THIRD QUARTER 2009
SITE MONITORING REPORT

REDWOOD REGIONAL PARK
SERVICE YARD
OAKLAND, CALIFORNIA

Prepared for:

EAST BAY REGIONAL PARK DISTRICT
OAKLAND, CALIFORNIA

October 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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October 20, 2009

Project No. 2009-02

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October 20, 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: Third 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 July 1 and September 30, 2009 (Third Quarter 2009) with an additional discussion of the sampling of monitoring well MW-2 conducted on August 7, 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 August 1 and September 30, 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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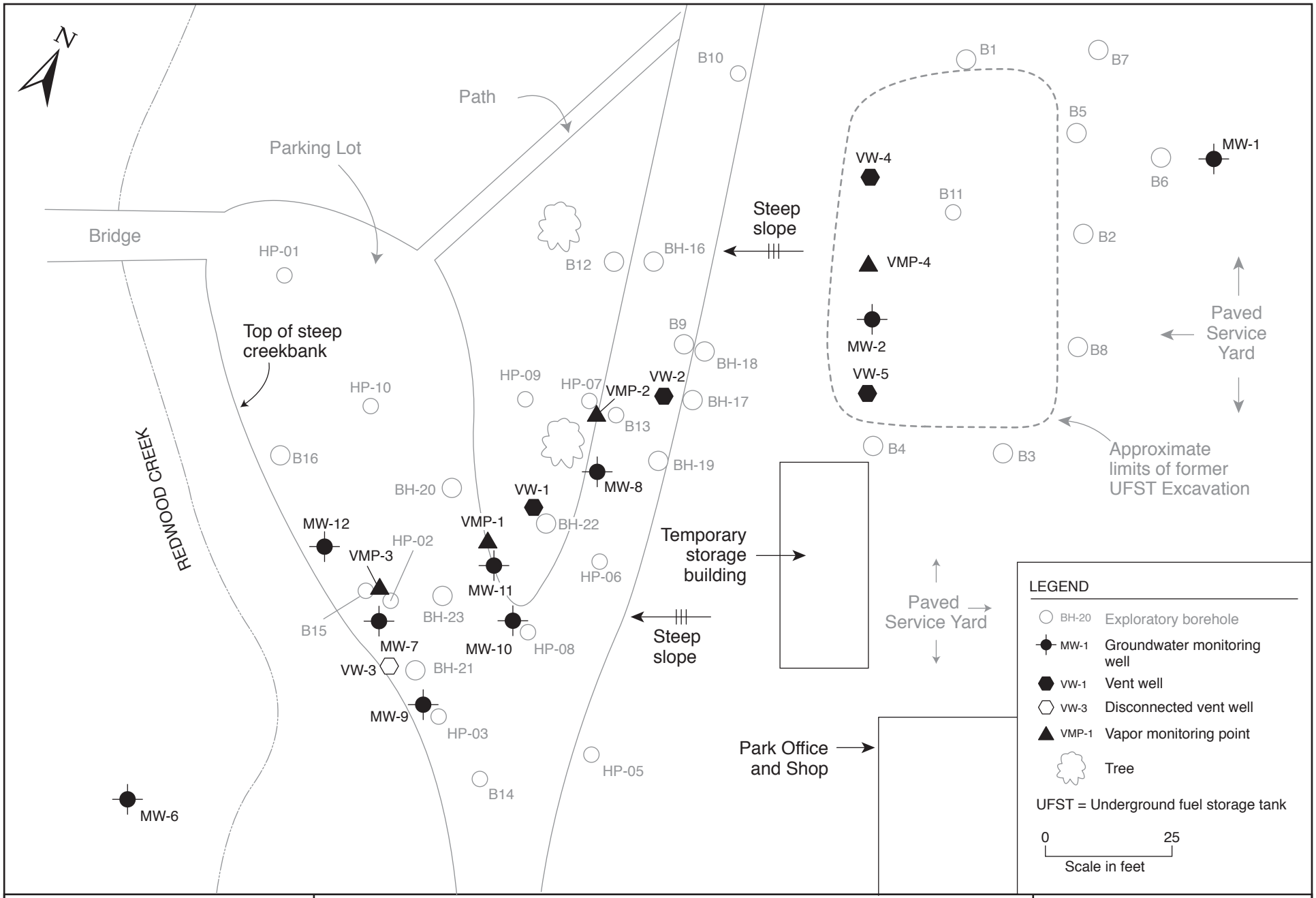
2006-17-01



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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.

In addition, SES submitted a Remedial Action Workplan for Advanced Oxygen Releasing Compound ORC® Application to Source Area Contamination to ACEH on August 20, 2009. The Workplan was approved by ACEH and Mr. Jerry Wickham, the site regulator on October 2, 2009. SES is currently in the process of scheduling the work. This Workplan was requested by ACEH in a 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.

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

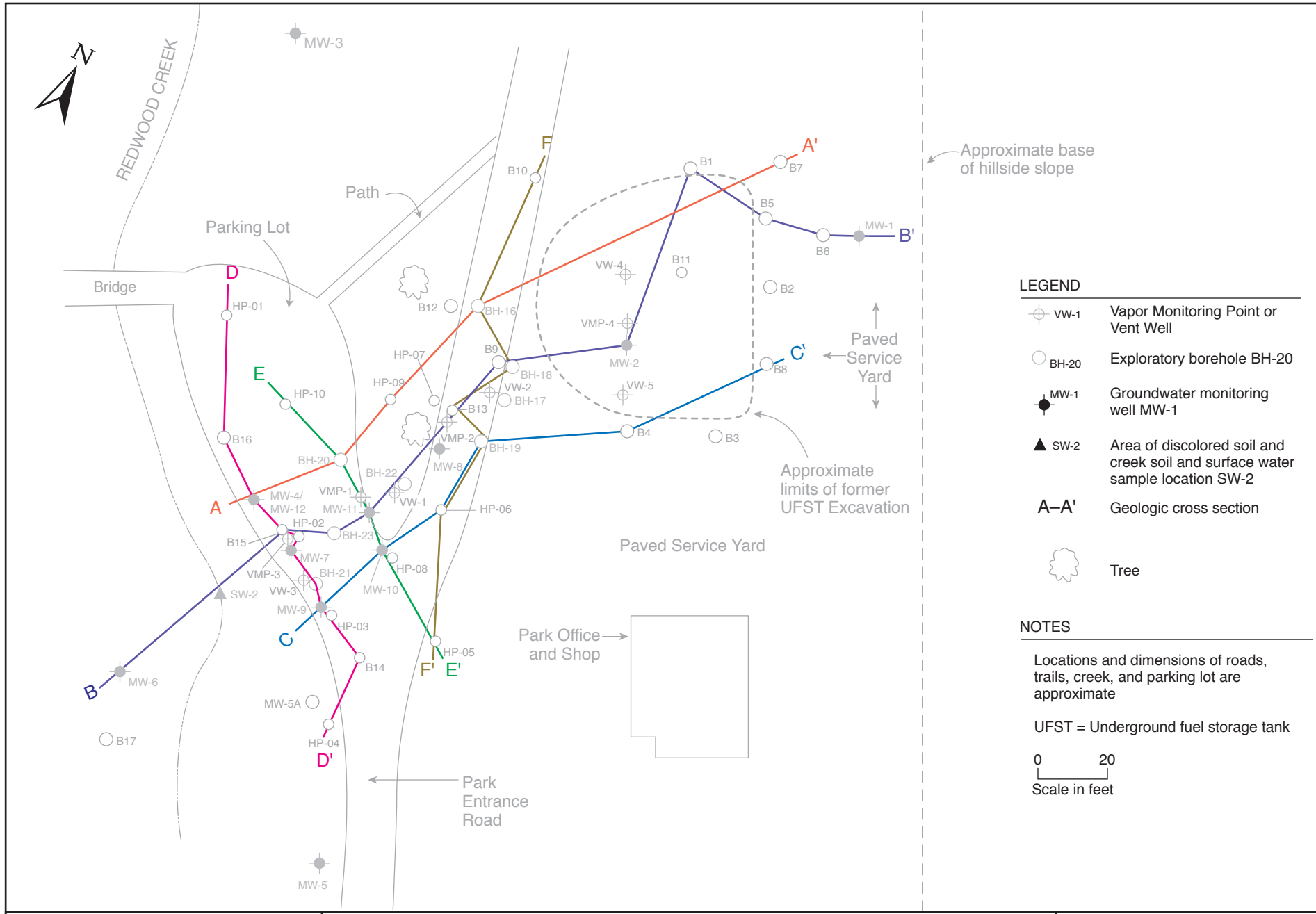
This section discusses the site hydrogeologic conditions based on geologic logging and water level measurements collected at the site since September 1993. Previous SES reports have included detailed discussions of site lithologic and hydrogeologic conditions. In May 2004, Alameda County Environmental 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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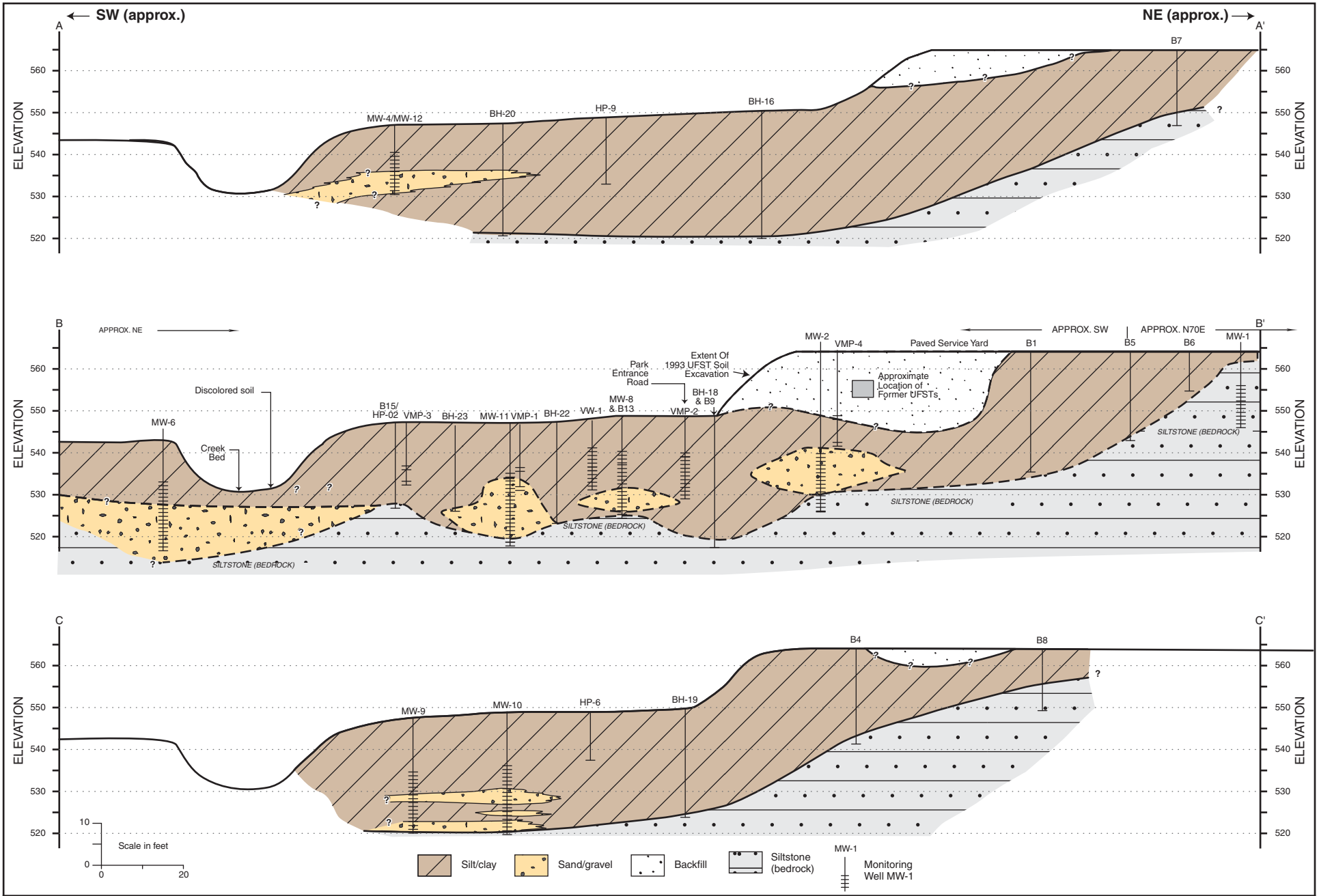
GEOLOGIC CROSS-SECTION LOCATIONS
Redwood Regional Park Service Yard, Oakland, CA

Figure 3

by: MJC | MARCH 2008

2008-02-05



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

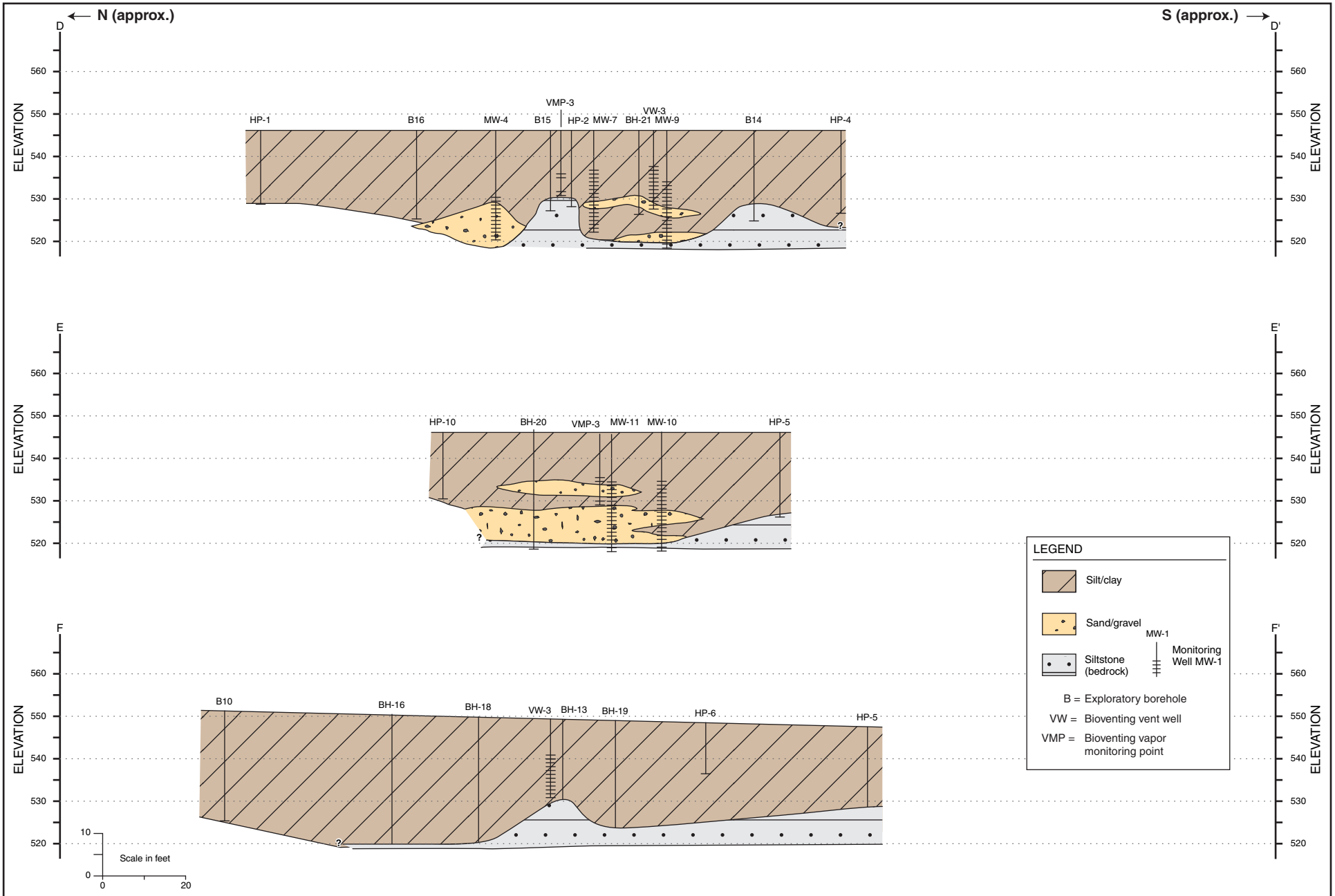
Redwood Regional Park Service Yard, Oakland, CA

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.

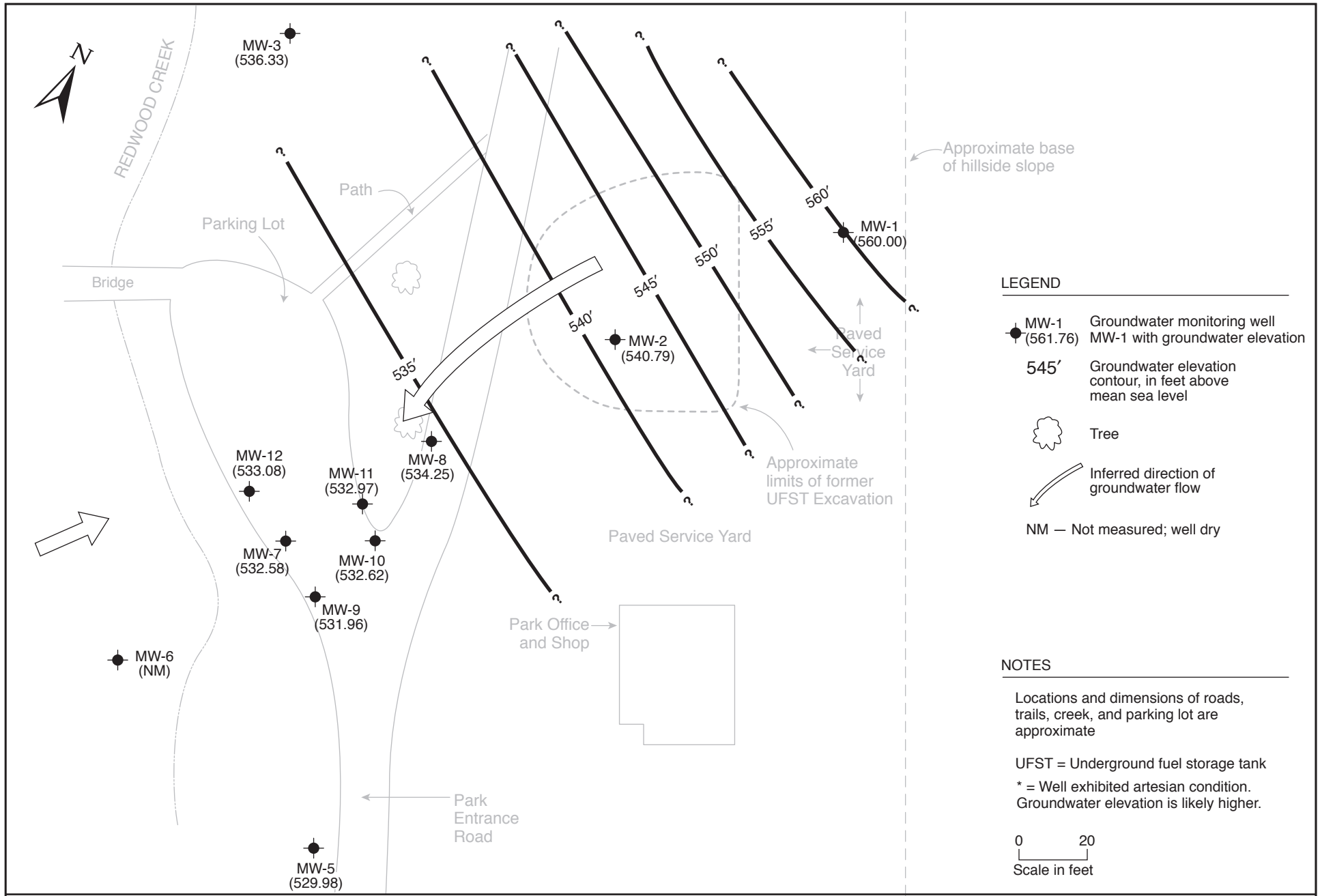
In the central and downgradient portions of the groundwater contaminant plume (under the entrance road and the parking area), the bedrock surface has local, fairly steep elevation highs and lows, expressing a hummocky surface. Bedrock elevations vary by up to 10 feet over distances of less than 20 feet 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 area 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–September 25, 2009
Redwood Regional Park Service Yard, Oakland, CA

Figure 6

by: MJC | OCTOBER 2009

2008-02-17

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 Q3 2009 ACTIVITIES

This section presents the creek surface water and groundwater sampling and analytical methods for the most recent groundwater monitoring event (Q3 2009), conducted on September 25, 2009 and an additional discussion of purging and sampling of monitoring well MW-2 that was conducted on August 7, 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 August 2009 to document the affect of the ORC™ injection.

Creek sampling and groundwater monitoring/sampling was conducted on September 25, 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 – September 25, 2009 Monitoring Event
Redwood Regional Park Corporation Yard, Oakland, California

Well	Well Depth	Screened Interval Depth	TOC Elevation	Groundwater Elevation (9/25/09)
MW-1	18	7 to17	565.83	560.00
MW-2	36	20 to 35	566.42	540.79
MW-3	42	7 to 41	560.81	536.33
MW-5	26	10 to 25	547.41	529.98
MW-6	26	10 to 25	545.43	NM
MW-7	24	9 to24	547.56	532.58
MW-8	23	8 to 23	549.13	529.98
MW-9	26	11 to 26	549.28	531.96
MW-10	26	11 to 26	547.22	532.62
MW-11	26	11 to 26	547.75	532.97
MW-12	25	10 to 25	544.67	533.08

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).
NM = Not measured, well dry

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 46 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 September 25, 2009. Surface water sample collection was attempted 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). However, there was no water present in the SW-3 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 very low stage with a maximum water depth of 7 inches. The water at SW-2 was more an isolated pond then a moving stream, with no water located in the down flow direction. At the SW-2 location, where contaminated groundwater discharge to the creek historically has been observed, a small amount of 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.

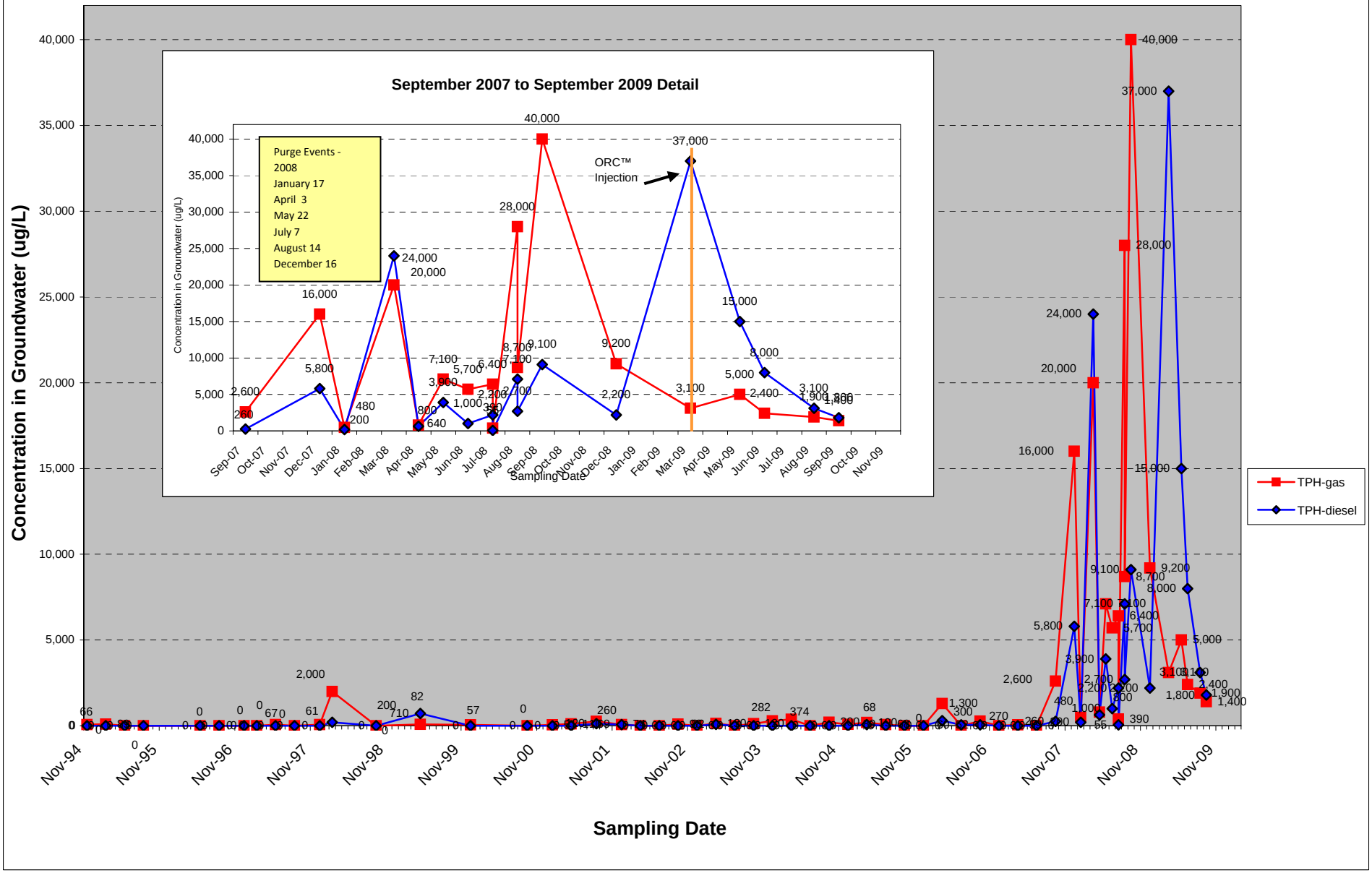
Groundwater samples taken six days after the March 10, 2009 injection showed concentrations of total extractable hydrocarbons as diesel (TEHd) and total volatile hydrocarbons as gasoline (TVHg) at 37,000 micrograms per liter (µg/L) and 3,100 µg/L, respectively. Since that first post-injection sampling event, concentrations of TVHg and TEHd have steadily decreased, and were observed at 1,400 µg/L and 1,800 µg/L during the latest September 2009 event. Table 2 shows the post-ORC® injection monitoring analytical results. Figure 7 shows the TEHd and TVHg concentration plot for MW-2 over time. See Appendix C for the certified laboratory analytical reports.

Table 2
Post-ORC® Injection Monitoring Analytical Results
Monitoring Well MW-2

Date Sampled	TVHg (µg/L)	TEHd (µg/L)	DO (mg/L)
3-10-09	3,100	37,000	0.2
5-5-09	5,000	15,000	0.86
6-10-09	2,400	8,000	1.35
8-7-09	1,900	3,100	0.46
9-25-09	1,400	1,800	0.18

Notes
TVHg = Total volatile hydrocarbons as gasoline
TEHd = Total extractable hydrocarbons as gasoline
µg/L = micrograms per liter
mg/L = milligrams per liter

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

The most salient results of the Q3-2009 groundwater monitoring event is that contaminant concentrations were consistently lower than either Q2-2009 or the same time last year, Q3-2008, with the 1,000 µg/L plume footprint significantly reduced. Well MW-2, where ORC® was injected upgradient earlier in 2009, showed significantly lower TEHd, TVHg, benzene, ethylbenzene, total xylenes, and MTBE concentrations.

While some improvement in concentrations occurred, the current quarter site groundwater concentrations in all but one of the sampled (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 not exceed the ESL for TVHg; however the ESL where *groundwater is and is not a likely drinking water resource* for TEHd was exceeded for this well.

Concentrations of benzene exceeded the ESL for drinking water in all wells except MW-2, MW-7, and MW-12, where the concentrations were 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, and MW-9. Ethylbenzene was detected in MW-11 and MW-12, but at levels below the most conservative ESL. There were no total xylenes detected above the most conservative ESL in any of the wells during this sampling event. Total xylenes were detected in well MW-2, MW-7, MW-8, and MW-9 but at levels below both ESLs. MTBE was found above the drinking water criteria in well MW-2. MTBE was also detected in wells MW-7 and MW-8 but at levels below the ESL. Toluene was not detected above the laboratory detection limit in any of the wells sampled.

Table 2
Groundwater and Surface Water Sample
Analytical Results – September 25, 2009
Redwood Regional Park Corporation Yard, Oakland, California

Location	Contaminant						
	TVHg	**TEHd**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Total Xylenes**	**MTBE**
GROUNDWATER SAMPLES							
MW-2	**1,400**	**1,800**	*<0.5*	*<0.5*	*<0.5*	4.24	**12**
MW-7	**4,400**	**4,700**	*<0.5*	*<0.5*	**96**	5.6	3.5
MW-8	**440**	**1,700**	**2.8**	*<0.5*	**33**	2.7	3.7
MW-9	**2,200**	**2,900**	**15**	*<0.5*	**110**	11.79	<2.0
MW-10	74	**220**	**1.6**	*<0.5*	*<0.5*	*<0.5*	*<2.0*
MW-11	**830**	**2,400**	**11**	*<0.5*	19	*<0.5*	*<2.0*
MW-12	**330**	**270**	*<0.5*	*<0.5*	2.3	*<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	**110**	**220**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
SW-3	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
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).

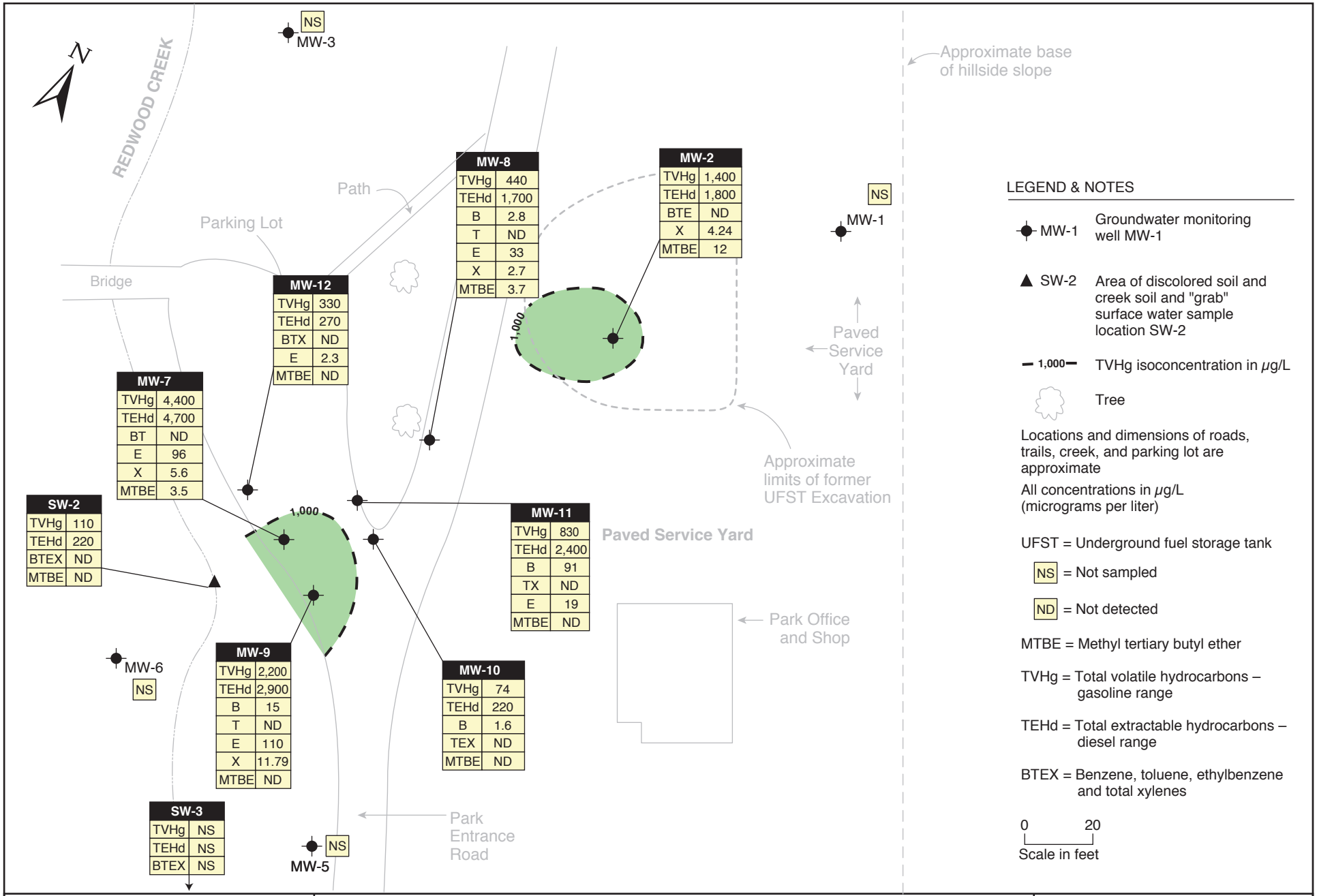
[(b)] Water Board Surface Water Screening Levels for freshwater habitats (Water Board, 2008).

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.

NS = Not sampled, dry



STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

ANALYTICAL RESULTS AND GASOLINE PLUME—SEPTEMBER 2009

Redwood Regional Park Service Yard, Oakland, CA

Figure 8

by: MJC | OCTOBER 2009

2006-17-24

The maximum TVHg and TEHd concentrations were detected in well MW-7, a downgradient well. The maximum benzene concentration was detected in well MW-8 (located in the middle of the plume) and the maximum ethylbenzene concentration in MW-9 (a downgradient well). 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 historical groundwater data, it appears to be located between well MW-9 and well MW-5.

Samples were not collected at surface water location SW-3, as there was no water present at the time of sampling. Surface water sample SW-2 contained concentrations of TVHg and TEHd above the surface water screening levels at 110 µg/L and 220 µg/L, respectively.

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).

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

- Contaminant concentrations in Q3-2009 were lower than either Q2-2009 or Q3-2008, with the 1,000 µg/L plume footprint significantly reduced, possibly as a result of lower water levels. Well MW-2, where ORC® was injected upgradient earlier in 2009, showed significantly lower TEHd, TVHg, benzene, ethylbenzene, total xylenes, and MTBE concentrations.
- 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 TEHd, TVHg, benzene, ethylbenzene, total xylenes, and MTBE in groundwater; and TVHg and TEHd 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.
- Current quarter site groundwater concentrations in all but one of the sampled (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 not exceed the ESL for TVHg; however the ESL where groundwater is and is not a drinking water resource for TEHd was exceeded for this well.

- Concentrations of benzene exceeded the ESL for drinking water in all wells except MW-2, MW-7, and MW-12, where the concentrations were below the laboratory detection limit.
- Ethylbenzene concentrations exceeded the ESL where groundwater is and is not a drinking water resource in MW-7, MW-8, and MW-9. Ethylbenzene was detected in MW-11 and MW-12, but at levels below the most conservative ESL.
- There were no total xylenes detected above the most conservative ESL in any of the wells during this sampling event.
- MTBE was found above the drinking water criteria in well MW-2. MTBE was also detected in wells MW-7 and MW-8 but at levels below the ESL.
- Toluene was not detected above the laboratory detection limit in any of the 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 and TEHd is currently centered around MW-7 at 4,400 µg/L and 4,700 µg/L, respectively.
- 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. The limited remedial application of ORC™ injected into the upper yard area (source area) in March 2009 appears to have had a beneficial impact of reducing dissolved hydrocarbon concentrations.
- Samples taken immediately after the injection, and in one to two month intervals since then (May, June, August, and during this event in September) have shown concentrations of both TVHg and TEHd to be 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.

- SES submitted a Remedial Action Workplan for Advanced Oxygen Releasing Compound ORC® Application to Source Area Contamination on behalf of EBRPD on August 20, 2009. The Workplan was approved on October 2, 2009 and is in the process of being implemented.

PROPOSED ACTIONS

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

- Implement the Stellar Environmental August 20, 2009 Remedial Action Workplan approved by ACEH to further mitigate the groundwater plume, preferably at the start of the rainy season.
- 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	531.4						
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
6/10/2009	561.05	545.02	541.38	(b)	531.02	532.08	534.45	537.94	534.08	535.40	535.18	534.96
9/25/2009	560.00	540.79	536.33	(b)	529.98	Dry	532.58	534.25	531.96	532.62	532.97	533.08

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

Chain of Custody Record

Lab job no. ____
Date 8/7/09
Page 1 of 1

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

Method of Shipment: Hand Delivery
Shipment No.
Airbill No.
Cooler No.

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

Project Manager: Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859

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

Samplers: *(Signature)* [signature]

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TVH-G (8015)	BTEX/MTBE (8021)	TEH-D (8015)							Remarks
MW-2		8/7/09	0845	W	3x40mL VOA Vials / 1x1L Amber	X	HCL / None		4	X	X	X							

Analysis Required

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature [signature]	8/7/09	Signature [signature]	8/7/09	Signature		Signature	
Printed William Wong	Time 0957	Printed Troy Babija	Time 9:58	Printed	Time	Printed	Time
Company Stellar Environmental		Company C&T		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.~~
[initials] 7/31/09

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

2000-00-01

WELLHEAD INSPECTION CHECKLIST

Date 2/7/09 Client STELLAR

Site Address REDWOOD REGIONAL PARK SVC YARD, OAKLAND, CA

Job Number 090807-MW1 Technician HW

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-2	X	3388	LOCK ON		WELL			

NOTES:

WELL GAUGING DATA

Project # 090807-WM1 Date 8/7/09 Client STELLAR

Site REDWOOD REGIONAL PARK; SUC. YARD, OAKLAND, CA

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-2	0822	4					23.55	38.80	TOC	

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	REDWOOD REG. PARK SUC. YARD OAKLAND, CA			PROJECT NUMBER	090807-WW1		
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	°C TEMP.	INITIALS
HACH 2100P TURBIDIMETER	0C060B017051	8/7/09 0818	NTU: <0.1, 20 100, 800	NTU: <0.1, 20 100, 800	yes	NA	WW
MYRON L ULTRAMETER 2	6222 712	8/7/09 0819	pH: 4, 7, 10 cond: 3910 µs	pH: 7.00; 10.00 4.00 cond: 3910 µs	yes	20.7	WW
YSI 550A	06E1424AF	8/7/09 0820	DO: 100% @ 10 mg/L	DO: 96.0% @9.80 mg/L	yes	23.7	WW

W[illegible]L MONITORING DATA SHE

Project #: 090807-MW1	Client: STELLAR
Sampler: MW	Date: 8/7/09
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 38.80	Depth to Water (DTW): 23.55
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]: 26.60	

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

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

9.9 (Gals.) X	3	=	29.7 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	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
0836	16.3	6.26	947	64	9.9	odor
0838	15.8	6.85	864	355	19.8	"
0840	16.1	7.05	942	447	29.7	"

Did well dewater? Yes (No) Gallons actually evacuated: 29.7

Sampling Date: 8/7/09 Sampling Time: 0845 Depth to Water: 26.31

Sample I.D.: MW-2 Laboratory: Kiff CalScience Other CAT

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

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	STELLAR ENV @ REDWOOD REGIONAL			PROJECT NUMBER	090925-FS1		
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
HACH 2100P TURBIDITY METER	06060C017121	9-25-09 945	5/60/580 NTU	5/58/545 NTU	10%	—	FS
MYRON ULTRAMETER	6226032	9-25-09 955	4.0/7.0/10.0	4.01/7.03/9.83	10%	64.5	FS
"	"	"	CONDUCTIVITY 3900 µS	3865	10%	65.5	FS
YSI 550 D.O. MS	06E226884B	925 1000	100%	117.7	10%	—	FS

WELLHEAD INSPECTION CHECKLIST

Date 9-25-09 Client STELLAR REDWOOD REGIONAL PARK SERVICE

Site Address OAKLAND, CA

Job Number 090925-FS1 Technician FS

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 *	✓							
MW-3 *	✓							
MW-5 *	✓							
MW-6 *	✓							
MW-7 *	✓							
MW-8		3/3	BOLTS		MISSING			
MW-9 *	✓							
MW-10	✓ FR	2/2	TABS		STRIPPED			
MW-11 *	✓							
MW-12	✓							
* LOCKED STAND PIPE								

NOTES:

WELL GAUGING DATA

Project # 090925-FS1 Date 9-25-09 Client STELLAR

Site REDWOOD REGIONAL PARK, OAKLAND, CA

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	845	4					5.83	18.76	TOC	
MW-2	835	4					25.63	38.73		
MW-3	912	4					24.48	45.86		
MW-5	855	4					17.43	26.96		
MW-6	935	4					DRY	14.11		
MW-7	905	2					14.98	25.20		
MW-8	920	2					14.88	22.12		
MW-9	900	2					17.32	30.05		
MW-10	925	2					14.60	28.15		
MW-11	916	2					14.78	28.50		
MW-12	930	2					11.59	23.59		

V L MONITORING DATA SHE

Project #: 090925-FS1	Client: STELLAR ENV. @ REDWOOD REGIONAL PARK
Sampler: FS	Date: 9-25-09
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 38.73	Depth to Water (DTW): 25.63
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]: 28.25	

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: _____

8.6 (Gals.) X	3	= 25.8 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
1013	61.0	7.4 5.56 FS	983	52	8.6	ODOR
— WELL	DEWATERED		@ 12	GALS	—	DTW: 36.01
1240	67.0 FS	7.1	897	76	—	

Did well dewater? (Yes) No Gallons actually evacuated: 12

Sampling Date: 9-25-09 Sampling Time: 1240 Depth to Water: 26.88

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

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

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

WELL MONITORING DATA SHEET

Project #: 090925-FS1	Client: STELLAR ENV. @ REDWOOD REGIONAL PARK
Sampler: FS	Date: 9-25-09
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 25.20	Depth to Water (DTW): 14.98
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]: 17.02	

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:_____

1.7 (Gals.) X	3	= 5.1 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
1054	58.2	6.9	791	>1000	1.7	ODOR
1056	57.4	6.7	786	>1000	3.4	"
1059	57.2	6.7	787	>1000	5.1	"

Did well dewater? Yes (No) Gallons actually evacuated: 5.1

Sampling Date: 9-25-09 Sampling Time: 13.05 Depth to Water: 15.05

Sample I.D.: MW-7 Laboratory: Kiff CalScience (Other) CET

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

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 #: 090925 - FS1	Client: STELLAR ENV. @ REDWOOD REGIONAL PARK
Sampler: FS	Date: 9-25-09
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 22.12	Depth to Water (DTW): 14.88
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]: 16.32	

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: ____

1.2 (Gals.) X	3	= 3.6 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
1141	60.9	7.0	829	71000	1.2	
1144	60.1	6.9	819	71000	2.4	
1147	60.4	6.9	833	71000	3.6	

Did well dewater? Yes (No) Gallons actually evacuated: 3.6

Sampling Date: 9-25-09 Sampling Time: 1325 Depth to Water: 14.95

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

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

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 #: 090925 - FS1	Client: STELLAR ENV. @ REDWOOD REGIONAL PARK
Sampler: FS	Date: 9-25-09
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 30.05	Depth to Water (DTW): 17.32
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]: 19.86	

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: _____

2.1 (Gals.) X 3 = 6.3 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
1125	58.7	6.5	839	71000	2.1	ODOR
1128	57.8	6.8	936	71000	4.2	
1132	57.7	6.8	954	71000	6.3	

Did well dewater? Yes (No) Gallons actually evacuated: 6.3

Sampling Date: 9-25-09 Sampling Time: 1310 Depth to Water: 17.62

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

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

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 #: 090925 - FS1	Client: STELLAR ENV. @ REDWOOD REGIONAL PARK
Sampler: FS	Date: 9-25-09
Well I.D.: MW - 10	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 28.15	Depth to Water (DTW): 14.60
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]: 17.31	

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: ____

2.2 (Gals.) X 3 = 6.6 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
1036	60.3	7.0	859	169	2.2	
1038	59.3	7.0	852	458	4.4	
1041	59.1	6.9	810	340	6.6	

Did well dewater? Yes (No) Gallons actually evacuated: 6.6

Sampling Date: 9-25-09 Sampling Time: 1255 Depth to Water: 14.70

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

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

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 #: 090925 - FS1	Client: STELLAR ENV. @ REDWOOD REGIONAL PARK
Sampler: FS	Date: 9-25-09
Well I.D.: MW-11	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 28.50	Depth to Water (DTW): 14.78
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]: 17.52	

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: ____

2.2 (Gals.) X	3	=	6.6 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
1154	59.5	6.9	794	667	2.2	
1158	59.4	6.7	848	880	4.4	
1202	59.6	6.7	857	592	6.6	

Did well dewater? Yes (No) Gallons actually evacuated: 6.6

Sampling Date: 9-25-09 Sampling Time: 1340 Depth to Water: 14.93

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

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

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 #: 090925 - FS1	Client: STELLAR ENV. @ REDWOOD REGIONAL PARK
Sampler: FS	Date: 9-25-09
Well I.D.: MW-12	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 23.59	Depth to Water (DTW): 11.59
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]: 13.99	

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: _____

1 Case Volume	Specified Volumes	Calculated Volume
FS 2.0 (Gals.)	X 3	= 6.0 Gals.

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
1110	58.2	6.8	685	461	2	
1113	57.3	6.7	666	713	4	
1116	56.9	6.6	660	7000	6	

Did well dewater? Yes (No) Gallons actually evacuated: 6

Sampling Date: 9-25-09 Sampling Time: 1312 Depth to Water: 11.75

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

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

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 214036
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	214036-001

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: 08/17/2009
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**214036**
Client:	**Stellar Environmental Solutions**
Project:	**2008-02**
Location:	**Redwood Regional Park**
Request Date:	**08/07/09**
Samples Received:	**08/07/09**

This data package contains sample and QC results for one water sample, requested for the above referenced project on 08/07/09. 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 # 214036-001); the corresponding trifluorotoluene (FID) surrogate recovery was within limits. High surrogate recovery was observed for bromofluorobenzene (PID) in MW-2 (lab # 214036-001); the corresponding trifluorotoluene (PID) surrogate recovery was within limits. No other analytical problems were encountered.

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

214036

Chain of Custody Record

Lab job no. _____
Date 8/7/09
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)* [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)	Remarks
MW-2		8/7/09	0845	W	3x40mL VOA VIALS 1x1L AMBER	X	HCL NONE		4	X	X	X	

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature [signature]	8/7/09	Signature [signature]	8/7/09	Signature		Signature	
Printed WILLIAM WONG	Time	Printed Tracy Babiya	Time 9:8	Printed	Time	Printed	Time
Company Stellar Environmental		Company Cal-1		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.~~
8/7/09

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 # 214036 Date Received 8-7-09 Number of coolers 1
Client Stellar Environmental Solutions Project Redwood Regional Park

Date Opened 8-7-09 By (print) Troy Windsor (sign) Troy Windsor
Date Logged in 8-7-09 By (print) Troy Windsor (sign) Troy Windsor

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 #:	214036	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2008-02		
Field ID:	MW-2	Batch#:	153893
Matrix:	Water	Sampled:	08/07/09
Units:	ug/L	Received:	08/07/09
Diln Fac:	1.000	Analyzed:	08/14/09

Type: SAMPLE Lab ID: 214036-001

Analyte	Result	RL	Analysis
Gasoline C7-C12	1,900	50	EPA 8015B
MTBE	7.1	2.0	EPA 8021B
Benzene	1.6	0.50	EPA 8021B
Toluene	1.8 C	0.50	EPA 8021B
Ethylbenzene	11	0.50	EPA 8021B
m,p-Xylenes	3.8	0.50	EPA 8021B
o-Xylene	20 C	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	108	63-146	EPA 8015B
Bromofluorobenzene (FID)	192 *	70-140	EPA 8015B
Trifluorotoluene (PID)	97	50-140	EPA 8021B
Bromofluorobenzene (PID)	155 *	56-132	EPA 8021B

Type: BLANK Lab ID: QC507716

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)	97	63-146	EPA 8015B
Bromofluorobenzene (FID)	92	70-140	EPA 8015B
Trifluorotoluene (PID)	87	50-140	EPA 8021B
Bromofluorobenzene (PID)	81	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

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	214036	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2008-02	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	153893
Units:	ug/L	Analyzed:	08/14/09
Diln Fac:	1.000		

Type: BS Lab ID: QC507717

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.789	98	53-152
Benzene	10.00	9.198	92	79-120
Toluene	10.00	10.69	107	76-122
Ethylbenzene	10.00	10.96	110	77-125
m,p-Xylenes	10.00	10.07	101	76-126
o-Xylene	10.00	9.556	96	77-126

Surrogate	%REC	Limits
Trifluorotoluene (PID)	80	50-140
Bromofluorobenzene (PID)	79	56-132

Type: BSD Lab ID: QC507718

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	22.24	111	53-152	13	37
Benzene	20.00	19.55	98	79-120	6	20
Toluene	20.00	20.11	101	76-122	6	21
Ethylbenzene	20.00	20.22	101	77-125	8	21
m,p-Xylenes	20.00	16.83	84	76-126	18	23
o-Xylene	20.00	17.58	88	77-126	8	21

Surrogate	%REC	Limits
Trifluorotoluene (PID)	87	50-140
Bromofluorobenzene (PID)	87	56-132

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	214036	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:	QC507719	Batch#:	153893
Matrix:	Water	Analyzed:	08/14/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,027	103	76-121

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	63-146
Bromofluorobenzene (FID)	113	70-140

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	214036	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2008-02	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	153893
MSS Lab ID:	214183-001	Sampled:	08/13/09
Matrix:	Water	Received:	08/13/09
Units:	ug/L	Analyzed:	08/14/09
Diln Fac:	1.000		

Type: MS Lab ID: QC507720

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	20.32	2,000	1,401	69	66-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	63-146
Bromofluorobenzene (FID)	125	70-140

Type: MSD Lab ID: QC507721

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,688	83	66-120	19	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	127	63-146
Bromofluorobenzene (FID)	135	70-140

RPD= Relative Percent Difference

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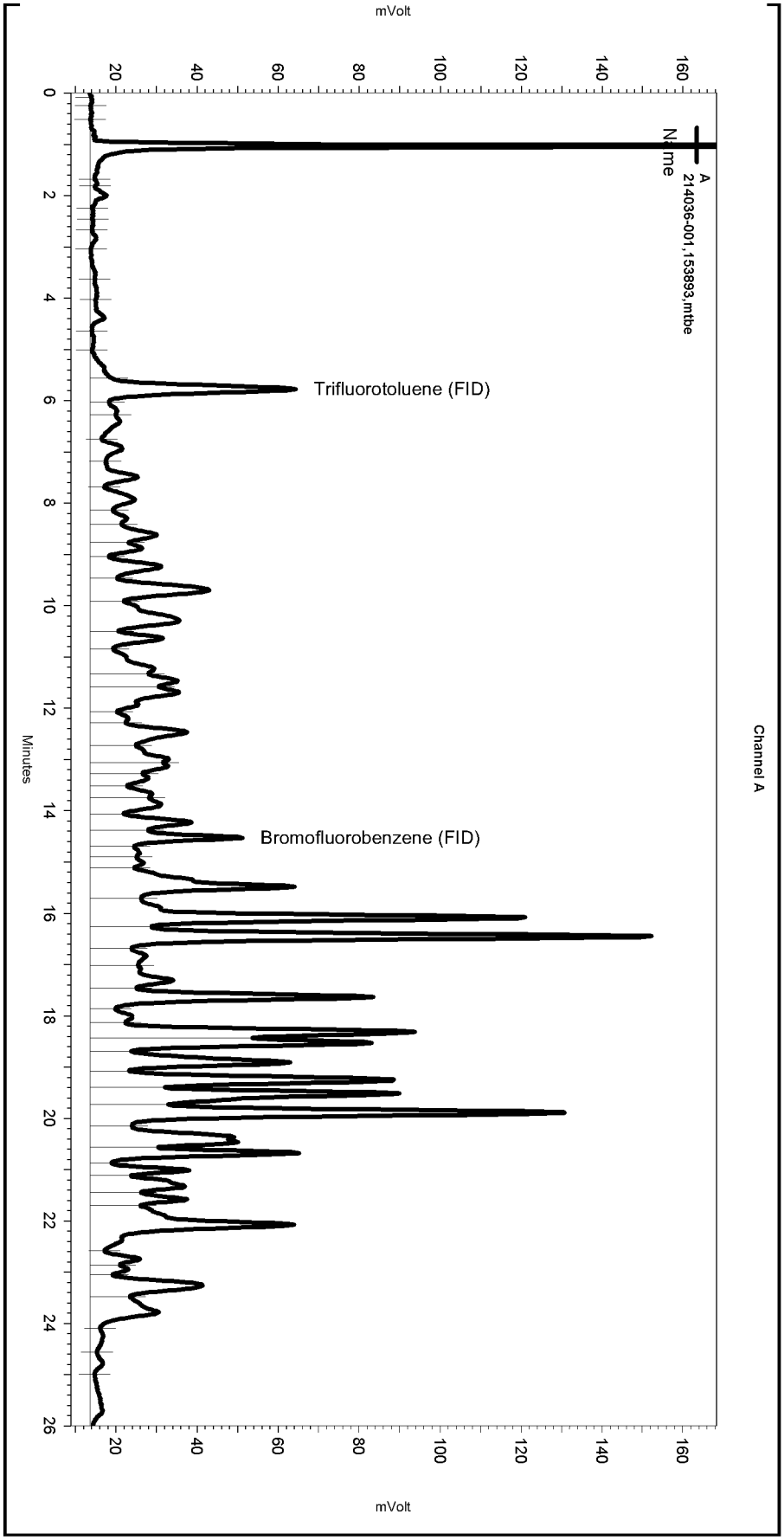
Sample Name: **214036-001,153893,mtbe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC04\Data\226_012**
Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe219.met

Software Version 3.1.7
Run Date: 8/14/2009 7:09:37 PM
Analysis Date: 8/15/2009 8:34:35 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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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

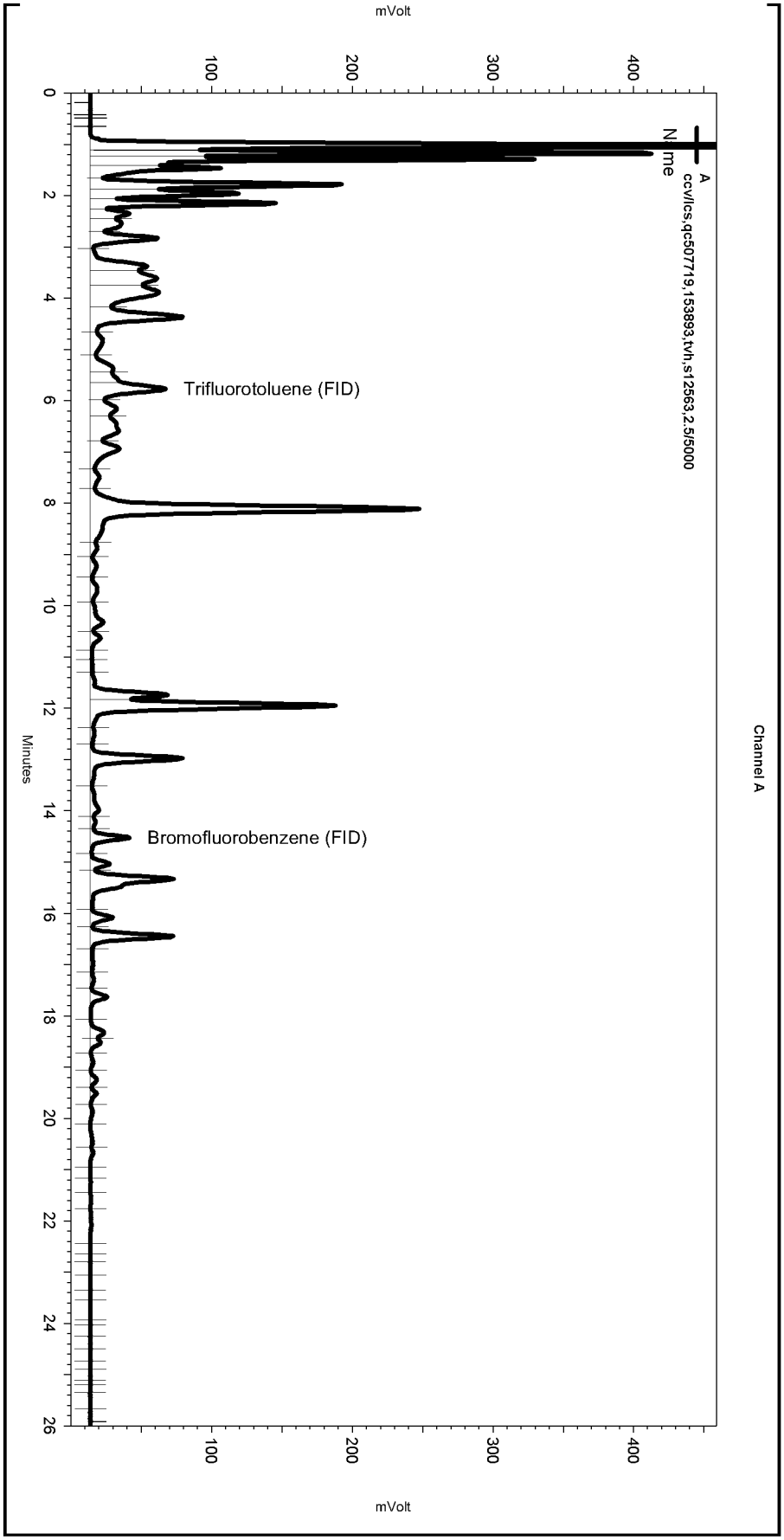
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\226_012

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0	26.017	0
Yes	Split Peak	5.571	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC04\Sequence\226.seq**
Sample Name: **ccv/lcs,qc507719,153893,tvh,s12563,2.5/5000**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC04\Data\226_005**
Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe219.met

Software Version 3.1.7
Run Date: 8/14/2009 12:06:38 PM
Analysis Date: 8/15/2009 8:27:36 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\226_005

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.644	0	0

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	214036	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2008-02	Analysis:	EPA 8015B
Field ID:	MW-2	Sampled:	08/07/09
Matrix:	Water	Received:	08/07/09
Units:	ug/L	Prepared:	08/07/09
Diln Fac:	1.000	Analyzed:	08/10/09
Batch#:	153666		

Type: SAMPLE Lab ID: 214036-001

Analyte	Result	RL
Diesel C10-C24	3,100 Y	50

Surrogate	%REC	Limits
o-Terphenyl	106	61-127

Type: BLANK Lab ID: QC506729

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 #:	214036	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:	QC506730	Batch#:	153666
Matrix:	Water	Prepared:	08/07/09
Units:	ug/L	Analyzed:	08/10/09

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,663	107	50-120

Surrogate	%REC	Limits
o-Terphenyl	107	61-127

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	214036	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2008-02	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	153666
MSS Lab ID:	214047-001	Sampled:	08/06/09
Matrix:	Water	Received:	08/06/09
Units:	ug/L	Prepared:	08/07/09
Diln Fac:	1.000	Analyzed:	08/10/09

Type: MS Cleanup Method: EPA 3630C
Lab ID: QC506731

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	57.06	2,500	2,430	95	38-127

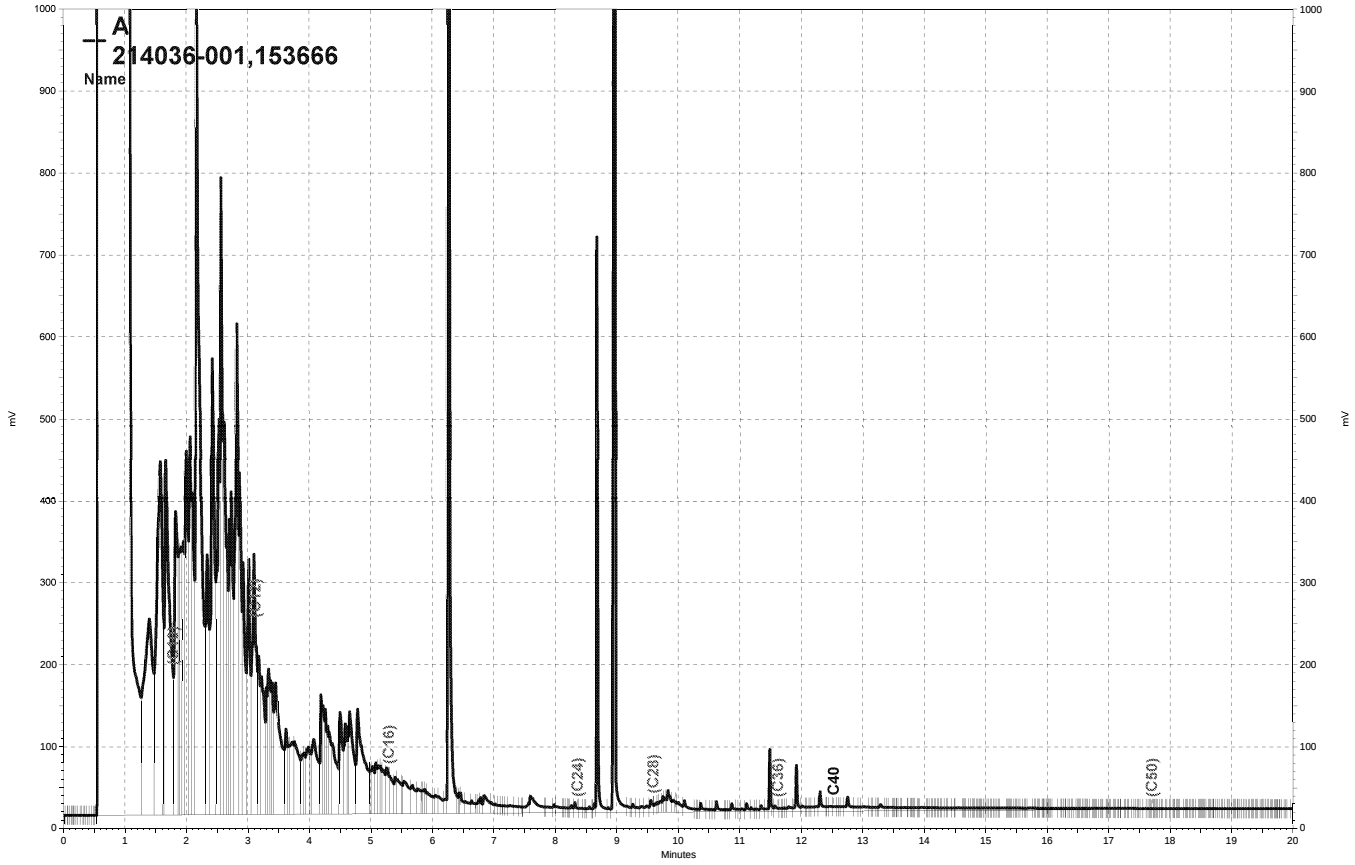
Surrogate	%REC	Limits
o-Terphenyl	97	61-127

Type: MSD Cleanup Method: EPA 3630C
Lab ID: QC506732

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,920	75	38-127	23	37

Surrogate	%REC	Limits
o-Terphenyl	78	61-127

RPD= Relative Percent Difference



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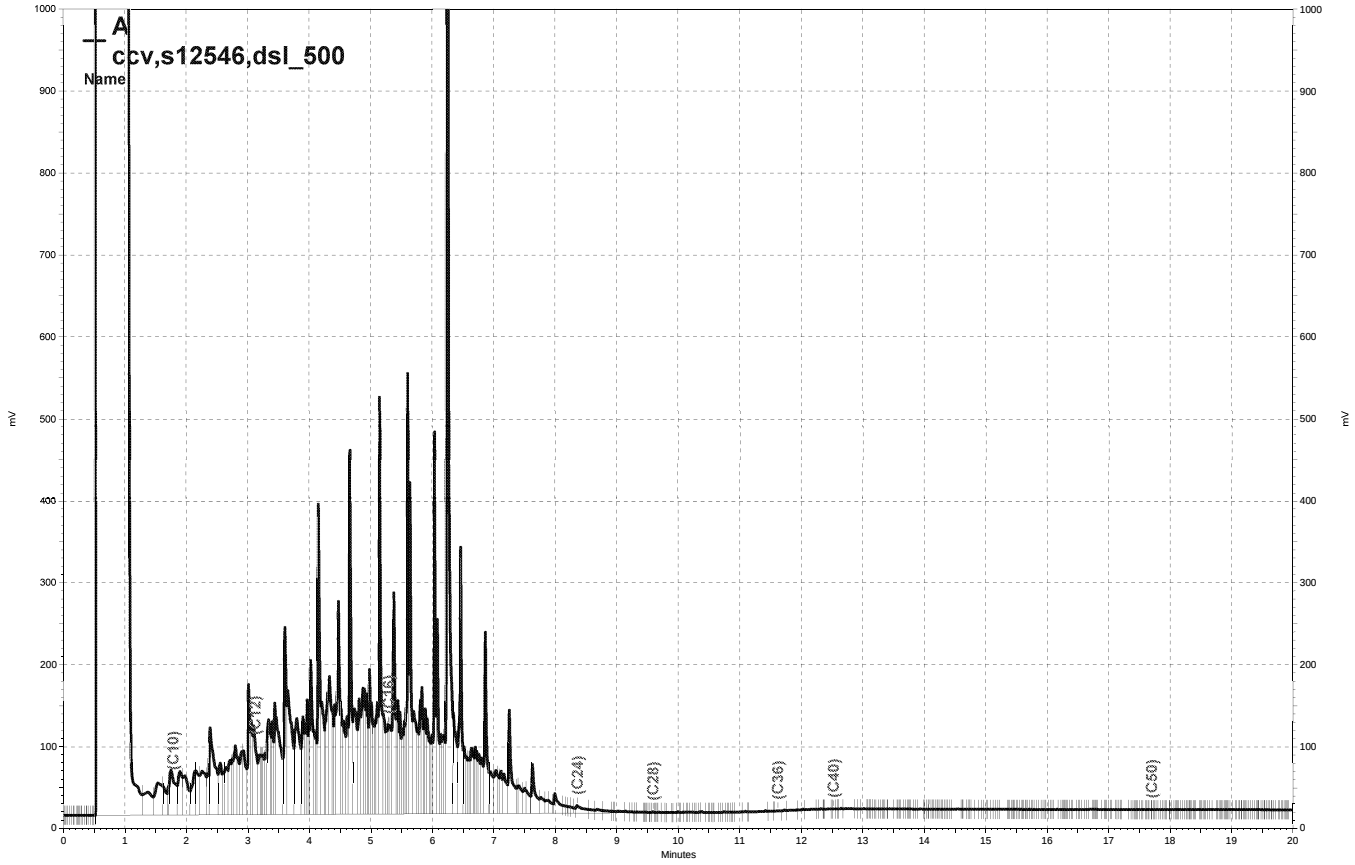

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Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

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

Laboratory Job Number 215247
ANALYTICAL REPORT

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

Sample ID	Lab ID
MW-2	215247-001
MW-7	215247-002
MW-8	215247-003
MW-9	215247-004
MW-10	215247-005
MW-11	215247-006
MW-12	215247-007

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 signature. 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: 10/08/2009
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**215247**
Client:	**Stellar Environmental Solutions**
Project:	**2009-02**
Location:	**Redwood Regional Park**
Request Date:	**09/25/09**
Samples Received:	**09/25/09**

This data package contains sample and QC results for seven water samples, requested for the above referenced project on 09/25/09. 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.

215247

Chain of Custody Record

Lab job no. _____
Date 9-25-09
Page 1 of 1

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

Method of Shipment Hand Delivery
Shipment No. _____
Airbill No. _____
Cooler No. _____

Project Owner East Bay Regional Park District
Site Address 7867 Redwood Road, Oakland, California
Project Name Redwood Regional Park
Project Number ~~2008-16~~ 2008-12

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)	Remarks
1	MW-2		9-25-09	1240	W	VOA x 3 AMBER-1 Lx1	X	HCL VOA		4	X	X	X	
2	MW-7			1305			X				X	X	X	
3	MW-8			1325			X				X	X	X	
4	MW-9			1310			X				X	X	X	
5	MW-10			1255			X				X	X	X	
6	MW-11			1340			X				X	X	X	
7	MW-12			1312			X				X	X	X	

Relinquished by:	Date	Time	Received by:	Date	Time
Signature	9-25-09	1450	Signature	92509	1450
Printed F. SRIWONGTONG			Printed F. SRIWONGTONG		
Company BLAINE TECH SERVICES / Stellar Environmental			Company BLAINETECH		

Relinquished by:	Date	Time	Received by:	Date	Time
Signature	92509	1450	Signature	9/25/09	14:50
Printed F. SRIWONGTONG			Printed Micah Smith		
Company BLAINETECH			Company C&T		

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

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

Tracy Babjar

From: "Richard Makdisi" <Rmakdisi@stellar-environmental.com>
To: <tracy.babjar@ctberk.com>
Cc: "Teal Glass" <tglass@stellar-environmental.com>
Sent: Friday, October 09, 2009 8:24 AM
Subject: RE: 2008-12 - C&T Data (215247)

Hi Tracy—do not know what the BTS people were thinking about putting on the erroneous SES job number 2008-12 job number on this Redwood project COC: The SES' job number for this redwood site is 2009-02. --R

From: Tracy Babjar [mailto:tracy.babjar@ctberk.com]
Sent: Thursday, October 08, 2009 4:50 PM
To: Rmakdisi@stellar-environmental.com
Subject: 2008-12 - C&T Data (215247)

Hi Richard,

Please find attached the following files:
- Invoice
- PDF Deliverable
- EDF EDD (215247_edf.zip)

Email was also sent to: TGlass@stellar-environmental.com, hpietropaoli@stellar-environmental.com

C&T sends its e-reports via the Internet as Portable Document Format (PDF) files. Reports in this format, when accompanied by a signed cover page, are considered official reports. **No hardcopy reports will be sent either by fax or U.S. Postal Service unless otherwise requested.** You may distribute your PDF files electronically or as printed hardcopies, as long as they are distributed in their entirety.

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 21527 Date Received 9-25 Number of coolers 1
Client SES Project EBRD

Date Opened 9-25 By (print) J. Gr (sign)
Date Logged in 9/25/9 By (print) Stevens (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

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Matrix:	Water	Batch#:	155723
Units:	ug/L	Sampled:	09/25/09
Diln Fac:	1.000	Received:	09/25/09

Field ID: MW-2 Lab ID: 215247-001
Type: SAMPLE Analyzed: 10/06/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	1,400 Y	50	EPA 8015B
MTBE	12	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	0.94 C	0.50	EPA 8021B
o-Xylene	3.3 C	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	107	64-147	EPA 8015B
Bromofluorobenzene (FID)	116	71-138	EPA 8015B
Trifluorotoluene (PID)	80	45-151	EPA 8021B
Bromofluorobenzene (PID)	86	54-134	EPA 8021B

Field ID: MW-7 Lab ID: 215247-002
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	4,400 Y	50	EPA 8015B
MTBE	3.5 C	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	96 C	0.50	EPA 8021B
m,p-Xylenes	5.6 C	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	142	64-147	EPA 8015B
Bromofluorobenzene (FID)	119	71-138	EPA 8015B
Trifluorotoluene (PID)	103	45-151	EPA 8021B
Bromofluorobenzene (PID)	92	54-134	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Matrix:	Water	Batch#:	155723
Units:	ug/L	Sampled:	09/25/09
Diln Fac:	1.000	Received:	09/25/09

Field ID: MW-8 Lab ID: 215247-003
Type: SAMPLE Analyzed: 10/06/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	440	50	EPA 8015B
MTBE	3.7 C	2.0	EPA 8021B
Benzene	2.8	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	33 C	0.50	EPA 8021B
m,p-Xylenes	2.7	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	118	64-147	EPA 8015B
Bromofluorobenzene (FID)	112	71-138	EPA 8015B
Trifluorotoluene (PID)	87	45-151	EPA 8021B
Bromofluorobenzene (PID)	85	54-134	EPA 8021B

Field ID: MW-9 Lab ID: 215247-004
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,200	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	15	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	110 C	0.50	EPA 8021B
m,p-Xylenes	11	0.50	EPA 8021B
o-Xylene	0.79	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	121	64-147	EPA 8015B
Bromofluorobenzene (FID)	112	71-138	EPA 8015B
Trifluorotoluene (PID)	86	45-151	EPA 8021B
Bromofluorobenzene (PID)	84	54-134	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Matrix:	Water	Batch#:	155723
Units:	ug/L	Sampled:	09/25/09
Diln Fac:	1.000	Received:	09/25/09

Field ID: MW-10 Lab ID: 215247-005
Type: SAMPLE Analyzed: 10/06/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	74 Y	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	1.6	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)	111	64-147	EPA 8015B
Bromofluorobenzene (FID)	108	71-138	EPA 8015B
Trifluorotoluene (PID)	84	45-151	EPA 8021B
Bromofluorobenzene (PID)	85	54-134	EPA 8021B

Field ID: MW-11 Lab ID: 215247-006
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	830 Y	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	11	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	19	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)	139	64-147	EPA 8015B
Bromofluorobenzene (FID)	113	71-138	EPA 8015B
Trifluorotoluene (PID)	87	45-151	EPA 8021B
Bromofluorobenzene (PID)	87	54-134	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Matrix:	Water	Batch#:	155723
Units:	ug/L	Sampled:	09/25/09
Diln Fac:	1.000	Received:	09/25/09

Field ID:	MW-12	Lab ID:	215247-007
Type:	SAMPLE	Analyzed:	10/06/09

Analyte	Result	RL	Analysis
Gasoline C7-C12	330	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	2.3	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)	125	64-147	EPA 8015B
Bromofluorobenzene (FID)	105	71-138	EPA 8015B
Trifluorotoluene (PID)	81	45-151	EPA 8021B
Bromofluorobenzene (PID)	82	54-134	EPA 8021B

Type:	BLANK	Analyzed:	10/06/09
Lab ID:	QC515352		

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)	100	64-147	EPA 8015B
Bromofluorobenzene (FID)	101	71-138	EPA 8015B
Trifluorotoluene (PID)	77	45-151	EPA 8021B
Bromofluorobenzene (PID)	79	54-134	EPA 8021B

C= Presence confirmed, but RPD between columns exceeds 40%
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	155723
Units:	ug/L	Analyzed:	10/06/09
Diln Fac:	1.000		

Type: BS Lab ID: QC515353

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	8.839	88	58-143
Benzene	10.00	9.749	97	75-116
Toluene	10.00	9.738	97	72-124
Ethylbenzene	10.00	11.32	113	74-127
m,p-Xylenes	10.00	11.08	111	73-128
o-Xylene	10.00	11.13	111	73-126

Surrogate	%REC	Limits
Trifluorotoluene (PID)	83	45-151
Bromofluorobenzene (PID)	85	54-134

Type: BSD Lab ID: QC515354

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	8.190	82	58-143	8	31
Benzene	10.00	8.881	89	75-116	9	22
Toluene	10.00	8.379	84	72-124	15	24
Ethylbenzene	10.00	9.031	90	74-127	22	25
m,p-Xylenes	10.00	9.447	94	73-128	16	27
o-Xylene	10.00	9.598	96	73-126	15	25

Surrogate	%REC	Limits
Trifluorotoluene (PID)	86	45-151
Bromofluorobenzene (PID)	85	54-134

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215247	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:	QC515355	Batch#:	155723
Matrix:	Water	Analyzed:	10/06/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	913.8	91	77-118

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	64-147
Bromofluorobenzene (FID)	107	71-138

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02	Analysis:	EPA 8015B
Field ID:	MW-12	Batch#:	155723
MSS Lab ID:	215247-007	Sampled:	09/25/09
Matrix:	Water	Received:	09/25/09
Units:	ug/L	Analyzed:	10/06/09
Diln Fac:	1.000		

Type: MS Lab ID: QC515356

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	334.3	2,000	2,515	109	66-110

Surrogate	%REC	Limits
Trifluorotoluene (FID)	124	64-147
Bromofluorobenzene (FID)	107	71-138

Type: MSD Lab ID: QC515357

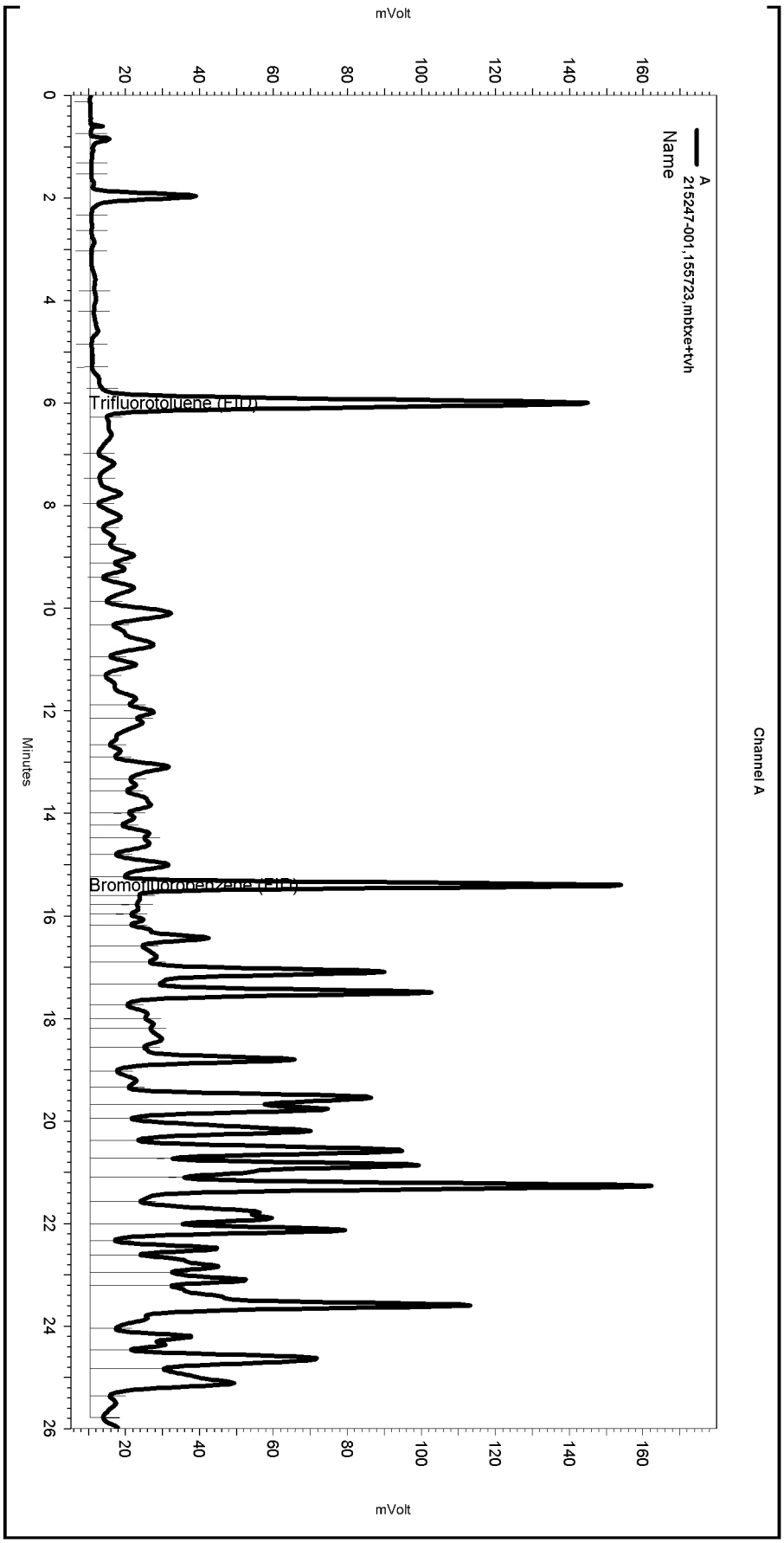
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,511	109	66-110	0	11

Surrogate	%REC	Limits
Trifluorotoluene (FID)	132	64-147
Bromofluorobenzene (FID)	107	71-138

RPD= Relative Percent Difference

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\279.seq**
Sample Name: **215247-001,155723,mbtxe+tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\279_023**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/6/2009 10:56:38 PM
Analysis Date: 10/7/2009 9:39:28 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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Integration Events

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

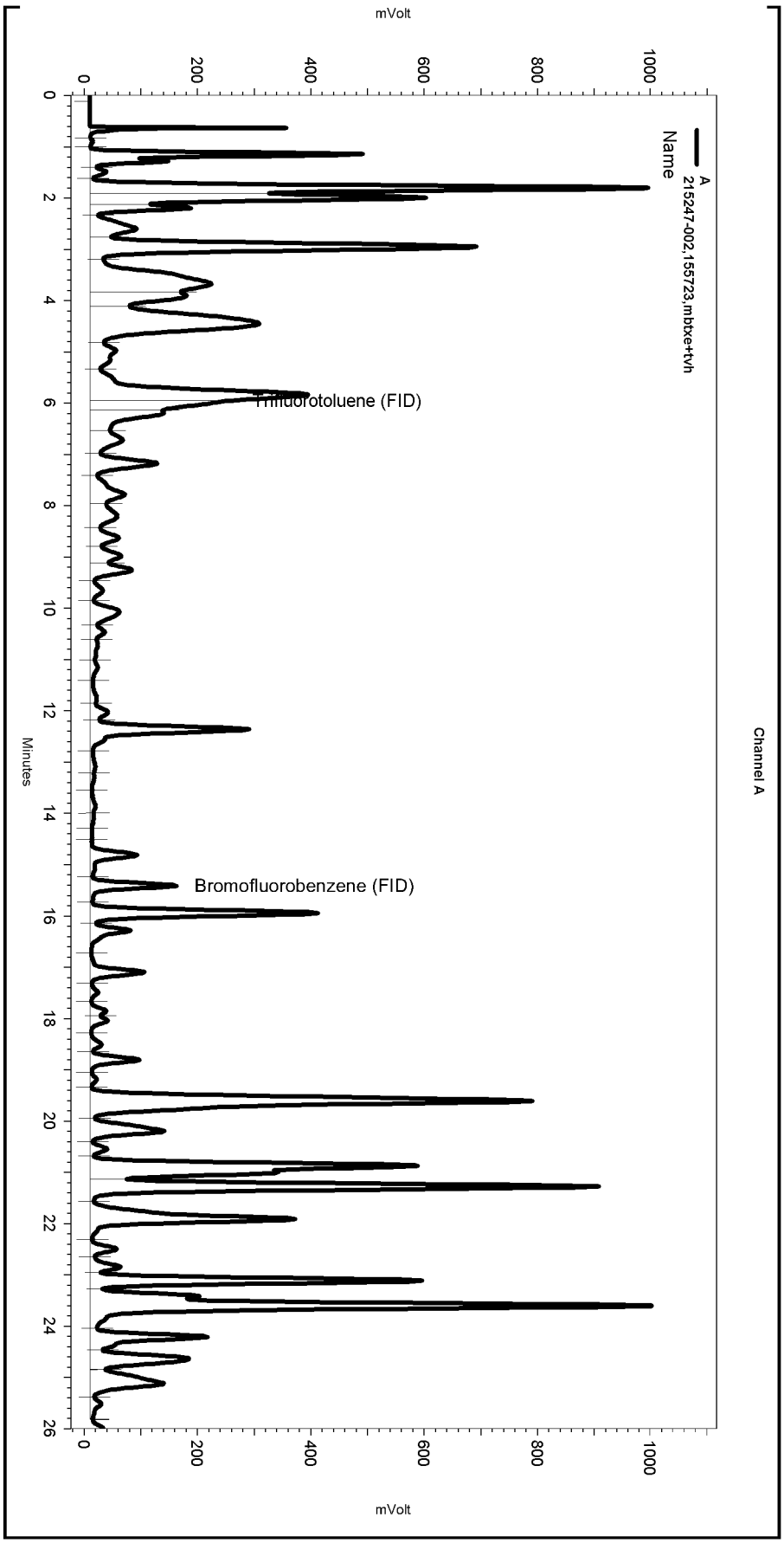
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\279_023

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0	26.017	0
Yes	Split Peak	5.722	0	0
Yes	Split Peak	15.596	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\279.seq**
Sample Name: **215247-002,155723,mbtxe+tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\279_026**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/7/2009 12:44:31 AM
Analysis Date: 10/7/2009 9:49:52 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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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

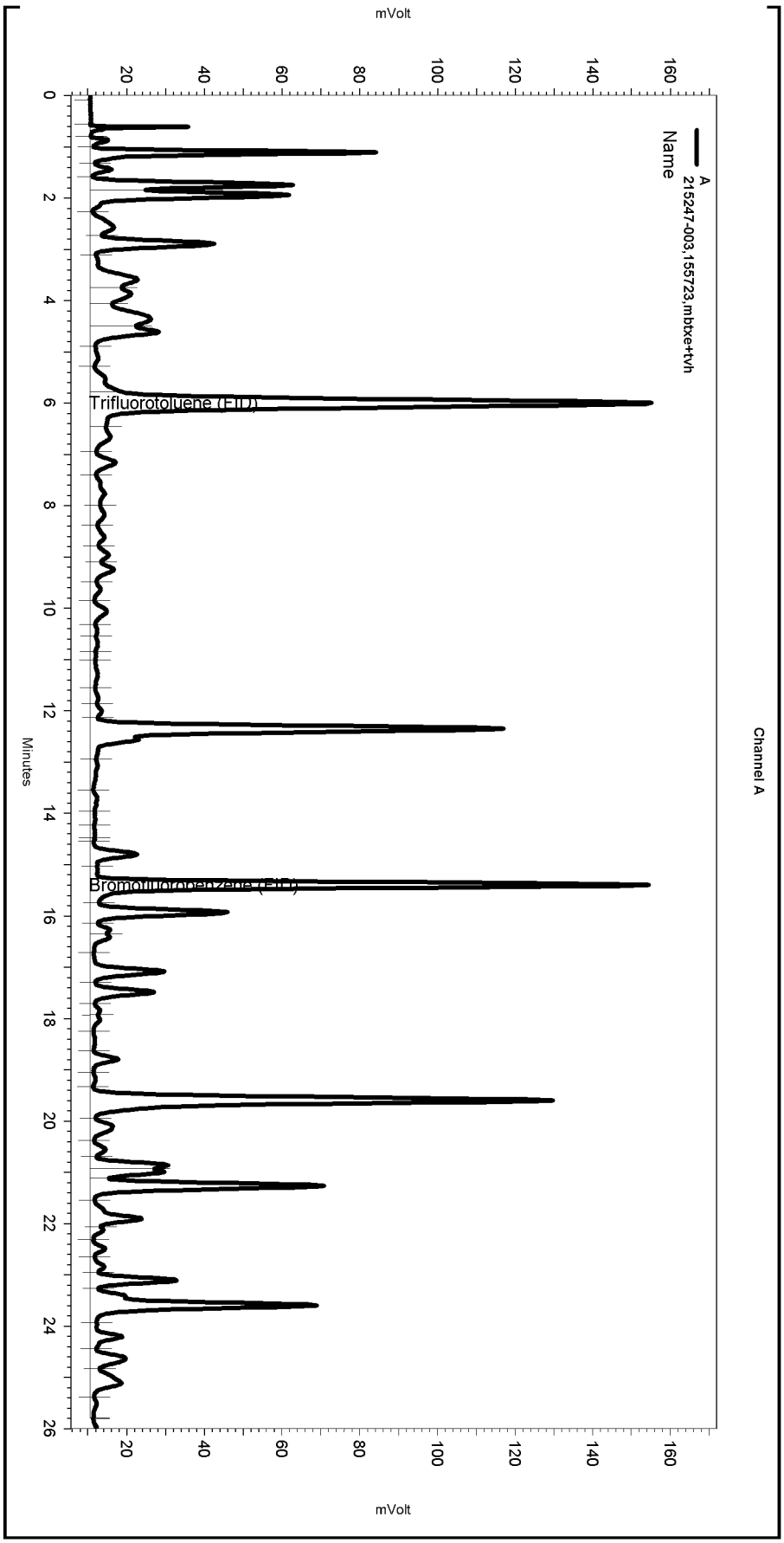
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\279_026

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0	26.017	0
Yes	Split Peak	5.947	0	0
Yes	Split Peak	6.128	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\279.seq**
Sample Name: **215247-003,155723,mbtxe+tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\279_024**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/6/2009 11:32:33 PM
Analysis Date: 10/7/2009 9:41:54 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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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

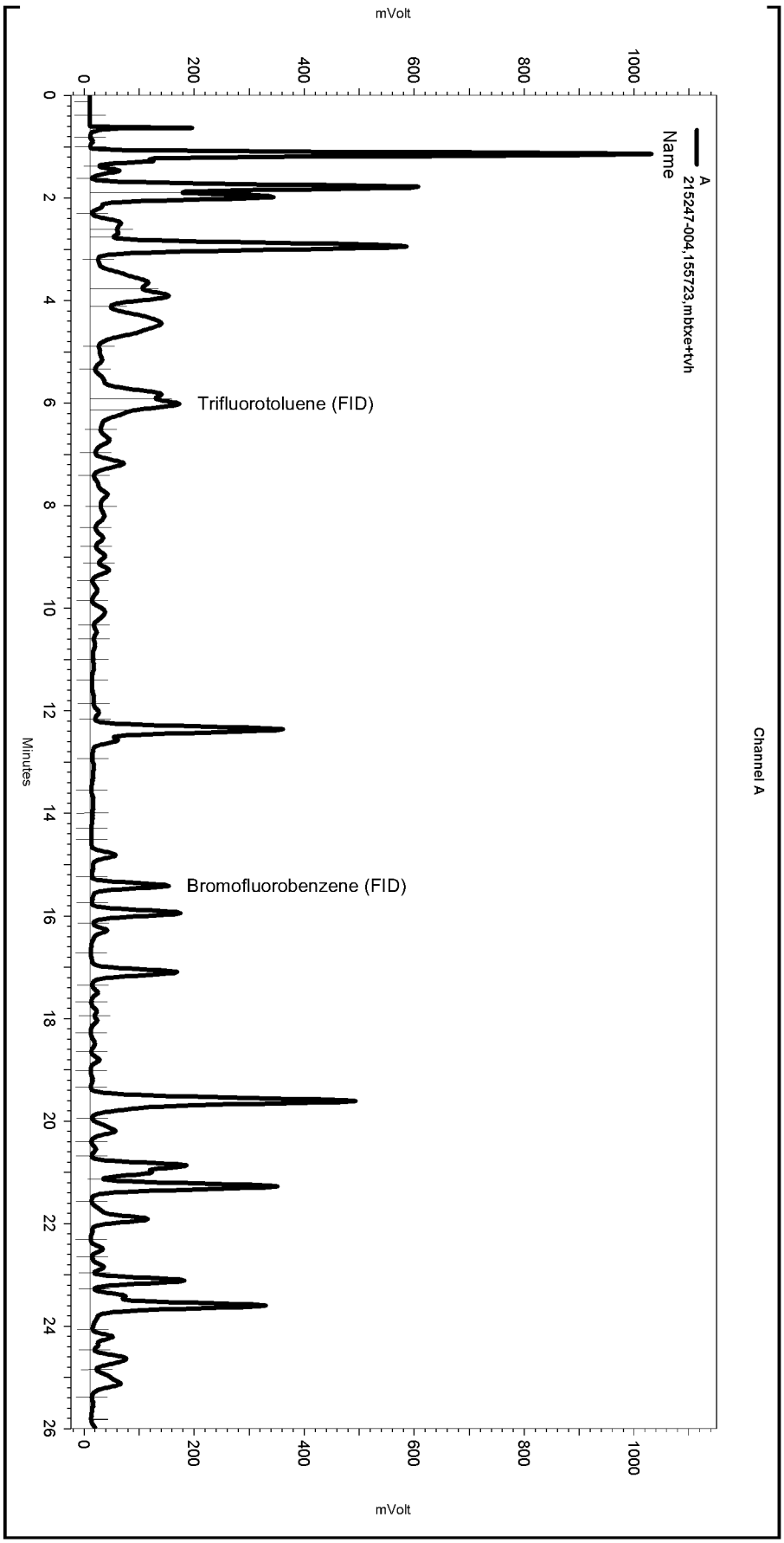
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\279_024

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0	26.017	0
Yes	Split Peak	5.791	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\279.seq**
Sample Name: **215247-004,155723,mbtxe+tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\279_028**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/7/2009 1:56:32 AM
Analysis Date: 10/7/2009 10:05:05 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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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

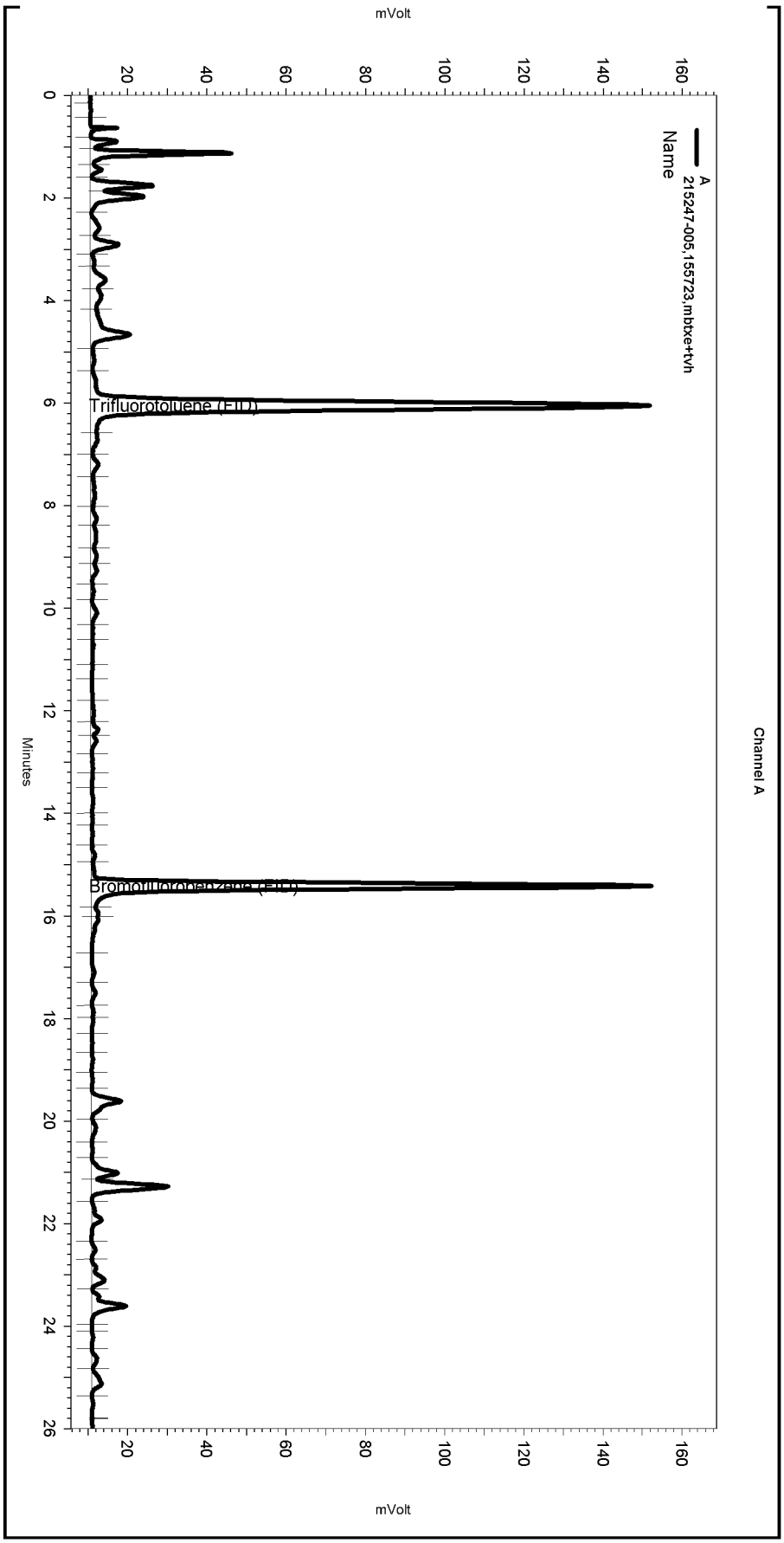
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\279_028

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0.034	26.017	0
Yes	Split Peak	5.913	0	0
Yes	Split Peak	6.141	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\279.seq**
Sample Name: **215247-005,155723,mbtxe+tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\279_022**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/6/2009 10:20:39 PM
Analysis Date: 10/7/2009 9:34:59 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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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\GC07\Data\279_022

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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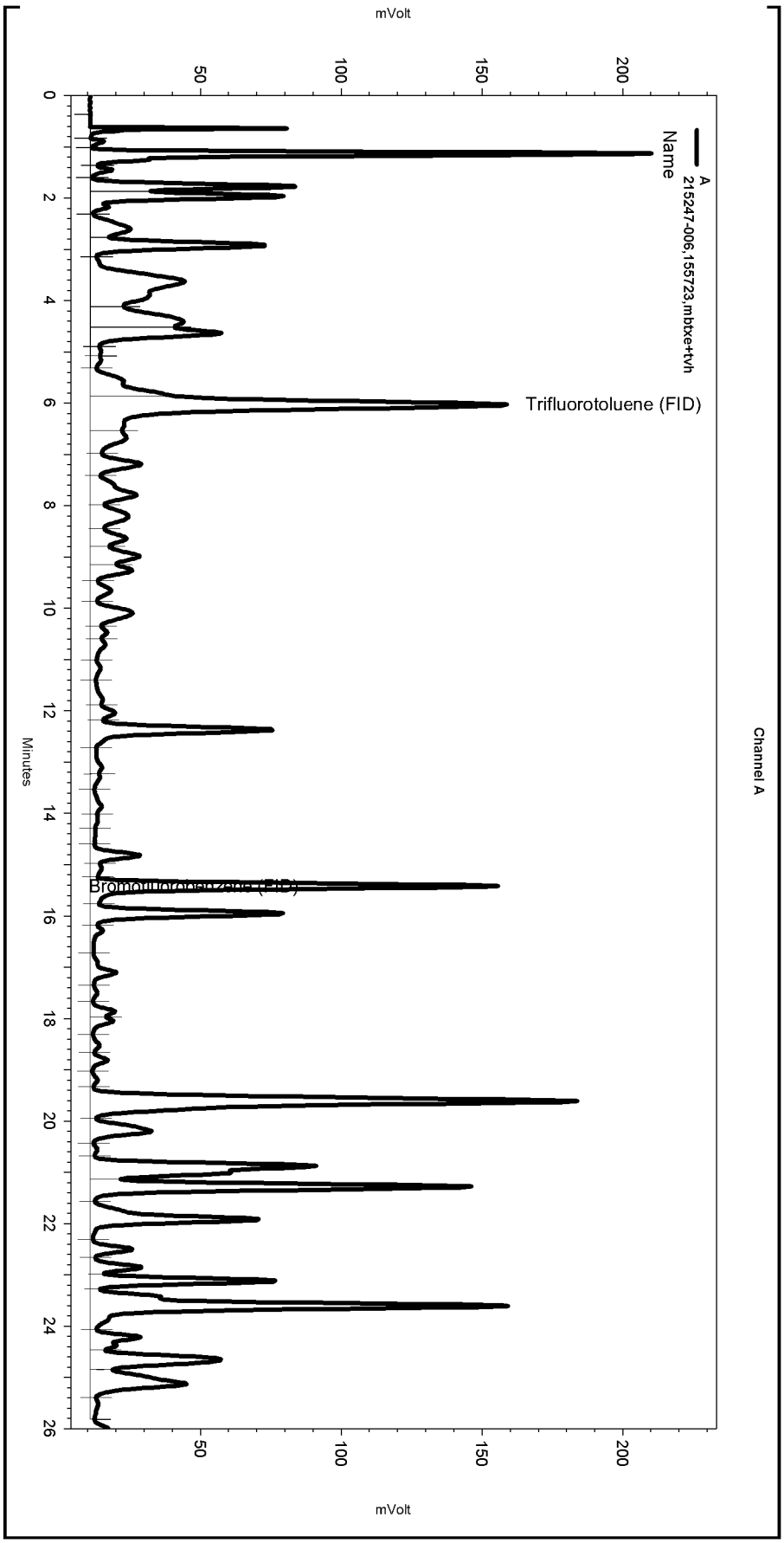
Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\279.seq**
Sample Name: **215247-006,155723,mbtxe+tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\279_025**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/7/2009 12:08:33 AM
Analysis Date: 10/7/2009 9:46:09 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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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

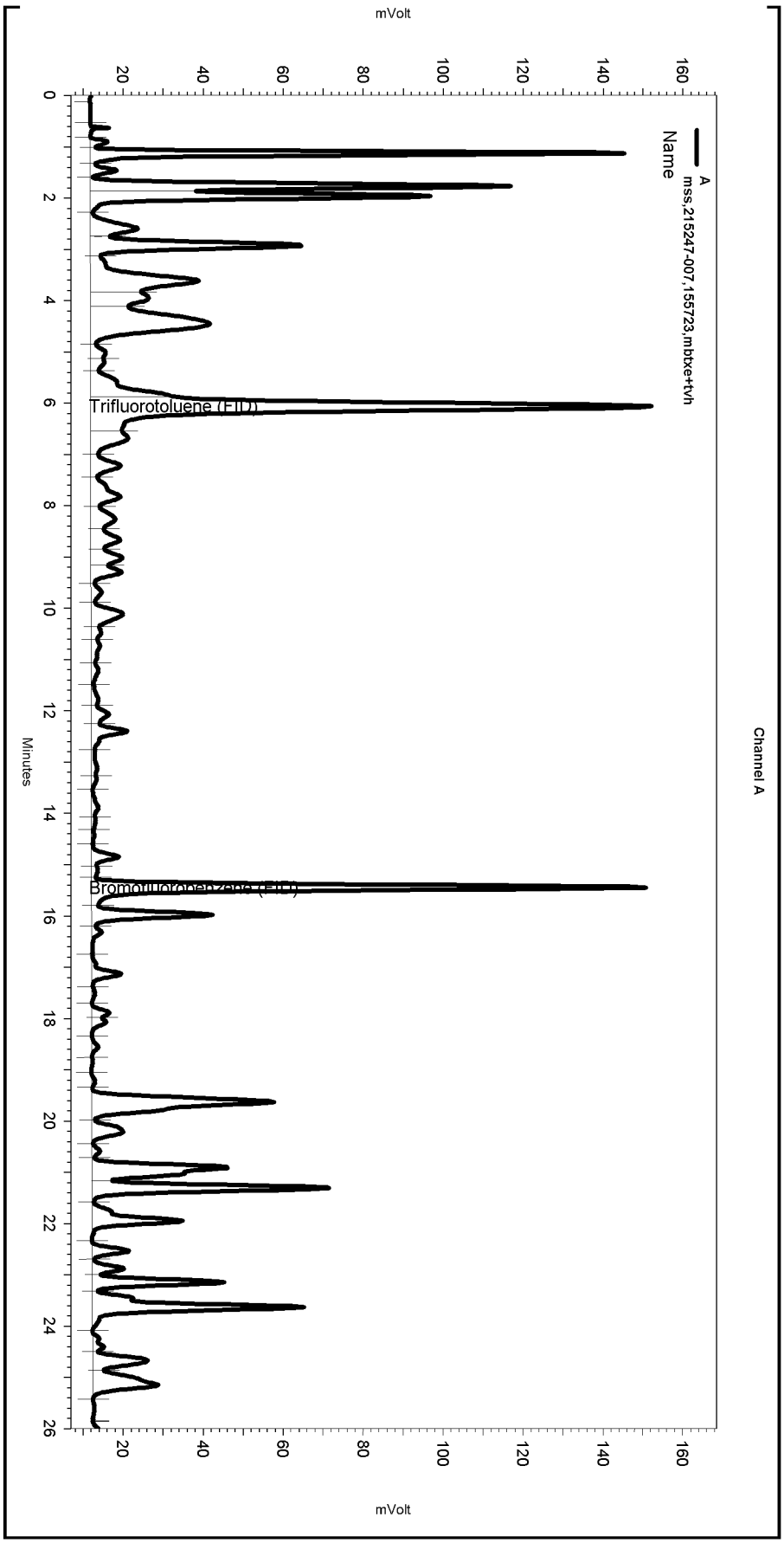
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\279_025

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0	26.017	0
Yes	Split Peak	5.867	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\279.seq**
Sample Name: **mss,215247-007,155723,mbtxe+tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\279_008**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/6/2009 1:56:29 PM
Analysis Date: 10/7/2009 9:11:16 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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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

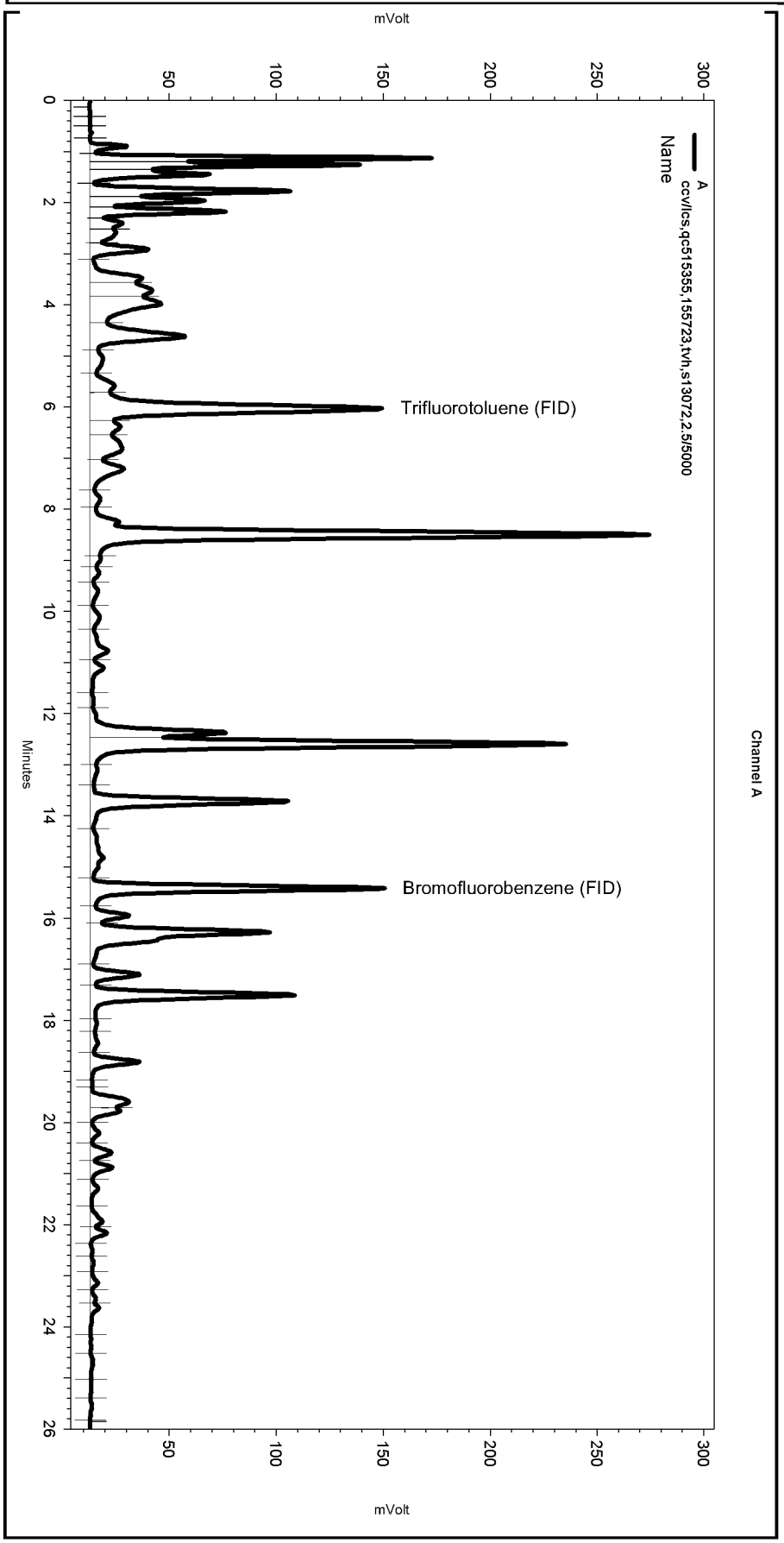
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\279_008

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.885	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\279.seq**
Sample Name: **ccv/lcs,qc515355,155723,tvh,s13072,2.5/5000**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\279_005**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/6/2009 9:59:43 AM
Analysis Date: 10/7/2009 8:58:02 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: {Data Description}



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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\GC07\Data\279_005

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2009-02	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/25/09
Units:	ug/L	Received:	09/25/09
Diln Fac:	1.000	Prepared:	10/02/09
Batch#:	155600		

Field ID: MW-2 Lab ID: 215247-001
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL
Diesel C10-C24	1,800 Y	50

Surrogate	%REC	Limits
o-Terphenyl	102	60-130

Field ID: MW-7 Lab ID: 215247-002
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL
Diesel C10-C24	4,700 Y	50

Surrogate	%REC	Limits
o-Terphenyl	112	60-130

Field ID: MW-8 Lab ID: 215247-003
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL
Diesel C10-C24	1,700 Y	50

Surrogate	%REC	Limits
o-Terphenyl	100	60-130

Field ID: MW-9 Lab ID: 215247-004
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL
Diesel C10-C24	2,900 Y	50

Surrogate	%REC	Limits
o-Terphenyl	97	60-130

Field ID: MW-10 Lab ID: 215247-005
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL
Diesel C10-C24	220 Y	50

Surrogate	%REC	Limits
o-Terphenyl	103	60-130

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2009-02	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/25/09
Units:	ug/L	Received:	09/25/09
Diln Fac:	1.000	Prepared:	10/02/09
Batch#:	155600		

Field ID: MW-11 Lab ID: 215247-006
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL
Diesel C10-C24	2,400 Y	50

Surrogate	%REC	Limits
o-Terphenyl	97	60-130

Field ID: MW-12 Lab ID: 215247-007
Type: SAMPLE Analyzed: 10/07/09

Analyte	Result	RL
Diesel C10-C24	270 Y	50

Surrogate	%REC	Limits
o-Terphenyl	89	60-130

Type: BLANK Analyzed: 10/06/09
Lab ID: QC514877

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	103	60-130

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 #:	215247	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2009-02	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	155600
Units:	ug/L	Prepared:	10/02/09
Diln Fac:	1.000	Analyzed:	10/06/09

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC514878

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,092	84	53-122

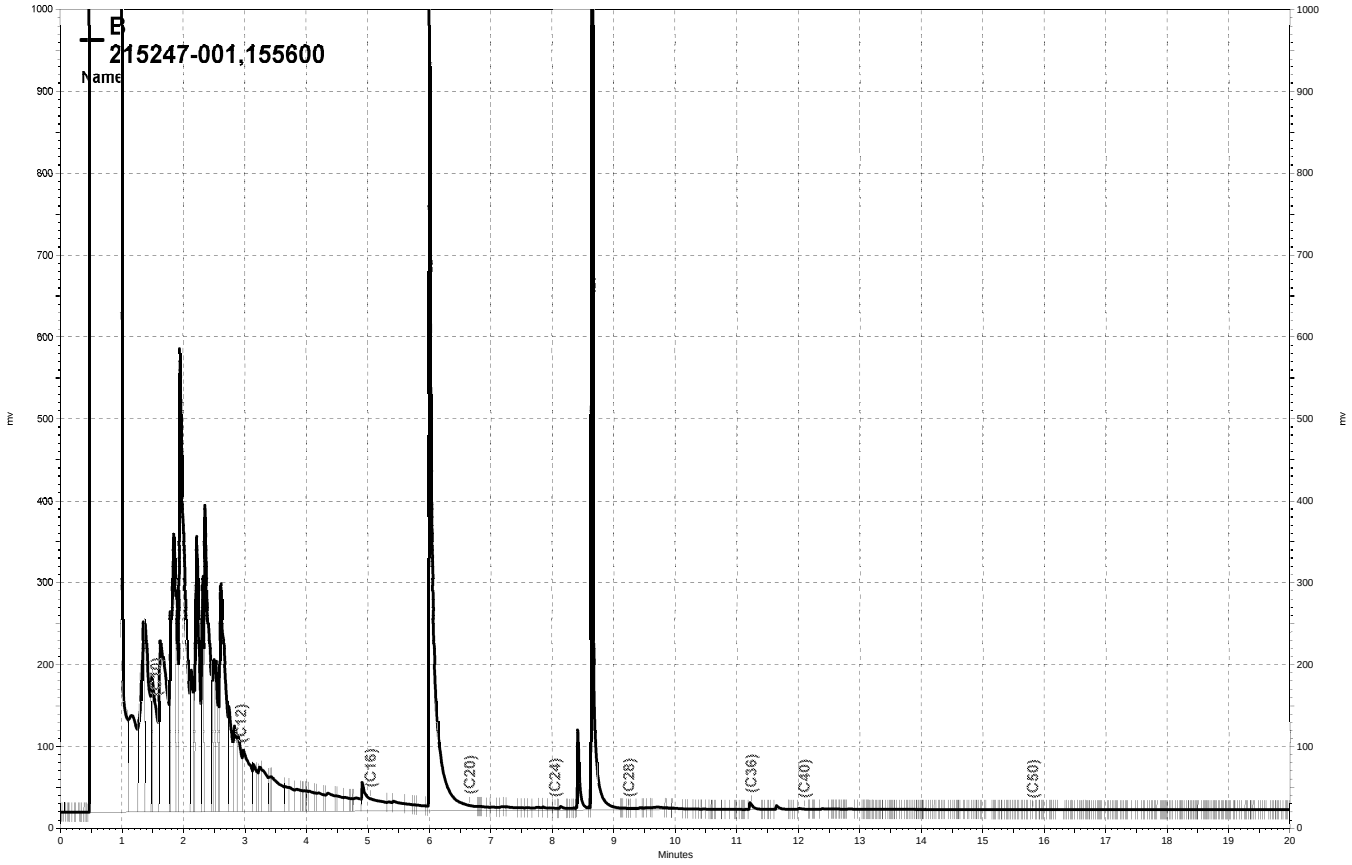
Surrogate	%REC	Limits
o-Terphenyl	101	60-130

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC514879

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,020	81	53-122	4	36

Surrogate	%REC	Limits
o-Terphenyl	99	60-130

RPD= Relative Percent Difference



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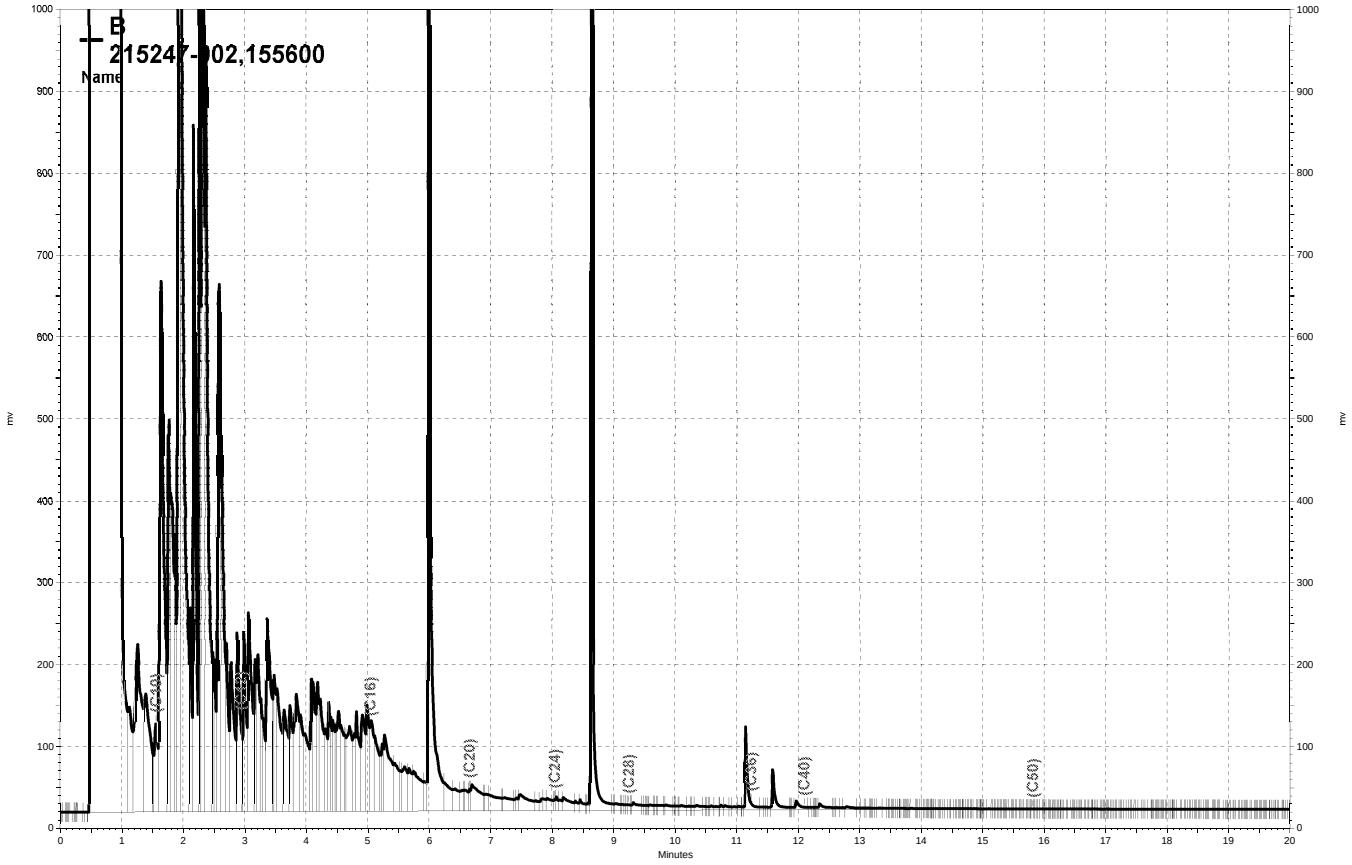

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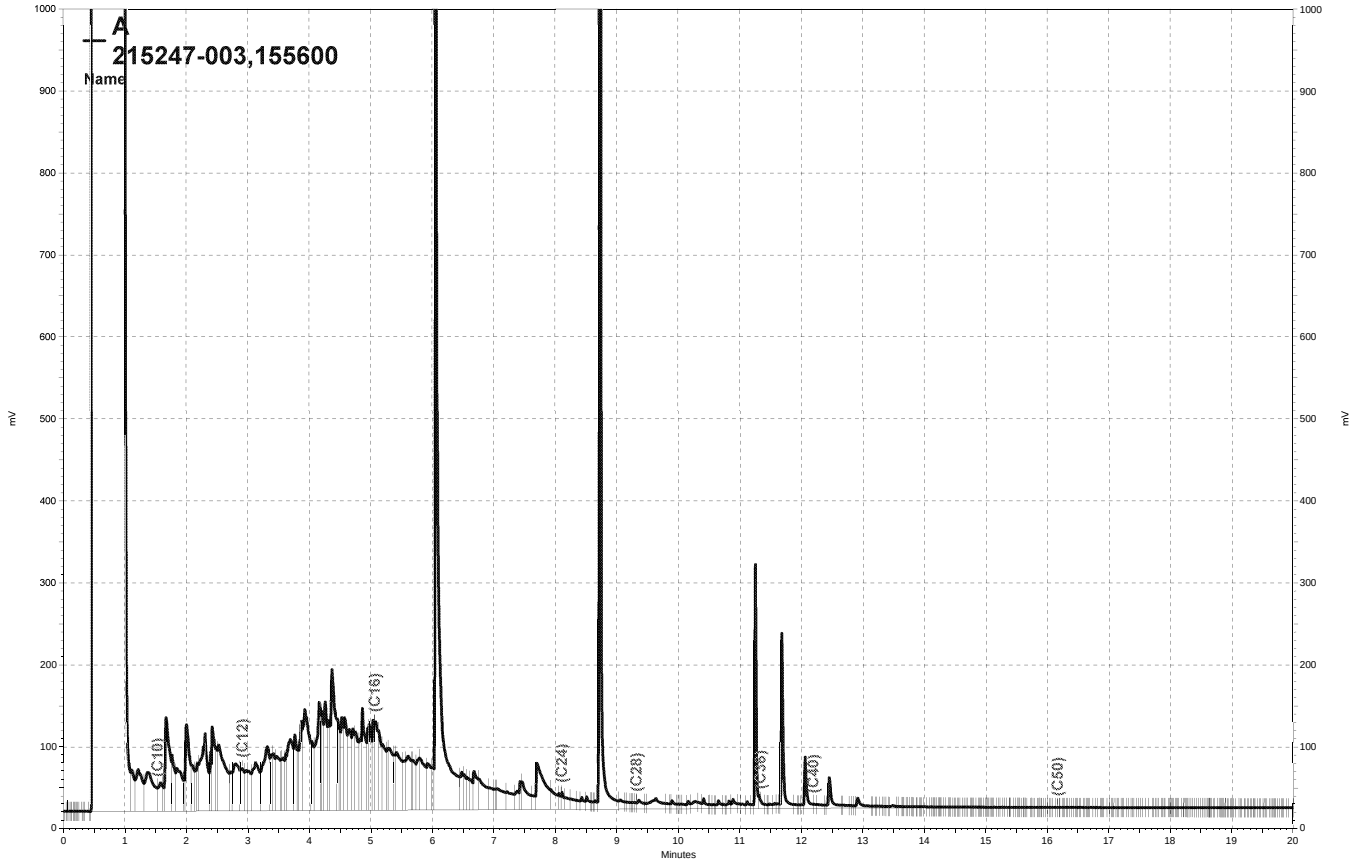

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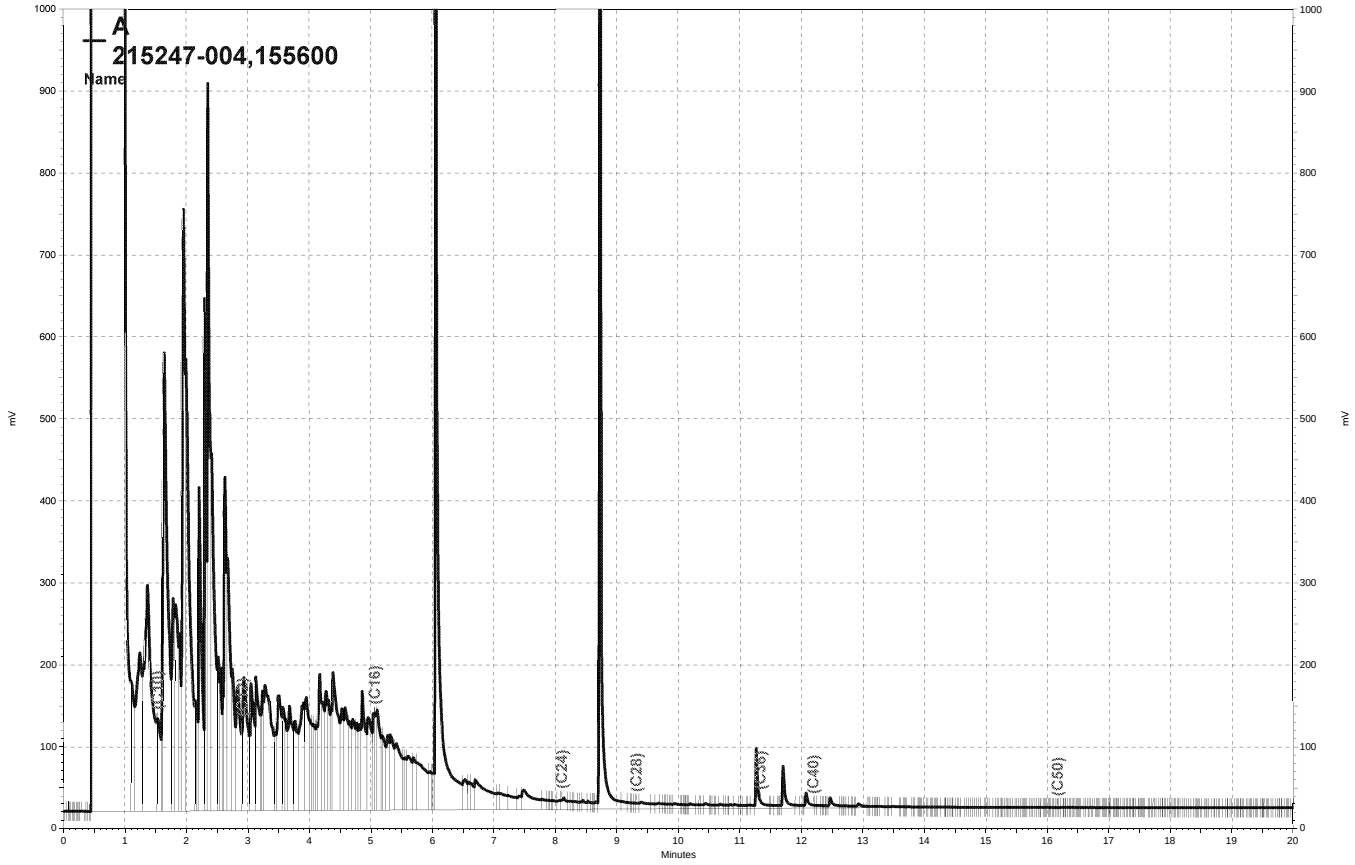

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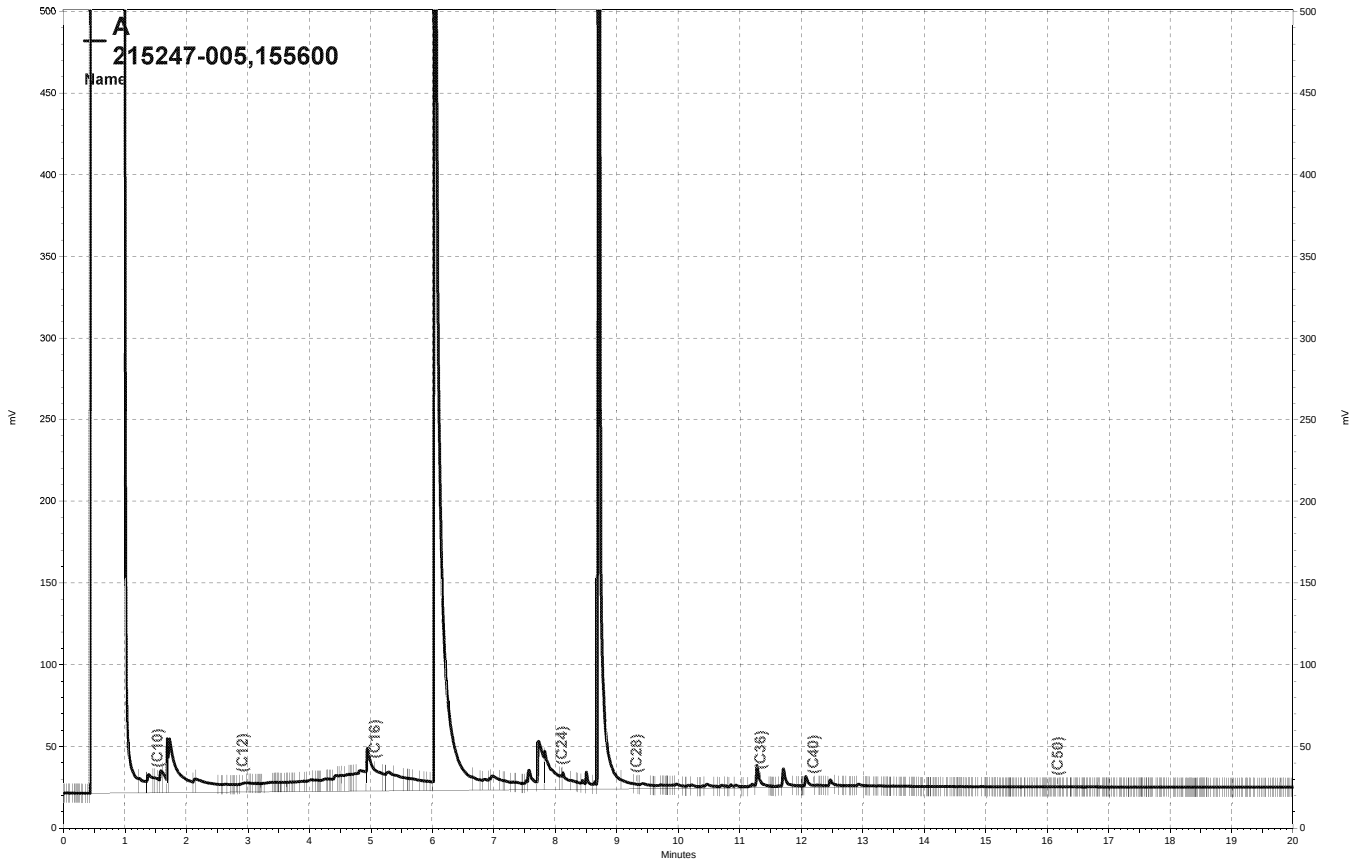

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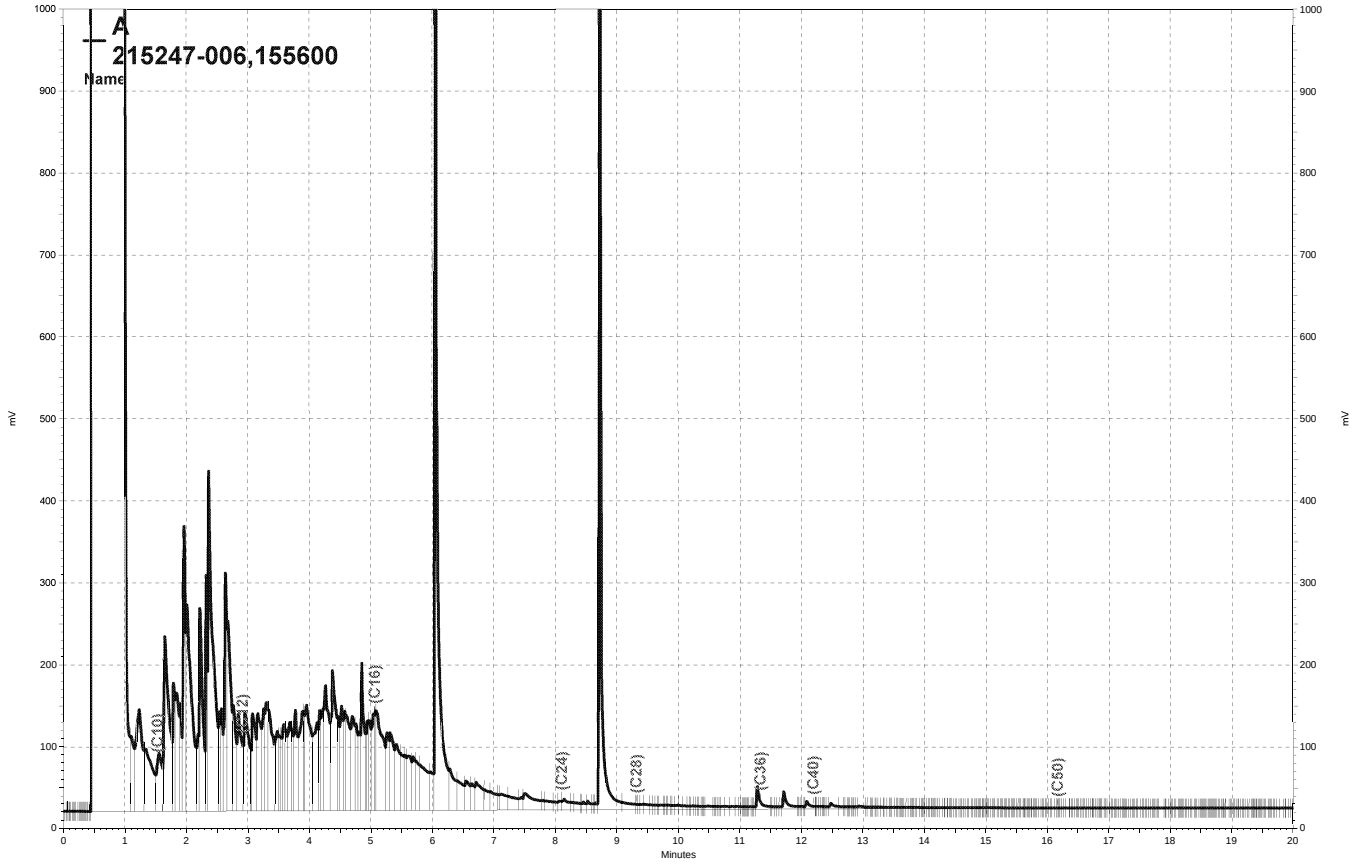

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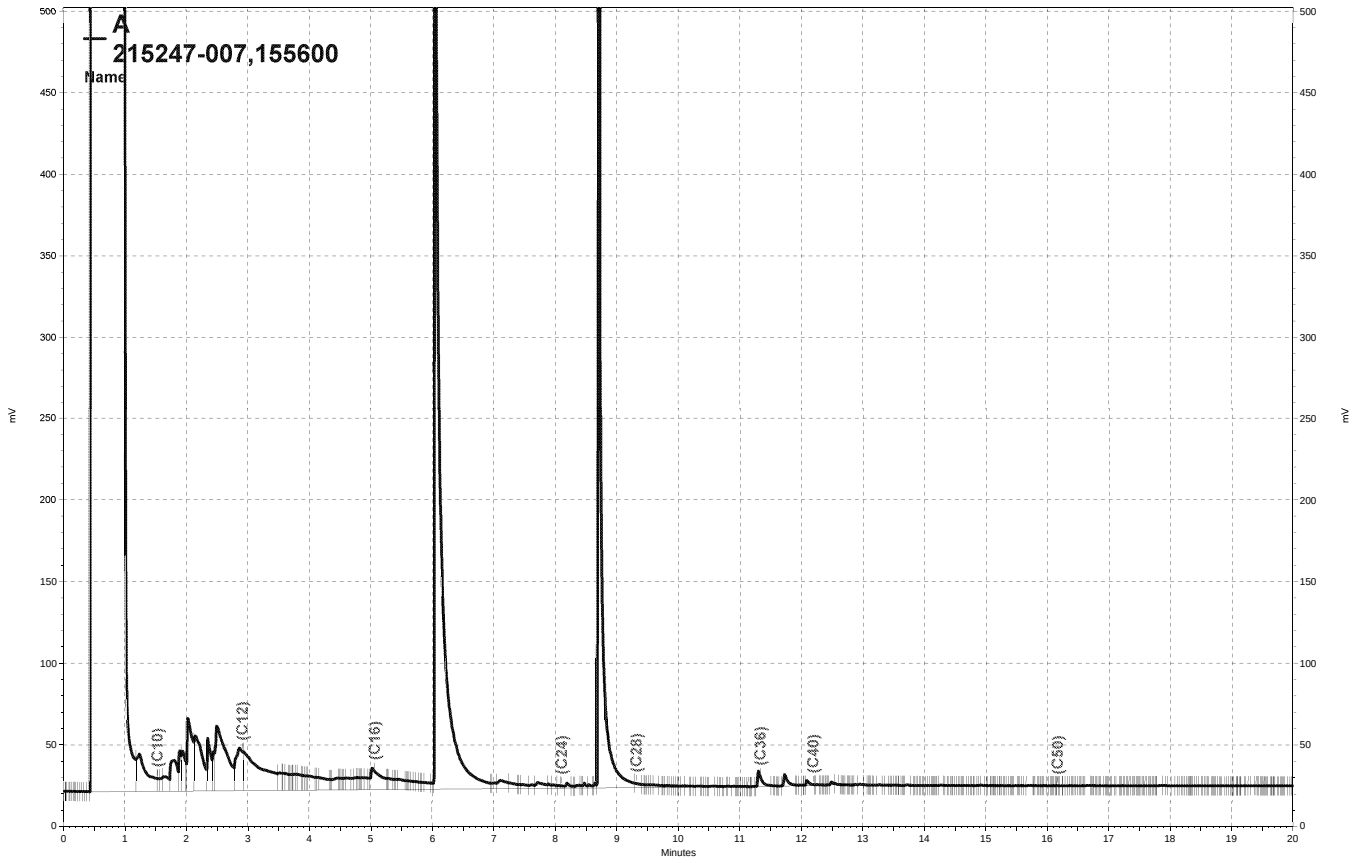

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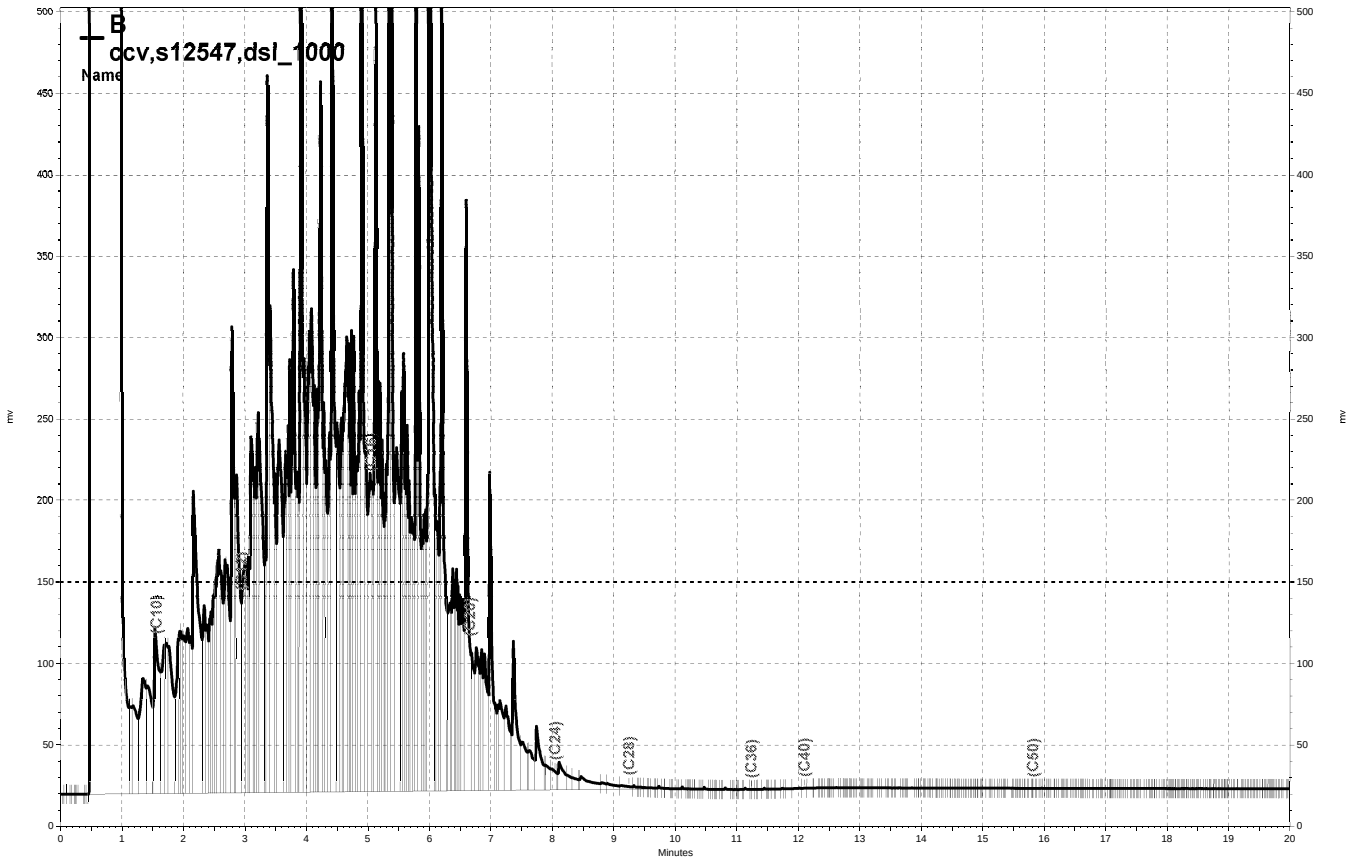

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Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

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

Laboratory Job Number 215253
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	215253-001

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 signature. 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: 10/07/2009
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**215253**
Client:	**Stellar Environmental Solutions**
Project:	**2009-02**
Location:	**Redwood Regional Park**
Request Date:	**09/25/09**
Samples Received:	**09/25/09**

This data package contains sample and QC results for one water sample, requested for the above referenced project on 09/25/09. The sample was received cold and intact.

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

High response was observed for benzene in the CCV analyzed 10/03/09 13:01; affected data was qualified with "b". High recoveries were observed for gasoline C7-C12 in the MS/MSD of SW-2 (lab # 215253-001); the LCS was within limits, and the associated RPD was within limits. High recovery was observed for benzene in the BS for batch 155630; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Chain of Custody Record

Lab job no. 215253

Date

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
Redwood Regional Park
Project Name 2009-02
Project Number

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		Filtered	No. of Containers	TVH & MBTEX	TEPH	Remarks
						Cooler	Chemical			Analysis Required		
SW-2	Creek	9-25-09	1020	W	3 VOA, 500 ml	Y	Yes (a)	N	3	X	X	
~~SW-3~~	~~Creek~~	~~9-25-09~~		~~W~~	~~3 VOA, 500 ml~~	~~Y~~	~~Yes (a)~~	N	4	X	X	

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature	9-25-09	Signature	9-25-09	Signature	9-25-09	Signature	9/25/09
Printed Teal Glass	Time 1030	Printed F. Brinkington	Time 1450	Printed F. Brinkington	Time 1450	Printed Micah Smith	Time 14:50
Company Stellar Environmental		Company Blaine Tech		Company Blaine Tech		Company C&T	

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

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 215253 Date Received 9-25 Number of coolers 1
Client SES Project EBRPD

Date Opened 9-25 By (print) J. Goyette (sign)
Date Logged in 9/26/9 By (print) [illegible] (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

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215253	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Field ID:	SW-2	Batch#:	155630
Matrix:	Water	Sampled:	09/25/09
Units:	ug/L	Received:	09/25/09
Diln Fac:	1.000	Analyzed:	10/03/09

Type: SAMPLE Lab ID: 215253-001

Analyte	Result	RL	Analysis
Gasoline C7-C12	110	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)	115	64-147	EPA 8015B
Bromofluorobenzene (FID)	107	71-138	EPA 8015B
Trifluorotoluene (PID)	79	45-151	EPA 8021B
Bromofluorobenzene (PID)	81	54-134	EPA 8021B

Type: BLANK Lab ID: QC515000

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)	105	64-147	EPA 8015B
Bromofluorobenzene (FID)	106	71-138	EPA 8015B
Trifluorotoluene (PID)	75	45-151	EPA 8021B
Bromofluorobenzene (PID)	77	54-134	EPA 8021B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215253	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Matrix:	Water	Batch#:	155630
Units:	ug/L	Analyzed:	10/03/09
Diln Fac:	1.000		

Type: BS Lab ID: QC515001

Analyte	Spiked	Result	%REC	Limits	Analysis
MTBE	10.00	11.27	113	58-143	EPA 8021B
Benzene	10.00	12.01 b	120 *	75-116	EPA 8021B
Toluene	10.00	11.26	113	72-124	EPA 8021B
Ethylbenzene	10.00	11.48	115	74-127	EPA 8021B
m,p-Xylenes	10.00	11.46	115	73-128	EPA 8021B
o-Xylene	10.00	11.43	114	73-126	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	105	64-147	EPA 8015B
Bromofluorobenzene (FID)	107	71-138	EPA 8015B
Trifluorotoluene (PID)	81	45-151	EPA 8021B
Bromofluorobenzene (PID)	82	54-134	EPA 8021B

Type: BSD Lab ID: QC515002

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analysis
MTBE	20.00	17.48	87	58-143	25	31	EPA 8021B
Benzene	20.00	19.37 b	97	75-116	21	22	EPA 8021B
Toluene	20.00	18.63	93	72-124	19	24	EPA 8021B
Ethylbenzene	20.00	19.39	97	74-127	17	25	EPA 8021B
m,p-Xylenes	20.00	20.20	101	73-128	13	27	EPA 8021B
o-Xylene	20.00	19.98	100	73-126	13	25	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	103	64-147	EPA 8015B
Bromofluorobenzene (FID)	107	71-138	EPA 8015B
Trifluorotoluene (PID)	81	45-151	EPA 8021B
Bromofluorobenzene (PID)	83	54-134	EPA 8021B

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215253	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC515003	Batch#:	155630
Matrix:	Water	Analyzed:	10/03/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits	Analysis
Gasoline C7-C12	2,000	2,255	113	77-118	EPA 8015B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	124	64-147	EPA 8015B
Bromofluorobenzene (FID)	113	71-138	EPA 8015B
Trifluorotoluene (PID)	107	45-151	EPA 8021B
Bromofluorobenzene (PID)	87	54-134	EPA 8021B

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	215253	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2009-02		
Field ID:	SW-2	Batch#:	155630
MSS Lab ID:	215253-001	Sampled:	09/25/09
Matrix:	Water	Received:	09/25/09
Units:	ug/L	Analyzed:	10/03/09
Diln Fac:	1.000		

Type: MS Lab ID: QC515004

Analyte	MSS Result	Spiked	Result	%REC	Limits	Analysis
Gasoline C7-C12	114.9	2,000	2,352	112 *	66-110	EPA 8015B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	132	64-147	EPA 8015B
Bromofluorobenzene (FID)	113	71-138	EPA 8015B
Trifluorotoluene (PID)	111	45-151	EPA 8021B
Bromofluorobenzene (PID)	89	54-134	EPA 8021B

Type: MSD Lab ID: QC515005

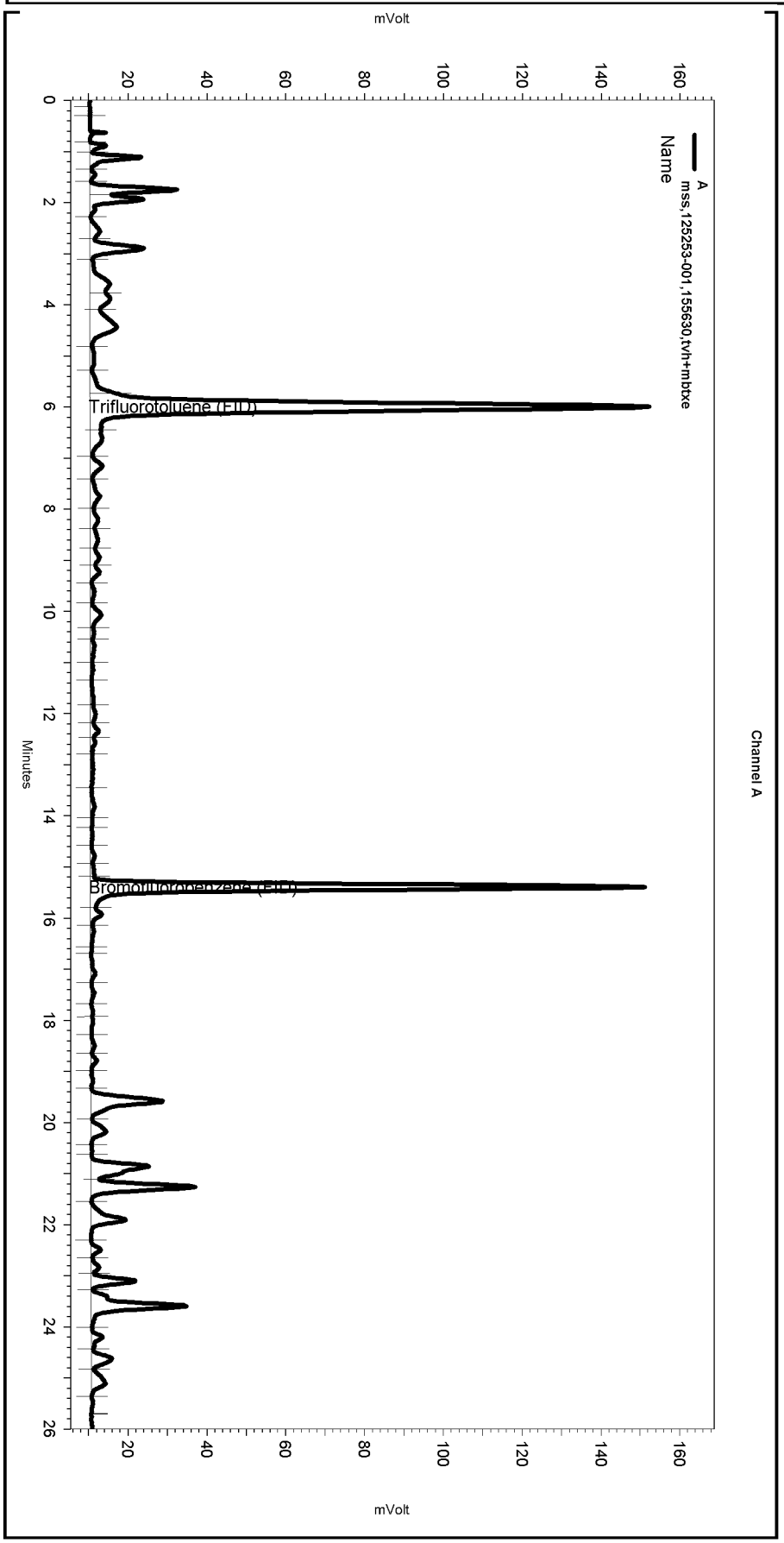
Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analysis
Gasoline C7-C12	2,000	2,479	118 *	66-110	5	11	EPA 8015B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	133	64-147	EPA 8015B
Bromofluorobenzene (FID)	116	71-138	EPA 8015B
Trifluorotoluene (PID)	113	45-151	EPA 8021B
Bromofluorobenzene (PID)	89	54-134	EPA 8021B

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\276.seq**
Sample Name: **mss,125253-001,155630,tvh+mbtxe**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\276_013**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 1. Analyst (lims2k3\tvh1)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/3/2009 7:50:22 PM
Analysis Date: 10/5/2009 1:57:03 PM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: a1.0



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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

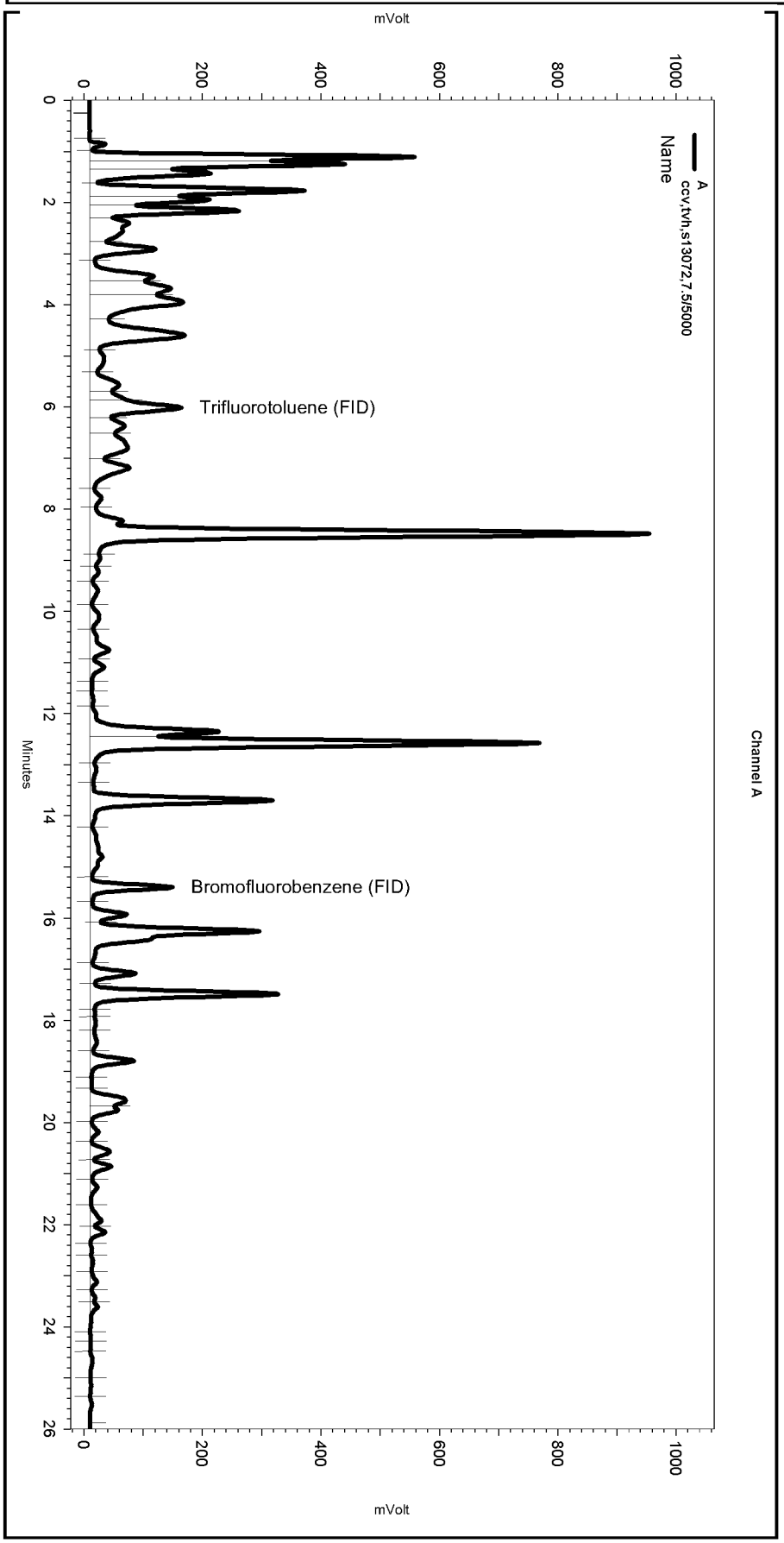
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\276_013

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.737	0	0
Yes	Split Peak	15.19	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\276.seq**
Sample Name: **ccv,tvh,s13072,7.5/5000**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\276_010**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 1. Analyst (lims2k3\tvh1)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe267.met

Software Version 3.1.7
Run Date: 10/3/2009 5:28:59 PM
Analysis Date: 10/5/2009 1:56:44 PM
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\GC07\Data\276_010

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.87	0	0

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	215253	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2009-02	Analysis:	EPA 8015B
Field ID:	SW-2	Sampled:	09/25/09
Matrix:	Water	Received:	09/25/09
Units:	ug/L	Prepared:	09/30/09
Diln Fac:	1.000	Analyzed:	10/01/09
Batch#:	155489		

Type: SAMPLE Lab ID: 215253-001

Analyte	Result	RL
Diesel C10-C24	220 Y	50

Surrogate	%REC	Limits
o-Terphenyl	94	60-130

Type: BLANK Lab ID: QC514411

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	105	60-130

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 #:	215253	Location:	Redwood Regional Park
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2009-02	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	155489
Units:	ug/L	Prepared:	09/30/09
Diln Fac:	1.000	Analyzed:	10/01/09

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC514412

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,410	96	53-122

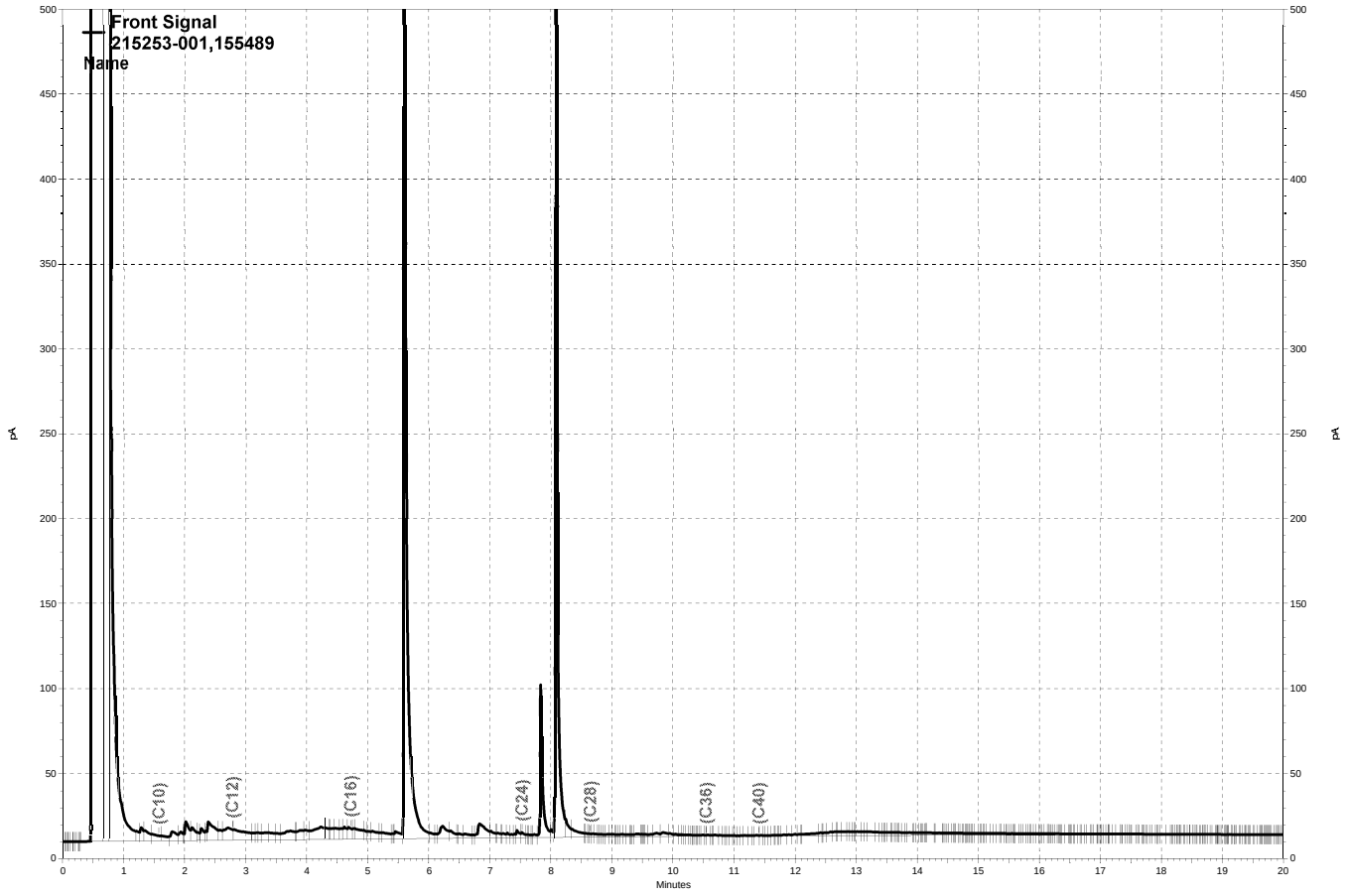
Surrogate	%REC	Limits
o-Terphenyl	102	60-130

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC514413

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,499	100	53-122	4	36

Surrogate	%REC	Limits
o-Terphenyl	106	60-130

RPD= Relative Percent Difference



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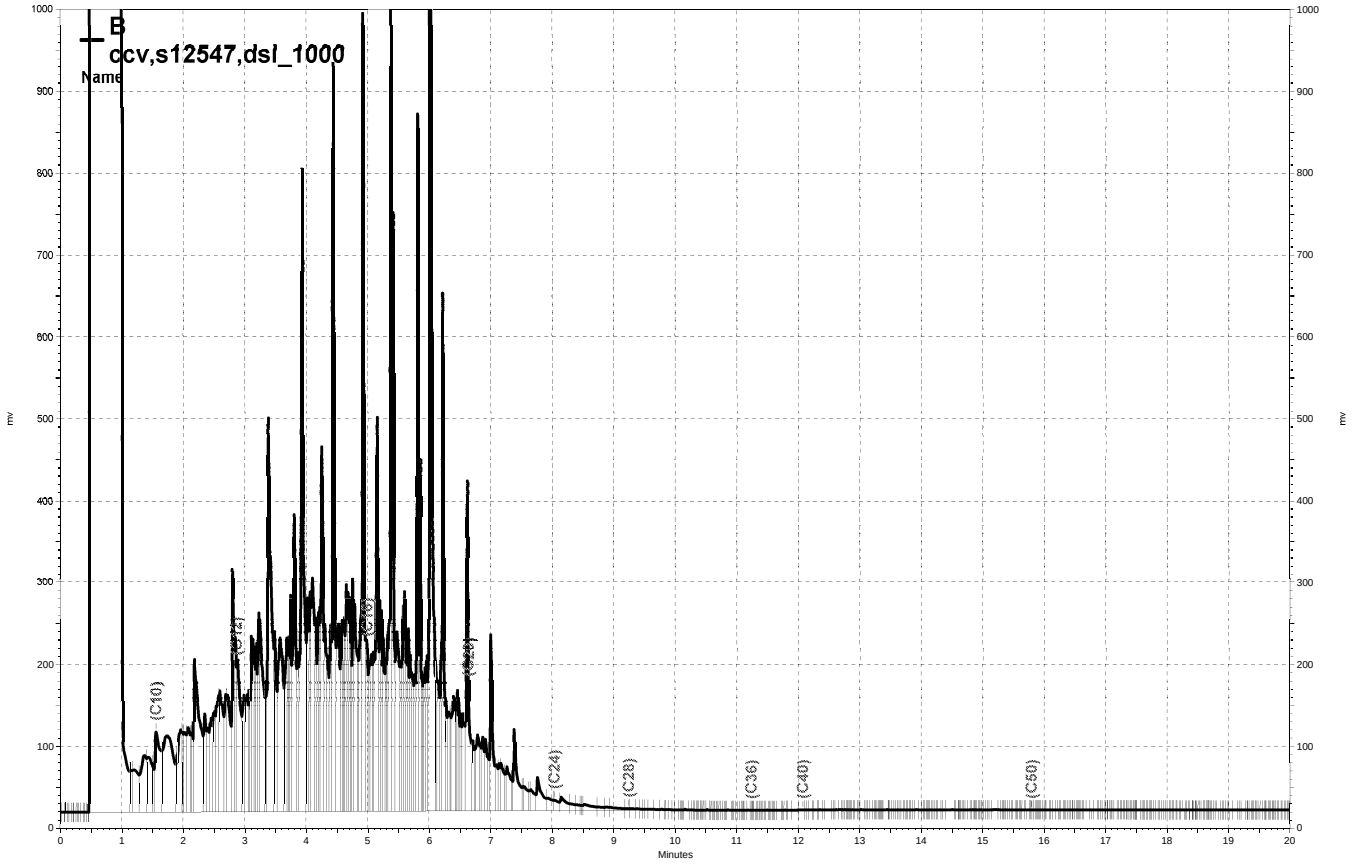

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APPENDIX D

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**
1	Nov-94	**66**	*< 50*	**3.4**	*< 0.5*	*< 0.5*	**0.9**	**4.3**	*NA*
2	Feb-95	**89**	*< 50*	**18**	**2.4**	**1.7**	**7.5**	**30**	*NA*
3	May-95	*< 50*	*< 50*	**3.9**	*< 0.5*	**1.6**	**2.5**	**8.0**	*NA*
4	Aug-95	*< 50*	*< 50*	**5.7**	*< 0.5*	*< 0.5*	*< 0.5*	**5.7**	*NA*
5	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
6	Aug-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
7	Dec-96	*< 50*	*< 50*	**6.3**	*< 0.5*	**1.6**	*< 0.5*	**7.9**	*NA*
8	Feb-97	*< 50*	*< 50*	**0.69**	*< 0.5*	**0.55**	*< 0.5*	**1.2**	*NA*
9	May-97	**67**	*< 50*	**8.9**	*< 0.5*	**5.1**	*< 1.0*	**14**	*NA*
10	Aug-97	*< 50*	*< 50*	**4.5**	*< 0.5*	**1.1**	*< 0.5*	**5.6**	*NA*
11	Dec-97	**61**	*< 50*	**21**	*< 0.5*	**6.5**	**3.9**	**31**	*NA*
12	Feb-98	**2,000**	**200**	**270**	**92**	**150**	**600**	**1,112**	*NA*
13	Sep-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**7.0**
14	Apr-99	**82**	**710**	**4.2**	*< 0.5*	**3.4**	**4.0**	**12**	**7.5**
15	Dec-99	**57**	*< 50*	**20**	**0.6**	**5.9**	*<0.5*	**27**	**4.5**
16	Sep-00	*< 50*	*< 50*	**0.72**	*< 0.5*	*< 0.5*	*< 0.5*	**0.7**	**7.9**
17	Jan-01	**51**	*< 50*	**8.3**	*< 0.5*	**1.5**	*< 0.5*	**9.8**	**8.0**
18	Apr-01	**110**	*< 50*	**10**	*< 0.5*	**11**	**6.4**	**27**	**10**
19	Aug-01	**260**	**120**	**30**	**6.7**	**1.6**	**6.4**	**45**	**27**
20	Dec-01	**74**	**69**	**14**	**0.8**	**3.7**	**3.5**	**22**	**6.6**
21	Mar-02	*< 50*	*< 50*	**2.3**	**0.51**	**1.9**	**1.3**	**8.3**	**8.2**
22	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**7.7**
23	Sep-02	**98**	*< 50*	**5.0**	*< 0.5*	*< 0.5*	*< 0.5*	—	**13**
24	Dec-02	*< 50*	*< 50*	**4.3**	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
25	Mar-03	**130**	**82**	**39**	*< 0.5*	**20**	**4.1**	**63**	**16**
26	Jun-03	*< 50*	*< 50*	**1.9**	*< 0.5*	*< 0.5*	*< 0.5*	**1.9**	**8.7**
27	Sep-03	**120**	*< 50*	**8.6**	**0.51**	**0.53**	*< 0.5*	**9.6**	**23**
28	Dec-03	**282**	*<100*	**4.3**	**1.6**	**1.3**	**1.2**	**8.4**	**9.4**
29	Mar-04	**374**	*<100*	**81**	**1.2**	**36**	**7.3**	**126**	**18**
30	Jun-04	*< 50*	*< 50*	**0.75**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**15**
31	Sep-04	**200**	*< 50*	**23**	*< 0.5*	*< 0.5*	**0.70**	**24**	**16**
32	Dec-04	**80**	*< 50*	**14**	*< 0.5*	*2.9*	**0.72**	**18**	**20**
33	Mar-05	**190**	**68**	**27**	*<0.5*	**14**	**11**	**52**	**26**
34	Jun-05	**68**	*< 50*	**7.1**	*< 0.5*	**6.9**	**1.8**	**16**	**24**
35	Sep-05	*< 50*	*< 50*	**2.5**	*< 0.5*	*< 0.5*	*< 1.0*	**2.5**	**23**
36	Dec-05	*< 50*	*< 50*	**3.9**	*< 0.5*	*< 0.5*	*< 1.0*	**3.9**	**23**
37	Mar-06	**1300**	**300**	**77**	**4.4**	**91**	**250**	**422**	**18**
38	Jun-06	*< 50*	**60**	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	**17**
39	Sep-06	**270**	**52**	**31**	*< 0.5*	**15**	**6.69**	**53**	**17**
40	Dec-06	*< 50*	*< 50*	**2.1**	*< 0.5*	*< 0.5*	*< 0.5*	**2**	**16**
41	Mar-07	**59**	*< 50*	**4**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	**14**
42	Jun-07	*<50*	*<50*	**3.5**	*<0.5*	*<0.5*	*<0.5*	**3.5**	**8**
43	Sep-07	**2,600**	**260**	**160**	**44**	**86**	**431**	**721**	**15**
44	Dec-07	**16,000**	**5,800**	**23**	**91**	**230**	**2,420**	**2764**	**16**
44a	Jan-08	**480**	**200**	**1.1**	**3.2**	**5.5**	**68**	**77.8**	**11**
45	Mar-08	**20,000**	**24,000**	**21**	**39**	**300**	**2,620**	**2980**	**13**
45a	Apr-08	**800**	**640**	**2.6**	**2.1**	**13**	**155**	**172.7**	**13**
46a	May-08	**7,100**	**3,900**	**14**	**8.8**	**140**	**710**	**872.8**	**11**
46	Jun-08	**5,700**	**1,000**	**9.4**	**5.2**	**80**	**550**	**644.6**	**11**
46a	Jul-08	**6,400**	**2,200**	**13**	**5.1**	**140**	**570**	**728.1**	**2.9**
46b	Jul-08	**390**	**55**	**1.3**	**0.77**	**4.6**	**44.4**	**51.07**	**9**
46c	Aug-08	**28,000**	**7,100**	**12**	**19**	**260**	**2,740**	**3031**	*<20*
46d	Aug-08	**8,700**	**2,700**	**5.7**	**7.4**	**130**	**900.0**	**1043.1**	**3.5**
47	Sep-08	**40,000**	**9,100**	**1.6**	*<0.5*	**110**	**910.0**	**1021.6**	**9.5**
48	Dec-08	**9,200**	**2,200**	**0.52**	*<0.5*	*<0.5*	**201.0**	**201.52**	**12**
49	Mar-09	**3,100**	**37,000**	**1.1**	**1.4**	**7.9**	**35.0**	**45.4**	**14**
50	May-09	**5,000**	**15,000**	**1.5**	*<0.5*	**9.8**	**39.0**	**50**	**13**
51	Jun-09	**2,400**	**8,000**	**5.4**	*<0.5*	**11**	**20.2**	**36.6**	**13**
52	Aug-09	**1,900**	**3,100**	**1.6**	**1.8**	**11**	**23.8**	**38.2**	**7.1**
53	Sep-09	**1,400**	**1,800**	*<0.5*	*<0.5*	*<0.5*	**4.2**	**4.24**	**12**

Well MW-4									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Nov-94	**2,600**	**230**	**120**	**4.8**	**150**	**88**	**363**	*NA*
2	Feb-95	**11,000**	**330**	**420**	**17**	**440**	**460**	**1,337**	*NA*
3	May-95	**7,200**	**440**	**300**	**13**	**390**	**330**	**1,033**	*NA*
4	Aug-95	**1,800**	**240**	**65**	**6.8**	**89**	**67**	**227**	*NA*
5	May-96	**1,100**	**140**	**51**	*< 0.5*	*< 0.5*	**47**	**98**	*NA*
6	Aug-96	**3,700**	**120**	**63**	**2.0**	**200**	**144**	**409**	*NA*
7	Dec-96	**2,700**	**240**	**19**	*< 0.5*	**130**	**93**	**242**	*NA*
8	Feb-97	**3,300**	*< 50*	**120**	**1.0**	**150**	**103**	**374**	*NA*
9	May-97	**490**	*< 50*	**2.6**	**6.7**	**6.4**	**6.7**	**22**	*NA*
10	Aug-97	**1,900**	**150**	**8.6**	**3.5**	**78**	**53**	**143**	*NA*
11	Dec-97	**1,000**	**84**	**4.6**	**2.7**	**61**	**54**	**123**	*NA*
12	Feb-98	**5,300**	**340**	**110**	**24**	**320**	**402**	**856**	*NA*
13	Sep-98	**1,800**	*< 50*	**8.9**	*< 0.5*	**68**	**27**	**104**	**23**
14	Apr-99	**2,900**	**710**	**61**	**1.2**	**120**	**80**	**263**	**32**
15	Dec-99	**1,000**	**430**	**4.0**	**2.0**	**26**	**14**	**46**	*< 2.0*
16	Sep-00	**570**	**380**	*< 0.5*	*< 0.5*	**16**	**4.1**	**20**	**2.4**
17	Jan-01	**1,600**	**650**	**4.2**	**0.89**	**46**	**13.8**	**65**	**8.4**
18	Apr-01	**1,700**	**1,100**	**4.5**	**2.8**	**48**	**10.7**	**66**	**5.0**
19	Aug-01	**1,300**	**810**	**3.2**	**4.0**	**29**	**9.7**	**46**	*< 2.0*
20	Dec-01	*< 50*	**110**	*< 0.5*	*< 0.5*	*< 0.5*	**1.2**	**1.2**	*< 2.0*
21	Mar-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
22	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
23	Sep-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
24	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
25	Mar-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
26	Jun-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
27	Sep-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
28	Dec-03	*<50*	*<100*	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*
29	Mar-04	*<50*	*<100*	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*
30	Jun-04	*<50*	**2,500**	*<0.3*	*<0.3*	*<0.3*	*<0.6*	—	*< 5.0*
31	Sep-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
32	Dec-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
33	Mar-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
34	Jun-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
35	Sep-05	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*
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**
1	Nov-94	**50**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
2	Feb-95	**70**	*< 50*	**0.6**	*< 0.5*	*< 0.5*	*< 0.5*	**0.6**	*NA*
3	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
4	Aug-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
5	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
6	Aug-96	**80**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
7	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
8	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
9	May-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
10	Aug-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
11	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
12	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
13	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2*
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**
15	Sep-04	*<50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.0*	—	*< 2.0*

Well MW-7									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Jan-01	**13,000**	**3,100**	**95**	**4**	**500**	**289**	**888**	**95**
2	Apr-01	**13,000**	**3,900**	**140**	*< 0.5*	**530**	**278**	**948**	**52**
3	Aug-01	**12,000**	**5,000**	**55**	**25**	**440**	**198**	**718**	**19**
4	Dec-01	**9,100**	**4,600**	**89**	*< 2.5*	**460**	**228**	**777**	*< 10*
5	Mar-02	**8,700**	**3,900**	**220**	**6.2**	**450**	**191**	**867**	**200**
6	Jun-02	**9,300**	**3,500**	**210**	**6.3**	**380**	**155**	**751**	**18**
7	Sep-02	**9,600**	**3,900**	**180**	*< 0.5*	**380**	**160**	**720**	*< 2.0*
8	Dec-02	**9,600**	**3,700**	**110**	*< 0.5*	**400**	**189**	**699**	*< 2.0*
9	Mar-03	**10,000**	**3,600**	**210**	**12**	**360**	**143**	**725**	**45**
10	Jun-03	**9,300**	**4,200**	**190**	*< 10*	**250**	**130**	**570**	**200**
11	Sep-03	**10,000**	**3,300**	**150**	**11**	**300**	**136**	**597**	*< 2.0*
12	Dec-03	**9,140**	**1,100**	**62**	**45**	**295**	**184**	**586**	**89**
13	Mar-04	**8,170**	**600**	**104**	**41**	**306**	**129**	**580**	**84**
14	Jun-04	**9,200**	**2,700**	**150**	*< 0.5*	**290**	**91**	**531**	*< 2.0*
15	Sep-04	**9,700**	**3,400**	**98**	*< 0.5*	**300**	**125**	**523**	*< 2.0*
16	Dec-04	**8200**	**4,000**	**95**	*< 0.5*	**290**	**124**	**509**	*< 2.0*
17	Mar-05	**10,000**	**4,300**	**150**	*<0.5*	**370**	**71**	**591**	*<2.0*
18	Jun-05	**10,000**	**3,300**	**210**	*<1.0*	**410**	**56**	**676**	*<4.0*
19	Sep-05	**7,600**	**2,700**	**110**	*<1.0*	**310**	**54**	**474**	*<4.0*
20	Dec-05	**2,900**	**3,300**	**31**	*<1.0*	**140**	**41**	**212**	*<4.0*
21	Mar-06	**6,800**	**3,000**	**110**	*< 1.0*	**280**	**42**	**432**	**110**
22	Jun-06	**6,900**	**3,600**	**63**	*< 2.5*	**290**	**43**	**396**	*< 10*
23	Sep-06	**7,900**	**3,600**	**64**	*< 0.5*	**260**	**58**	**382**	49
24	Dec-06	**7,300**	**2,400**	**50**	*< 0.5*	**220**	**42**	**312**	*< 2.0*
25	Mar-07	**6,200**	**2,900**	**34**	*< 0.5*	**190**	**15**	**239**	*< 2.0*
26	Jun-07	**6,800**	**3,000**	**30**	*<1.0*	**160**	**27**	**217**	*<4.0*
27	Sep-07	**6,400**	**3,000**	*<0.5*	*<0.5*	**170**	**43**	**213**	*<2.0*
28	Dec-07	**4,800**	**2,800**	*<0.5*	*<0.5*	**100**	**26.5**	**126.5**	*2.7*
30	Mar-08	**5,400**	**5,900**	**21**	*<0.5*	**150**	**15**	**186**	**51**
31	Jun-08	**4,800**	**3,500**	**55**	*<0.5*	**140**	**7.03**	**202**	*<2.0*
32	Sep-08	**6,400**	**2,800**	**22**	*<0.5*	**100**	**9.30**	**131**	*<2.0*
33	Dec-08	**3,500**	**3,600**	**5**	*<0.5*	**100**	**9.10**	**114**	*<2.0*
34	Mar-09	**5,100**	**6,700**	**19**	*<0.5*	**140**	**12.30**	**171**	**51**
35	Jun-09	**4,600**	**5,400**	**40**	*< 0.5*	**140**	**5.12**	**185**	**260**
36	Sep-09	**4,400**	**4,700**	*<0.5*	*<0.5*	**96**	**5.60**	**102**	**3.5**

Well MW-8									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Jan-01	**14,000**	**1,800**	**430**	**17**	**360**	**1230**	**2,037**	**96**
2	Apr-01	**11,000**	**3,200**	**320**	**13**	**560**	**1,163**	**2,056**	**42**
3	Aug-01	**9,600**	**3,200**	**130**	**14**	**470**	**463**	**1,077**	**14**
4	Dec-01	**3,500**	**950**	**69**	**2.4**	**310**	**431**	**812**	*< 4.0*
5	Mar-02	**14,000**	**3,800**	**650**	**17**	**1,200**	**1,510**	**3,377**	**240**
6	Jun-02	**2,900**	**1,100**	**70**	**2.0**	**170**	**148**	**390**	**19**
7	Sep-02	**1,000**	**420**	**22**	*< 0.5*	**64**	**50**	**136**	*< 2.0*
8	Dec-02	**3,300**	**290**	**67**	*< 0.5*	**190**	**203**	**460**	*< 2.0*
9	Mar-03	**13,000**	**3,500**	**610**	**12**	**1,100**	**958**	**2,680**	*< 10*
10	Jun-03	**7,900**	**2,200**	**370**	**7.4**	**620**	**562**	**1,559**	*< 4.0*
11	Sep-03	**3,600**	**400**	**120**	**3.3**	**300**	**221**	**644**	*< 2.0*
12	Dec-03	**485**	**100**	**19**	**1.5**	**26**	**36**	**83**	*< 5.0*
13	Mar-04	**16,000**	**900**	**592**	**24**	**1,060**	**1,870**	**3,546**	**90**
14	Jun-04	**5,900**	**990**	**260**	**9.9**	**460**	**390**	**1,120**	*< 10*
15	Sep-04	**2,000**	**360**	**100**	*< 2.5*	**180**	**102**	**382**	*< 10*
16	Dec-04	**15,000**	**4,000**	**840**	**21**	**1,200**	**1,520**	**3,581**	*< 10*
17	Mar-05	**24,000**	**7,100**	**840**	**51**	**1,800**	**2,410**	**5,101**	*<10*
18	Jun-05	**33,000**	**5,700**	**930**	**39**	**2,500**	**3,860**	**7,329**	*<20*
19	Sep-05	**5,600**	**1,200**	**270**	**6.6**	**400**	**390**	**1,067**	*<20*
20	Dec-05	**3,700**	**1,300**	**110**	*< 5.0*	**320**	**356**	**786**	*<20*
21	Mar-06	**22,000**	**4,300**	**550**	**30**	**1,800**	**2,380**	**4,760**	*<20*
22	Jun-06	**19,000**	**5,000**	**500**	**28**	**1,800**	**1,897**	**4,225**	*<20*
23	Sep-06	**9,000**	**820**	**170**	**7.7**	**730**	**539**	**1,447**	*<10*
24	Dec-06	**4,400**	**800**	**75**	**4.2**	**320**	**246**	**645**	*< 2.0*
25	Mar-07	**15,000**	**4,500**	**340**	**19**	**1,300**	**1,275**	**2,934**	*< 20*
26	Jun-07	**10,000**	**3,500**	**220**	**11**	**670**	**675**	**1,576**	*<4.0*
27	Sep-07	**9,400**	**3,400**	**200**	**6.9**	**1,000**	**773**	**1,980**	*<8.0*
28	Dec-07	**1,200**	**500**	**15**	**0.88**	**95**	**57.7**	**168.58**	*<2.0*
30	Mar-08	**11,000**	**13,000**	**150**	**13**	**1,100**	**950.0**	**2,213**	**76**
31	Jun-08	**2,000**	**1,700**	**27**	**2.5**	**190**	**113.2**	**333**	*<2.0*
32	Sep-08	**5,500**	**4,400**	**89**	**3.9**	**630**	**194.4**	**917**	*<2.0*
33	Dec-08	**520**	**400**	**1.5**	*<0.5*	**20**	**4.4**	**26**	**4.5**
34	Mar-09	**4,600**	**7,300**	**55**	*<5.0*	**410**	**639.0**	**1,104**	*<20*
35	Jun-09	**2,100**	**3,400**	**32**	*< 0.5*	**260**	**80.8**	**373**	**55**
36	Sep-09	**440**	**1,700**	**3**	*<0.5*	**33**	**2.7**	**39**	**3.7**

Well MW-9									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Aug-01	**11,000**	**170**	**340**	**13**	**720**	**616**	**1,689**	**48**
2	Dec-01	**9,400**	**2,700**	**250**	**5.1**	**520**	**317**	**1,092**	*< 10*
3	Mar-02	**1,700**	**300**	**53**	**4.2**	**120**	**67**	**244**	**20**
4	Jun-02	**11,000**	**2,500**	**200**	**16**	**600**	**509**	**1,325**	**85**
5	Sep-02	**3,600**	**2,800**	**440**	**11**	**260**	**39**	**750**	*< 4.0*
6	Dec-02	**7,000**	**3,500**	**380**	**9.5**	**730**	**147**	**1,266**	*< 10*
7	Mar-03	**4,400**	**1,400**	**320**	**6.9**	**400**	**93**	**820**	*< 2.0*
8	Jun-03	**7,600**	**1,600**	**490**	**10**	**620**	**167**	**1,287**	*< 4.0*
9	Sep-03	**8,300**	**2,900**	**420**	**14**	**870**	**200**	**1,504**	*< 10*
10	Dec-03	**7,080**	**700**	**287**	**31**	**901**	**255**	**1,474**	*< 10*
11	Mar-04	**3,550**	**600**	**122**	**15**	**313**	**84**	**534**	**35**
12	Jun-04	**6,800**	**1,700**	**350**	*< 2.5*	**620**	**99**	**1,069**	*< 10*
13	Sep-04	**7,100**	**1,900**	**160**	*8.1*	**600**	**406**	**1,174**	*< 10*
14	Dec-04	**4,700**	**2,800**	**160**	*< 2.5*	**470**	*< 0.5*	**630**	*< 10*
15	Mar-05	**4,200**	**1,600**	**97**	*<2.5*	**310**	**42**	**449**	*< 10*
16	Jun-05	**9,900**	**2,000**	**170**	*<2.5*	**590**	**359**	**1,119**	*< 10*
17	Sep-05	**3,600**	**1,200**	**250**	*<0.5*	**330**	**36**	**616**	*< 2.0*
18	Dec-05	**8,700**	**1,500**	**150**	**4**	**650**	**551**	**1,355**	*< 4.0*
19	Mar-06	**3,600**	**880**	**37**	*<1.0*	**210**	**165**	**412**	*< 4.0*
20	Jun-06	**3,200**	**1,300**	**39**	*<1.0*	**220**	**144**	**403**	**4.2**
21	Sep-06	**12,000**	**3,300**	**130**	**8**	**850**	**604**	**1,592**	*<1.0*
22	Dec-06	**12,000**	**2,800**	**140**	**9.4**	**880**	**634**	**1,663**	*< 10*
23	Mar-07	**9,600**	**2,900**	**120**	**8.7**	**780**	**453**	**1,362**	*< 10*
24	Jun-07	**7,100**	**2,200**	**75**	**5.2**	**480**	**298**	**858**	*<4.0*
25	Sep-07	**4,500**	**2,100**	**60**	**3.8**	**420**	**227**	**710**	*<4.0*
26	Dec-07	**6,200**	**2,000**	**51**	*<0.5*	**340**	**128.8**	**519.8**	*<2.0*
27	Mar-08	**6,400**	**3,500**	**67**	**5.2**	**480**	**177.6**	**724.6**	**38**
28	Jun-08	**10,000**	**3,400**	**89**	*<2.5*	**510**	**231.0**	**830.0**	*<10*
29	Sep-08	**4,800**	**2,700**	**53**	*<0.5*	**250**	**66.4**	**369.4**	*<2.0*
30	Dec-08	**4,300**	**2,300**	**45**	*<0.5*	**330**	**39.1**	**414.1**	*<2.0*
31	Mar-09	**4,000**	**2,200**	*<2.0*	*<0.5*	**160**	**34.9**	**194.9**	*<2.0*
32	Jun-09	**4,100**	**3,600**	**62**	*< 0.5*	**280**	**41.7**	**383.7**	**160**
33	Sep-09	**2,200**	**2,900**	**15**	*<0.5*	**110**	**11.8**	**136.8**	*<2.0*

Well MW-10									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Aug-01	**550**	**2,100**	**17**	*< 0.5*	**31**	**44**	**92**	**40**
2	Dec-01	*< 50*	**81**	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**25**
3	Mar-02	*< 50*	*< 50*	**0.61**	*< 0.5*	*< 0.5*	*< 0.5*	**0.61**	**6.0**
4	Jun-02	*< 50*	*< 50*	**0.59**	*< 0.5*	**0.58**	*< 0.5*	**1.2**	**9.0**
5	Sep-02	**160**	**120**	**10**	*< 0.5*	**6.7**	**3.6**	**20**	**26**
6	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	**16**
7	Mar-03	**110**	*< 50*	**11**	*< 0.5*	**12**	**1.3**	**24**	**15**
8	Jun-03	**110**	*< 50*	**9.6**	*< 0.5*	**6.8**	*< 0.5*	**16**	**9.0**
9	Sep-03	*< 50*	*< 50*	**1.1**	*< 0.5*	**1.5**	*< 0.5*	**2.6**	**7.0**
10	Dec-03	**162**	*<100*	**6.9**	*<0.3*	**8.0**	*<0.6*	**15**	**9.9**
11	Mar-04	**94**	*<100*	**2.8**	*<0.3*	**5.7**	**7.0**	**16**	*<5.0*
12	Jun-04	**150**	**56**	**11**	*< 0.5*	**12**	*< 0.5*	**23**	**15**
13	Sep-04	*< 50*	*< 50*	**1.6**	*< 0.5*	**1.9**	*< 1.0*	**3.5**	**5.8**
14	Dec-04	**64**	*< 50*	**3.7**	*< 0.5*	**3.7**	**0.7**	**8.1**	**10**
15	Mar-05	**95**	**98**	**8.3**	*<0.5*	**7.7**	**0.77**	**17**	**13**
16	Jun-05	**150**	**57**	**14**	*<0.5*	**10**	**1.0**	**25**	*<2.0*
17	Sep-05	**87**	*< 50*	**5.0**	*<0.5*	**3.6**	*<1.0*	**8.6**	*<2.0*
18	Dec-05	*< 50*	*< 50*	**1.2**	*<0.5*	*<0.5*	*<1.0*	**1.2**	**7.8**
19	Mar-06	**58**	**71**	**3.2**	*<0.5*	**2.2**	*<1.0*	**5.4**	**8.8**
20	Jun-06	**73**	**140**	**4.9**	*<0.5*	**2.5**	*<1.0*	**7.4**	**5.3**
21	Sep-06	**88**	**51**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	**9.6**
22	Dec-06	*<50*	*<50*	**0.61**	*<0.5*	**0.55**	*<0.5*	**1.2**	**3.7**
23	Mar-07	**57**	*<50*	**3.6**	*<0.5*	**2.2**	*<0.5*	**5.8**	**3.1**
24	Jun-07	**60**	**65**	**2.4**	*<0.5*	**1.6**	*<0.5*	**4.0**	**4.0**
25	Sep-07	**84**	*<50*	**3.6**	*<0.5*	**2.3**	**0.52**	**6.4**	**3.6**
26	Dec-07	**130**	**67**	**0.77**	*<0.5*	**340**	**0.83**	**341.6**	*<2.0*
27	Mar-08	**78**	**170**	**1.7**	*<0.5*	**3.1**	**0.97**	**5.8**	**2.4**
28	Jun-08	**230**	**320**	**12**	*<0.5*	**9.9**	**3.50**	**25.4**	*<2.0*
29	Sep-08	**80**	*<50*	**1.6**	*<0.5*	**0.52**	*<0.5*	**2.1**	**3.0**
30	Dec-08	*<50*	**66**	**0.89**	*<0.5*	*<0.5*	*<0.5*	**0.9**	**2.1**
31	Mar-09	**76**	**230**	*<2.0*	*<0.5*	**1.4**	*<0.5*	**1.4**	*<2.0*
32	Jun-09	**72**	**120**	**2.0**	*< 0.5*	**4.4**	**1.3**	**7.7**	*<2.0*
33	Sep-09	**74**	**220**	**1.6**	*<0.5*	*<0.5*	*<0.5*	**1.6**	*<2.0*

Well MW-11									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Aug-01	**17,000**	**7,800**	**390**	**17**	**820**	**344**	**1,571**	*< 10*
2	Dec-01	**5,800**	**2,800**	**280**	**7.8**	**500**	**213**	**1,001**	*< 10*
3	Mar-02	**100**	**94**	*< 0.5*	*< 0.5*	**0.64**	*< 0.5*	**0.64**	**2.4**
4	Jun-02	**8,200**	**2,600**	**570**	**13**	**560**	**170**	**1,313**	*< 4*
5	Sep-02	**12,000**	**4,400**	**330**	**13**	**880**	**654**	**1,877**	*< 10*
6	Dec-02	**18,000**	**4,500**	**420**	*< 2.5*	**1,100**	**912**	**2,432**	*< 10*
7	Mar-03	**7,800**	**2,600**	**170**	**4.7**	**530**	**337**	**1,042**	**53**
8	Jun-03	**14,000**	**3,800**	**250**	*< 2.5*	**870**	**693**	**1,813**	*< 10*
9	Sep-03	**10,000**	**3,000**	**250**	**9.9**	**700**	**527**	**1,487**	*< 4*
10	Dec-03	**15,000**	**1,100**	**314**	**60**	**1,070**	**802**	**2,246**	**173**
11	Mar-04	**4,900**	**400**	**72**	**17**	**342**	**233**	**664**	**61**
12	Jun-04	**10,000**	**2,300**	**210**	**2.8**	**690**	**514**	**1,417**	*< 10*
13	Sep-04	**7,200**	**2,300**	**340**	*< 2.5*	**840**	**75**	**1,255**	*< 10*
14	Dec-04	**11,000**	**3,900**	**180**	**5.1**	**780**	**695**	**1,660**	*< 10*
15	Mar-05	**4,600**	**1,900**	**69**	*<2.5*	**300**	**206**	**575**	*< 10*
16	Jun-05	**1,400**	**590**	**85**	*<0.5*	**110**	**8.2**	**203**	*< 2.0*
17	Sep-05	**12,000**	**3,100**	**220**	*< 1.0*	**840**	**762**	**1,822**	*< 4.0*
18	Dec-05	**2,500**	**2,100**	**120**	*< 2.5*	**260**	**16**	**396**	*< 10*
19	Mar-06	**2,200**	**1,300**	**27**	*<2.5*	**130**	**5.2**	**162**	*< 10*
20	Jun-06	**3,700**	**1,900**	**170**	*<1.0*	**230**	**14**	**414**	*< 4.0*
21	Sep-06	**3,600**	**2,100**	**80**	*<0.5*	**230**	**8.8**	**319**	*< 2.0*
22	Dec-06	**6,000**	**3,500**	**83**	*<1.0*	**260**	**16.4**	**359**	*< 4.0*
23	Mar-07	**4,500**	**1,900**	**110**	*< 0.5*	**170**	**7.9**	**288**	*< 2.0*
24	Jun-07	**4**	**2,200**	**120**	*<0.5*	**140**	**6.6**	**267**	*<4.0*
25	Sep-07	**5,500**	**2,700**	**86**	*<0.5*	**180**	**16.1**	**282**	*<2.0*
26	Dec-07	**7,100**	**4,000**	**68**	*<0.5*	**140**	**14**	**222**	**35**
27	Mar-08	**5,300**	**4,000**	**130**	*<0.5*	**120**	**13**	**263**	**8.8**
28	Jun-08	**3,600**	**4,200**	**190**	*<0.5*	**140**	**11**	**341**	*<2.0*
29	Sep-08	**7,300**	**4,600**	**130**	*<0.5*	**110**	**4.5**	**245**	*<2.0*
30	Dec-08	**2,800**	**1,600**	**93**	*<0.5*	**82**	**0.69**	**176**	*<2.0*
31	Mar-09	**4,100**	**4,600**	**18**	*<0.5*	**82**	**8**	**108**	**8.0**
32	Jun-09	**2,100**	**2,700**	**38**	*< 0.5*	**80**	**3.3**	**121**	**3.3**
33	Sep-09	**830**	**2,400**	**11**	*<0.5*	**19**	**<0.5**	**30**	*<2.0*

Well MW-12									
Event	**Date**	**TVHg**	**TEHd**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**
1	Dec-05	**1,300**	**700**	*< 0.5*	*< 0.5*	**33**	**5.6**	**39**	*< 2.0*
2	Mar-06	**1,100**	**540**	*<0.5*	*<0.5*	**8.5**	**1.5**	**10**	**49**
3	Jun-06	**680**	**400**	*<0.5*	*<0.5*	**5.8**	**1.4**	**7.2**	*< 2.0*
4	Sep-06	**910**	**480**	*<0.5*	*<0.5*	**9.9**	**1.5**	**11.4**	**21**
5	Dec-06	**770**	**230**	*< 0.5*	*< 0.5*	**7.4**	**2.0**	**9.4**	*< 2.0*
6	Mar-07	**390**	**110**	*< 0.5*	*< 0.5*	**1.7**	**1.7**	**3.4**	*< 2.0*
7	Jun-07	**590**	**280**	*<0.5*	*<0.5*	**4.5**	**0.9**	**5.4**	*<2.0*
8	Sep-07	**390**	**180**	*<0.5*	*<0.5*	**2.4**	**2.4**	**4.8**	*<2.0*
9	Dec-07	**210**	**140**	*<0.5*	*<0.5*	**2.1**	**1.3**	**3.4**	*<2.0*
10	Mar-08	**720**	**500**	*<0.5*	**4.4**	**9.0**	**2.8**	**16.2**	*<2.0*
11	Jun-08	**220**	**50**	*<0.5*	*<0.5*	**2.0**	*<0.5*	**2.0**	*<2.0*
12	Sep-08	**370**	**95**	*<0.5*	*<0.5*	**2.8**	**0.98**	**3.8**	*<2.0*
13	Dec-08	**93**	**170**	*<0.5*	*<0.5*	**0.76**	*<0.5*	**0.8**	*<2.0*
14	Mar-09	**180**	**130**	*<0.5*	*<0.5*	**1.70**	*<0.5*	**1.7**	*<2.0*
15	Jun-09	**300**	**280**	*< 0.5*	*< 0.5*	**4.60**	*< 0.5*	**4.6**	*<2.0*
16	Sep-09	**330**	**270**	*<0.5*	*<0.5*	**2.30**	*<0.5*	**2.3**	*<2.0*

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**
1	Feb-94	**50**	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
2	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
3	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
4	Aug-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
5	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
6	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
7	Aug-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
8	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
9	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*NA*
10	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
11	Apr-99	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	—	*< 2.0*
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**
1	Feb-94	**130**	*< 50*	**1.9**	*< 0.5*	**4.4**	**3.2**	**9.5**	*NA*
2	May-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*
3	Aug-95	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*
4	May-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*
5	Aug-96	**200**	*< 50*	**7.5**	*< 0.5*	**5.4**	*< 0.5*	**13**	*NA*
6	Dec-96	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*
7	Feb-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*
8	Aug-97	**350**	**130**	**13**	**0.89**	**19**	**11**	**44**	*NA*
9	Dec-97	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*
10	Feb-98	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*NA*
11	Sep-98	*< 50*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*
12	Apr-99	**81**	*<50*	**2.0**	*< 0.5*	**2.5**	**1.3**	**5.8**	**2.3**
13	Dec-99	**1,300**	**250**	**10**	**1.0**	**47**	**27**	**85**	**2.2**
14	Sep-00	**160**	**100**	**2.1**	*< 0.5*	**5.2**	**1.9**	**9.2**	**3.4**
15	Jan-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	**0.53**	*< 0.5*	**0.5**	*< 2.0*
16	Apr-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*
17	Sep-01	**440**	**200**	**2.1**	*< 0.5*	**17**	**1.3**	**20**	**10**
18	Dec-01	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*
19	Mar-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*
20	Jun-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*
21	Sep-02	**220**	**590**	**10**	*< 0.5*	**13**	*< 0.5*	**23**	*< 2.0*
22	Dec-02	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*
23	Mar-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	**0.56**	*< 0.5*	**0.56**	**2.8**
24	Jun-03	*< 50*	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<0.5*	*< 2.0*
25	Sep-03	**190**	**92**	**2.1**	*< 0.5*	**4.2**	*< 0.5*	**6.3**	*< 2.0*
26	Dec-03	**86**	*< 100*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*<0.6*	*< 5.0*
27	Mar-04	*<50*	*<100*	*<0.3*	*<0.3*	**1.1**	*<0.6*	**1.1**	*< 5.0*
28	Jun-04	*<50*	*<50*	*<0.5*	*<0.5*	**0.83**	*<0.5*	**0.83**	*< 2.0*
29	Sep-04	**260**	**370**	**4.4**	*<0.5*	**6.3**	*< 1.0*	**11**	*< 2.0*
30	Dec-04	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*1.0*	*< 2.0*
31	Mar-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*
32	Jun-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*
33	Sep-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*
34	Dec-05	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*
35	Mar-06	*<50*	**62**	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*
36	Jun-06	*<50*	**110**	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*
37	Sep-06	**62**	**94**	*<0.5*	*<0.5*	**0.81**	*<0.5*	**0.8**	*< 2.0*
38	Dec-06	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*
39	Mar-07	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*< 1.0*	*<1.0*	*< 2.0*
40	Jun-07	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<1.0*	*<2.0*
41	Sep-07	*<50*	**77**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<1.0	*<2.0*
42	Dec-07	**130**	**430**	*<0.5*	*<0.5*	**1.5**	*<0.5*	**1.5**	*<2.0*
43	Mar-08	*<50*	**130**	*<0.5*	*<0.5*	*<0.5*	**0.61**	**0.61**	*<2.0*
44	Jun-08	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
45	Sep-08	**530**	**690**	*<0.5*	*<0.5*	**4.3**	*<0.5*	**4.3**	*<2.0*
46	Dec-08	*<50*	**83**	*<5.0*	*<5.0*	*<5.0*	*<5.0*	**<0.5**	*<2.0*
47	Mar-09	*<50*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<1.0*	*<2.0*
48	Jun-09	*<50*	*<50*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<0.5*	*<2.0*
49	Sep-09	**110**	**220**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*

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

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