SECOND QUARTER 2009
SITE MONITORING REPORT

REDWOOD REGIONAL PARK
SERVICE YARD
OAKLAND, CALIFORNIA

Prepared for:

EAST BAY REGIONAL PARK DISTRICT
OAKLAND, CALIFORNIA

July 2009

STELLAR
ENVIRONMENTAL SOLUTIONS, INC.
GEOSCIENCE & ENGINEERING CONSULTING

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Prepared for:

EAST BAY REGIONAL PARK DISTRICT
P.O. BOX 5381
OAKLAND, CALIFORNIA 94605

Prepared by:

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July 1, 2009

Project No. 2009-02

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July 1, 2009

Mr. Jerry Wickham, P.G.
Hazardous Materials Specialist, Local Oversight Program
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Second Quarter 2009 Site Monitoring Report
Redwood Regional Park Service Yard Site – Oakland, California
Alameda County Environmental Health Fuel Leak Case No. RO0000246

Dear Mr. Wickham:

Attached is the referenced Stellar Environmental Solutions, Inc. report for the underground fuel storage tank (UFST) site at the Redwood Regional Park Service Yard, located at 7867 Redwood Road, Oakland, California. This project is being conducted for the East Bay Regional Park District (EBRPD), and follows previous site investigation and remediation activities (conducted since 1993) associated with former leaking UFSTs. The key regulatory agencies for this investigation are the Alameda County Department of Environmental Health, the Regional Water Quality Control Board, and the California Department of Fish and Game.

This report summarizes groundwater and surface monitoring and sampling activities between April 1 and June 31, 2009 (Second Quarter 2009) with an additional discussion of the sampling of monitoring well MW-2 conducted on May 5, 2009. Remedial bioventing activities are reported in separate technical submittals; however, a summary of these activities is included in the quarterly groundwater monitoring report.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge. If you have any questions regarding this report, please contact Mr. Neal Fujita of the EBRPD, or contact us directly at (510) 644-3123.

Sincerely,

Richard Makdisi, R.G., R.E.A.
Principal

cc: Carl Wilcox, California Department of Fish and Game
Neal Fujita, East Bay Regional Park District
State of California GeoTracker system
Alameda County Environmental Health 'ftp' system

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1.0 INTRODUCTION

PROJECT BACKGROUND

The subject property is the East Bay Regional Park District (EBRPD) Redwood Regional Park Service Yard located at 7867 Redwood Road in Oakland, Alameda County, California. The site has undergone site investigations and remediation since 1993 to address subsurface contamination caused by leakage from one or both of two former underground fuel storage tanks (UFSTs) that contained gasoline and diesel fuel. The Alameda County Department of Environmental Health (Alameda County Environmental Health) has provided regulatory oversight of the investigation since its inception (Alameda County Environmental Health Fuel Leak Case No. RO0000246). Other regulatory agencies with historical involvement in site review include the Regional Water Quality Control Board (Water Board) and the California Department of Fish and Game (CDFG).

OBJECTIVES AND SCOPE OF WORK

This report discusses the following activities conducted/coordinated by Stellar Environmental Solutions, Inc. (SES) between April 1 and June 31, 2009:

- Collecting water levels in site wells to determine shallow groundwater flow direction;
- Sampling site wells for contaminant analysis and natural attenuation indicators;
- Collecting surface water samples for contaminant analysis; and
- Additional sampling of groundwater from monitoring well MW-2.

HISTORICAL CORRECTIVE ACTIONS AND INVESTIGATIONS

Previous SES reports have provided discussions of previous site remediation and investigations; site geology and hydrogeology; residual site contamination; conceptual model for contaminant fate and transport; and hydrochemical trends and plume stability. Section 7.0 (References and Bibliography) of this report provides a listing of all technical reports for the site.

The general phases of site work included:

- An October 2000 Feasibility Study report for the site submitted to Alameda County Environmental Health, which provided detailed analyses of the regulatory implications of the site contamination and an assessment of viable corrective actions (SES, 2000d).

- Two instream bioassessment events conducted in April 1999 and January 2000 to evaluate potential impacts to stream biota associated with the site contamination (no impacts were documented).
- Additional monitoring well installations and corrective action by ORC™ injection proposed by SES and approved by Alameda County Environmental Health in its January 8, 2001 letter to the EBRPD. Two phases of ORC™ injection were conducted—in September 2001 and July 2002.
- A total of 50 groundwater monitoring events, conducted on a quarterly basis since project inception (November 1994); a total of 11 groundwater monitoring wells are currently available for monitoring.
- A bioventing pilot test conducted in September and October 2004 to evaluate the feasibility of this corrective action strategy, and installation of the full-scale bioventing system in November and December 2005. Two additional bioventing wells (VW-4 and VW-5) were installed on March 4, 2008. Bioventing activities conducted to date have been, and will continue to be, discussed in bioventing-specific technical reports, and updates will be provided in groundwater monitoring progress reports as they relate to this ongoing program.
- An additional ORC™ injection was conducted during the last quarter on March 10, 2009 to control elevated levels of hydrocarbons in the source area represented by MW-2.

SITE DESCRIPTION

Figure 1 shows the location of the project site. The site slopes to the west, from an elevation of approximately 564 feet above mean sea level (amsl) at the eastern edge of the service yard to approximately 530 feet amsl at Redwood Creek, which defines the approximate western edge of the project site with regard to this investigation. Figure 2 shows the site plan.

REGULATORY OVERSIGHT

The lead regulatory agency for the site investigation and remediation is Alameda County Environmental Health (Case No. RO0000246), with oversight provided by the Water Board (GeoTracker Global ID T0600100489). The CDFG is also involved with regard to water quality impacts to Redwood Creek. Historical Alameda County Environmental Health-approved revisions to the groundwater sampling program have included:

- Discontinuing hydrochemical sampling and analysis in wells MW-1, MW-3, MW-5, and MW-6;
- Discontinuing creek surface water sampling at upstream location SW-1

N

SITE LOCATION ON U.S.G.S. TOPOGRAPHIC MAP

Redwood Reg. Park Service Yard Oakland, CA	By: MJC	MARCH 2006
	Figure 1	

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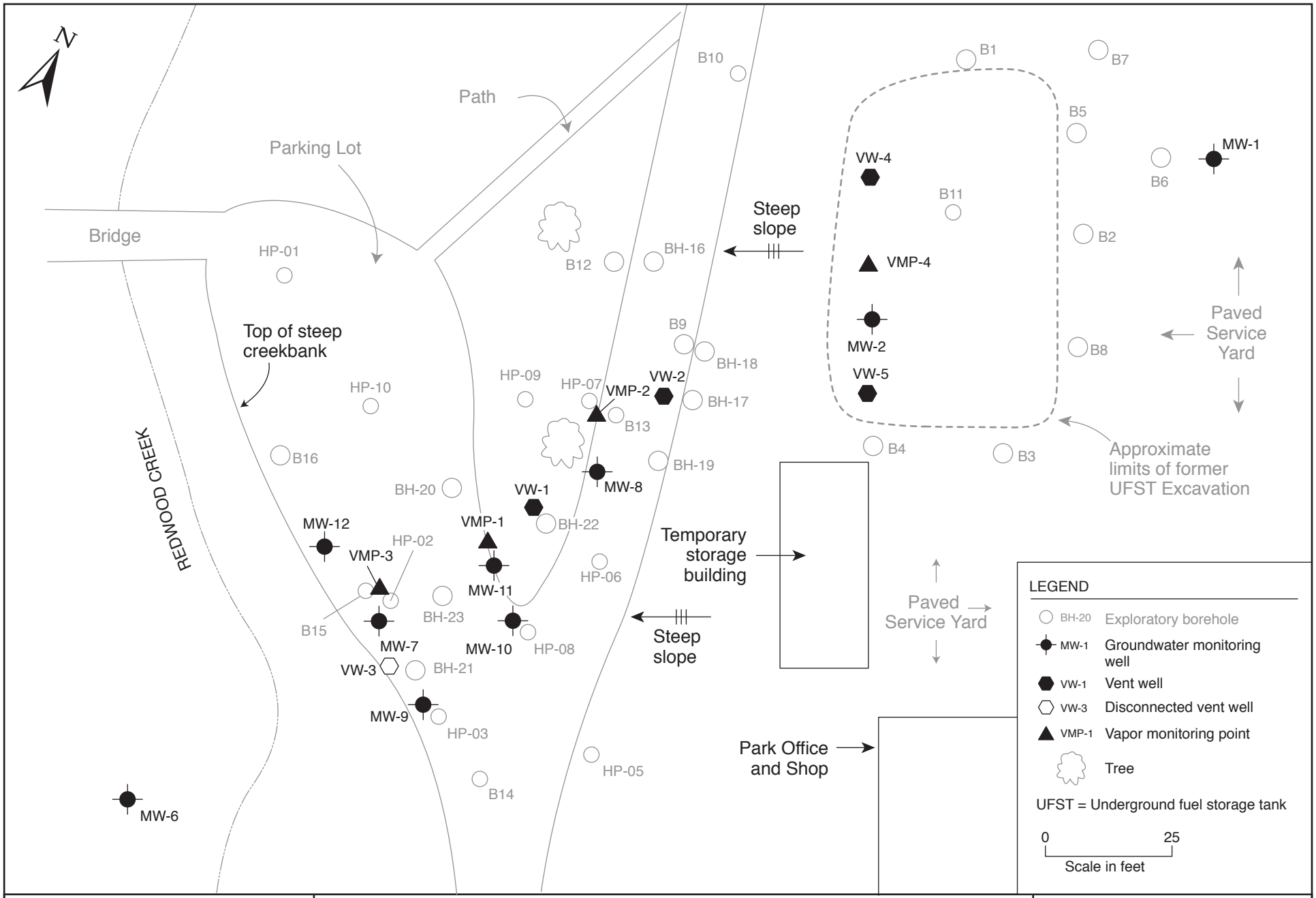
2006-17-01



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SITE PLAN AND WELL LOCATIONS
Redwood Regional Park Service Yard, Oakland, CA

Figure 2

by: MJC | MARCH 2008

2008-02-02

- Discontinuing field measurement and laboratory analyses for natural attenuation indicators, to be re-implemented following the bioventing corrective action; and
- Reducing the frequency of creek surface water sampling from quarterly to semi-annually. The latter recommendation has not yet been implemented due to the EBRPD's continued concern over potential impacts to Redwood Creek.

All workplans and reports have been submitted to these agencies with the exception of a response to the ACEH March 24, 2009 letter from Mr. Jerry Wickham requesting a Pilot Test Work Plan (PTWP) or Corrective Action Plan (CAP) be completed by May 27, 2009. Mr. Wickham subsequently gave EBRPD a 90-day extension, until August 27, 2009, to complete the PTWP or CAP. SES is currently working on the CAP on behalf of EBRPD and will have it submitted to Mr. Wickham before the August 27, 2009 deadline.

The site is in compliance with State of California GeoTracker requirements for uploading of electronic data and reports. In addition, electronic copies of technical documentation reports published since Q2-2005 have been uploaded to Alameda County Environmental Health's file transfer protocol (ftp) system.

2.0 PHYSICAL SETTING

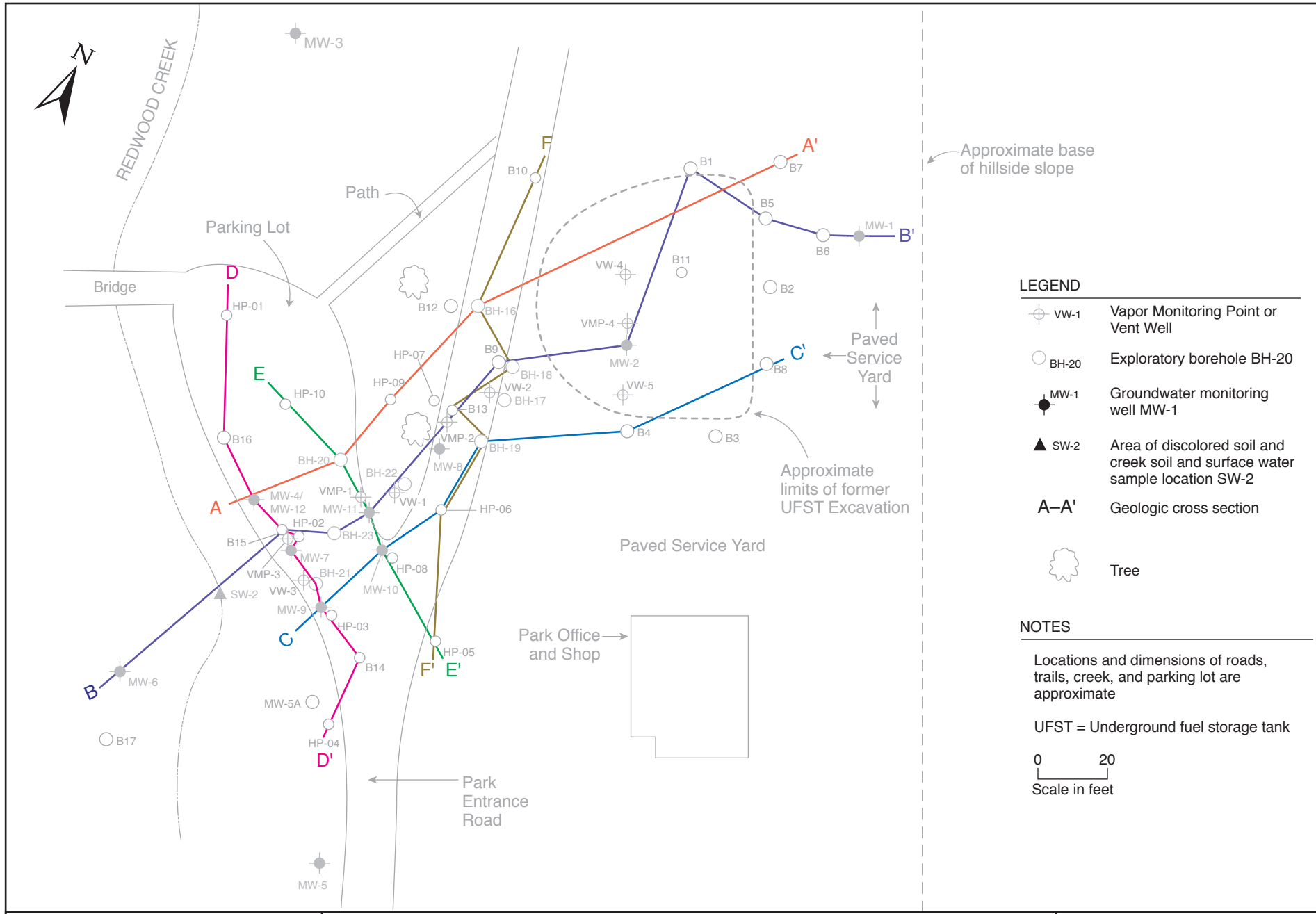
This section discusses the site hydrogeologic conditions based on geologic logging and water level measurements collected at the site since September 1993. Previous SES reports have included detailed discussions of site lithologic and hydrogeologic conditions. In May 2004, Alameda County Environmental Health requested, via email, additional evaluation of site lithology—specifically, the preparation of multiple geologic cross-sections parallel to and perpendicular to the contaminant plume's long axis.

SITE LITHOLOGY

Figure 3 shows the location of the geologic cross-sections. Figure 4 shows three sub-parallel geologic cross-sections (A-A' through C-C') along the long axis of the groundwater contaminant plume (i.e., along local groundwater flow direction). Figure 5 shows three sub-parallel geologic cross-sections (D-D' through F-F') roughly perpendicular to groundwater direction. In each figure, the three sub-parallel sections are presented together for ease of comparison. Due to the small scale, these sections show only lithologic conditions (i.e., soil type and bedrock depth). Additional information on water level depths, historical range of water levels, and inferred thickness of soil contamination was presented in a previous report (SES, 2004c) for cross-section B-B'.

Shallow soil stratigraphy consists of a surficial 3- to 10-foot-thick clayey silt unit underlain by a 5- to 15-foot-thick silty clay unit. In the majority of boreholes, a 5- to 10-foot-thick clayey coarse-grained sand and clayey gravel unit that laterally grades to a clay or silty clay was encountered. This unit overlies a weathered siltstone at the base of the observed soil profile. Soils in the vicinity of MW-1 are inferred to be landslide debris.

A previous SES report (SES, 2004c) presented a bedrock surface isopleth map (elevation contours for the top of the bedrock surface) in the contaminant plume area. The isopleth map from that report, and Figures 4 and 5 from this report, indicate the following: the bedrock surface slopes steeply, approximately 0.3 feet/foot from east to west (toward Redwood Creek) in the upgradient portion of the site (from the service yard to under the entrance road), then shows a gentle east-to-west slope in the downgradient portion of the site (under the gravel parking area) toward Redwood Creek. This general gradient corresponds to the local groundwater flow direction. On the southern side of the plume area, bedrock slopes gently from south to north (the opposite of the general



LEGEND

VW-1	Vapor Monitoring Point or Vent Well
BH-20	Exploratory borehole BH-20
MW-1	Groundwater monitoring well MW-1
SW-2	Area of discolored soil and creek soil and surface water sample location SW-2
A–A'	Geologic cross section
	Tree

NOTES

Locations and dimensions of roads, trails, creek, and parking lot are approximate

UFST = Underground fuel storage tank

0 20

Scale in feet

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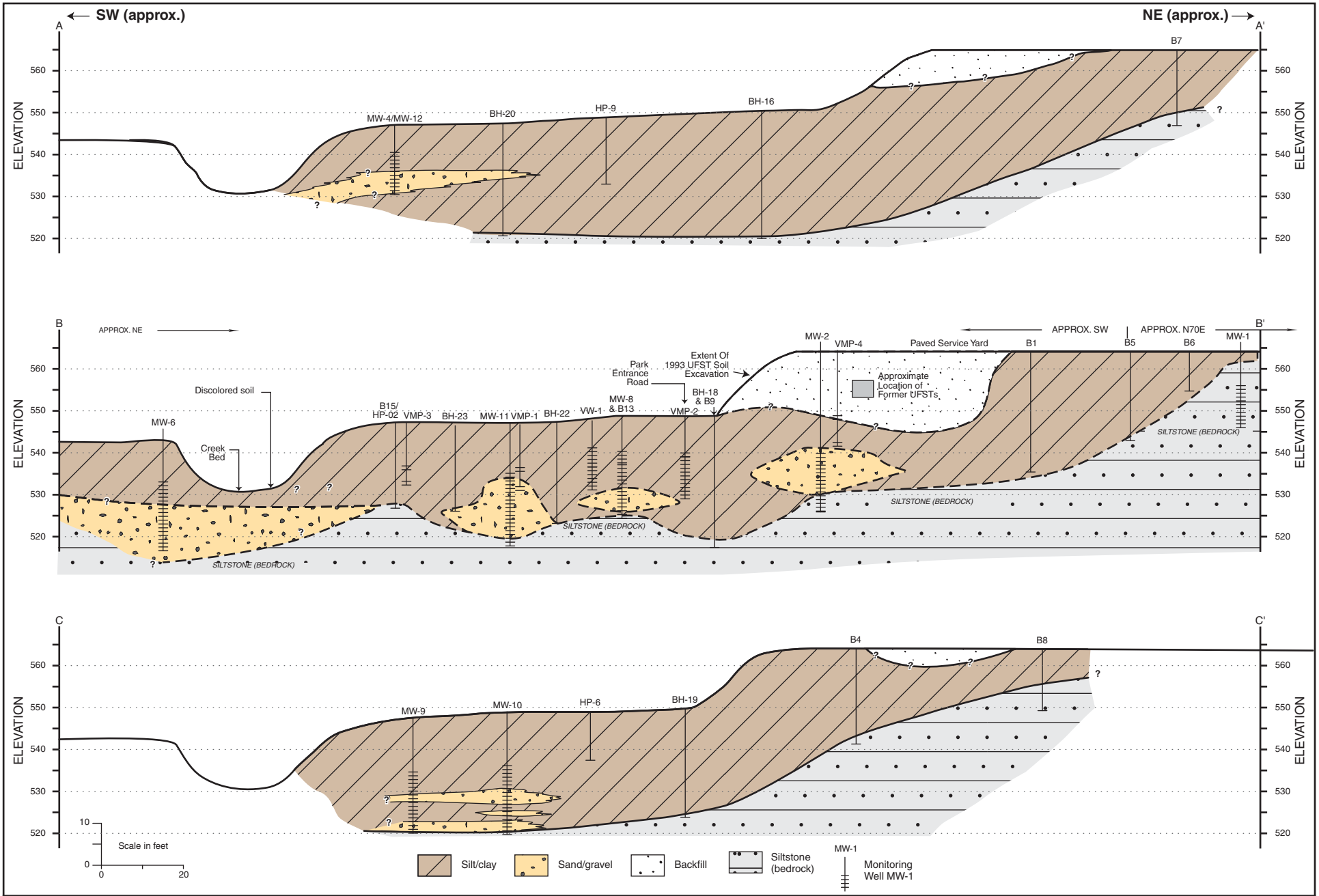
GEOLOGIC CROSS-SECTION LOCATIONS
Redwood Regional Park Service Yard, Oakland, CA

Figure 3

by: MJC | MARCH 2008

2008-02-05



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GEOLOGIC CROSS SECTIONS — A-A' through C-C'

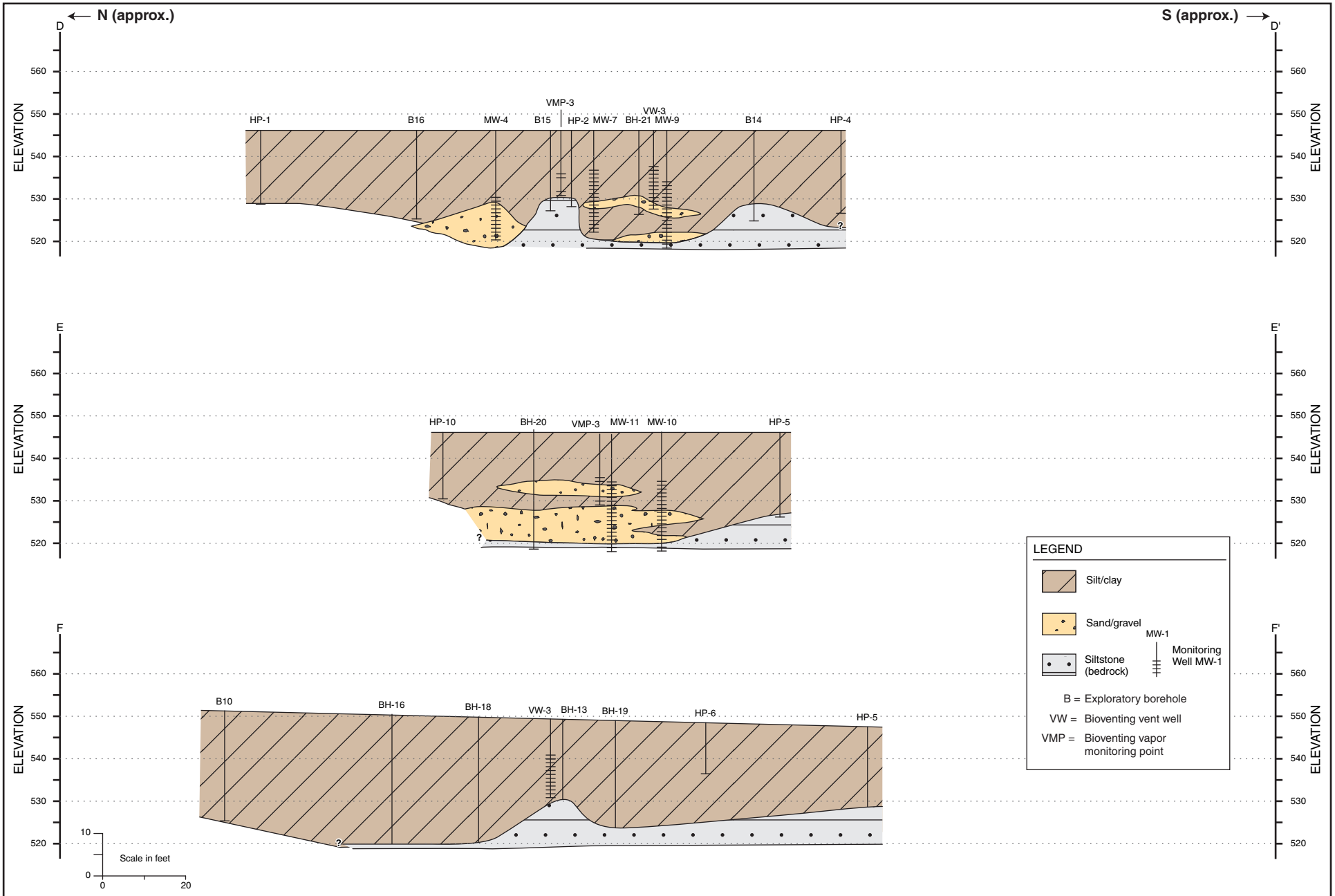
Redwood Regional Park Service Yard, Oakland, CA

Figure 4

by: MJC

DECEMBER 2007

2005-66-14



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GEOLOGIC CROSS SECTIONS — D-D' through F-F'
Redwood Regional Park Service Yard, Oakland, CA

Figure 5

by: MJC | DECEMBER 2005

2005-66-13

topographic gradient). Bedrock topography on the northern side of the plume cannot be determined from the available data.

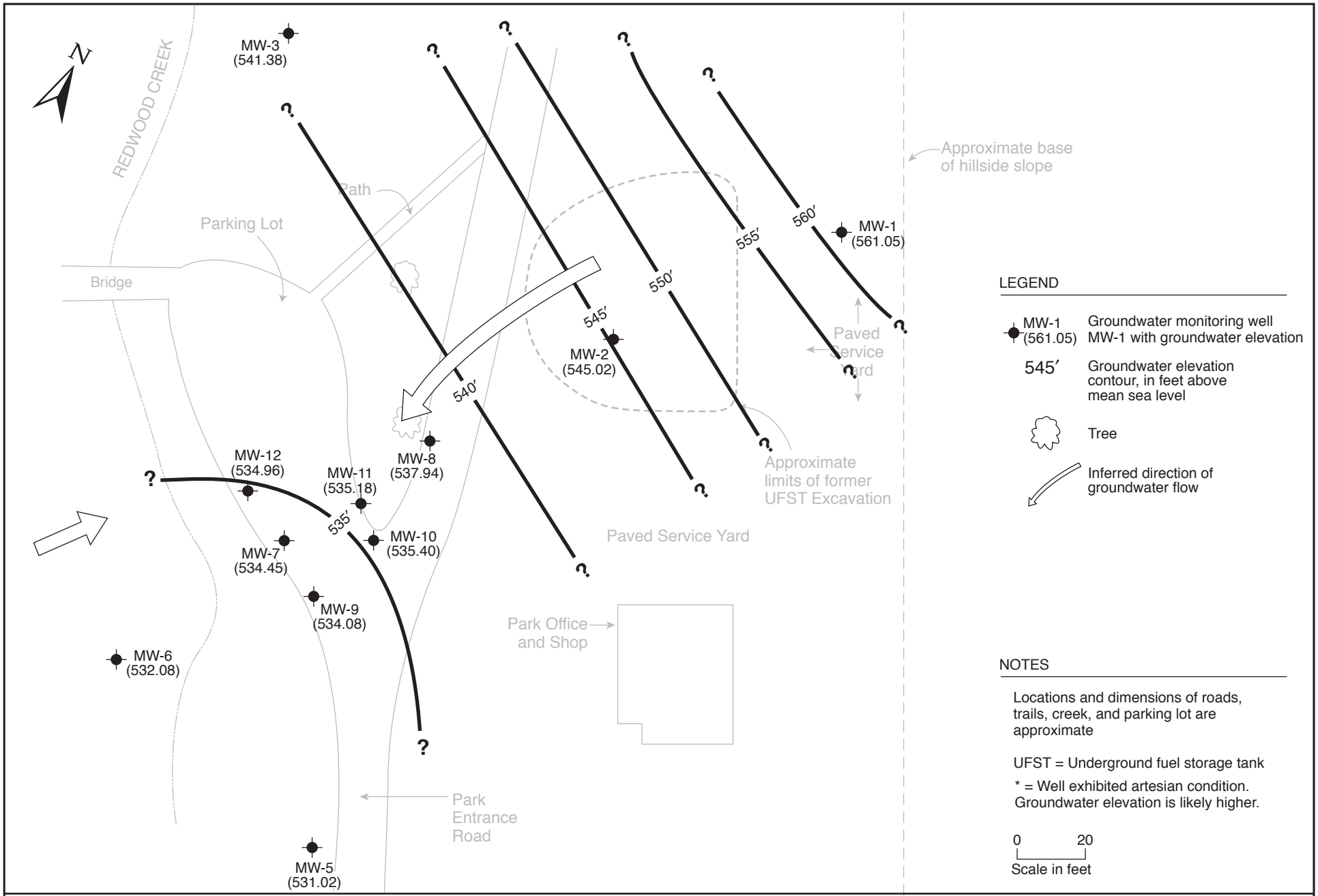
In the central and downgradient portions of the groundwater contaminant plume (under the entrance road and the parking area), the bedrock surface has local, fairly steep elevation highs and lows, expressing a hummocky surface. Bedrock elevations vary by up to 10 feet over distances of less than 20 feet in this area. Local bedrock elevation highs are observed at upgradient location BH-13 (see cross-section F-F') and at downgradient location B15/HP-02 (see cross-section B-B'). Intervening elevation lows create troughs that trend north-south in the central portion of the plume and east-west in the downgradient portion of the plume.

The bedrock surface (and overlying unconsolidated sediment lithology) suggests that the bedrock surface may have at one time undergone channel erosion from a paleostream(s) flowing sub-parallel to present-day Redwood Creek. Because groundwater flows in the unconsolidated sediments that directly overlie the bedrock surface, it is likely that the hummocky bedrock surface affects local groundwater depth and flow direction. This is an important hydrogeologic control that should be considered if groundwater-specific corrective action is contemplated.

HYDROGEOLOGY

Groundwater at the site occurs under unconfined and semi-confined conditions, generally within the clayey, silty, sand-gravel zone. The top of this zone varies between approximately 12 and 19 feet below ground surface (bgs), and the bottom of the water-bearing zone (approximately 25 to 28 feet bgs) corresponds to the top of the siltstone bedrock unit. Seasonal fluctuations in groundwater depth create a capillary fringe of several feet that is saturated in the rainy period (late fall through early spring) and unsaturated during the remainder of the year. The thickness of the saturated zone plus the capillary fringe varies between approximately 10 and 15 feet in the area of contamination. Local perched water zones have been observed well above the top of the capillary fringe.

Figure 6 is a groundwater elevation map constructed from the current event monitoring well equilibrated water levels. Table 1 (in Section 3.0) summarizes current event groundwater elevation data. Appendix A contains historical groundwater elevation data. Consistent with the bedrock isopleth map showing an elevation depression in the vicinity of MW-11, historical groundwater elevations in MW-11 are sporadically lower than in the surrounding area. As discussed in the previous sub-section, local groundwater flow direction is likely more variable than expressed by groundwater monitoring well data, due to local variations in bedrock surface topography.



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GROUNDWATER ELEVATION MAP–June 10, 2009
Redwood Regional Park Service Yard, Oakland, CA

Figure 6

by: MJC | JUNE 2009

2008-02-16

In the upgradient portion of the site (between well MW-1 and MW-2, in landslide deposit and the former UFST excavation backfill), the groundwater gradient is approximately 0.21 feet per foot. Downgradient from (west of) the UFST source area (between MW-2 and Redwood Creek), the groundwater gradient is approximately 0.09 feet per foot. The direction of shallow groundwater flow during the current event was to the west-southwest (toward Redwood Creek), which is consistent with historical site groundwater flow direction.

We estimate a site groundwater velocity of 7 to 10 feet per year, using general look-up tables for permeability characteristics for the site-specific lithologic data obtained from site investigations. This velocity estimate is conservatively low, but does meet minimum-distance-traveled criteria from the date when contamination was first observed in Redwood Creek (1993) relative to the time of the UFST installations (late 1970s). Locally, however, the groundwater velocity could vary significantly. Calculating the specific hydraulic conductivity critical to accurately estimating site-specific groundwater velocity would require direct testing of the water-bearing zone through a slug or pumping test.

Redwood Creek, which borders the site to the west, is a seasonal creek known for the occurrence of rainbow trout. Creek flow in the vicinity of the site shows significant seasonal variation, with little to no flow during the summer and fall dry season, and vigorous flow with depths exceeding 1 foot during the winter and spring wet season. The creek is a gaining stream (i.e., it is recharged by groundwater seeps and springs) in the vicinity of the site, and discharges into Upper San Leandro Reservoir approximately 1 mile southeast of the site. During low-flow conditions, the groundwater table is below the creek bed in most locations (including the area of historical contaminated groundwater discharge); consequently, there is little to no observable creek flow at these times.

3.0 Q2 2009 ACTIVITIES

This section presents the creek surface water and groundwater sampling and analytical methods for the most recent groundwater monitoring event (Q2 2009), conducted on June 10, 2009 and an additional discussion of purging and sampling of monitoring well MW-2 that was conducted on May 5, 2009. A summary of bioventing-related activities is also provided.

GROUNDWATER AND SURFACE WATER MONITORING ACTIVITIES

Groundwater and surface water analytical results are summarized in Section 5.0. Monitoring and sampling protocols were in accordance with the Alameda County Environmental Health-approved SES technical workplan (SES, 1998a). Current event activities included:

- Measuring static water levels in all 11 site wells;
- Collecting post-purge groundwater samples for laboratory analysis of site contaminants from wells located within (or potentially within) the groundwater plume (MW-2, MW-7, MW-8, MW-9, MW-10, MW-11, and MW-12);
- Collecting Redwood Creek surface water samples for laboratory analysis from locations SW-2 and SW-3; and
- Collecting an extra sample and chemical parameter measurements from MW-2 in May 2009 to document the affect of the ORC™ injection.

Creek sampling and groundwater monitoring/sampling was conducted on June 10, 2009. The creek sampling was conducted by the SES project manager. The locations of all site monitoring wells and creek water sampling locations are shown on Figure 2 (in Section 1.0). Well construction information and water level data are summarized in Table 1. Appendix B contains the groundwater monitoring field records for the current event.

Because it appears that the previously-injected ORC™ has been depleted, continued monitoring of the natural attenuation parameters—dissolved oxygen, oxidation-reduction potential, nitrate, ferrous iron, and sulfate—is of marginal value until such time as additional corrective actions that would increase oxygen concentrations are implemented. Thus, monitoring for natural attenuation parameters was discontinued following the Q3 2004 event. However, these parameters were measured in MW-2 (discussed below) to monitor the recent ORC™ injection in that area.

Table 1
Groundwater Monitoring Well Construction and Groundwater Elevation Data –
June 10, 2009 Monitoring Event
Redwood Regional Park Corporation Yard, Oakland, California

Well	Well Depth	Screened Interval Depth	TOC Elevation	Groundwater Elevation (6/10/09)
MW-1	18	7 to17	565.83	561.05
MW-2	36	20 to 35	566.42	545.02
MW-3	42	7 to 41	560.81	541.38
MW-5	26	10 to 25	547.41	531.02
MW-6	26	10 to 25	545.43	532.08
MW-7	24	9 to24	547.56	534.45
MW-8	23	8 to 23	549.13	537.94
MW-9	26	11 to 26	549.28	534.08
MW-10	26	11 to 26	547.22	535.40
MW-11	26	11 to 26	547.75	535.11
MW-12	25	10 to 25	544.67	534.96

Notes:
TOC = Top of casing.
Wells MW-1 through MW-6 are 4-inch diameter; all other wells are 2-inch diameter.
All depth and elevations are feet (above U.S. Geological Survey mean sea level for elevations).

Groundwater Level Monitoring and Sampling

Groundwater monitoring well water level measurements, purging, sampling, and field analyses were conducted by Blaine Tech Services under the supervision of SES personnel. Groundwater sampling was conducted in accordance with State of California guidelines for sampling dissolved analytes in groundwater associated with leaking UFSTs (State Water Resources Control Board, 1989), and followed the methods and protocols approved by Alameda County Environmental Health in the SES 1998 workplan (SES, 1998a).

As the first task of the monitoring event, static water levels were measured using an electric water level indicator. Pre-purge groundwater samples were then collected for field and laboratory analysis of natural attenuation indicators. The wells to be sampled for contaminant analyses were then purged (by bailing and/or pumping) of three wetted casing volumes. Aquifer stability parameters (temperature, pH, and electrical conductivity) were measured after each purged casing volume to ensure that representative formation water would be sampled. To minimize the potential for cross-contamination, wells were purged and sampled in order of increasing contamination (based on the analytical results of the previous quarter).

The sampling-derived purge water and decontamination rinseate (approximately 61 gallons) from the current event was containerized in the onsite plastic tank. Purge water from future events will continue to be accumulated in the onsite tank until it is full, at which time the water will be transported offsite for proper disposal.

Creek Surface Water Sampling

Surface water sampling was conducted by SES on June 10, 2009. Surface water samples were collected from two Redwood Creek locations: SW-2 (immediately downgradient of the former UFST source area and within the area of documented creek bank soil contamination) and SW-3 (approximately 500 feet downstream of the SW-2 location). In accordance with a previous SES recommendation approved by Alameda County Environmental Health, upstream sample location SW-1 is no longer part of the surface water sampling program.

At the time of sampling, the creek was at a high stage; water depths were approximately 0.5 to 1.0 foot with a light flow. At the SW-2 location, where contaminated groundwater discharge to the creek historically has been observed, an orange algae was noted growing on the saturated portion of the creek bank. This algae likely is utilizing the petroleum as a carbon source, and therefore is a good indicator of the presence of petroleum contamination. However, neither petroleum sheen nor odor was evident on the water surface. Orange algae, sheen, and/or odor were not observed at the SW-3 location.

BIOVENTING-RELATED ACTIVITIES

The bioventing system was installed and started up in December 2005/January 2006. Weekly system monitoring and air flow optimization events were conducted for one month in January and February 2006. Bioventing system operations and maintenance (O&M) events had been conducted monthly since March 2006; however, they have been reduced to quarterly events beginning in 2009. East Bay Regional Redwood Park staff has been checking the system on a weekly basis to ensure it is functioning properly, and will notify SES in the event of a problem. As noted previously, two new bioventing wells (VW-4 and VW-5) were installed on March 4, 2008 to augment the system, and VW-3, which historically has seen no change in pressurization, was disconnected. Bioventing activities are discussed in detail in separate technical documents.

MONITORING WELL MW-2 ORC™ INJECTION AND MONITORING

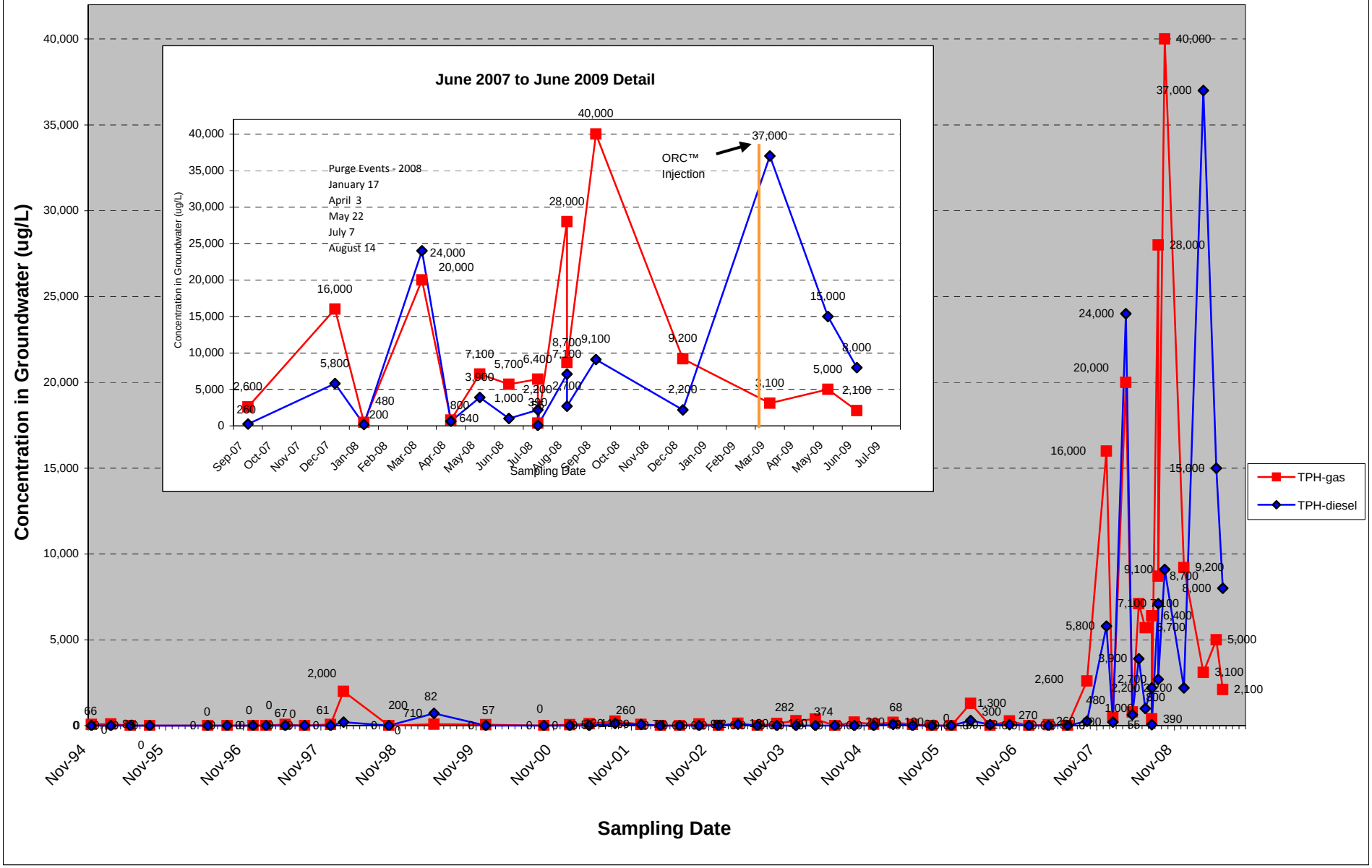
Monitoring well MW-2, installed in the area of the former UFSTs, historically has shown low to trace (sometimes non-detectable) contaminant levels. However, since September 2007, well MW-2 concentrations increased dramatically, suggesting desorption from the original upgradient source area as a result of the drought-induced drop in water levels. The increase in all petroleum hydrocarbons at MW-2 initially raised concern that the cause was local (a significant reduction

occurred after pumping 100 gallons or less). In 2008, SES initialized a program of more frequent monitoring and purging at MW-2 to mitigate against higher concentrations migrating downgradient toward Redwood Creek. The program showed limited success, with concentrations declining after limited purging, but rapidly increasing between monitoring events. This was the basis for this aggressive corrective action program involving the injection of the ORC™ compound to provide a catalyst for enhanced biodegradation to occur. The remedy was designed to coincide with the higher groundwater elevations typically observed in spring.

Groundwater samples taken six days after the March 10, 2009 injection showed concentrations of total extractable hydrocarbons as diesel (TEHd) and total volatile hydrocarbons as gasoline (TVHg) at 37,000 micrograms per liter (µg/L) and 3,100 µg/L, respectively. Dissolved oxygen (DO) was measured at 0.2 milligrams per liter (mg/L). During the May 5, 2009 sampling of MW-2, TEHd and TVHg were measured at 15,000 µg/L and 5,000 µg/L, respectively. DO was measured at 0.86 mg/L. During the June 10, 2009 sampling event, TEHd was measured at 8,000 µg/L and TVHg at 2,400 µg/L. DO as measured at 1.35 mg/L. Therefore, concentrations of diesel have been steadily reducing since the injection. Gasoline concentrations since the injection have not be steadily reducing (there was a rise from the March 10 event to the May 5 event) but have been reducing overall. The concentration of DO has also been increasing, as should be expected as the ORC™ begins to take effect.

Figure 7 shows the TEHd and TVHg concentration plot for MW-2 over time. See Appendix C for the certified laboratory analytical reports.

Figure 7: Gasoline and Diesel Hydrochemical Trends: Well MW-2
Redwood Regional Park Service Yard, Oakland, California



4.0 REGULATORY CONSIDERATIONS

The following is a summary of regulatory considerations regarding surface water and groundwater contamination. There are no Alameda County Environmental Health or Water Board cleanup orders for the site, although all site work has been conducted under oversight of these agencies.

GROUNDWATER CONTAMINATION

As specified in the Water Board's *San Francisco Bay Region Water Quality Control Plan* (Water Board, 1986), all groundwaters are considered potential sources of drinking water unless otherwise approved by the Water Board, and are also assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. While it is likely that site groundwater would satisfy geology-related criteria for exclusion as a drinking water source (excessive total dissolved solids and/or insufficient sustained yield), Water Board approval for this exclusion has not been obtained for the site. As summarized in Table 2 (in Section 5.0), site groundwater contaminant levels are compared to two sets of criteria: 1) Water Board Tier 1 Environmental Screening Levels (ESLs) for residential sites where groundwater is a current or potential drinking water source; and 2) ESLs for residential sites where groundwater is not a current or potential drinking water source.

As stipulated in the ESL document (Water Board, 2008), the ESLs are not cleanup criteria; rather, they are conservative screening-level criteria designed to be protective of both drinking water resources and aquatic environments in general. The groundwater ESLs are composed of multiple components, including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional investigation and/or remediation is warranted. While drinking water standards [e.g., Maximum Contaminant Levels (MCLs)] are published for the site contaminants of concern, Alameda County Environmental Health has indicated that impacts to nearby Redwood Creek are of primary importance, and that site target cleanup standards should be evaluated primarily in the context of surface water quality criteria.

SURFACE WATER CONTAMINATION

As summarized in Table 2 (in Section 5.0), site surface water contaminant levels are compared to the most stringent screening level criteria published by the State of California, U.S. Environmental Protection Agency, and U.S. Department of Energy. These screening criteria address chronic and acute exposures to aquatic life. As discussed in the ESL document (Water Board, 2008), benthic

communities at the groundwater/surface water interface (e.g., at site groundwater discharge location SW-2) are assumed to be exposed to the full concentration of groundwater contamination prior to dilution/mixing with the surface water). This was also a fundamental assumption in the instream benthic macroinvertebrate bioassessment events, which documented no measurable impacts.

Historical surface water sampling in the immediate vicinity of contaminated groundwater discharge (SW-2) has sporadically documented petroleum contamination, usually in periods of low stream flow, and generally at concentrations several orders of magnitude less than adjacent (within 20 feet) groundwater monitoring well concentrations. It is likely that mixing/dilution between groundwater and surface water precludes obtaining an "instantaneous discharge" surface water sample that is wholly representative of groundwater contamination at the discharge location. Therefore, the most conservative assumption is that surface water contamination at the groundwater/surface water interface is equivalent to the upgradient groundwater contamination (e.g., site downgradient wells MW-7, MW-9 and MW-12).

While site target cleanup standards for groundwater have not been determined, it is likely that no further action will be considered by the lead regulatory agency, ADEH, only after the groundwater (and surface water) contaminant concentrations are all below their respective screening level criteria and/or have been demonstrated to have reached an de-minimus asymptotic concentration. Residual contaminant concentrations in excess of screening level criteria might also be acceptable to regulatory agencies if a more detailed risk assessment (e.g., Tier 2 and/or Tier 3) demonstrates that no significant impacts are likely.

5.0 MONITORING EVENT ANALYTICAL RESULTS

This section presents the field and laboratory analytical results of the most recent monitoring event. Table 2 summarizes the contaminant analytical results, and Figure 7 shows the contaminant analytical results and the inferred limits of the gasoline groundwater plume. Appendix C contains the certified analytical laboratory report and chain-of-custody record for the current event; Appendix D contains a summary of historical groundwater and surface analytical results.

CURRENT EVENT GROUNDWATER AND SURFACE WATER RESULTS

Current quarter site groundwater concentrations in all but one of the sampled monitoring wells (MW-2, MW-7, MW-8, MW-9, MW-11, and MW-12) exceeded their respective groundwater ESLs for TEHd, and TVHg under both the *groundwater is and is not a drinking water resource* criteria The remaining well, MW-10, did exceed the ESL for TEHd where groundwater is a drinking water resource but did not exceed the ESL where groundwater is not a drinking water resource. While TVHg was detected in MW-10, the concentration was below both the drinking water and non-drinking water ESLs.

Concentrations of benzene exceeded the ESL for drinking water in all wells except MW-12, where the concentration was below the laboratory detection limit. Ethylbenzene concentrations exceeded the ESL for where groundwater is and is not a drinking water resource in MW-7, MW-8, MW-9, and MW-11. Total xylenes exceeded the groundwater ESLs under both criteria in wells MW-2, MW-8, and MW-9. MTBE was found above the drinking water criteria in wells MW-2, MW-7, MW-8, MW-9, and MW-11. However, the concentrations were below the non-drinking water ESL. MTBE was below the laboratory detection limit in all other wells. Toluene was not detected above the laboratory detection limit in any of the wells sampled.

The maximum TVHg, benzene, and MTBE concentrations were detected in well MW-7, a downgradient well. The maximum total xylene concentration was detected in well MW-8 and the maximum ethylbenzene concentration in MW-9. The maximum TEHd concentration was observed in MW-2, located in the former source area. This anomaly is discussed in more detail in Section 3.0. The northern edge of the plume in the downgradient area of the plume is defined by well MW-12. The southern edge of the plume in the downgradient area is not strictly defined; however, based on

Table 2
Groundwater and Surface Water Sample
Analytical Results – June 10, 2009
Redwood Regional Park Corporation Yard, Oakland, California

Location	Contaminant						
	TVHg	**TEHd**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Total Xylenes**	**MTBE**
GROUNDWATER SAMPLES							
MW-2	**2,400**	**8,000**	**5.4**	*<0.5*	11	**20.2**	**13**
MW-7	**4,600**	**5,400**	**40**	*<0.5*	**140**	5.12	**260**
MW-8	**2,100**	**3,400**	**32**	*<0.5*	**260**	**80.8**	**55**
MW-9	**4,100**	**3,600**	**62**	*<0.5*	**280**	**41.7**	**160**
MW-10	72	**120**	**2.0**	*<0.5*	4.4	1.3	*<2.0*
MW-11	**2,100**	**2,700**	**38**	*<0.5*	**80**	3.3	**40**
MW-12	**300**	**280**	*<0.5*	*<0.5*	4.6	*<0.5*	*<2.0*
Groundwater ESLs [(a)]	100 / 210	100/ 210	1.0 / 46	4.0 / 130	30 / 43	20 / 100	5.0 / 1,800
REDWOOD CREEK SURFACE WATER SAMPLES							
SW-2	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
SW-3	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<2.0
Surface Water Screening Levels [(a, b)]	100	100	1.0	40	30	20	5.0

Notes:

[(a)] Water Board Environmental Screening Levels (groundwater *is/is not* a potential drinking water resource) (Water Board, 2008).

[(b)] Water Board Surface Water Screening Levels for freshwater habitats (Water Board, 2008).

MTBE = methyl *tertiary*-butyl ether
TVHg = total volatile hydrocarbons - gasoline range
TEHd = total extractable hydrocarbons - diesel range

All concentrations expressed in micrograms per liter (µg/L), equivalent to parts per billion.

Samples in **bold-face type** exceed the ESL and/or surface water screening levels where groundwater is a potential drinking water resource.

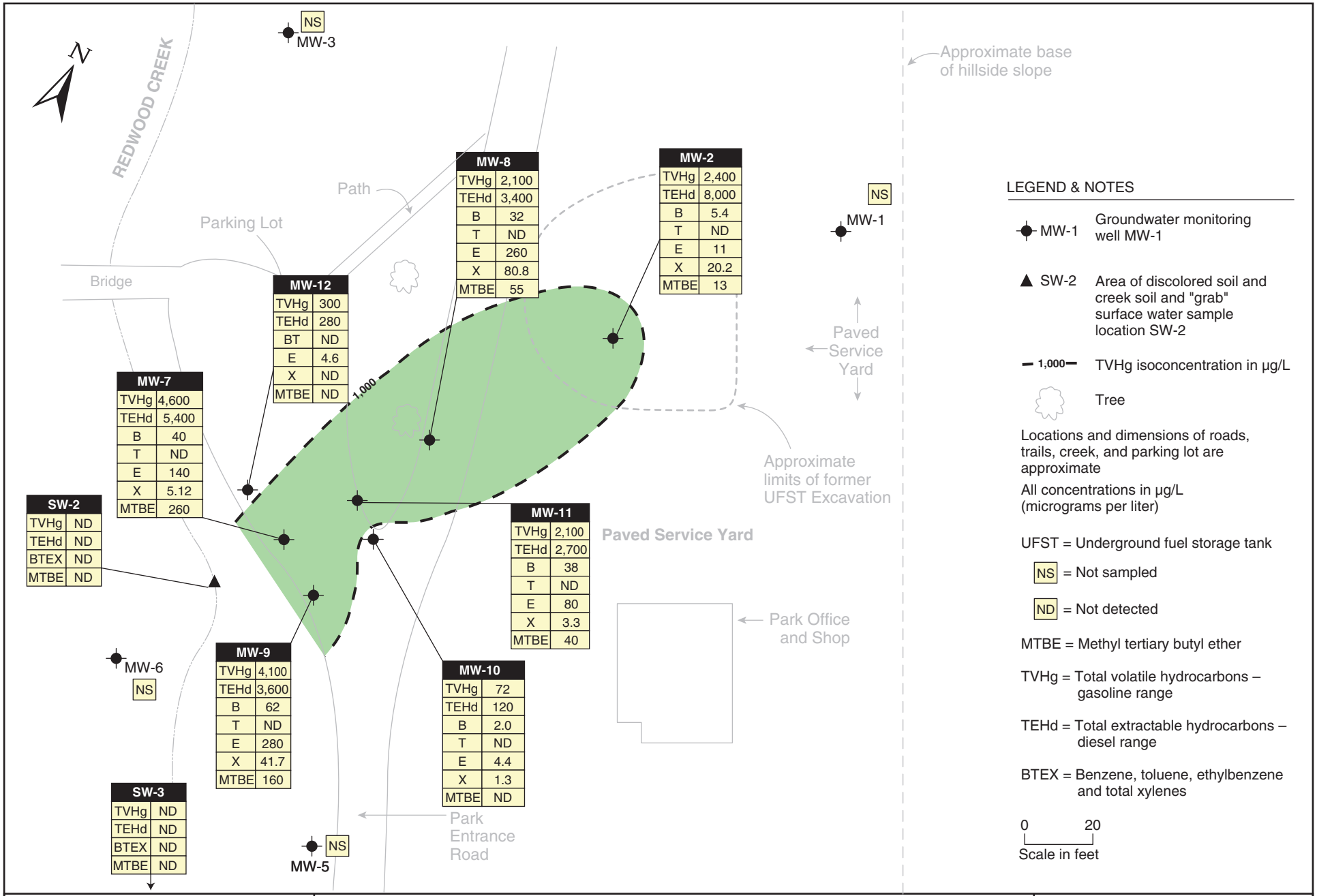
historical groundwater data, it appears to be located between well MW-9 and well MW-5.

Neither of the two surface water samples collected, SW-2 and SW-3, contained contaminants at concentrations above the laboratory detection limits for TEHd, TVHg, BTEX, and MTBE.

QUALITY CONTROL SAMPLE ANALYTICAL RESULTS

Laboratory quality control samples (e.g., method blanks, matrix spikes, surrogate spikes) were analyzed by the laboratory in accordance with requirements of each analytical method. All

laboratory QC sample results and sample holding times were within the acceptance limits of the methods (see Appendix C).



STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

ANALYTICAL RESULTS AND GASOLINE PLUME—JUNE 2009

Redwood Regional Park Service Yard, Oakland, CA

Figure 8

by: MJC | JUNE 2009

2006-17-23

6.0 SUMMARY, CONCLUSIONS AND PROPOSED ACTIONS

The following conclusions and proposed actions are based on the findings of the current event activities, as well as on salient historical data.

SUMMARY AND CONCLUSIONS

- Groundwater sampling has been conducted on an approximately quarterly basis since November 1994 (50 events in the initial site wells). A total of 11 site wells are available for monitoring; 7 of the available wells are currently monitored for contamination.
- Site contaminants of concern include gasoline, diesel, BTEX, and MTBE. Current groundwater concentrations exceed regulatory screening levels for TPHg, TPHd, benzene, ethylbenzene, total xylenes, and MTBE in groundwater and TPHd in surface water.
- The primary environmental risk is discharge of contaminated groundwater to the adjacent Redwood Creek. A stream bioassessment concluded that there were no direct impacts to the surface water benthic community; however, groundwater contamination is sporadically detected in surface water samples, and there is historical visual evidence of plume discharge at the creek/groundwater interface. Surface water samples have sporadically exceeded surface water ESL criteria for gasoline, diesel, and benzene, and generally only under low creek flow conditions. An in-stream bioassessment evaluation conducted from 1999 to 2000 determined that there were no impacts to the benthic macroinvertebrate community.
- The existing well layout adequately constrains the lateral extent of groundwater contamination, and the vertical limit is very likely the top of the near-surface (25 to 28 feet bgs) siltstone bedrock. The saturated interval extends approximately 12 to 15 feet from top of bedrock through the capillary fringe. Groundwater elevations fluctuate seasonally, creating a capillary fringe that varies seasonally in thickness.
- First quarter 2009 site groundwater contaminant concentrations exceeded the groundwater ESL for TVHg in six of the seven wells sampled (MW-2, MW-7, MW-8, MW-9, MW-11, and MW-12). TVHg was also detected in MW-10, but below the ESL. Contaminant concentrations of TEHd exceeded the ESL in all seven of the wells sampled.
- The ESL for benzene was exceeded in MW-2, MW-7, MW-8, MW-9, MW-10 and MW-11; the ESL for ethylbenzene was exceeded in MW-7, MW-8, MW-9, and MW-11; the ESL for total xylenes was exceeded in MW-2, MW-8, and MW-9; and the ESL for methyl tertiary-

butyl ether (MTBE) was exceeded in MW-2, MW-7, MW-8, MW-9, and MW-11. Toluene was not detected above the laboratory detection limit in any of the seven wells sampled.

- The plume of groundwater contamination above screening levels appears to be approximately 130 feet long and approximately 50 feet wide. The zone of greatest contamination for TVHg is currently centered around MW-7 (at 4,600 µg/L) while the greatest zone of TEHd contamination is currently centered around MW-2 (at 8,000 µg/L).
- The contaminant plume is neither stable nor reducing, as groundwater contaminant concentrations fluctuate seasonally, and the center of mass of the contaminant plume (represented by maximum concentrations) has alternated between the upgradient, mid-plume, and downgradient wells in recent history.
- Since September 2007, contaminant concentrations in well MW-2 (located in the source area) have increased dramatically, suggesting desorption from the original upgradient source area as a result of a drought-induced drop in water levels. Additional groundwater purging on MW-2 failed to reduce concentrations over time; therefore, a limited remedial application of ORC™ was injected into the upper yard area (source area) in March 2009.
- Samples taken immediately after the injection, two months later in May, and again for this groundwater monitoring event in June have shown levels of dissolved oxygen (DO) to be rising, and concentrations of both TVHg and TEHd decreasing. The ORC™ injection should be effective in reducing the contaminant concentration of the plume in MW-2 by accelerating the biodegradation significantly within approximately the first 6-12 months.
- Soil bioventing is a proven technology for contaminant mass removal in the unsaturated zone, under conditions similar to the site. However, the heterogeneous environment where the plume is located limits effectiveness; with only MW-8 in the upper center of the plume area showing a significant reduction in hydrocarbon concentrations. In other areas of the plume, it appears as if tight soil morphology is preventing air saturation in several of the vent wells, and the system is therefore performing at a less-than-optimal level.
- A letter dated March 24, 2009 from Mr. Wickham of ACEH, written after reviewing the ORC™ injection workplan, commented that it would not do much to reduce the overall source area contribution. SES agrees with that assessment. However, the small injected volumes were not intended to achieve a broad remediation goal. The intent was to determine if a pathway to well MW-2 was achievable through nearby injections, as well as locally reduce the high gasoline concentrations exhibited in MW-2. Mr. Wickham gave the EBRPD a 90-day extension to submit a Pilot Test Work Plan (PTWP) or Corrective Action Plan (CAP). This extension resulted in a August 27, 2009 deadline.
- SES is currently working on the CAP on behalf of EBRPD and will have it submitted to Mr. Wickham before the August 27, 2009 deadline requested.

PROPOSED ACTIONS

The EBRPD proposes to implement the following actions to address regulatory concerns:

- Complete the referenced CAP on or before August 27, 2009 to address the continued source area hydrocarbon input.
- Sample MW-2 between regular quarterly sampling events to monitor the ORC™ injection remedy effectiveness as part of the CAP follow up.
- Continue the quarterly monitoring program of creek and groundwater sampling and reporting.
- Continue to inform regulators of site progress and seek their concurrence with proposed actions.
- Continue to operate the bioventing system as a part of the overall corrective action program, although it has limited potential to achieve significant reduction in contaminant mass throughout the affected area.
- Continue to evaluate analytical results (and bioventing contaminant removal data) in the context of hydrochemical trends, impacts of groundwater contamination on Redwood Creek, and effectiveness of the corrective action.
- Continue to make required Electronic Data Format uploads to the State of California GeoTracker database, and upload an electronic copy of technical reports to ACEH's ftp system.

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8.0 LIMITATIONS

This report has been prepared for the exclusive use of the East Bay Regional Park District, its authorized representatives, and the regulatory agencies. No reliance on this report shall be made by anyone other than those for whom it was prepared.

The findings and conclusions presented in this report are based on the review of previous investigators' findings at the site, as well as onsite activities conducted by SES since September 1998. This report provides neither a certification nor guarantee that the property is free of hazardous substance contamination. This report has been prepared in accordance with generally accepted methodologies and standards of practice. The SES personnel who performed this work are qualified to perform such investigations and have accurately reported the information available, but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions, and recommendations included in the report.

The findings of this report are valid as of the present. Site conditions may change with the passage of time, natural processes, or human intervention, which can invalidate the findings and conclusions presented in this report. As such, this report should be considered a reflection of the current site conditions as based on the investigation and remediation completed.

APPENDIX A

Historical Groundwater Monitoring Well Water Level Data

HISTORICAL GROUNDWATER ELEVATIONS IN MONITORING WELLS

REDWOOD REGIONAL PARK SERVICE YARD

7867 REDWOOD ROAD, OAKLAND, CALIFORNIA

Well I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12
TOC Elevation (a)	565.83	566.42	560.81	548.10	547.41	545.43	547.56	549.13	549.28	547.22	547.75	544.67
Date Monitored	Groundwater Elevations (feet above mean sea level)											
09/18/98	563.7	544.2	540.8	534.5	531.1	545.6						
04/06/99	565.2	546.9	542.3	535.6	532.3	532.9						
12/20/99	562.9	544.7	541.5	534.9	531.2	532.2						
09/28/00	562.8	542.7	538.3	532.2	530.9	532.0						
01/11/01	562.9	545.1	541.7	535.0	531.2	532.3	534.9	538.1				
04/13/01	562.1	545.7	541.7	535.1	531.5	532.4	535.3	539.8				
09/01/01	560.9	542.0	537.7	533.9	530.7	531.8	534.0	535.6				
12/17/01	562.2	545.2	542.2	534.8	531.4	532.4	534.8	538.4	534.6	535.7	535.2	
03/14/02	563.0	547.1	542.2	535.5	532.4	533.3	535.7	541.8	535.0	537.6	536.6	
06/18/02	562.1	544.7	541.1	534.6	531.2	532.2	534.8	537.9	534.7	535.6	535.3	
09/24/02	561.4	542.2	537.3	533.5	530.6	531.8	533.5	535.5	535.3	533.8	531.7	
12/18/02	562.4	545.0	542.0	534.8	531.5	532.5	534.6	537.1	536.5	535.2	532.8	
03/27/03	562.6	545.7	541.7	534.8	531.6	532.4	535.1	539.9	537.2	536.2	533.6	
06/19/03	562.3	544.9	541.5	534.8	531.3	532.3	534.9	538.2	536.9	535.7	533.2	
09/10/03	561.6	542.1	537.9	533.8	530.8	531.9	533.7	535.6	535.6	534.1	531.9	
12/10/03	562.4	542.7	537.6	533.7	530.9	531.9	533.7	535.2	535.5	533.8	531.7	
03/18/04	563.1	546.6	541.9	535.0	531.7	532.4	535.2	540.9	537.4	536.6	533.8	
06/17/04	562.1	544.3	540.7	534.3	531.0	532.1	534.6	537.4	536.5	535.1	532.7	
09/21/04	561.5	541.1	536.5	533.1	530.5	531.6	533.1	534.7	532.7	533.2	533.2	
12/14/04	562.2	545.3	541.7	534.7	531.4	532.2	534.6	540.4	536.7	535.5	532.9	
03/16/05	563.8	547.3	541.7	535.3	532.4	532.8	535.6	541.8	538.0	537.1	534.2	
06/15/05	562.9	545.9	541.6	535.0	531.7	532.5	535.0	540.0	535.0	536.1	535.6	
09/13/05	562.3	543.5	539.7	534.4	530.9	532.2	534.3	536.7	536.1	534.7	532.4	
12/15/05	562.2	544.3	541.4	(b)	531.0	532.2	534.5	537.3	534.1	534.7	534.9	535.1
03/30/06	565.8	548.6	542.7	(b)	533.9	534.4	536.2	542.3	536.4	537.3	537.6	535.7
06/20/06	563.6	545.4	541.6	(b)	531.5	532.5	534.9	538.6	534.6	536.2	535.5	535.0
09/29/06	561.9	542.8	539.0	(b)	530.7	532.1	535.1	536.1	533.7	534.6	534.7	534.7
12/14/06	562.9	544.2	541.5	(b)	531.1	532.3	534.7	536.7	534.0	534.8	535.2	535.0
03/21/07	562.5	545.2	541.7	(b)	531.4	532.4	534.9	539.3	534.6	535.6	535.6	535.1
06/20/07	561.5	543.5	540.8	(b)	531.0	532.4	534.6	537.1	531.1	535.2	535.3	534.9
9/14/2007	560.71	541.02	536.99	(b)	530.46	531.58	533.42	534.86	532.64	533.47	533.68	533.74
12/6/2007	560.62	541.22	536.85	(b)	530.68	531.48	533.21	535.08	532.62	533.3	533.61	533.64
3/14/2008	561.76	545.73	541.63	(b)	531.34	532.30	534.88	539.30	534.67	536.04	535.89	535.72
6/13/2008	560.92	543.61	540.6	(b)	530.83	532.02	534.42	536.86	533.81	534.84	535.16	534.67
9/18/2008	560.43	540.15	536.41	(b)	529.85	531.11	532.69	534.15	531.97	532.65	533.09	533.12
12/17/2008	561.11	540.88	536.77	(b)	530.68	531.67	533.26	534.04	532.35	532.94	533.29	533.66
3/16/2009	561.84	546.25	539.51	(b)	531.63	532.58	534.65	539.51	534.56	535.55	535.49	535.08

TOC = Top of well Casing
(a) TOC Elevations resurveyed on December 15, 2005 in accordance GeoTracker requirements.
(b) Well decomissioned and replaced by MW-12 in December 2005.

APPENDIX B

Groundwater Monitoring
Field Documentation

WELL GAUGING DATA

Project # 090610AK1 Date 6-10-09 Client STELLAR

Site REDWOOD REGIONAL PARK SERVICE YARD, OAKLAND

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-1	858	4					4.78	19.13		G.O
MW-2	853	4					21.40	38.95		S
MW-3	916	4					19.43	45.80		G.O
MW-5	911	4					16.39	27.00		G.O
MW-6	947	4					13.35	14.21		G.O
MW-7	935	2					13.11	25.34		S
MW-8	954	2					11.19	22.26		S
MW-9	932	2					15.20	30.25		S
MW-10	926	2					11.82	28.42		S
MW-11	929	2					12.64	28.73		S
MW-12	939	2					9.71	23.88		S

WELLHEAD INSPECTION CHECKLIST

Date 6-10-09 Client STELLAR ENVIRO.

Site Address REDWOOD REGIONAL PARK SERVICE YARD, OAKLAND

Job Number 090610AK1 Technician AK

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-1	✓							
MW-2	✓			A				
MW-3	✓							
MW-5	✓							
MW-6	✓							
MW-7	✓							
MW-8		✓						
MW-9	✓							
MW-10	✓							
MW-11	✓							
MW-12	✓							

NOTES: STAND PIPE : MW-1, MW-2, MW-3, MW-5, ~~MW-10~~, MW-11, MW-6, MW-7, MW-9, MW-8: 3/3 BOLTS (A) MISSING

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	STELLAR @ REDWOOD REGIONAL PARK SERVICE YARD			PROJECT NUMBER	090610AK1		
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI 550	08B100951	6-10-09 1000	100.0%	109.4	Y	—	AK
ULTRAMETER	6222815	6-10-09 1000	PH 4,7,10	4.0, 7.0, 10.0	Y	67.1	AK
↓	↓	↓	CONDUCTIVITY	3900	Y	68.9	AK

V L MONITORING DATA SHE

Project #: 090610AK1	Client: STELLAR ENVIRO. SOLUTIONS
Sampler: AK	Date: 6-10-09
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 38.95	Depth to Water (DTW): 21.40
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 24.91	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; (Electric Submersible); Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: _____

17.55

11.4 (Gals.) X 3 = 34.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius^2 * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1326	60.0	7.3	915	132	11.5	
DEWATERED	@	15.0	GALLONS			DTW: 33.19
1355	60.6	7.0	920	159	—	

Did well dewater? (Yes) No Gallons actually evacuated: 15.0

Sampling Date: 6-10-09 Sampling Time: 1355 Depth to Water: 24.62

Sample I.D.: MW-2 Laboratory: Kiff CalScience Other C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.35 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 090610AK1	Client: STELLAR ENVIRO. SOLUTIONS
Sampler: AK	Date: 6-10-09
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 25.34	Depth to Water (DTW): 13.11
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 15.55	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

12.23

1.9 (Gals.) X 3 = 5.8 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius^2 * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1034	56.1	6.8	902	288	2.0	
1038	55.9	6.8	901	>1000	4.0	
1041	55.9	6.8	895	>1000	6.0	
NOT @ 80%						

Did well dewater? Yes (No) Gallons actually evacuated: 6.0

Sampling Date: 6-10-09 Sampling Time: 1250 Depth to Water: 13.28

Sample I.D.: MW-7 Laboratory: Kiff CalScience Other C & T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

L MONITORING DATA SH

Project #: 090610AK1	Client: STELLAR ENVIRO. SOLUTIONS
Sampler: AK	Date: 6-10-09
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 22.26	Depth to Water (DTW): 11.19
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.40	

Purge Method: Bailer; ~~Disposable Bailer~~; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: _____

11.07

1.8 (Gals.) X 3 = 5.3 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius^2 * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1153	59.1	7.2	899	187	2.0	
1156	59.2	7.0	924	200	4.0	
1159	59.2	7.0	942	351	6.0	

Did well dewater? Yes (No) Gallons actually evacuated: 6.0

Sampling Date: 6-10-09 Sampling Time: 1200 Depth to Water: 13.35

Sample I.D.: MW-8 Laboratory: Kiff CalScience Other C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 090610AK1	Client: STELLAR ENVIRO. SOLUTIONS
Sampler: AK	Date: 6-10-09
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 30.25	Depth to Water (DTW): 15.20
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 18.21	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

15.05

2.4 (Gals.) X 3 = 7.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1112	56.2	6.8	1055	>1000	2.5	ODOR
1115	56.3	6.8	1033	>1000	5.0	ODOR
1119	56.4	6.9	1008	>1000	7.5	ODOR
NOT @ 90%						

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Date: 6-10-09 Sampling Time: 1310 Depth to Water: 15.49

Sample I.D.: MW-9 Laboratory: Kiff CalScience Other C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 090610AK1	Client: STELLAR ENVIRO. SOLUTIONS
Sampler: AK	Date: 6-10-09
Well I.D.: MW-10	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 28.42	Depth to Water (DTW): 11.82
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 15.14	

Purge Method: Bailer; (Disposable Bailer); Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: _____

16.60

2.6 (Gals.) X 3 = 7.9 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1014	58.7	8.0	823	537	2.75	
1017	58.6	7.2	870	>1000	5.50	
1021	58.6	7.3	790	>1000	8.25	
1024	58.6	7.3	782	>1000	11.00	
NOT	@ 8090					

Did well dewater? Yes (No) Gallons actually evacuated: 11.00

Sampling Date: 6-10-09 Sampling Time: 1240 Depth to Water: 12.28

Sample I.D.: MW-10 Laboratory: Kiff CalScience Other C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

...L MONITORING DATA SH...

Project #: 090610AK1	Client: STELLAR ENVIRO. SOLUTIONS
Sampler: AK	Date: 6-10-09
Well I.D.: MW-11	Well Diameter: (2") 3 4 6 8 ____
Total Well Depth (TD): 28.73	Depth to Water (DTW): 12.64
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 15.85	

Purge Method: Bailer; (Disposable Bailer); Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: _____

16.09

2.6 (Gals.) X 3 = ~~6.7~~ 7.7 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1217	56.9	7.4	709	>1000	2.75	
1220	56.7	7.0	732	>1000	5.50	
1223	56.5	6.9	744	>1000	8.25	

Did well dewater? Yes (No) Gallons actually evacuated: 8.25

Sampling Date: 6-10-09 Sampling Time: 1225 Depth to Water: 13.75

Sample I.D.: MW-11 Laboratory: Kiff CalScience Other C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

W[illegible]L MONITORING DATA SHE[illegible]T

Project #: 090610AK1	Client: STELLAR ENVIRO. SOLUTIONS
Sampler: AK	Date: 6-10-09
Well I.D.: MW-12	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 23.88	Depth to Water (DTW): 9.71
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.54	

Purge Method: Bailer; (Disposable Bailer); Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: _____

14.17

2.3 (Gals.) X 3 = 6.8 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1055	55.6	7.2	673	>1000	2.5	
1058	555	6.8	683	>1000	5.0	
1101	55.6	6.8	692	>1000	7.5	
NOT @	80%					

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Date: 6-10-09 Sampling Time: 1300 Depth to Water:

Sample I.D.: MW-12 Laboratory: Kiff CalScience Other C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

APPENDIX C

Analytical Laboratory Report and Chain-of-Custody Record


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 212783
ANALYTICAL REPORT

Stellar Environmental Solutions	Project : 2006-16
2198 6th Street	Location : Redwood Regional Park
Berkeley, CA 94710	Level : II

Sample ID	Lab ID
MW-2	212783-001
MW-7	212783-002
MW-8	212783-003
MW-9	212783-004
MW-10	212783-005
MW-11	212783-006
MW-12	212783-007

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/18/2009
Project Manager

Signature: _____ Date: 06/18/2009
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**212783**
Client:	**Stellar Environmental Solutions**
Project:	**2006-16**
Location:	**Redwood Regional Park**
Request Date:	**06/10/09**
Samples Received:	**06/10/09**

This data package contains sample and QC results for seven water samples, requested for the above referenced project on 06/10/09. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):

High surrogate recovery was observed for bromofluorobenzene (FID) in MW-2 (lab # 212783-001), due to interference from coeluting hydrocarbon peaks; the corresponding trifluorotoluene (FID) surrogate recovery was within limits. High surrogate recoveries were observed for trifluorotoluene (FID) in a number of samples, due to interference from coeluting hydrocarbon peaks; the corresponding bromofluorobenzene (FID) surrogate recoveries were within limits. High surrogate recoveries were observed for bromofluorobenzene (PID) and trifluorotoluene (PID) in MW-8 (lab # 212783-003), MW-9 (lab # 212783-004), and MW-11 (lab # 212783-006), due to interference from coeluting hydrocarbon peaks. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Chain of Custody Record

Lab job no. 212783
Date 6/10/09
Page 1 of 1

Laboratory Curtis and Tompkins, Ltd.
Address 2323 Fifth Street
Berkeley, California 94710
510-486-0900

Project Owner East Bay Regional Park District
Site Address 7867 Redwood Road
Oakland, California

Project Name Redwood Regional Park
Project Number 2006-16

Method of Shipment Hand Delivery
Shipment No.
Airbill No.
Cooler No.
Project Manager Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: *(Signature)*

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	Analysis Required: TVH-B ~~BTEX~~	BTEX	MTBE	TEH-D	Remarks
1- MW-2		6/10	1355	W	3VOA/1 AMB	Y	HCl/NONE		4	X	X	X	X	
2- MW-7			1250						4	X	X	X	X	
3- MW-8			1200						4	X	X	X	X	
4- MW-9			1310						4	X	X	X	X	
5- MW-10			1240						4	X	X	X	X	
6- MW-11			1225						4	X	X	X	X	
7- MW-12			1300						4	X	X	X	X	

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature	6/10	Signature	6/10	Signature	6/10	Signature Pat Gonzalez	6/10/09
Printed Justin Kress	Time 1452	Printed J Kress	Time 1452	Printed J Kress	Time 1453	Printed Pat Gonzalez	Time 1453
Company Stellar Environmental		Company Blaine Tech		Company Blaine Tech		Company Curtis & Tompkins	

Turnaround Time: 5 Day TAT

Comments: Please provide a GeoTracker EDF for groundwater samples only
Surface water samples collected by Stellar Environmental Solutions.
Groundwater samples collected by Blaine Tech Services.

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 21078 / 21228 Date Received 6/10 Number of coolers 1
Client SES Project 2009-02 / 2006-16

Date Opened 6/10 By (print) Tracy Bell (sign) Tracy Bell
Date Logged in 6/12 By (print) Tracy Bell (sign) Tracy Bell

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
Shipping info _____

2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ☐ NO
How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO N/A
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

☒ Bubble Wrap ☒ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation:

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) _____

☒ Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
11. Are sample labels present, in good condition and complete? _____ (YES) NO
12. Do the sample labels agree with custody papers? _____ (YES) NO
13. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
14. Are the samples appropriately preserved? _____ (YES) NO N/A
15. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
16. Was the client contacted concerning this sample delivery? _____ YES NO
If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____
_____
_____
_____
_____
_____
_____
_____

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-16		
Matrix:	Water	Sampled:	06/10/09
Units:	ug/L	Received:	06/10/09
Diln Fac:	1.000		

Field ID:	MW-2	Lab ID:	212783-001
Type:	SAMPLE	Analyzed:	06/16/09

Analyte	Result	RL	Batch#	Analysis
Gasoline C7-C12	2,400	50	152049	EPA 8015B
MTBE	13	2.0	152000	EPA 8021B
Benzene	5.4 C	0.50	152049	EPA 8021B
Toluene	ND	0.50	152049	EPA 8021B
Ethylbenzene	11	0.50	152049	EPA 8021B
m,p-Xylenes	5.2	0.50	152049	EPA 8021B
o-Xylene	15	0.50	152049	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analysis
Trifluorotoluene (FID)	112	63-146	152049	EPA 8015B
Bromofluorobenzene (FID)	143 *	70-140	152049	EPA 8015B
Trifluorotoluene (PID)	115	50-140	152049	EPA 8021B
Bromofluorobenzene (PID)	120	56-132	152049	EPA 8021B

Field ID:	MW-7	Lab ID:	212783-002
Type:	SAMPLE	Analyzed:	06/16/09

Analyte	Result	RL	Batch#	Analysis
Gasoline C7-C12	4,600	50	152049	EPA 8015B
MTBE	260 C	2.0	152000	EPA 8021B
Benzene	40 C	0.50	152049	EPA 8021B
Toluene	ND	0.50	152049	EPA 8021B
Ethylbenzene	140	0.50	152049	EPA 8021B
m,p-Xylenes	4.5	0.50	152049	EPA 8021B
o-Xylene	0.62 C	0.50	152049	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analysis
Trifluorotoluene (FID)	170 *	63-146	152049	EPA 8015B
Bromofluorobenzene (FID)	127	70-140	152049	EPA 8015B
Trifluorotoluene (PID)	139	50-140	152049	EPA 8021B
Bromofluorobenzene (PID)	127	56-132	152049	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-16		
Matrix:	Water	Sampled:	06/10/09
Units:	ug/L	Received:	06/10/09
Diln Fac:	1.000		

Field ID:	MW-8	Lab ID:	212783-003
Type:	SAMPLE	Analyzed:	06/16/09

Analyte	Result	RL	Batch#	Analysis
Gasoline C7-C12	2,100	50	152049	EPA 8015B
MTBE	55 C	2.0	152000	EPA 8021B
Benzene	32 C	0.50	152049	EPA 8021B
Toluene	ND	0.50	152049	EPA 8021B
Ethylbenzene	260	0.50	152049	EPA 8021B
m,p-Xylenes	75	0.50	152049	EPA 8021B
o-Xylene	5.8 C	0.50	152049	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analysis
Trifluorotoluene (FID)	154 *	63-146	152049	EPA 8015B
Bromofluorobenzene (FID)	117	70-140	152049	EPA 8015B
Trifluorotoluene (PID)	148 *	50-140	152049	EPA 8021B
Bromofluorobenzene (PID)	126	56-132	152049	EPA 8021B

Field ID:	MW-9	Lab ID:	212783-004
Type:	SAMPLE	Analyzed:	06/16/09

Analyte	Result	RL	Batch#	Analysis
Gasoline C7-C12	4,100	50	152049	EPA 8015B
MTBE	160 C	2.0	152000	EPA 8021B
Benzene	62 C	0.50	152049	EPA 8021B
Toluene	ND	0.50	152049	EPA 8021B
Ethylbenzene	280	0.50	152049	EPA 8021B
m,p-Xylenes	37	0.50	152049	EPA 8021B
o-Xylene	4.7	0.50	152049	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analysis
Trifluorotoluene (FID)	149 *	63-146	152049	EPA 8015B
Bromofluorobenzene (FID)	131	70-140	152049	EPA 8015B
Trifluorotoluene (PID)	175 *	50-140	152049	EPA 8021B
Bromofluorobenzene (PID)	133 *	56-132	152049	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-16		
Matrix:	Water	Sampled:	06/10/09
Units:	ug/L	Received:	06/10/09
Diln Fac:	1.000		

Field ID: MW-10 Lab ID: 212783-005
Type: SAMPLE

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	72	50	152049	06/17/09	EPA 8015B
MTBE	ND	2.0	152000	06/16/09	EPA 8021B
Benzene	2.0 C	0.50	152049	06/17/09	EPA 8021B
Toluene	ND	0.50	152049	06/17/09	EPA 8021B
Ethylbenzene	4.4	0.50	152049	06/17/09	EPA 8021B
m,p-Xylenes	1.3 C	0.50	152049	06/17/09	EPA 8021B
o-Xylene	ND	0.50	152049	06/17/09	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	109	63-146	152049	06/17/09	EPA 8015B
Bromofluorobenzene (FID)	107	70-140	152049	06/17/09	EPA 8015B
Trifluorotoluene (PID)	111	50-140	152049	06/17/09	EPA 8021B
Bromofluorobenzene (PID)	113	56-132	152049	06/17/09	EPA 8021B

Field ID: MW-11 Lab ID: 212783-006
Type: SAMPLE

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	2,100	50	152049	06/17/09	EPA 8015B
MTBE	40 C	2.0	152000	06/16/09	EPA 8021B
Benzene	38 C	0.50	152049	06/17/09	EPA 8021B
Toluene	ND	0.50	152049	06/17/09	EPA 8021B
Ethylbenzene	80	0.50	152049	06/17/09	EPA 8021B
m,p-Xylenes	2.1	0.50	152049	06/17/09	EPA 8021B
o-Xylene	1.2 C	0.50	152049	06/17/09	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	194 *	63-146	152049	06/17/09	EPA 8015B
Bromofluorobenzene (FID)	132	70-140	152049	06/17/09	EPA 8015B
Trifluorotoluene (PID)	168 *	50-140	152049	06/17/09	EPA 8021B
Bromofluorobenzene (PID)	134 *	56-132	152049	06/17/09	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-16		
Matrix:	Water	Sampled:	06/10/09
Units:	ug/L	Received:	06/10/09
Diln Fac:	1.000		

Field ID: MW-12 Lab ID: 212783-007
Type: SAMPLE

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	300	50	152049	06/17/09	EPA 8015B
MTBE	ND	2.0	152000	06/16/09	EPA 8021B
Benzene	ND	0.50	152049	06/17/09	EPA 8021B
Toluene	ND	0.50	152049	06/17/09	EPA 8021B
Ethylbenzene	4.6	0.50	152049	06/17/09	EPA 8021B
m,p-Xylenes	ND	0.50	152049	06/17/09	EPA 8021B
o-Xylene	ND	0.50	152049	06/17/09	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	120	63-146	152049	06/17/09	EPA 8015B
Bromofluorobenzene (FID)	108	70-140	152049	06/17/09	EPA 8015B
Trifluorotoluene (PID)	120	50-140	152049	06/17/09	EPA 8021B
Bromofluorobenzene (PID)	117	56-132	152049	06/17/09	EPA 8021B

Type: BLANK Analyzed: 06/15/09
Lab ID: QC500037 Analysis: EPA 8021B
Batch#: 152000

Analyte	Result	RL
MTBE	ND	2.0

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		96	50-140
Bromofluorobenzene (PID)		94	56-132

Type: BLANK Batch#: 152049
Lab ID: QC500241 Analyzed: 06/16/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	96	63-146	EPA 8015B
Bromofluorobenzene (FID)	99	70-140	EPA 8015B
Trifluorotoluene (PID)	89	50-140	EPA 8021B
Bromofluorobenzene (PID)	94	56-132	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-16	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	152000
Units:	ug/L	Analyzed:	06/15/09
Diln Fac:	1.000		

Type: BS Lab ID: QC500038

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	10.44	104	53-152

Surrogate	%REC	Limits
Trifluorotoluene (PID)	99	50-140
Bromofluorobenzene (PID)	96	56-132

Type: BSD Lab ID: QC500039

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	20.61	103	53-152	1	37

Surrogate	%REC	Limits
Trifluorotoluene (PID)	102	50-140
Bromofluorobenzene (PID)	103	56-132

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-16	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	152049
Units:	ug/L	Analyzed:	06/16/09
Diln Fac:	1.000		

Type: BS Lab ID: QC500242

Analyte	Spiked	Result	%REC	Limits
Benzene	10.00	9.167	92	79-120
Toluene	10.00	9.579	96	76-122
Ethylbenzene	10.00	9.590	96	77-125
m,p-Xylenes	10.00	10.12	101	76-126
o-Xylene	10.00	9.235	92	77-126

Surrogate	%REC	Limits
Trifluorotoluene (PID)	100	50-140
Bromofluorobenzene (PID)	101	56-132

Type: BSD Lab ID: QC500243

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	20.00	19.41	97	79-120	6	20
Toluene	20.00	19.94	100	76-122	4	21
Ethylbenzene	20.00	19.65	98	77-125	2	21
m,p-Xylenes	20.00	20.38	102	76-126	1	23
o-Xylene	20.00	18.51	93	77-126	0	21

Surrogate	%REC	Limits
Trifluorotoluene (PID)	106	50-140
Bromofluorobenzene (PID)	110	56-132

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-16	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC500244	Batch#:	152049
Matrix:	Water	Analyzed:	06/16/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	873.7	87	76-121

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	63-146
Bromofluorobenzene (FID)	105	70-140

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-16	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	152049
MSS Lab ID:	212844-001	Sampled:	06/12/09
Matrix:	Water	Received:	06/15/09
Units:	ug/L	Analyzed:	06/17/09
Diln Fac:	1.000		

Type: MS Lab ID: QC500245

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	20.01	2,000	1,666	82	66-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	132	63-146
Bromofluorobenzene (FID)	111	70-140

Type: MSD Lab ID: QC500246

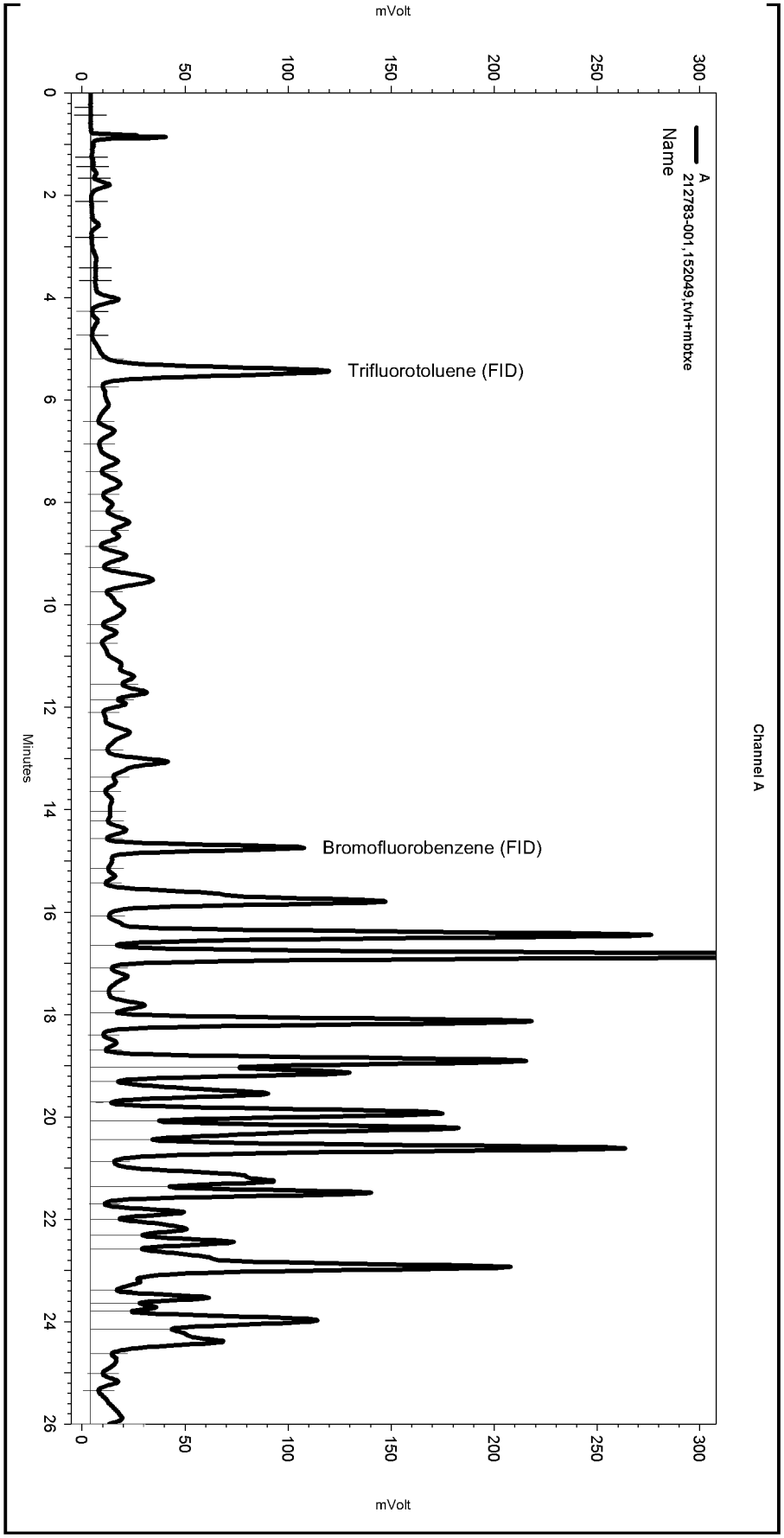
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,635	81	66-120	2	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	132	63-146
Bromofluorobenzene (FID)	110	70-140

RPD= Relative Percent Difference

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\167.seq**
Sample Name: **212783-001,152049,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\167_009**
Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe150.met

Software Version 3.1.7
Run Date: 6/16/2009 6:27:49 PM
Analysis Date: 6/17/2009 10:18:42 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: c1.3



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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

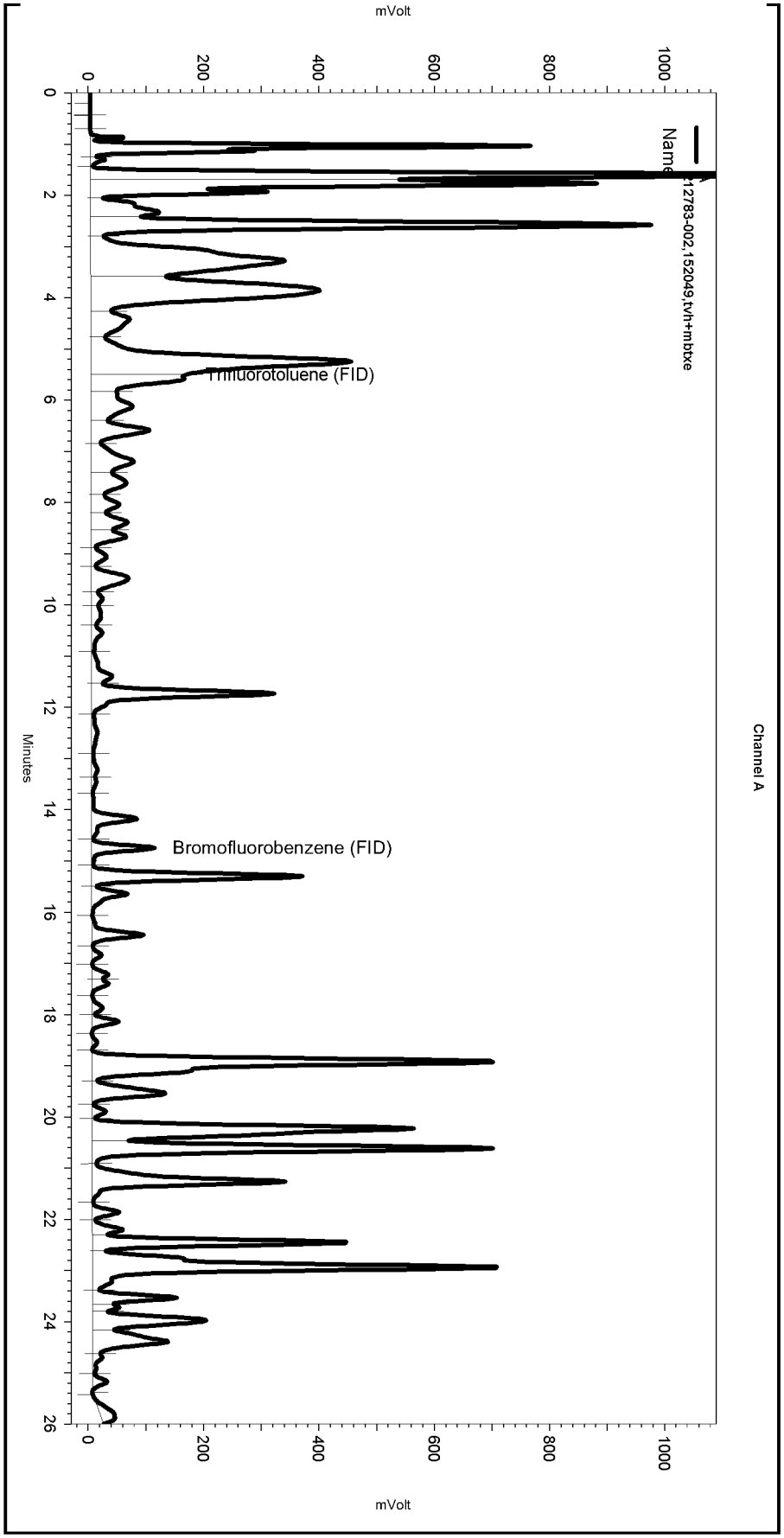
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\167_009

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0	26.017	0
Yes	Split Peak	5.195	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\167.seq**
Sample Name: **212783-002,152049,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\167_010**
Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe150.met

Software Version 3.1.7
Run Date: 6/16/2009 7:03:26 PM
Analysis Date: 6/17/2009 10:19:42 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: c1.3



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No items selected for this section

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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

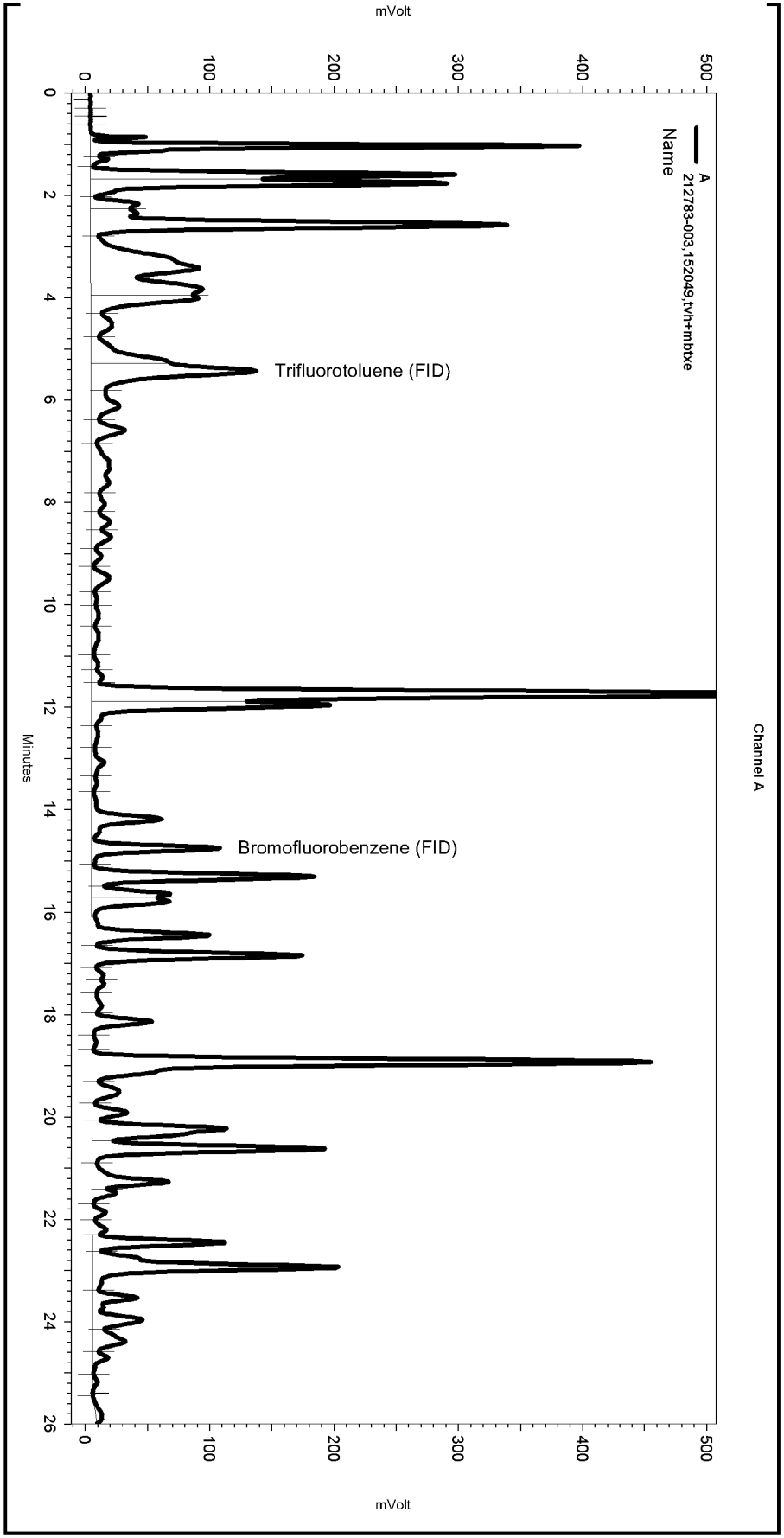
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\167_010

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.508	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\167.seq**
Sample Name: **212783-003,152049,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\167_011**
Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe150.met

Software Version 3.1.7
Run Date: 6/16/2009 7:39:04 PM
Analysis Date: 6/17/2009 10:21:46 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: c1.3



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No items selected for this section

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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

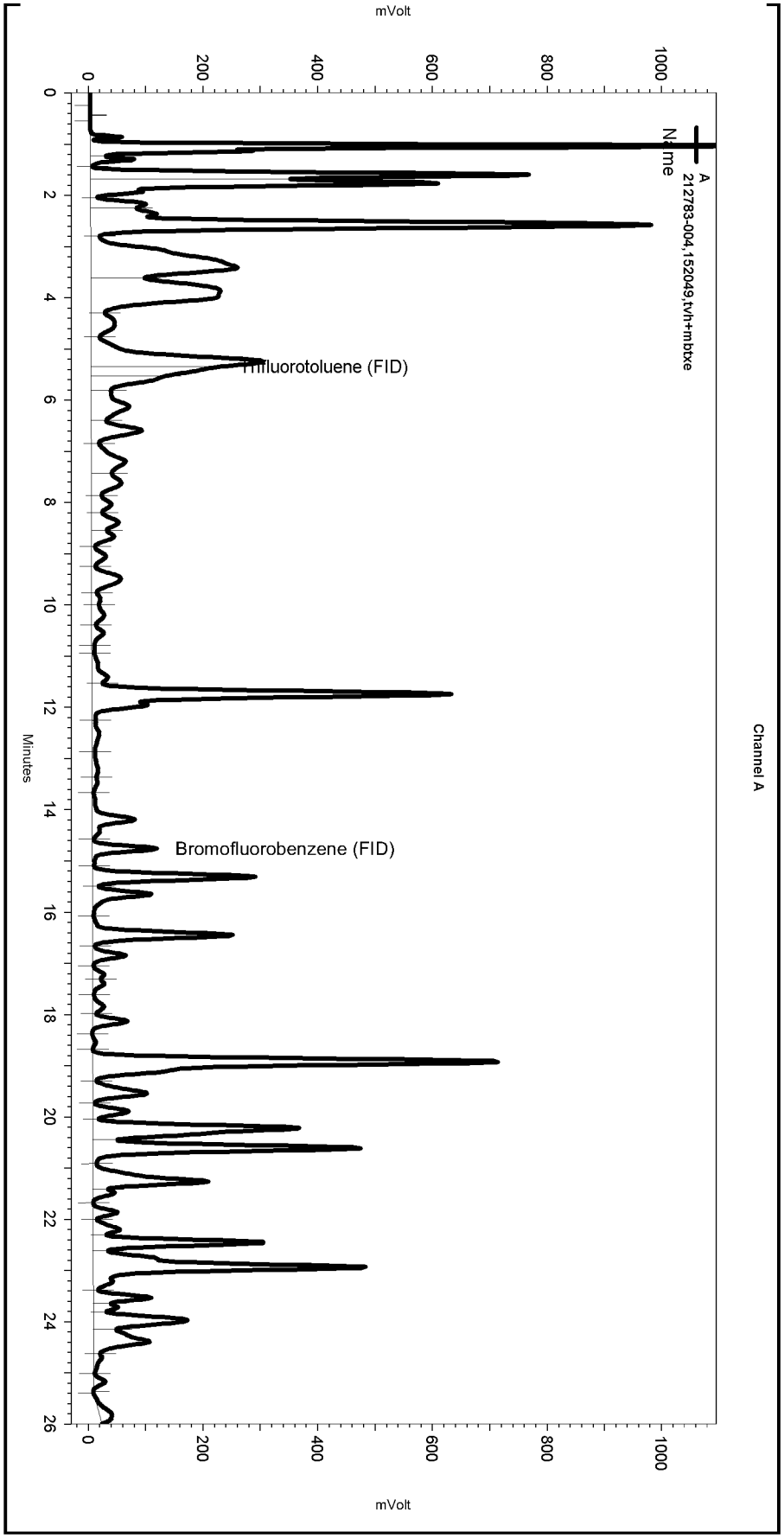
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\167_011

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.277	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\167.seq**
Sample Name: **212783-004,152049,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\167_012**
Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe150.met

Software Version 3.1.7
Run Date: 6/16/2009 8:14:39 PM
Analysis Date: 6/17/2009 10:23:23 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: c1.3



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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

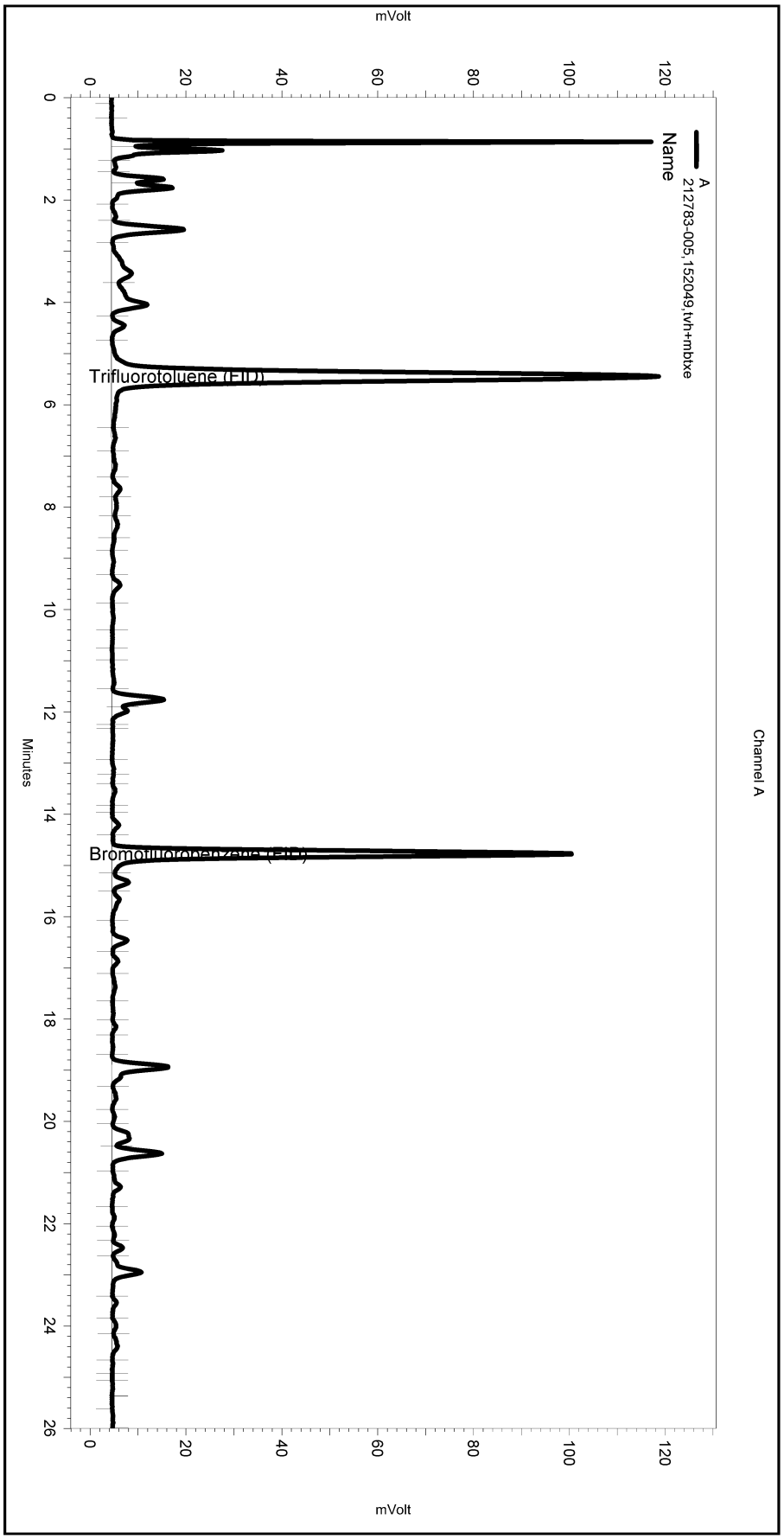
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\167_012

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.347	0	0
Yes	Split Peak	5.538	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\167.seq**
Sample Name: **212783-005,152049,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\167_019**
Instrument: GC05 Vial: N/A Operator: lims2k3\tvh3
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe150.met

Software Version 3.1.7
Run Date: 6/17/2009 12:23:35 AM
Analysis Date: 6/17/2009 12:52:20 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: c1.3



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Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

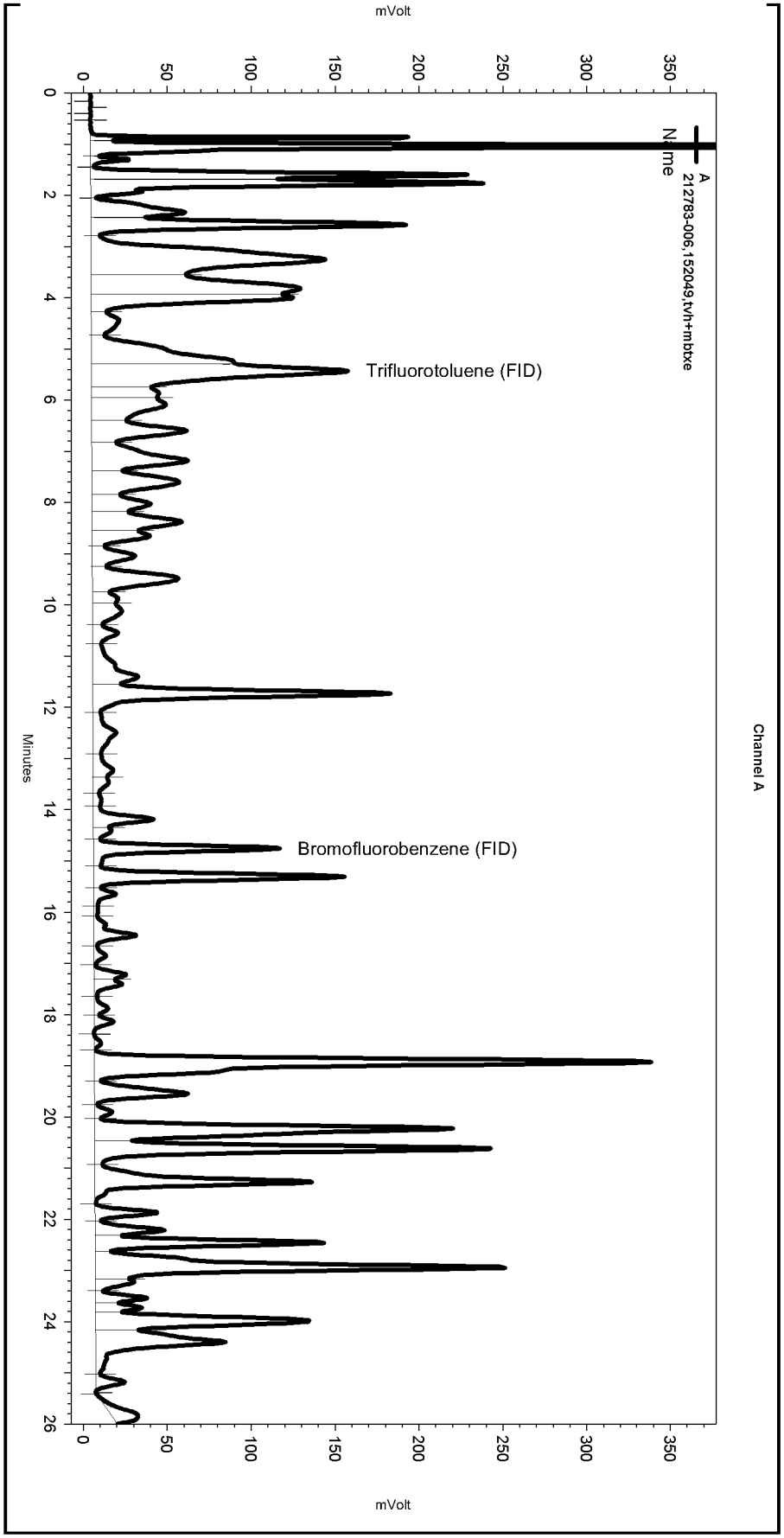
Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10048\167_019_61FE.tmp

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value

None

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\167.seq**
Sample Name: **212783-006,152049,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\167_020**
Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe150.met

Software Version 3.1.7
Run Date: 6/17/2009 12:59:12 AM
Analysis Date: 6/17/2009 10:25:42 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: c1.3



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Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

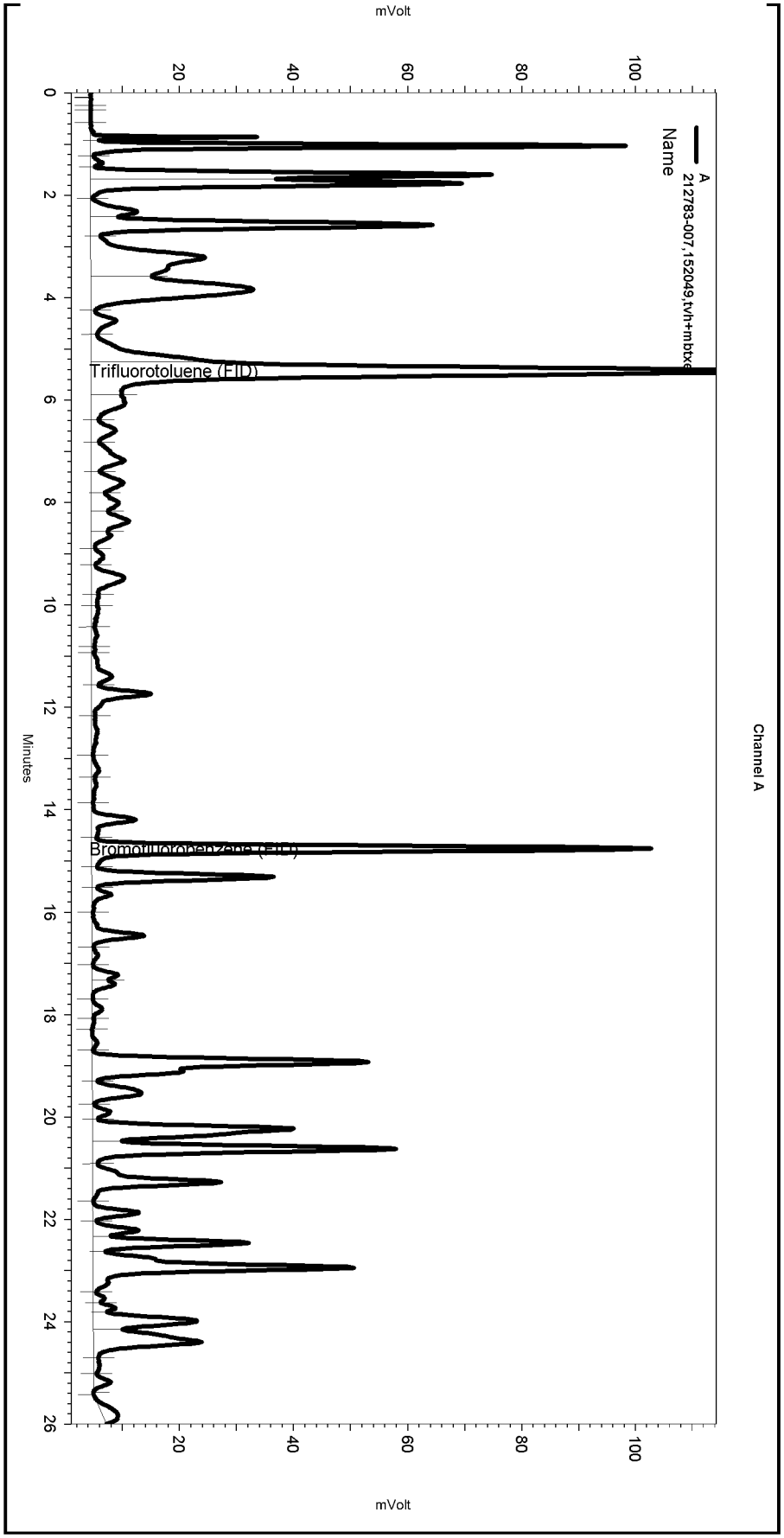
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\167_020

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.298	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\167.seq**
Sample Name: **212783-007,152049,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\167_021**
Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe150.met

Software Version 3.1.7
Run Date: 6/17/2009 1:34:45 AM
Analysis Date: 6/17/2009 10:27:10 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: c1.3



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No items selected for this section

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Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

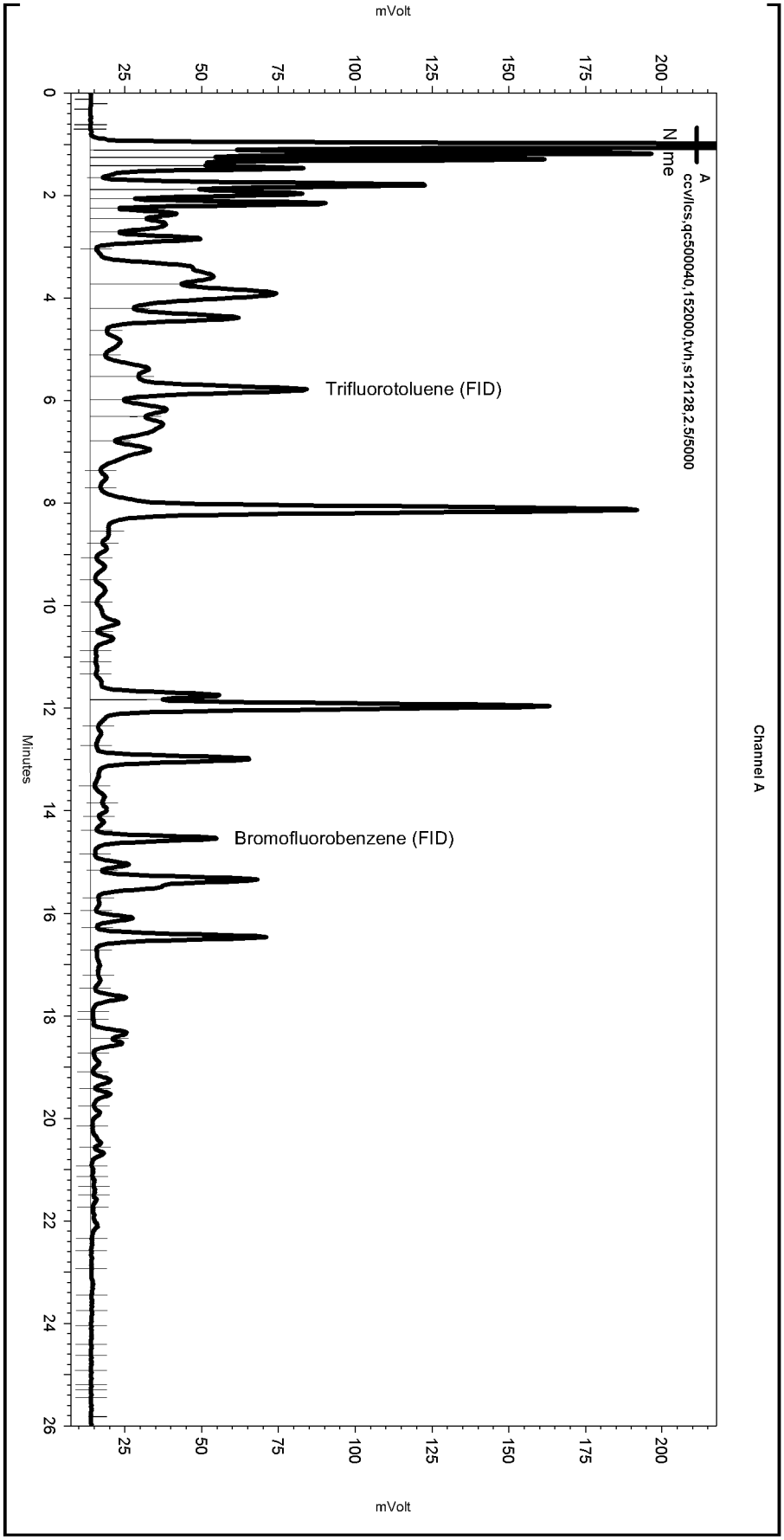
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\167_021

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.245	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC04\Sequence\166.seq**
Sample Name: **ccv/lcs,qc500040,152000,tvh,s12128,2.5/5000**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC04\Data\166_004**
Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe162.met

Software Version 3.1.7
Run Date: 6/15/2009 11:51:18 AM
Analysis Date: 6/16/2009 7:21:19 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: {Data Description}



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No items selected for this section

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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\166_004

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value

None

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2006-16	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/10/09
Units:	ug/L	Received:	06/10/09
Diln Fac:	1.000	Prepared:	06/16/09
Batch#:	152044		

Field ID: MW-2 Lab ID: 212783-001
Type: SAMPLE Analyzed: 06/17/09

Analyte	Result	RL
Diesel C10-C24	8,000 Y	50

Surrogate	%REC	Limits
o-Terphenyl	77	61-127

Field ID: MW-7 Lab ID: 212783-002
Type: SAMPLE Analyzed: 06/17/09

Analyte	Result	RL
Diesel C10-C24	5,400 Y	50

Surrogate	%REC	Limits
o-Terphenyl	85	61-127

Field ID: MW-8 Lab ID: 212783-003
Type: SAMPLE Analyzed: 06/17/09

Analyte	Result	RL
Diesel C10-C24	3,400 Y	50

Surrogate	%REC	Limits
o-Terphenyl	81	61-127

Field ID: MW-9 Lab ID: 212783-004
Type: SAMPLE Analyzed: 06/17/09

Analyte	Result	RL
Diesel C10-C24	3,600 Y	50

Surrogate	%REC	Limits
o-Terphenyl	95	61-127

Field ID: MW-10 Lab ID: 212783-005
Type: SAMPLE Analyzed: 06/18/09

Analyte	Result	RL
Diesel C10-C24	120 Y	50

Surrogate	%REC	Limits
o-Terphenyl	94	61-127

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2006-16	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/10/09
Units:	ug/L	Received:	06/10/09
Diln Fac:	1.000	Prepared:	06/16/09
Batch#:	152044		

Field ID: MW-11 Lab ID: 212783-006
Type: SAMPLE Analyzed: 06/18/09

Analyte	Result	RL
Diesel C10-C24	2,700 Y	50

Surrogate	%REC	Limits
o-Terphenyl	75	61-127

Field ID: MW-12 Lab ID: 212783-007
Type: SAMPLE Analyzed: 06/18/09

Analyte	Result	RL
Diesel C10-C24	280 Y	50

Surrogate	%REC	Limits
o-Terphenyl	98	61-127

Type: BLANK Analyzed: 06/18/09
Lab ID: QC500218

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	98	61-127

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2006-16	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC500219	Batch#:	152044
Matrix:	Water	Prepared:	06/16/09
Units:	ug/L	Analyzed:	06/18/09

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,313	93	50-120

Surrogate	%REC	Limits
o-Terphenyl	102	61-127

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	212783	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2006-16	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	152044
MSS Lab ID:	212822-024	Sampled:	06/11/09
Matrix:	Water	Received:	06/12/09
Units:	ug/L	Prepared:	06/16/09
Diln Fac:	1.000	Analyzed:	06/18/09

Type: MS Lab ID: QC500220

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	63.42	2,551	2,531	97	38-127

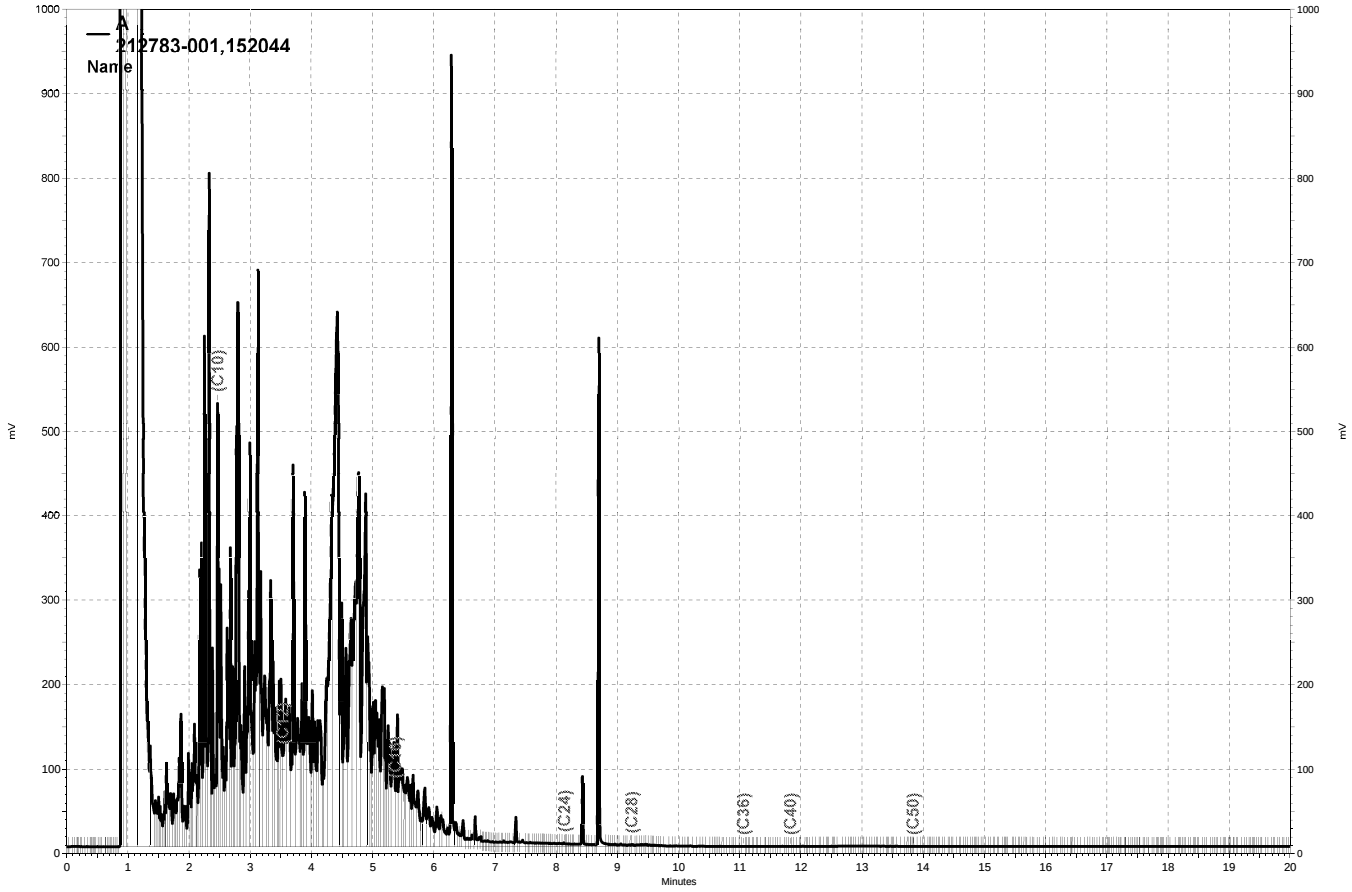
Surrogate	%REC	Limits
o-Terphenyl	106	61-127

Type: MSD Lab ID: QC500221

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,443	95	38-127	2	37

Surrogate	%REC	Limits
o-Terphenyl	109	61-127

RPD= Relative Percent Difference



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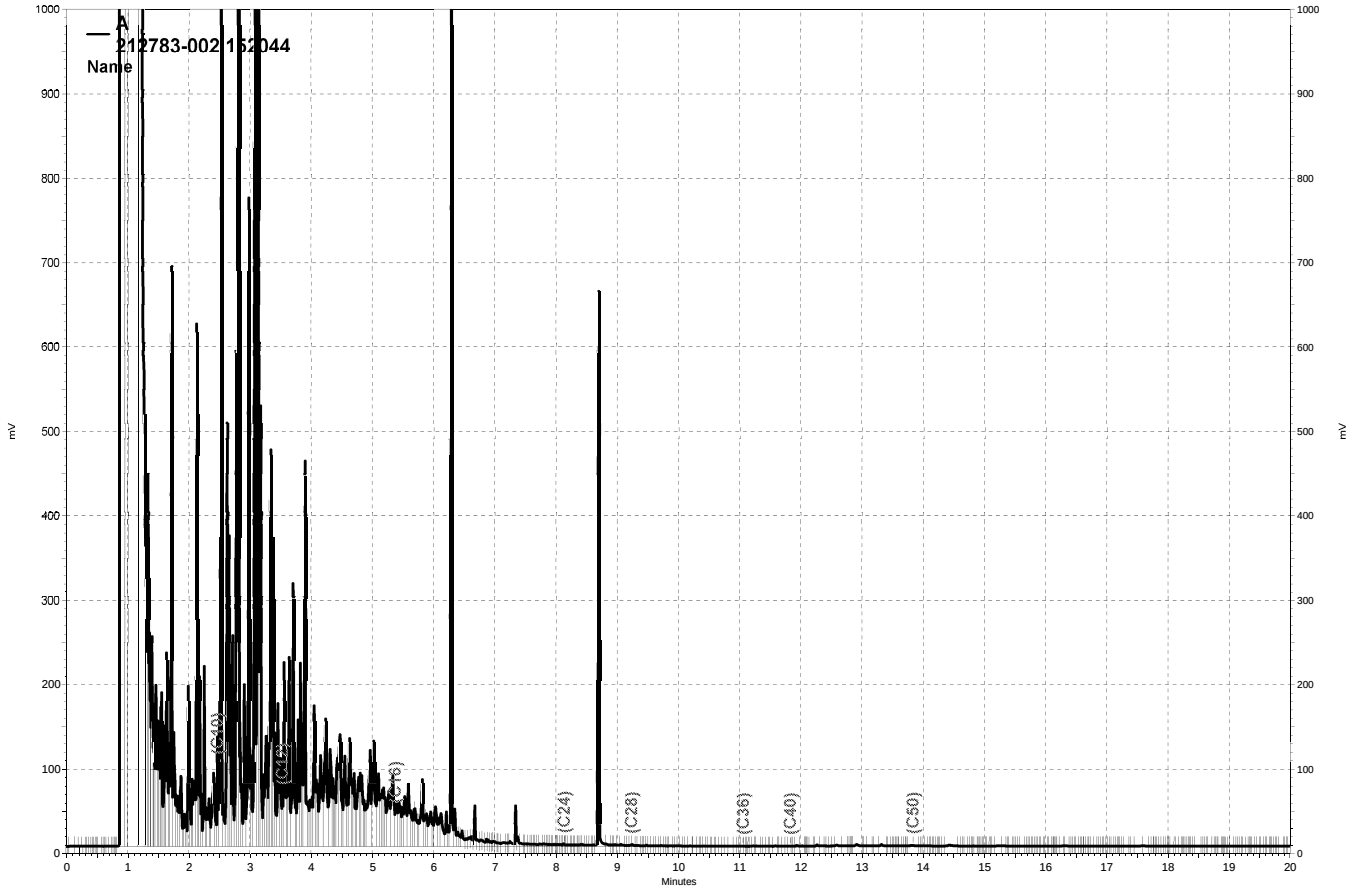

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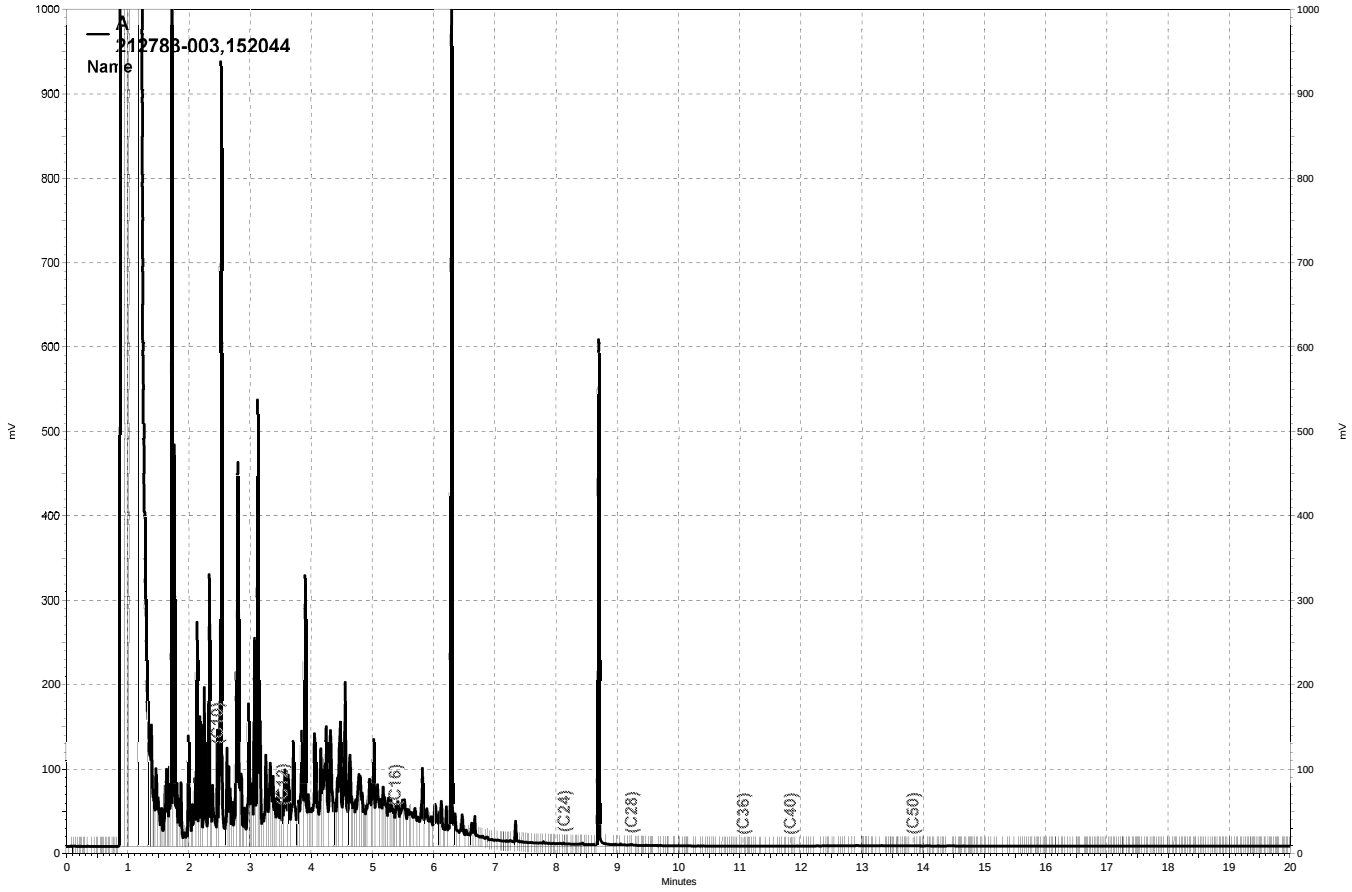

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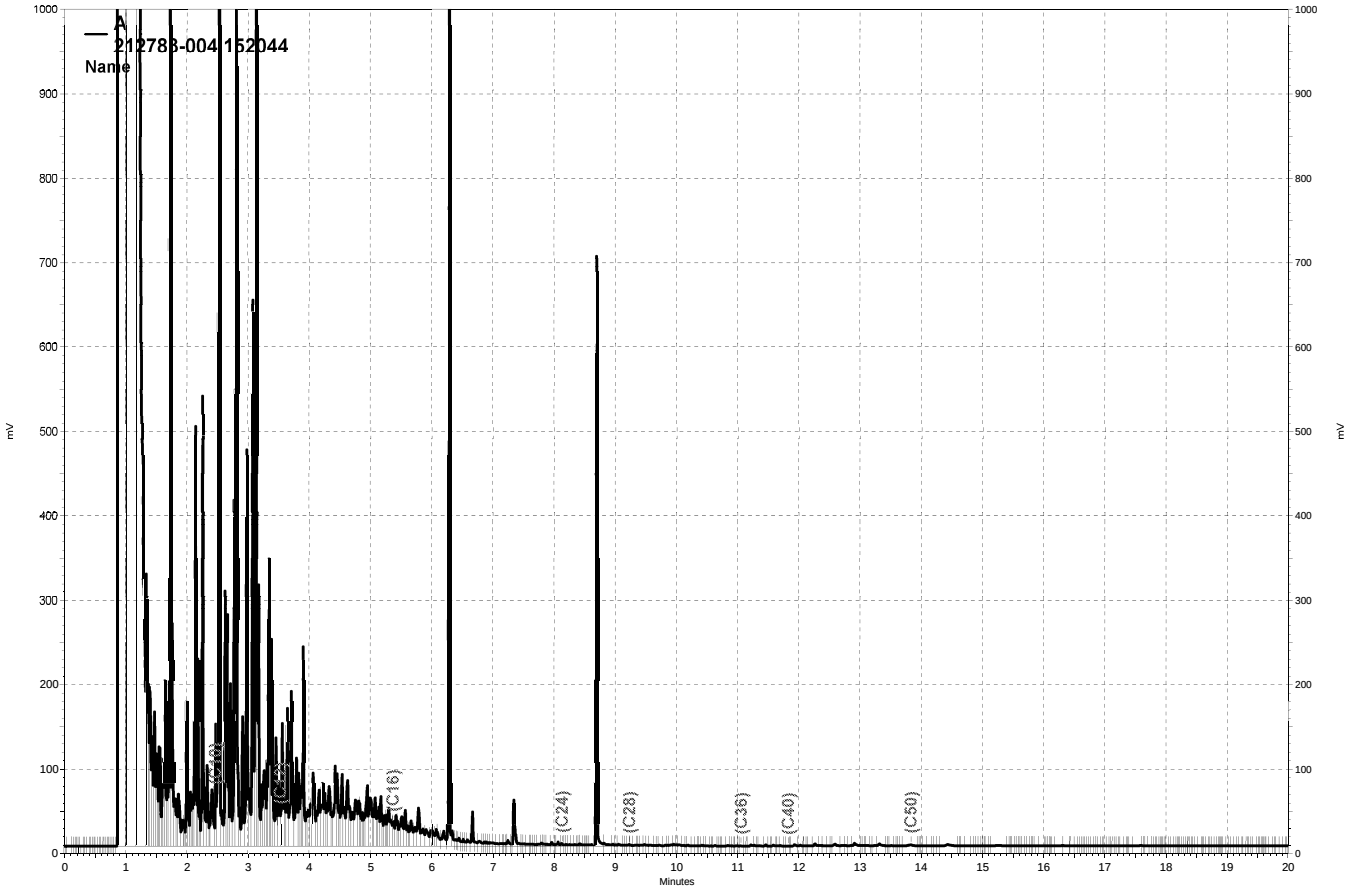

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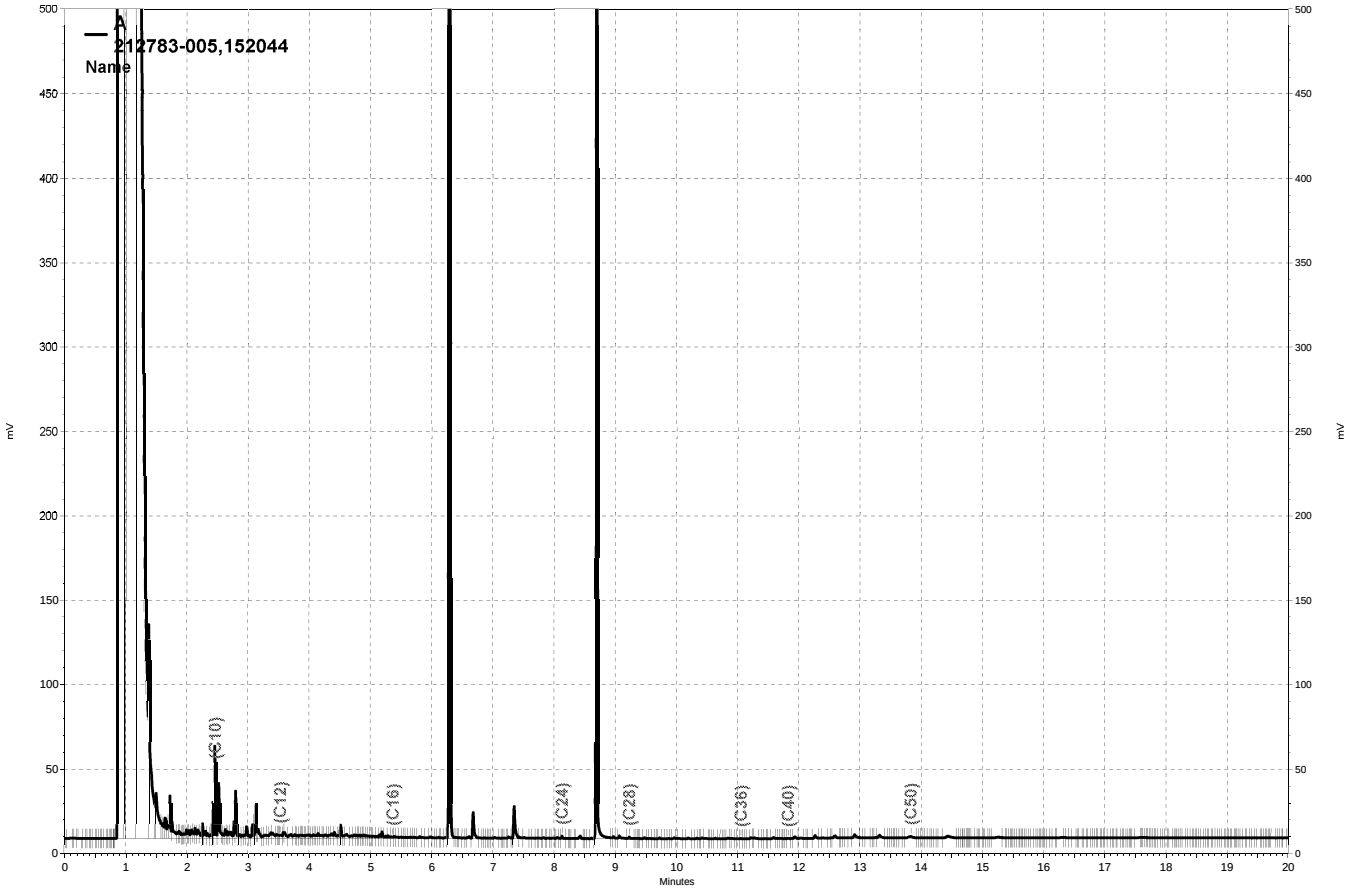

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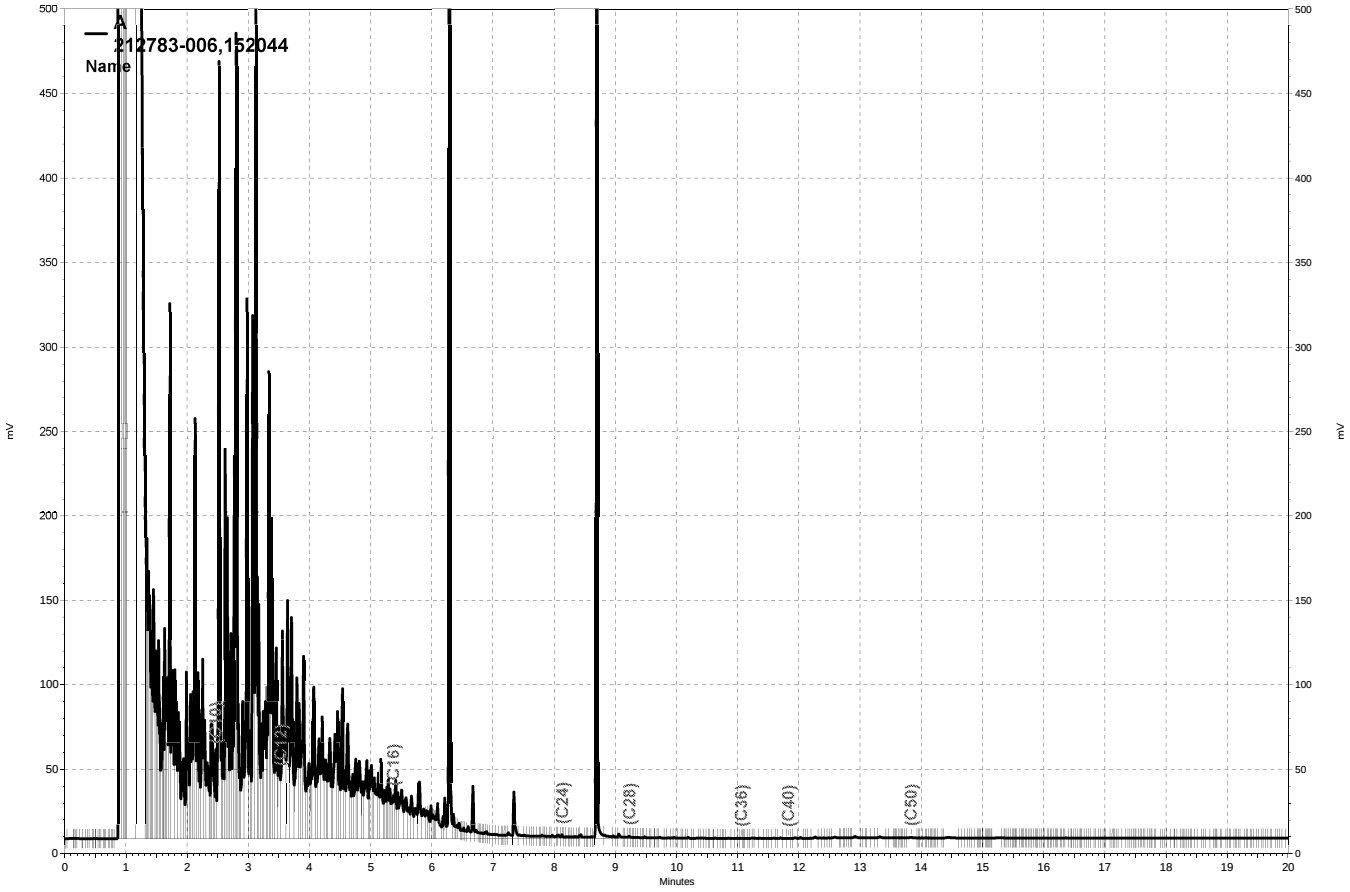

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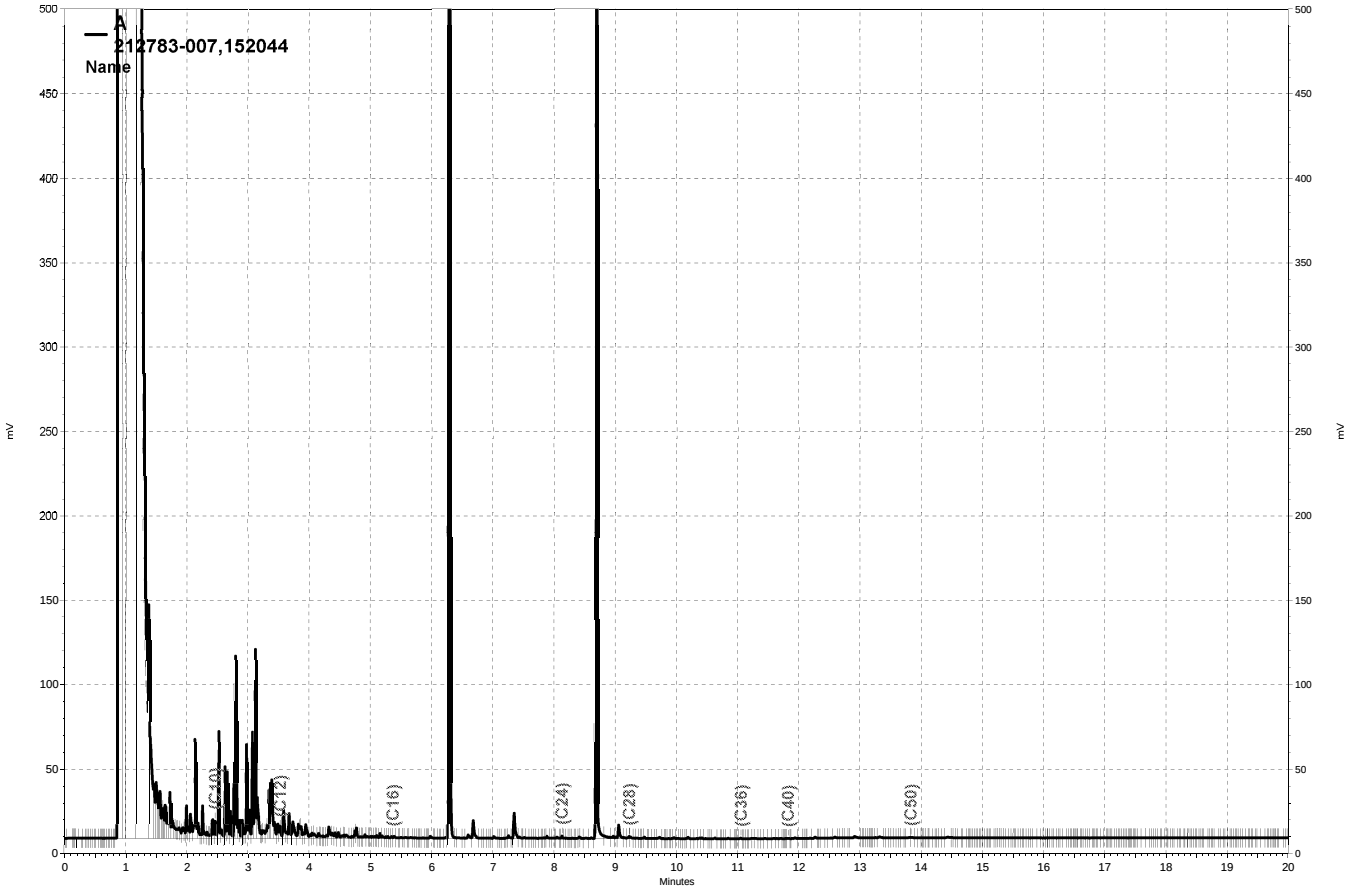

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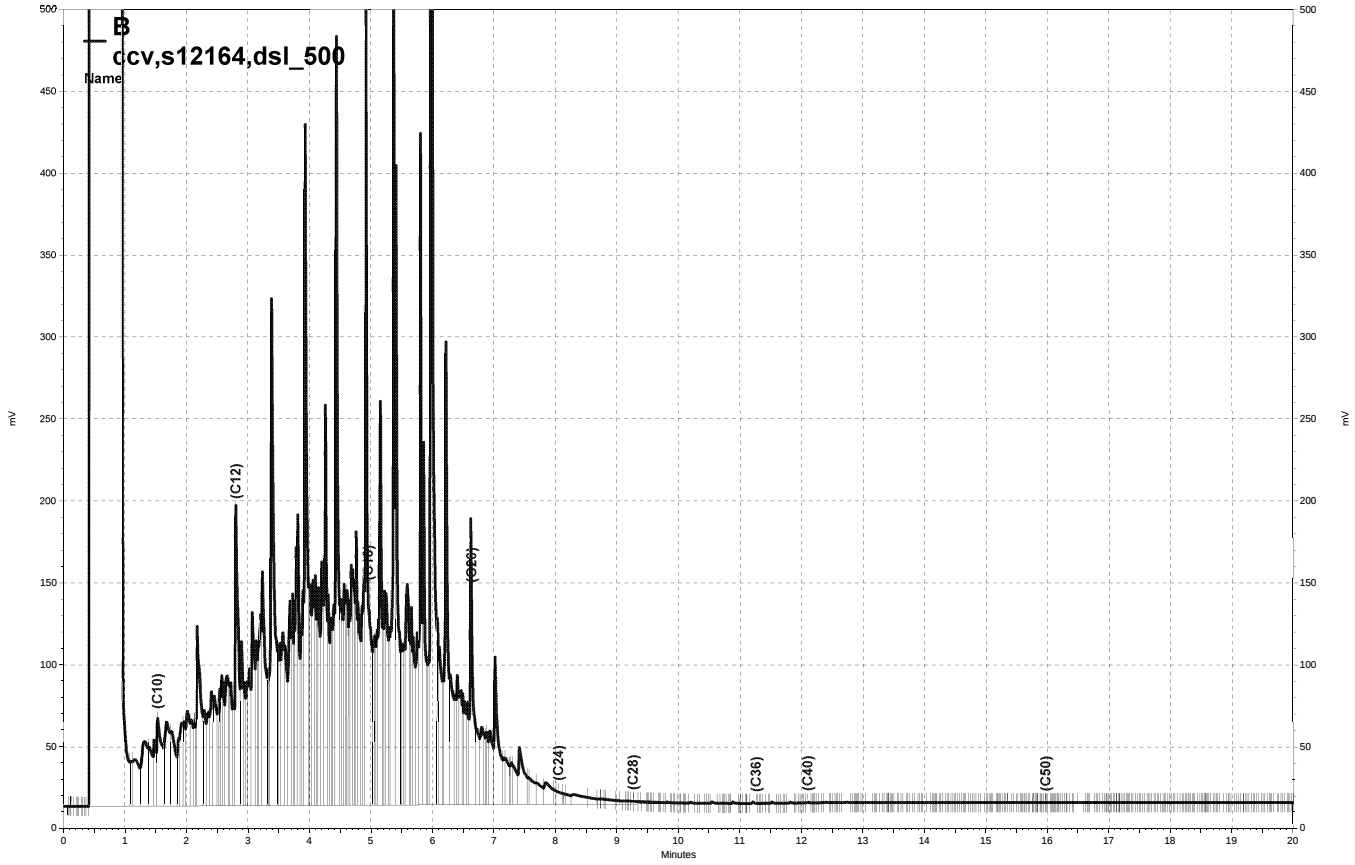

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Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 212780
ANALYTICAL REPORT

Stellar Environmental Solutions	Project : 2009-02
2198 6th Street	Location : Redwood Regional Park
Berkeley, CA 94710	Level : II

Sample ID	Lab ID
SW-2	212780-001
SW-3	212780-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/16/2009
Project Manager

Signature: _____ Date: 06/17/2009
Senior Program Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**212780**
Client:	**Stellar Environmental Solutions**
Project:	**2009-02**
Location:	**Redwood Regional Park**
Request Date:	**06/10/09**
Samples Received:	**06/10/09**

This data package contains sample and QC results for two water samples, requested for the above referenced project on 06/10/09. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Chain of Custody Record

Lab job no. 262780
Date 6-10-09
Page 1 of 1

Laboratory Curtis and Tompkins, Ltd.
Address 2323 Fifth Street
Berkeley, California 94710
510-486-0900

Project Owner East Bay Regional Park District
Site Address 7867 Redwood Road
Oakland, California
Project Name Redwood Regional Park
Project Number 2009-02

Method of Shipment Hand Delivery
Shipment No. ----------
Airbill No. ----------
Cooler No.
Project Manager Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature)

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TVHg, MBTEX	TEPH d	Remarks
SW-2	Creek	6-10-09	1000	W	3 VOA, 1 L	Y	Yes (a)	N	4	X	X	
SW-3	Creek	6-10-09	1020	W	3 VOA, 1 L	Y	Yes (a)	N	4	X	X	

Analysis Required

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature	3-16-09 6-10-09	Signature	3-16-09	Signature	6/10	Signature	6/10/09
Printed Teal Glass	Time	Printed J KRESS	Time 1046	Printed J KRESS	Time 1452	Printed Pat Gonzalez	Time 2:32
Company Stellar Environmental	1046	Company Blaine Tech		Company BLAINE TECH		Company Curtis & Tompkins	

Turnaround Time: Standard - 5 Day
Comments: (a) VOA w/ HCL

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 21278 / 21279 Date Received 4/10 Number of coolers 1
Client SES Project 2009-02 / 2006-16

Date Opened 4/10 By (print) Tracy Bish (sign) Tracy Bish
Date Logged in 4/12 By (print) Trish Bish (sign) Trish Bish

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
   Shipping info _____

2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ☒ NO
   How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO (N/A)
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

☒ Bubble Wrap ☒ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation:

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) _____

☒ Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
   If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
11. Are sample labels present, in good condition and complete? _____ (YES) NO
12. Do the sample labels agree with custody papers? _____ (YES) NO
13. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
14. Are the samples appropriately preserved? _____ (YES) NO N/A
15. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
16. Was the client contacted concerning this sample delivery? _____ YES NO
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____
_____
_____
_____
_____
_____
_____
_____

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212780	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Matrix:	Water	Batch#:	151971
Units:	ug/L	Sampled:	06/10/09
Diln Fac:	1.000	Received:	06/10/09

Field ID: SW-2 Lab ID: 212780-001
Type: SAMPLE Analyzed: 06/13/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	85	63-146	EPA 8015B
Bromofluorobenzene (FID)	96	70-140	EPA 8015B
Trifluorotoluene (PID)	99	50-140	EPA 8021B
Bromofluorobenzene (PID)	107	56-132	EPA 8021B

Field ID: SW-3 Lab ID: 212780-002
Type: SAMPLE Analyzed: 06/14/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	86	63-146	EPA 8015B
Bromofluorobenzene (FID)	97	70-140	EPA 8015B
Trifluorotoluene (PID)	94	50-140	EPA 8021B
Bromofluorobenzene (PID)	103	56-132	EPA 8021B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212780	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Matrix:	Water	Batch#:	151971
Units:	ug/L	Sampled:	06/10/09
Diln Fac:	1.000	Received:	06/10/09

Type: BLANK Analyzed: 06/13/09
Lab ID: QC499927

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	80	63-146	EPA 8015B
Bromofluorobenzene (FID)	80	70-140	EPA 8015B
Trifluorotoluene (PID)	87	50-140	EPA 8021B
Bromofluorobenzene (PID)	83	56-132	EPA 8021B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212780	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	151971
Units:	ug/L	Analyzed:	06/13/09
Diln Fac:	1.000		

Type: BS Lab ID: QC499928

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	10.26	103	53-152
Benzene	10.00	8.546	85	79-120
Toluene	10.00	8.743	87	76-122
Ethylbenzene	10.00	9.802	98	77-125
m,p-Xylenes	10.00	9.697	97	76-126
o-Xylene	10.00	9.510	95	77-126

Surrogate	%REC	Limits
Trifluorotoluene (PID)	96	50-140
Bromofluorobenzene (PID)	103	56-132

Type: BSD Lab ID: QC499929

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	20.32	102	53-152	1	37
Benzene	20.00	18.18	91	79-120	6	20
Toluene	20.00	17.34	87	76-122	1	21
Ethylbenzene	20.00	18.28	91	77-125	7	21
m,p-Xylenes	20.00	18.00	90	76-126	7	23
o-Xylene	20.00	17.22	86	77-126	10	21

Surrogate	%REC	Limits
Trifluorotoluene (PID)	94	50-140
Bromofluorobenzene (PID)	98	56-132

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212780	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC499930	Batch#:	151971
Matrix:	Water	Analyzed:	06/13/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	899.1	90	76-121

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	63-146
Bromofluorobenzene (FID)	106	70-140

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	212780	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02	Analysis:	EPA 8015B
Field ID:	SW-2	Batch#:	151971
MSS Lab ID:	212780-001	Sampled:	06/10/09
Matrix:	Water	Received:	06/10/09
Units:	ug/L	Analyzed:	06/14/09
Diln Fac:	1.000		

Type: MS Lab ID: QC499931

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	16.16	2,000	1,984	98	66-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	144	63-146
Bromofluorobenzene (FID)	135	70-140

Type: MSD Lab ID: QC499932

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,953	97	66-120	2	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	145	63-146
Bromofluorobenzene (FID)	131	70-140

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	212780	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2009-02	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/10/09
Units:	ug/L	Received:	06/10/09
Diln Fac:	1.000	Prepared:	06/12/09
Batch#:	151963	Analyzed:	06/15/09

Field ID: SW-2 Lab ID: 212780-001
Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	101	61-127

Field ID: SW-3 Lab ID: 212780-002
Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	99	61-127

Type: BLANK Lab ID: QC499894

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	84	61-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	212780	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2009-02	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	151963
Units:	ug/L	Prepared:	06/12/09
Diln Fac:	1.000	Analyzed:	06/15/09

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC499895

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,918	77	50-120

Surrogate	%REC	Limits
o-Terphenyl	82	61-127

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC499896

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,008	80	50-120	5	37

Surrogate	%REC	Limits
o-Terphenyl	80	61-127

RPD= Relative Percent Difference


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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 211911
ANALYTICAL REPORT

Stellar Environmental Solutions	Project : 2008-02
2198 6th Street	Location : Redwood Regional Park
Berkeley, CA 94710	Level : II

Sample ID	Lab ID
MW-2	211911-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 05/12/2009
Project Manager

Signature: _____ Date: 05/15/2009
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**211911**
Client:	**Stellar Environmental Solutions**
Project:	**2008-02**
Location:	**Redwood Regional Park**
Request Date:	**05/05/09**
Samples Received:	**05/05/09**

This data package contains sample and QC results for one water sample, requested for the above referenced project on 05/05/09. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):

High surrogate recovery was observed for bromofluorobenzene (FID) in MW-2 (lab # 211911-001), due to interference from coeluting hydrocarbon peaks; the corresponding trifluorotoluene (FID) surrogate recovery was within limits. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

211911

Chain of Custody Record

Lab job no. 090505-RM1
Date 5/5/09
Page 1 of 1

Laboratory Curtis and Tompkins, Ltd.
Address 2323 Fifth Street
Berkeley, California 94710
510-486-0900

Project Owner East Bay Regional Park District
Site Address 7867 Redwood Road
Oakland, California

Project Name Redwood Regional Park
Project Number ~~2006-16~~ 2008-02

Method of Shipment Hand Delivery
Shipment No. ----------
Airbill No. ----------
Cooler No. ----------
Project Manager Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: *(Signature)*

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	Analysis Required: TVH-G (8015)	Analysis Required: BTEX/MTBE (8021)	Analysis Required: TEH-D (8015)	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Analysis Required	Remarks
MW-2		5/5/09	1020		3 x 40 ml VOA 1 x 1L Amber	✓	HCl		4	x	x	x								

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature R. McCarthy	5/5/09	Signature Pat Gonzalez	5/5/09	Signature		Signature	
Printed	Time	Printed Pat Gonzalez	Time 11:22	Printed	Time	Printed	Time
Company Stellar Environmental		Company Curtis & Tompkins		Company		Company	

Turnaround Time: 5 Day TAT

Comments: ~~Please provide a GeoTracker EDF for groundwater samples only~~
~~Surface water samples collected by Stellar Environmental Solutions~~
~~Groundwater samples collected by Blaine Tech Services~~

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 211911 Date Received 5-5-9 Number of coolers 0
Client STEWAR Project REDWOOD REGIONAL PARK

Date Opened 5-5-9 By (print) S. GARS (sign) [signature]
Date Logged in / By (print) / (sign) /

1. Did cooler come with a shipping slip (airbill, etc) YES **(NO)**
Shipping info

2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO **(N/A)**

3. Were custody papers dry and intact when received? **(YES)** NO

4. Were custody papers filled out properly (ink, signed, etc)? **(YES)** NO

5. Is the project identifiable from custody papers? (If so fill out top of form) **(YES)** NO

6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation:

Type of ice used: ☐ Wet ☐ Blue/Gel ☒ None Temp(°C)

☐ Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES **(NO)**
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? **(YES)** NO

10. Are samples in the appropriate containers for indicated tests? **(YES)** NO

11. Are sample labels present, in good condition and complete? **(YES)** NO

12. Do the sample labels agree with custody papers? **(YES)** NO

13. Was sufficient amount of sample sent for tests requested? **(YES)** NO

14. Are the samples appropriately preserved? **(YES)** NO N/A

15. Are bubbles > 6mm absent in VOA samples? **(YES)** NO N/A

16. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

1 of 3 VOAS BROKEN, ACTIVE BEING LOGGED IN.

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	211911	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2008-02		
Field ID:	MW-2	Batch#:	150809
Matrix:	Water	Sampled:	05/05/09
Units:	ug/L	Received:	05/05/09
Diln Fac:	1.000	Analyzed:	05/08/09

Type: SAMPLE Lab ID: 211911-001

Analyte	Result	RL	Analysis
Gasoline C7-C12	5,000	50	EPA 8015B
MTBE	13	2.0	EPA 8021B
Benzene	1.5 C	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	9.8	0.50	EPA 8021B
m,p-Xylenes	11 C	0.50	EPA 8021B
o-Xylene	28	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	128	63-146	EPA 8015B
Bromofluorobenzene (FID)	407 *	70-140	EPA 8015B
Trifluorotoluene (PID)	126	50-140	EPA 8021B
Bromofluorobenzene (PID)	255 *	56-132	EPA 8021B

Type: BLANK Lab ID: QC495173

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	86	63-146	EPA 8015B
Bromofluorobenzene (FID)	90	70-140	EPA 8015B
Trifluorotoluene (PID)	93	50-140	EPA 8021B
Bromofluorobenzene (PID)	88	56-132	EPA 8021B

*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	211911	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2008-02	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC495174	Batch#:	150809
Matrix:	Water	Analyzed:	05/08/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,114	111	76-121

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	63-146
Bromofluorobenzene (FID)	99	70-140

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	211911	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2008-02	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	150809
MSS Lab ID:	211964-002	Sampled:	05/06/09
Matrix:	Water	Received:	05/06/09
Units:	ug/L	Analyzed:	05/09/09
Diln Fac:	1.000		

Type: MS Lab ID: QC495175

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	298.2	2,000	1,980	84	66-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	77	63-146
Bromofluorobenzene (FID)	121	70-140

Type: MSD Lab ID: QC495176

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,930	82	66-120	3	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	75	63-146
Bromofluorobenzene (FID)	118	70-140

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	211911	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2008-02	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	150809
Units:	ug/L	Analyzed:	05/08/09
Diln Fac:	1.000		

Type: BS Lab ID: QC495177

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	10.00	100	53-152
Benzene	10.00	9.345	93	79-120
Toluene	10.00	10.21	102	76-122
Ethylbenzene	10.00	10.52	105	77-125
m,p-Xylenes	10.00	10.34	103	76-126
o-Xylene	10.00	10.26	103	77-126

Surrogate	%REC	Limits
Trifluorotoluene (PID)	93	50-140
Bromofluorobenzene (PID)	96	56-132

Type: BSD Lab ID: QC495178

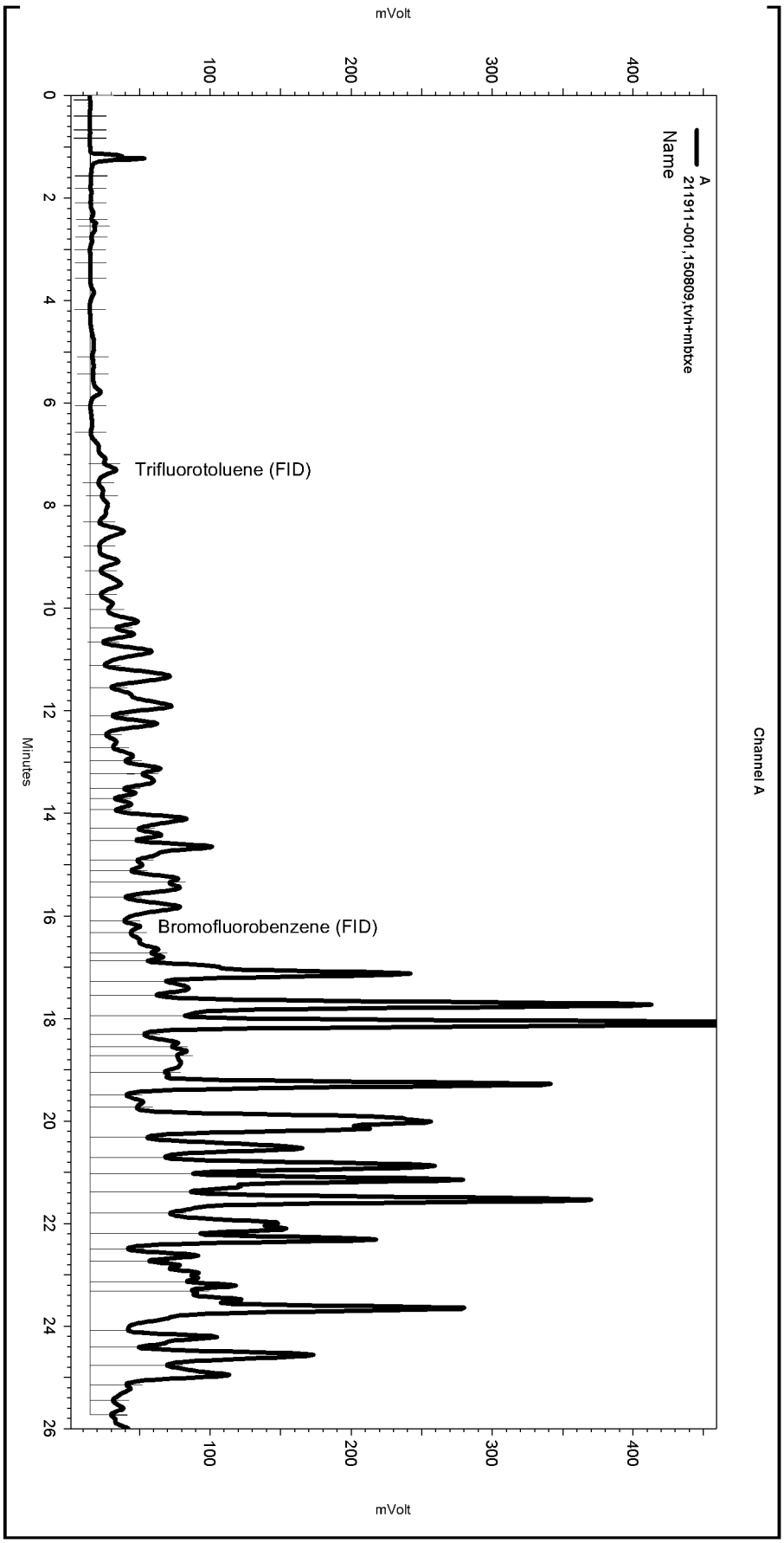
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	10.24	102	53-152	2	37
Benzene	10.00	9.384	94	79-120	0	20
Toluene	10.00	10.29	103	76-122	1	21
Ethylbenzene	10.00	10.72	107	77-125	2	21
m,p-Xylenes	10.00	10.59	106	76-126	2	23
o-Xylene	10.00	10.43	104	77-126	2	21

Surrogate	%REC	Limits
Trifluorotoluene (PID)	103	50-140
Bromofluorobenzene (PID)	105	56-132

RPD= Relative Percent Difference

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC19\Sequence\128.seq**
Sample Name: **211911-001,150809,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC19\Data\128_009**
Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\tvhbtxeMTBEsingle128.met

Software Version 3.1.7
Run Date: 5/8/2009 3:23:44 PM
Analysis Date: 5/9/2009 7:40:35 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.3



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Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\128_009

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Yes	Split Peak	7.19	0	0

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Sample Name: **ccv/lcs,qc495174,150809,s11826,2.5/5000**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC19\Data\128_003**
Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
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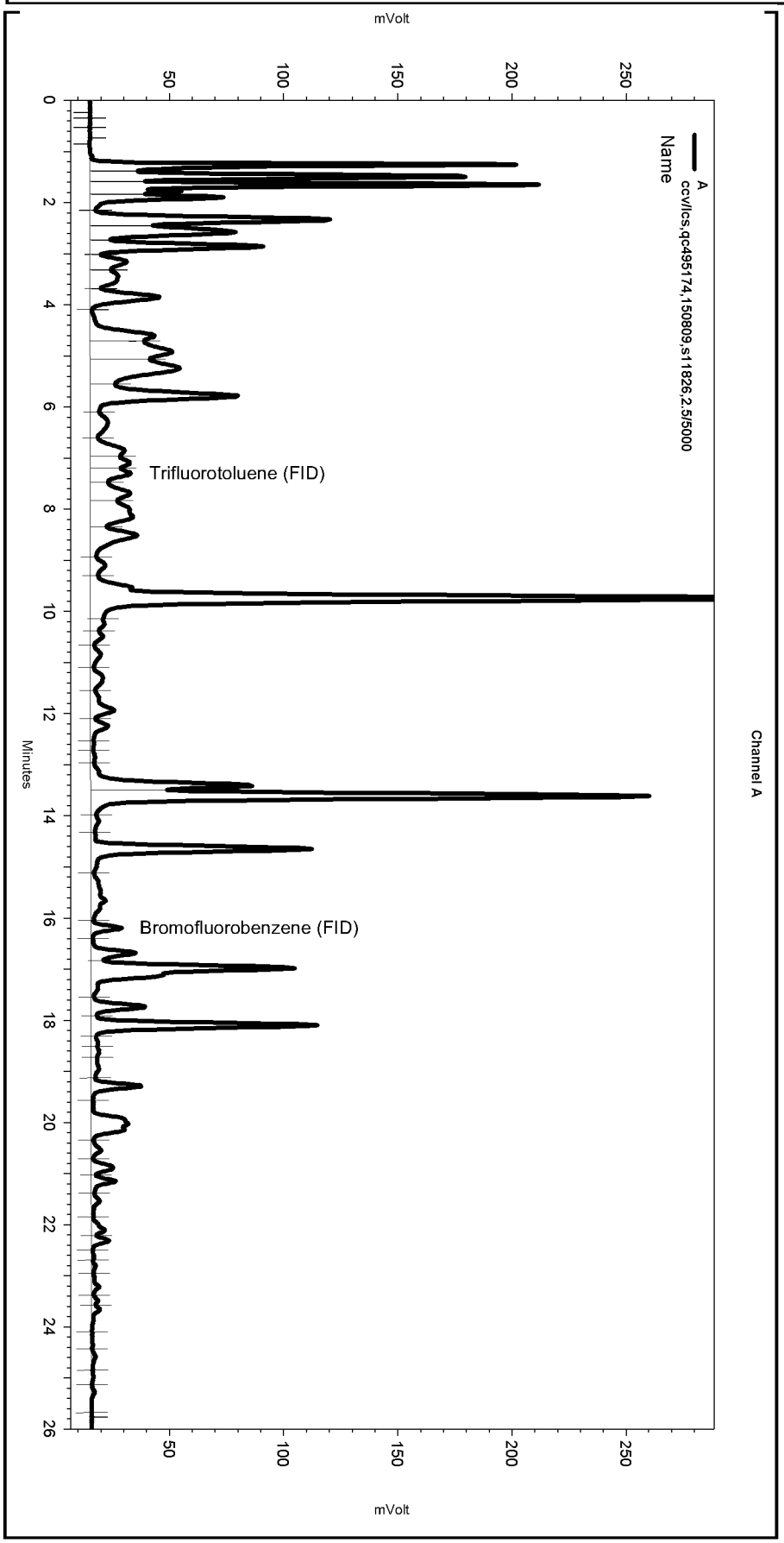
Software Version 3.1.7
Run Date: 5/8/2009 11:12:59 AM
Analysis Date: 5/9/2009 7:40:10 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: {Data Description}



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No items selected for this section

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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\128_003

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	211911	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2008-02	Analysis:	EPA 8015B
Field ID:	MW-2	Batch#:	150695
Matrix:	Water	Sampled:	05/05/09
Units:	ug/L	Received:	05/05/09
Diln Fac:	1.000	Prepared:	05/05/09

Type: SAMPLE Analyzed: 05/08/09
Lab ID: 211911-001

Analyte	Result	RL
Diesel C10-C24	15,000 Y	50

Surrogate	%REC	Limits
o-Terphenyl	95	61-127

Type: BLANK Analyzed: 05/07/09
Lab ID: QC494741

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	107	61-127

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	211911	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2008-02	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC494742	Batch#:	150695
Matrix:	Water	Prepared:	05/05/09
Units:	ug/L	Analyzed:	05/07/09

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,427	97	50-120

Surrogate	%REC	Limits
o-Terphenyl	108	61-127

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	211911	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2008-02	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	150695
MSS Lab ID:	211756-002	Sampled:	04/28/09
Matrix:	Water	Received:	04/28/09
Units:	ug/L	Prepared:	05/05/09
Diln Fac:	1.000	Analyzed:	05/07/09

Type: MS Lab ID: QC494743

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	1,166	2,500	3,170	80	38-127

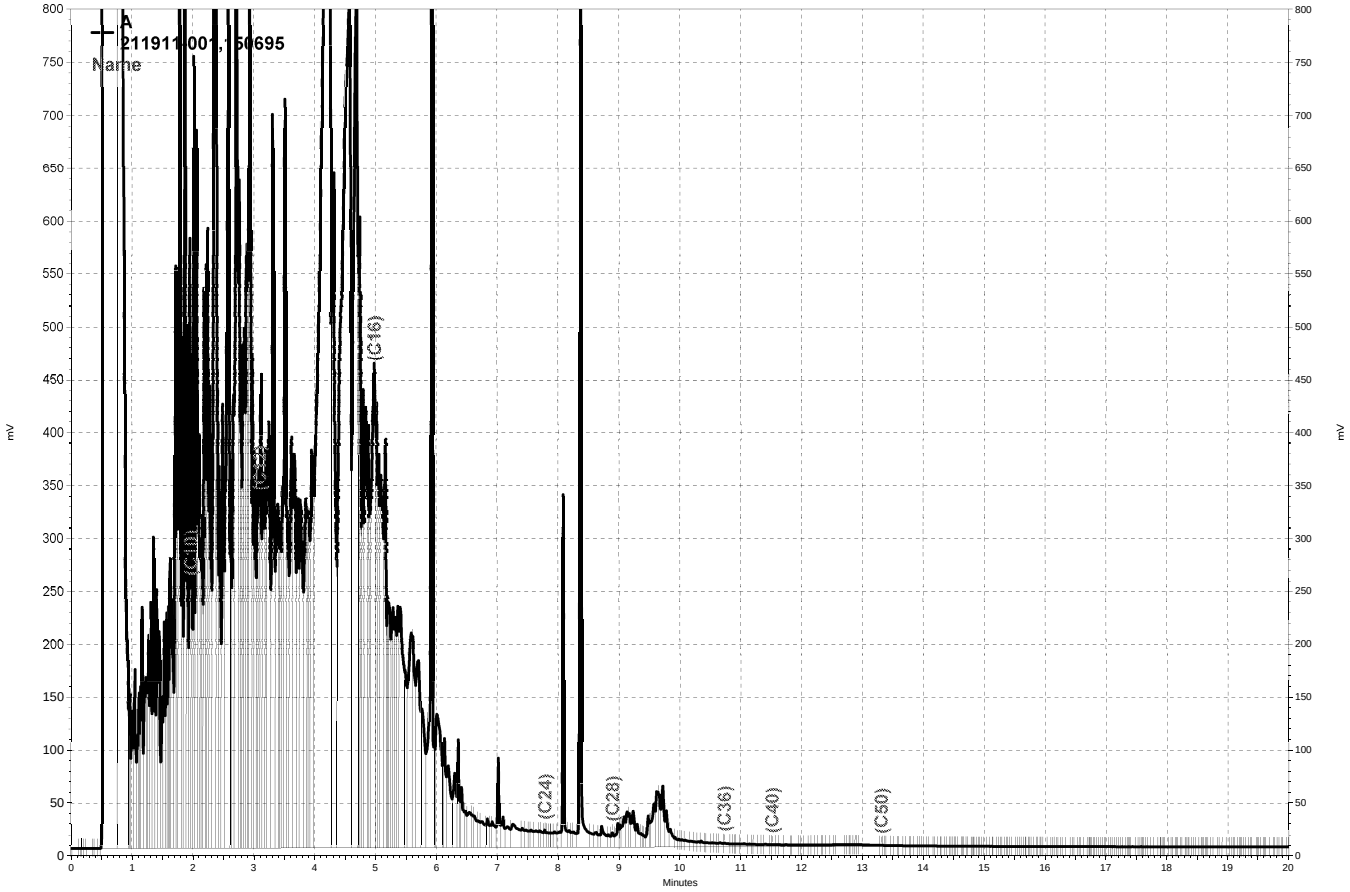
Surrogate	%REC	Limits
o-Terphenyl	117	61-127

Type: MSD Lab ID: QC494744

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	3,104	77	38-127	2	37

Surrogate	%REC	Limits
o-Terphenyl	116	61-127

RPD= Relative Percent Difference



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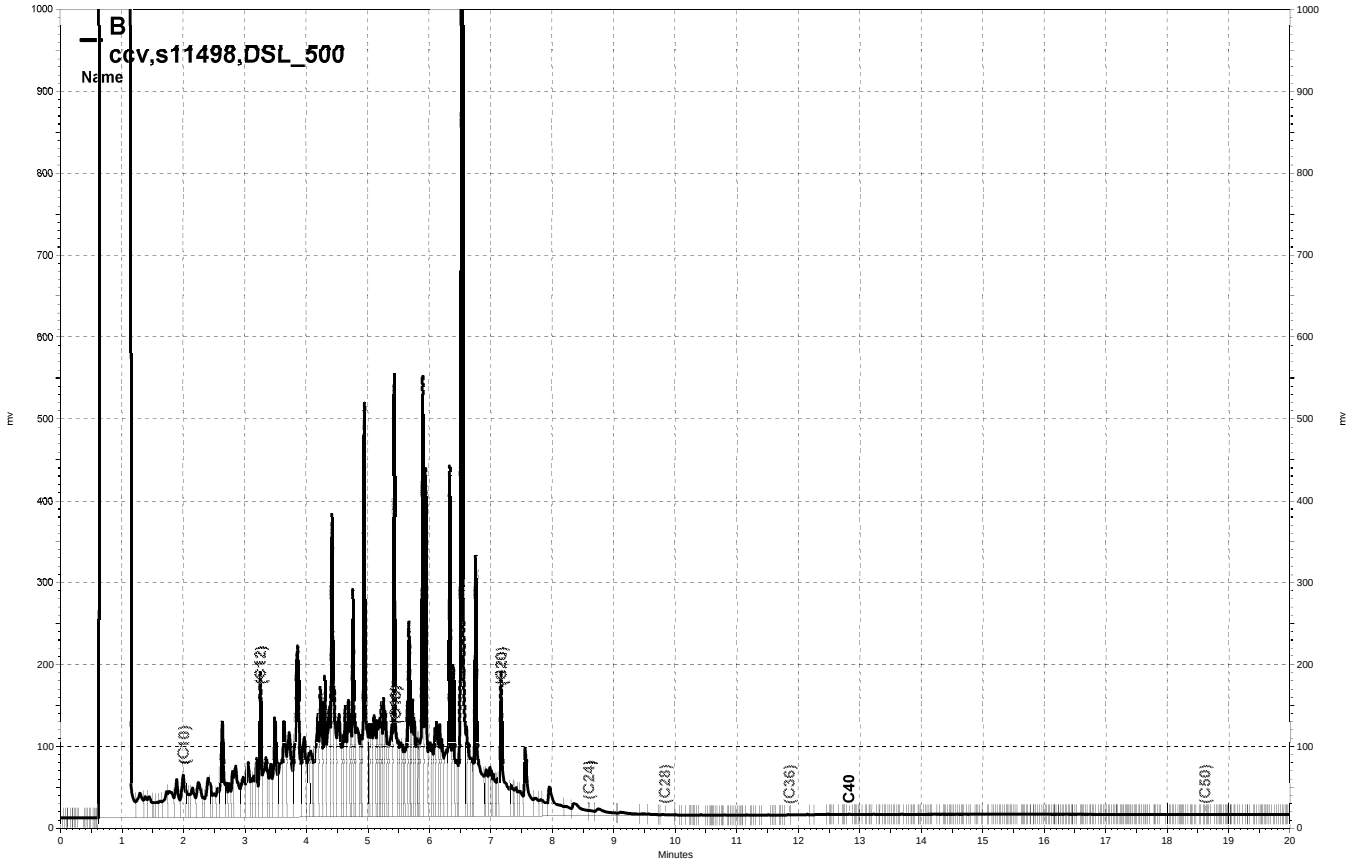

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APPENDIX D

Historical Groundwater and Surface Water Analytical Results

HISTORICAL GROUNDWATER MONITORING WELLS ANALYTICAL RESULTS

REDWOOD REGIONAL PARK SERVICE YARD, OAKLAND, CALIFORNIA

(all concentrations in ug/L, equivalent to parts per billion [ppb])

Well MW-2										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Nov-94	**66**	*< 50*	**3.4**	*< 0.5*	*< 0.5*	**0.9**	**4.3**	*NA*	**70.3**
2	Feb-95	**89**	*< 50*	**18**	**2.4**	**1.7**	**7.5**	**30**	*NA*	**118.6**
3	May-95	*< 50*	*< 50*	**3.9**	*< 0.5*	**1.6**	**2.5**	**8.0**	*NA*	**8**
4	Aug-95	*< 50*	*< 50*	**5.7**	*< 0.5*	*< 0.5*	*< 0.5*	**5.7**	*NA*	**5.7**
5	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*NA*	**0**
6	Aug-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*NA*	**0**
7	Dec-96	*< 50*	*< 50*	**6.3**	*< 0.5*	**1.6**	*< 0.5*	**7.9**	*NA*	**7.9**
8	Feb-97	*< 50*	*< 50*	**0.69**	*< 0.5*	**0.55**	*< 0.5*	**1.2**	*NA*	**1.24**
9	May-97	**67**	*< 50*	**8.9**	*< 0.5*	**5.1**	*< 1.0*	**14**	*NA*	**81**
10	Aug-97	*< 50*	*< 50*	**4.5**	*< 0.5*	**1.1**	*< 0.5*	**5.6**	*NA*	**5.6**
11	Dec-97	**61**	*< 50*	**21**	*< 0.5*	**6.5**	**3.9**	**31**	*NA*	**92.4**
12	Feb-98	**2,000**	**200**	**270**	**92**	**150**	**600**	**1,112**	*NA*	**3312**
13	Sep-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	**7.0**	**7**
14	Apr-99	**82**	**710**	**4.2**	*< 0.5*	**3.4**	**4.0**	**12**	**7.5**	**811.1**
15	Dec-99	**57**	*< 50*	**20**	**0.6**	**5.9**	*<0.5*	**27**	**4.5**	**88.01**
16	Sep-00	*< 50*	*< 50*	**0.72**	*< 0.5*	*< 0.5*	*< 0.5*	**0.7**	**7.9**	**8.62**
17	Jan-01	**51**	*< 50*	**8.3**	*< 0.5*	**1.5**	*< 0.5*	**9.8**	**8.0**	**68.8**
18	Apr-01	**110**	*< 50*	**10**	*< 0.5*	**11**	**6.4**	**27**	**10**	**147.4**
19	Aug-01	**260**	**120**	**30**	**6.7**	**1.6**	**6.4**	**45**	**27**	**451.7**
20	Dec-01	**74**	**69**	**14**	**0.8**	**3.7**	**3.5**	**22**	**6.6**	**171.56**
21	Mar-02	*< 50*	*< 50*	**2.3**	**0.51**	**1.9**	**1.3**	**8.3**	**8.2**	**14.2**
22	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**—**	**7.7**	**7.7**
23	Sep-02	**98**	*< 50*	**5.0**	*< 0.5*	*< 0.5*	*< 0.5*	**—**	**13**	**116.0**
24	Dec-02	*< 50*	*< 50*	**4.3**	*< 0.5*	*< 0.5*	*< 0.5*	**—**	*< 2.0*	**4.3**
25	Mar-03	**130**	**82**	**39**	*< 0.5*	**20**	**4.1**	**63**	**16**	**291.1**
26	Jun-03	*< 50*	*< 50*	**1.9**	*< 0.5*	*< 0.5*	*< 0.5*	**1.9**	**8.7**	**10.6**
27	Sep-03	**120**	*< 50*	**8.6**	**0.51**	**0.53**	*< 0.5*	**9.6**	**23**	**152.6**
28	Dec-03	**282**	*<100*	**4.3**	**1.6**	**1.3**	**1.2**	**8.4**	**9.4**	**299.8**
29	Mar-04	**374**	*<100*	**81**	**1.2**	**36**	**7.3**	**126**	**18**	**517.5**
30	Jun-04	*< 50*	*< 50*	**0.75**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**15**	**15.8**
31	Sep-04	**200**	*< 50*	**23**	*< 0.5*	*< 0.5*	**0.70**	**24**	**16**	**239.7**
32	Dec-04	**80**	*< 50*	**14**	*< 0.5*	*2.9*	**0.72**	**18**	**20**	**117.6**
33	Mar-05	**190**	**68**	**27**	*<0.5*	**14**	**11**	**52**	**26**	**336.0**
34	Jun-05	**68**	*< 50*	**7.1**	*< 0.5*	**6.9**	**1.8**	**16**	**24**	**107.8**
35	Sep-05	*< 50*	*< 50*	**2.5**	*< 0.5*	*< 0.5*	*< 1.0*	**2.5**	**23**	**25.5**
36	Dec-05	*< 50*	*< 50*	**3.9**	*< 0.5*	*< 0.5*	*< 1.0*	**3.9**	**23**	**26.9**

Well MW-2 (con't)										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
37	Mar-06	**1300**	**300**	**77**	**4.4**	**91**	**250**	**422**	**18**	**2040.4**
38	Jun-06	*< 50*	**60**	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	**—**	**17**	**77.0**
39	Sep-06	**270**	**52**	**31**	*< 0.5*	**15**	**6.69**	**53**	**17**	**391.7**
40	Dec-06	*< 50*	*< 50*	**2.1**	*< 0.5*	*< 0.5*	*< 0.5*	**2**	**16**	**18.1**
41	Mar-07	**59**	*< 50*	**4**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**14**	**77.0**
42	Jun-07	*<50*	*<50*	**3.5**	*<0.5*	*<0.5*	*<0.5*	**4**	**8**	**11.5**
43	Sep-07	**2,600**	**260**	**160**	**44**	**86**	**431**	**721**	**15**	**3596.0**
44	Dec-07	**16,000**	**5,800**	**23**	**91**	**230**	**2,420**	**2764**	**16**	**24580.0**
44a	Jan-08	**480**	**200**	**1.1**	**3.2**	**5.5**	**68**	**78**	**11**	**768.8**
45	Mar-08	**20,000**	**24,000**	**21**	**39**	**300**	**2,620**	**2980**	**13**	**46993.0**
45a	Apr-08	**800**	**640**	**2.6**	**2.1**	**13**	**155**	**173**	**13**	**1625.7**
45b	May-08	**7,100**	**3,900**	**14**	**8.8**	**140**	**710**	**873**	**11**	**11883.8**
46	Jun-08	**5,700**	**1,000**	**9.4**	**5.2**	**80**	**550**	**645**	**11**	**7355.6**
46a	Jul-08	**6,400**	**2,200**	**13**	**5.1**	**140**	**570**	**728**	**2.9**	**9331.0**
46b	Jul-08	**390**	**55**	**1.3**	**0.77**	**4.6**	**44.4**	**51**	**9**	**505.1**
46c	Aug-08	**28,000**	**7,100**	**12**	**19**	**260**	**2,740**	**3031**	*<20*	**38131.0**
46d	Aug-08	**8,700**	**2,700**	**5.7**	**7.4**	**130**	**900.0**	**1043**	**3.5**	**12446.6**
47	Sep-08	**40,000**	**9,100**	**1.6**	*<0.5*	**110**	**910.0**	**1022**	**9.5**	**50131.1**
48	Dec-08	**9,200**	**2,200**	**0.52**	*<0.5*	*<0.5*	**201.0**	**202**	**12**	**11613.5**
49	Mar-09	**3,100**	**37,000**	**1.1**	**1.4**	**7.9**	**35.0**	**45**	**14**	**40159.4**
50	May-09	**5,000**	**15,000**	**1.5**	*<0.5*	**9.8**	**39.0**	**50**	**13**	**20063.3**
51	Jun-09	**2,100**	**8,000**	**5.4**	*<0.5*	**11**	**20.2**	**36.6**	**13**	**10149.6**

Well MW-4										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Nov-94	**2,600**	**230**	**120**	**4.8**	**150**	**88**	**363**	*NA*	**3,193**
2	Feb-95	**11,000**	**330**	**420**	**17**	**440**	**460**	**1,337**	*NA*	**12,667**
3	May-95	**7,200**	**440**	**300**	**13**	**390**	**330**	**1,033**	*NA*	**8,673**
4	Aug-95	**1,800**	**240**	**65**	**6.8**	**89**	**67**	**227**	*NA*	**2,267**
5	May-96	**1,100**	**140**	**51**	*< 0.5*	*< 0.5*	**47**	**98**	*NA*	**1,338**
6	Aug-96	**3,700**	**120**	**63**	**2.0**	**200**	**144**	**409**	*NA*	**4,229**
7	Dec-96	**2,700**	**240**	**19**	*< 0.5*	**130**	**93**	**242**	*NA*	**3,182**
8	Feb-97	**3,300**	*< 50*	**120**	**1.0**	**150**	**103**	**374**	*NA*	**3,674**
9	May-97	**490**	*< 50*	**2.6**	**6.7**	**6.4**	**6.7**	**22**	*NA*	**512**
10	Aug-97	**1,900**	**150**	**8.6**	**3.5**	**78**	**53**	**143**	*NA*	**2,193**
11	Dec-97	**1,000**	**84**	**4.6**	**2.7**	**61**	**54**	**123**	*NA*	**1,207**
12	Feb-98	**5,300**	**340**	**110**	**24**	**320**	**402**	**856**	*NA*	**6,496**
13	Sep-98	**1,800**	*< 50*	**8.9**	*< 0.5*	**68**	**27**	**104**	**23**	**1,927**
14	Apr-99	**2,900**	**710**	**61**	**1.2**	**120**	**80**	**263**	**32**	**3,905**
15	Dec-99	**1,000**	**430**	**4.0**	**2.0**	**26**	**14**	**46**	*< 2.0*	**1,476**
16	Sep-00	**570**	**380**	*< 0.5*	*< 0.5*	**16**	**4.1**	**20**	**2.4**	**973**
17	Jan-01	**1,600**	**650**	**4.2**	**0.89**	**46**	**13.8**	**65**	**8.4**	**2,323**
18	Apr-01	**1,700**	**1,100**	**4.5**	**2.8**	**48**	**10.7**	**66**	**5.0**	**2,871**
19	Aug-01	**1,300**	**810**	**3.2**	**4.0**	**29**	**9.7**	**46**	*< 2.0*	**2,156**
20	Dec-01	*< 50*	**110**	*< 0.5*	*< 0.5*	*< 0.5*	**1.2**	**1.2**	*< 2.0*	**111**
21	Mar-02	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	*0*
22	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	*0*
23	Sep-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	*0*
24	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	*0*
25	Mar-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	*0*
26	Jun-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	*0*
27	Sep-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	*0*
28	Dec-03	*<50*	*<100*	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*	*0*
29	Mar-04	*<50*	*<100*	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*	*0*
30	Jun-04	*<50*	**2,500**	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*	*0*
31	Sep-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*	*0*
32	Dec-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*	*0*
33	Mar-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*	*0*
34	Jun-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*	*0*
35	Sep-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*	*0*
Groundwater monitoring in this well discontinued with Alameda County Health Care Services Agency approval.										

Well MW-5										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Nov-94	**50**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	**50**
2	Feb-95	**70**	*< 50*	**0.6**	*< 0.5*	*< 0.5*	*< 0.5*	**0.6**	*NA*	**70.6**
3	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
4	Aug-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
5	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
6	Aug-96	**80**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	**80**
7	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
8	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
9	May-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
10	Aug-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
11	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
12	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
13	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2*	0
Groundwater monitoring in this well discontinued in 1998 with Alameda County Health Care Services Agency approval. Subsequent groundwater monitoring conducted to confirm plume's southern limit										
14	Jun-04	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**5.9**	**5.9**
15	Sep-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*	0

Well MW-7										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Jan-01	**13,000**	**3,100**	**95**	**4**	**500**	**289**	**888**	**95**	**17,083**
2	Apr-01	**13,000**	**3,900**	**140**	*< 0.5*	**530**	**278**	**948**	**52**	**17,900**
3	Aug-01	**12,000**	**5,000**	**55**	**25**	**440**	**198**	**718**	**19**	**17,737**
4	Dec-01	**9,100**	**4,600**	**89**	*< 2.5*	**460**	**228**	**777**	*< 10*	**14,477**
5	Mar-02	**8,700**	**3,900**	**220**	**6.2**	**450**	**191**	**867**	**200**	**13,667**
6	Jun-02	**9,300**	**3,500**	**210**	**6.3**	**380**	**155**	**751**	**18**	**13,569**
7	Sep-02	**9,600**	**3,900**	**180**	*< 0.5*	**380**	**160**	**720**	*< 2.0*	**14,220**
8	Dec-02	**9,600**	**3,700**	**110**	*< 0.5*	**400**	**189**	**699**	*< 2.0*	**13,999**
9	Mar-03	**10,000**	**3,600**	**210**	**12**	**360**	**143**	**725**	**45**	**14,370**
10	Jun-03	**9,300**	**4,200**	**190**	*< 10*	**250**	**130**	**570**	**200**	**14,270**
11	Sep-03	**10,000**	**3,300**	**150**	**11**	**300**	**136**	**597**	*< 2.0*	**13,897**
12	Dec-03	**9,140**	**1,100**	**62**	**45**	**295**	**184**	**586**	**89**	**10,915**
13	Mar-04	**8,170**	**600**	**104**	**41**	**306**	**129**	**580**	**84**	**9,434**
14	Jun-04	**9,200**	**2,700**	**150**	*< 0.5*	**290**	**91**	**531**	*< 2.0*	**12,431**
15	Sep-04	**9,700**	**3,400**	**98**	*< 0.5*	**300**	**125**	**523**	*< 2.0*	**13,623**
16	Dec-04	**8200**	**4,000**	**95**	*< 0.5*	**290**	**124**	**509**	*< 2.0*	**12,709**
17	Mar-05	**10,000**	**4,300**	**150**	*<0.5*	**370**	**71**	**591**	*<2.0*	**14,891**
18	Jun-05	**10,000**	**3,300**	**210**	*<1.0*	**410**	**56**	**676**	*<4.0*	**13,976**
19	Sep-05	**7,600**	**2,700**	**110**	*<1.0*	**310**	**54**	**474**	*<4.0*	**10,774**
20	Dec-05	**2,900**	**3,300**	**31**	*<1.0*	**140**	**41**	**212**	*<4.0*	**6,412**
21	Mar-06	**6,800**	**3,000**	**110**	*< 1.0*	**280**	**42**	**432**	**110**	**10,342**
22	Jun-06	**6,900**	**3,600**	**63**	*< 2.5*	**290**	**43**	**396**	*< 10*	**10,896**
23	Sep-06	**7,900**	**3,600**	**64**	*< 0.5*	**260**	**58**	**382**	*49*	**11,931**
24	Dec-06	**7,300**	**2,400**	**50**	*< 0.5*	**220**	**42**	**312**	*< 2.0*	**10,012**
25	Mar-07	**6,200**	**2,900**	**34**	*< 0.5*	**190**	**15**	**239**	*< 2.0*	**9,339**
26	Jun-07	**6,800**	**3,000**	**30**	*<1.0*	**160**	**27**	**217**	*<4.0*	**10,017**
27	Sep-07	**6,400**	**3,000**	*<0.5*	*<0.5*	**170**	**43**	**213**	*<2.0*	**9,613**
28	Dec-07	**4,800**	**2,800**	*<0.5*	*<0.5*	**100**	**26.5**	**126.5**	*2.7*	**7,729**
30	Mar-08	**5,400**	**5,900**	**21**	*<0.5*	**150**	**15**	**186**	**51**	**11,537**
31	Jun-08	**4,800**	**3,500**	**55**	*<0.5*	**140**	**7.03**	**202**	*<2.0*	**8,502**
32	Sep-08	**6,400**	**2,800**	**22**	*<0.5*	**100**	**9.30**	**131**	*<2.0*	**9,331**
33	Dec-08	**3,500**	**3,600**	**5**	*<0.5*	**100**	**9.10**	**114**	*<2.0*	**7,214**
34	Mar-09	**5,100**	**6,700**	**19**	*<0.5*	**140**	**12.30**	**171**	**51**	**12,022**
35	Jun-09	**4,600**	**5,400**	**40**	*< 0.5*	**140**	**5.12**	**185**	**260**	**10,445**

Well MW-8										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Jan-01	**14,000**	**1,800**	**430**	**17**	**360**	**1230**	**2,037**	**96**	**17,933**
2	Apr-01	**11,000**	**3,200**	**320**	**13**	**560**	**1,163**	**2,056**	**42**	**16,298**
3	Aug-01	**9,600**	**3,200**	**130**	**14**	**470**	**463**	**1,077**	**14**	**13,891**
4	Dec-01	**3,500**	**950**	**69**	**2.4**	**310**	**431**	**812**	*< 4.0*	**5,262**
5	Mar-02	**14,000**	**3,800**	**650**	**17**	**1,200**	**1,510**	**3,377**	**240**	**21,417**
6	Jun-02	**2,900**	**1,100**	**70**	**2.0**	**170**	**148**	**390**	**19**	**4,409**
7	Sep-02	**1,000**	**420**	**22**	*< 0.5*	**64**	**50**	**136**	*< 2.0*	**1,556**
8	Dec-02	**3,300**	**290**	**67**	*< 0.5*	**190**	**203**	**460**	*< 2.0*	**4,050**
9	Mar-03	**13,000**	**3,500**	**610**	**12**	**1,100**	**958**	**2,680**	*< 10*	**19,180**
10	Jun-03	**7,900**	**2,200**	**370**	**7.4**	**620**	**562**	**1,559**	*< 4.0*	**11,659**
11	Sep-03	**3,600**	**400**	**120**	**3.3**	**300**	**221**	**644**	*< 2.0*	**4,644**
12	Dec-03	**485**	**100**	**19**	**1.5**	**26**	**36**	**83**	*< 5.0*	**668**
13	Mar-04	**16,000**	**900**	**592**	**24**	**1,060**	**1,870**	**3,546**	**90**	**20,536**
14	Jun-04	**5,900**	**990**	**260**	**9.9**	**460**	**390**	**1,120**	*< 10*	**8,010**
15	Sep-04	**2,000**	**360**	**100**	*< 2.5*	**180**	**102**	**382**	*< 10*	**2,742**
16	Dec-04	**15,000**	**4,000**	**840**	**21**	**1,200**	**1,520**	**3,581**	*< 10*	**22,581**
17	Mar-05	**24,000**	**7,100**	**840**	**51**	**1,800**	**2,410**	**5,101**	*<10*	**36,201**
18	Jun-05	**33,000**	**5,700**	**930**	**39**	**2,500**	**3,860**	**7,329**	*<20*	**46,029**
19	Sep-05	**5,600**	**1,200**	**270**	**6.6**	**400**	**390**	**1,067**	*<20*	**7,867**
20	Dec-05	**3,700**	**1,300**	**110**	*< 5.0*	**320**	**356**	**786**	*<20*	**5,786**
21	Mar-06	**22,000**	**4,300**	**550**	**30**	**1,800**	**2,380**	**4,760**	*<20*	**31,060**
22	Jun-06	**19,000**	**5,000**	**500**	**28**	**1,800**	**1,897**	**4,225**	*<20*	**28,225**
23	Sep-06	**9,000**	**820**	**170**	**7.7**	**730**	**539**	**1,447**	*<10*	**11,267**
24	Dec-06	**4,400**	**800**	**75**	**4.2**	**320**	**246**	**645**	*< 2.0*	**5,845**
25	Mar-07	**15,000**	**4,500**	**340**	**19**	**1,300**	**1,275**	**2,934**	*< 20*	**22,434**
26	Jun-07	**10,000**	**3,500**	**220**	**11**	**670**	**675**	**1,576**	*<4.0*	**15,076**
27	Sep-07	**9,400**	**3,400**	**200**	**6.9**	**1,000**	**773**	**1,980**	*<8.0*	**14,780**
28	Dec-07	**1,200**	**500**	**15**	**0.88**	**95**	**57.7**	**168.58**	*<2.0*	**1,869**
30	Mar-08	**11,000**	**13,000**	**150**	**13**	**1,100**	**950.0**	**2,213**	**76**	**26,289**
31	Jun-08	**2,000**	**1,700**	**27**	**2.5**	**190**	**113.2**	**333**	*<2.0*	**4,033**
32	Sep-08	**5,500**	**4,400**	**89**	**3.9**	**630**	**194.4**	**917**	*<2.0*	**10,817**
33	Dec-08	**520**	**400**	**1.5**	*<0.5*	**20**	**4.4**	**26**	**4.5**	**950**
34	Mar-09	**4,600**	**7,300**	**55**	*<5.0*	**410**	**639.0**	**1,104**	*<20*	**13,004**
35	Jun-09	**2,100**	**3,400**	**32**	*< 0.5*	**260**	**80.8**	**373**	**55**	**5,928**

Well MW-9										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Aug-01	**11,000**	**170**	**340**	**13**	**720**	**616**	**1,689**	**48**	**12,907**
2	Dec-01	**9,400**	**2,700**	**250**	**5.1**	**520**	**317**	**1,092**	*< 10*	**13,192**
3	Mar-02	**1,700**	**300**	**53**	**4.2**	**120**	**67**	**244**	**20**	**2,264**
4	Jun-02	**11,000**	**2,500**	**200**	**16**	**600**	**509**	**1,325**	**85**	**14,910**
5	Sep-02	**3,600**	**2,800**	**440**	**11**	**260**	**39**	**750**	*< 4.0*	**7,150**
6	Dec-02	**7,000**	**3,500**	**380**	**9.5**	**730**	**147**	**1,266**	*< 10*	**11,766**
7	Mar-03	**4,400**	**1,400**	**320**	**6.9**	**400**	**93**	**820**	*< 2.0*	**6,620**
8	Jun-03	**7,600**	**1,600**	**490**	**10**	**620**	**167**	**1,287**	*< 4.0*	**10,487**
9	Sep-03	**8,300**	**2,900**	**420**	**14**	**870**	**200**	**1,504**	*< 10*	**12,704**
10	Dec-03	**7,080**	**700**	**287**	**31**	**901**	**255**	**1,474**	*< 10*	**9,254**
11	Mar-04	**3,550**	**600**	**122**	**15**	**313**	**84**	**534**	**35**	**4,719**
12	Jun-04	**6,800**	**1,700**	**350**	*< 2.5*	**620**	**99**	**1,069**	*< 10*	**9,569**
13	Sep-04	**7,100**	**1,900**	**160**	*8.1*	**600**	**406**	**1,174**	*< 10*	**10,174**
14	Dec-04	**4,700**	**2,800**	**160**	*< 2.5*	**470**	*< 0.5*	**630**	*< 10*	**8,130**
15	Mar-05	**4,200**	**1,600**	**97**	*<2.5*	**310**	**42**	**449**	*< 10*	**6,249**
16	Jun-05	**9,900**	**2,000**	**170**	*<2.5*	**590**	**359**	**1,119**	*< 10*	**13,019**
17	Sep-05	**3,600**	**1,200**	**250**	*<0.5*	**330**	**36**	**616**	*< 2.0*	**5,416**
18	Dec-05	**8,700**	**1,500**	**150**	**4**	**650**	**551**	**1,355**	*< 4.0*	**11,555**
19	Mar-06	**3,600**	**880**	**37**	*<1.0*	**210**	**165**	**412**	*< 4.0*	**4,892**
20	Jun-06	**3,200**	**1,300**	**39**	*<1.0*	**220**	**144**	**403**	**4.2**	**4,908**
21	Sep-06	**12,000**	**3,300**	**130**	**8**	**850**	**604**	**1,592**	*<1.0*	**16,892**
22	Dec-06	**12,000**	**2,800**	**140**	**9.4**	**880**	**634**	**1,663**	*< 10*	**16,463**
23	Mar-07	**9,600**	**2,900**	**120**	**8.7**	**780**	**453**	**1,362**	*< 10*	**13,862**
24	Jun-07	**7,100**	**2,200**	**75**	**5.2**	**480**	**298**	**858**	*<4.0*	**10,158**
25	Sep-07	**4,500**	**2,100**	**60**	**3.8**	**420**	**227**	**710**	*<4.0*	**7,310**
26	Dec-07	**6,200**	**2,000**	**51**	*<0.5*	**340**	**128.8**	**519.8**	*<2.0*	**8,720**
27	Mar-08	**6,400**	**3,500**	**67**	**5.2**	**480**	**177.6**	**724.6**	**38**	**10,668**
28	Jun-08	**10,000**	**3,400**	**89**	*<2.5*	**510**	**231.0**	**830.0**	*<10*	**14,230**
29	Sep-08	**4,800**	**2,700**	**53**	*<0.5*	**250**	**66.4**	**369.4**	*<2.0*	**7,869**
30	Dec-08	**4,300**	**2,300**	**45**	*<0.5*	**330**	**39.1**	**414.1**	*<2.0*	**7,014**
31	Mar-09	**4,000**	**2,200**	*<2.0*	*<0.5*	**160**	**34.9**	**194.9**	*<2.0*	**6,395**
32	Jun-09	**4,100**	**3,600**	**62**	*< 0.5*	**280**	**41.7**	**383.7**	**160**	**8,244**

Well MW-10										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Aug-01	**550**	**2,100**	**17**	*< 0.5*	**31**	**44**	**92**	**40**	**2,782**
2	Dec-01	*< 50*	**81**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**25**	**106**
3	Mar-02	*< 50*	*< 50*	**0.61**	*< 0.5*	*< 0.5*	*< 0.5*	**0.61**	**6.0**	**7**
4	Jun-02	*< 50*	*< 50*	**0.59**	*< 0.5*	**0.58**	*< 0.5*	**1.2**	**9.0**	**10**
5	Sep-02	**160**	**120**	**10**	*< 0.5*	**6.7**	**3.6**	**20**	**26**	**326**
6	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**16**	**16**
7	Mar-03	**110**	*< 50*	**11**	*< 0.5*	**12**	**1.3**	**24**	**15**	**149**
8	Jun-03	**110**	*< 50*	**9.6**	*< 0.5*	**6.8**	*< 0.5*	**16**	**9.0**	**135**
9	Sep-03	*< 50*	*< 50*	**1.1**	*< 0.5*	**1.5**	*< 0.5*	**2.6**	**7.0**	**10**
10	Dec-03	**162**	*<100*	**6.9**	*<0.3*	**8.0**	*<0.6*	**15**	**9.9**	**187**
11	Mar-04	**94**	*<100*	**2.8**	*<0.3*	**5.7**	**7.0**	**16**	*<5.0*	**110**
12	Jun-04	**150**	**56**	**11**	*< 0.5*	**12**	*< 0.5*	**23**	**15**	**244**
13	Sep-04	*< 50*	*< 50*	**1.6**	*< 0.5*	**1.9**	*< 1.0*	**3.5**	**5.8**	**9**
14	Dec-04	**64**	*< 50*	**3.7**	*< 0.5*	**3.7**	**0.7**	**8.1**	**10**	**82**
15	Mar-05	**95**	**98**	**8.3**	*<0.5*	**7.7**	**0.77**	**17**	**13**	**223**
16	Jun-05	**150**	**57**	**14**	*<0.5*	**10**	**1.0**	**25**	*<2.0*	**232**
17	Sep-05	**87**	*< 50*	**5.0**	*<0.5*	**3.6**	*<1.0*	**8.6**	*<2.0*	**96**
18	Dec-05	*< 50*	*< 50*	**1.2**	*<0.5*	*<0.5*	*<1.0*	**1.2**	**7.8**	**9**
19	Mar-06	**58**	**71**	**3.2**	*<0.5*	**2.2**	*<1.0*	**5.4**	**8.8**	**143**
20	Jun-06	**73**	**140**	**4.9**	*<0.5*	**2.5**	*<1.0*	**7.4**	**5.3**	**226**
21	Sep-06	**88**	**51**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	**9.6**	**149**
22	Dec-06	*<50*	*<50*	**0.61**	*<0.5*	**0.55**	*<0.5*	**1.2**	**3.7**	**5**
23	Mar-07	**57**	*<50*	**3.6**	*<0.5*	**2.2**	*<0.5*	**5.8**	**3.1**	**66**
24	Jun-07	**60**	**65**	**2.4**	*<0.5*	**1.6**	*<0.5*	**4.0**	**4.0**	**133**
25	Sep-07	**84**	*<50*	**3.6**	*<0.5*	**2.3**	**0.52**	**6.4**	**3.6**	**94**
26	Dec-07	**130**	**67**	**0.77**	*<0.5*	**340**	**0.83**	**341.6**	*<2.0*	**539**
27	Mar-08	**78**	**170**	**1.7**	*<0.5*	**3.1**	**0.97**	**5.8**	**2.4**	**256**
28	Jun-08	**230**	**320**	**12**	*<0.5*	**9.9**	**3.5**	**25.4**	*<2.0*	**575**
29	Sep-08	**80**	*<50*	**1.6**	*<0.5*	**0.52**	*<0.5*	**2.1**	**3.0**	**85**
30	Dec-08	*<50*	**66**	**0.89**	*<0.5*	*<0.5*	*<0.5*	**0.9**	**2.1**	**69**
31	Mar-09	**76**	**230**	*<2.0*	*<0.5*	**1.4**	*<0.5*	**1.4**	*<2.0*	**307**
32	Jun-09	**72**	**120**	**2.0**	*< 0.5*	**4.4**	**1.3**	**7.7**	*<2.0*	**200**

Well MW-11										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Aug-01	**17,000**	**7,800**	**390**	**17**	**820**	**344**	**1,571**	*< 10*	**26,371**
2	Dec-01	**5,800**	**2,800**	**280**	**7.8**	**500**	**213**	**1,001**	*< 10*	**9,601**
3	Mar-02	**100**	**94**	*< 0.5*	*< 0.5*	**0.64**	*< 0.5*	**0.64**	**2.4**	**197**
4	Jun-02	**8,200**	**2,600**	**570**	**13**	**560**	**170**	**1,313**	*< 4*	**12,113**
5	Sep-02	**12,000**	**4,400**	**330**	**13**	**880**	**654**	**1,877**	*< 10*	**18,277**
6	Dec-02	**18,000**	**4,500**	**420**	*< 2.5*	**1,100**	**912**	**2,432**	*< 10*	**24,932**
7	Mar-03	**7,800**	**2,600**	**170**	**4.7**	**530**	**337**	**1,042**	**53**	**11,495**
8	Jun-03	**14,000**	**3,800**	**250**	*< 2.5*	**870**	**693**	**1,813**	*< 10*	**19,613**
9	Sep-03	**10,000**	**3,000**	**250**	**9.9**	**700**	**527**	**1,487**	*< 4*	**14,487**
10	Dec-03	**15,000**	**1,100**	**314**	**60**	**1,070**	**802**	**2,246**	**173**	**18,519**
11	Mar-04	**4,900**	**400**	**72**	**17**	**342**	**233**	**664**	**61**	**6,025**
12	Jun-04	**10,000**	**2,300**	**210**	**2.8**	**690**	**514**	**1,417**	*< 10*	**13,717**
13	Sep-04	**7,200**	**2,300**	**340**	*< 2.5*	**840**	**75**	**1,255**	*< 10*	**10,755**
14	Dec-04	**11,000**	**3,900**	**180**	**5.1**	**780**	**695**	**1,660**	*< 10*	**16,560**
15	Mar-05	**4,600**	**1,900**	**69**	*<2.5*	**300**	**206**	**575**	*< 10*	**7,075**
16	Jun-05	**1,400**	**590**	**85**	*<0.5*	**110**	**8.2**	**203**	*< 2.0*	**2,193**
17	Sep-05	**12,000**	**3,100**	**220**	*< 1.0*	**840**	**762**	**1,822**	*< 4.0*	**16,922**
18	Dec-05	**2,500**	**2,100**	**120**	*< 2.5*	**260**	**16**	**396**	*< 10*	**4,996**
19	Mar-06	**2,200**	**1,300**	**27**	*<2.5*	**130**	**5.2**	**162**	*< 10*	**3,662**
20	Jun-06	**3,700**	**1,900**	**170**	*<1.0*	**230**	**14**	**414**	*< 4.0*	**6,014**
21	Sep-06	**3,600**	**2,100**	**80**	*<0.5*	**230**	**8.8**	**319**	*< 2.0*	**6,019**
22	Dec-06	**6,000**	**3,500**	**83**	*<1.0*	**260**	**16.4**	**359**	*< 4.0*	**9,859**
23	Mar-07	**4,500**	**1,900**	**110**	*< 0.5*	**170**	**7.9**	**288**	*< 2.0*	**6,688**
24	Jun-07	**4,300**	**2,200**	**120**	*<0.5*	**140**	**6.6**	**267**	*<4.0*	**6,767**
25	Sep-07	**5,500**	**2,700**	**86**	*<0.5*	**180**	**16.1**	**282**	*<2.0*	**8,482**
26	Dec-07	**7,100**	**4,000**	**68**	*<0.5*	**140**	**14**	**222**	**35**	**11,357**
27	Mar-08	**5,300**	**4,000**	**130**	*<0.5*	**120**	**13**	**263**	**8.8**	**9,572**
28	Jun-08	**3,600**	**4,200**	**190**	*<0.5*	**140**	**11**	**341**	*<2.0*	**8,141**
29	Sep-08	**7,300**	**4,600**	**130**	*<0.5*	**110**	**4.5**	**245**	*<2.0*	**12,145**
30	Dec-08	**2,800**	**1,600**	**93**	*<0.5*	**82**	**0.69**	**176**	*<2.0*	**4,576**
31	Mar-09	**4,100**	**4,600**	**18**	*<0.5*	**82**	**8**	**108**	**8.0**	**8,816**
32	Jun-09	**2,100**	**2,700**	**38**	*< 0.5*	**80**	**3.3**	**121**	**3.3**	**4,925**

Well MW-12										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Dec-05	**1,300**	**700**	*< 0.5*	*< 0.5*	**33**	**5.6**	**39**	*< 2.0*	**2,039**
2	Mar-06	**1,100**	**540**	*<0.5*	*<0.5*	**8.5**	**1.5**	**10**	**49**	**1,699**
3	Jun-06	**680**	**400**	*<0.5*	*<0.5*	**5.8**	**1.4**	**7.2**	*< 2.0*	**1,087**
4	Sep-06	**910**	**480**	*<0.5*	*<0.5*	**9.9**	**1.5**	**11.4**	**21**	**1,422**
5	Dec-06	**770**	**230**	*< 0.5*	*< 0.5*	**7.4**	**2.0**	**9.4**	*< 2.0*	**1,009**
6	Mar-07	**390**	**110**	*< 0.5*	*< 0.5*	**1.7**	**1.7**	**3.4**	*< 2.0*	**503**
7	Jun-07	**590**	**280**	*<0.5*	*<0.5*	**4.5**	**0.9**	**5.4**	*<2.0*	**875**
8	Sep-07	**390**	**180**	*<0.5*	*<0.5*	**2.4**	**2.4**	**4.8**	*<2.0*	**575**
9	Dec-07	**210**	**140**	*<0.5*	*<0.5*	**2.1**	**1.3**	**3.4**	*<2.0*	**353**
10	Mar-08	**720**	**500**	*<0.5*	**4.4**	**9.0**	**2.8**	**16.2**	*<2.0*	**1,236**
11	Jun-08	**220**	**50**	*<0.5*	*<0.5*	**2.0**	*<0.5*	**2.0**	*<2.0*	**272**
12	Sep-08	**370**	**95**	*<0.5*	*<0.5*	**2.8**	**0.98**	**3.8**	*<2.0*	**469**
13	Dec-08	**93**	**170**	*<0.5*	*<0.5*	**0.76**	*<0.5*	**0.8**	*<2.0*	**264**
14	Mar-09	**180**	**130**	*<0.5*	*<0.5*	**1.70**	*<0.5*	**1.7**	*<2.0*	**312**
15	Jun-09	**300**	**280**	*< 0.5*	*< 0.5*	**4.60**	*< 0.5*	**4.6**	*<2.0*	**585**

HISTORICAL SURFACE WATER ANALYTICAL RESULTS

REDWOOD REGIONAL PARK SERVICE YARD, OAKLAND, CALIFORNIA

(all concentrations in ug/L, equivalent to parts per billion [ppb])

Sampling Location SW-1 (Upstream of Contaminated Groundwater Discharge Location SW-2)										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Feb-94	**50**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	**50**
2	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
3	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
4	Aug-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
5	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
6	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
7	Aug-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
8	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
9	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*	0
10	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	0
11	Apr-99	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*	0
Sampling at this location discontinued after April 1999 with Alameda County Health Services Agency approval.										

Sampling Location SW-2 (Area of Historical Contaminated Groundwater Discharge)										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	Feb-94	**130**	*< 50*	**1.9**	*< 0.5*	**4.4**	**3.2**	**9.5**	*NA*	**139.5**
2	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*	*0*
3	Aug-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*	*0*
4	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*	*0*
5	Aug-96	**200**	*< 50*	**7.5**	*< 0.5*	**5.4**	*< 0.5*	**13**	*NA*	**212.9**
6	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*	*0*
7	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*	*0*
8	Aug-97	**350**	**130**	**13**	**0.89**	**19**	**11**	**44**	*NA*	**523.59**
9	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*	*0*
10	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*	*0*
11	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*	*0*
12	Apr-99	**81**	*<50*	**2.0**	*< 0.5*	**2.5**	**1.3**	**5.8**	**2.3**	**89.1**
13	Dec-99	**1,300**	**250**	**10**	**1.0**	**47**	**27**	**85**	**2.2**	**1637.2**
14	Sep-00	**160**	**100**	**2.1**	*< 0.5*	**5.2**	**1.9**	**9.2**	**3.4**	**272.6**
15	Jan-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	**0.53**	*< 0.5*	**0.5**	*< 2.0*	**0.53**
16	Apr-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*	*0*
17	Sep-01	**440**	**200**	**2.1**	*< 0.5*	**17**	**1.3**	**20**	**10**	**670.4**
18	Dec-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*	*0*
19	Mar-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*	*0*
20	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*	*0*
21	Sep-02	**220**	**590**	**10**	*< 0.5*	**13**	*< 0.5*	**23**	*< 2.0*	**833**
22	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*	*0*
23	Mar-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	**0.56**	*< 0.5*	**0.56**	**2.8**	**3.36**
24	Jun-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*	*0*
25	Sep-03	**190**	**92**	**2.1**	*< 0.5*	**4.2**	*< 0.5*	**6.3**	*< 2.0*	**288.3**
26	Dec-03	**86**	*< 100*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*<0.6*	*< 5.0*	**86**
27	Mar-04	*<50*	*<100*	*<0.3*	*<0.3*	**1.1**	*<0.6*	**1.1**	*< 5.0*	**1.1**
28	Jun-04	*<50*	*<50*	*<0.5*	*<0.5*	**0.83**	*<0.5*	**0.83**	*< 2.0*	**0.83**
29	Sep-04	**260**	**370**	**4.4**	*<0.5*	**6.3**	*< 1.0*	**11**	*< 2.0*	**640.7**
30	Dec-04	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*1.0*	*< 2.0*	*0*
31	Mar-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
32	Jun-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
33	Sep-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
34	Dec-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
35	Mar-06	*<50*	**62**	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	**62**
36	Jun-06	*<50*	**110**	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	**110**
37	Sep-06	**62**	**94**	*<0.5*	*<0.5*	**0.81**	*<0.5*	**0.8**	*< 2.0*	**156.81**
38	Dec-06	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
39	Mar-07	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
40	Jun-07	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<1.0*	*<2.0*	*0*
41	Sep-07	*<50*	**77**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<1.0	*<2.0*	**77**
42	Dec-07	**130**	**430**	*<0.5*	*<0.5*	**1.5**	*<0.5*	**1.5**	*<2.0*	**561.5**
43	Mar-08	*<50*	**130**	*<0.5*	*<0.5*	*<0.5*	**0.61**	**0.61**	*<2.0*	**130.61**
44	Jun-08	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*	*0*
45	Sep-08	**530**	**690**	*<0.5*	*<0.5*	**4.3**	*<0.5*	**4.3**	*<2.0*	**1224.3**
46	Dec-08	*<50*	**83**	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<0.5*	*<2.0*	**83**
47	Mar-09	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<1.0*	*<2.0*	*0*
48	Jun-09	*<50*	*<50*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<0.5*	*<2.0*	*0*

Sampling Location SW-3 (Downstream of Contaminated Groundwater Discharge Location SW-2)										
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Total Hydrocarbons**
1	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	*0*
2	Aug-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	*0*
3	May-96	*< 50*	**74**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	**74**
4	Aug-96	**69**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	**69**
5	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	*0*
6	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	*0*
7	Aug-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	*0*
8	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	*0*
9	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*NA*	*0*
10	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
11	Apr-99	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
12	Dec-99	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
13	Sep-00	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
14	Jan-01	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
15	Apr-01	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
16	Sep-01	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*< 0.5*	*NS*	*0*
17	Dec-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
18	Mar-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
19	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**2.4**	2.4
20	Sep-02	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
21	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
22	Mar-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
23	Jun-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 2.0*	*0*
24	Sep-03	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
25	Dec-03	**60**	*< 100*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*<0.6*	*< 5.0*	**60**
26	Mar-04	*<50*	*<100*	*<0.3*	*<0.3*	*<0.6*	*<0.6*	*<0.6*	*< 5.0*	*0*
27	Jun-04	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
28	Sep-04	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
29	Dec-04	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
30	Mar-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
31	Jun-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
32	Sep-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
33	Dec-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
34	Mar-06	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
35	Jun-06	*<50*	**120**	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	**120**
36	Sep-06	*<50*	**120**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*0.5*	**7.8**	**127.8**
37	Dec-06	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*	*0*
38	Mar-07	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	**3.3**	**3.3**
39	Jun-07	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*0.5*	*<2.0*	*0*
40	Sep-07	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
41	Dec-07	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
42	Mar-08	*<50*	**200**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*	**200**
43	Jun-08	*<50*	**55**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*	**55**
44	Sep-08	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
45	Dec-08	*<50*	**360**	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<2.0*	**360**
46	Mar-09	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*0.5*	*<2.0*	*0*
47	Jun-09	*<50*	*<50*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<2.0*	*0*

NS = Not Sampled (no surface water present during sampling event)