FIRST SEMIANNUAL 2011 GROUNDWATER MONITORING REPORT AND PETITION FOR CASE CLOSURE

2836 UNION STREET
OAKLAND, CALIFORNIA

Prepared for:

ESTATE OF LARRY M. WADLER
2525 MANDELA PARKWAY
OAKLAND, CA 94607

June 2011

STELLAR
ENVIRONMENTAL SOLUTIONS, INC.
GEOSCIENCE & ENGINEERING CONSULTING

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June 17, 2011

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June 17, 2011

Ms. Barbara Jakub
Alameda County Environmental Health Care Services Agency
Department of Environmental Health – Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: First Semiannual 2011 Groundwater Monitoring Report and Petition for Case Closure: Former Modern Mail Service, 2836 Union Street, Oakland, California, Alameda County Environmental Health Department Fuel Leak Case No. RO2901

Dear Ms. Jakub:

On behalf of the property owner and "Responsible Party" (Estate of Lawrence M. Wadler), Stellar Environmental Solutions, Inc. (Stellar Environmental) is submitting this First Semiannual 2011 Groundwater Monitoring Report and Petition for Case Closure for the former Modern Mail Service Facility at 2836 Union Street, Oakland, California. This report documents the First Semiannual 2011 groundwater monitoring event related to petroleum contamination from a former underground fuel storage tank. This is the 15th consecutive groundwater monitoring event conducted at this site. This report has been uploaded to ACEH and to the State Water Resources Control Board's GeoTracker system.

This report also presents an evaluation of hydrologic and contaminant data and remedial actions from inception through present, including an evaluation of residual contamination distribution and potential for migration in support of case closure.

In our professional opinion, the site meets case closure criteria. On behalf of the Responsible Party, we hereby petition Alameda County Health to grant closure, which would include the discontinuation of groundwater monitoring and permanent decommissioning of the site wells.

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

Sincerely,

Henry Pietropaoli
Environmental Scientist

Elana Aabas
Property Estate Trustee

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

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1.0 INTRODUCTION

PROJECT BACKGROUND

Stellar Environmental Solutions, Inc. (Stellar Environmental) was contracted by the Estate of Lawrence Wadler) to conduct corrective actions related to soil and groundwater contamination associated with a 10,000-gallon underground fuel storage tank (UFST) at 2836 Union Street in Oakland, California. A list of all known environmental reports is included in Section 6.0.

This report discusses the first semiannual 2011 groundwater monitoring conducted on April 25, 2011. Figure 1 shows the site location. Figure 2 shows the site plan with the locations of groundwater wells, historical borings, and the former UFST.

SITE OBJECTIVES AND SCOPE OF WORK

The overall objective of the latest remedial action is to continue trying to reduce the residual hydrocarbons in the source area and downgradient along Union Street (which is the subject property border). Historical remedial efforts have shown that residual hydrocarbons entrained in subsurface material and/or stratigraphic traps are continuing to release significant amounts of hydrocarbons into the groundwater. This report discusses the following activities conducted/coordinated by Stellar Environmental Solutions, Inc. (Stellar Environmental) during the first 2011 semiannual period:

- Collecting water levels in site wells to determine shallow groundwater flow direction
- Sampling site wells for contaminant analysis and natural attenuation indicators
- Performing semiannual monitoring

DESCRIPTION AND HISTORY

The approximately 7,200-square foot rectangular subject property is developed with one approximately 1,500-square foot two-story building. A narrow driveway borders the building to the north, and the rear of the property is undeveloped (paved). Adjacent uses include:

- A residence (to the north);

1000 ft Scale: 1 : 43,750 Detail: 12-2 Datum: WGS84

N

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

2836 Union Street
Oakland, CA

By: MJC | NOVEMBER 2005

Figure 1

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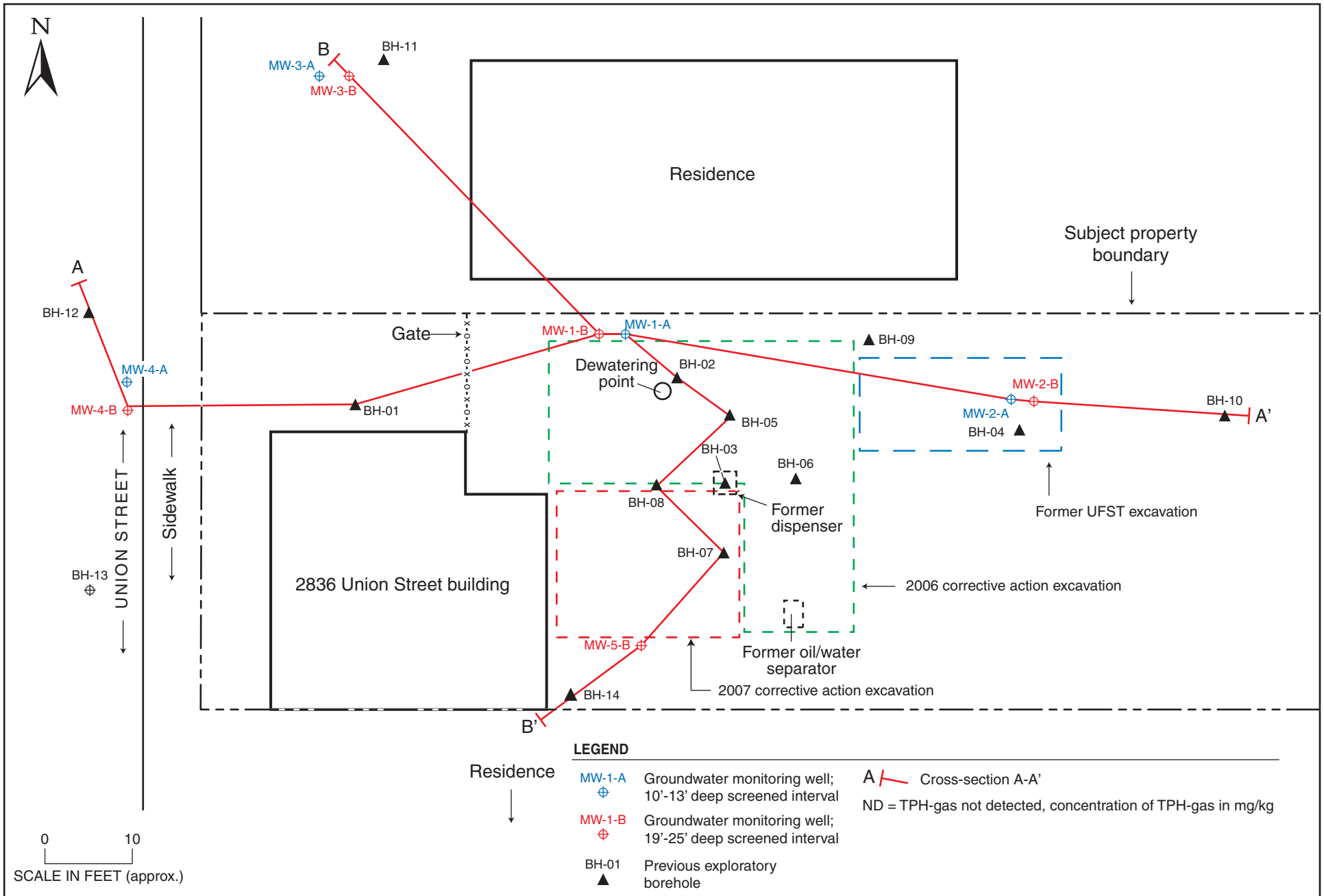
2005-65-01



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SITE PLAN SHOWING LOCATIONS OF SOIL BORINGS AND MONITORING WELLS
2836 Union Street, Oakland, CA

Figure 2

by: MJC | NOVEMBER 2008

2005-65-72

- A paved parking area (to the east);
- A residence (to the south); and
- A sidewalk, then Union Street, then a moving company (to the west).

The property operated as an express courier facility (Modern Mail Services, Inc.) between 1951 and 2003. One 10,000-gallon gasoline UFST was installed in the late 1970s. The UFST operated under an Alameda County Environmental Health permit (permit No. STID 4065) until it was removed in 1998. The tank closure report was submitted to the Oakland Fire Department (Golden Gate Tank Removal, 1998).

An initial site characterization conducted by Stellar Environmental in November 2005, which included the advancement of four borings, revealed gasoline and associated aromatic hydrocarbons at elevated levels in both soil and groundwater. That investigation was summarized in a technical report (Stellar Environmental, 2005b).

Additional site investigations in April 2006 involved the advancement of nine exploratory boreholes to determine the areal and vertical extent of soil and groundwater contamination. Site data indicated the presence of petroleum hydrocarbons in soil and groundwater. Actions such as groundwater monitoring, and the removal of any remaining (accessible) contaminated soils by excavation, were recommended as an interim corrective action. The April 2006 investigation is summarized in a technical report (Stellar Environmental, 2006b).

A corrective action which implemented the April 2006 recommendations was conducted between September and December 2006. This involved the installation of ten monitoring wells, the advancement of one soil boring, the removal of 398 tons of contaminated soil, and the pumping of 5,100 gallons of contaminated groundwater from the backfilled excavation. Some residual contaminated soil was inaccessible for removal, and remained beneath the onsite building. Removal of this portion of the building and the previously inaccessible soil was conducted in November 2007. This corrective action was effective in removing 212 tons of contaminated soil; and included purging contaminated groundwater and applying Advanced Oxygen Reducing Compound (ORC™) product into the open excavation. Monitoring well MW-5A was destroyed by excavation during the November 2007 activity. These investigations are summarized in Stellar Environmental technical reports (Stellar Environmental, 2006d and 2007f).

Groundwater monitoring, conducted since October 2006, has shown a relatively flat groundwater gradient on the site which averages approximately 0.005 feet/foot. Monitoring in the downgradient wells (MW-3B and MW-4B) has shown contaminant concentrations remain steadily elevated or have increased, with maximum gasoline concentrations exceeding 4,000

µg/L in comparison to the source area where a significant reduction in contaminant concentrations has been achieved in response to the November 2007 corrective action ORC™ inoculation. Therefore, in Spring 2010, at the request of the property owners, in an effort to accelerate remediation of the site and move the property toward regulatory case closure, Stellar Environmental prepared a corrective action workplan (CAP), dated May 26, 2010 that entailed injection of ORC™ in the downgradient area of the plume (Stellar Environmental, 2010b). The CAP was uploaded to the ACEH "ftp" and CA GeoTracker electronic servers and ACEH was notified by email of these uploads on May 26, 2010. ACEH did not respond within the 60-day LOP review period stipulated by California Code of Regulations, Title 23, Division 3, Chapter 16, Underground Tank Regulations and thus Stellar Environmental proceeded with implementation of the CAP after expiration of the review period. Fieldwork mplementation of the CAP was conducted on September 1 and 2, 2010, The activity is documented the Stellar Environmental technical report (Stellar Environmental, 2010c). The September 2010 corrective Advanced ORC™ treatment injection was designed to create highly oxygenated treatment zones at critical locations transverse to the plume that focused on suspected hydrocarbon contaminant mass in groundwater downgradient from the historical source. The ultimate goal was to demonstrate that all practical remedial measures have been implemented so that regulatory closure can be petitioned for.

The site wells have been monitored quarterly since October 2006. At the request of ACEH, a "Preferential Pathway Utility and Well Survey" was conducted during the fourth quarter of 2008, the results of which are discussed in another technical report (Stellar Environmental, 2008e). The frequency of groundwater monitoring was reduced in 2009 from a quarterly to semiannual basis as per the ACEH directive letter, dated July 24, 2009.

REGULATORY STATUS

The Alameda County Environmental Health Care Services Agency, Department of Environmental Health Services (ACEH) is the lead regulatory agency for the case, acting as a Local Oversight Program (LOP) for the Regional Water Quality Control Board – San Francisco Bay Region (Water Board). There are no ACEH or Water Board cleanup orders for the site; however, all site work has been conducted under the oversight of ACEH. ACEH assigned the site to its fuel leak case system (RO#2901) and the current case officer is Ms. Barbara Jakub.

The case has been assigned No. T0600105641 in the Water Board's GeoTracker system. Electronic uploads of required data/reports are submitted to both agencies. The site has been granted a Letter of Commitment, and has been receiving financial reimbursement from the California Underground Storage Tank Cleanup Fund.

2.0 PHYSICAL SETTING

TOPOGRAPHY AND DRAINAGE

The mean elevation of the property is approximately 18 feet above mean sea level (amsl), and the general topographic gradient in the site vicinity is slight and to the west-southwest (toward San Francisco Bay). The site itself has no discernible slope. The nearest downgradient (to the west) permanent surface water body is the Airport Channel of San Leandro Bay (which is connected to San Francisco Bay), approximately 2 miles west of the subject property. According to the commercially available database, the site is not located within a flood zone or wetland.

LITHOLOGY AND HYDROGEOLOGY

The predominant soil type in all site boreholes was generally firm and plastic silty clay. Several of the boreholes had no obvious sand or gravel units, although minor amounts of sand and gravel were occasionally present in the overall clay matrix. Groundwater occurred in these units with higher sandy-gravel than clay content. Local heterogeneities in shallow lithology and groundwater levels are typical of the alluvial deposits in this area.

Local groundwater flow direction is generally to the west (toward San Francisco Bay and following local topography) in this area of west Oakland. Groundwater in the immediate vicinity of the former UFST occurs at a depth of less than 10 feet, and appears to be under semi-confining conditions, rising from approximately 20 feet below ground surface to as high as 6 feet below grade such that groundwater is in contact with residual contaminated soil. The groundwater contaminant plume has not been fully delineated, but appears to have an elliptical configuration with the long axis trending east to west-northwest.

GROUNDWATER FLOW DIRECTION

Figure 3 is a groundwater elevation map based on the April 25, 2011 groundwater elevation measurements. The groundwater gradient during this event averaged approximately 0.011 feet/foot across the site with a gradient to the north-northwest, consistent with historical data. The groundwater gradient has varied since October 2006 between approximately 0.001 feet/foot and 0.01 feet/foot, averaging approximately 0.005 feet/foot.

Figure 3
Groundwater Elevation Map

3.0 FIRST SEMIANNUAL 2011 GROUNDWATER MONITORING

This section presents the groundwater sampling and analytical methods for the most recent event (First Semiannual 2011), conducted on April 25, 2011.

GROUNDWATER MONITORING

Groundwater monitoring well water level measurements, sampling, and field analyses were conducted by Stellar Environmental on April 25, 2011. To minimize the potential for cross-contamination, wells were purged and sampled using new disposable tubing at each well. Any equipment used was decontaminated between wells.

As the first monitoring task, static water levels were measured in the nine site wells using an electric water level indicator. Monitoring well MW-5A was destroyed by excavation during the November 2007 corrective action and thus is no longer available for monitoring. The wells were then sampled with a peristaltic pump, during which the groundwater quality parameters of temperature, pH, conductivity, turbidity, and dissolved oxygen (DO) were field-measured using daily-calibrated instruments.

The samples were placed in an ice chest with ice at approximately 4°C and transported to the analytical laboratory under chain-of-custody the same day. Laboratory analysis was conducted by Curtis and Tompkins, Ltd. (Berkeley, California), an analytical laboratory certified by the State of California Environmental Laboratory Accreditation Program (ELAP).

Approximately 6.5 gallons of sampling purge water was generated and containerized onsite, and will be disposed of at later date after subsequent monitoring events and additional purge water has accumulated.

The locations of all site monitoring wells are shown on Figure 2. Well construction information and groundwater elevation data are summarized in Table 1. Appendix A contains the groundwater monitoring field records for the current event. Appendix B outlines Stellar Environmental's standard sampling protocol for groundwater. Groundwater analytical results are presented and discussed in Section 5.0. Historical groundwater elevation data and analytical results are contained in Appendix D.

Table 1
Monitoring Well Groundwater Elevation Data – April 25, 2011
2836 Union Street, Oakland, California

Well	Well Depth Below TOC	Rim Elevation	TOC Elevation	Groundwater Elevation (4/25/11)
MW-1A	12.59	12.52	12.25	6.83
MW-1B	22.52	12.48	12.05	6.21
MW-2A	12.69	13.06	12.82	6.74
MW-2B	24.59	13.16	12.96	8.51
MW-3A	13.06	11.76	11.59	5.66
MW-3B	25.06	12.10	11.95	6.09
MW-4A	12.28	11.25	11.02	5.79
MW-4B	24.32	11.25	11.04	6.16
MW-5B	25.39	12.57	12.38	6.74

Notes:

TOC = top of casing

Wells are 1-inch diameter.

All elevations are in feet above mean sea level.

4.0 REGULATORY CONSIDERATIONS, ANALYTICAL RESULTS, AND DISCUSSION OF FINDINGS

REGULATORY CONSIDERATIONS AND SCREENING LEVELS

The Water Board has established Environmental Screening Levels (ESLs) for evaluating the likelihood of environmental impact. ESLs are conservative screening-level criteria for soil and groundwater, designed to be generally protective of both drinking water resources and aquatic environments; they incorporate both environmental and human health risk considerations. ESLs are not cleanup criteria (i.e., health-based numerical values or disposal-based values). Rather, they are used as a preliminary guide in determining whether additional remediation and/or investigation may be warranted. Exceedance of ESLs suggests that additional investigation and/or remediation is warranted.

Different ESLs are published for commercial/industrial vs. residential land use, for sites where groundwater is a potential drinking water resource vs. is not a drinking water resource, and the type of receiving water body. A Water Board-published map of the East Bay shows areas where groundwater is, and is not, a potential drinking water resource.

The appropriate ESLs for the subject site are based on the following:

- Residential land use (due to the residences adjoining the property) and commercial/ industrial use (for the subject property itself). Note that, for both soil and groundwater contaminants, all ESLs for the site contaminants are the same for both residential and commercial/industrial land use.
- Groundwater is a potential drinking water resource. In our professional opinion, the appropriate ESLs for the subject site are *commercial/industrial land use* and *groundwater is a potential drinking water resource.* This is based on the fact that although the property zoning status as commercial/industrial, it has adjacent residential use. And the designation of this area of Oakland in the East Bay Plain Groundwater Basin is "Zone A – Significant Drinking Water Resource (Water Board, 1999).
- The receiving body for groundwater discharge is an estuary (San Francisco Bay).

The State of California has also promulgated drinking water standards (Maximum Contaminant Levels [MCLs]) for some of the site contaminants. Drinking water standards may also be utilized by regulatory agencies to evaluate the potential risk associated with groundwater

contamination. For the site contaminants, MCLs are generally the same as the ESLs (except that there is no MCL for gasoline).

Once ESLs or drinking water standards are exceeded, the need for, and/or type of additional investigative and corrective actions are generally driven by the potential risk associated with the contamination. Minimum regulatory criteria generally applied to fuel leak cases in groundwater include:

- The contaminant source has been removed, including reasonably accessible contaminated soils that pose a long-term impact to groundwater;
- The extent of residual contamination has been fully characterized to obtain sufficient lithologic and hydrogeologic understanding (generally referred to as a Site Conceptual Model);
- Groundwater wells have been installed and are monitored periodically to evaluate groundwater contaminant concentrations and hydrochemical trends;
- The stability of the contaminant plume has been evaluated to determine whether it is moving or increasing in concentration; and
- A determination has been made as to whether the residual contamination poses an unacceptable risk to sensitive receptors.

As stated above, ESLs are used as a preliminary guide in determining whether additional remediation or other action is warranted. Exceeding ESLs may warrant additional actions, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

ANALYTICAL METHODS

The initial site characterization documented contamination by the following LUFT-related constituents: gasoline; benzene toluene, ethyl benzene, and xylenes (BTEX); and methyl *tertiary*-butyl ether (MTBE). In addition, several other contaminants were analyzed (as required by ACEH)—ethanol; fuel oxygenates (*tertiary*-butyl alcohol [TBA], di-isopropyl ether [DIPE], ethyl *tertiary*-butyl ether [ETBE], and *tertiary*-amyl methyl ether [TAME]); and lead scavengers (1,2-dichloroethane [EDC] and 1,2-dibromoethane [EDB]). Fuel oxygenates and lead scavengers were analyzed in monitoring wells for which there were no data, or in those that showed previous laboratory detectable concentrations for these constituents.

Groundwater samples were analyzed using the following methods for:

- Total volatile hydrocarbons (TVH) gasoline range by EPA Method 8015M;
- BTEX and MTBE by EPA Method 8260;

- TBA, DIPE, ETBE, and TAME by EPA Method 8260B (in accordance with ACEH requirement); and
- EDC and EDB by EPA Method 8260B (in accordance with ACEH requirement).

All groundwater samples were analyzed by Curtis & Tompkins, Ltd. (Berkeley, California) which maintains current ELAP certifications for all the analytical methods utilized in this investigation.

Field parameters including temperature, pH, conductivity, turbidity, and dissolved oxygen (DO) were measured using a Horiba U22 meter, which was calibrated the same day of sample collection.

QUALITY CONTROL SAMPLE ANALYTICAL RESULTS

Laboratory quality control (QC) 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).

ANALYTICAL RESULTS AND DISTRIBUTION OF CONTAMINANTS

Table 2 summarizes the groundwater monitoring analytical results for TVHg, and associated constituents and the dissolved oxygen field measurements. Table 3 presents the analytic results of the fuel oxygenates and lead scavengers analyses. The certified analytical results and chain of custody record are contained in Appendix C. Historical groundwater-monitoring analytical results are contained in Appendix D.

Groundwater Analytical Results

TVH as gasoline was detected above the ESL of 100 micrograms per liter (µg/L) in monitoring wells MW-2A, MW-3B, MW-4B, and MW-5B. TVH as gasoline was also detected in monitoring well MW-1B but below the ESL.

MTBE was detected above its ESL of 5.0 µg/L in wells MW-2B, MW-3A, and MW-5B. MTBE was also detected in monitoring well MW-1A and MW-2A but below the ESL.

Benzene, toluene, ethyl benzene, and total xylenes were not found above the laboratory detection limit in any of the wells sampled.

The lead scavenger 1,2-dichloroethane (EDC) was detected above the ESL of 0.5 µg/L in well MW-1B and MW-2B. EDC was not detected above the laboratory detection limit in MW-1B, MW-2B, MW-3A, MW-3B, MW-4B and MW-5B. Tertiary-amyl methyl ether (TAME) was

detected in well MW-5B at 3.7 µg/L. There is no ESL for TAME. TAME was not detected above the laboratory detection limit in MW-1A, MW-1B, MW-2B, MW-3A, MW-3B, and MW-4B. There were no detections of 1,2-dibromethane (EDB), ethyl tertiary butyl ether (ETBE), isopropyl ether (DIPE), or Tertiary butyl alcohol (TBA) above the laboratory detection limits in any of the groundwater monitoring wells sampled during this event.

Figure 5 is an isoconcentration contour map of TVH as gasoline in groundwater based on the October 2010 monitoring well analytical results. The plume geometry indicates a west-by-northwest migrational pattern, which is in line with general groundwater flow direction in this area.

Contaminant concentrations in general have decreased since the 1st Semiannual 2010 event; however, concentrations have increased since the October 2009 event. As the ORC™ begins to migrate through the aquifer, a more significant drop should be observed in subsequent sampling events.

Table 2
Groundwater Sample Analytical Results – April 25, 2011
TVHg, BTEX, and MTBE,
2836 Union Street, Oakland, California

Sample	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	DO_2 (mg/L)
Monitoring Wells							
MW-1A	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*2*	*NS*
MW-1B	81	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<0.5	2.56
MW-2A	**130**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*2.4*	1.80
MW-2B	<50	*<0.5*	*<0.5*	*<0.5*	*<0.5*	**25**	2.69
MW-3A	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	**18**	1.77
MW-3B	**1,900**	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	7.81
MW-4A	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	1.81
MW-4B	**1,200**	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	1.63
MW-5B	**890**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	**95**	3.19
Groundwater ESLs	100 / 210	1.0 / 46	40 / 130	30 / 43	20 / 100	5 / 1,800	NLP

Notes:
ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater *is/is not* a potential drinking water resource. Sample concentrations in **bold-face** type exceed the ESL criterion where groundwater is a potential drinking water resource.
MTBE = methyl tertiary-butyl ether; TVHg = total volatile hydrocarbons as gasoline; DO_2 = dissolved oxygen in milligrams per liter (mg/L)
NA = not analyzed for this constituent; NS = not sampled, insufficient sample amount; NLP = no level published
All concentrations are in micrograms per liter (µg/L) unless otherwise noted.
NS = Not sampled. Insufficient water for sampling.

Table 3
Groundwater Sample Analytical Results – April 25, 2011
Lead Scavengers and Fuel Oxygenates
2836 Union Street, Oakland, California

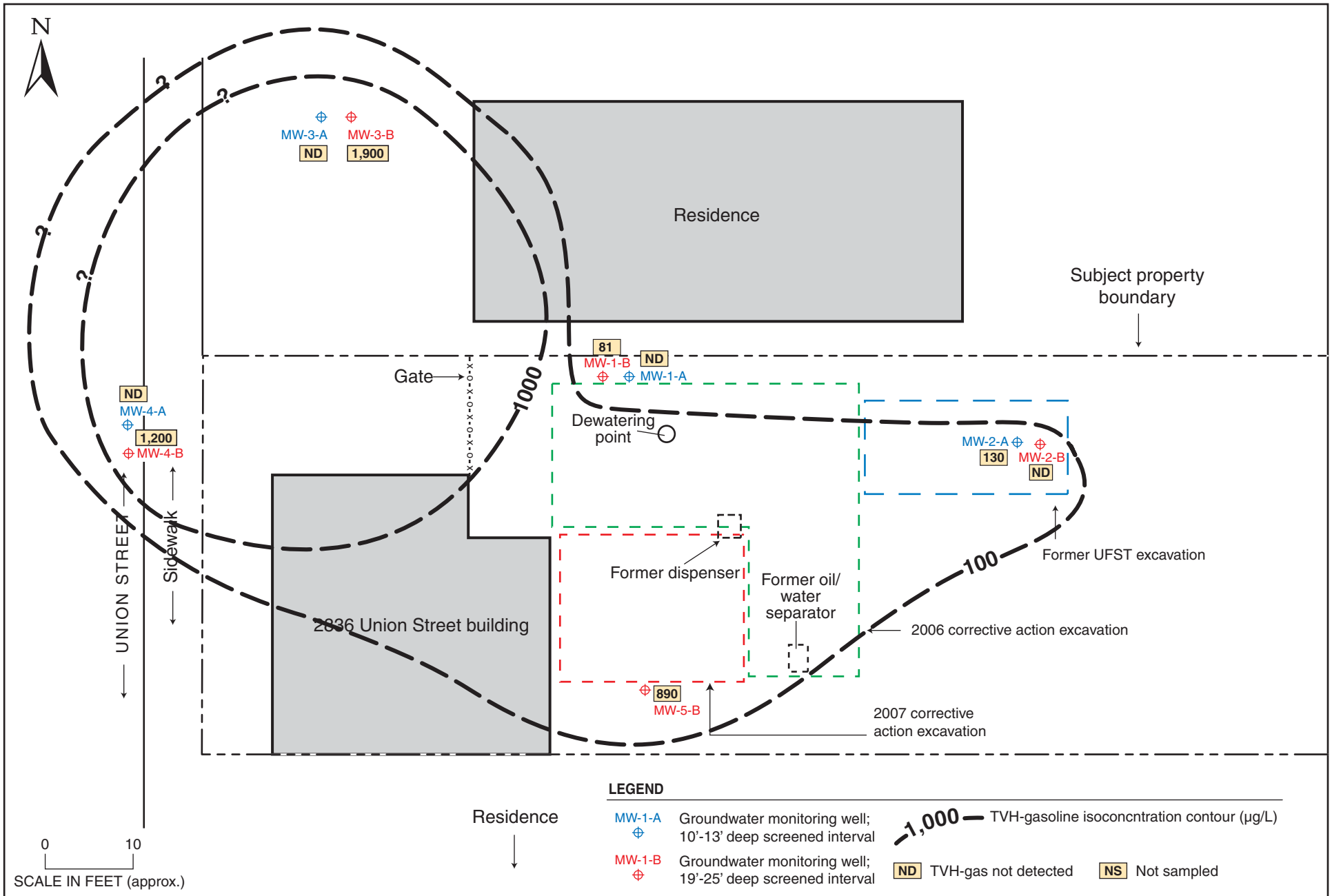
Sample I.D.	EDC	EDB	ETBE	DIPE	TAME	TBA
Groundwater Analyses (µg/L)						
MW-1A	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
MW-1B	**4.5**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
MW-2A	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
MW-2B	**1.0**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
MW-3A	*0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
MW-3B	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<100*
MW-4A	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
MW-4B	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<83*
MW-5B	*<0.5*	*<0.5*	*<0.5*	*<0.5*	3.7	*<10*
Groundwater ESLs	0.5 / 690	0.05 / 510	NLP	NLP	NLP	12/ 18,000

Notes:
ESLs = Water Board Environmental Screening Levels for residential sites where groundwater *is/is not* considered a potential drinking water resource. Sample concentrations in **bold-face** type exceed the ESL criterion where groundwater is a potential drinking water resource.
EDB = ethylene dibromide ; EDC = ethylene dichloride ; ETBE = ethyl tertiary-butyl ether; DIPE = isopropyl ether
TAME = tertiary-amyl methyl ether; TBA = tertiary-butyl alcohol;
NA = not analyzed for this constituent; NS = not sampled; NLP = no level published
All concentrations are in micrograms per liter (µg/L).

Dissolved Oxygen

Dissolved oxygen (DO) is the most thermodynamically-favored electron acceptor used in aerobic biodegradation of hydrocarbons. Active aerobic biodegradation of petroleum hydrocarbon compounds requires at least one to two mg/L of DO in groundwater. During aerobic biodegradation, DO levels are reduced in the hydrocarbon plume as respiration occurs. Therefore, DO levels that vary inversely to hydrocarbon concentrations are consistent with the occurrence of aerobic biodegradation.

DO concentrations, shown in Table 2, were measured in wells during the current event and ranged from 1.63 mg/L to 7.81 mg/L. One of the nine wells sampled for DO, only well MW-1A could not be sampled for DO due to insufficient water quantity. All of the measurements showed DO concentrations higher than 1.0 mg/L indicating that the September 2010 Advanced ORC™ injection has continued to increase the available oxygen favorable to biodegradation.



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TVH-GASOLINE PLUME — APRIL 25, 2011, B-ZONE WELLS
2836 Union Street, Oakland, CA

Figure 4

by: MJC | JUNE 2011

2005-65-89

5.0 EVALUATION OF HYDROCHEMICAL TRENDS AND PLUME STABILITY

This section evaluates the observed hydrologic and hydrochemical trends with regard to plume stability and contaminant migration. An assessment is made of the nature of residual contaminated soil that acts as a continued source of groundwater contamination. A conceptual model (incorporating site lithology, hydrogeology, and hydrochemistry) is presented to explain the spatial extent and magnitude of the dissolved hydrocarbon plume.

CONTAMINANT SOURCE ASSESSMENT

One 10,000-gallon gasoline UFST was installed in the late 1970s. The UFST operated under Alameda County Environmental Health permit (Permit No. STID 4065) until its removal in 1998.

Site soil and groundwater has been contaminated by gasoline and associated aromatic hydrocarbons. Soil analytical results show that soil contamination began at a depth of approximately 6 to 7 feet, and did not extend deeper than approximately 11 feet.

Soil contamination above ESL criteria appears to be constrained on site in the area of MW-1A and MW-1B where it could not be removed over the property boundary; however, these wells show concentrations below their respective ESLs, suggesting minimal dissolved phase contribution from this area.

While past corrective actions removed most of the contaminant mass, shallow groundwater may continue to be slightly impacted by the remaining residual soil contamination by desorption from soil into groundwater.

As evidenced by soil boring sample analysis, the dissolved phase hydrocarbon contamination in the groundwater does not appear to be adsorbing onto downgradient soils.

The mass of unsaturated zone soil contamination has been removed to the extent practical and subsequent groundwater monitoring indicate there is no remaining significant residual contamination present in site soils.

WATER LEVEL TRENDS

Appendix D contains historical groundwater elevations. The data support the following conclusions:

- Groundwater elevations in all wells show general correlation with rainy versus dry season. Decreases in elevation are seen from approximately April through December, followed by an increase from December through April. This is a common seasonal trend observed in the upper water-bearing zone in the Bay Area region.
- The range of water level elevations in the B-wells screened from approximately 19 to 25 feet bgs has varied by less than 2 feet, and no substantial differences in elevations (beyond the seasonal fluctuations) have been noted since October 2006.
- The A-wells, screened from approximately 10 to 13 feet bgs and exhibit very slow recharge. These well are screened across units that are not laterally continuous and have not been used in the construction of the site groundwater elevation maps or the calculation of groundwater gradient. They have been used primarily to monitor shallow contamination.
- Groundwater at the site occurs at a depth of less than 10 feet, and appears to be under at least semi-confining conditions, rising in previous investigation borings from approximately 20 feet bgs to as high as 6 feet below grade, such that groundwater is in contact with residual contaminated soil.
- Historical groundwater flow direction has been predominantly to the west-northwest with minor deviations produced by local dewatering of contaminated water.
- Subject property groundwater gradient in previous events has been relatively flat, and was observed during this event at an average of 0.0088 feet/foot. Historical groundwater gradient (since October 2006) has varied between approximately 0.001 feet/foot and 0.01 feet/foot, averaging approximately 0.005 feet/foot.

HYDROCHEMICAL TRENDS

The contaminants of concern (those above regulatory ESLs) have been determined to be TVH as gasoline, benzene, MTBE and EDC. Historical groundwater analytical results are included in Appendix D. The highest residual dissolved hydrocarbon concentrations above ESLs is located in the downgradient wells MW-3B, MW-4B and MW-5B. However, the concnetaions at these wells had deceased over the last two year significantly due to the source removals, in-situ injection and natural attenuation.

Gasoline

Figure 6 show hydrochemical trend data for gasoline in the site wells. In general source area wells MW-5B and historical source area wells MW-2A and MW-2B have shown an overall trend of decreased gasoline concentrations since monitoring began in October 2006. This is most likely a direct response to the removal of contaminated soil during the 1998 UFST excavation and subsequent 2006 and 2007 corrective action excavations. Source area well MW-5B and historical source area well MW-2B showed a slight increase during the 2nd Semiannual 2010 event as compared to both the previous event, and 2nd Semiannual 2009 event; however, the concentrations have not risen above the pre-2007 excavation concentrations. Historical source area well MW-2A showed a decrease in concentrations as compared to both the previous event and October 2009 event.

In general, downgradient wells MW-3B and MW-4B as well as source area well MW-1B have shown a general increase in gasoline concentrations. Downgradient wells MW-3A and MW-4A, have not had gasoline concentrations above the laboratory detection limit since monitoring began. This indicates that while the source area contamination has been removed, dissolved phase contamination is present in the deeper aquifer (represented by the B wells screened from approximately 19- to 25- feet bgs).

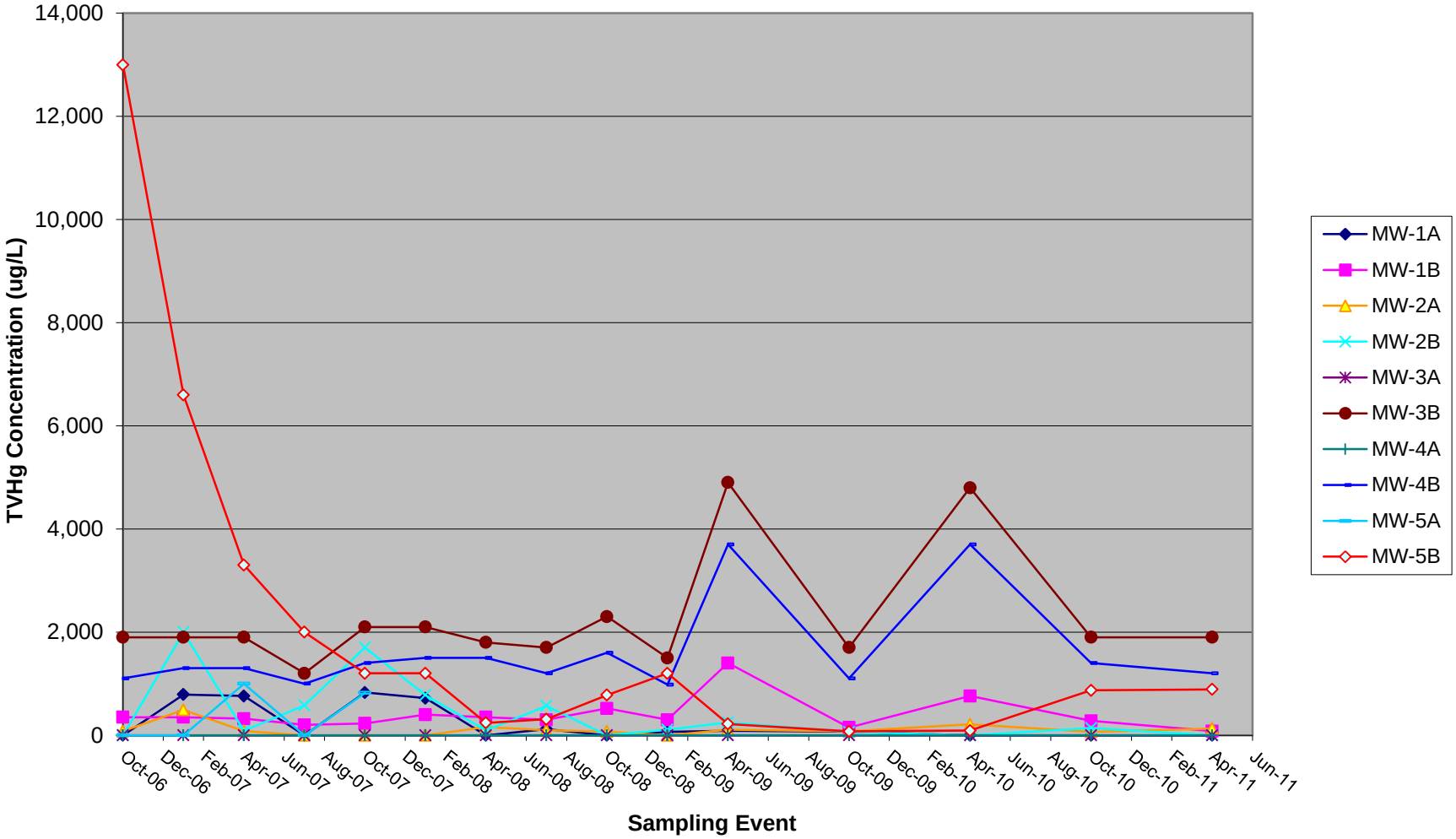
Benzene

Benzene was not detected above the laboratory detection limit in any of the wells sampled during this event. Well MW-1A (downgradient from the UST dispenser) has historically had the highest benzene concentration.

MTBE and EDC

Concentrations of MTBE have remained relatively stable in all of the wells in which it has been detected. MTBE has been detected at relatively higher concentrations in the shallower A-wells and has been the only detected contaminant in wells MW-3A and MW-4A downgradient from the source area, demonstrating its high soluble mobility.

Figure 6: Historical Groundwater Analytical Results
Total Volatile Hydrocarbons as Gasoline (TVHg)
October 2006 - April 2011



EDC has been consistently detected in onsite wells MW-1B and MW-2B since monitoring began. EDC has also historically been detected in MW-3A.

Dissolved Oxygen

As discussed in the last section, all of the eight wells sampled for DO (monitoring well MW-1A could not be sampled for DO due to insufficient water quantity) contained concentrations higher than 1.0 mg/L. This indicates that the ORC™ material is working in the system. The DO concentration increases in wells MW-1B and MW-3B are especially indicative of the ORC™ effectiveness as these two wells were located directly adjacent to the injection points.

PLUME GEOMETRY AND MIGRATION INDICATIONS

The groundwater contaminate plume has sufficiently delineated and monitored over time after site remediation by excavation and bioremediation compound injection to establish, that the gasoline contaminant plume in groundwater, while still most significantly above the ESL's in the downgradient B zone wells, is now relatively stable. The plume is triangular in nature extending out from former source area well MW-5B to widen and encompass the downgradient wells MW-3B and MW-4B. Concentrations of MTBE that are higher than the ESL are generally limited to the upgradient and former source area wells.

The plume geometry has not varied substantially since monitoring began in October 2006, although seasonal fluctuations in contaminant concentrations have been observed. While benzene appears to be remaining relatively stable or decreasing, overall, increasing gasoline concentrations in downgradient wells suggest that downgradient migration of this constituent could be occurring.

Groundwater contaminant migration appears to be controlled locally by hydrogeologic conditions. Based on our experience, it is likely that the contaminant concentrations attenuate to below ESL criteria relatively rapidly off site. The conduit survey showed no potential conduits of concern and no sensitive receptors. A record of groundwater monitoring since 2006 suggest that given the source removal and in-situ injections, the residual plume is expected to be relatively stable and reducing.

CLOSURE CRITERIA ASSESSMENT AND PROPOSED ACTIONS

The Water Board generally requires that the following criteria be met before issuing regulatory closure of contaminant cases:

The contaminant source has been removed (i.e., the source of the discharge and obviously-contaminated soil). This criterion has been met. The UFST and associated piping and dispenser and residual soil contamination sources have been removed to the extent possible and borehole and excavation soil sampling have shown that the substantial mass of that will act as an ongoing source of groundwater contamination has been removed.

The groundwater contaminant plume is well characterized, and is stable or reducing in magnitude and extent. In our professional opinion, this criterion has generally met, with a reducing (due to bioremediation compound injections) and relatively stable plume. The residual concentration while still above ESL, particularly in the downgradient portions if the plume, have reduced to the extent that natural attenuation should continue without need for additional bioremediation compound injections.

If residual contamination (soil or groundwater) exists, there is no reasonable risk to sensitive receptors (i.e., contaminant discharge to surface water or water supply wells) or to site occupants. This criterion has been met by conducting a Risk-Based Corrective Action (RBCA) assessment which modeled the fate and transport of residual contamination in the context of potential impacts to sensitive receptors (e.g., water wells, residential land use). Stellar Environmental completed this investigation in December 2008 and it was determined that there are no potential sensitive receptors which could be impacted by the groundwater plume.

Stellar Environmental concludes that although the hydrocarbon concentrations are still above the regulatory ESL's, particularly in the offsite, downgradient wells MW-3B and MW-4B, the site should be considered for low-risk regulatory closure based on the reducing nature of the residual hydrocarbon plume and lack of receptors.

6.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

- One 10,000-gallon gasoline UFST was installed in the late 1970s. The UFST operated under an Alameda County permit until its removal in 1998.
- A preliminary investigation was conducted in August 2005, additional site characterization investigations were conducted in October 2005 and April 2006, and corrective action entailing contaminated soil excavation and the installation of ten monitoring wells was conducted in September to October 2006. The remaining accessible contaminated soil was removed in November 2007 from beneath the former garage building, and the excavation area was treated with ORC®. The November 2007 corrective action also entailed destruction by excavation of monitoring well MW-5A.
- The primary source (UFST) and secondary source (contaminated soil) have been remediated by excavation. All known accessible residual contaminated soil has been excavated from this site. Residual TVH as gasoline soil contamination (790 to 270 mg/kg) above regulatory ESLs was documented during the October 2006 corrective action along the northern property boundary, but was inaccessible for removal over the property line.
- The groundwater gradient during this event averaged approximately 0.011 feet/foot across the site with a gradient to the north-northwest, consistent with historical data. The groundwater gradient has varied since October 2006 between approximately 0.001 feet/foot and 0.01 feet/foot, averaging approximately 0.005 feet/foot.
- TVH as gasoline was detected above the ESL of 100 micrograms per liter (µg/L) in monitoring wells MW-2A, MW-3B, MW-4B, and MW-5B. TVH as gasoline was also detected in monitoring well MW-1B but below the ESL.
- MTBE was detected above its ESL of 5.0 µg/L in wells MW-2B, MW-3A, and MW-5B.
- Benzene, toluene, ethyl benzene, and total xylenes were not found above the laboratory detection limit in any of the wells sampled.
- The lead scavenger 1,2-dichloroethane (EDC) was detected above the ESL of 0.5 µg/L in well MW-1B and MW-2B. . EDC was not detected above the laboratory detection limit in MW-1B, MW-2B, MW-3A, MW-3B, MW-4B and MW-5B. Tertiary-amyl methyl

ether (TAME) was detected in well MW-5B at 3.7 µg/L. There is no ESL for TAME. TAME was not detected above the laboratory detection limit in MW-1A, MW-1B, MW-2B, MW-3A, MW-3B, and MW-4B. There were no detections of 1,2-dibromethane (EDB), ethyl tertiary butyl ether (ETBE), isopropyl ether (DIPE), or Tertiary butyl alcohol (TBA) above the laboratory detection limits in any of the groundwater monitoring wells sampled during this event.

- At the request of ACEH, analysis for lead scavengers and fuel oxygenates is limited to the wells with a historical detection—namely, MW-1A, MW-1B, MW-2B, MW-3A, MW-3B, MW-4B and MW-5B. .
- DO concentrations were measured in wells during the current event and ranged from 1.63 mg/L to 7.81 mg/L. This indicates that the Advanced ORC™ product is working within the plume. Only well MW-1A could not be measured due to insufficient water.
- The groundwater contaminate plume has not been fully delineated, but appears to be currently triangular in configuration with its long axis trending east by west-northwest.
- The November 2007 excavation and ORC™ treatment appear to have been effective in lowering contaminant concentrations in the source area, as indicated by the historical maximum TVHg concentrations observed in the source well MW-5B.
- The September 2010 corrective ORC™ treatment injection was designed to target hydrocarbon-impacted groundwater in the downgradient zone, represented by wells MW-3B and MW-4B, and to a lesser degree by MW-1B and to demonstrate that all practical measures have been implemented so that regulatory closure can be petitioned for.
- This April 2011 monitoring and sampling event suggests that additional time is needed to evaluate the affect of the ORC™ on hydrocarbon contamination in the downgradient and off-site wells, however a slight increase in DO concentrations measured in the downgradient wells suggests that the ORC™ has induced subsurface conditions favorable to biodegradation of hydrocarbon contamination.

RECOMMENDATIONS

- Stellar Environmental recommends following up with ACEH following its receipt of this report, to discuss the requirements to move the site toward regulatory closure.
- We recommend that all future technical reports be provided to the appropriate regulatory agencies, including electronic uploads ACEH's "ftp" system and the State Water Board's GeoTracker system.
- Stellar Environmental recommends that ACEH considered the site for low risk regulatory closure based on the reducing nature of the plume and lack of receptors.

- Semiannual groundwater monitoring should be continued (the next event is scheduled in October 2011) until ACEH determines if the site meets its low risk closure criteria.
- Reimbursement requests should continue to be submitted under the State of California Tank Cleanup Fund until regulatory site closure is archived.

7.0 REFERENCES

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8.0 LIMITATIONS

This report has been prepared for the exclusive use by the Estate of Mr. Lawrence Wadler (subject property owner), the regulatory agencies, and their authorized assigns and/or representatives. 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 solely on the findings of the investigations discussed herein. This report has been prepared in accordance with generally accepted methodologies and standards of practice of the area. The personnel performing this assessment 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.

APPENDIX A

GROUNDWATER MONITORING AND SAMPLING FIELD REPORT

WELL GAUGING DATA

Project # 110425-BP1 Date 4-25-11 Client Shell

Site 2836 Union St 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-1A	0918	3/4					5.42	12.44		
MW-1B	0914	3/4					5.84	22.36		
MW-2A	0910	3/4					6.08	12.64		
MW-2B	0931	3/4					4.45	24.49		
MW-3A	0940	3/4					5.93	12.93		
MW-3B	0927	3/4					5.86	25.04		
MW-4A	0906	3/4					5.23	12.12		
MW-4B	0922	3/4					4.88	24.18		
MW-5B	0936	3/4					5.64	25.24		
	* REMOVED ALL CAPS PRIOR TO									
	GAUGING & CALCED IN TO P.M. TO									
	REVIEW WATER LEVELS PRIOR TO PURGING.									

WELLHEAD INSPECTION CHECKLIST

Date 4/25/11 Client Stellar Env. Solutions

Site Address 2836 Union St Oakland

Job Number 110425-BP1 Technician BP

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-1A	✓							
MW-1B	✓							
MW-2A	✓							
MW-2B							✓	
MW-3A	✓							
MW-3B	✓							
MW-4A	✓							
MW-4B	✓							
MW-5B	✓							

NOTES: MW-2B 1/2 BOLTS MISSING

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-1A	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 12.44	Depth to Water (DTW): 5.42
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]: 6.82	

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:

0.16 (Gals.) X 3 = 0.48 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
1050	15.7	7.26	1013	107	0.04	
Well Dewatered @ 0.04 Gals						DTW: 11.91
INSUF. WATER FOR D.O. @ 1050 & 1510						
1510	16.0	7.17	1101	94	—	

Did well dewater? (Yes) No — Gallons actually evacuated: 0.04

Sampling Date: 4/25/11 — Sampling Time: ~~1045~~ 1510 — Depth to Water: 9.44 (zhr)

Sample I.D.: MW-1A — Laboratory: Kiff CalScience Other C&T

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

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

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

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

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-1B	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 22.36	Depth to Water (DTW): 5.84
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]: 9.14	

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

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

0.38 (Gals.) X 3 = 1.14 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
1219	17.0	6.89	781	152	0.38	
1221	17.4	6.74	1150	643	0.76	~~DTW: 20.17~~
well	Dewatered	@ 0.85	Gals		0.85	DTW: 20.17
1240	17.2	6.75	1134	117	—	

Did well dewater? (Yes) No — Gallons actually evacuated: 0.85

Sampling Date: 4/25/11 — Sampling Time: 1240 — Depth to Water: 9.10

Sample I.D.: MW-1B — Laboratory: Kiff CalScience Other C4T

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:	3.59 mg/L	Post-purge:	2.56 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-2A	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 12.64	Depth to Water (DTW): 6.08
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]: 7.39	

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:_____

0.15 (Gals.) X 3 = 0.45 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1153	16.0	7.11	989	64	0.15	
1155	16.1	7.14	990	29	0.30	
1157	16.1	7.16	991	13	0.45	

Did well dewater? Yes (No) Gallons actually evacuated: 0.45

Sampling Date: 4/25/11 Sampling Time: 1200 Depth to Water: 6.10

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

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

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

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

D.O. (if req'd):	Pre-purge:	2.09 mg/L	Post-purge:	1.80 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-2B	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 24.49	Depth to Water (DTW): 4.45
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]: 8.45	

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:_____

0.46 (Gals.) X 3 = 1.38 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
1120	16.9	7.13	713	170	0.46	
Well Dewatered @ 0.69 Gals						DTW: 23.44
1435	16.8	7.07	701	126	—	

Did well dewater? (Yes) No Gallons actually evacuated: 0.46

Sampling Date: 4/25/11 Sampling Time: 1435 Depth to Water: 7.48

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

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

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

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

D.O. (if req'd):	Pre-purge: 2.30 mg/L	Post-purge:	2.69 mg/L	
O.R.P. (if req'd):	Pre-purge: mV	Post-purge:	mV	

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-3A	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 12.93	Depth to Water (DTW): 5.93
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]: 7.33	

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: _____

0.16 (Gals.) X 3 = 0.48 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
1142	16.0	7.11	1105	>1000	100mL	
WELL DEWATERED @ 100mL						DTW: 11.99
1530	16.1	7.04	1260	196	—	

Did well dewater? (Yes) No — ~~Gallons~~ mL actually evacuated: 100 mL

Sampling Date: 4/25/11 Sampling Time: ~~1438~~ 1530 Depth to Water: 9.55 (2hr)

Sample I.D.: MW-3A Laboratory: Kiff CalScience Other C&T

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

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

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

D.O. (if req'd):	Pre-purge:	2.88 mg/L	Post-purge:	1.77 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-3B	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 25.04	Depth to Water (DTW): 5.86
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]: 9.69	

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:

0.44 (Gals.) X 3 = 1.32 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
1330	16.6	6.78	873	575	0.44	
1332	16.6	6.71	903	163	0.88	
1335	16.5	6.71	910	69	1.32	

Did well dewater? Yes (No) Gallons actually evacuated: 1.32

Sampling Date: 4/25/11 Sampling Time: 1340 Depth to Water: 5.96

Sample I.D.: MW-3B Laboratory: Kiff CalScience Other C&T

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

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

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

D.O. (if req'd):	Pre-purge:	10.10 mg/L	Post-purge:	7.81	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-4A	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 12.12	Depth to Water (DTW): 5.23
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]: 6.60	

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:_____

0.16 (Gals.) X 3 = 0.48 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 (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1027	15.7	6.63	1115	294	0.16	
Dewatered @			0.20 Gals			DTW: 11.61
1450	15.9	7.01	1201	177	—	

Did well dewater? (Yes) No Gallons actually evacuated: 0.2

Sampling Date: 4/25/11 Sampling Time: ~~1025~~ (BD) 1450 Depth to Water: 11.58 (24hr)

Sample I.D.: MW-4A Laboratory: Kiff CalScience Other C&T

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

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

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

D.O. (if req'd):	Pre-purge: 2.42 mg/L		Post-purge: 1.81 mg/L	
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-4B	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 24.18	Depth to Water (DTW): 4.88
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]: 8.74	

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:

0.44 (Gals.) X 3 = 1.32 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 (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1252	17.0	6.90	876.1	688	0.44	
1254	17.2	6.71	871	125	0.88	
1256	17.2	6.70	872	49	1.32	

Did well dewater? Yes (No) Gallons actually evacuated: 1.32

Sampling Date: 4/25/11 Sampling Time: 1300 Depth to Water: 4.94

Sample I.D.: MW-4B Laboratory: Kiff CalScience Other C&T

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

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

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

D.O. (if req'd):	Pre-purge:	1.92 mg/L	Post-purge:	1.63 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 110425-BP1	Client: Stellar Env. Solutions
Sampler: BP	Date: 4/25/11
Well I.D.: MW-5B	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 25.24	Depth to Water (DTW): 5.64
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.56	

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:_____

0.45 (Gals.) X 3 = 1.35 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
1403	17.1	7.01	936	898	0.45	
1405	17.2	7.13	935	7100	0.90	
1408	17.3	7.07	921	176	1.35	
					NOT AT 80%	Short Wait

Did well dewater? Yes (No) Gallons actually evacuated: 1.35

Sampling Date: 4/25/11 Sampling Time: 1420 Depth to Water: 9.02

Sample I.D.: MW-5B Laboratory: Kiff CalScience Other C&T

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

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

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

D.O. (if req'd):	Pre-purge:	0.85 mg/L	Post-purge:	3.19 mg/L	
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV	

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME Stellar 2836 Union St. Oakland				PROJECT NUMBER 110425-BP1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
Myron L Ultrameter	6207755	4/25/11 @0644	pH 7.00 10.00 4.00	7.01 10.02 3.97	yes	16.8	BP
			cond 3900us	cond 3897us	yes	14.9	BD
Hach Turbidimeter	080100 CO 27400	4/25/11 @0650	0.1, 20, 100 800 NTUs	0, 22, 106 814 NTUs	yes	—	BP
YSI 550 DO Meter	06E1424A)	4/25/11 @0655	10.0mg/L	10.10mg/L	yes	14.3	BP

SPH or Purge Water Drum Log

Client: STELLAR ENV.

Site Address: 2836 UNION ST., OAKLAND

STATUS OF DRUM(S) UPON ARRIVAL						
Date	4/10/08	7/7/08	10/17/08	01/13/09	10/10/10	4/25/11
Number of drum(s) empty:	1	1		0	2	3
Number of drum(s) 1/4 full:	1	1	2	0 2 X 2		
Number of drum(s) 1/2 full:	1	1	1	1		
Number of drum(s) 3/4 full:					1	
Number of drum(s) full:	1	1	1	1		1
Total drum(s) on site:	4	4	4	4	4	4
Are the drum(s) properly labeled?	Y		N	N	N	NO
Drum ID & Contents:	purge H2O	soil, purge H2O / Tools →			H2O	purge H2O grout
If any drum(s) are partially or totally filled, what is the first use date:	—	7/8 —	—	—	—	—

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

-If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

-All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	4/10/08		10/17/08	01/13/09	10/10/10	4/25/11
Number of drums empty:	1	2			3	3
Number of drum(s) 1/4 full:	1	1 2	2	1		1
Number of drum(s) 1/2 full:	1	1	1	2		
Number of drum(s) 3/4 full:		2			1	
Number of drum(s) full:	1	1	1	1		1
Total drum(s) on site:	4	4	4	4	4	5
Are the drum(s) properly labeled?	Y	Yes	N	N	N	N
Drum ID & Contents:	purge H2O	soil, purge H2O Tools →		purge H2O	H2O	purge H2O grout

LOCATION OF DRUM(S)
Describe location of drum(s): ALONG THE SOUTH FENCE BEHIND THE BUILDING
Drums w/ soil & Tools not secure

FINAL STATUS						
Number of new drum(s) left on site this event	0	0	0	0	0	1
Date of inspection:	4/10/08	7/7/08	10/17/08	01/13/09	10/10/10	4/25/11
Drum(s) labelled properly:	Y	Y	NO	N	NO	YES
Logged by BTS Field Tech:	IW	BD	RC	do	AK	BD
Office reviewed by:	AL	AL	AL	AL	AL	

APPENDIX B

SES GROUNDWATER STANDARD SAMPLING PROTOCOLS

APPENDIX B
STELLAR ENVIRONMENTAL GROUNDWATER STANDARD SAMPLING PROTOCOLS

SAMPLING AND ANALYSIS PERSONNEL

Sampling and analysis is conducted by Blaine Tech Services, a subcontractor to Stellar Environmental, which uses appropriately trained personnel to perform the water level measurements, sampling, and analyses of key natural attenuation indicators.

SUMMARY OF SAMPLING PROCEDURES

Activities that will occur during groundwater sampling are summarized as follows:

- Pre-arrangement with testing laboratory
- Assembly and preparation of equipment and supplies
- Groundwater sampling
  - water-level measurements
  - immiscible material measurements (with an interface probe, if applicable)
  - visual inspection of borehole water
  - well bore evacuation
  - sampling
- Sample preservation and shipment
  - sample preparation
  - onsite measurement of parameters using direct read instruments
  - sample labeling
- Completion of sample records
- Completion of chain-of-custody records
- Samples placed in chilled cooler
- Sample shipment

Detailed sampling and analysis procedures are presented in the following sections.

ARRANGEMENTS WITH ANALYTICAL LABORATORY

Prior to sampling, arrangements will be made with an analytical laboratory to conduct the sample analyses. Samples will be analyzed by Curtis and Tompkins, Ltd. (C&T), an analytical laboratory in Berkeley, California. C&T has the required Department of Toxic Substances Control (DTSC) certification to perform the analyses, and will provide a sufficient number of sample containers for the wells to be sampled and the blanks to be included. C&T will determine the proper type and size for the containers based on the analyses requested. For samples requiring chemical preservation, preservatives will be added to containers by the C&T prior to shipping containers to the facility. Shipping containers (ice chests with adequate container padding) will be sent to the facility with the sample containers.

PREPARATION FOR SAMPLING

Prior to the sampling episode, equipment to be used will be assembled and its operating condition verified, calibrated (if required), and properly cleaned (if required). In addition, all record-keeping materials will be prepared.

Equipment Calibration

Where appropriate, equipment will be calibrated according to the manufacturer's specifications prior to field use. This applies to the equipment for making onsite chemical measurements of pH, conductivity, water temperature, and photoionization detector (PID).

Equipment Cleaning

Portions of sampling and test equipment that will come into contact with the sample will be thoroughly cleaned before use. Such equipment includes water-level probe, bailers, lifting line, and other equipment or portions thereof that may be immersed. The procedure for cleaning non-dedicated equipment is as follows:

- Clean with potable water and phosphate-free detergent;
- Rinse with potable water;
- Rinse with distilled or deionized water; and
- Air-dry the equipment prior to use.

Any deviations from these procedures will be documented in the permanent record of the sampling event.

Laboratory-supplied sample containers will be cleaned and sealed by the laboratory before shipping. The type of container provided and the method of container cleaning should be in the laboratory's permanent record of the sampling event.

Sampling equipment to be disposed of after use will be cleaned with potable water and phosphate-free detergent before disposal as solid waste. Rinse water will be stored in properly labeled 55-gallon drums for proper disposal, pending receipt of laboratory results of groundwater and soil sample analyses with assistance from SES.

SAMPLING PROCEDURES

Special care will be exercised to prevent contamination of the groundwater and extracted samples during the sampling activities. Contamination of a sample can occur through contact with improperly cleaned equipment. Cross-contamination of the groundwater can occur through insufficient cleaning of equipment between wells. Pre-cleaned disposable sampling equipment will be rinsed with distilled water prior to use. Sampling equipment and sample containers will be thoroughly cleaned before and after field use and between uses at different sampling locations according to the procedures discussed above. In addition to the use of properly cleaned equipment, two further precautions will be taken:

- A new pair of clean, disposable latex (or similar) gloves will be worn each time a different well is sampled.
- Sample collection activities will progress from the least affected (upgradient) area to the most affected (downgradient) area. Wells described as "background" or "upgradient" wells will be sampled first.

The following paragraphs present procedures for the several activities that comprise groundwater sample acquisition. These activities will be performed in the same order as presented below. Exceptions to this procedure will be noted in the permanent sampling record.

Preparation of Location

Prior to starting the sampling procedure, the area around the well will be cleared of foreign materials, such as brush, rocks, debris, etc. A clean (new) disposable plastic sheet will be placed around the well casing so that the sheet is flat on the ground. The sheet will be placed such that the flush-mount well projects through the center of the sheet. This preparation will prevent sampling equipment from inadvertently contacting the ground or exterior parts of the well.

Water-Level Measurement

The first sampling operation is water-level measurement. An electrical probe or a weighted tape will be used to measure the depth to groundwater below the datum to the nearest 0.01 foot. The datum, usually the top of the inner casing (inside and below the protective steel cover), will be described in the monitoring well records. A permanent mark or scribe will be marked on the inner casing.

If the wells to be sampled are closely spaced, the water levels at all of the closely-spaced wells will be measured before any of the wells are evacuated. The water-level probe or weighted tape will be cleaned with phosphate-free detergent in distilled water and with a distilled water rinse between usage at different wells.

Total Depth Measurement

Once the water level and immiscible material thickness is measured and recorded, the water-level probe or weighted tape will be slowly lowered to the bottom of the well. The depth to the bottom will be measured and recorded. The probe or tape will then be slowly withdrawn from the well. The bottom of the probe or tape will be observed after withdrawal to determine any evidence of viscous, heavy contaminants. Descriptions (and measurements, if possible) of such materials will be made from observation of the probe or tape.

Visual Inspection of Well Water

Prior to well evacuation, a small quantity of water will be removed with a bailer that is not completely immersed. The recovered sample is representative of the top of the water column in the well casing. If immiscible materials are present as measured by the interface probe at the top of the water column, this technique can allow their detection. The water will be observed for the presence of any floating films or other indications of immiscible materials. Any sample odors will be noted. Observations regarding odor or visual evidence of immiscible materials will be recorded in the sampling record.

The well water sample will be discarded unless the site-specific protocol calls for retention of this sample. The sample will be placed in a labeled container for proper disposal.

Well Bore Evacuation

Water contained within and adjacent to the well casing can potentially reflect chemical interaction with the atmosphere (by diffusion of gases down the casing) or the well construction materials (through prolonged residence adjacent to the casing).

Observations of this water will be recorded during removal and prior to it being discarded. Onsite parameter measurements of the purged water, as described in this section, will indicate when water-quality parameters have stabilized, and also will be recorded.

The volume of water contained within the well bore at the time of sampling will be calculated, and 4 times the calculated water volume will be removed from the well and discarded. A bailer will be used for well evacuation. The volume of water to be evacuated will be calculated as follows:

Number of Bailers:

$$\text{Number of bailers} = 4 \times \frac{\text{Volume of water in well (Vw)}}{\text{Volume of bailer (Vb)}}$$

Volume of Water in Well:

$$Vw = \frac{3.142 \times dw^2 \times Lw}{4}$$

where: Vw = water volume in well (ft^3)
dw = inside diameter of well (ft)
Lw = length of water column in well (ft)

Volume of Water in Full Bailer:

$$Vb = \frac{3.142 \times db2 \times Lb}{4}$$

where: Vb = water volume in bailer (ft^3)
db = inside diameter of bailer (ft)
Lb = length of bailer (ft)

Wells that can be evacuated to a dry state will be evacuated completely; samples will be taken as soon as sufficient water for sampling is present. Sample compositing—sampling over a lengthy period by accumulating small volumes of water at different times to eventually obtain a sample of sufficient volume—will not be conducted.

Water produced during well evacuation will be contained in a suitable container and temporarily stored onsite pending proper disposal.

Some chemical and physical parameters in water can change significantly within a short time of sample acquisition. The following parameters cannot be accurately measured in a laboratory located more than a few hours from the facility, and will be measured onsite with portable equipment:

- pH
- Specific conductance
- Temperature
- Turbidity units

These parameters will be measured in unfiltered, unpreserved, "fresh" water, using the same sampling technique as for laboratory analyses. The measurements will be made in a clean glass container separate from those intended for laboratory analyses. The tested sample will be discarded after use. The measured values will be recorded in the sampling record.

Natural Attenuation Field Measurements

In addition to the meter reading above, following the indicators that groundwater has been purged sufficiently to represent water within the water bearing materials, natural attenuation parameters were measured by the Blaine Tech sampling personnel. These include meter readings for:

- Oxidation reduction potential;
- Dissolved oxygen; and
- Dissolved ferrous iron.

Sample Extraction

Natural attenuation parameters are measured before the water is purged and sampled. Care will be taken during insertion of sampling equipment to prevent undue disturbance of water in the well.

The pump or bailer will be lowered into the water gently to prevent splashing, and extracted gently to prevent creation of an excessive vacuum in the well. The sample will be transferred directly into the appropriate container. While pouring water from a bailer, the water will be carefully poured down the inside of the sample bottle to prevent significant aeration of the sample. Unless other instructions are given by the analytical laboratory, the sample containers will be completely filled so that no air space remains in the container. Excess water taken during sampling will be placed in a container for proper disposal.

SAMPLE HANDLING

Sample Preservation

Water samples will be properly prepared for transportation to the laboratory by refrigeration and chemical preservation, as necessary. The laboratory providing sample containers will add any necessary chemical preservatives to the sealed containers provided prior to shipment.

Container and Labels

Glass containers and appropriate container lids will be provided by the laboratory. The containers will be filled and container lids tightly closed. Sample container lids will be sealed so as to make obvious any seal tampered with or broken. The label will be firmly attached to the container side (rather than the lid). The following information will be written with permanent marker on the label:

- Facility name;
- Sample identification;
- Sample type (groundwater, surface water, etc.);
- Sampling date;
- Sampling time; and
- Preservatives added, and sample collector's initials.

Sample Shipment

In most instances, the concentration and type of compounds present in the groundwater are considered by the U.S. Department of Transportation to be non-hazardous. Thus, the following packaging and labeling requirements for the sample materials are appropriate for shipping the sample to the testing laboratory:

- Package sample so that is does not leak, spill, or vaporize from its packaging
- Label package with:
  - sample collector's name, address, and telephone number
  - laboratory's name, address, and telephone number
  - description of sample
  - quantity of sample
  - date of shipment

To comply with packaging regulations and prevent damage to expensive groundwater samples, SES will follow packaging and shipping instructions supplied by the certified testing laboratory.

Chain-of-Custody Control

After samples are obtained, chain-of-custody procedures will be followed to establish a written record concerning sample movement between the sampling site and the testing laboratory. Each shipping container will contain a chain-of-custody form to be completed by the sampling personnel packing the samples. The chain-of-custody form for each container will be completed in triplicate. One copy of this form will be maintained at the site; the other two copies will remain at the laboratory. One of the laboratory copies will become a part of the permanent record for the sample and will be returned with the sample analyses.

The record will contain the following minimum information:

- Collector's sample number
- Signature of collector
- Date and time of collection
- Place and address of collection
- Material type
- Preservatives added
- Analyses requested
- Signatures involved in the chain of possession
- Inclusive dates of possession

The shipping container will be sealed so as to make obvious any seal tampered with or broken. The chain-of-custody documentation will be placed inside the container so that it is immediately apparent to the laboratory personnel receiving the container, but could not be damaged or lost during shipping.

SAMPLING RECORDS

To provide complete documentation of sampling, detailed records containing the following information will be maintained during sampling:

- Sample location (facility name)
- Sample identification (name and sample number)
- Sample location map or detailed sketch
- Date and time of sampling

- Sampling method
- Field observations of sample appearance and odor
- Weather conditions
- Samples identification
- Any other significant information

APPENDIX C

CERTIFIED ANALYTICAL LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION


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 227549
ANALYTICAL REPORT

Stellar Environmental Solutions	Project : 2005-65
2198 6th Street	Location : Wadler Property
Berkeley, CA 94710	Level : II

Sample ID	Lab ID
MW-1A	227549-001
MW-1B	227549-002
MW-2A	227549-003
MW-2B	227549-004
MW-3A	227549-005
MW-3B	227549-006
MW-4A	227549-007
MW-4B	227549-008
MW-5B	227549-009

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: 05/03/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**227549**
Client:	**Stellar Environmental Solutions**
Project:	**2005-65**
Location:	**Wadler Property**
Request Date:	**04/26/11**
Samples Received:	**04/26/11**

This data package contains sample and QC results for nine water samples, requested for the above referenced project on 04/26/11. The samples were received cold and intact.

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

Volatile Organics by GC/MS (EPA 8260B):
High response was observed for isopropyl ether (DIPE) in the CCV analyzed 04/29/11 12:05; affected data was qualified with "b". High recoveries were observed for isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), and tert-butyl alcohol (TBA) in the MS/MSD for batch 174255; the parent sample was not a project sample, the BS/BSD were within limits, the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples. MW-3B (lab # 227549-006) and MW-4B (lab # 227549-008) were diluted due to high non-target analytes. No other analytical problems were encountered.

227549 Chain of Custody Record

Lab job no. _____
Date _____
Page _____ of _____

Laboratory CAT
Address 2323 FIFTH ST
BERKELEY, CA

Method of Shipment LAB COURIER
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager R. MAKDISI
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: *(Signature)* _____

Project Owner LARRY WADLER
Site Address 2836 UNION ST.
OAKLAND, CA
Project Name WADLER
Project Number 2005-65

	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TPH-G/BTEX/MTBE 8015/8260	OXYS BY 8260	EDC/EDB BY 8260B	Remarks
1	MW-1A		4/25/11	1510	W	HCl VOA's 40 mL			N	6	X	X	X	
2	MW-1B			1240	W				N	6	X	X	X	
3	MW-2A			1200	W				N	6	X			
4	MW-2B			1435	W				N	6	X	X	X	
5	MW-3A			1530	W				N	6	X	X	X	
6	MW-3B			1340	W				N	6	X	X	X	
7	MW-4A			1450	W				N	6	X			
8	MW-4B			1300	W				N	6	X	X	X	
9	MW-5B			1420	W				N	6	X	X	X	

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature BPell	4/25/11	Signature BPell	4/25/11	Signature	4/26/11	Signature	4/26/11
Printed Ben Pavell	Time	Printed Ben Pavell	Time	Printed Michael Newbirk	Time	Printed Ricky Grams	Time
Company Blaine Tech Services	1700	Company Blaine Tech Services	1700	Company BTS	1230	Company CAT	1230

Turnaround Time: STANDARD
Comments: EDF REQUIRED
GLOBAL ID: T0600105641

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

intact cold RC

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 227549 Date Received 4/26/11 Number of coolers 1
Client SES Project WADLER

Date Opened 4/26/11 By (print) M. VILLANUEVA (sign)
Date Logged in 4/27/11 By (print) R. Fams (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. Did you check preservatives for all bottles for each sample? _____ YES NO (N/A)
16. Did you document your preservative check _____ YES NO (N/A)
17. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
18. Was the client contacted concerning this sample delivery? _____ YES (NO)
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____

_____

_____

_____

_____

_____

_____

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/25/11
Units:	ug/L	Received:	04/26/11
Diln Fac:	1.000		

Field ID:	MW-1A	Batch#:	174232
Type:	SAMPLE	Analyzed:	04/28/11
Lab ID:	227549-001		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	75-130

Field ID:	MW-1B	Batch#:	174232
Type:	SAMPLE	Analyzed:	04/28/11
Lab ID:	227549-002		

Analyte	Result	RL
Gasoline C7-C12	81 Y Z	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	75-130

Field ID:	MW-2A	Batch#:	174232
Type:	SAMPLE	Analyzed:	04/28/11
Lab ID:	227549-003		

Analyte	Result	RL
Gasoline C7-C12	130 Y	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	75-130

Field ID:	MW-2B	Batch#:	174232
Type:	SAMPLE	Analyzed:	04/28/11
Lab ID:	227549-004		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	75-130

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/25/11
Units:	ug/L	Received:	04/26/11
Diln Fac:	1.000		

Field ID:	MW-3A	Batch#:	174232
Type:	SAMPLE	Analyzed:	04/28/11
Lab ID:	227549-005		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	75-130

Field ID:	MW-3B	Batch#:	174278
Type:	SAMPLE	Analyzed:	04/29/11
Lab ID:	227549-006		

Analyte	Result	RL
Gasoline C7-C12	1,900 Y Z	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	75-130

Field ID:	MW-4A	Batch#:	174278
Type:	SAMPLE	Analyzed:	04/29/11
Lab ID:	227549-007		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	75-130

Field ID:	MW-4B	Batch#:	174278
Type:	SAMPLE	Analyzed:	04/29/11
Lab ID:	227549-008		

Analyte	Result	RL
Gasoline C7-C12	1,200 Y Z	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	75-130

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	04/25/11
Units:	ug/L	Received:	04/26/11
Diln Fac:	1.000		

Field ID:	MW-5B	Batch#:	174278
Type:	SAMPLE	Analyzed:	04/29/11
Lab ID:	227549-009		

Analyte	Result	RL
Gasoline C7-C12	890 Y	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	123	75-130

Type:	BLANK	Batch#:	174232
Lab ID:	QC589546	Analyzed:	04/28/11

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	75-130

Type:	BLANK	Batch#:	174278
Lab ID:	QC589742	Analyzed:	04/29/11

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	75-130

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC589547	Batch#:	174232
Matrix:	Water	Analyzed:	04/28/11
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,071	107	75-126

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	75-130

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Field ID:	MW-1A	Batch#:	174232
MSS Lab ID:	227549-001	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	1.000		

Type: MS Lab ID: QC589548

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	19.84	2,000	1,821	90	68-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	75-130

Type: MSD Lab ID: QC589549

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,819	90	68-120	0	26

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	75-130

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC589743	Batch#:	174278
Matrix:	Water	Analyzed:	04/29/11
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,134	113	75-126

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	75-130

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Field ID:	MW-3B	Batch#:	174278
MSS Lab ID:	227549-006	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/29/11
Diln Fac:	1.000		

Type: MS Lab ID: QC589746

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,917	2,000	3,454	77	68-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	75-130

Type: MSD Lab ID: QC589747

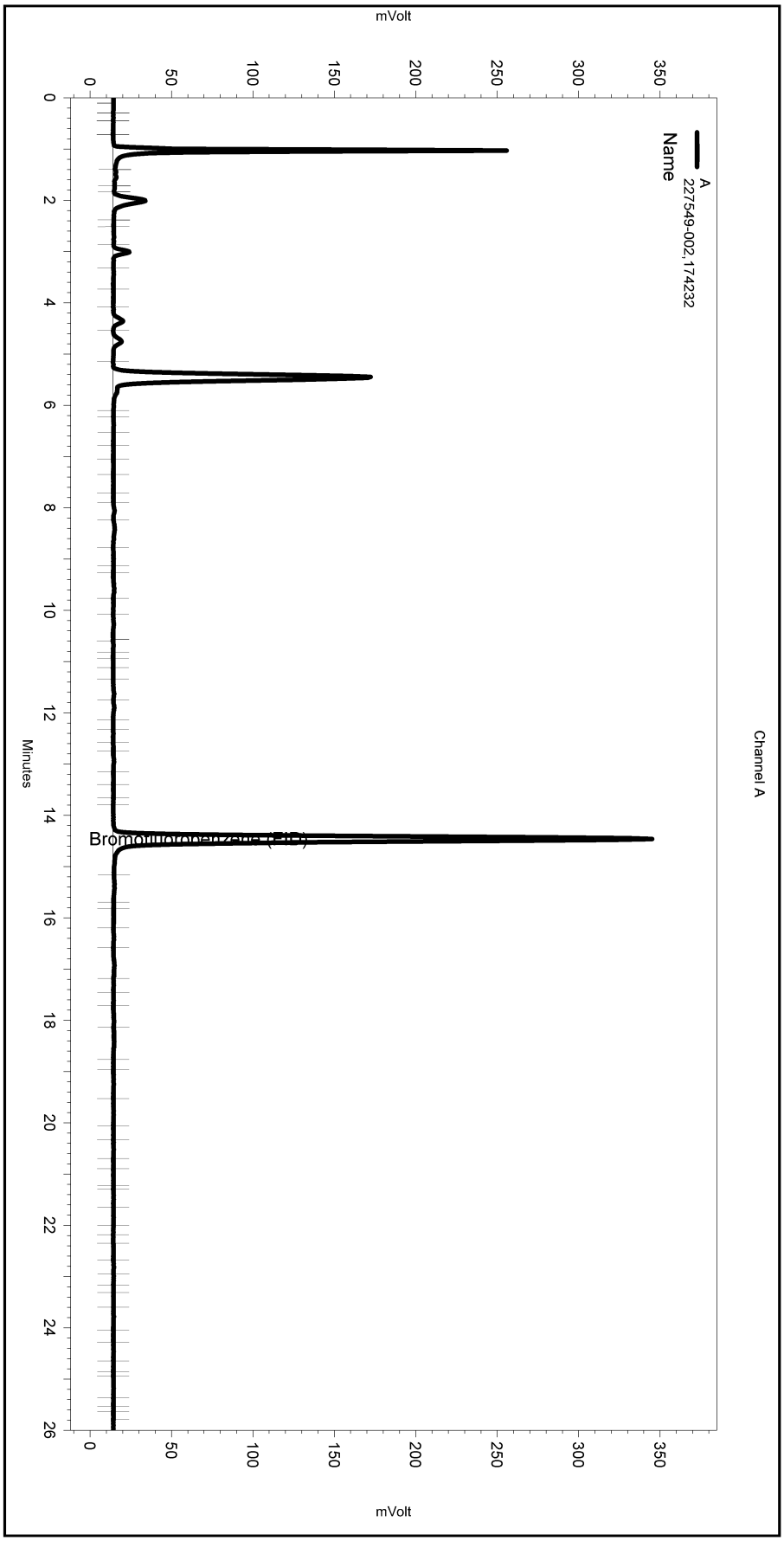
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	3,507	80	68-120	2	26

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	117	75-130

RPD= Relative Percent Difference

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC04\Sequence\118.seq**
Sample Name: **227549-002,174232**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC04\Data\118-007**
Instrument: GC04 Vial: N/A Operator: lims2k3\tvh3
Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe061.met

Software Version 3.1.7
Run Date: 4/28/2011 6:34:27 PM
Analysis Date: 4/28/2011 7:03:55 PM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: b1.0



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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

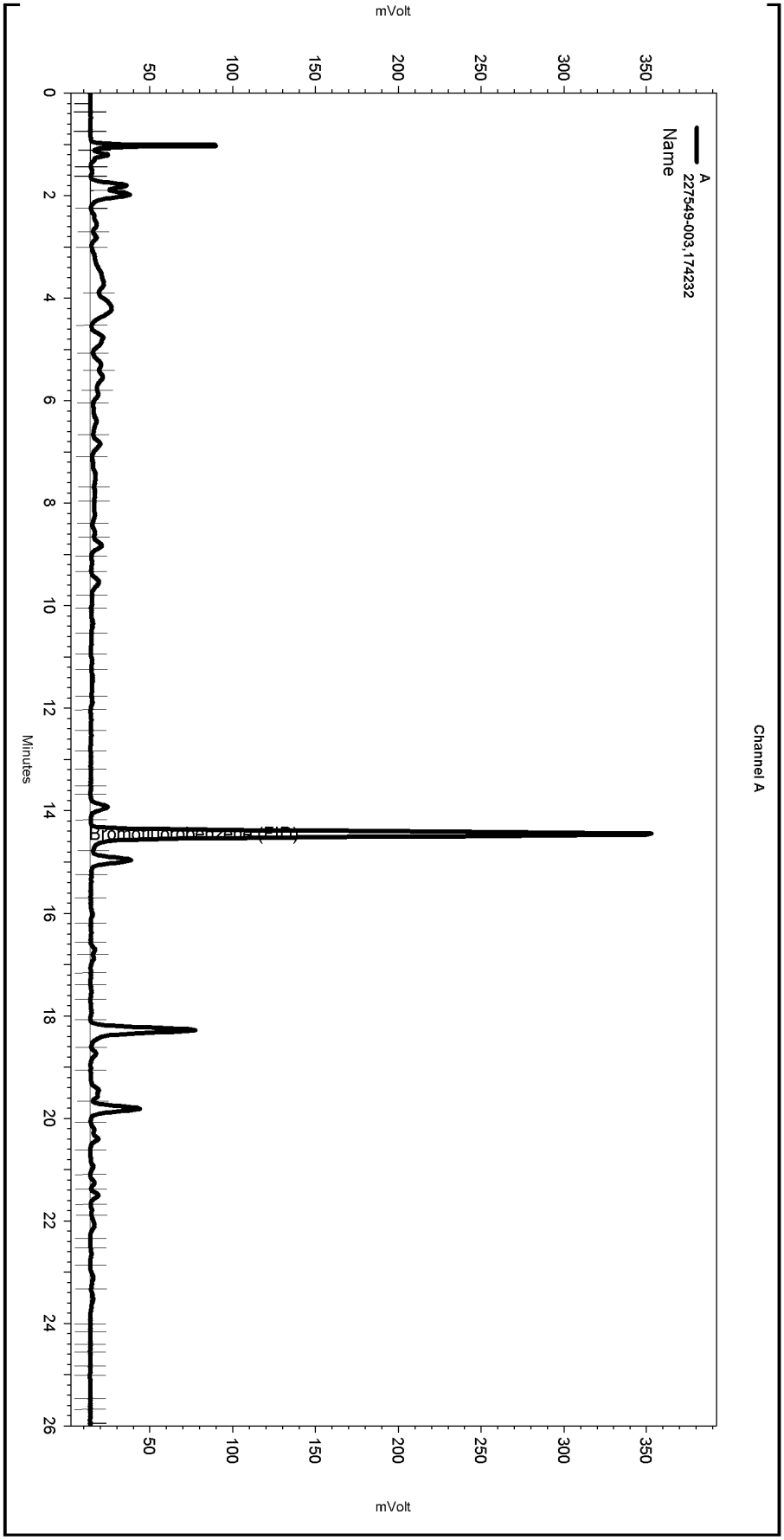
Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10047\118-007_C00C.tmp

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

None

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC04\Sequence\118.seq**
Sample Name: **227549-003,174232**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC04\Data\118-008**
Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe061.met

Software Version 3.1.7
Run Date: 4/28/2011 7:12:07 PM
Analysis Date: 4/29/2011 1:00:57 PM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: b1.0



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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

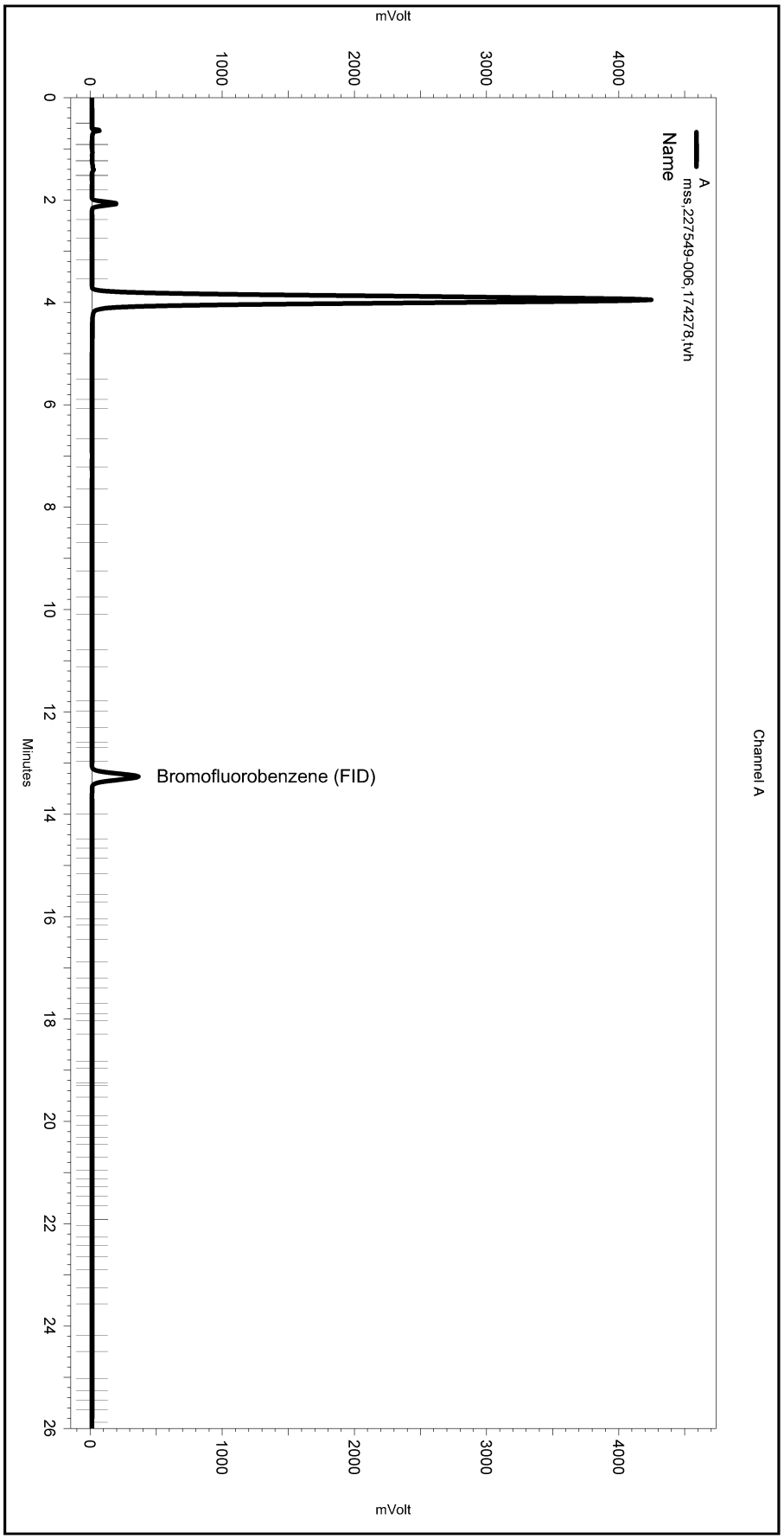
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\118-008

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0.209	25.818	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\119.seq**
Sample Name: **mss,227549-006,174278,tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\119-006**
Instrument: GC05 Vial: N/A Operator: lims2k3\tvh3
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe111.met

Software Version 3.1.7
Run Date: 4/29/2011 6:44:48 PM
Analysis Date: 4/29/2011 7:13:33 PM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: c1.0



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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

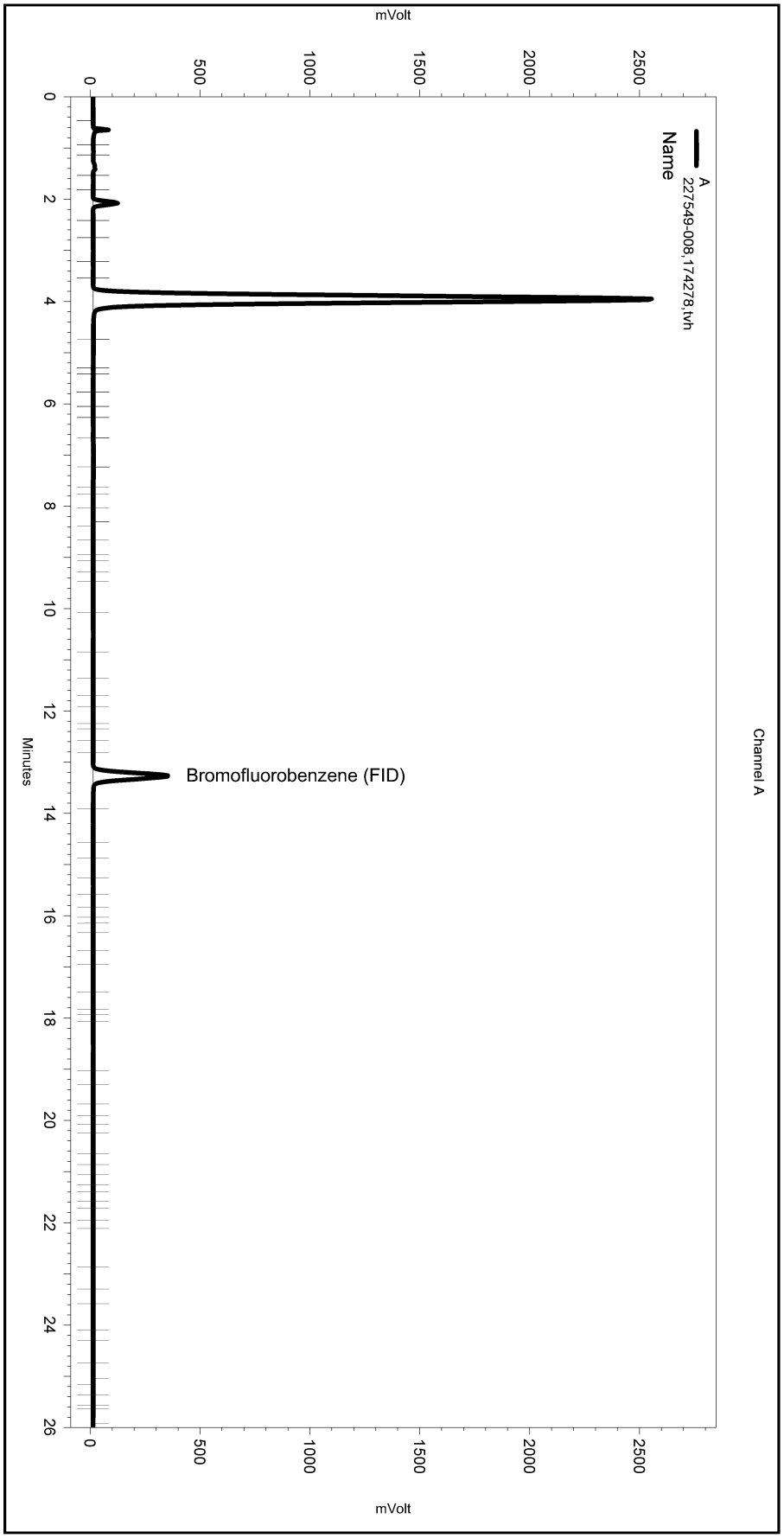
Manual Integration Fixes

Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10048\119-006_BFFD.tmp

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

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\119.seq**
Sample Name: **227549-008,174278,tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\119-010**
Instrument: GC05 Vial: N/A Operator: lims2k3\tvh3
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe111.met

Software Version 3.1.7
Run Date: 4/29/2011 9:11:10 PM
Analysis Date: 4/29/2011 9:39:53 PM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: b1.0



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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

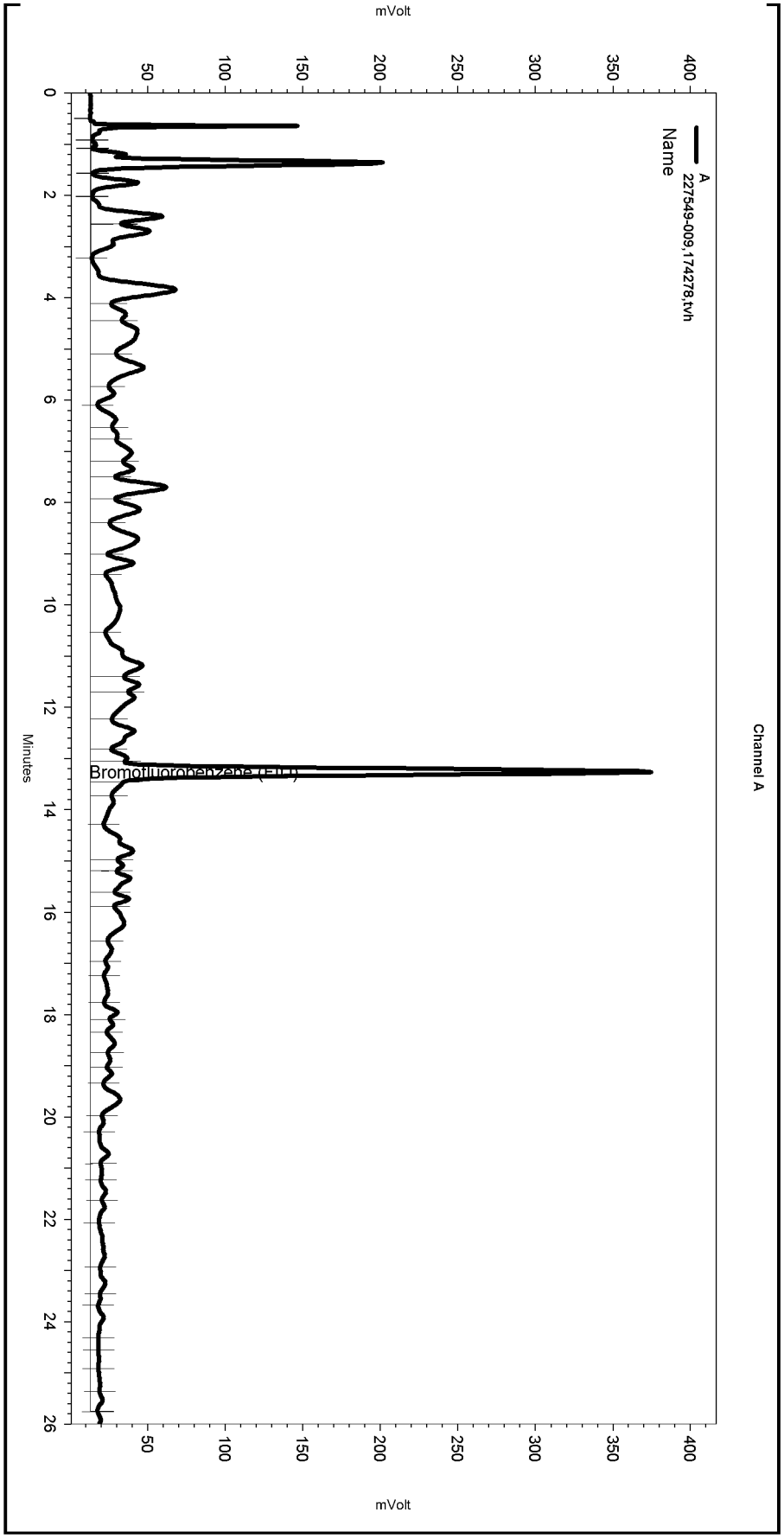
Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10048\119-010_C001.tmp

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

None

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC05\Sequence\119.seq**
Sample Name: **227549-009,174278,tvh**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC05\Data\119-011**
Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe111.met

Software Version 3.1.7
Run Date: 4/29/2011 9:47:47 PM
Analysis Date: 5/2/2011 11:34:52 AM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: b1.0



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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

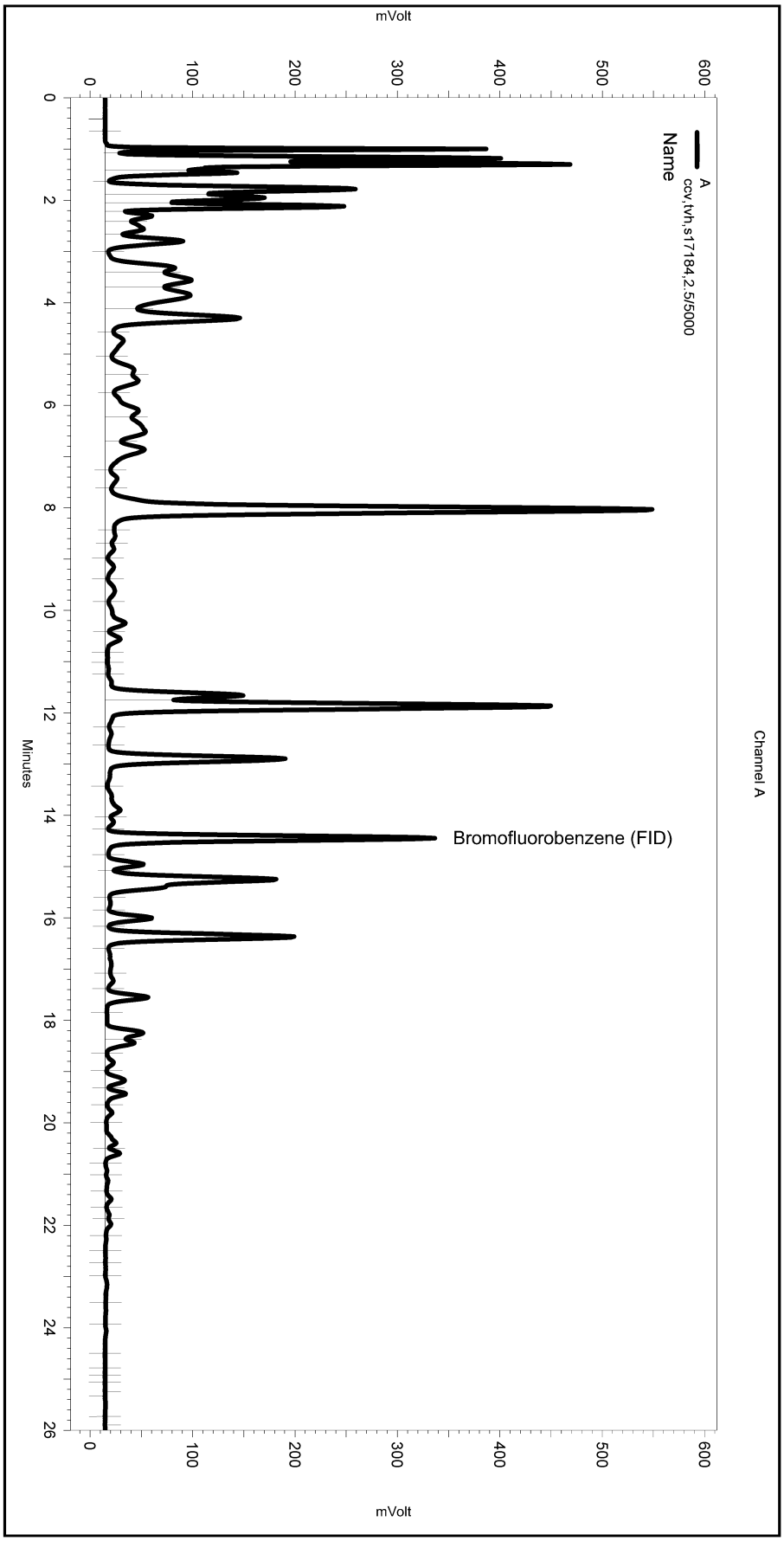
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\119-011

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0.236	25.818	0
Yes	Split Peak	13.056	0	0
Yes	Split Peak	13.461	0	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC04\Sequence\118.seq**
Sample Name: **ccv,tvh,s17184,2.5/5000**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC04\Data\118-002**
Instrument: GC04 Vial: N/A Operator: lims2k3\tvh3
Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe061.met

Software Version 3.1.7
Run Date: 4/28/2011 11:23:06 AM
Analysis Date: 4/28/2011 11:52:37 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: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10047\118-002_C007.tmp

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

None

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-1A	Batch#:	174255
Lab ID:	227549-001	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/29/11
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	2.0	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-125
1,2-Dichloroethane-d4	123	71-146
Toluene-d8	105	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-1B	Batch#:	174255
Lab ID:	227549-002	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/29/11
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	17	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	4.5	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-125
1,2-Dichloroethane-d4	125	71-146
Toluene-d8	105	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-2A	Batch#:	174215
Lab ID:	227549-003	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	2.4	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	123	71-146
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-2B	Batch#:	174215
Lab ID:	227549-004	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	25	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	1.0	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-125
1,2-Dichloroethane-d4	122	71-146
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-3A	Batch#:	174215
Lab ID:	227549-005	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	18	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	0.5	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-125
1,2-Dichloroethane-d4	124	71-146
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-3B	Batch#:	174215
Lab ID:	227549-006	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	10.00		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	117	80-125
1,2-Dichloroethane-d4	126	71-146
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Aromatics by GC/MS

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-4A	Batch#:	174215
Lab ID:	227549-007	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	6.8	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	122	71-146
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-4B	Batch#:	174215
Lab ID:	227549-008	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	8.333		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	83
MTBE	ND	4.2
Isopropyl Ether (DIPE)	ND	4.2
Ethyl tert-Butyl Ether (ETBE)	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	ND	4.2
Methyl tert-Amyl Ether (TAME)	ND	4.2
Toluene	ND	4.2
1,2-Dibromoethane	ND	4.2
Ethylbenzene	ND	4.2
m,p-Xylenes	ND	4.2
o-Xylene	ND	4.2

Surrogate	%REC	Limits
Dibromofluoromethane	115	80-125
1,2-Dichloroethane-d4	121	71-146
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	MW-5B	Batch#:	174215
Lab ID:	227549-009	Sampled:	04/25/11
Matrix:	Water	Received:	04/26/11
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	95	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	3.7	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-125
1,2-Dichloroethane-d4	125	71-146
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	174215
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	1.000		

Type: BS Lab ID: QC589489

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	27.42	110	60-123
Benzene	25.00	26.73	107	80-124
Toluene	25.00	25.10	100	80-120
Ethylbenzene	25.00	25.27	101	80-122
m,p-Xylenes	50.00	52.64	105	80-123
o-Xylene	25.00	26.37	105	80-121

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	114	71-146
Toluene-d8	100	80-120
Bromofluorobenzene	94	80-120

Type: BSD Lab ID: QC589490

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	27.51	110	60-123	0	20
Benzene	24.75	27.42	111	80-124	4	20
Toluene	24.75	25.55	103	80-120	3	20
Ethylbenzene	24.75	25.91	105	80-122	3	20
m,p-Xylenes	49.50	53.76	109	80-123	3	20
o-Xylene	24.75	26.84	108	80-121	3	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	113	71-146
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	174215
Units:	ug/L	Analyzed:	04/28/11
Diln Fac:	1.000		

Type: BS Lab ID: QC589489

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	137.0	110	45-152
MTBE	25.00	27.42	110	60-123
Isopropyl Ether (DIPE)	25.00	31.90	128	53-138
Ethyl tert-Butyl Ether (ETBE)	25.00	30.65	123	56-130
1,2-Dichloroethane	25.00	27.59	110	70-136
Benzene	25.00	26.73	107	80-124
Methyl tert-Amyl Ether (TAME)	25.00	25.36	101	63-120
Toluene	25.00	25.10	100	80-120
1,2-Dibromoethane	25.00	25.24	101	80-120
Ethylbenzene	25.00	25.27	101	80-122
m,p-Xylenes	50.00	52.64	105	80-123
o-Xylene	25.00	26.37	105	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-125
1,2-Dichloroethane-d4	114	71-146
Toluene-d8	100	80-120
Bromofluorobenzene	94	80-120

Type: BSD Lab ID: QC589490

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	143.1	115	45-152	4	32
MTBE	25.00	27.51	110	60-123	0	20
Isopropyl Ether (DIPE)	25.00	31.99	128	53-138	0	20
Ethyl tert-Butyl Ether (ETBE)	25.00	30.73	123	56-130	0	20
1,2-Dichloroethane	24.75	27.53	111	70-136	1	20
Benzene	24.75	27.42	111	80-124	4	20
Methyl tert-Amyl Ether (TAME)	25.00	25.76	103	63-120	2	20
Toluene	24.75	25.55	103	80-120	3	20
1,2-Dibromoethane	24.75	25.24	102	80-120	1	20
Ethylbenzene	24.75	25.91	105	80-122	3	20
m,p-Xylenes	49.50	53.76	109	80-123	3	20
o-Xylene	24.75	26.84	108	80-121	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-125
1,2-Dichloroethane-d4	113	71-146
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC589491	Batch#:	174215
Matrix:	Water	Analyzed:	04/28/11
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	114	71-146
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC589491	Batch#:	174215
Matrix:	Water	Analyzed:	04/28/11
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-125
1,2-Dichloroethane-d4	114	71-146
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	174255
Units:	ug/L	Analyzed:	04/29/11
Diln Fac:	1.000		

Type: BS Lab ID: QC589653

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	139.2	111	45-152
MTBE	25.00	26.93	108	60-123
Isopropyl Ether (DIPE)	25.00	32.83 b	131	53-138
Ethyl tert-Butyl Ether (ETBE)	25.00	30.65	123	56-130
1,2-Dichloroethane	25.00	28.06	112	70-136
Benzene	25.00	26.85	107	80-124
Methyl tert-Amyl Ether (TAME)	25.00	25.75	103	63-120
Toluene	25.00	25.87	103	80-120
1,2-Dibromoethane	25.00	26.03	104	80-120
Ethylbenzene	25.00	26.31	105	80-122
m,p-Xylenes	50.00	54.43	109	80-123
o-Xylene	25.00	27.29	109	80-121

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-125
1,2-Dichloroethane-d4	118	71-146
Toluene-d8	102	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC589654

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	137.9	110	45-152	1	32
MTBE	25.00	26.24	105	60-123	3	20
Isopropyl Ether (DIPE)	25.00	31.51 b	126	53-138	4	20
Ethyl tert-Butyl Ether (ETBE)	25.00	29.46	118	56-130	4	20
1,2-Dichloroethane	24.75	27.97	113	70-136	1	20
Benzene	24.75	26.77	108	80-124	1	20
Methyl tert-Amyl Ether (TAME)	25.00	25.27	101	63-120	2	20
Toluene	24.75	26.08	105	80-120	2	20
1,2-Dibromoethane	24.75	25.68	104	80-120	0	20
Ethylbenzene	24.75	26.73	108	80-122	3	20
m,p-Xylenes	49.50	54.69	110	80-123	1	20
o-Xylene	24.75	27.41	111	80-121	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-125
1,2-Dichloroethane-d4	120	71-146
Toluene-d8	103	80-120
Bromofluorobenzene	94	80-120

b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC589655	Batch#:	174255
Matrix:	Water	Analyzed:	04/29/11
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-125
1,2-Dichloroethane-d4	119	71-146
Toluene-d8	103	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	227549	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	174255
MSS Lab ID:	227574-018	Sampled:	04/27/11
Matrix:	Water	Received:	04/27/11
Units:	ug/L	Analyzed:	04/29/11
Diln Fac:	1.000		

Type: MS Lab ID: QC589740

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	1.834	125.0	186.2	147 *	58-145
MTBE	<0.1000	25.00	27.11	108	68-120
Isopropyl Ether (DIPE)	<0.1000	25.00	33.34 b	133 *	67-126
Ethyl tert-Butyl Ether (ETBE)	<0.1000	25.00	30.48	122 *	68-120
1,2-Dichloroethane	<0.1000	25.00	29.31	117	80-132
Benzene	<0.1000	25.00	27.35	109	80-121
Methyl tert-Amyl Ether (TAME)	<0.1000	25.00	25.73	103	71-120
Toluene	0.3621	25.00	26.86	106	80-120
1,2-Dibromoethane	<0.1252	25.00	26.09	104	80-120
Ethylbenzene	<0.1000	25.00	27.05	108	80-120
m,p-Xylenes	0.3952	50.00	55.29	110	80-120
o-Xylene	<0.1000	25.00	27.16	109	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-125
1,2-Dichloroethane-d4	127	71-146
Toluene-d8	104	80-120
Bromofluorobenzene	93	80-120

Type: MSD Lab ID: QC589741

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	187.4	148 *	58-145	1	29
MTBE	25.00	26.54	106	68-120	2	20
Isopropyl Ether (DIPE)	25.00	31.83 b	127 *	67-126	5	20
Ethyl tert-Butyl Ether (ETBE)	25.00	29.60	118	68-120	3	20
1,2-Dichloroethane	24.75	28.94	117	80-132	0	20
Benzene	24.75	26.72	108	80-121	1	20
Methyl tert-Amyl Ether (TAME)	25.00	25.39	102	71-120	1	20
Toluene	24.75	26.01	104	80-120	2	20
1,2-Dibromoethane	24.75	26.47	107	80-120	2	20
Ethylbenzene	24.75	26.37	107	80-120	2	20
m,p-Xylenes	49.50	54.17	109	80-120	1	20
o-Xylene	24.75	26.68	108	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-125
1,2-Dichloroethane-d4	124	71-146
Toluene-d8	104	80-120
Bromofluorobenzene	93	80-120

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

APPENDIX D

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA

TABLE A
Historical Groundwater Monitoring Well Data
2836 Union Street, Oakland, California

MW-1A										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	dry	dry	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	9.80	2.45	*NA*	790	94	*< 0.5*	8.6	*< 0.5*	100
3	Apr-07	7.49	4.76	*NA*	760	63	*<0.5*	1.9	*<0.5*	150
4	Jul-07	7.16	5.09	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
5	Oct-07	7.29	4.96	*NA*	830	28	<0.7	13	<0.7	110
6	Jan-08	6.82	5.70	*NA*	720	8.1	*< 0.5*	*< 0.5*	*< 0.5*	130
7	Apr-08	6.32	5.70	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
8	Jul-08	8.25	4.00	*NA*	120	1.0	*<0.5*	*<0.5*	*<0.5*	86
9	Oct-08	9.04	3.21	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
10	Jan-09	7.00	5.25	*NA*	63	1.2	*<0.5*	*<0.5*	*<0.5*	77
11	Apr-09	5.62	6.63	7,100	89	8.7	*<0.5*	0.75	*<0.5*	150
12	Oct-09	7.62	4.63	1,700	72	1.5	*<0.5*	<0.5	*<0.5*	110
13	Apr-10	5.74	6.51	3,400	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	28
14	Oct-10	7.60	4.65	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
15	Apr-11	5.92	6.83	*NS*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*2*

MW-1B										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	7.44	4.56	*NA*	350	*<1.3*	*<1.3*	*<1.3*	*<1.3*	2.7
2	Jan-07	6.40	5.65	*NA*	350	*<1.3*	*<1.3*	*<1.3*	*<1.3*	3.6
3	Apr-07	6.42	5.63	*NA*	320	*<0.5*	*<0.5*	*<0.5*	*<0.5*	4.2
4	Jul-07	7.19	4.86	*NA*	200	*<1.3*	*<1.3*	*<1.3*	*<1.3*	3.2
5	Oct-07	7.10	4.95	*NA*	230	*<0.7*	*<0.7*	*<0.7*	*<0.7*	6.0
6	Jan-08	5.81	6.67	*NA*	400	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	6.2
7	Apr-08	6.82	5.23	*NA*	350	*<0.5*	*<0.5*	*<0.5*	*<0.5*	7.8
8	Jul-08	7.62	4.43	*NA*	300	*<0.5*	*<0.5*	*<0.5*	*<0.5*	8.4
9	Oct-08	8.21	3.84	3,600	520	*<0.5*	*<0.5*	*<0.5*	*<0.5*	5.9
10	Jan-09	6.89	5.16	6,160	300	*<0.5*	*<0.5*	*<0.5*	*<0.5*	7.5
11	Apr-09	6.27	5.78	6,000	1,400	*<1.0*	*<1.0*	*<1.0*	*<1.0*	7.7
12	Oct-09	7.32	4.73	700	150	*<0.5*	*<0.5*	*<0.5*	*<0.5*	8.5
13	Apr-10	4.92	7.13	600	760	*<0.5*	*<0.5*	*<0.5*	*<0.5*	5.8
14	Oct-10	7.58	4.47	1,170	280	*<0.5*	*<0.5*	*<0.5*	*<0.5*	8.4
15	Apr-11	5.84	6.21	2,560	81	*<0.5*	*<0.5*	*<0.5*	*<0.5*	17

MW-2A										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	7.93	4.87	*NA*	80	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
2	Jan-07	6.58	6.24	*NA*	490	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
3	Apr-07	6.52	6.30	*NA*	83	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
4	Jul-07	7.37	5.45	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
5	Oct-07	7.33	5.49	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
6	Jan-08	5.50	7.56	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
7	Apr-08	6.86	5.96	*NA*	160	*<0.5*	*<0.5*	*<0.5*	*<0.5*	3.0
8	Jul-08	7.70	5.12	*NA*	97	*<0.5*	*<0.5*	*<0.5*	*<0.5*	5.5
9	Oct-08	8.44	4.38	3,280	71	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
10	Jan-09	6.99	5.83	2,120	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
11	Apr-09	6.47	6.35	5,800	110	*<0.5*	*<0.5*	*<0.5*	*<0.5*	1.9
12	Oct-09	6.93	5.89	700	75	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<2.0
13	Apr-10	4.82	8.00	500	210	*<0.5*	*<0.5*	*<0.5*	*<0.5*	3.1
14	Oct-10	7.90	4.92	7,900	68	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*NS*
15	Apr-11	6.08	6.74	1,800	130	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*2.4*

Table A continued

MW-2B										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	7.90	5.06	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	6.59	6.37	*NA*	2,000	*<0.5*	1.1	6.7	0.8	19
3	Apr-07	6.20	6.76	*NA*	84	*<0.5*	*<0.5*	*<0.5*	*<0.5*	18
4	Jul-07	7.33	5.63	*NA*	580	*<0.5*	*<0.5*	*<0.5*	*<0.5*	6.0
5	Oct-07	7.12	5.84	*NA*	1,700	*<0.5*	*<0.5*	*<0.5*	*<0.5*	83
6	Jan-08	5.51	7.65	*NA*	780	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	32
7	Apr-08	6.56	6.40	*NA*	92	*<0.5*	*<0.5*	*<0.5*	*<0.5*	2.4
8	Jul-08	7.78	5.18	*NA*	570	*<0.5*	*<0.5*	*<0.5*	0.72	17
9	Oct-08	8.62	4.34	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
10	Jan-09	7.03	5.93	2,160	110	*<0.5*	*<0.5*	*<0.5*	*<0.5*	27
11	Apr-09	6.21	6.75	5,800	250	*<0.5*	*<0.5*	*<0.5*	*<0.5*	30
12	Oct-09	8.03	4.93	1,400	65	*<0.5*	*<0.5*	*<0.5*	*<0.5*	22
13	Apr-10	5.73	7.23	1,100	*<50*	3.2	*<0.5*	0.68	*<0.5*	86
14	Oct-10	7.60	5.36	980	140	*<0.5*	*<0.5*	*<0.5*	*<0.5*	20
15	Apr-11	4.45	8.51	2,690	<50	*<0.5*	*<0.5*	*<0.5*	*<0.5*	25

MW-3A										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	dry	dry	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	6.32	5.27	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
3	Apr-07	5.75	5.84	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	75
4	Jul-07	6.19	5.40	*NA*	NS	NS	NS	NS	NS	NS
5	Oct-07	6.50	5.09	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
6	Jan-08	5.69	6.07	*NA*	*<50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	70
7	Apr-08	6.56	6.40	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	77
8	Jul-08	6.73	4.86	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	56
9	Oct-08	8.68	2.91	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
10	Jan-09	6.28	5.31	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
11	Apr-09	5.58	6.01	8,100	<50	*<0.5*	*<0.5*	*<0.5*	*<0.5*	52
12	Oct-09	6.89	4.70	7,100	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
13	Apr-10	5.67	5.92	9,500	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	25
14	Oct-10	7.13	4.46	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
15	Apr-11	5.93	5.66	*1,770*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*18*

MW-3B										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	7.34	4.61	*NA*	1,900	*<10*	*<10*	*<10*	*<10*	*<10*
2	Jan-07	6.41	5.54	*NA*	1,900	*<8.3*	*<8.3*	*<8.3*	*<8.3*	*<8.3*
3	Apr-07	6.39	5.56	*NA*	1,900	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
4	Jul-07	7.15	4.80	*NA*	1,200	*<2.0*	*<2.0*	*<2.0*	*<2.0*	*<2.0*
5	Oct-07	7.11	4.84	*NA*	2,100	*<7.1*	*<7.1*	*<7.1*	*<7.1*	*<7.1*
6	Jan-08	5.60	6.50	*NA*	2,100	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*<2.0*
7	Apr-08	6.77	5.18	*NA*	1,800	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
8	Jul-08	7.50	4.45	*NA*	1,700	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
9	Oct-08	8.11	3.84	1,490	2,300	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
10	Jan-09	6.84	5.11	1,480	1,500	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
11	Apr-09	6.24	5.71	5,300	4,900	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<2.0
12	Oct-09	6.49	5.46	400	1,700	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<2.0
13	Apr-10	4.98	6.97	300	4,800	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<5.0
14	Oct-10	7.58	4.37	2,050	1,900	*<0.5*	*<0.5*	*<0.5*	*NS*	*<0.5*
15	Apr-11	5.86	6.09	7,810	1,900	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<5.0*

Table A continued

MW-4A										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	9.74	1.28	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	5.64	5.38	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	72
3	Apr-07	5.34	5.68	*NA*	*<50*	*<0.5*	*0.6*	*<0.5*	0.6	77
4	Jul-07	5.71	5.31	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	64
5	Oct-07	6.09	4.93	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	73
6	Jan-08	5.53	5.72	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
7	Apr-08	5.56	5.46	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	61
8	Jul-08	6.30	4.34	*NA*	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	46
9	Oct-08	10.45	0.57	1,870	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	66
10	Jan-09	6.00	5.02	2,350	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	6.7
11	Apr-09	5.45	5.57	7,100	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	11
12	Oct-09	6.41	4.61	3,100	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
13	Apr-10	4.15	6.87	6,900	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	16
14	Oct-10	6.17	4.85	810	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
15	Apr-11	5.23	5.79	1,810	*<50*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*6.8*

MW-4B										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	6.63	4.41	*NA*	1,100	*<2.5*	*<2.5*	*<2.5*	*<2.5*	*<2.5*
2	Jan-07	5.55	5.49	*NA*	1,300	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*
3	Apr-07	5.45	5.59	*NA*	1,300	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
4	Jul-07	6.28	4.76	*NA*	1,000	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*
5	Oct-07	6.13	4.91	*NA*	1,400	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*
6	Jan-08	4.81	6.44	*NA*	1,500	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
7	Apr-08	5.90	5.14	*NA*	1,500	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
8	Jul-08	6.70	4.34	*NA*	1,200	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
9	Oct-08	7.24	3.80	1,960	1,600	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
10	Jan-09	6.00	5.04	1,620	980	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*
11	Apr-09	5.35	5.69	5,200	3,700	*<4.2*	*<4.2*	*<4.2*	*<4.2*	<4.2
12	Oct-09	5.61	5.43	500	1,100	*<0.5*	*<0.5*	*<0.5*	*<0.5*	<2.0
13	Apr-10	4.01	7.03	500	3,700	*<4..2*	*<4..2*	*<4..2*	*<4..2*	*<4..2*
14	Oct-10	6.60	4.44	160	1,400	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*NS*
15	Apr-11	4.88	6.16	1,630	1,200	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*

Table A continued

MW-5A										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	9.60	2.82	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	6.72	6.10	*NA*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
3	Apr-07	5.74	6.68	*NA*	1,000	6.6	*<0.5*	29	7.6	79
4	Jul-07	6.98	5.44	*NA*	NS	*NS*	*NS*	*NS*	*NS*	*NS*
5	Oct-07	8.32	4.10	*NA*	820	6.6	*<0.5*	6.6	1.8	78
Well Destoyed in November 2007										

MW-5B										
Sampling Event No.	**Date Sampled**	**Depth to Groundwater (a)**	**Groundwater Elevation (b)**	**Dissolved Oxygen**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	9.07	3.31	*NA*	13,000	9.6	0.6	21	1.9	37
2	Jan-07	6.45	5.93	*NA*	6,600	4.0	*<0.5*	10	1.0	22
3	Apr-07	6.45	5.93	*NA*	3,300	0.7	*<0.5*	2.7	*<0.5*	*<0.5*
4	Jul-07	7.15	5.23	*NA*	2,000	1.1	*<0.5*	2.2	*<0.5*	26
5	Oct-07	7.28	5.10	*NA*	1,200	*<0.5*	*<0.5*	*<0.5*	*<0.5*	45
6	Jan-08	4.94	7.63	*NA*	1,200	*<0.5*	*<0.5*	4.1	*<0.5*	69
7	Apr-08	6.51	5.87	*NA*	240	*<0.5*	*<0.5*	<0.5	*<0.5*	65
8	Jul-08	7.64	4.74	*NA*	310	*<0.5*	*<0.5*	<0.5	*<0.5*	68
9	Oct-08	8.24	4.14	1,670	780	*<0.5*	*<0.5*	<0.5	*<0.5*	84
10	Jan-09	6.93	5.45	3,210	1,200	*<0.5*	*<0.5*	<0.5	4.2	56
11	Apr-09	5.82	6.56	5,900	220	*<0.5*	*<0.5*	*<0.5*	*<0.5*	73
12	Oct-09	7.34	5.04	7,100	76	*<0.5*	*<0.5*	*<0.5*	*<0.5*	71
13	Apr-10	4.71	7.67	7,900	90	*<0.5*	*<0.5*	*<0.5*	*<0.5*	4.9
14	Oct-10	7.34	5.04	1,930	870	*<0.5*	*<0.5*	*<0.5*	*<0.5*	66
15	Apr-11	5.64	6.75	3,190	890	*<0.5*	*<0.5*	*<0.5*	*<0.5*	95

Notes:

All concentrations reported in micrograms per liter.

TVH-g = Total volatile hydrocarbons – gasoline range.

NA = Not analyzed for this constituent. NS = Not sampled

(a) Feet below top of casing

(b) Relative to mean sea level

TABLE B

Historical Groundwater Monitoring Well Groundwater Analytical Results

Lead Scavengers and Fuel Oxygenates (µg/L)

2836 Union Street, Oakland, California

MW-1A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
3	Apr-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4	Jul-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
5	Oct-07	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
6	Jan-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
7	Apr-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8	Jul-08	*<0.5*	*<0.5*	*<0.5*	*<0.5*	1	*<10*
9	Oct-08	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
10	Jan-09	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11	Apr-09	*<0.5*	*<0.5*	*<0.5*	*<0.5*	0.8	12
12	Oct-09	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<20*
13	Apr-10	3.5	*<0.5*	*<0.5*	*<0.5*	<0.5	<10
14	Apr-11	<0.5	<0.5	<0.5	<0.5	<0.5	<10

MW-1B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	3.1	*<1.3*	*<1.3*	*<1.3*	*<1.3*	*<25*
2	Jan-07	3.3	*<1.3*	*<1.3*	*<1.3*	*<1.3*	*<25*
3	Apr-07	4.8	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
4	Jul-07	3.4	*<1.3*	*<1.3*	*<1.3*	*<1.3*	*<25*
5	Oct-07	3.3	*<1.3*	*<1.3*	*<1.3*	*<1.3*	*<25*
6	Jan-08	4.7	*<1.3*	*<1.3*	*<1.3*	*<1.3*	*<25*
7	Apr-08	4.7	*<1.3*	*<1.3*	*<1.3*	*<1.3*	*<25*
8	Jul-08	5.4	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
9	Oct-08	3	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<20*
10	Jan-09	4.4	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<20*
11	Apr-09	2.9	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<20*
12	Oct-09	3.9	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<20*
13	Apr-10	1.7	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<20*
14	Apr-11	4.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*

MW-2A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
2	Jan-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
3	Apr-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4	Jul-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
5	Oct-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6	Jan-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
7	Apr-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8	Jul-08	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
9	Oct-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
10	Jan-09	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11	Apr-09	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
12	Oct-09	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
13	Apr-10	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
14	Apr-11	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*

Table B continued

MW-2B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	4.1	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
3	Apr-07	6.9	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
4	Jul-07	1.4	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
5	Oct-07	4.1	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
6	Jan-08	3.9	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
7	Apr-08	3.9	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
8	Jul-08	1.3	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
9	Oct-08	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
10	Jan-09	4.3	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
11	Apr-09	2.4	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
12	Oct-09	4.4	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
13	Apr-10	<0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
14	Apr-11	1.0	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*

MW-3A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
3	Apr-07	0.9	*<0.5*	*<0.5*	*<0.5*	*<0.5*	14
4	Jul-07	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
5	Oct-07	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
6	Jan-08	0.8	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
7	Apr-08	0.8	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
8	Jul-08	0.8	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
9	Oct-08	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
10	Jan-09	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
11	Apr-09	1.2	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
12	Oct-09	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
13	Apr-10	<0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
14	Apr-11	0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*

MW-3B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*<10*	*<10*	*<10*	*<10*	*<10*	*<200*
2	Jan-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
3	Apr-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4	Jul-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
5	Oct-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6	Jan-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
7	Apr-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8	Jul-08	*<6.3*	*<6.3*	*<6.3*	*<6.3*	*<6.3*	*<130*
9	Oct-08	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<100*
10	Jan-09	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<100*
11	Apr-09	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<5.0*	*<100*
12	Oct-09	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
13	Apr-10	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
14	Apr-11	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<100*

Table B continued

MW-4A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
3	Apr-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4	Jul-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
5	Oct-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6	Jan-08	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
7	Apr-08	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
8	Jul-08	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
9	Oct-08	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<83*
10	Jan-09	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11	Apr-09	11	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
12	Oct-09	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
13	Apr-10	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
14	Apr-11	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*

MW-4B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*<2.5*	*<0.5*	*<1*	*<1*	*<2.5*	*<50*
2	Jan-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
3	Apr-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4	Jul-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
5	Oct-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6	Jan-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
7	Apr-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8	Jul-08	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<83*
9	Oct-08	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<83*
10	Jan-09	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<83*
11	Apr-09	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<83*
12	Oct-09	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
13	Apr-10	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<83*
14	Apr-11	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<4.2*	*<83*

MW-5A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
2	Jan-07	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
3	Apr-07	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*4.3*	*<10*
4	Jul-07	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
5	Oct-07	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Well Destoyed in November 2007							

MW-5B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*1.5*	*<10*
2	Jan-07	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
3	Apr-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4	Jul-07	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
5	Oct-07	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
6	Jan-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
7	Apr-08	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
8	Jul-08	*<0.5*	*<0.5*	*<0.5*	*<0.5*	3.3	*<10*
9	Oct-08	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
10	Jan-09	*<0.5*	*<0.5*	*<0.5*	*<0.5*	2.3	*<10*
11	Apr-09	*<0.5*	*<0.5*	*<0.5*	*<0.5*	3.5	*<10*
12	Oct-09	*<0.5*	*<0.5*	*<0.5*	*<0.5*	4.5	*<10*
13	Apr-10	*<0.5*	*<0.5*	*<0.5*	*<0.5*	4.9	*<10*
14	Apr-11	*<0.5*	*<0.5*	*<0.5*	*<0.5*	3.7	*<10*

Notes:

NA = Not analyzed for this constituent. NS = Not sampled

EDB = Ethylene dibromide (1,2-dibromoethane). EDC = Ethylene dichloride (1,2-dichloroethane).

DIPE = isopropyl ether. ETBE = Ethyl-tertbutyl ether. TAME = Tert-amylmethylether

TBA = Tertiary butyl alcohol