50	97.6	80-120	47.3	50	94.6	3.1	
Beryllium	50.4	50	100.8	80-120	50.1	50	100.2	0.6	
Boron									
Cadmium	50.0	50	100.0	80-120	48.5	50	97.0	3.0	
Calcium									
Chromium	56.1	50	112.2	80-120	54.6	50	109.2	2.7	
Cobalt	51.6	50	103.2	80-120	50.1	50	100.2	2.9	
Copper	50.4	50	100.8	80-120	50.0	50	100.0	0.8	
Iron									
Lead	52.5	50	105.0	80-120	49.9	50	99.8	5.1	
Lithium									
Magnesium									
Manganese									
Molybdenum	55.6	50	111.2	80-120	54.0	50	108.0	2.9	
Nickel	56.3	50	112.6	80-120	54.4	50	108.8	3.4	
Potassium									
Selenium	49.1	50	98.2	80-120	46.8	50	93.6	4.8	
Silicon									
Silver	51.5	50	103.0	80-120	51.1	50	102.2	0.8	
Sodium									
Strontium									
Thallium	47.0	50	94.0	80-120	45.3	50	90.6	3.7	
Tin									
Titanium									
Vanadium	51.2	50	102.4	80-120	49.6	50	99.2	3.2	
Zinc	48.8	50	97.6	80-120	46.9	50	93.8	4.0	

Associated samples MP2282: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2282
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/15/10

Metal	C10595-8 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	15.9	0.00	100.0(a)	0-10
Arsenic	48.8	72.0	53.8 (a)	0-10
Barium	1180	1180	2.4	0-10
Beryllium	4.50	4.50	4.7	0-10
Boron				
Cadmium	1.30	2.00	122.2(a)	0-10
Calcium				
Chromium	441	466	5.1	0-10
Cobalt	101	111	8.6	0-10
Copper	221	222	0.7	0-10
Iron				
Lead	81.7	75.5	6.1	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum	2.10	0.00	100.0(a)	0-10
Nickel	419	443	4.6	0-10
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium	26.7	0.00	100.0(a)	0-10
Tin				
Titanium				
Vanadium	559	583	3.6	0-10
Zinc	426	477	11.0*(b)	0-10

Associated samples MP2282: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2282
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/15/10

Metal	Sample ml	Final ml	C10595-8 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	10	10.1	15.9	11.28713	488.2	0.05	100	495.0495	96.3	-
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc	10	10.1	426.4	424.9505	889.1	0.05	100	495.0495	93.8	-

Associated samples MP2282: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2290 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/16/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.042	.0017	.0043	-0.0032	<0.042

Associated samples MP2290: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2290 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/16/10

Metal	C10631-1 Original	MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.035	0.34	0.323	94.6	75-125

Associated samples MP2290: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2290 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/16/10

Metal	C10631-1 Original	MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.035	0.35	0.308	102.4	2.9	20

Associated samples MP2290: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2290
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 04/16/10 04/16/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	0.15	0.167	90.0	80-120	0.17	0.167	102.0	12.5	

Associated samples MP2290: C10607-3, C10607-6, C10607-7, C10607-9, C10607-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	14	21		
Antimony	10	6.9	5.3	4.5	<10
Arsenic	10	4.4	3.1	-1.0	<10
Barium	5.0	.6	.7	0.20	<5.0
Beryllium	5.0	.1	.2	0.10	<5.0
Boron	50	8.6	11		
Cadmium	2.0	.3	.3	0.70	<2.0
Calcium	50	29	12		
Chromium	5.0	.4	.6	0.20	<5.0
Cobalt	5.0	.4	.4	-0.10	<5.0
Copper	5.0	.8	1.1	0.50	<5.0
Iron	50	2.6	18		
Lead	5.0	3.3	1.3	-1.7	<5.0
Lithium	10	2.2	2.5		
Magnesium	50	9.6	13		
Manganese	5.0	.1	.2		
Molybdenum	5.0	1.3	1	1.4	<5.0
Nickel	5.0	.8	.5	0.70	<5.0
Potassium	500	58	60		
Selenium	20	14	12	5.0	<20
Silicon	50	3.4	5.3		
Silver	5.0	.9	.7	0.20	<5.0
Sodium	100	15	13		
Strontium	10	.3	2.4		
Thallium	20	6.5	6.4	-2.3	<20
Tin	50	2.3	2		
Titanium	2.0	.2	.2		
Vanadium	5.0	.7	.5	-0.20	<5.0
Zinc	10	.9	1.1	1.4	<10

Associated samples MP2296: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	C10614-1F Original	MS	Spikelot MPIR1	% Rec	QC Limits
Aluminum					
Antimony	0.0	525	500	105.0	80-120
Arsenic	0.0	516	500	103.2	80-120
Barium	136	644	500	101.6	80-120
Beryllium	0.0	489	500	97.8	80-120
Boron					
Cadmium	0.80	521	500	104.0	80-120
Calcium					
Chromium	6.8	493	500	97.2	80-120
Cobalt	0.0	494	500	98.8	80-120
Copper	1.9	494	500	98.4	80-120
Iron					
Lead	0.0	491	500	98.2	80-120
Lithium					
Magnesium					
Manganese					
Molybdenum	1.8	520	500	103.6	80-120
Nickel	0.80	482	500	96.2	80-120
Potassium					
Selenium	0.0	496	500	99.2	80-120
Silicon					
Silver	0.0	522	500	104.4	80-120
Sodium					
Strontium					
Thallium	0.0	471	500	94.2	80-120
Tin					
Titanium					
Vanadium	10.7	516	500	101.1	80-120
Zinc	1.5	492	500	98.1	80-120

Associated samples MP2296: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	C10614-1F Original	MSD	Spikelot MPIR1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	0.0	522	500	104.4	0.6	20
Arsenic	0.0	513	500	102.6	0.6	20
Barium	136	653	500	103.4	1.4	20
Beryllium	0.0	495	500	99.0	1.2	20
Boron						
Cadmium	0.80	520	500	103.8	0.2	20
Calcium						
Chromium	6.8	492	500	97.0	0.2	20
Cobalt	0.0	492	500	98.4	0.4	20
Copper	1.9	499	500	99.4	1.0	20
Iron						
Lead	0.0	486	500	97.2	1.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum	1.8	521	500	103.8	0.2	20
Nickel	0.80	484	500	96.6	0.4	20
Potassium						
Selenium	0.0	502	500	100.4	1.2	20
Silicon						
Silver	0.0	527	500	105.4	1.0	20
Sodium						
Strontium						
Thallium	0.0	476	500	95.2	1.1	20
Tin						
Titanium						
Vanadium	10.7	516	500	101.1	0.0	20
Zinc	1.5	497	500	99.1	1.0	20

Associated samples MP2296: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			04/20/10					04/20/10	
Metal	BSP Result	Spikelot MPIR1	% Rec	QC Limits	BSD Result	Spikelot MPIR1	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	499	500	99.8	80-120	507	500	101.4	1.6	
Arsenic	498	500	99.6	80-120	504	500	100.8	1.2	
Barium	505	500	101.0	80-120	509	500	101.8	0.8	
Beryllium	480	500	96.0	80-120	479	500	95.8	0.2	
Boron									
Cadmium	505	500	101.0	80-120	508	500	101.6	0.6	
Calcium									
Chromium	490	500	98.0	80-120	492	500	98.4	0.4	
Cobalt	505	500	101.0	80-120	506	500	101.2	0.2	
Copper	482	500	96.4	80-120	482	500	96.4	0.0	
Iron									
Lead	501	500	100.2	80-120	508	500	101.6	1.4	
Lithium									
Magnesium									
Manganese									
Molybdenum	514	500	102.8	80-120	515	500	103.0	0.2	
Nickel	502	500	100.4	80-120	505	500	101.0	0.6	
Potassium									
Selenium	472	500	94.4	80-120	475	500	95.0	0.6	
Silicon									
Silver	512	500	102.4	80-120	514	500	102.8	0.4	
Sodium									
Strontium									
Thallium	484	500	96.8	80-120	485	500	97.0	0.2	
Tin									
Titanium									
Vanadium	499	500	99.8	80-120	501	500	100.2	0.4	
Zinc	486	500	97.2	80-120	487	500	97.4	0.2	

Associated samples MP2296: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	C10614-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	136	136	0.6	0-10
Beryllium	0.00	0.00	NC	0-10
Boron				
Cadmium	0.800	2.00	150.0(a)	0-10
Calcium				
Chromium	6.80	6.50	4.4	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	1.90	8.00	321.1(a)	0-10
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum	1.80	0.00	100.0(a)	0-10
Nickel	0.800	8.00	900.0(a)	0-10
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Vanadium	10.7	11.0	2.8	0-10
Zinc	1.50	0.00	100.0(a)	0-10

Associated samples MP2296: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	Sample ml	Final ml	Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP2296: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2298
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 04/20/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.02	.02	0.058	<0.20

Associated samples MP2298: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2298 Methods: EPA 245.1
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/20/10

Metal	C10633-5F Original	MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.088	4.1	4	100.3	70-130

Associated samples MP2298: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2298 Methods: EPA 245.1
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/20/10

Metal	C10633-5F Original	MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.088	4.0	4	97.8	2.5	20

Associated samples MP2298: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10607
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2298
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date:		04/20/10					04/20/10		
Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	2.0	2	100.0	85-115	2.0	2	100.0	0.0	

Associated samples MP2298: C10607-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Northern California ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

04/29/10

Technical Report for

ERM-West, Inc.

SCWA Phase II - Sonoma, CA

0112574

Accutest Job Number: C10633

Sampling Date: 04/14/10

Report to:

ERM-West, Inc.
1277 Treat Blvd. Suite 500
Walnut Creek, CA 94597
Chimi.Yi@erm.com; Peter.Baty@erm.com

ATTN: Chimi Yi

Total number of pages in report: **74**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA)

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Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Sample Results **4**
2.1: C10633-2: SB-4-(0-0.5') 5
2.2: C10633-4: SB-5-(0-0.5') 9
2.3: C10633-5: SB-5-GW 13
2.4: C10633-5F: SB-5-GW 18
2.5: C10633-6: SB-2-GW 19
2.6: C10633-6F: SB-2-GW 24
Section 3: Misc. Forms **25**
3.1: Chain of Custody 26
Section 4: GC/MS Volatiles - QC Data Summaries **28**
4.1: Method Blank Summary 29
4.2: Blank Spike Summary 33
4.3: Matrix Spike/Matrix Spike Duplicate Summary 39
Section 5: GC Semi-volatiles - QC Data Summaries **43**
5.1: Method Blank Summary 44
5.2: Blank Spike/Blank Spike Duplicate Summary 48
5.3: Matrix Spike/Matrix Spike Duplicate Summary 52
Section 6: Metals Analysis - QC Data Summaries **54**
6.1: Prep QC MP2290: Hg 55
6.2: Prep QC MP2291: Sb,As,Ba,Be,Cd,Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,V,Zn 59
6.3: Prep QC MP2296: Sb,As,Ba,Be,Cd,Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,V,Zn 65
6.4: Prep QC MP2298: Hg 71

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Sample Summary

ERM-West, Inc.

Job No: C10633

SCWA Phase II - Sonoma, CA
Project No: 0112574

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C10633-2	04/14/10	11:35	CY	04/15/10	SO	Soil	SB-4-(0-0.5')
C10633-4	04/14/10	14:50	CY	04/15/10	SO	Soil	SB-5-(0-0.5')
C10633-5	04/14/10	13:33	CY	04/15/10	AQ	Ground Water	SB-5-GW
C10633-5F	04/14/10	13:33	CY	04/15/10	AQ	Groundwater Filtered	SB-5-GW
C10633-6	04/14/10	14:07	CY	04/15/10	AQ	Ground Water	SB-2-GW
C10633-6F	04/14/10	14:07	CY	04/15/10	AQ	Groundwater Filtered	SB-2-GW

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-4-(0-0.5')		
Lab Sample ID:	C10633-2	**Date Sampled:**	04/14/10
Matrix:	SO - Soil	**Date Received:**	04/15/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M14017.D	1	04/15/10	XB	n/a	n/a	VM456
Run #2							

	Initial Weight
Run #1	5.04 g
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.9	4.0	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	1.5	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	1.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	0.99	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	1.2	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	40	9.9	ug/kg	
	TPH-GRO (C6-C10)	ND	99	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	95%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SB-4-(0-0.5')		
Lab Sample ID:	C10633-2	**Date Sampled:**	04/14/10
Matrix:	SO - Soil	**Date Received:**	04/15/10
Method:	SW846 8081A SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OO11189.D	1	04/21/10	NB	04/15/10	OP2027	GOO382
Run #2							

	Initial Weight	Final Volume
Run #1	9.90 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	25	10	ug/kg	
319-84-6	alpha-BHC	ND	25	11	ug/kg	
319-85-7	beta-BHC	ND	25	3.5	ug/kg	
319-86-8	delta-BHC	ND	25	3.5	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	25	7.6	ug/kg	
12789-03-6	Chlordane	ND	100	100	ug/kg	
60-57-1	Dieldrin	ND	25	3.0	ug/kg	
72-54-8	4,4'-DDD	ND	25	3.5	ug/kg	
72-55-9	4,4'-DDE	ND	25	3.0	ug/kg	
50-29-3	4,4'-DDT	ND	25	3.0	ug/kg	
72-20-8	Endrin	ND	25	3.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	25	6.1	ug/kg	
959-98-8	Endosulfan-I	ND	25	3.5	ug/kg	
33213-65-9	Endosulfan-II	ND	25	3.5	ug/kg	
1031-07-8	Endosulfan sulfate	ND	25	8.1	ug/kg	
76-44-8	Heptachlor	ND	25	6.1	ug/kg	
1024-57-3	Heptachlor epoxide	ND	25	4.0	ug/kg	
72-43-5	Methoxychlor	ND	25	3.5	ug/kg	
8001-35-2	Toxaphene	ND	100	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	50%		35-132%
877-09-8	Tetrachloro-m-xylene	49%		35-132%
2051-24-3	Decachlorobiphenyl	87%		35-132%
2051-24-3	Decachlorobiphenyl	90%		35-132%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-4-(0-0.5')		
Lab Sample ID:	C10633-2	**Date Sampled:**	04/14/10
Matrix:	SO - Soil	**Date Received:**	04/15/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH6311.D	1	04/20/10	JH	04/19/10	OP2035	GHH276
Run #2							

	Initial Weight	Final Volume
Run #1	9.60 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.2	mg/kg	
	TPH (Motor Oil)	ND	21	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	65%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-4-(0-0.5')		
Lab Sample ID:	C10633-2	**Date Sampled:**	04/14/10
Matrix:	SO - Soil	**Date Received:**	04/15/10
		Percent Solids:	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 1.9	1.9	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Arsenic	2.5	1.9	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Barium	98.2	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Beryllium	< 0.97	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Cadmium	< 0.97	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Chromium	67.0	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Cobalt	9.6	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Copper	9.5	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Lead	7.6	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Mercury	< 0.038	0.038	mg/kg	1	04/16/10	04/16/10	RW	SW846 7471A [1]	SW846 7471A [3]
Molybdenum	< 0.97	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Nickel	39.4	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Selenium	< 1.9	1.9	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Silver	< 0.97	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Thallium	< 1.9	1.9	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Vanadium	37.0	0.97	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]
Zinc	24.2	1.9	mg/kg	1	04/19/10	04/21/10	CT	SW846 6010B [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA1170
(2) Instrument QC Batch: MA1178
(3) Prep QC Batch: MP2290
(4) Prep QC Batch: MP2291

(a) All results reported on wet weight basis.

RL = Reporting Limit

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Report of Analysis

Client Sample ID:	SB-5-(0-0.5')		
Lab Sample ID:	C10633-4	**Date Sampled:**	04/14/10
Matrix:	SO - Soil	**Date Received:**	04/15/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M14014.D	1	04/15/10	XB	n/a	n/a	VM456
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	1.5	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	1.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	1.2	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	40	10	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	93%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-(0-0.5')		
Lab Sample ID:	C10633-4	**Date Sampled:**	04/14/10
Matrix:	SO - Soil	**Date Received:**	04/15/10
Method:	SW846 8081A SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PP9345.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
Run #2							

	Initial Weight	Final Volume
Run #1	10.2 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	25	9.8	ug/kg	
319-84-6	alpha-BHC	ND	25	11	ug/kg	
319-85-7	beta-BHC	ND	25	3.4	ug/kg	
319-86-8	delta-BHC	ND	25	3.4	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	25	7.4	ug/kg	
12789-03-6	Chlordane	ND	98	98	ug/kg	
60-57-1	Dieldrin	ND	25	2.9	ug/kg	
72-54-8	4,4'-DDD	ND	25	3.4	ug/kg	
72-55-9	4,4'-DDE	ND	25	2.9	ug/kg	
50-29-3	4,4'-DDT	ND	25	2.9	ug/kg	
72-20-8	Endrin	ND	25	2.9	ug/kg	
7421-93-4	Endrin aldehyde	ND	25	5.9	ug/kg	
959-98-8	Endosulfan-I	ND	25	3.4	ug/kg	
33213-65-9	Endosulfan-II	ND	25	3.4	ug/kg	
1031-07-8	Endosulfan sulfate	ND	25	7.8	ug/kg	
76-44-8	Heptachlor	ND	25	5.9	ug/kg	
1024-57-3	Heptachlor epoxide	ND	25	3.9	ug/kg	
72-43-5	Methoxychlor	ND	25	3.4	ug/kg	
8001-35-2	Toxaphene	ND	98	98	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	40%		35-132%
877-09-8	Tetrachloro-m-xylene	42%		35-132%
2051-24-3	Decachlorobiphenyl	61%		35-132%
2051-24-3	Decachlorobiphenyl	67%		35-132%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-(0-0.5')		
Lab Sample ID:	C10633-4	**Date Sampled:**	04/14/10
Matrix:	SO - Soil	**Date Received:**	04/15/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH6312.D	1	04/20/10	JH	04/19/10	OP2035	GHH276
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.0	mg/kg	
	TPH (Motor Oil) [b]	12.9	20	10	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	65%		45-140%

(a) All results reported on wet weight basis.
(b) Estimate value due to discrete peaks.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-(0-0.5')		
Lab Sample ID:	C10633-4	**Date Sampled:**	04/14/10
Matrix:	SO - Soil	**Date Received:**	04/15/10
		Percent Solids:	n/a [a]
Project:	SCWA Phase II - Sonoma, CA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 1.9	1.9	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Arsenic	< 1.9	1.9	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Barium	139	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Beryllium	< 0.94	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Cadmium	< 0.94	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Chromium	57.5	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Cobalt	10.7	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Copper	14.4	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Lead	8.9	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Mercury	< 0.039	0.039	mg/kg	1	04/16/10	04/16/10	RW	SW846 7471A [1]	SW846 7471A [3]
Molybdenum	< 0.94	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Nickel	49.1	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Selenium	< 1.9	1.9	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Silver	< 0.94	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Thallium	< 1.9	1.9	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Vanadium	36.8	0.94	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]
Zinc	38.7	1.9	mg/kg	1	04/19/10	04/20/10	CT	SW846 6010B [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA1170
(2) Instrument QC Batch: MA1173
(3) Prep QC Batch: MP2290
(4) Prep QC Batch: MP2291

(a) All results reported on wet weight basis.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-GW		
Lab Sample ID:	C10633-5	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N14500.D	1	04/15/10	TF	n/a	n/a	VN491
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-GW		
Lab Sample ID:	C10633-5	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride [a]	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-GW		
Lab Sample ID:	C10633-5	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	106%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) CCV outside of control limits (biased high); not detected in sample.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-GW		
Lab Sample ID:	C10633-5	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8081A SW846 3510C	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OO11190.D	1	04/21/10	NB	04/20/10	OP2041	GOO382
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.024	0.0028	ug/l	
319-84-6	alpha-BHC	ND	0.024	0.0028	ug/l	
319-85-7	beta-BHC	ND	0.024	0.0038	ug/l	
319-86-8	delta-BHC	ND	0.024	0.0038	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.024	0.0038	ug/l	
12789-03-6	Chlordane	ND	0.19	0.19	ug/l	
60-57-1	Dieldrin	ND	0.024	0.0028	ug/l	
72-54-8	4,4'-DDD	ND	0.024	0.0028	ug/l	
72-55-9	4,4'-DDE	ND	0.024	0.0028	ug/l	
50-29-3	4,4'-DDT	ND	0.024	0.0028	ug/l	
72-20-8	Endrin	ND	0.024	0.0028	ug/l	
7421-93-4	Endrin aldehyde	ND	0.024	0.0028	ug/l	
959-98-8	Endosulfan-I	ND	0.024	0.0038	ug/l	
33213-65-9	Endosulfan-II	ND	0.024	0.0038	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.024	0.0047	ug/l	
76-44-8	Heptachlor	ND	0.024	0.0038	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.024	0.0038	ug/l	
72-43-5	Methoxychlor	ND	0.024	0.0028	ug/l	
8001-35-2	Toxaphene	ND	0.19	0.19	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	59%		44-140%
877-09-8	Tetrachloro-m-xylene	55%		44-140%
2051-24-3	Decachlorobiphenyl	60%		44-140%
2051-24-3	Decachlorobiphenyl	61%		44-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-GW		
Lab Sample ID:	C10633-5	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH6336.D	1	04/21/10	JH	04/20/10	OP2043	GHH277
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.094	0.047	mg/l	
	TPH (Motor Oil)	0.238	0.19	0.094	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	85%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-5-GW		
Lab Sample ID:	C10633-5F	**Date Sampled:**	04/14/10
Matrix:	AQ - Groundwater Filtered	**Date Received:**	04/15/10
		Percent Solids:	n/a
Project:	SCWA Phase II - Sonoma, CA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 10	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Arsenic	< 10	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Barium	41.5	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Beryllium	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Cadmium	< 2.0	2.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Chromium	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Cobalt	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Copper	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Lead	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Mercury	< 0.20	0.20	ug/l	1	04/20/10	04/21/10	RW	EPA 245.1 [1]	EPA 245.1/SW7470A [4]
Molybdenum	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Nickel	6.6	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Selenium	< 20	20	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Silver	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Thallium	< 20	20	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Vanadium	10.9	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Zinc	21.4	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]

(1) Instrument QC Batch: MA1177
(2) Instrument QC Batch: MA1180
(3) Prep QC Batch: MP2296
(4) Prep QC Batch: MP2298

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-GW		
Lab Sample ID:	C10633-6	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N14501.D	1	04/15/10	TF	n/a	n/a	VN491
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-GW		
Lab Sample ID:	C10633-6	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride [a]	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-GW		
Lab Sample ID:	C10633-6	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	105%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits (biased high); not detected in sample.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-GW		
Lab Sample ID:	C10633-6	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8081A SW846 3510C	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OO11191.D	1	04/21/10	NB	04/20/10	OP2041	GOO382
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.024	0.0028	ug/l	
319-84-6	alpha-BHC	ND	0.024	0.0028	ug/l	
319-85-7	beta-BHC	ND	0.024	0.0038	ug/l	
319-86-8	delta-BHC	ND	0.024	0.0038	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.024	0.0038	ug/l	
12789-03-6	Chlordane	ND	0.19	0.19	ug/l	
60-57-1	Dieldrin	ND	0.024	0.0028	ug/l	
72-54-8	4,4'-DDD	ND	0.024	0.0028	ug/l	
72-55-9	4,4'-DDE	ND	0.024	0.0028	ug/l	
50-29-3	4,4'-DDT	ND	0.024	0.0028	ug/l	
72-20-8	Endrin	ND	0.024	0.0028	ug/l	
7421-93-4	Endrin aldehyde	ND	0.024	0.0028	ug/l	
959-98-8	Endosulfan-I	ND	0.024	0.0038	ug/l	
33213-65-9	Endosulfan-II	ND	0.024	0.0038	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.024	0.0047	ug/l	
76-44-8	Heptachlor	ND	0.024	0.0038	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.024	0.0038	ug/l	
72-43-5	Methoxychlor	ND	0.024	0.0028	ug/l	
8001-35-2	Toxaphene	ND	0.19	0.19	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	33% [a]		44-140%
877-09-8	Tetrachloro-m-xylene	33% [a]		44-140%
2051-24-3	Decachlorobiphenyl	32% [a]		44-140%
2051-24-3	Decachlorobiphenyl	32% [a]		44-140%

(a) Outside control limits due to nature of sample matrix.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-GW		
Lab Sample ID:	C10633-6	**Date Sampled:**	04/14/10
Matrix:	AQ - Ground Water	**Date Received:**	04/15/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	SCWA Phase II - Sonoma, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH6337.D	1	04/21/10	JH	04/20/10	OP2043	GHH277
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.095	0.048	mg/l	
	TPH (Motor Oil)	ND	0.19	0.095	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	75%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB-2-GW		
Lab Sample ID:	C10633-6F	**Date Sampled:**	04/14/10
Matrix:	AQ - Groundwater Filtered	**Date Received:**	04/15/10
		Percent Solids:	n/a
Project:	SCWA Phase II - Sonoma, CA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 10	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Arsenic	< 10	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Barium	53.2	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Beryllium	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Cadmium	< 2.0	2.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Chromium	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Cobalt	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Copper	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Lead	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Mercury	< 0.20	0.20	ug/l	1	04/20/10	04/21/10	RW	EPA 245.1 [1]	EPA 245.1/SW7470A [4]
Molybdenum	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Nickel	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Selenium	< 20	20	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Silver	< 5.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Thallium	< 20	20	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Vanadium	7.0	5.0	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]
Zinc	< 10	10	ug/l	1	04/20/10	04/23/10	CT	SW846 6010B [2]	SW3010A [3]

(1) Instrument QC Batch: MA1177
(2) Instrument QC Batch: MA1180
(3) Prep QC Batch: MP2296
(4) Prep QC Batch: MP2298

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Environmental Resources Management

CHAIN OF CUSTODY RECORD

"ERMCAWC2672"

C10633

NO: 5327

1777 Botelho Drive, Suite 260 • Walnut Creek, CA • 94596 • (925) 946-0455 • FAX (925) 946-9968

Page 1 of 1

PROJECT #	PROJECT NAME
0112574	SCWA Phase II

SAMPLER: (PRINT NAME)	(SIGNATURE)
Chimi Y.	Chimi Y.

RECEIVING LABORATORY: Accutest

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	MATRIX SOIL	MATRIX WATER	MATRIX GAS	California Title 22 metals (CAM-17) - 6010	Organochlorine pesticides - 8081	TPH-diesel, - motor oil w/silica gel cleanup - 8015M	TPH-gas, BTEX, 8260B fuel oxygenates - 8015	VOCs, TPH-gas - 8260					
SB-4-(15-15.5')	4-14-10	1110		X	Split spoon	—	Y	3"x6"	1	X			HOLD					-1	(3"x6") Brass Tube			
SB-4-(0-0.5')	"	1135		X	"	—	Y	"	1	X			X	X	X	X		-2	↓			
SB-5-(15-15.5')	"	1255		X	"	—	Y	"	1	X			HOLD					-3				
SB-5-(0-0.5')	"	1450		X	"	—	Y	"	1	X			X	X	X	X		-4				
SB-5-GW	"	1333		X	bailer/peristaltic pump	Various	Y	Various	8		X		X	X	X		X	-5	→4x1lt Ambers N/P →3vials w/HCL; 250mL poly (HNO3)			
SB-2-GW	"	1407		X	"	Various	Y	Various	7		X		X	X	X		X	-6	3x1lt Ambers N/P; 250mL poly (w/HNO3); 3vials (w/HCL)			

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
Chimi Y.	4-15-10	0730	ERM WC Office	4-15-10	0730
ERM Courier WC	4/15/10	913		4/15/10	0913
	4/15/10	1024		4/15/10	10:31

FIELD REMARKS:
- Standard TAT
- Dissolved GW metals samples were field filtered and preserved.
Temp #1-2.3+0.3=2.6°C
#2-2.7+0.3=3.0°C

REMARKS ON SAMPLE RECEIPT: ☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED ☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS:

SEND REPORT TO:
Chimi.Y@erm.com
Peter.Baty@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

C10633: Chain of Custody
Page 1 of 2

Accutest Laboratories Northern California
Sample Receiving Check List

Job#: C10633
Sample Control Rep. Initial: EK

EKMCAWC2672

Review Chain of Custody **Chain of Custody is to be complete and legible.**

- ☑ Are these regulatory (~~NPDES~~) samples? ~~CWA~~ — Yes / No
- ☑ Is pH requested? — Yes / No
- N/A ☒ Was Client informed that hold time is 15 min? **Yes / No** Continue **Yes / No**
- ☒ Was ortho-Phosphate filtered with in 15 min? **Yes / No** Continue **Yes / No**
- ☑ Are sample within hold time? — Yes / No
- Are sample in danger of exceeding hold-time — Yes / No
- ☑ Existing Client? Yes / No Existing Project? Yes / No

If No: Is Report to info complete and legible, including;
- ☐ deliverable ☐ Name ☐ Address ☐ phone ☐ e-mail

Is Bill to info complete and legible, including;
- ☐ PO# ☐ Credit card ☐ Contact ☐address ☐ phone ☐ e-mail

Is Contact and/or Project Manager identified, including;
- ☐ phone ☐ e-mail

- ☑ Project name / number ☐ Special requirements? — Yes / No
- ☑ Sample IDs / date & time of collection provided? — Yes / No
- ☑ Is Matrix listed and correct? — Yes / No
- ☑ Analyses listed we do or client has authorized a subcontract? — Yes / No
- ☑ Chain is signed and dated by both client and sample custodian? — Yes / No
- ☑ TAT requested available? Yes / No Approved by PM

Review Coolers: 2 coolers Rec'd

- ☑ Were Coolers temperatures measured at ≤6°C? Cooler # — Temp — °C
  - If cooler is outside the ≤6°C; note down below the affected bottles in that cooler
  - Note that ANC does NOT accept evidentiary samples. (We do not lock refrigerators)
- ☑ Shipment Received Method AC
- ☑ Custody Seals: Present: **Yes / No** If Yes; Unbroken: **Yes / No**

Review of Sample Bottles: If you answer no, explain to the side

- ☑ Chain matches bottle labels? Yes / No ☑ Sample bottle intact? Yes / No
- ☑ Is there enough sample volume in proper bottle for requested analyses? Yes / No
- ☑ Proper Preservatives? Yes / No Check pH on preserved samples except 1664, 625, 8270 and VOAs.
- ☑ Headspace-VOAs? **Greater than 6mm in diameter Yes / No**
  List sample ID and affected container

Client Sample ID	pH Check	Other Comments/~~Issues~~
-5	pH<2	250mL poly (@HNO3) F-filtered
-6	pH<2	250mL poly (@HNO3) F-filtered
		Cooler #1: 2.3+0.3 = 2.6°C
		#2: 2.7+0.3 = 3.0°C

Non-Compliance issues and discrepancies on the COC are forwarded to Project Management

\\Anc-srv-file1\d$\Entech-Data\Laboratory\SOPs\SOP_CompleteListing\SC001F1_1_Form1_SampleControl_SampleReceivingChecklist_2010-02-15.doc

C10633: Chain of Custody
Page 2 of 2

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM456-MB	M13998.D	1	04/15/10	XB	n/a	n/a	VM456

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-2, C10633-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
637-92-3	Ethyl tert-Butyl Ether	ND	5.0	1.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	1.2	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	40	10	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	60-130%
2037-26-5	Toluene-D8	104%	60-130%
460-00-4	4-Bromofluorobenzene	97%	60-130%

Method Blank Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-MB	N14487.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	

Method Blank Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-MB	N14487.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Compound	Result	RL	MDL	Units	Q
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

Method Blank Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-MB	N14487.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	60-130%
2037-26-5	Toluene-D8	105%	60-130%
460-00-4	4-Bromofluorobenzene	99%	60-130%

Blank Spike Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM456-BS	M13996.D	1	04/15/10	XB	n/a	n/a	VM456

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-2, C10633-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	40	40.5	101	60-130
108-20-3	Di-Isopropyl ether	40	39.1	98	60-130
100-41-4	Ethylbenzene	40	41.7	104	60-130
637-92-3	Ethyl tert-Butyl Ether	40	38.7	97	60-130
1634-04-4	Methyl Tert Butyl Ether	40	39.3	98	60-130
994-05-8	Tert-Amyl Methyl Ether	40	39.2	98	60-130
75-65-0	Tert Butyl Alcohol	200	242	121	60-130
108-88-3	Toluene	40	42.5	106	60-130
1330-20-7	Xylene (total)	120	129	108	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	60-130%
2037-26-5	Toluene-D8	100%	60-130%
460-00-4	4-Bromofluorobenzene	97%	60-130%

Blank Spike Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-BS	N14488.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	128	160* [a]	60-130
71-43-2	Benzene	20	18.7	94	60-130
108-86-1	Bromobenzene	20	20.0	100	60-130
74-97-5	Bromochloromethane	20	19.6	98	60-130
75-27-4	Bromodichloromethane	20	21.3	107	60-130
75-25-2	Bromoform	20	19.8	99	60-130
104-51-8	n-Butylbenzene	20	20.3	102	60-130
135-98-8	sec-Butylbenzene	20	21.2	106	60-130
98-06-6	tert-Butylbenzene	20	21.0	105	60-130
108-90-7	Chlorobenzene	20	20.0	100	60-130
75-00-3	Chloroethane	20	19.8	99	60-130
67-66-3	Chloroform	20	19.4	97	60-130
95-49-8	o-Chlorotoluene	20	20.4	102	60-130
106-43-4	p-Chlorotoluene	20	21.1	106	60-130
56-23-5	Carbon tetrachloride	20	19.0	95	60-130
75-34-3	1,1-Dichloroethane	20	20.2	101	60-130
75-35-4	1,1-Dichloroethylene	20	17.5	88	60-130
563-58-6	1,1-Dichloropropene	20	16.2	81	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	24.1	121	60-130
106-93-4	1,2-Dibromoethane	20	21.0	105	60-130
107-06-2	1,2-Dichloroethane	20	18.7	94	60-130
78-87-5	1,2-Dichloropropane	20	20.6	103	60-130
142-28-9	1,3-Dichloropropane	20	20.4	102	60-130
108-20-3	Di-Isopropyl ether	20	17.9	90	60-130
594-20-7	2,2-Dichloropropane	20	19.0	95	60-130
124-48-1	Dibromochloromethane	20	22.0	110	60-130
75-71-8	Dichlorodifluoromethane	20	18.7	94	60-130
156-59-2	cis-1,2-Dichloroethylene	20	19.4	97	60-130
10061-01-5	cis-1,3-Dichloropropene	20	21.2	106	60-130
541-73-1	m-Dichlorobenzene	20	20.5	103	60-130
95-50-1	o-Dichlorobenzene	20	20.8	104	60-130
106-46-7	p-Dichlorobenzene	20	19.9	100	60-130
156-60-5	trans-1,2-Dichloroethylene	20	18.6	93	60-130
10061-02-6	trans-1,3-Dichloropropene	20	21.0	105	60-130
100-41-4	Ethylbenzene	20	20.6	103	60-130
637-92-3	Ethyl Tert Butyl Ether	20	18.8	94	60-130

Blank Spike Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-BS	N14488.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
591-78-6	2-Hexanone	80	87.7	110	60-130
87-68-3	Hexachlorobutadiene	20	19.3	97	60-130
98-82-8	Isopropylbenzene	20	20.0	100	60-130
99-87-6	p-Isopropyltoluene	20	20.4	102	60-130
108-10-1	4-Methyl-2-pentanone	80	81.7	102	60-130
74-83-9	Methyl bromide	20	19.0	95	60-130
74-87-3	Methyl chloride	20	20.2	101	60-130
74-95-3	Methylene bromide	20	21.3	107	60-130
75-09-2	Methylene chloride	20	18.9	95	60-130
78-93-3	Methyl ethyl ketone	80	86.9	109	60-130
1634-04-4	Methyl Tert Butyl Ether	20	17.7	89	60-130
91-20-3	Naphthalene	20	20.9	105	60-130
103-65-1	n-Propylbenzene	20	21.1	106	60-130
100-42-5	Styrene	20	21.8	109	60-130
994-05-8	Tert-Amyl Methyl Ether	20	19.0	95	60-130
75-65-0	Tert-Butyl Alcohol	100	110	110	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	20.6	103	60-130
71-55-6	1,1,1-Trichloroethane	20	19.1	96	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	22.0	110	60-130
79-00-5	1,1,2-Trichloroethane	20	20.8	104	60-130
87-61-6	1,2,3-Trichlorobenzene	20	19.8	99	60-130
96-18-4	1,2,3-Trichloropropane	20	20.1	101	60-130
120-82-1	1,2,4-Trichlorobenzene	20	19.3	97	60-130
95-63-6	1,2,4-Trimethylbenzene	20	21.2	106	60-130
108-67-8	1,3,5-Trimethylbenzene	20	21.0	105	60-130
127-18-4	Tetrachloroethylene	20	21.8	109	60-130
108-88-3	Toluene	20	19.5	98	60-130
79-01-6	Trichloroethylene	20	19.7	99	60-130
75-69-4	Trichlorofluoromethane	20	18.5	93	60-130
75-01-4	Vinyl chloride	20	20.4	102	60-130
1330-20-7	Xylene (total)	60	62.1	104	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	60-130%

Blank Spike Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-BS	N14488.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	104%	60-130%
460-00-4	4-Bromofluorobenzene	103%	60-130%

(a) Outside of in-house control limits.

Blank Spike Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN491-BS	N14489.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	TPH-GRO (C6-C10)	125	125	100	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	60-130%
2037-26-5	Toluene-D8	105%	60-130%
460-00-4	4-Bromofluorobenzene	101%	60-130%

Blank Spike Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM456-BS	M14008.D	1	04/15/10	XB	n/a	n/a	VM456

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-2, C10633-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
	TPH-GRO (C6-C10)	250	241	96	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	60-130%
2037-26-5	Toluene-D8	102%	60-130%
460-00-4	4-Bromofluorobenzene	96%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10628-1MS	M14006.D	1	04/15/10	XB	n/a	n/a	VM456
C10628-1MSD	M14007.D	1	04/15/10	XB	n/a	n/a	VM456
C10628-1	M14002.D	1	04/15/10	XB	n/a	n/a	VM456

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-2, C10633-4

CAS No.	Compound	C10628-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		39.5	40.7	103	40.0	101	2	60-130/30
108-20-3	Di-Isopropyl ether	ND		39.5	37.8	96	38.2	96	1	60-130/30
100-41-4	Ethylbenzene	ND		39.5	40.2	102	40.4	102	0	60-130/30
637-92-3	Ethyl tert-Butyl Ether	ND		39.5	37.9	96	38.8	98	2	60-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		39.5	38.0	96	38.5	97	1	60-130/30
994-05-8	Tert-Amyl Methyl Ether	ND		39.5	37.5	95	38.4	97	2	60-130/30
75-65-0	Tert Butyl Alcohol	ND		198	215	109	238	120	10	60-130/30
108-88-3	Toluene	ND		39.5	40.9	103	41.1	104	0	60-130/30
1330-20-7	Xylene (total)	ND		119	123	104	123	103	0	60-130/30

CAS No.	Surrogate Recoveries	MS	MSD	C10628-1	Limits
1868-53-7	Dibromofluoromethane	98%	98%	95%	60-130%
2037-26-5	Toluene-D8	100%	99%	103%	60-130%
460-00-4	4-Bromofluorobenzene	97%	96%	93%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10614-1MS	N14503.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1MSD	N14504.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1	N14497.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Compound	C10614-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	67.0	84	74.6	93	11	60-130/25
71-43-2	Benzene	ND		20	19.1	96	18.9	95	1	60-130/25
108-86-1	Bromobenzene	ND		20	20.1	101	20.2	101	0	60-130/25
74-97-5	Bromochloromethane	ND		20	20.2	101	20.2	101	0	60-130/25
75-27-4	Bromodichloromethane	ND		20	21.8	109	21.7	109	0	60-130/25
75-25-2	Bromoform	ND		20	20.7	104	21.0	105	1	60-130/25
104-51-8	n-Butylbenzene	ND		20	20.1	101	19.6	98	3	60-130/25
135-98-8	sec-Butylbenzene	ND		20	21.4	107	20.9	105	2	60-130/25
98-06-6	tert-Butylbenzene	ND		20	20.9	105	20.6	103	1	60-130/25
108-90-7	Chlorobenzene	ND		20	20.8	104	20.3	102	2	60-130/25
75-00-3	Chloroethane	ND		20	18.5	93	19.6	98	6	60-130/25
67-66-3	Chloroform	ND		20	20.1	101	19.8	99	2	60-130/25
95-49-8	o-Chlorotoluene	ND		20	21.4	107	21.0	105	2	60-130/25
106-43-4	p-Chlorotoluene	ND		20	20.5	103	20.5	103	0	60-130/25
56-23-5	Carbon tetrachloride	ND		20	19.4	97	19.0	95	2	60-130/25
75-34-3	1,1-Dichloroethane	ND		20	20.7	104	20.4	102	1	60-130/25
75-35-4	1,1-Dichloroethylene	ND		20	17.1	86	17.1	86	0	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	16.5	83	16.2	81	2	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	23.2	116	25.7	129	10	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	21.3	107	21.8	109	2	60-130/25
107-06-2	1,2-Dichloroethane	ND		20	19.4	97	19.5	98	1	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	21.4	107	21.0	105	2	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	21.0	105	21.4	107	2	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	18.6	93	18.6	93	0	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	18.5	93	18.2	91	2	60-130/25
124-48-1	Dibromochloromethane	ND		20	22.7	114	23.0	115	1	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	17.5	88	17.9	90	2	60-130/25
156-59-2	cis-1,2-Dichloroethylene	ND		20	20.0	100	19.9	100	1	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	21.7	109	21.6	108	0	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	20.9	105	20.6	103	1	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	21.1	106	21.1	106	0	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	20.3	102	20.1	101	1	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	18.6	93	18.6	93	0	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	21.3	107	21.6	108	1	60-130/25
100-41-4	Ethylbenzene	ND		20	21.4	107	20.7	104	3	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND		20	19.4	97	19.8	99	2	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10614-1MS	N14503.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1MSD	N14504.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1	N14497.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Compound	C10614-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
591-78-6	2-Hexanone	ND		80	80.4	101	86.2	108	7	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	18.7	94	18.7	94	0	60-130/25
98-82-8	Isopropylbenzene	ND		20	21.2	106	20.3	102	4	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	20.3	102	19.8	99	2	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	79.7	100	88.1	110	10	60-130/25
74-83-9	Methyl bromide	ND		20	17.2	86	18.9	95	9	60-130/25
74-87-3	Methyl chloride	ND		20	25.4	127	23.1	116	9	60-130/25
74-95-3	Methylene bromide	ND		20	21.9	110	22.2	111	1	60-130/25
75-09-2	Methylene chloride	ND		20	18.7	94	18.9	95	1	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	75.2	94	82.2	103	9	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	17.6	88	18.6	93	6	60-130/25
91-20-3	Naphthalene	ND		20	20.7	104	22.4	112	8	60-130/25
103-65-1	n-Propylbenzene	ND		20	21.1	106	20.9	105	1	60-130/25
100-42-5	Styrene	ND		20	21.7	109	21.0	105	3	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	19.4	97	20.0	100	3	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	103	103	119	119	14	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	21.6	108	21.3	107	1	60-130/25
71-55-6	1,1,1-Trichloroethane	ND		20	19.5	98	19.4	97	1	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	22.2	111	23.5	118	6	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	21.5	108	21.9	110	2	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	19.8	99	20.3	102	2	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	20.6	103	21.4	107	4	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	19.1	96	19.1	96	0	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	21.2	106	20.8	104	2	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	21.0	105	20.8	104	1	60-130/25
127-18-4	Tetrachloroethylene	ND		20	19.3	97	18.5	93	4	60-130/25
108-88-3	Toluene	ND		20	20.1	101	19.5	98	3	60-130/25
79-01-6	Trichloroethylene	ND		20	20.1	101	19.6	98	3	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	17.5	88	18.3	92	4	60-130/25
75-01-4	Vinyl chloride	ND		20	25.0	125	21.7	109	14	60-130/25
1330-20-7	Xylene (total)	ND		60	65.4	109	63.0	105	4	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C10614-1	Limits
1868-53-7	Dibromofluoromethane	107%	108%	106%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10614-1MS	N14503.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1MSD	N14504.D	1	04/15/10	TF	n/a	n/a	VN491
C10614-1	N14497.D	1	04/15/10	TF	n/a	n/a	VN491

The QC reported here applies to the following samples: **Method:** SW846 8260B

C10633-5, C10633-6

CAS No.	Surrogate Recoveries	MS	MSD	C10614-1	Limits
2037-26-5	Toluene-D8	104%	104%	105%	60-130%
460-00-4	4-Bromofluorobenzene	106%	105%	100%	60-130%

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2027-MB	PP9352.D	1	04/20/10	NB	04/15/10	OP2027	GPP349

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10633-2, C10633-4

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	25	10	ug/kg	
319-84-6	alpha-BHC	ND	25	11	ug/kg	
319-85-7	beta-BHC	ND	25	3.5	ug/kg	
319-86-8	delta-BHC	ND	25	3.5	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	25	7.5	ug/kg	
12789-03-6	Chlordane	ND	100	100	ug/kg	
60-57-1	Dieldrin	ND	25	3.0	ug/kg	
72-54-8	4,4'-DDD	ND	25	3.5	ug/kg	
72-55-9	4,4'-DDE	ND	25	3.0	ug/kg	
50-29-3	4,4'-DDT	ND	25	3.0	ug/kg	
72-20-8	Endrin	ND	25	3.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	25	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	25	3.5	ug/kg	
33213-65-9	Endosulfan-II	ND	25	3.5	ug/kg	
1031-07-8	Endosulfan sulfate	ND	25	8.0	ug/kg	
76-44-8	Heptachlor	ND	25	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	25	4.0	ug/kg	
72-43-5	Methoxychlor	ND	25	3.5	ug/kg	
8001-35-2	Toxaphene	ND	100	100	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	72%	35-132%
877-09-8	Tetrachloro-m-xylene	77%	35-132%
2051-24-3	Decachlorobiphenyl	107%	35-132%
2051-24-3	Decachlorobiphenyl	115%	35-132%

Method Blank Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2041-MB	OO11181.D	1	04/20/10	NB	04/20/10	OP2041	GOO382

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10633-5, C10633-6

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.025	0.0030	ug/l	
319-84-6	alpha-BHC	ND	0.025	0.0030	ug/l	
319-85-7	beta-BHC	ND	0.025	0.0040	ug/l	
319-86-8	delta-BHC	ND	0.025	0.0040	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.025	0.0040	ug/l	
12789-03-6	Chlordane	ND	0.20	0.20	ug/l	
60-57-1	Dieldrin	ND	0.025	0.0030	ug/l	
72-54-8	4,4'-DDD	ND	0.025	0.0030	ug/l	
72-55-9	4,4'-DDE	ND	0.025	0.0030	ug/l	
50-29-3	4,4'-DDT	ND	0.025	0.0030	ug/l	
72-20-8	Endrin	ND	0.025	0.0030	ug/l	
7421-93-4	Endrin aldehyde	ND	0.025	0.0030	ug/l	
959-98-8	Endosulfan-I	ND	0.025	0.0040	ug/l	
33213-65-9	Endosulfan-II	ND	0.025	0.0040	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.025	0.0050	ug/l	
76-44-8	Heptachlor	ND	0.025	0.0040	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.025	0.0040	ug/l	
72-43-5	Methoxychlor	ND	0.025	0.0030	ug/l	
8001-35-2	Toxaphene	ND	0.20	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	79%	44-140%
877-09-8	Tetrachloro-m-xylene	59%	44-140%
2051-24-3	Decachlorobiphenyl	71%	44-140%
2051-24-3	Decachlorobiphenyl	70%	44-140%

Method Blank Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2035-MB	HH6297.D	1	04/19/10	JH	04/19/10	OP2035	GHH275

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C10633-2, C10633-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	10	mg/kg	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	64%	45-140%

Method Blank Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2043-MB	HH6328.D	1	04/21/10	JH	04/20/10	OP2043	GHH277

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C10633-5, C10633-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	86%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2027-BS	PP9353.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
OP2027-BSD	PP9354.D	1	04/20/10	NB	04/15/10	OP2027	GPP349

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10633-2, C10633-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	100	61.2	61	81.1	81	28	40-140/30
319-84-6	alpha-BHC	100	66.4	66	87.2	87	27	40-140/30
319-85-7	beta-BHC	100	76.3	76	89.1	89	15	40-140/30
319-86-8	delta-BHC	100	82.6	83	94.6	95	14	40-140/30
58-89-9	gamma-BHC (Lindane)	100	66.6	67	86.7	87	26	40-140/30
60-57-1	Dieldrin	100	83.2	83	93.2	93	11	40-145/30
72-54-8	4,4'-DDD	100	116	116	117	117	1	40-140/30
72-55-9	4,4'-DDE	100	88.1	88	95.0	95	8	40-140/30
50-29-3	4,4'-DDT	100	115	115	115	115	0	40-140/30
72-20-8	Endrin	100	87.4	87	96.4	96	10	40-140/30
7421-93-4	Endrin aldehyde	100	118	118	117	117	1	40-140/30
959-98-8	Endosulfan-I	100	75.2	75	87.0	87	15	40-140/30
33213-65-9	Endosulfan-II	100	107	107	109	109	2	40-140/30
1031-07-8	Endosulfan sulfate	100	124	124	123	123	1	40-140/30
76-44-8	Heptachlor	100	65.9	66	85.6	86	26	40-140/30
1024-57-3	Heptachlor epoxide	100	71.8	72	86.6	87	19	40-140/30
72-43-5	Methoxychlor	100	119	119	118	118	1	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	65%	81%	35-132%
877-09-8	Tetrachloro-m-xylene	69%	87%	35-132%
2051-24-3	Decachlorobiphenyl	108%	107%	35-132%
2051-24-3	Decachlorobiphenyl	116%	114%	35-132%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2041-BS	OO11182.D	1	04/20/10	NB	04/20/10	OP2041	GOO382
OP2041-BSD	OO11183.D	1	04/20/10	NB	04/20/10	OP2041	GOO382

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10633-5, C10633-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	0.1	0.070	70	0.052	52	30	35-130/30
319-84-6	alpha-BHC	0.1	0.075	75	0.056	56	29	35-130/30
319-85-7	beta-BHC	0.1	0.080	80	0.071	71	12	35-130/30
319-86-8	delta-BHC	0.1	0.074	74	0.066	66	11	35-130/30
58-89-9	gamma-BHC (Lindane)	0.1	0.076	76	0.058	58	27	35-130/30
60-57-1	Dieldrin	0.1	0.075	75	0.066	66	13	35-130/30
72-54-8	4,4'-DDD	0.1	0.080	80	0.080	80	0	35-130/30
72-55-9	4,4'-DDE	0.1	0.080	80	0.072	72	11	35-130/30
50-29-3	4,4'-DDT	0.1	0.087	87	0.085	85	2	35-130/30
72-20-8	Endrin	0.1	0.083	83	0.075	75	10	35-130/30
7421-93-4	Endrin aldehyde	0.1	0.082	82	0.079	79	4	35-130/30
959-98-8	Endosulfan-I	0.1	0.077	77	0.066	66	15	35-130/30
33213-65-9	Endosulfan-II	0.1	0.077	77	0.074	74	4	35-130/30
1031-07-8	Endosulfan sulfate	0.1	0.087	87	0.087	87	0	35-130/30
76-44-8	Heptachlor	0.1	0.078	78	0.058	58	29	35-130/30
1024-57-3	Heptachlor epoxide	0.1	0.074	74	0.062	62	18	35-130/30
72-43-5	Methoxychlor	0.1	0.088	88	0.089	89	1	35-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	87%	64%	44-140%
877-09-8	Tetrachloro-m-xylene	65%	49%	44-140%
2051-24-3	Decachlorobiphenyl	73%	75%	44-140%
2051-24-3	Decachlorobiphenyl	72%	73%	44-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2035-BS	HH6298.D	1	04/19/10	JH	04/19/10	OP2035	GHH275
OP2035-BSD	HH6299.D	1	04/19/10	JH	04/19/10	OP2035	GHH275

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C10633-2, C10633-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	100	56.1	56	57.6	58	3	45-140/30
	TPH (Motor Oil)	100	56.1	56	62.2	62	10	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	63%	67%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2043-BS	HH6329.D	1	04/21/10	JH	04/20/10	OP2043	GHH277
OP2043-BSD	HH6330.D	1	04/21/10	JH	04/20/10	OP2043	GHH277

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C10633-5, C10633-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	1	0.823	82	0.818	82	1	45-140/30
	TPH (Motor Oil)	1	0.781	78	0.779	78	0	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	81%	78%	45-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2027-MS	PP9350.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
OP2027-MSD	PP9351.D	1	04/20/10	NB	04/15/10	OP2027	GPP349
C10607-11	PP9349.D	1	04/20/10	NB	04/15/10	OP2027	GPP349

The QC reported here applies to the following samples: **Method:** SW846 8081A

C10633-2, C10633-4

CAS No.	Compound	C10607-11 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		100	53.9	54	50.7	51	6	40-140/40
319-84-6	alpha-BHC	ND		100	50.4	50	47.0	47	7	40-140/40
319-85-7	beta-BHC	ND		100	76.2	76	73.0	74	4	40-140/40
319-86-8	delta-BHC	ND		100	80.8	81	77.6	78	4	40-140/40
58-89-9	gamma-BHC (Lindane)	ND		100	55.3	55	52.3	53	6	40-140/40
60-57-1	Dieldrin	ND		100	75.7	76	73.1	74	3	40-145/40
72-54-8	4,4'-DDD	ND		100	89.7	90	85.6	86	5	40-140/40
72-55-9	4,4'-DDE	ND		100	79.0	79	75.5	76	5	40-140/40
50-29-3	4,4'-DDT	ND		100	86.3	86	83.2	84	4	40-140/40
72-20-8	Endrin	ND		100	78.7	79	76.2	77	3	40-145/40
7421-93-4	Endrin aldehyde	ND		100	81.9	82	79.9	81	2	40-140/40
959-98-8	Endosulfan-I	ND		100	70.9	71	67.8	68	4	40-140/40
33213-65-9	Endosulfan-II	ND		100	84.2	84	81.7	83	3	40-140/40
1031-07-8	Endosulfan sulfate	ND		100	91.1	91	88.9	90	2	40-140/40
76-44-8	Heptachlor	ND		100	54.8	55	52.1	53	5	40-140/40
1024-57-3	Heptachlor epoxide	ND		100	68.3	68	65.5	66	4	40-140/40
72-43-5	Methoxychlor	ND		100	82.9	83	80.1	81	3	40-140/40

CAS No.	Surrogate Recoveries	MS	MSD	C10607-11	Limits
877-09-8	Tetrachloro-m-xylene	45%	44%	53%	35-132%
877-09-8	Tetrachloro-m-xylene	47%	45%	56%	35-132%
2051-24-3	Decachlorobiphenyl	77%	76%	87%	35-132%
2051-24-3	Decachlorobiphenyl	84%	83%	95%	35-132%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10633
Account: ERMCAWC ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2035-MS	GG13301.D	1	04/21/10	JH	04/19/10	OP2035	GGG419
OP2035-MSD	GG13302.D	1	04/21/10	JH	04/19/10	OP2035	GGG419
C10633-4	HH6312.D	1	04/20/10	JH	04/19/10	OP2035	GHH276

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C10633-2, C10633-4

CAS No.	Compound	C10633-4 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	ND		100	69.9	70	72.6	73	4	45-140/30
	TPH (Motor Oil)	12.9	J	100	72.2	59	79.0	66	9	45-140/30

CAS No.	Surrogate Recoveries	MS	MSD	C10633-4	Limits
630-01-3	Hexacosane	80%	82%	65%	45-140%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2290 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/16/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.042	.0017	.0043	-0.0032	<0.042

Associated samples MP2290: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2290
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 04/16/10

Metal	C10631-1 Original	MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.035	0.34	0.323	94.6	75-125

Associated samples MP2290: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2290 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/16/10

Metal	C10631-1 Original	MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.035	0.35	0.308	102.4	2.9	20

Associated samples MP2290: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2290
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 04/16/10 04/16/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	0.15	0.167	90.0	80-120	0.17	0.167	102.0	12.5	

Associated samples MP2290: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2291
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/19/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1.4	1.5		
Antimony	2.0	.69	1.2	0.080	<2.0
Arsenic	2.0	.44	.51	-0.33	<2.0
Barium	1.0	.06	.11	0.010	<1.0
Beryllium	1.0	.01	.02	-0.010	<1.0
Boron	2.0	.86	.29		
Cadmium	1.0	.03	.05	0.060	<1.0
Calcium	50	2.9	6.9		
Chromium	1.0	.04	.06	0.060	<1.0
Cobalt	1.0	.04	.06	-0.040	<1.0
Copper	1.0	.08	.51	0.080	<1.0
Iron	10	.26	.43		
Lead	1.0	.33	.54	0.26	<1.0
Lithium	1.0	.22	.12		
Magnesium	10	.96	1.4		
Manganese	1.0	.01	.04		
Molybdenum	1.0	.13	.19	0.18	<1.0
Nickel	1.0	.08	.1	0.030	<1.0
Potassium	50	5.8	6.2		
Selenium	2.0	1.4	1.5	0.54	<2.0
Silicon	20	.34	7		
Silver	1.0	.09	.13	0.020	<1.0
Sodium	50	1.5	3		
Strontium	1.0	.03	.04		
Thallium	2.0	.65	.74	-0.27	<2.0
Tin	50	.23	2		
Titanium	1.0	.02	.15		
Vanadium	1.0	.07	.045	-0.020	<1.0
Zinc	2.0	.09	.24	0.11	<2.0

Associated samples MP2291: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2291
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/19/10

Metal	C10631-1 Original	MS	Spikelot MPIR1	% Rec	QC Limits
Aluminum	anr				
Antimony	2.0	16.7	46.3	31.8N(a)	80-120
Arsenic	4.9	46.3	46.3	89.4	80-120
Barium	142	187	46.3	97.2	80-120
Beryllium	0.70	44.1	46.3	93.7	80-120
Boron					
Cadmium	0.15	42.7	46.3	91.9	80-120
Calcium	anr				
Chromium	26.9	66.8	46.3	86.2	80-120
Cobalt	8.1	48.8	46.3	87.9	80-120
Copper	21.4	67.1	46.3	98.7	80-120
Iron	anr				
Lead	5.7	46.0	46.3	87.0	80-120
Lithium					
Magnesium	anr				
Manganese	anr				
Molybdenum	0.27	41.9	46.3	89.9	80-120
Nickel	18.7	59.4	46.3	87.9	80-120
Potassium	anr				
Selenium	0.0	40.3	46.3	87.0	80-120
Silicon					
Silver	0.0	43.0	46.3	92.9	80-120
Sodium	anr				
Strontium					
Thallium	1.1	39.6	46.3	83.2	80-120
Tin					
Titanium					
Vanadium	48.5	91.4	46.3	92.7	80-120
Zinc	51.0	90.5	46.3	85.3	80-120

Associated samples MP2291: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2291
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/19/10

Metal	C10631-1 Original	MSD	Spikelot MPIR1	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	2.0	17.5	47.2	32.9N(a)	4.7	20
Arsenic	4.9	47.0	47.2	89.3	1.5	20
Barium	142	186	47.2	93.3	0.5	20
Beryllium	0.70	45.0	47.2	93.9	2.0	20
Boron						
Cadmium	0.15	43.3	47.2	91.5	1.4	20
Calcium	anr					
Chromium	26.9	68.2	47.2	87.6	2.1	20
Cobalt	8.1	49.5	47.2	87.8	1.4	20
Copper	21.4	67.8	47.2	98.4	1.0	20
Iron	anr					
Lead	5.7	47.5	47.2	88.6	3.2	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum	0.27	43.0	47.2	90.6	2.6	20
Nickel	18.7	60.0	47.2	87.6	1.0	20
Potassium	anr					
Selenium	0.0	41.1	47.2	87.1	2.0	20
Silicon						
Silver	0.0	43.8	47.2	92.9	1.8	20
Sodium	anr					
Strontium						
Thallium	1.1	39.9	47.2	82.3	0.8	20
Tin						
Titanium						
Vanadium	48.5	92.0	47.2	92.2	0.7	20
Zinc	51.0	91.1	47.2	85.0	0.7	20

Associated samples MP2291: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2291
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:			04/19/10					04/19/10	
Metal	BSP Result	Spikelot MPIR1	% Rec	QC Limits	BSD Result	Spikelot MPIR1	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony	49.6	50	99.2	80-120	49.9	50	99.8	0.6	
Arsenic	48.5	50	97.0	80-120	49.0	50	98.0	1.0	
Barium	49.9	50	99.8	80-120	50.7	50	101.4	1.6	
Beryllium	50.4	50	100.8	80-120	50.5	50	101.0	0.2	
Boron									
Cadmium	49.6	50	99.2	80-120	50.0	50	100.0	0.8	
Calcium	anr								
Chromium	49.4	50	98.8	80-120	50.0	50	100.0	1.2	
Cobalt	49.6	50	99.2	80-120	50.1	50	100.2	1.0	
Copper	50.3	50	100.6	80-120	50.6	50	101.2	0.6	
Iron	anr								
Lead	50.6	50	101.2	80-120	50.8	50	101.6	0.4	
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	50.7	50	101.4	80-120	51.1	50	102.2	0.8	
Nickel	49.3	50	98.6	80-120	49.8	50	99.6	1.0	
Potassium	anr								
Selenium	46.7	50	93.4	80-120	46.6	50	93.2	0.2	
Silicon									
Silver	51.4	50	102.8	80-120	51.7	50	103.4	0.6	
Sodium	anr								
Strontium									
Thallium	46.4	50	92.8	80-120	46.6	50	93.2	0.4	
Tin									
Titanium									
Vanadium	50.1	50	100.2	80-120	50.7	50	101.4	1.2	
Zinc	48.1	50	96.2	80-120	48.4	50	96.8	0.6	

Associated samples MP2291: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2291
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/19/10

Metal	C10631-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	21.1	0.00	100.0(a)	0-10
Arsenic	52.9	33.5	36.7 (a)	0-10
Barium	1530	1590	3.7	0-10
Beryllium	7.60	9.00	18.4*(b)	0-10
Boron				
Cadmium	1.60	1.50	6.3	0-10
Calcium	anr			
Chromium	290	299	3.0	0-10
Cobalt	87.5	92.0	5.1	0-10
Copper	231	226	2.3	0-10
Iron	anr			
Lead	61.3	79.5	29.7 (a)	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	2.90	10.0	244.8(a)	0-10
Nickel	202	213	5.3	0-10
Potassium	anr			
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	anr			
Strontium				
Thallium	11.7	0.00	100.0(a)	0-10
Tin				
Titanium				
Vanadium	524	536	2.3	0-10
Zinc	551	576	4.5	0-10

Associated samples MP2291: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2291
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/19/10

Metal	Sample ml	Final ml	C10631-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	10	10.1	21.1	20.89109	460.6	0.05	100	495.0495	88.8	-
Arsenic										
Barium										
Beryllium	10	10.1	7.6	7.524752	473.9	0.05	100	495.0495	94.2	-
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP2291: C10633-2, C10633-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	14	21		
Antimony	10	6.9	5.3	4.5	<10
Arsenic	10	4.4	3.1	-1.0	<10
Barium	5.0	.6	.7	0.20	<5.0
Beryllium	5.0	.1	.2	0.10	<5.0
Boron	50	8.6	11		
Cadmium	2.0	.3	.3	0.70	<2.0
Calcium	50	29	12		
Chromium	5.0	.4	.6	0.20	<5.0
Cobalt	5.0	.4	.4	-0.10	<5.0
Copper	5.0	.8	1.1	0.50	<5.0
Iron	50	2.6	18		
Lead	5.0	3.3	1.3	-1.7	<5.0
Lithium	10	2.2	2.5		
Magnesium	50	9.6	13		
Manganese	5.0	.1	.2		
Molybdenum	5.0	1.3	1	1.4	<5.0
Nickel	5.0	.8	.5	0.70	<5.0
Potassium	500	58	60		
Selenium	20	14	12	5.0	<20
Silicon	50	3.4	5.3		
Silver	5.0	.9	.7	0.20	<5.0
Sodium	100	15	13		
Strontium	10	.3	2.4		
Thallium	20	6.5	6.4	-2.3	<20
Tin	50	2.3	2		
Titanium	2.0	.2	.2		
Vanadium	5.0	.7	.5	-0.20	<5.0
Zinc	10	.9	1.1	1.4	<10

Associated samples MP2296: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	C10614-1F Original	MS	Spikelot MPIR1	% Rec	QC Limits
Aluminum					
Antimony	0.0	525	500	105.0	80-120
Arsenic	0.0	516	500	103.2	80-120
Barium	136	644	500	101.6	80-120
Beryllium	0.0	489	500	97.8	80-120
Boron					
Cadmium	0.80	521	500	104.0	80-120
Calcium					
Chromium	6.8	493	500	97.2	80-120
Cobalt	0.0	494	500	98.8	80-120
Copper	1.9	494	500	98.4	80-120
Iron					
Lead	0.0	491	500	98.2	80-120
Lithium					
Magnesium					
Manganese					
Molybdenum	1.8	520	500	103.6	80-120
Nickel	0.80	482	500	96.2	80-120
Potassium					
Selenium	0.0	496	500	99.2	80-120
Silicon					
Silver	0.0	522	500	104.4	80-120
Sodium					
Strontium					
Thallium	0.0	471	500	94.2	80-120
Tin					
Titanium					
Vanadium	10.7	516	500	101.1	80-120
Zinc	1.5	492	500	98.1	80-120

Associated samples MP2296: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	C10614-1F Original	MSD	Spikelot MPIR1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	0.0	522	500	104.4	0.6	20
Arsenic	0.0	513	500	102.6	0.6	20
Barium	136	653	500	103.4	1.4	20
Beryllium	0.0	495	500	99.0	1.2	20
Boron						
Cadmium	0.80	520	500	103.8	0.2	20
Calcium						
Chromium	6.8	492	500	97.0	0.2	20
Cobalt	0.0	492	500	98.4	0.4	20
Copper	1.9	499	500	99.4	1.0	20
Iron						
Lead	0.0	486	500	97.2	1.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum	1.8	521	500	103.8	0.2	20
Nickel	0.80	484	500	96.6	0.4	20
Potassium						
Selenium	0.0	502	500	100.4	1.2	20
Silicon						
Silver	0.0	527	500	105.4	1.0	20
Sodium						
Strontium						
Thallium	0.0	476	500	95.2	1.1	20
Tin						
Titanium						
Vanadium	10.7	516	500	101.1	0.0	20
Zinc	1.5	497	500	99.1	1.0	20

Associated samples MP2296: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			04/20/10					04/20/10	
Metal	BSP Result	Spikelot MPIR1	% Rec	QC Limits	BSD Result	Spikelot MPIR1	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	499	500	99.8	80-120	507	500	101.4	1.6	
Arsenic	498	500	99.6	80-120	504	500	100.8	1.2	
Barium	505	500	101.0	80-120	509	500	101.8	0.8	
Beryllium	480	500	96.0	80-120	479	500	95.8	0.2	
Boron									
Cadmium	505	500	101.0	80-120	508	500	101.6	0.6	
Calcium									
Chromium	490	500	98.0	80-120	492	500	98.4	0.4	
Cobalt	505	500	101.0	80-120	506	500	101.2	0.2	
Copper	482	500	96.4	80-120	482	500	96.4	0.0	
Iron									
Lead	501	500	100.2	80-120	508	500	101.6	1.4	
Lithium									
Magnesium									
Manganese									
Molybdenum	514	500	102.8	80-120	515	500	103.0	0.2	
Nickel	502	500	100.4	80-120	505	500	101.0	0.6	
Potassium									
Selenium	472	500	94.4	80-120	475	500	95.0	0.6	
Silicon									
Silver	512	500	102.4	80-120	514	500	102.8	0.4	
Sodium									
Strontium									
Thallium	484	500	96.8	80-120	485	500	97.0	0.2	
Tin									
Titanium									
Vanadium	499	500	99.8	80-120	501	500	100.2	0.4	
Zinc	486	500	97.2	80-120	487	500	97.4	0.2	

Associated samples MP2296: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	C10614-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	136	136	0.6	0-10
Beryllium	0.00	0.00	NC	0-10
Boron				
Cadmium	0.800	2.00	150.0(a)	0-10
Calcium				
Chromium	6.80	6.50	4.4	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	1.90	8.00	321.1(a)	0-10
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum	1.80	0.00	100.0(a)	0-10
Nickel	0.800	8.00	900.0(a)	0-10
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Vanadium	10.7	11.0	2.8	0-10
Zinc	1.50	0.00	100.0(a)	0-10

Associated samples MP2296: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2296
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/10

Metal	Sample ml	Final ml	Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP2296: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2298
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 04/20/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.02	.02	0.058	<0.20

Associated samples MP2298: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2298 Methods: EPA 245.1
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/20/10

Metal	C10633-5F Original	MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.088	4.1	4	100.3	70-130

Associated samples MP2298: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2298
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 04/20/10

Metal	C10633-5F Original	MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.088	4.0	4	97.8	2.5	20

Associated samples MP2298: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10633
Account: ERMCAWC - ERM-West, Inc.
Project: SCWA Phase II - Sonoma, CA

QC Batch ID: MP2298
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 04/20/10 04/20/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	2.0	2	100.0	85-115	2.0	2	100.0	0.0	

Associated samples MP2298: C10633-5F, C10633-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Northern California ACCUTEST Laboratories

04/27/10

Technical Report for

ERM-West, Inc.

SCWA Phase II - Sonoma, CA

0112574

Accutest Job Number: C10583X

Sampling Date: 04/09/10

Report to:

ERM-West, Inc.
1277 Treat Blvd. Suite 500
Walnut Creek, CA 94597
Chimi.Yi@erm.com; Peter.Baty@erm.com

ATTN: Chimi Yi

Total number of pages in report:

Accredited in accordance with nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Sample Summary

ERM-West, Inc.

Job No: C10583X

SCWA Phase II - Sonoma, CA
Project No: 0112574

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C10583-1X	04/09/10	11:45	CY	04/09/10	SO	Solid	SLUDGE-CREEK
C10583-2X	04/09/10	13:15	CY	04/09/10	AQ	Ground Water	SB-1-GW

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Environmental Resources Management

CHAIN OF CUSTODY RECORD

C10583

NO: 6143

10D0458

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Page 1 of 1

PROJECT #: 0112574

PROJECT NAME: SCWA Phase II

SAMPLER (PRINT NAME): Chimi Yi

(SIGNATURE): Chimi Yi

RECEIVING LABORATORY: Alpha (via Accutest)

REQUESTED PARAMETERS: Total coliforms and E. Coli - FM 922338

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	CONTAINER TYPE	PRESERVATIVE	SAMPLING VOLUME	# OF CONTAINERS	SOIL	WATER	GAS	Total coliforms and E. Coli - FM 922338		
Creek-1	4-9-10	1140		x	shovel	—	Y	4oz	1	sludge			X	composite Creek-1 and Creek-2 into "Sludge - Creek"	-1
Creek-2	"	1145		"	"	—		"	1	sludge			X		↓
SB-1-GW	4	1315		"	bailer	Sodium Thiosulfate		250 mL	1		X		X		-2

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
Chimi Yi	4-9-10	1317	[signature]	4-2-10	1320
[signature]			Chimi 17:05 4/9/10	4-9-10	1500
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME

FIELD REMARKS:
* Sample pickup from field site by Alpha Courier 04/09/10.
* No Sample Recieving Checklist Required (EK) 4/9/10

REMARKS ON SAMPLE RECEIPT:
☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS:

SEND REPORT TO: Chimi.yi@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

Subcontract Data

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

ELAP Certificate Numbers 1551 and 2728

26 April 2010

Accutest Northern California, Inc.
Attn: Diane Theesen
2105 Lundy Avenue
San Jose, CA 95131
RE: SCWA Phase II
Work Order: 10D0458

Enclosed are the results of analyses for samples received by the laboratory on 04/09/10 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Chelsea L. Sandelin For Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/26/10 16:17
Project No: C10583
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0458	04/09/2010 17:00	ACCUTEST	C10583

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C10583-1 Sludge- Creek	10D0458-01	Other (W)	04/09/10 11:45	04/09/10 17:00
C10583-2 SB-1-GW	10D0458-02	Water	04/09/10 13:15	04/09/10 17:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/26/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
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CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/26/10 16:17
Project No: C10583
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0458	04/09/2010 17:00	ACCUTEST	C10583

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
C10583-1 Sludge- Creek (10D0458-01)			**Sample Type: Other (W)**			**Sampled: 04/09/10 11:45**		
Microbiological Parameters by APHA Standard Methods								
Total Coliforms	SM9221	AD02328	04/09/10 17:15	04/13/10 17:00	1	**50000000 MPN/g**	**2.0**	
Fecal Coliforms	"	"	"	"	"	**24000000 "**	**2.0**	
C10583-2 SB-1-GW (10D0458-02)			**Sample Type: Water**			**Sampled: 04/09/10 13:15**		
Microbiological Parameters by APHA Standard Methods								
Total Coliforms	SM9221	AD02328	04/09/10 17:15	04/13/10 17:00	1	**3000000 MPN/g**	**2.0**	
Fecal Coliforms	"	"	"	"	"	ND "	2.0	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/26/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/26/10 16:17
Project No: C10583
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0458	04/09/2010 17:00	ACCUTEST	C10583

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/26/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
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CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/26/10 16:17
Project No: C10583
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0458	04/09/2010 17:00	ACCUTEST	C10583

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

Environmental Resources Management

CHAIN OF CUSTODY RECORD

1DD0458

NO: 6143

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Page 1 of 1

PROJECT #	PROJECT NAME
01112574	SCWA Phase II

SAMPLER (PRINT NAME)	(SIGNATURE)
Chimi Yi	Chimi Yi

RECEIVING LABORATORY: Alpha (via Accutest)

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	SOIL	WATER	GAS	Total coliforms and E. Coli - FM 9223B		REQUESTED PARAMETERS
Creek-1	4-9-10	1140		x	shovel	—	Y	402	1	sludge			X		composite Creek-1 and Creek-2 into "Sludge - Creek"
Creek-2	"	1145		"	"	—		"	1	sludge			X		
SB-1-GW	4	1315		"	bailer	sodium thiosulfate		250 mL	1		X		X		

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
Chimi Yi	4-9-10	1317	[signature]	4-9-10	1320
[signature]				4-9-10	1500
			C Sandell	4/9/10	1700

FIELD REMARKS

REMARKS ON SAMPLE RECEIPT

☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS

SEND REPORT TO: Chimi.yi@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

Northern California ACCUTEST Laboratories

04/28/10

Technical Report for

ERM-West, Inc.

SCWA Phase II - Sonoma, CA

0112574

Accutest Job Number: C10599X

Sampling Date: 04/12/10

Report to:

ERM-West, Inc.
1277 Treat Blvd. Suite 500
Walnut Creek, CA 94597
Chimi.Yi@erm.com; Peter.Baty@erm.com

ATTN: Chimi Yi

Total number of pages in report:

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Sample Summary

ERM-West, Inc.

Job No: C10599X

SCWA Phase II - Sonoma, CA
Project No: 0112574

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C10599-1X	04/12/10	15:45	CY	04/12/10	AQ	Ground Water	SB-3-GW

Environmental Resources Management

"ERM CAWC 2672"

CHAIN OF CUSTODY RECORD

C10599

1008502

NO: 6146

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA • 94597 • (925) 946-0455 • FAX (925) 946-9968

Page 1 of 1

PROJECT #: 0112574

PROJECT NAME: SWA Phase II

SAMPLER (PRINT NAME): Chimi Y.

SIGNATURE: Chimi

RECEIVING LABORATORY: Alpha (via Accutest)

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	FILTERED	SAMPLING VOLUME	# OF CONTAINERS	MATRIX: SOIL	MATRIX: WATER	MATRIX: GAS	REQUESTED PARAMETERS: Total coliforms / E. Coli – ftm 9223B		
SB-3-GW	4-12-10	1515		X	hydra punch bailer	Sodium thiosulfate	Y	250mL	1		X		X	(-1)	Temp 2.0

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
Chimi	4-12-10	1626	[signature]	4-12-10	1630
[signature]	4-12-10	1815	[signature]	4-12-10	1815
			[signature]	4/13/10	0944

FIELD REMARKS:
* Samples picked up from field by Alpha, 04/12/10
* NO SRC Required. (EK) 4/13/10

REMARKS ON SAMPLE RECEIPT:
☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS:

SEND REPORT TO: Chimi.Y@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

Subcontract Data

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

ELAP Certificate Numbers 1551 and 2728

27 April 2010

Accutest Northern California, Inc.
Attn: Diane Theesen
2105 Lundy Avenue
San Jose, CA 95131
RE: SCWA Phase II
Work Order: 10D0502

Enclosed are the results of analyses for samples received by the laboratory on 04/12/10 18:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sheri Speaks

Sheri L. Speaks For Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/27/10 11:01
Project No: C10599
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0502	04/12/2010 18:15	ACCUTEST	C10599

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C10599-1 SB-3-GW	10D0502-01	Water	04/12/10 15:45	04/12/10 18:15

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/27/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/27/10 11:01
Project No: C10599
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0502	04/12/2010 18:15	ACCUTEST	C10599

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
C10599-1 SB-3-GW (10D0502-01)			**Sample Type: Water**		**Sampled: 04/12/10 15:45**			
Microbiological Parameters by APHA Standard Methods								
Total Coliforms	SM9221	AD02324	04/12/10 18:00	04/16/10 18:00	1	**3000 MPN/100 ml**	**2.0**	
Fecal Coliforms	"	"	"	"	"	ND "	2.0	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/27/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
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CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/27/10 11:01
Project No: C10599
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0502	04/12/2010 18:15	ACCUTEST	C10599

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/27/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
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Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/27/10 11:01
Project No: C10599
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0502	04/12/2010 18:15	ACCUTEST	C10599

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

Environmental Resources Management

CHAIN OF CUSTODY RECORD

1000502

NO: 6146

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA • 94597 • (925) 946-0455 • FAX (925) 946-9968

Page 1 of 1

PROJECT	PROJECT NAME
0112574	SCWA Phase II

SAMPLER (PRINT NAME)	SIGNATURE
Chimi Y.	Chimi Y.

RECEIVING LABORATORY: Alpha (via Accutest)

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	MATRIX: SOIL	MATRIX: WATER	MATRIX: GAS	REQUESTED PARAMETERS: Total coliforms / E. Coli - fm 9223B	Temp 2.0
SB-3-GW	4-12-10	1545		X	hydro punch / bailer	Sodium thiosulfate	Y	250mL	1		X		X	

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
Chimi Y.	4-12-10	1626	[signature]	4-12-10	1630
[signature]	4-12-10	1815	[signature]	4-12-10	1815
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME

FIELD REMARKS

REMARKS ON SAMPLE RECEIPT

☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS

SEND REPORT TO: Chimi.Y@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

Northern California
ACCUTEST
Laboratories

1000502

Accutest ID and PO#: C10599

2105 Lundy Avenue, San Jose, CA 95131 Phone :(408)588-0200 Fax: (408)588-0201

Subcontract Chain of Custody

Subcontract Lab: Alpha Analytical
Date Sent: 04/12/10
Date Due: 10-DAY

10-DAY

temp
20

Project Name: SCWA Phase II
Project Location: Sonoma, CA

Accutest Lab Number	Customer Sample Name/Field Point ID	Matrix	Method	Collect Date	Collect Time
C10599-1	SB-3-GW	Water	**Total Coliform/E. Coli**	04/12/10	15:45

Comments: Samples picked up by Alpha courier from field, 04/12/10

Relinquished By:	Received By:	Date:	Time:
ekumar		4-12-10	1815
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Send the Report to: annek@accutest.com

Northern California ACCUTEST Laboratories

04/28/10

Technical Report for

ERM-West, Inc.

SCWA Phase II - Sonoma, CA

0112574

Accutest Job Number: C10629X

Sampling Date: 04/14/10

Report to:

ERM-West, Inc.
1277 Treat Blvd. Suite 500
Walnut Creek, CA 94597
Chimi.Yi@erm.com; Peter.Baty@erm.com

ATTN: Chimi Yi

Total number of pages in report:

Accredited in accordance with nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA)

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Test results relate only to samples analyzed.

Sample Summary

ERM-West, Inc.

Job No: C10629X

SCWA Phase II - Sonoma, CA
Project No: 0112574

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C10629-1X	04/14/10	13:33	CY	04/14/10	AQ	Ground Water	SB-5-GW

Environmental Resources Management

CHAIN OF CUSTODY RECORD

"ERMCAWC2672"

C10629

1000643

NO: 5326

1777 Botelho Drive, Suite 260 • Walnut Creek, CA • 94596 • (925) 946-0455 • FAX (925) 946-9968

Page 1 of 1

PROJECT #	PROJECT NAME
0112574	SawA Phase II

SAMPLER (PRINT NAME)	SIGNATURE
chimi Yi	Chimi Yi

TPL RECEIVING LABORATORY
Alpha (via Accutest)

SAMPLE ID	DATE	TIME	GRAB	COMP	SAMPLING METHOD	PRESERVATIVE	FILTERED (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	SOIL	WATER	GAS	Total coliforms/ E.coli - EM 9223B													
																									temp 3-8	
SB-5-GW	4-14-10	1323		X	bailer	Sodium Thiosulfate	Y	250mL	1		X		X	-1												

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
Chimi Yi	4-14-10		[signature]	4-14-10	1400
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	4-14-10	1700	[signature]	4-14-10	1700
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
			[signature]	4/15/10	09:45

FIELD REMARKS

* Sample picked up by Alpha courier from field/site. 04/14/10

* No Sample Reciving Checklist (SRC) required - (EK) 04/15/10

REMARKS ON SAMPLE RECEIPT

☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS

SEND REPORT TO:
chimi.yi@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

Subcontract Data

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

ELAP Certificate Numbers 1551 and 2728

28 April 2010

Accutest Northern California, Inc.
Attn: Diane Theesen
2105 Lundy Avenue
San Jose, CA 95131
RE: SCWA Phase II
Work Order: 10D0643

Enclosed are the results of analyses for samples received by the laboratory on 04/14/10 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Chelsea L. Sandelin For Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/28/10 09:37
Project No: C10629-1
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0643	04/14/2010 17:00	ACCUTEST	C10629-1

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C10629-1 SB-5-GW	10D0643-01	Water	04/14/10 13:33	04/14/10 17:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/28/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/28/10 09:37
Project No: C10629-1
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0643	04/14/2010 17:00	ACCUTEST	C10629-1

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
C10629-1 SB-5-GW (10D0643-01)			**Sample Type: Water**		**Sampled: 04/14/10 13:33**			
Microbiological Parameters by APHA Standard Methods								
Total Coliforms	SM9221	AD02324	04/14/10 16:30	04/17/10 17:00	1	**17000 MPN/100 ml**	**2.0**	
Fecal Coliforms	"	"	"	"	"	ND "	2.0	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/28/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/28/10 09:37
Project No: C10629-1
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0643	04/14/2010 17:00	ACCUTEST	C10629-1

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Bruce Gove
Laboratory Director

4/28/2010

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Service Center: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309

CHEMICAL EXAMINATION REPORT

Accutest Northern California, Inc.
2105 Lundy Avenue
San Jose, CA 95131
Attn: Diane Theesen

Report Date: 04/28/10 09:37
Project No: C10629-1
Project ID: SCWA Phase II

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
10D0643	04/14/2010 17:00	ACCUTEST	C10629-1

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

Environmental Resources Management

1777 Botelho Drive, Suite 260 • Walnut Creek, CA • 94596 • (925) 946-0455 • FAX (925) 946-9968

CHAIN OF CUSTODY RECORD

1000643 **NO:** 5326

PROJECT #	PROJECT NAME
0112574	SOWA Phase II

SAMPLER (PRINT NAME)	(SIGNATURE)
chimi Yi	[illegible signature]

RECEIVING LABORATORY: Alpha (via Accutest)

REQUESTED PARAMETERS

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	SOIL	WATER	GAS	Total coliforms/E.coli - FM 9223B	temp 3.8
SB-5-GW	4-14-10	1333		X	bailer	Sodium Thiosulfate	Y	250mL	1		X		X	

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
[illegible signature]	4-14-10		[illegible signature]	4-14-10	1400
[illegible signature]	4-14-10	1700	[illegible signature]	4/14/10	1700

FIELD REMARKS

REMARKS ON SAMPLE RECEIPT

- ☐ BOTTLE INTACT
- ☐ CUSTODY SEALS
- ☐ CHILLED
- ☐ PRESERVED
- ☐ SEALS INTACT
- ☐ SEE REMARKS

ERM REMARKS

SEND REPORT TO: chimi.yi@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

Northern California
ACCUTEST
Laboratories

1000643

Accutest ID and PO#: C10629

2105 Lundy Avenue, San Jose, CA 95131 Phone :(408)588-0200 Fax: (408)588-0201

Subcontract Chain of Custody

temp 38

Subcontract Lab: Alpha Analytical
Date Sent: 04/14/10
Date Due: 10-DAY

10-DAY

Project Name: SCWA Phase II
Project Location: Sonoma, CA

Accutest Lab Number	Customer Sample Name/Field Point ID	Matrix	Method	Collect Date	Collect Time
C10629-1	SB-5-GW	Water	**Total Coliform/E. Coli**	04/14/10	13:33

Comments: Samples picked up by Alpha courier from field, 04/14/10

Relinquished By:	Received By:	Date:	Time:
ekumar		4-14-10	1700
Relinquished By:	Received By:	Date:	Time:
Relinquished By:	Received By:	Date:	Time:

Send the Report to: annek@accutest.com