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**SECOND SEMIANNUAL 2009
GROUNDWATER MONITORING
REPORT**

**240 W. MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

Prepared for:

**MR. GLEN POY-WING
OAKLAND AUTO WORKS
OAKLAND, CALIFORNIA**

October 2009

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Prepared for:

**MR. GLEN POY-WING
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Prepared by:

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October 16, 2009

Project No. 2003-43

October 16, 2009

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

Subject: Second Semiannual 2009 Groundwater Monitoring and Annual Summary Report
Oakland Auto Works Facility – 240 W. MacArthur Boulevard, Oakland, California
Alameda County Environmental Health Department Fuel Leak Case No. RO0000142

Dear Mr. Wickham:

Enclosed is the Stellar Environmental Solutions, Inc., (SES) report summarizing recent activities conducted at the referenced site. This report presents the findings of the Second Semiannual 2009 groundwater monitoring event (the 43rd site groundwater monitoring event since August 1997).

Quarterly groundwater monitoring conducted since August 1997 has adequately shown the groundwater and contaminant trends and therefore, as of January 2009 Alameda County Environmental Health Department (ACEH) in concurrence with SES has reduced the monitoring frequency from a quarterly to a semi-annual basis. The reduction in monitoring frequency is confirmed in their letter, dated July 24, 2009.

This report was uploaded to both the State Water Board's GeoTracker system and the ACEH electronic upload "ftp" system. We declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,



Teal Glass, R.E.A.
Project Scientist



Henry Pietropaoli, R.G., R.E.A.
Project Manager



cc: Mr. Glen Poy-Wing, property owner and Responsible Party

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1.0 INTRODUCTION

PROJECT BACKGROUND

The subject property, located at 240 W. MacArthur Boulevard, Oakland, Alameda County, California, is owned by Glen Poy-Wing and his wife of Oakland Auto Works, for whom Stellar Environmental Solutions, Inc. (SES) has provided environmental consulting services since July 2003. The site has undergone contaminant investigations and remediation since 1991 (discussed below).

A list of all known environmental reports is included in Section 7.0, References and Bibliography. This report presents finding for the 43rd site groundwater monitoring event since monitoring began in August 1997.

In 2002, the current property owners purchased the property and assumed responsibility for continued environmental investigations. The property was formerly owned by Mr. Warren Dodson (Dodson Ltd.) and operated as Vogue Tyres.

REGULATORY STATUS

The Alameda County Environmental Department of Environmental Health (ACEH) is the lead regulatory agency for the case, acting as a Local Oversight Program (LOP) for the Regional Water Quality Control Board (Water Board). There are no ACEH or Water Board cleanup orders for the site; however, all site work has been conducted under oversight of ACEH. In our August 2003 review of the ACEH case file, we determined that all known technical reports for the site were included in the case file to that point.

The previous consultant requested site closure in March 2003 (AEC, 2003a). ACEH received that request and, in a letter dated April 16, 2003, requested additional site characterization prior to considering case closure. That work was subsequently conducted by SES, and was summarized in our April 2004 Soil and Groundwater Investigation Report (SES, 2004c). In December 2004, SES submitted a workplan for interim remedial action (including additional site characterization and an evaluation of soil vapor extraction as an interim corrective action). ACEH responded to that workplan in its March 2006 letter (Water Board, 2006), approving the work (with minor technical revisions). The December 2004 workplan was implemented in May 2007 and presented in a separate technical report, dated August 1, 2007. ACEH responded in its letter dated August 24, 2007 requesting a workplan for the installation and operation of a soil

vapor extraction (SVE) system. The SVE system design was submitted by SES to ACEH, and was approved by ACEH in its letter dated October 5, 2007; the letter included a request for a SVE System Start-Up Report by March 10, 2008. Implementation of SVE remediation has been delayed indefinitely by the property owner due to financial considerations. The delay has been tentatively approved by ACEH who has requested to be kept apprised of the situation every 6 months. Groundwater monitoring is still being conducted on an uninterrupted basis at the site. As of January 2009, ACEH in concurrence with SES, has reduced the monitoring frequency from a quarterly to a semi-annual basis.

The site is in compliance with State Water Resources Control Board's "GeoTracker" requirements for uploading of technical data and reports. In addition, electronic copies of technical documentation reports published since the Second Quarter of 2005 have been uploaded to ACEH's file transfer protocol (ftp) system.

The site has been granted a Letter of Commitment (and has been receiving financial reimbursement) from the California Underground Storage Tank Cleanup Fund, however due to the current California economy, the Letter of Commitment has been temporarily suspended.

SCOPE OF REPORT

This report discusses the work conducted between April 1 and September 30, 2009 (i.e., the 43rd groundwater monitoring and sampling event, conducted on September 18, 2009).

SITE DESCRIPTION

The project site is located at 240 W. MacArthur Boulevard in Oakland, California (see Figure 1). The rectangular-shaped project site is approximately 14,000 square feet (140 feet long by 100 feet wide), and is oriented with its long axis parallel to W. MacArthur Boulevard (approximately northwest-southeast). The project site is essentially flat and is wholly paved. One structure currently exists on the property—an automobile servicing shop that covers approximately 50 percent of the property.

The building is currently occupied by Oakland Auto Works. Figure 2 is a site plan showing adjacent land uses. Adjacent land use includes: a Shell-branded service station (*to the south*); W. MacArthur Boulevard (*to the west*); Howe Street (*to the north*); and a paved driveway, then a multi-story (with basement) health services building (*to the east*).



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

**240 W. MacArthur Blvd.
Oakland, CA**

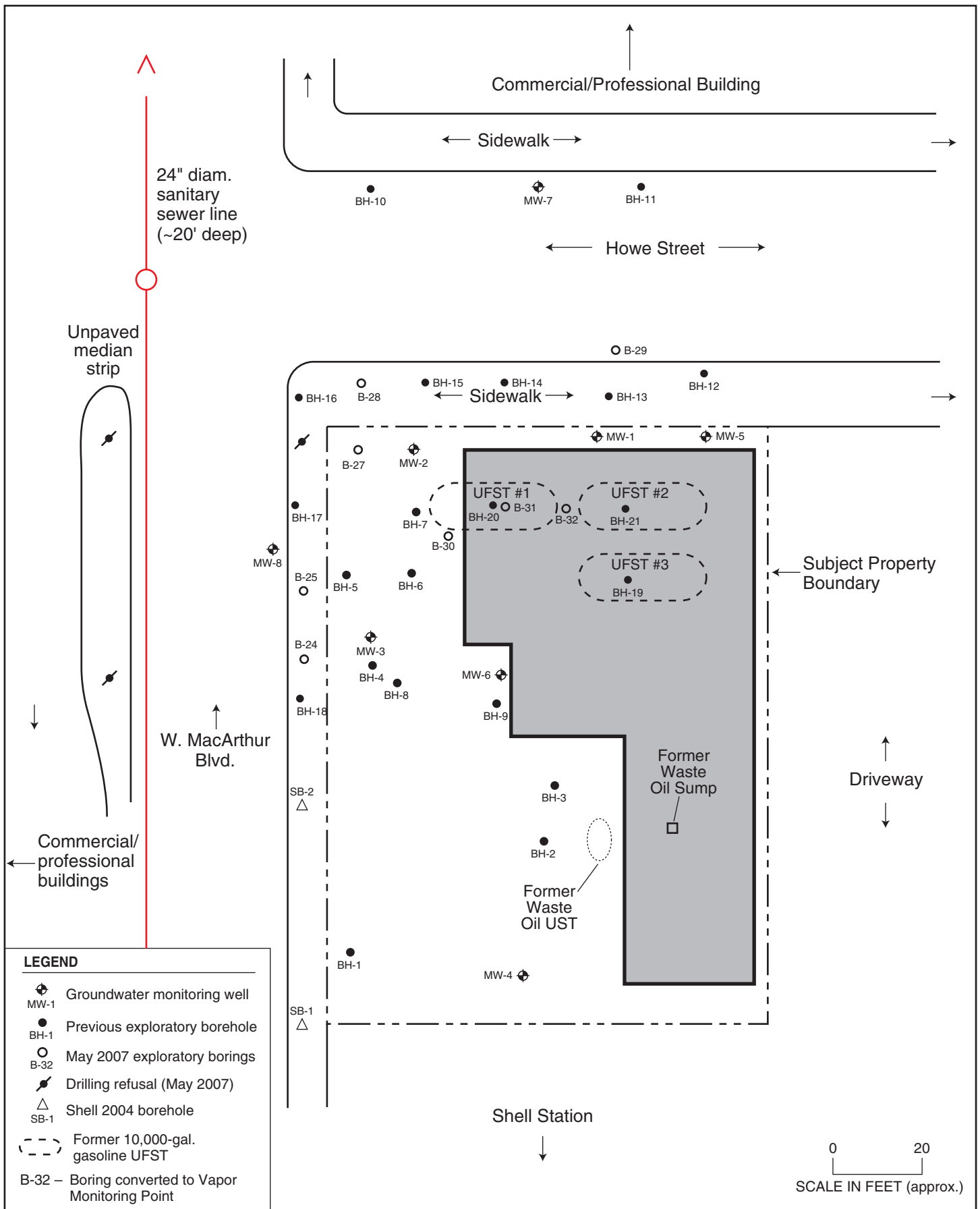
By: MJC

APRIL 2007

Figure 1



2008-43-01



SITE PLAN WITH BOREHOLE AND GROUNDWATER WELL LOCATIONS

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

JUNE 2007

Figure 2



2008-43-155

HISTORICAL ENVIRONMENTAL ACTIVITIES

This section summarizes historical (prior to the current quarter) environmental remediation and site characterization activities, based on documentation provided by the current property owners as well as ACEH files. Figure 2 shows the site plan with the current groundwater well and former underground fuel storage tank (UFST) locations.

Historical remediation and site characterization activities include:

- **Pre-1991.** Three 10,000-gallon gasoline UFSTs from a former Gulf service station occupancy were removed prior to 1991 (there is no available documentation regarding the removals).
- **1991.** A waste oil sump was removed. Limited over-excavation was conducted, and there was no evidence of residual soil contamination, with the exception of 360 milligrams per kilogram (mg/kg) of petroleum oil & grease (Mittelhauser Corporation, 1991b).
- **1996.** A 350-gallon waste oil UFST was removed. Elevated levels of diesel and oil & grease were detected in confirmation soil samples. Subsequent over-excavation was conducted, and there was no evidence of residual soil contamination (All Environmental, Inc., 1997a).
- **January 1997.** In accordance with a request by ACEH, a subsurface investigation was conducted (All Environmental, Inc., 1997b). Six exploratory boreholes were advanced to a maximum depth of 20 feet, and soil samples were collected.
- **August 1997.** Additional site characterization was conducted. This included sampling of three boreholes, installation of four groundwater monitoring wells, and the initial groundwater sampling event.
- **February 2001.** Four additional groundwater monitoring wells were installed. Maximum historical soil concentrations were detected in well MW-5 in the northeastern corner of the subject property: 11,700 mg/kg of gasoline and 25.6 mg/kg of benzene (AEC, 2001b).
- **October 2001.** Short-term (less than 1-day duration) groundwater and vapor extraction from five wells was conducted over 4 days (AEC, 2001e) (referred to by that consultant as “Hi-Vac” process).
- **2003.** A sensitive receptor and vicinity water well survey was conducted.
- **April 2004.** Additional site characterization was conducted, including: advancing and sampling of 12 exploratory boreholes; analysis of 64 soil and 12 grab-groundwater

sample results; and further evaluation of site hydrogeology and contaminant extent and magnitude.

- **June 2004 to December 2008.** Quarterly groundwater monitoring.
- **May to June 2007.** Additional site characterization and interim remedial action evaluation. This included eight exploratory boreholes; analysis of 8 soil-gas, 18 soil, and 8 grab-groundwater samples; and a 6-hour SVE pilot test.
- **September 2007.** A workplan for installation and operation of a full SVE system was submitted to ACEH on September 28, 2007.
- **October 2007.** ACEH has requested submittal of a SVE System Start-Up Report by March 10, 2008.
- **February 2008.** At the request of the property owner, ACEH agreed to a delay of the implementation of SVE remediation due to the property owner's personal and financial situation. ACEH has requested to be kept apprised of the situation every 6 months.
- **January 2009.** Quarterly groundwater monitoring conducted since August 1997 has adequately shown the groundwater and contaminant trends, therefore, as of January 2009, ACEH in concurrence with SES has reduced the monitoring frequency from a quarterly to a semiannual basis with abbreviated reporting in Q1 and an annual summary to be completed in Q3.

To date, a total of 43 groundwater monitoring events have been conducted at the site.

2.0 PHYSICAL SETTING

The following evaluation of the physical setting of the site—including topography, surface water drainage, and geologic and hydrogeologic conditions—is based on previous (1991 through April 2003) site investigations conducted by others, and site investigations and groundwater monitoring data collected by SES since 2003.

TOPOGRAPHY AND SURFACE WATER DRAINAGE

The site is on a gently-sloping alluvial fan at the base of the Berkeley/Oakland Hills, which rise approximately 1,100 feet above mean sea level (amsl) and are located approximately 3 miles east of San Francisco Bay. The mean elevation of the subject property is approximately 82 feet amsl. The subject property is essentially flat, with a local topographic gradient to the west. The nearest surface water bodies are: 1) Glen Echo Creek, a northeast-southwest trending creek located approximately 800 feet southeast of the subject property; and 2) Rockridge Branch, a north-south trending creek located approximately 1,000 feet northwest of the subject property. Both creeks are culverted underground in the areas nearest the subject property.

LITHOLOGY

A previous SES report included geologic cross-sections through the area of historical investigations (SES, 2004c). The following summarizes site lithologic conditions.

The unsaturated zone (from ground surface to approximately 20 feet below ground surface [bgs]) consists of interbedded silty/sandy clays with silty/clayey sand, with occasional gravelly zones. In the sand zones, clay and/or silt content is high, and the sand is generally very fine- to fine-grained—such that the unit is, in essence, gradational between a clayey sand and a sandy clay. The most laterally-extensive unsaturated zone unit is a sandy clay encountered between ground surface and approximately 15 feet, locally pinching out and displaying lenticular form. The sediment types and geometry are suggestive of channel deposits, which is a common depositional facies in this area.

Depth to groundwater in all onsite April 2004 boreholes and all May 2007 boreholes was approximately 20 to 21 feet bgs, predominantly in a saturated, loose, clayey sand. The saturated portion of this clayey sand constitutes the bottom of the unit; the saturated zone is approximately 0.5 to 2.5 feet thick, underlain in all boreholes by a cohesive, non-water-bearing clay. The top of

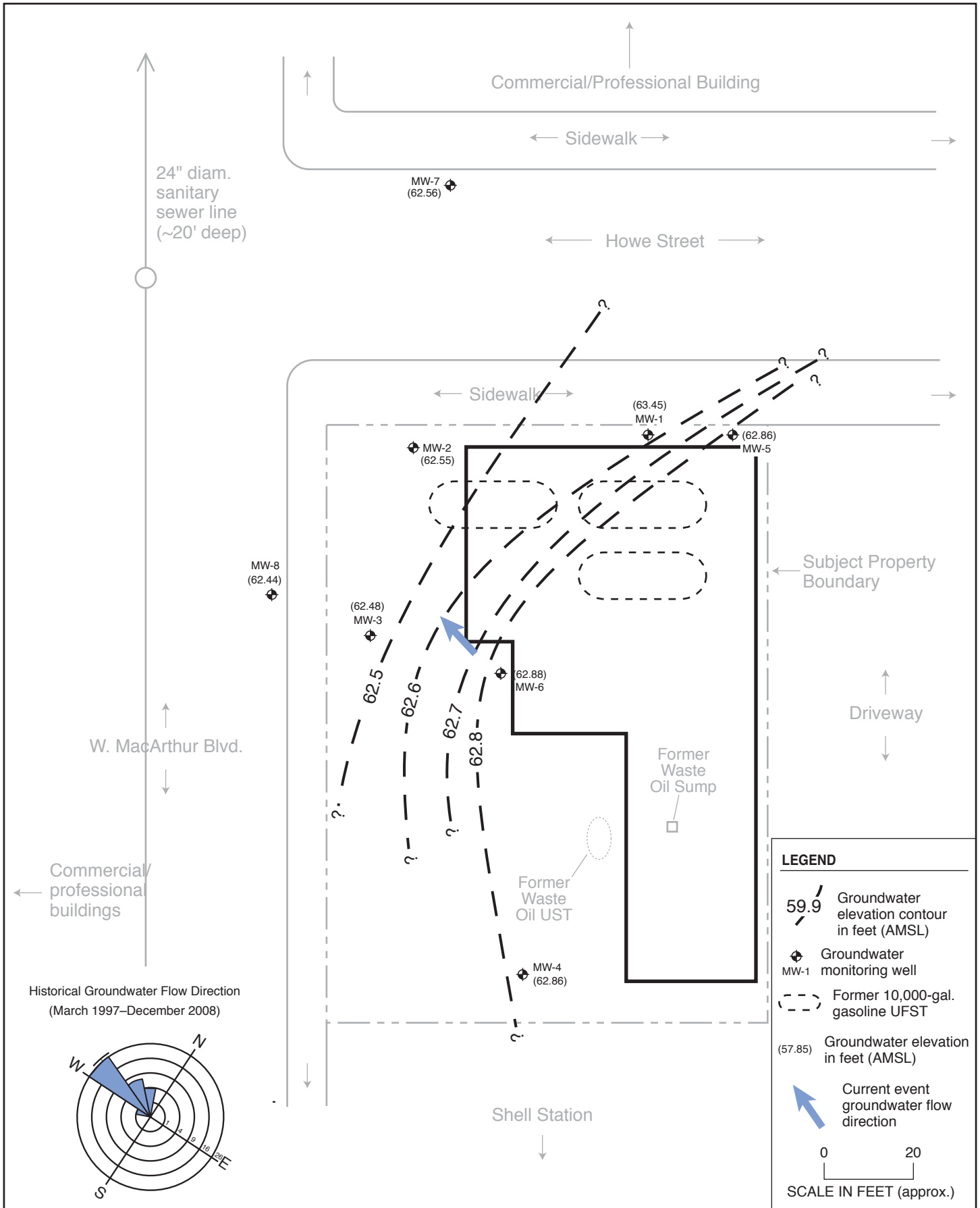
this clay was consistently at a depth of approximately 21 to 23 feet. Of the 12 boreholes in the April 2004 investigation, 9 were advanced at least 1.5 feet into this clay before terminating (and not encountering visible moisture or sand). Two boreholes B31 and B32 were advanced to 32 feet bgs in the May 2007 investigation and showed this clay extending from its upper reach of 21 to 23 feet bgs to 32 feet bgs. One of the boreholes in the April 2004 investigation was advanced deeper, documenting a thickness of at least 4.5 feet. The lithologic data (supported by soil sample analytical data from both the 2004 and 2007 investigations) strongly suggest that this clay unit inhibits downward migration of groundwater contamination.

The site lithology is consistent with that documented at the adjacent Shell service station site. Specifically, those boreholes have documented the thin upper, water-bearing zone underlain by the likely non-water-bearing clay unit. In three of the four Shell well boreholes, that clay unit was at least 2 feet thick. In one of the well boreholes, the clay unit was underlain by a saturated clayey sand unit (from approximately 22 to 25.5 feet bgs, which was underlain by a non-water-bearing clay). There are insufficient data to conclude whether the second deepest saturated clayey sand is connected to the shallower sitewide saturated zone. The subsequent (March 2004) Shell boreholes SB-1 and SB-2 (between the Shell wells and the subject property) all terminated at 20 feet bgs, which was too shallow to encounter the underlying clay unit.

GROUNDWATER HYDROLOGY

The number and positioning of the existing eight site monitoring wells is currently adequate to evaluate the general groundwater flow direction and gradient. Four of the wells (MW-1, MW-2, MW-3, and MW-4) are screened between approximately 15 and 25 feet bgs, and the other four (MW-5, MW-6, MW-7, and MW -8) are screened at a depth of 10 to 20 feet.

Figure 3 is a groundwater elevation map that shows elevations and contours from the current (September 2009) groundwater monitoring event. Groundwater flow direction in this event was generally to the west, although the data suggest local variations. A generally westward (with a slight southern component) groundwater flow direction has also been measured at the adjacent Shell-branded service station (Cambria Environmental Technology, 2004). Subject property groundwater gradient in the current event ranged between approximately 0.004 and 0.017 feet/foot. Historical groundwater gradient has varied between approximately 0.002 and 0.01 feet/foot, averaging approximately 0.005 feet/foot. Groundwater elevation lowered an average of 1.22 feet between March 2009 and the current quarter with the largest decrease of 1.58 feet recorded in MW-4. Groundwater monitoring during 2009 has shown that site groundwater has returned to its' pre-2007 (pre-drought) elevation range.



GROUNDWATER ELEVATION MAP—September 18, 2009

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

OCTOBER 2009

Figure 3



2008-43-207

Figure 3 contains a rose diagram that shows historical groundwater flow direction measured at the site. The rose diagram is a histogram that has been wrapped around a circle and has the following characteristics:

- Each wedge represents a 15-degree arc of groundwater flow direction.
- The length of each wedge (circle radius) represents the number of sampling events with data falling within the 15-degree arc.
- The bold black line from the center of the circle to the outer edge is the mean groundwater flow direction.
- The arcs extending to either side of the mean groundwater flow direction line represent the 95-degree confidence interval of the data.

Historical equilibrated water levels (in wells) have been measured at depths of approximately 13 to 17 feet (slightly higher than first occurrence of groundwater encountered during drilling), indicating that groundwater occurs under slightly confining conditions. The range of water level elevations has varied by approximately 3 feet, and shows a strong seasonal variation, with highest elevations during the rainy winter-spring seasons and lowest elevations during the dry summer-fall seasons.

Appendix D contains historical site groundwater monitoring well elevation data.

3.0 SEPTEMBER 2009 GROUNDWATER MONITORING AND SAMPLING

This section presents the groundwater sampling and analytical methods for the current event (Second Semiannual 2009), conducted on September 18, 2009. Table 1 summarizes monitoring well construction and groundwater monitoring data. Groundwater analytical results are presented and discussed in Section 4.0. Monitoring and sampling protocols were in accordance with the SES technical workplan (SES, 2003) submitted to ACEH, and subsequent technical revision requested by ACEH. The groundwater sampling event involved the collection of one set of “post-purge” samples from all wells, in accordance with recent revisions to the quarterly monitoring program approved by ACEH.

Specific activities for this event included:

- Measuring static water levels and field measurement of “pre-purge” groundwater samples for hydrogeochemical parameters (temperature, pH, electrical conductivity, turbidity, and dissolved oxygen) in the eight site wells; and
- Collecting “post-purge” groundwater samples from the eight onsite wells for field measurement of the aforementioned hydrogeochemical parameters, and for offsite laboratory analyses for contaminants of concern.

The locations of all site monitoring wells are shown on Figure 2. Well construction information and water level data are summarized in Table 1. All site wells are 2-inch-diameter PVC, although the borehole geologic logs for MW-1 through MW-4 completed by the previous consultant mistakenly indicated that they are 4-inch-diameter. Appendix A contains the groundwater monitoring field records for the current event.

Groundwater monitoring well water level measurements, sampling, and field analyses were conducted by Blaine Tech Services (San Jose, California) under the supervision of SES personnel. To minimize the potential for cross-contamination, wells were purged and sampled in order of increasing contamination (based on the previous quarter analytical results).

Table 1
Groundwater Monitoring Well Construction and Groundwater Elevation Data
240 W. MacArthur Boulevard, Oakland, California

Well	Well Depth (feet bgs)	Well Screened Interval		Groundwater Level Depth ^(a) September 18, 2009	Groundwater Elevation ^(b) September 18, 2009
		Depth (feet)	Elevation (feet)		
MW-1	25	19.5 to 24.5	54.5 to 49.5	15.70	63.45
MW-2	25	14.5 to 24.5	64.2 to 54.2	15.90	62.55
MW-3	25	14.5 to 24.5	63.4 to 53.4	15.10	62.48
MW-4	25	14.5 to 24.5	63.6 to 53.6	14.88	62.86
MW-5	20	9 to 19	70.6 to 60.6	16.50	62.86 ^(c)
MW-6	20	9 to 19	69.7 to 59.7	15.55	62.88
MW-7	20	9 to 19	69.6 to 59.6	15.71	62.56
MW-8	20	9 to 19	67.7 to 57.7	13.95	62.44

Notes:

^(a) Pre-purge measurement, feet below top of well casing.

^(b) Pre-purge measurement, feet above mean sea level

^(c) 0.20 feet of floating LNAPL petroleum product was measured in well and likely depressed measured water level

NR = not recorded (dry or only residual water in silt trap)

As the first monitoring task, static water levels were measured in the eight site wells using an electric water level indicator. Each well was then purged of three wetted casing volumes, and aquifer stability parameters were measured between each purging. When measurements indicated that representative formation water was entering the well, a groundwater sample set was collected from each well with the purging bailer. Samples were then transferred to appropriate sampling containers (40-ml VOA vials with hydrochloric acid preservative, and 1-liter amber glass jars), labeled, and placed in coolers with “blue ice.” All groundwater samples were managed under chain-of-custody procedures from the time of sample collection until samples were received in the laboratory.

Approximately 26.4 gallons of wastewater (purge water and equipment decontamination rinseate) was containerized in a labeled, 55-gallon steel drum and temporarily stored onsite. This non-hazardous water will continue to be accumulated onsite until it is cost-effective to coordinate its disposal, at which time it will be profiled and disposed of at a permitted wastewater treatment facility.

4.0 REGULATORY CONSIDERATIONS, ANALYTICAL RESULTS, AND FINDINGS

This section presents analytical results of the most recent monitoring event, preceded by a summary of relevant regulatory considerations.

REGULATORY CONSIDERATIONS

Environmental Screening Levels

There are no published cleanup goals for detected site contaminants in groundwater. The Water Board has published “Environmental Screening Levels” (ESLs), which are screening-level concentrations for soil and groundwater that incorporate both environmental and human health risk considerations, and are used as a preliminary guide in determining whether additional remediation and/or investigation are warranted. The ESLs are not cleanup criteria; rather, they are conservative screening-level criteria designed to be protective of both drinking water resources and aquatic environments in general. The groundwater ESLs are composed of one or more components, including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional remediation and/or investigation may be warranted, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

The City of Oakland, via its Urban Land Redevelopment Program, utilizes a similar ESL approach in evaluating whether active remediation is necessary at sites proposed for redevelopment. This program is not currently applicable to the site, as no redevelopment is being proposed.

For all site contaminants with published drinking water standards—benzene, toluene, ethylbenzene, and xylenes (BTEX); and methyl *tertiary*-butyl ether (MTBE)—the drinking water standards are equal to or greater than the published ESLs.

Sensitive Receptors

Risk evaluation commonly includes the identification of sensitive receptors, including vicinity groundwater supply wells. As discussed in a previous report (SES, 2004c), the Department of Water Resources identified only one groundwater supply well within 1,500 feet of the site.

Based on its distance and upgradient location relative to the site, there is no reasonable potential for this well to intercept shallow groundwater emanating from the subject property.

As specified in the *San Francisco Bay Region Water Quality Control Plan* (Water Board, 2004), all groundwaters are considered potential sources of drinking water unless otherwise approved by the Water Board, and are assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. In the case of groundwater contamination, ESLs are published for two scenarios: groundwater is a source of drinking water, and groundwater is not a source of drinking water. Qualifying for the higher ESLs (applicable to groundwater is not a source of drinking water) requires meeting one of the following two criteria:

1. The Water Board has completed the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report* (Water Board, 1999) that delineates three types of areas with regard to beneficial uses of groundwater: Zone A (significant drinking water resource), Zone B (groundwater unlikely to be used as drinking water resource), and Zone C (shallow groundwater proposed for designation as Municipal Supply Beneficial Use). The subject site falls within Zone A: an area where groundwater is considered a significant drinking water resource.
2. A site-specific exemption can be obtained from the Water Board. Such an exemption has not been obtained for this site.

As discussed below, multiple groundwater contaminants have been detected in excess of ESLs, for both groundwater beneficial scenarios (groundwater is versus is not a potential drinking water resource). These data indicate that continued site characterization is warranted until it can be demonstrated that site-sourced contamination poses no unacceptable risk to sensitive receptors. Our subsequent discussion of groundwater contamination is in the context of the ESL criteria for sites where groundwater is a potential drinking water resource.

GROUNDWATER SAMPLE ANALYTICAL METHODS

Groundwater samples were analyzed in accordance with the methods proposed in the SES technical workplan. Analytical methods included:

- Total volatile hydrocarbons – gasoline range (TVHg), by EPA Method 8015B (all wells);
- BTEX and MTBE, by EPA Method 8260B;
- Total extractable hydrocarbons – diesel range (TEHd), by EPA Method 8015M (all wells except MW-4 and MW-7, which historically have never detected diesel);
- The lead scavengers 1,2-dichloroethane (EDC) and 1,2-dibromoethane (EDB), by EPA Method 8260B (all wells except MW-4 and MW-7, which historically have had little or no site-sourced contamination); and

- The fuel oxygenates *tertiary*-butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl *tertiary*-butyl ether (ETBE), and *tertiary*-amyl methyl ether (TAME); by EPA Method 8260B (all wells except MW-4 and MW-7, which historically have had little or no site-sourced contamination).

The analytical results for the current event indicate no significant differences from historical analytical results.

GROUNDWATER SAMPLE ANALYTICAL RESULTS

Tables 2 and 3 summarize the contaminant analytical results of the current monitoring event. Appendix B contains the certified analytical laboratory report and chain-of-custody record. Appendix C contains historical site groundwater monitoring well analytical data. The salient result of the September 2009 groundwater monitoring event is—for reasons not attributed to rainfall—groundwater was recorded in wells such as MW-5 that had been dry for the last two years, and the source well MW-5 showed a significant increase in dissolved phase concentrations and evidence of the reemergence of free-floating hydrocarbon product in this monitoring event, with gasoline concentration higher than any previously recorded concentrations.

Gasoline and Diesel

Figure 4 shows gasoline isoconcentration contours for the recent event. Gasoline was detected in six of the eight wells sampled. Detected concentrations ranged from 190 micrograms per liter ($\mu\text{g/L}$) in well MW-4 to 210,000 $\mu\text{g/L}$ in well MW-5. This is the second highest concentration of gasoline detected in a site well and the highest historical detection in MW-5. The historical highest detection of gasoline was 976,000 $\mu\text{g/L}$ in well MW-1. All of the gasoline concentrations (with the exception of wells MW-4 and MW-7 which were below the laboratory detection limit) exceeded the 100- $\mu\text{g/L}$ ESL criterion.

The gasoline concentrations in Third Quarter 2008 compared to Fourth Quarter 2008 show significant increases in the gasoline concentrations at the monitoring wells nearest the source area (MW-1 and MW-5). The concentration in MW-7 has been below the laboratory detection limit, when sampled, since June 2004. The concentration observed in MW-4 during this sampling event was also not detected below the laboratory detection limit.

Figure 5 shows diesel isoconcentration contours for the recent event. Diesel was detected in all of the wells in which it was analyzed for, but is of secondary concern relative to gasoline, with concentrations historically at significantly lower levels than gasoline. Diesel was detected at concentrations ranging from 940 $\mu\text{g/L}$ (MW-2) to 44,000 $\mu\text{g/L}$ (MW-5), exceeding the 100- $\mu\text{g/L}$ ESL criterion in all wells in which it was sampled for. This is the historical highest concentration of diesel detected in a site well. The diesel plume footprint is similar to that of the

gasoline plume, but somewhat smaller. Diesel is known to be present offsite under Howe Street (to the northwest) and under W. MacArthur Boulevard (to the southwest).

Benzene, Toluene, Ethylbenzene, and Total Xylenes

Figure 6 shows benzene isoconcentration contours for the recent event. Benzene was detected in five of six of the wells in which it was analyzed for. Detected concentrations ranged from 2.7 µg/L in MW-6 to 730 µg/L in MW-5. All concentrations, with the exception of MW-8 which was below the laboratory detection limit, were in excess of the 1.0-µg/L ESL criterion. The lateral extent of the benzene plume was constrained onsite in three directions in the current event; however, it is known to extend under Howe Street to the northwest (historical concentrations up to approximately 100 µg/L). The benzene plume configuration is generally the same as for gasoline and diesel, but much smaller.

The ESL criterion of 20 µg/L was exceeded for total xylenes in source area wells MW-1 (33 µg/L) and MW-5 (2,000 µg/L). Total xylenes were also detected in MW-2, MW-3 and MW-6 but at concentrations below the ESL.

Ethylbenzene was detected in source area wells at 270 µg/L MW-5 and in downgradient well MW-1 at 52 µg/L above the ESL of 30 µg/L. Ethylbenzene was also detected in downgradient wells MW-2, MW-3, and MW-6 but below the ESL.

Toluene was detected in MW-1 and MW-5 above the ESL of 4.0 µg/L. Toluene was detected below the ESL in well MW-2 and was below laboratory detection in wells MW-3, MW-6 and MW-8

Methyl tertiary-Butyl Ether

Figure 7 shows MTBE isoconcentration contours for the recent event. MTBE was detected in five of the six wells in which it was analyzed for, and exceeded the ESL criteria of 5.0 µg/L in MW-2 (11 µg/L), MW-3 (19 µg/L), and MW-8 (5.7 µg/L). The center of mass of the MTBE plume has migrated downgradient from the source area to the southern side of the property (adjacent to W. MacArthur Boulevard).

The lateral extent of the MTBE plume was constrained onsite in three directions in the current event; however, it is seen to extend to the west underneath W. MacArthur Boulevard. As discussed in previous reports (SES, 2004c), MTBE may be migrating onto the subject property from the adjacent (to the east) Shell-brand service station. This contamination, however, is unrelated to the separate site-sourced MTBE contamination.

Table 2
Groundwater Sample Analytical Results –September 18, 2009
Hydrocarbons, BTEX, and MTBE

Well	TVHg	TEHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-1	4,300	5,200	370	14	52	33	0.5
MW-2	750	940	11	1.4	5.0	2.8	11
MW-3	1,100	1,700	23	<0.5	1.8	1.9	19
MW-4	<50	NA	NA	NA	NA	NA	NA
MW-5	210,000	44,000	730	160	270	2,000	<10
MW-6	340	1,600	2.7	<0.5	0.9	1.2	1.3
MW-7	<50	NA	NA	NA	NA	NA	NA
MW-8	190	1,300	<0.5	<0.5	<0.5	<0.5	5.7
ESLs							
	100 / 210	100 / 210	1.0 / 46	4.0 / 130	30 / 43	20 / 100	5.0 / 1,800

Notes:

ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater *is/is not* a potential drinking water resource
 MTBE = methyl *tertiary*-butyl ether; TEHd = total extractable hydrocarbons - diesel range; TVHg = total volatile hydrocarbons - gasoline range
 NA = not analyzed for this contaminant; NS = not sampled
 All concentrations are expressed in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
 Samples in **bold-face** type exceed the ESL commercial/industrial criterion where groundwater is considered a potential drinking water resource.

Table 3
Groundwater Sample Analytical Results – September 18, 2009
Lead Scavengers and Fuel Oxygenates

Well	EDC	DIPE	TBA
MW-1	7.1	<0.5	49
MW-2	1.0	14	18
MW-3	1.8	1.8	35
MW-4	NA	NA	NA
MW-5	<10	<10	<200
MW-6	8.9	0.8	1.3
MW-7	NA	NA	NA
MW-8	0.6	2.8	46
ESLs	0.5 / 690	NLP	12 / 18,000

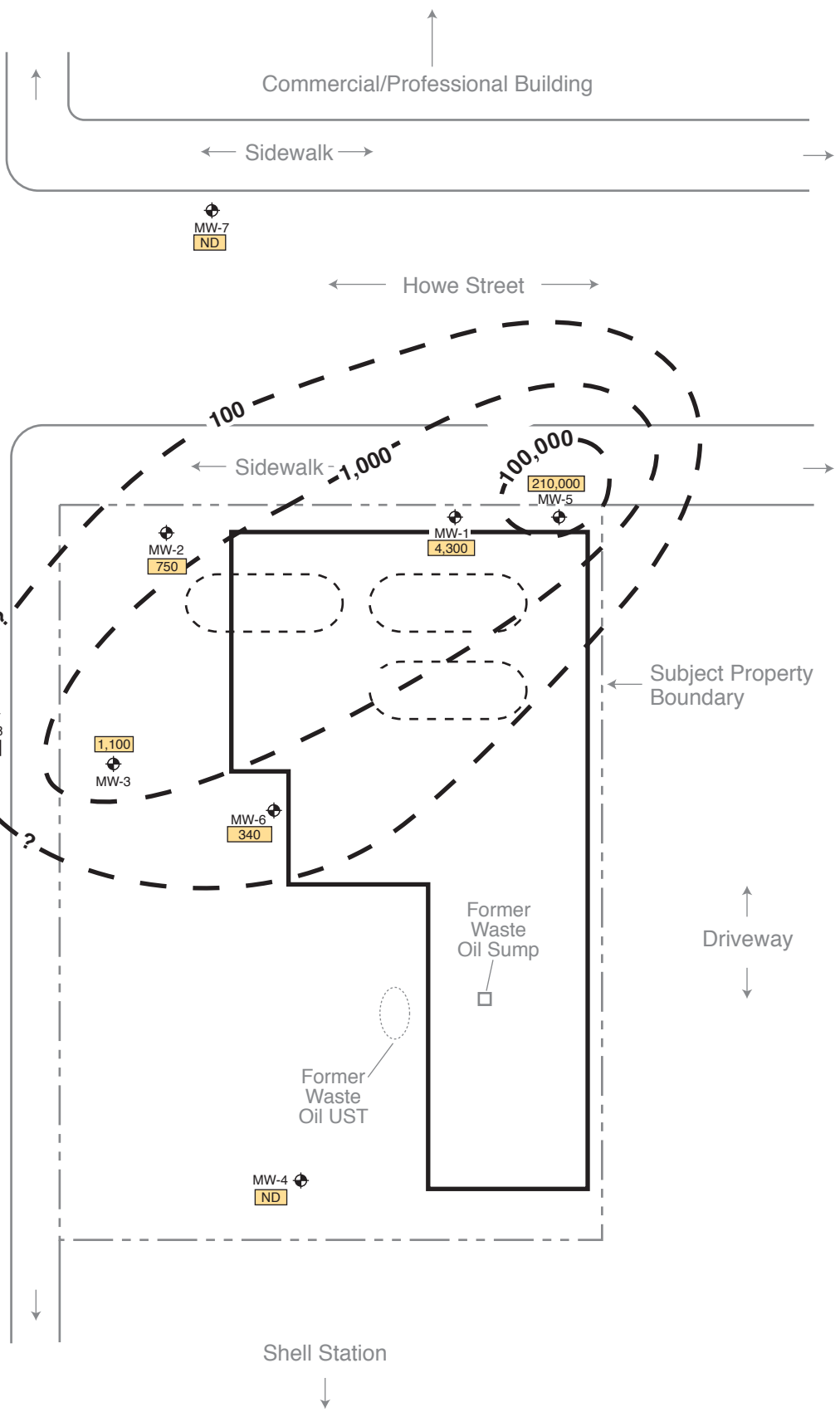
Notes:

ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater *is/is not* considered a drinking water resource.
 Samples in **bold-face** type exceed the ESL commercial/industrial criterion where groundwater is considered a potential drinking water resource.
 DIPE = isopropyl ether; EDC = ethylene dichloride (1,2-dichloroethane); TBA = *tertiary*-butyl alcohol
 The table includes only detected fuel oxygenates and lead scavengers; contaminants analyzed for and not detected include EDB, ETBE, and TAME.
 NA = not analyzed for this contaminant; NS = not sampled; NLP = no level published.
 All concentrations are expressed in micrograms per liter (µg/L), equivalent to parts per billion (ppb)

LEGEND

- Groundwater monitoring well
- Former 10,000-gal. gasoline UST
- Extrapolated gasoline isoconcentration contour ($\mu\text{g/L}$)
- Gasoline concentration ($\mu\text{g/L}$)
- NS = Not sampled
- ND = Below laboratory detection limit

0 20
SCALE IN FEET (approx.)



GASOLINE ISOCONCENTRATION CONTOURS (SEPTEMBER 2009)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

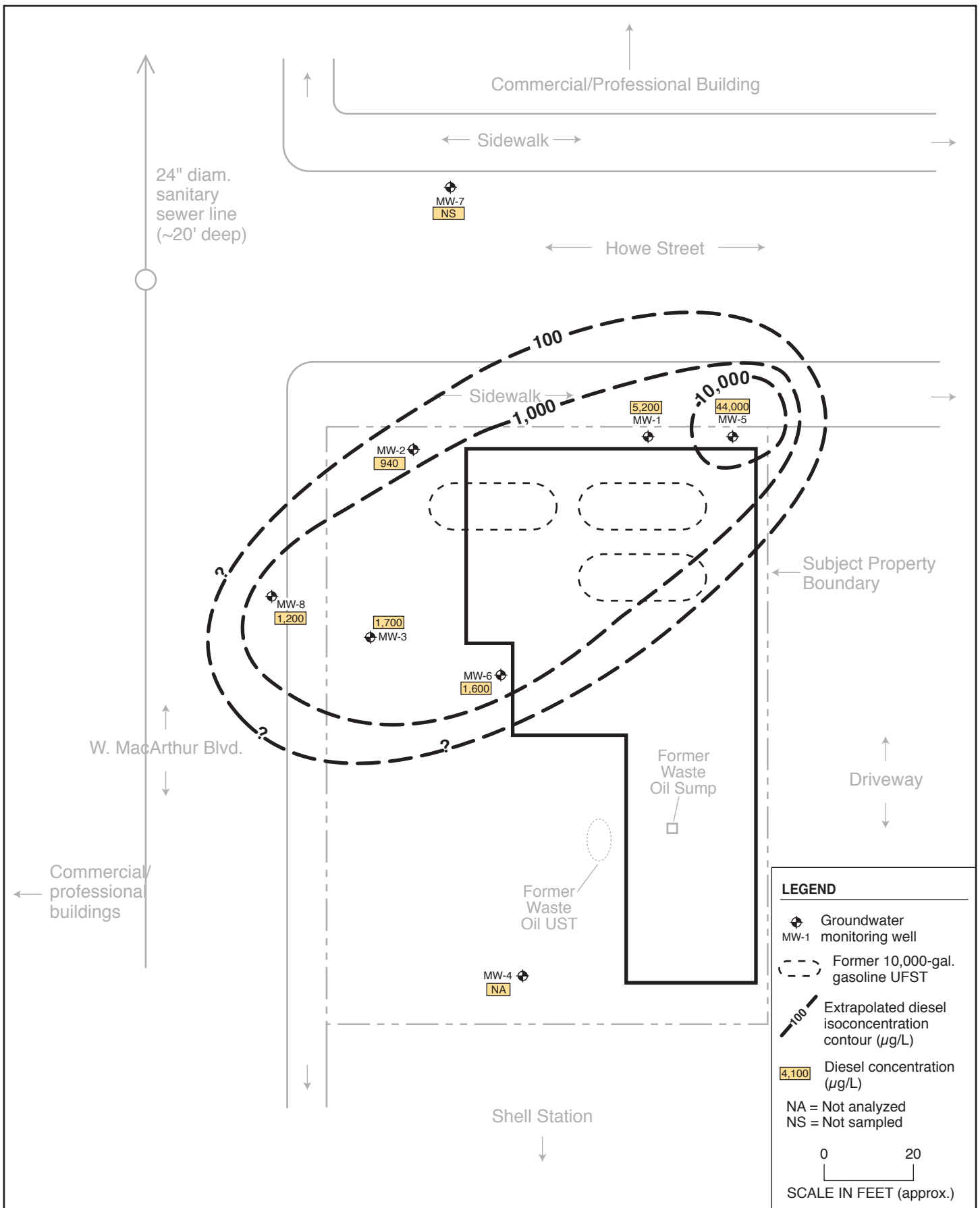
OCTOBER 2009

Figure 4



2008-43-208





DIESEL ISOCONCENTRATION CONTOURS (SEPTEMBER 2009)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

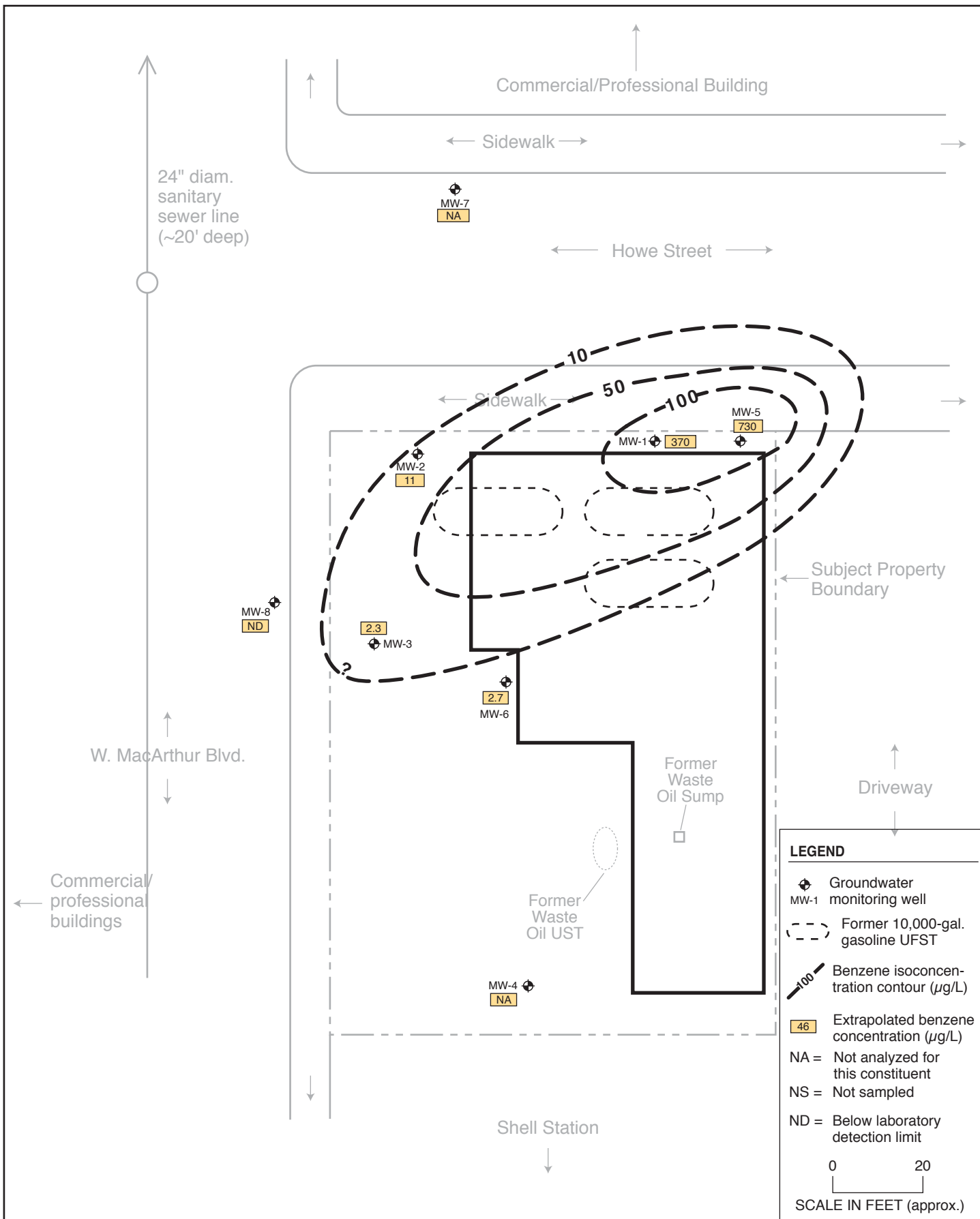
OCTOBER 2009

Figure 5



2008-43-209





LEGEND

- Groundwater monitoring well
- Former 10,000-gal. gasoline UST
- Benzene isoconcentration contour (µg/L)
- Extrapolated benzene concentration (µg/L)
- NA = Not analyzed for this constituent
- NS = Not sampled
- ND = Below laboratory detection limit

0 20
SCALE IN FEET (approx.)

BENZENE ISOCONCENTRATION CONTOURS (SEPTEMBER 2009)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

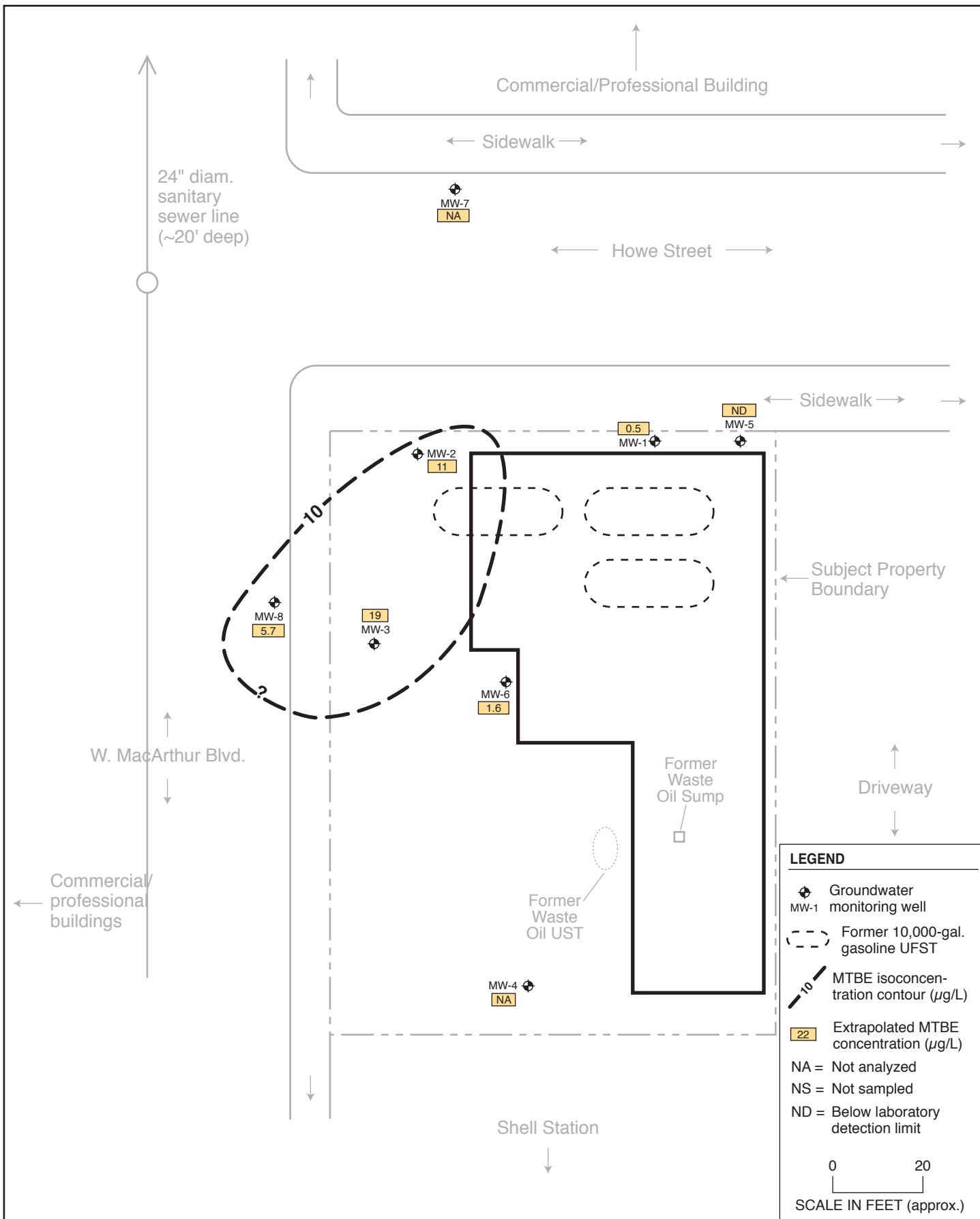
JANUARY 2009

Figure 6



2008-43-210





MTBE ISOCONCENTRATION CONTOURS (SEPTEMBER 2009)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

OCTOBER 2009

Figure 7



Lead Scavengers and Fuel Oxygenates

The lead scavengers EDC and tertiary-butyl alcohol (TBA) were detected above the ESLs of 0.5 µg/L and 12 µg/L respectively in five of the six wells analyzed. DIPE was also detected in four of the six wells in which it was analyzed for; however, there is no ESL for DIPE. No EDB, the only other fuel oxygenates analyzed for, was detected in any of the wells.

Summary of Groundwater Contamination

The low rainfall in the 2006-2007 and 2007-2008 years resulted in the most subsequent drop in water level elevations since the initiation of groundwater elevation monitoring in 2001. A resultant decrease in contaminant concentrations was observed. However, a significant increase has occurred over the last year due to a general increase in water levels. This increase has resulted in mobilization and desorption of residual contamination from the surrounding contaminated soils as the water level has risen. This was evident during this September 2009 monitoring event in source area monitoring well MW-5 which contained 0.2 feet of floating product.

Concentration in all wells except MW-5 showed a stable or decreasing trend in this September 2009 sampling event as compared to the previous March 2009 sampling event. In this September 2009 event, the maximum concentrations of gasoline, diesel, and BTEX were all detected in well MW-5 (near the former UFSTs). The 44,000 µg/L of diesel observed in MW-5 is a new historic maximum, and the gasoline concentration was the second historic high at the site, the highest detection being in MW-1 in December of 2000.

Maximum concentrations of MTBE were historically detected in downgradient wells (adjacent to W. MacArthur Boulevard), indicating that the center of mass of MTBE has migrated downgradient. Groundwater contamination is known to extend offsite to the northwest southwest (beneath Howe Street and W. MacArthur Boulevard). However, due to the desorption occurring during this sampling event, MTBE concentrations will most likely increase across the site as this new source of contamination migrates with groundwater.

QUALITY CONTROL SAMPLE ANALYTICAL RESULTS

Laboratory 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 (Appendix B).

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

Three UFSTs were removed (i.e., discharge was discontinued) prior to 1991, although there is no documentation of conditions at the time of the removals, nor of any contaminated soil removal at that time. Borehole soil sampling has provided data on the extent and magnitude of soil contamination in the vicinity of the former UFSTs (“source area”) and the outlying area (in the capillary fringe above the groundwater plume). A full discussion of residual soil contamination was presented in the SES August 2007 Corrective Action Assessment Report (SES, 2007d).

Source Area

A substantial mass of soil contamination is present at depths between approximately 13 feet bgs and 18 to 21 feet bgs (top of the underlying non-water-bearing clay unit) in the immediate vicinity of former UFSTs (BH-13, BH-19, BH-20, BH-21, B30 and B31); this mass has a footprint of approximately 40 feet by 40 feet. This source area contamination is almost certainly related to downward migration of contamination following UFST and/or piping leakage, and is responsible for the continued relatively elevated concentrations of gasoline, diesel, BTEX, and MTBE in groundwater in the wells and bores. No contamination was detected in the UFST excavation fill material. Soil contamination was detected in two of the three saturated zone soil samples, and no contamination was detected in the underlying clay samples.

Source area wells MW-1 and MW-5 historically showed evidence of separate-phase hydrocarbons (i.e., floating product). The source area well MW-5 specifically showed a concentration increase of gasoline to the highest concentrations since monitoring began in 2001. Limited “Hi-Vac” removal (short-term pumping) of contaminated groundwater from these wells in October 2001 appears to have removed most of the floating product, which has not been

observed in any of the wells until this September 2009 event in which 0.20 feet of floating product was observed in well MW-5.

The 2006-2008 years low rainfall resulted in the most subsequent drop in water level elevations since the initiation of groundwater elevation monitoring in 2001. A resultant significant decrease in the gasoline and diesel concentrations in all source area monitoring wells occurred during that time. However, a significant increase has occurred over the last year due to a general increase in water levels. This increase has resulted in mobilization and desorption of residual contamination from the surrounding contaminated soils as the water level has risen, and a subsequent increase in detected groundwater contamination.

Outlying Area Soil Contamination

Soil contamination has been detected in boreholes greater than 10 feet from the former UFSTs only to the southwest (BH-16, approximately 40 feet away) and to the south (BH-4 and BH-8, approximately 40 feet away). Intervening boreholes (MW-2, BH-7, and BH-15) showed low to no soil contamination. Low to no soil contamination was detected in boreholes other than those discussed above, even in the capillary fringe. Soil contamination above ESL criteria appears to be constrained on site, except for the apparently localized “hot spot” at BH-16 (southwest corner of property). Bore B27 showed no soil contamination, and was located downgradient of the source (between the source and BH-16, 15 feet to the west). This distribution suggests that the detected soil contamination is influenced by localized lithologic and groundwater hydrologic controls.

Consideration of potential sources (discrete former UFSTs), historical groundwater flow direction and water levels, and distribution suggests that the detected soil contamination is the result of leaks from at least two, and possibly three, former UFSTs. The unsaturated zone soil contamination to the south and southwest likely resulted from desorption from source area contaminated groundwater, the distribution of which is strongly influenced by localized lithologic and groundwater hydrologic controls. The contaminant mass in outlying area unsaturated zone soils is small relative to the source area.

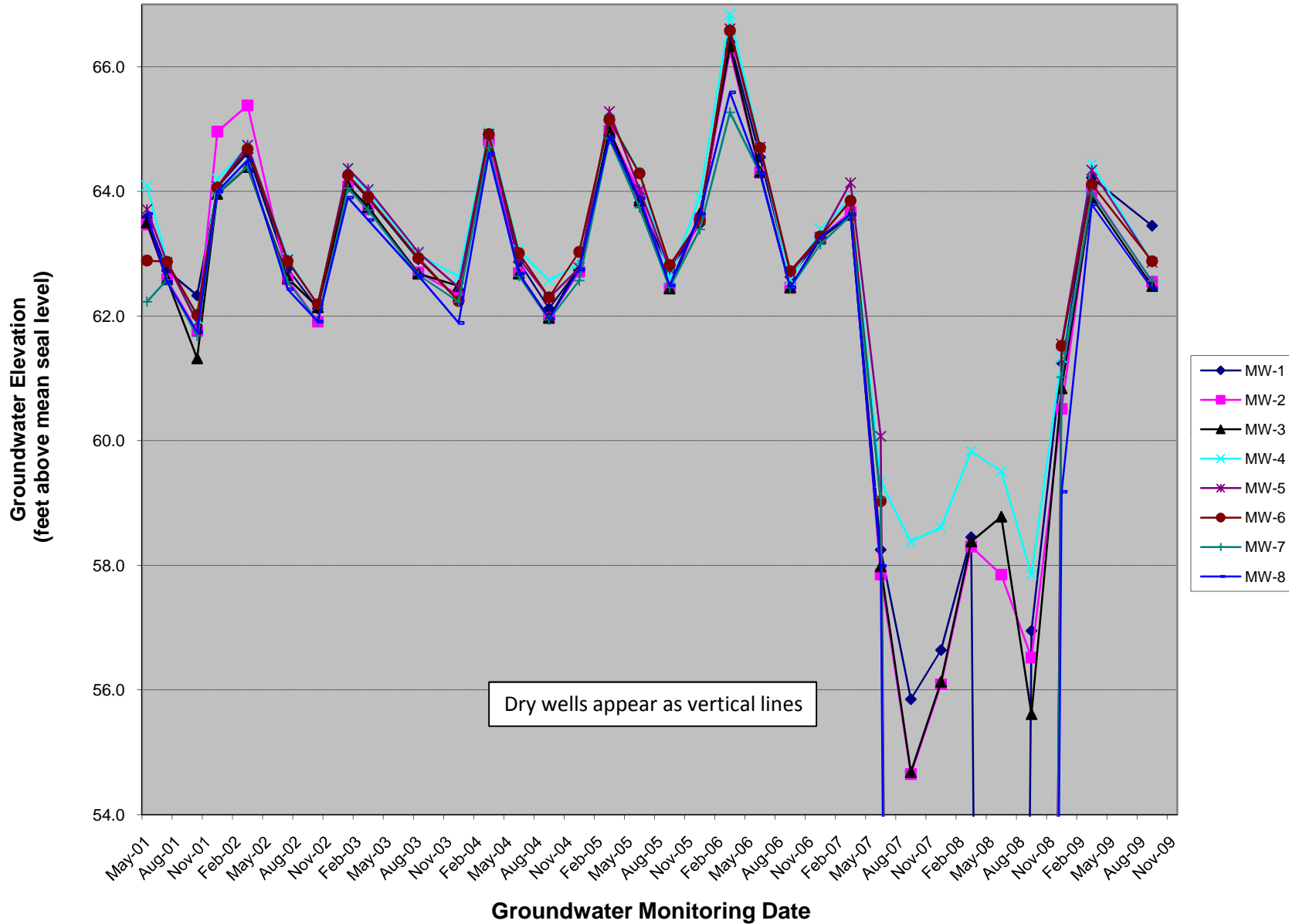
Summary

A substantial mass of unsaturated zone soil contamination is located beneath the subject property building and to the immediate south-southwest. While the contamination is largely constrained on site, it will continue to be a source of long-term groundwater contamination unless abated.

WATER LEVEL TRENDS

Appendix D contains historical groundwater elevation and gradient data. Figure 8 shows a trendline of site groundwater elevations in wells since May 2001.

**Figure 8: Historical Groundwater Elevations in Monitoring Wells
240 W. Macarthur Blvd., Oakland, CA**



The data support the following conclusions:

- Approximately 0.20 feet of floating product was measured in well MW-5. This LNAPL seen in this source well may represent a large rebound effect over the drought period that began as observed in site wells in February 2007 and lasted to the the first semi-annual sampling event in March 2009.
- Groundwater elevations in all wells show a strong elevation change correlation with rainy versus dry season. Decreases in elevation are seen from approximately March through December, followed by an increase in March. This is a common seasonal trend observed in the upper water-bearing zone in the Bay Area region.
- Prior to 2007, the range of water level elevations (in a given year) varied by approximately 3 feet, and no substantial differences in elevations (beyond the seasonal fluctuations) have been noted since 2001. The low rainfall in the 2006-2007 and 2007-2008 years resulted in the most subsequent drop in water level elevations since the initiation of groundwater elevation monitoring in 2001. Groundwater monitoring during 2009 has shown that site groundwater has returned to its' pre-2007 (pre-drought) elevation range.
- Groundwater elevation lowered an average of 1.22 feet between March 2009 and the current quarter with the largest decrease of 1.58 feet recorded in MW-4.
- Subject property groundwater gradient in the current event ranged between approximately 0.004 and 0.017 feet/foot. Historical groundwater gradient has varied between approximately 0.002 and 0.01 feet/foot, averaging approximately 0.005 feet/foot.
- Historical groundwater flow direction has been predominantly to the west-northwest.

HYDROCHEMICAL TRENDS

Historical groundwater analytical results are included in Appendix C.

Gasoline

Figures 9 and 10 show hydrochemical trend data for gasoline in source area wells (MW-1 and MW-5) and downgradient wells (MW-2, MW-3, MW-6, and MW-8), respectively, for the past 8 years of monitoring.

Source area wells MW-1 and MW-5 showed an overall trend of increased gasoline concentration between December 2001 and June 2005, followed by a decrease in December 2005, and thereafter the increasing trend continued. During the monitoring events in June and September 2005; March, September, and December 2006; and March 2007, the concentrations of gasoline

in MW-1 exceeded that of MW-5, even though MW-5 has historically had higher concentrations. A historic high concentration was again observed in MW-5 during the December 2008 and the second highest site detection of gasoline (210,000 µg/L) was detected in well MW-5 during this September 2009 event. This historical high concentration in well MW-5 represents a large overall rebound due to rising groundwater that returned to normal levels after being depressed by drought conditions the previous year.

Downgradient wells MW-2, MW-3, MW-6, and MW-8 have shown relatively stable gasoline concentrations over the previous 5 years of monitoring, with some seasonal variations within particular years. The September 2006 event showed the second highest historical gasoline concentration (8,300 µg/L) in well MW-2, but returned to average historical levels in December 2006. Downgradient well MW-3 showed a trend of decreasing gasoline concentrations from December 2001 to June 2002, then an increasing concentration trend until December 2003, and has remained within historical range since. All downgradient well gasoline concentrations in the current event are between the historical site minima and maxima for individual wells.

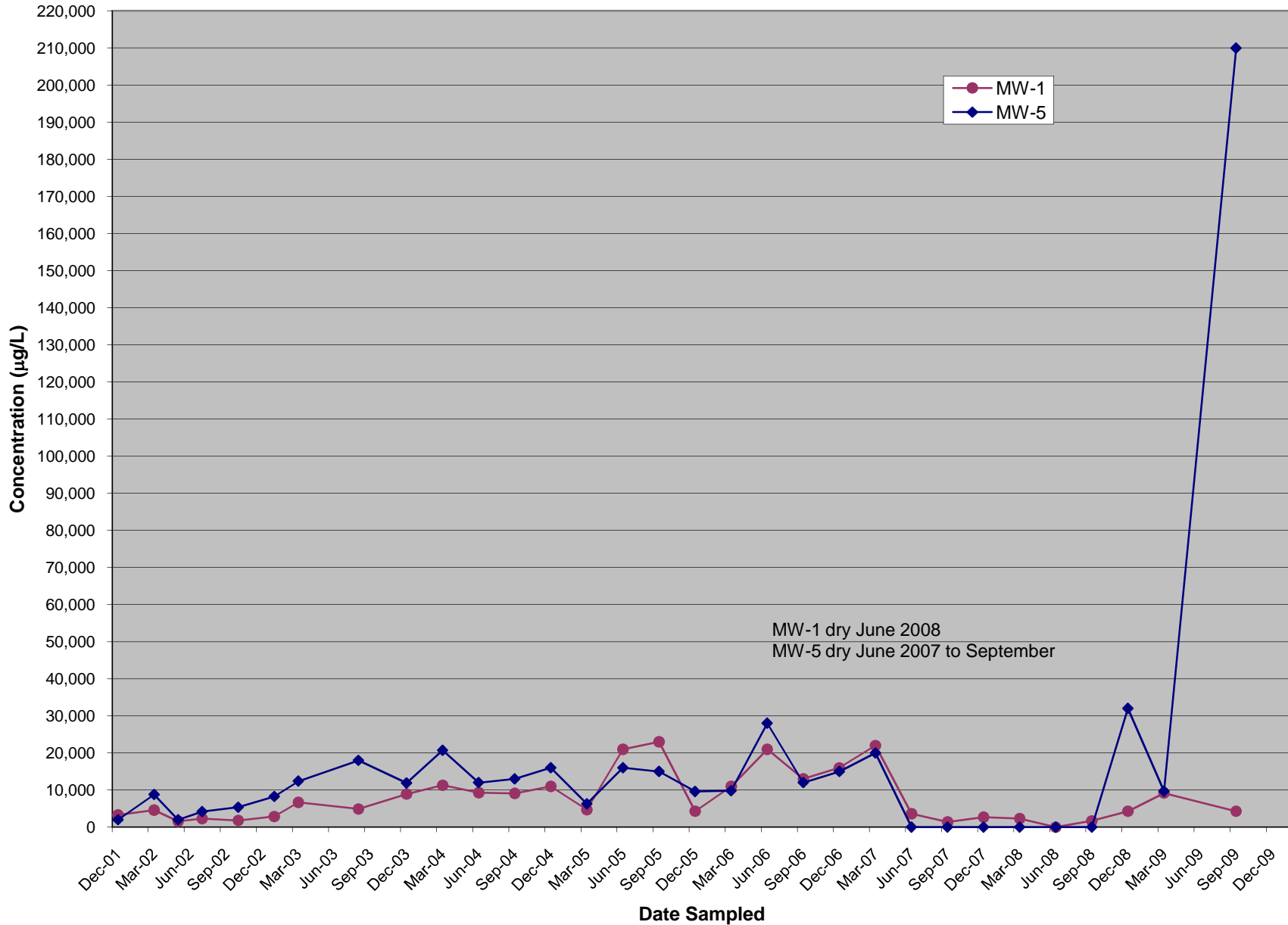
Diesel

Figures 11 and 12 show hydrochemical trend data for diesel in source area wells and downgradient wells, respectively, for the past 5½ years of monitoring.

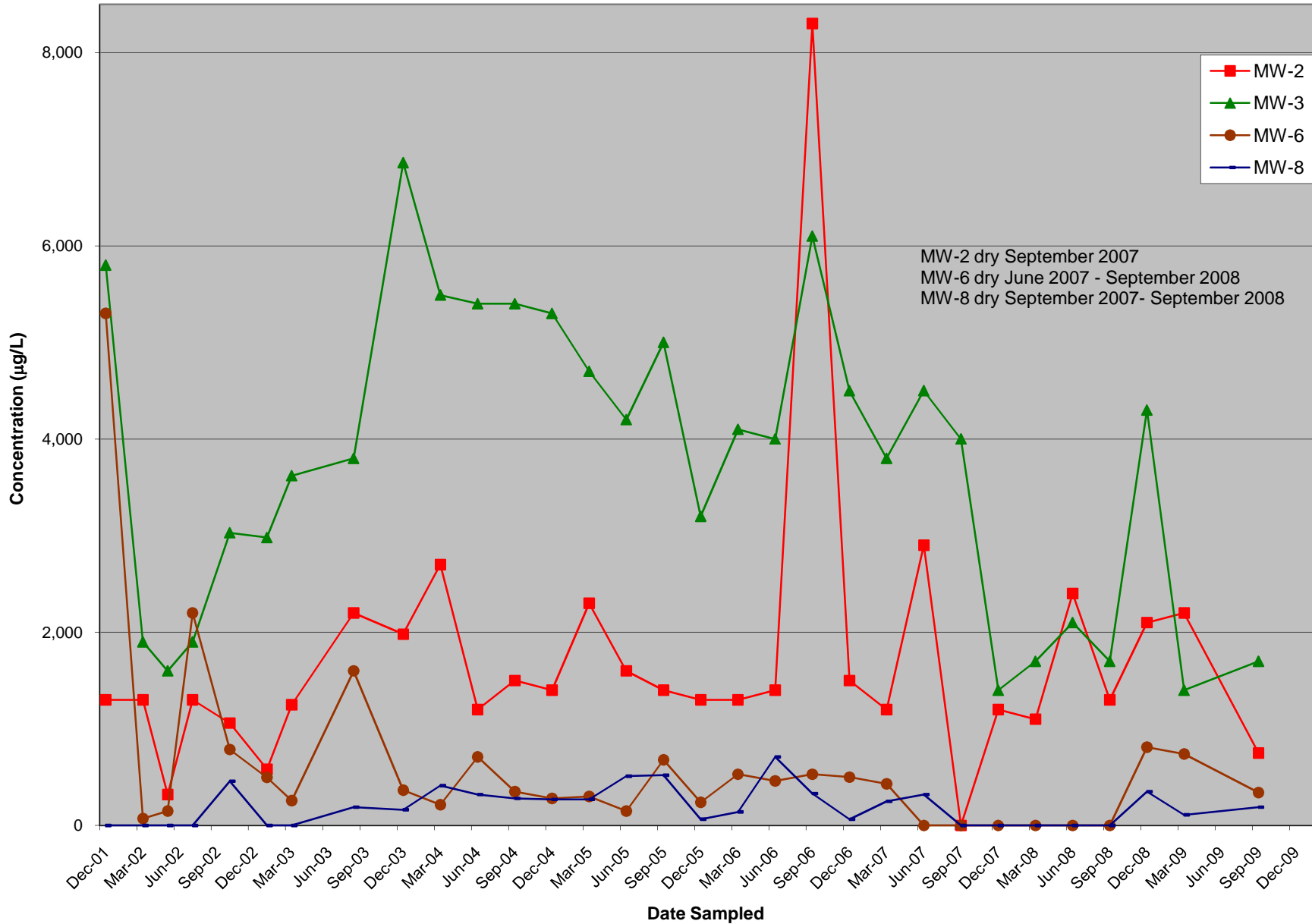
Source area wells MW-1 and MW-5 have shown substantial variations (generally correlating with seasonal variations in groundwater elevations) in diesel concentrations. The diesel concentrations in MW-1 have remained within the historical site maxima and minima; however, a new historic maximum of 44,000 µg/L diesel was observed in MW-5 during this September 2009 event.

Downgradient wells MW-2, MW-3, MW-6, and MW-8 have shown substantial variations in diesel concentration. In general, a substantial decrease was observed in wells MW-2, MW-3, and MW-6 from August 2003 to December 2003, followed by an overall increasing trend up to the December 2006 event, where concentrations were within historical range. Since August 2005, MW-3 has showed a general increase in diesel concentration, with the September 2006 and December 2007 events both showing the historical highest diesel concentration of 2,600 µg/L. MW-2 has shown a general decrease in diesel concentration since September 2006. Well MW-8 (the most downgradient well) has historically shown low to non-detect diesel concentrations, with the exception of an apparently anomalous measurement of approximately 2,600 µg/L in September 2004, and then a return to a concentrations of less than 100 µg/L but has shown a increasing trend since November 2008 to this September 2009 event that detected 1,300 µg/L.

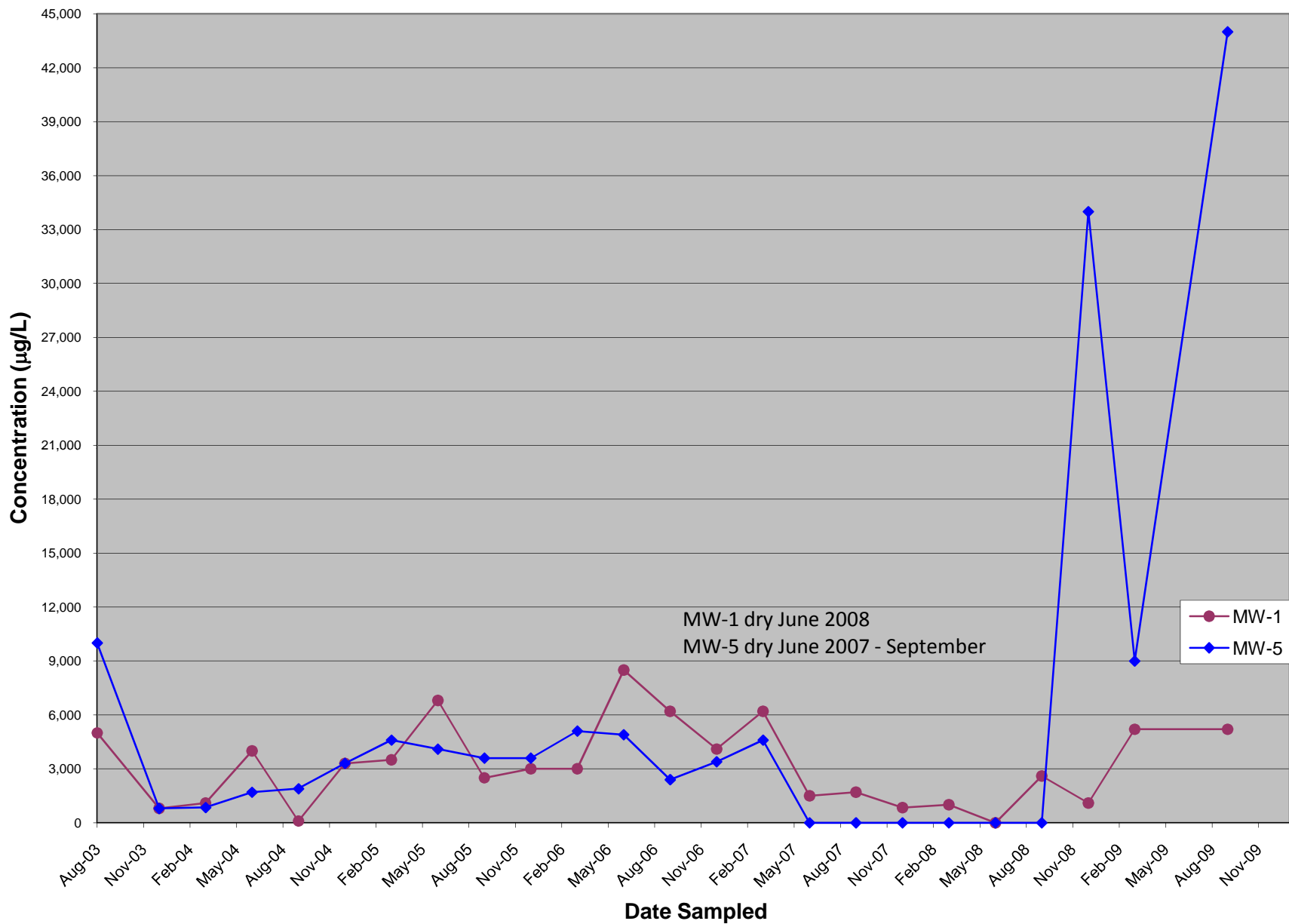
**Figure 9: Gasoline Hydrochemical Trends
Source Area Wells
240 W. MacArthur Blvd, Oakland, California**



**Figure 10: Gasoline Hydrochemical Trends
Downgradient Wells
240 W. MacArthur Blvd, Oakland, California**



**Figure 11: Diesel Hydrochemical Trends
Source Area Wells
240 W. MacArthur Blvd, Oakland, California**



**Figure 12: Diesel Hydrochemical Trends
Downgradient Wells
240 W. MacArthur Blvd, Oakland, California**

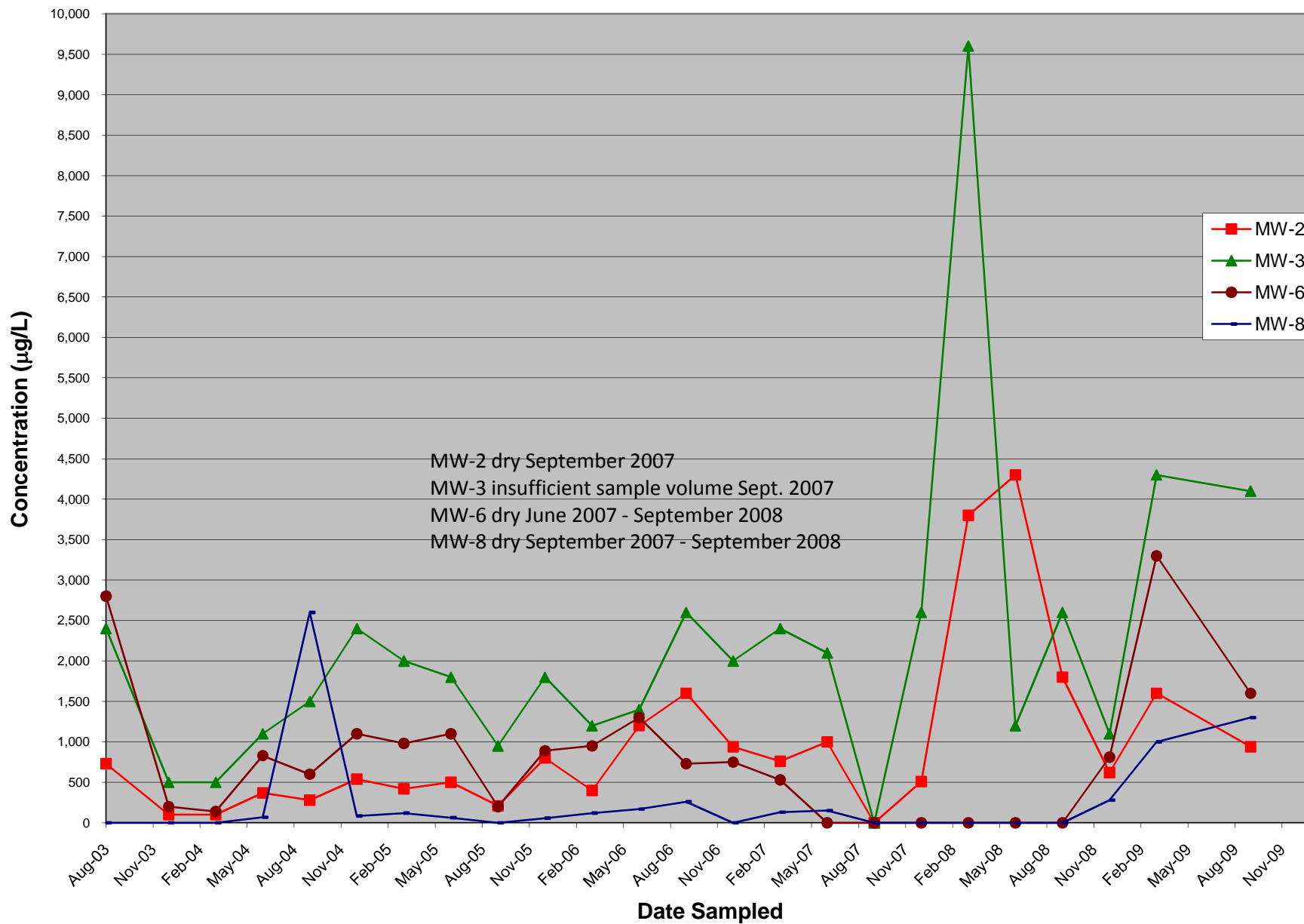
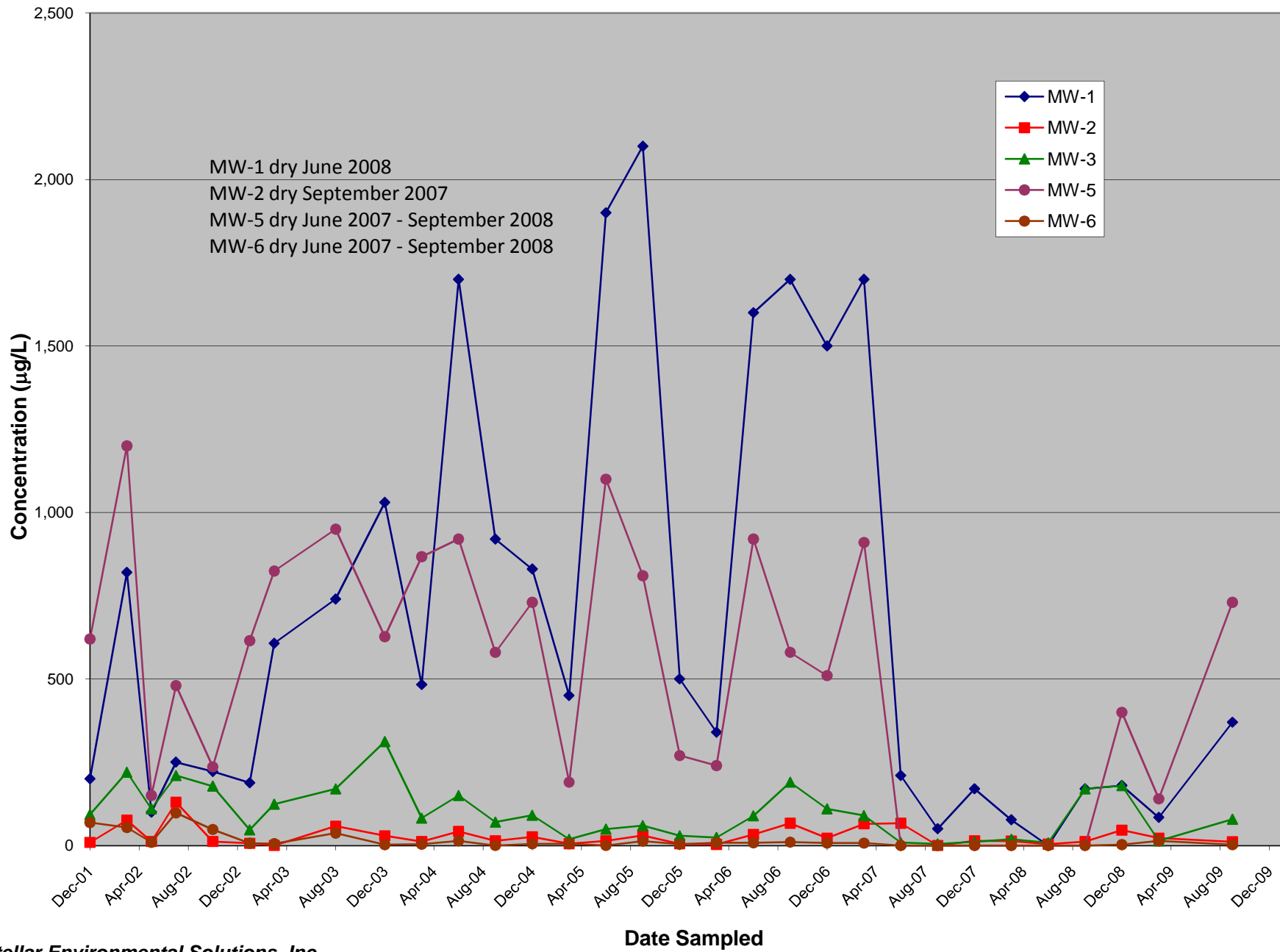


Figure 13: Benzene Hydrochemical Trends
240 W. MacArthur Blvd, Oakland, California



Benzene

Figure 13 shows hydrochemical trend data for benzene in key site wells for the past 7 years of monitoring.

Source area wells MW-1 and MW-5 have shown substantial variations in benzene concentrations—an overall increase in concentration over time. Benzene concentrations generally have been comparable between MW-1 and MW-5 with MW-5 observed to be higher during this event at 730 µg/L. Both of these wells generally demonstrate the same trends in seasonal fluctuations.

Historical maximum benzene concentrations were observed in June 2005 (source well MW-5) and September 2005 (source well MW-1), followed by a decrease in December 2005; they remained within the historical range during 2006. Concentrations of benzene in the 3rd and 4th quarters of 2007 and all the first three quarters of 2008 in MW-1 were observed to be the lowest since January of 1999. The concentration observed during this September 2009 event showed an increase, but remained within the historical minimum and maximums. Downgradient wells MW-2, MW-3, and MW-6 have all shown a relatively stable benzene concentration trend.

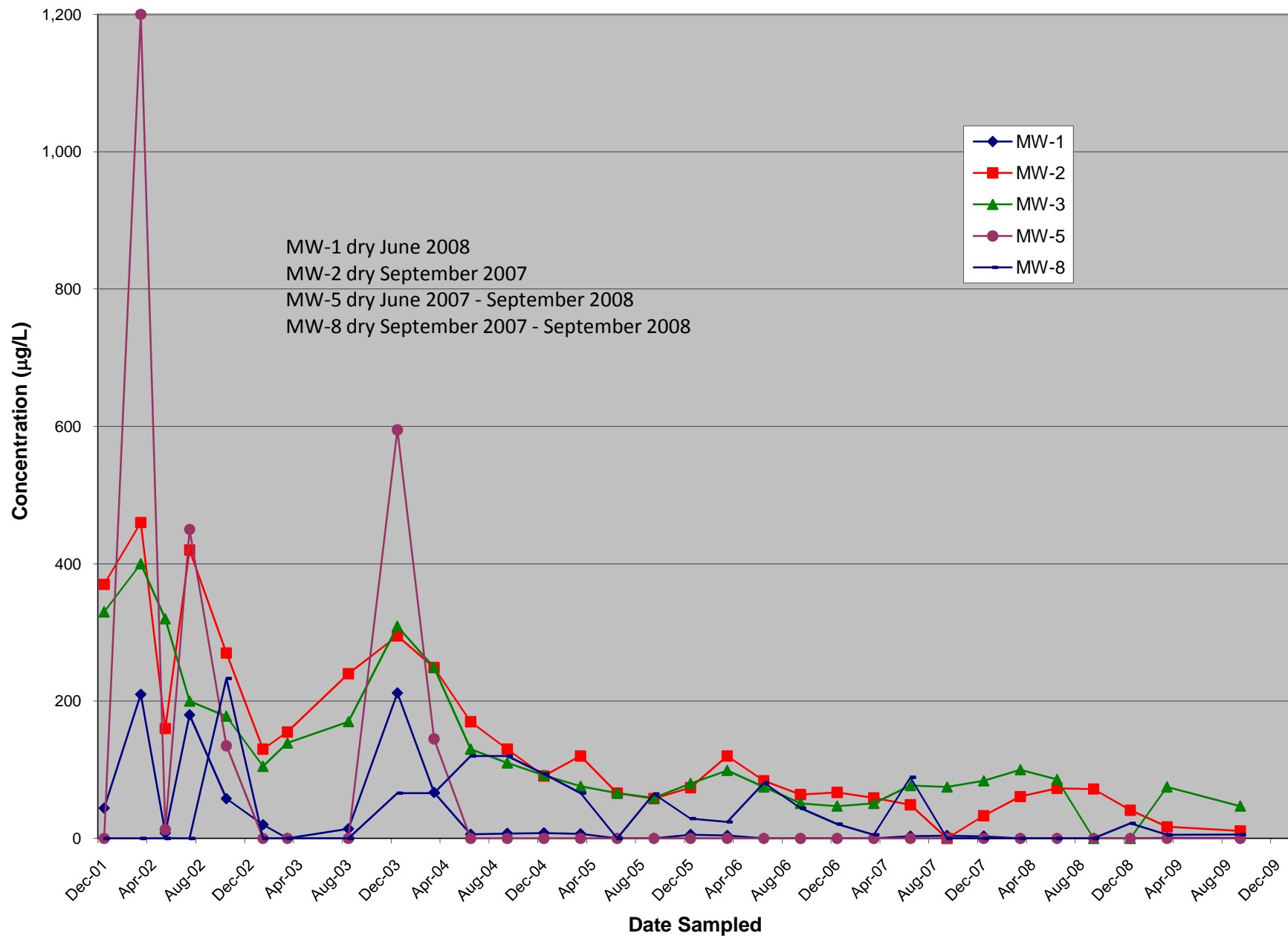
MTBE

Figure 14 shows hydrochemical trend data for MTBE in key site wells for the past 7 years of monitoring. MTBE concentrations have shown a generally declining trend since December 2003.

Source area wells MW-1 and MW-5 have shown substantial variations in MTBE concentrations, with generally the same trend of higher concentrations in the wet season and lower concentrations in the dry season. Following historical maximum concentrations in December 2003, MTBE concentrations in MW-1 and MW-5 decreased to low or non-detectable concentrations by June 2004, and have remained there since.

Downgradient wells MW-2 and MW-3 have shown substantial variations in MTBE concentration over the 8 years of monitoring, with the expected higher concentrations in the rainy season. MTBE concentrations in MW-8 (the most downgradient well) also have shown substantial variations, with an increasing trend from August 2003 through September 2004, and have since fluctuated between non-detect and 94 µg/L. MTBE has not been detected above 5 µg/L in downgradient well MW-6 since June 2005. The data indicate that the center of MTBE mass in the plume has migrated beyond the source area to the downgradient (southern) portion of the property.

**Figure 14: MTBE Hydrochemical Trends
240 W. MacArthur Blvd, Oakland, California**



PLUME GEOMETRY AND MIGRATION INDICATIONS

The contaminant plume in groundwater (gasoline, diesel, and BTEX concentrations above ESL criteria) has a maximum extent within the isoconcentration contours of approximately 160 feet long by 120 feet wide in the December 2008 monitoring event, with a generally north-south longitudinal axis. The source area is represented by wells MW-1 and MW-5. Well MW-1 has shown concentrations of gasoline and benzene remaining high over the past year. Well MW-5 showed a dramatic increase in overall contaminant concentrations during this September 2009 event.

The 2006-2008 years low rainfall resulted in the most subsequent drop in water level elevations since the initiation of groundwater elevation monitoring in 2001. A resultant significant decrease in the gasoline and diesel concentrations in all source area monitoring wells occurred, however new historic contaminant high concentrations were observed during this September 2009 event as groundwater levels returned to typical historical site elevations. The drop in concentrations, and subsequent rise, can be attributed to a portion of the dissolved mass of contamination absorbing onto the newly created vadose zone, and then desorbing with a rise in the groundwater table.

Contaminant concentrations above ESL criteria extend off site to the north-northwest (under Howe Street), and for gasoline extend underneath W. Macarthur Boulevard to the south. The MTBE plume shows generally the same configuration, except that it is situated downgradient from the source area. The northern (upgradient) limit of the plume is inferred to be within 10 to 20 feet of the former UFSTs. The eastern limit of the plume is constrained on site.

The plume geometry has not varied substantially over the past 8 years of monitoring, although seasonal fluctuations in contaminant concentrations have been observed. Concentrations of gasoline and diesel in downgradient wells appear to be remaining relatively stable or decreasing. However, increases in both gasoline and diesel concentrations in the source area wells during the September 2009 event indicate that the recent increase in groundwater has desorbed contamination from the surrounding soils. Increases in contaminant concentrations in downgradient wells from this desorption will most likely be observed in future events.

Relatively stable benzene concentrations in downgradient wells suggest that the migration of this constituent is not occurring. However, benzene does continue to be observed in the source area wells. Concentrations of MTBE have decreased to below the laboratory detection limit in the source area wells, while downgradient wells are demonstrating a slight increase. This indicates that the mass of contamination is slowly migrating off-site.

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 no more than 50 feet off site.

CLOSURE CRITERIA ASSESSMENT AND PROPOSED ACTIONS

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

1. ***The contaminant source has been removed (i.e., the source of the discharge and obviously-contaminated soil).*** This criterion has not been met. While the UFSTs have been removed, borehole soil sampling has shown a mass of residual source area soil contamination that will act as an ongoing source of groundwater contamination. Reducing source area (and outlying area) soil contamination should reduce the potential for offsite migration of groundwater contamination by removing contaminant mass, and should reduce the overall time to achieve regulatory closure. The property owner has proposed to ACEH to implement a SVE system as an interim remedial action to reduce contaminant mass. A corrective action assessment and remedial evaluation was conducted in May and June 2007. A workplan for installation and operation of a soil vapor extraction system has been submitted and approved by ACEH.
2. ***The groundwater contaminant plume is well characterized, and is stable or reducing in magnitude and extent.*** As discussed above, in our professional opinion, this criterion has not been met, and continued groundwater monitoring will be needed to demonstrate plume stability.
3. ***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 is generally met by conducting a Risk-Based Corrective Action assessment that models the fate and transport of residual contamination in the context of potential impacts to sensitive receptors (e.g., water wells, residential land use). While no downgradient water wells have been identified, a deep sanitary sewer line is located approximately 40 feet from the downgradient property line. It is possible that this line could act as a preferential pathway for migration of site-sourced groundwater contamination. However, it is highly unlikely that contaminated groundwater that might be entrained in the line backfill material would migrate to the nearest surface water body.

6.0 SUMMARY, CONCLUSIONS, AND PROPOSED ACTIONS

SUMMARY AND CONCLUSIONS

- The site has undergone site investigations and remediation since 1991 (SES has been involved since August 2003) to address soil and groundwater contamination resulting from leaking UFSTs that were reportedly removed.
- Sufficient site characterization has been conducted to evaluate the risks associated with residual soil contamination, and to evaluate corrective action options. Quarterly groundwater monitoring conducted since August 1997 has adequately shown the groundwater and contaminant trends. The data indicate that, if remedial action is not implemented, residual site contamination will remain at elevated levels for many years and longer. A workplan for installation and operation of a SVE system has been submitted and approved by ACEH; however, implementation of the system has been postponed by the property owner.
- A total of 43 groundwater monitoring/sampling events have been conducted in the eight site wells between August 1997 and the current event. ACEH is the lead regulatory agency. As of January 2009, ACEH in concurrence with SES, has reduced the monitoring frequency from a quarterly to a semiannual basis.
- The lowest recorded groundwater levels measured in the site wells was in September 2007 and the next lowest levels were recorded in September 2008. Prior to 2007, the range of water level elevations (in a given year) varied by approximately 3 feet, and no substantial differences in elevations (beyond the seasonal fluctuations) have been noted since 2001. Groundwater monitoring during 2009 has shown that site groundwater has returned to its' pre-2007 (pre-drought) elevation range. Groundwater elevations lowered an average of 1.22 feet between March 2009 and the current quarter with the largest decrease of 1.58 feet recorded in MW-4.
- Groundwater at the site appears to be slightly confined, with a flow direction ranging between northwest and west. Subject property groundwater gradient in the current event ranged between approximately 0.004 and 0.017 feet/foot. Historical groundwater gradient has varied between approximately 0.002 and 0.01 feet/foot, averaging approximately 0.005 feet/foot.

- The groundwater contaminant plume geometry is typical of what has been observed in previous monitoring events. Seasonal effects do not appear to change the plume migration direction.
- The primary site chemicals of concern, with regard to concentrations and risk issues, are gasoline, benzene, and MTBE. Diesel, aromatic hydrocarbons, lead scavengers, and fuel oxygenates are present at lesser concentrations and over a smaller area.
- The greatest concentrations of gasoline, diesel, and benzene in groundwater are located in the northern corner of the site (near the source area). Maximum groundwater contamination by MTBE was detected in the downgradient portion of the property, indicating that the center of mass of these contaminants has migrated downgradient. Groundwater contamination above ESL criteria extends offsite (likely no more than 25 feet) beneath Howe Street and W. MacArthur Boulevard.
- A new historic maximum of 44,000 µg/L diesel, the second highest detection of gasoline (210,000 µg/L) at the site along with 0.20 feet of floating product were observed in source area well MW-5 during this September 2009 event. Well MW-5 is a “source area” well and the significant increase in dissolved phase concentrations and evidence of the reemergence of free-floating hydrocarbon product in this monitoring event, is likely the result of it having not sampled in the last two years due to being dry. The re-saturation resulted in desorption from the soil matrix.
- The LNAPL and historical high concentrations seen in source well MW-5 represent a large overall rebound effect that occurred due to drought conditions that began as observed in the site wells from February 2007 to the first semi-annual event of 2009. The overall rise in groundwater over the last year period desorbed contamination from the surrounding soils.
- Concentrations of gasoline and diesel in downgradient wells appear to be remaining relatively stable or decreasing, reflecting the general trend in all of the monitoring wells. However, increases in both gasoline and diesel concentrations in the source area wells during this latest event indicate a contaminant increase due to rising groundwater levels.
- As stipulated by ACEH, analysis for lead scavengers will continue to be conducted in wells MW-1, MW-5, and MW-6. Fuel oxygenates were detected in those wells, and in MW-2, MW-3, and MW-8. Because lead scavengers and fuel oxygenates are analyzed by the same method at no additional cost, the responsible party has elected to continue analysis for lead scavengers and fuel oxygenates in all wells except MW-4 and MW-7.
- A previous water well survey identified no vicinity water wells with the potential to intercept site-sourced groundwater contamination.

- Potential preferential pathways identified include deep sanitary sewer lines beneath Howe Street and W. MacArthur Boulevard (adjacent to the subject property). Based on the detection of gasoline and MTBE in well MW-7 (beyond the Howe Street deep utilities), it appears unlikely that the Howe Street deep utilities are acting as a preferential pathway for site-sourced groundwater contamination. The influence of deep utilities beneath W. MacArthur Boulevard is not known.
- The adjacent Shell service station is contributing minor MTBE and gasoline in groundwater contamination to the eastern corner of the subject property. This contamination is unrelated to the separate, site-sourced MTBE and gasoline groundwater contamination in the northern and western portions of the subject property.
- ACEH in their letter dated July 24, 2009, concurred with SES and confirmed the reduction in the site groundwater monitoring frequency from quarterly to semi-annual.

PROPOSED ACTIONS

The Responsible Party proposes to implement the following actions to address regulatory concerns:

- The Water Board Underground Storage Tank Cleanup Fund, Technical Review Unit issued a 5-Year Summary Report, in their letter dated June 15, 2009, in which they agree with the corrective action plan for implementation of soil vapor extraction at the site. The Water Board concurs with ACEH who is preparing to issue a deadline to the Responsibility Party for getting the remediation underway. Implementation of SVE remediation has been delayed indefinitely by the property owner due to financial/personal considerations. The delay has been verbally approved by the ACEH case officer Mr. Jerry Wickham, who has requested to be kept apprised of the situation every 6 months.
- The current economic condition of the State of California has resulted in a temporary suspension of Class C letters of commitments by the CA Cleanup Fund that the responsible party needs to fund the site cleanup remedy. Reimbursement requests will continue to be submitted once the suspension has been lifted. In the event the property is sold, the current Responsibility Party will coordinate with the new Responsibility Party to transfer Tank Fund eligibility
- SES recommends implementing the soil vapor extraction remedy as soon as the owner has the ability to and that this site continue to be monitored on a semiannual basis.
- Required Electronic Data Format uploads should continued to be made to the GeoTracker database, and electronic copies of technical reports should be uploaded to ACEH's ftp system.

7.0 REFERENCES AND BIBLIOGRAPHY

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8.0 LIMITATIONS

This report has been prepared for the exclusive use of the current property owners (Mr. and Mrs. Glen Poy-Wing, d.b.a. Oakland Auto Works) their representatives, and the regulators. No reliance on this report shall be made by anyone other than those for whom it was prepared.

The findings and conclusions presented in this report are based on the review of previous investigators' findings at the site, as well as site activities conducted by SES since August 2003. This report provides neither a certification nor guarantee that the property is free of hazardous substance contamination. This report has been prepared in accordance with generally accepted methodologies and standards of practice of the area. The SES personnel who performed this limited remedial investigation are qualified to perform such investigations and have accurately reported the information available, but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions, and recommendations included in the report.

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

APPENDIX A

Current Event Groundwater Monitoring Field Records

WELLHEAD INSPECTION CHECKLIST

Page ____ of ____

Date 9-18-09 Client STELLAR

Site Address 240 MACARTHUR BLVD. OAKLAND

Job Number 090918-FS1 Technician F.S.

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-1		2/2	TABS	BROKEN				
MW-2		1/2	TABS	STRIPPED				
MW-3		2/2	TABS	STRIPPED				
MW-4		2/2	TABS	STRIPPED				
MW-5		2/2	TABS	BROKEN				
MW-6	✓							
MW-7		1/2	TABS	STRIPPED				
MW-8		1/2	TABS	BROKEN				

NOTES: _____

WELL GAUGING DATA

Project # 090918-FS1 Date 9-18-09 Client STELLAR

Site 240 W. MACARTHUR AVE OAKLAND

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-1	822	2					15.70	24.30	70C	
MW-2	811	2					15.90	24.28	↓	
MW-3	815	2				15.10	24.14			
MW-4	7:45	2				14.88	23.72			
MW-5	827	2				16.50	20.03			
MW-6	805	2				15.55	20.15			
MW-7	755	2				15.71	20.00			
MW-8	800	2				13.95	19.90			

WELL MONITORING DATA SHEET

Project #: 090918-FS1	Client: OAKLAND AUTOWORKS 240 MACARTHUR AVE OAKLAND
Sampler: FS	Start Date: 9-18-09
Well I.D.: MW-1	Well Diameter: ② 3 4 6 8
Total Well Depth: 24.30	Depth to Water:
Before: After:	Before: 15.70 After: 18.70
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:	Sampling Method:
Bailer	Bailer
<u>Disposable Bailer</u>	<u>Disposable Bailer</u>
Positive Air Displacement	Extraction Port
Electric Submersible	Dedicated Tubing
Waterra	Other: _____
Peristaltic	
Extraction Pump	
Other: _____	

1.4 (Gals.) X	3	= 4.2 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp. (°F or °C)	pH	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
1132	20.5	6.9	720	387	1.5	
1135	19.8	6.3	775	635	3	
1138	19.6	6.3	806	498	4.2	

Did well dewater? Yes No Gallons actually evacuated: 4.2

Sampling Time: 1142 Sampling Date: 9-18-09

Sample I.D.: MW-1 Laboratory: CAT STL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: SSE COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

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

WELL MONITORING DATA SHEET

Project #: <u>090918-FS1</u>	Client: <u>OAKLAND AUTOWORKS</u> <u>240 MACARTHUR AVE OAKLAND</u>
Sampler: <u>FS</u>	Start Date: <u>9-18-09</u>
Well I.D.: <u>MW-2</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>15.90^F</u>	Depth to Water:
Before: <u>24.28</u> After:	Before: <u>24^F 28 15.90</u> After: <u>16.07</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- | | |
|---|--|
| Bailer
<u>(Disposable Bailer)</u>
Positive Air Displacement
Electric Submersible | Waterra
Peristaltic
Extraction Pump
Other _____ |
|---|--|

Sampling Method:

- (Bailer)
(Disposable Bailer)
 Extraction Port
 Dedicated Tubing
 Other: _____

1.4	(Gals.) X	<u>3</u>	=	<u>4.2</u>	Gals.
I 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 <u>(C)</u>)	pH	Conductivity (mS or <u>(uS)</u>)	Turbidity (NTU)	Gals. Removed	Observations
1022	20.8	6.8	673	57	1.5	ODOR
1024	20.4	6.5	661	105	3	"
1026	20.4	6.4	656	115	4.2	"

Did well dewater? Yes (No) Gallons actually evacuated: 4.2

Sampling Time: 1105 Sampling Date: 9-18-09

Sample I.D.: MW-2 Laboratory: C&T STL

Analyzed for: TPH-G BTEX MTBE TPH-D (Other:) SEB COC

Equipment Blank I.D.: _____ @ _____ Time Duplicate I.D.: _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

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

ORP (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

WELL MONITORING DATA SHEET

Project #: 090918-FS1	Client: OAKLAND AUTOWORKS 290 MACARTHUR AVE OAKLAND
Sampler: FS	Start Date: 9-18-09
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8
Total Well Depth: 24.14	Depth to Water: 15.10
Before: After:	Before: After: 15.15
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:	Sampling Method:
Bailer	Bailer
(Disposable Bailer)	(Disposable Bailer)
Positive Air Displacement	Extraction Port
Electric Submersible	Dedicated Tubing
Waterra	Other: _____
Peristaltic	
Extraction Pump	
Other: _____	

1.5 (Gals.) X 3 = 4.5 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	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
1052	21.5	6.6	655	124	1.5	ODOR
1055	21.4	6.3	684	211	3.6	"
1058	21.3	6.2	693	307	4.5	"

Did well dewater? Yes No Gallons actually evacuated: 4.5

Sampling Time: 11:15 Sampling Date: 9-18-09

Sample I.D.: MW-3 Laboratory: C&T STL

Analyzed for: TPH-G BTEX MTBE TPH-D (Other): S&S COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
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ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV
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WELL MONITORING DATA SHEET

Project #: 090918-FS1	Client: OAKLAND AUTOWORKS 240 MACARTHUR AVE OAKLAND
Sampler: FS	Start Date: 9-18-09
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8
Total Well Depth: 24.30	Depth to Water: 15.70
Before: 24.30 After:	Before: 15.70 After: 16.02
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible

Sampling Method: Waterra Peristaltic Extraction Pump Other _____

Bailer Disposable Bailer Extraction Port Dedicated Tubing Other: _____

1.4	(Gals.) X	3	=	4.2	Gals.
1 Case Volume		Specified Volumes		Calculated Volume	

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

Time	Temp. (°F or °C)	pH	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
843	20.7	5.4	623	209	1.5	
845	20.5	5.7	628	303	3	
847	20.7	5.9	598	240	4.2	

Did well dewater? Yes No Gallons actually evacuated: 4.2

Sampling Time: 852 Sampling Date: 9-18-09

Sample I.D.: MW-4 Laboratory: C&T STL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: SEC COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

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

WELL MONITORING DATA SHEET

Project #: 090918-FS1	Client: OAKLAND AUTO WORKS 240 MACARTHUR AVE OAKLAND
Sampler: FS	Start Date: 9-18-09
Well I.D.: MW-5	Well Diameter: 2 3 4 6 8
Total Well Depth: 20.03	Depth to Water: 16.50
Before: _____ After: _____	Before: _____ After: _____
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

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: _____

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

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

Time	Temp. (°F or °C)	pH	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
1220	21.1	6.4	940	CLEAR	—	
—	PRODUCT FOUND IN WELL, ≈ 0.20 FT. ONLY					
	ONE PARAMETER TAKEN, 3				CASE VOLUMES	
	REMOVED					
	* HCL IN VOA CONTAINERS			REFLECTED		WITH SAMPLES

Did well dewater? Yes No Gallons actually evacuated: **1.8**

Sampling Time: **1220** Sampling Date: **9-18-09**

Sample I.D.: **MW-5** Laboratory: **C&T STL**

Analyzed for: TPH-G BTEX MTBE TPH-D Other: **SEE COC**

Equipment Blank I.D.: _____ @ _____ Time Duplicate I.D.: _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

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

WELL MONITORING DATA SHEET

Project #: 090918-FS1	Client: OAKLAND AUTO WORKS 240 MACARTHUR AVE OAKLAND
Sampler: FS	Start Date: 9-18-09
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8
Total Well Depth: 20.15	Depth to Water: 15.55
Before: After:	Before: After: 17.75
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:	Sampling Method:
Bailer	Bailer
(Disposable Bailer)	(Disposable Bailer)
Positive Air Displacement	Extraction Port
Electric Submersible	Dedicated Tubing
Waterra	Other: _____
Peristaltic	
Extraction Pump	
Other: _____	

0.8 (Gals.) X	3	= 2.4 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	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
950	20.9	6.3	938	54	0.8	
952	20.9	6.3	1003	140	1.6	
955	20.9	6.4	1033	73	2.4	

Did well dewater? Yes No Gallons actually evacuated: 2.4

Sampling Time: 1035 Sampling Date: 9-18-09

Sample I.D.: MW-6 Laboratory: C&T STL

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

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
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ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV
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WELL MONITORING DATA SHEET

Project #: 090918-FS1	Client: OAKLAND AUTO WORKS 240 MACARTHUR AVE OAKLAND
Sampler: FS	Start Date: 9-18-09
Well I.D.: MW-7	Well Diameter: ② 3 4 6 8
Total Well Depth: 20.00	Depth to Water: 15.71
Before: After:	Before: After: 15.22
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:	Sampling Method:
Bailer	Bailer
① Disposable Bailer	① Disposable Bailer
Positive Air Displacement	Extraction Port
Electric Submersible	Dedicated Tubing
Waterra	Other: _____
Peristaltic	
Extraction Pump	
Other _____	

0.7 (Gals.) X	3	= 2.1 Gals.
I 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	Conductivity (mS or μS)	Turbidity (NTU)	Gals. Removed	Observations
906	20.5	6.2	901	21	0.7	
908	20.5	6.4	930	107	1.4	
910 18	20.5	6.3	918	123	2.1	

Did well dewater? Yes No Gallons actually evacuated: 2.1

Sampling Time: 915 Sampling Date: 9-18-09

Sample I.D.: MW-7 Laboratory: C&T STL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: ① SS E e - c

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
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ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV
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WELL MONITORING DATA SHEET

Project #: 090918-FS1	Client: OAKLAND AUTOWORKS 240 MACARTHUR AVE OAKLAND
Sampler: FS	Start Date: 9-18-09
Well I.D.: MW-8	Well Diameter: ② 3 4 6 8
Total Well Depth: 1990	Depth to Water: 13.95
Before: 1990 After:	Before: 13.95 After: 14.50
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:	Sampling Method:
Bailer	Bailer
Disposable Bailer	Disposable Bailer
Positive Air Displacement	Extraction Port
Electric Submersible	Dedicated Tubing
Waterra	Other: _____
Peristaltic	
Extraction Pump	
Other: _____	

1.0 (Gals.) X	3	= 3.0 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	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
0936	20.7	7.0	7572	800	1	
0938	20.6	6.5	7597	820	2	
0940	20.6	6.4	607	7100	3	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 3	
Sampling Time: 10 00	Sampling Date: 9-18-09	
Sample I.D.: MW-8	Laboratory: C&T STL	
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: SOE COC	
Equipment Blank I.D.: @ Time	Duplicate I.D.:	
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:	
D.O. (if req'd):	Pre-purge: mg/L	Post-purge: mg/L
ORP (if req'd):	Pre-purge: mV	Post-purge: mV

A or Purge Water Drum L

Client: Stellar
 Site Address: 240 W. MacArthur Blvd Oakland CA

STATUS OF DRUM(S) UPON ARRIVAL						
Date	12/12/08	12/12/08	3/17/09	9/18/09		
Number of drum(s) empty:	2	1	1	1		
Number of drum(s) 1/4 full:	0	1	1			
Number of drum(s) 1/2 full:						
Number of drum(s) 3/4 full:				1		
Number of drum(s) full:	1	1	1	1		
Total drum(s) on site:	3	3	3	3		
Are the drum(s) properly labeled?	Y	Y	Y	Yes		
Drum ID & Contents:	Purge H ₂ O	Purge H ₂ O	Purge H ₂ O	1) Empty 2) PURGED H ₂ O		
If any drum(s) are partially or totally filled, what is the first use date:	NA	NA	NA	N/A		

- 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	12/11/08	12/12/08		9/18/09		
Number of drums empty:	1	1	1	1		
Number of drum(s) 1/4 full:	1	1				
Number of drum(s) 1/2 full:			1	1		
Number of drum(s) 3/4 full:				1		
Number of drum(s) full:	1	1	1	1		
Total drum(s) on site:	3	3	3	4		
Are the drum(s) properly labeled?	Y	Y	Y	Yes		
Drum ID & Contents:	Purge H ₂ O	Purge H ₂ O	Purge H ₂ O	PURGED H ₂ O		

LOCATION OF DRUM(S)
 Describe location of drum(s):

FINAL STATUS						
Number of new drum(s) left on site this event	0	0	0	0	1	
Date of inspection:	12/11/08	12/12/08	3/17/09	9/18/09		
Drum(s) labelled properly:	Y	Y	Y	Y		
Logged by BTS Field Tech:	JD	JD	JD	FB		
Office reviewed by:	ny	4	af	ts		

APPENDIX B

Current Event Analytical Laboratory Report and Chain-of-Custody Record



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

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

**Laboratory Job Number 215154
ANALYTICAL REPORT**

Stellar Environmental Solutions
2198 6th Street
Berkeley, CA 94710

Project : 2003-43
Location : Oakland Auto Works
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-1	215154-001
MW-2	215154-002
MW-3	215154-003
MW-4	215154-004
MW-5	215154-005
MW-6	215154-006
MW-7	215154-007
MW-8	215154-008

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: 
Project Manager

Date: 10/06/2009

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 215154
Client: Stellar Environmental Solutions
Project: 2003-43
Location: Oakland Auto Works
Request Date: 09/22/09
Samples Received: 09/22/09

This data package contains sample and QC results for eight water samples, requested for the above referenced project on 09/22/09. The samples were received cold and intact.

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

High surrogate recoveries were observed for bromofluorobenzene (FID) and trifluorotoluene (FID) in a number of samples. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

715154
Chain of Custody Record

Lab job no. _____
Date 9-18-09
Page 1 of 1

Laboratory Curtis and Tompkins, Ltd. Method of Shipment Hand Delivery
Address 2323 Fifth Street
Berkeley, California 94710
510-486-0900
Project Owner Mr. Glen Poywing
Site Address 240 W. MacArthur Blvd
Oakland, CA 94612
Project Name Oakland Autoworks
Project Number 2003-43
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature) [Signature]

Analysis Required	No. of Containers	Filled	Analysis Required				Remarks
			TVH-gas (8015M)	TEH-diesel (8015M)	BTEX, MIB, EDB, PCB (8260B)	5-Diogenates (8260B)	

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		No	8	X	X	X	X
						Cooler	Chemical						
MW-1		9-18-09	1142	W	HCL VOA + NP AMBER	yes	HCl	No	8	X	X	X	X
MW-2			1105		"				8	X	X	X	
MW-3			1115		"				8	X	X	X	
MW-4			852		HCL VOA				3	X			
MW-5			1220		HCL VOA + NP AMBER				8	X	X	X	
MW-6			1635		"				8	X	X	X	
MW-7			915		HCL VOA				3	X			
MW-8			1006		HCL VOA + NP AMBER				8	X	X	X	

Relinquished by: <u>[Signature]</u> Signature <u>H. Pietropaoli</u> Printed <u>H. Pietropaoli</u> Company <u>Stellar Environmental</u>	Date <u>9-18-09</u> Time <u>1800</u>	Received by: <u>[Signature]</u> Signature <u>F. Srinivasan</u> Printed <u>F. SRINIVASAN</u> Company <u>BLAINTECH</u>	Date <u>9/22/09</u> Time <u>1300</u>	Relinquished by: <u>[Signature]</u> Signature <u>[Signature]</u> Printed <u>IAN WILLIAMS</u> Company <u>BLAINTECH</u>	Date <u>9/22/09</u> Time <u>1525</u>	Received by: <u>[Signature]</u> Signature <u>[Signature]</u> Printed <u>Recky Grant</u> Company <u>CEI</u>	Date <u>9/22/09</u> Time <u>1525</u>
---	---	---	---	--	---	---	---

Turnaround Time: 5 Day TAT
Comments: Global ID: TO600102243

Relinquished by: _____
Signature _____
Printed _____
Company _____

Received by: _____
Signature _____
Printed _____
Company _____

2000-00-01

mtact cold RC

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 215154 Date Received 9/22/09 Number of coolers 2
Client SES Project OAKLAND AUTOWORKS

Date Opened 9/22/09 By (print) M. VILLANUOVE (sign) [Signature]
Date Logged in 9/24/09 By (print) S. EVANS (sign) [Signature]

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, Cloth material, Foam blocks, Cardboard, Bags, Styrofoam, None, Paper towels

7. Temperature documentation:

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

Samples Received on ice & cold without a temperature blank

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

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

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

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

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

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

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

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

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

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

COMMENTS

Blank lines for handwritten comments.

Total Volatile Hydrocarbons

Lab #: 215154	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2003-43	Analysis: EPA 8015B
Matrix: Water	Sampled: 09/18/09
Units: ug/L	Received: 09/22/09

Field ID: MW-1	Diln Fac: 1.000
Type: SAMPLE	Batch#: 155452
Lab ID: 215154-001	Analyzed: 09/30/09

Analyte	Result	RL
Gasoline C7-C12	4,300 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	339 *	64-147
Bromofluorobenzene (FID)	274 *	71-138

Field ID: MW-2	Diln Fac: 1.000
Type: SAMPLE	Batch#: 155452
Lab ID: 215154-002	Analyzed: 09/30/09

Analyte	Result	RL
Gasoline C7-C12	750 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	159 *	64-147
Bromofluorobenzene (FID)	135	71-138

Field ID: MW-3	Diln Fac: 1.000
Type: SAMPLE	Batch#: 155452
Lab ID: 215154-003	Analyzed: 09/30/09

Analyte	Result	RL
Gasoline C7-C12	1,100 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	187 *	64-147
Bromofluorobenzene (FID)	152 *	71-138

Field ID: MW-4	Diln Fac: 1.000
Type: SAMPLE	Batch#: 155452
Lab ID: 215154-004	Analyzed: 09/30/09

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	93	64-147
Bromofluorobenzene (FID)	98	71-138

*= Value outside of QC limits; see narrative
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Total Volatile Hydrocarbons

Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/18/09
Units:	ug/L	Received:	09/22/09

Field ID:	MW-5	Diln Fac:	50.00
Type:	SAMPLE	Batch#:	155536
Lab ID:	215154-005	Analyzed:	10/01/09

Analyte	Result	RL
Gasoline C7-C12	210,000 Y	2,500
Surrogate	%REC	Limits
Trifluorotoluene (FID)	135	64-147
Bromofluorobenzene (FID)	175 *	71-138

Field ID:	MW-6	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	155452
Lab ID:	215154-006	Analyzed:	09/30/09

Analyte	Result	RL
Gasoline C7-C12	340 Y	50
Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	64-147
Bromofluorobenzene (FID)	116	71-138

Field ID:	MW-7	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	155452
Lab ID:	215154-007	Analyzed:	09/30/09

Analyte	Result	RL
Gasoline C7-C12	ND	50
Surrogate	%REC	Limits
Trifluorotoluene (FID)	93	64-147
Bromofluorobenzene (FID)	92	71-138

Field ID:	MW-8	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	155452
Lab ID:	215154-008	Analyzed:	09/30/09

Analyte	Result	RL
Gasoline C7-C12	190 Y	50
Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	64-147
Bromofluorobenzene (FID)	107	71-138

* = Value outside of QC limits; see narrative

Y = Sample exhibits chromatographic pattern which does not resemble standard

ND = Not Detected

RL = Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/18/09
Units:	ug/L	Received:	09/22/09

Type: BLANK Batch#: 155452
 Lab ID: QC514248 Analyzed: 09/29/09
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	64-147
Bromofluorobenzene (FID)	94	71-138

Type: BLANK Batch#: 155536
 Lab ID: QC514596 Analyzed: 10/01/09
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	103	64-147
Bromofluorobenzene (FID)	108	71-138

*= Value outside of QC limits; see narrative
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC514251	Batch#:	155452
Matrix:	Water	Analyzed:	09/29/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,137	114	77-118

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	64-147
Bromofluorobenzene (FID)	105	71-138

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	155452
MSS Lab ID:	215050-015	Sampled:	09/16/09
Matrix:	Water	Received:	09/18/09
Units:	ug/L	Analyzed:	09/29/09
Diln Fac:	1.000		

Type: MS Lab ID: QC514252

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	37.88	2,000	2,035	100	66-110

Surrogate	%REC	Limits
Trifluorotoluene (FID)	128	64-147
Bromofluorobenzene (FID)	116	71-138

Type: MSD Lab ID: QC514253

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,003	98	66-110	2	11

Surrogate	%REC	Limits
Trifluorotoluene (FID)	122	64-147
Bromofluorobenzene (FID)	109	71-138

RPD= Relative Percent Difference

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	155536
Units:	ug/L	Analyzed:	10/01/09
Diln Fac:	1.000		

Type: BS Lab ID: QC514597

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,040	104	77-118

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	64-147
Bromofluorobenzene (FID)	109	71-138

Type: BSD Lab ID: QC514598

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,086	109	77-118	4	23

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	64-147
Bromofluorobenzene (FID)	104	71-138

RPD= Relative Percent Difference

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC514680	Batch#:	155536
Matrix:	Water	Analyzed:	10/02/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,275	114	77-118

Surrogate	%REC	Limits
Trifluorotoluene (FID)	137	64-147
Bromofluorobenzene (FID)	114	71-138

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	155536
MSS Lab ID:	215133-001	Sampled:	09/23/09
Matrix:	Water	Received:	09/23/09
Units:	ug/L	Analyzed:	10/01/09
Diln Fac:	1.000		

Type: MS Lab ID: QC514681

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	17.31	2,000	2,222	110	66-110

Surrogate	%REC	Limits
Trifluorotoluene (FID)	140	64-147
Bromofluorobenzene (FID)	114	71-138

Type: MSD Lab ID: QC514682

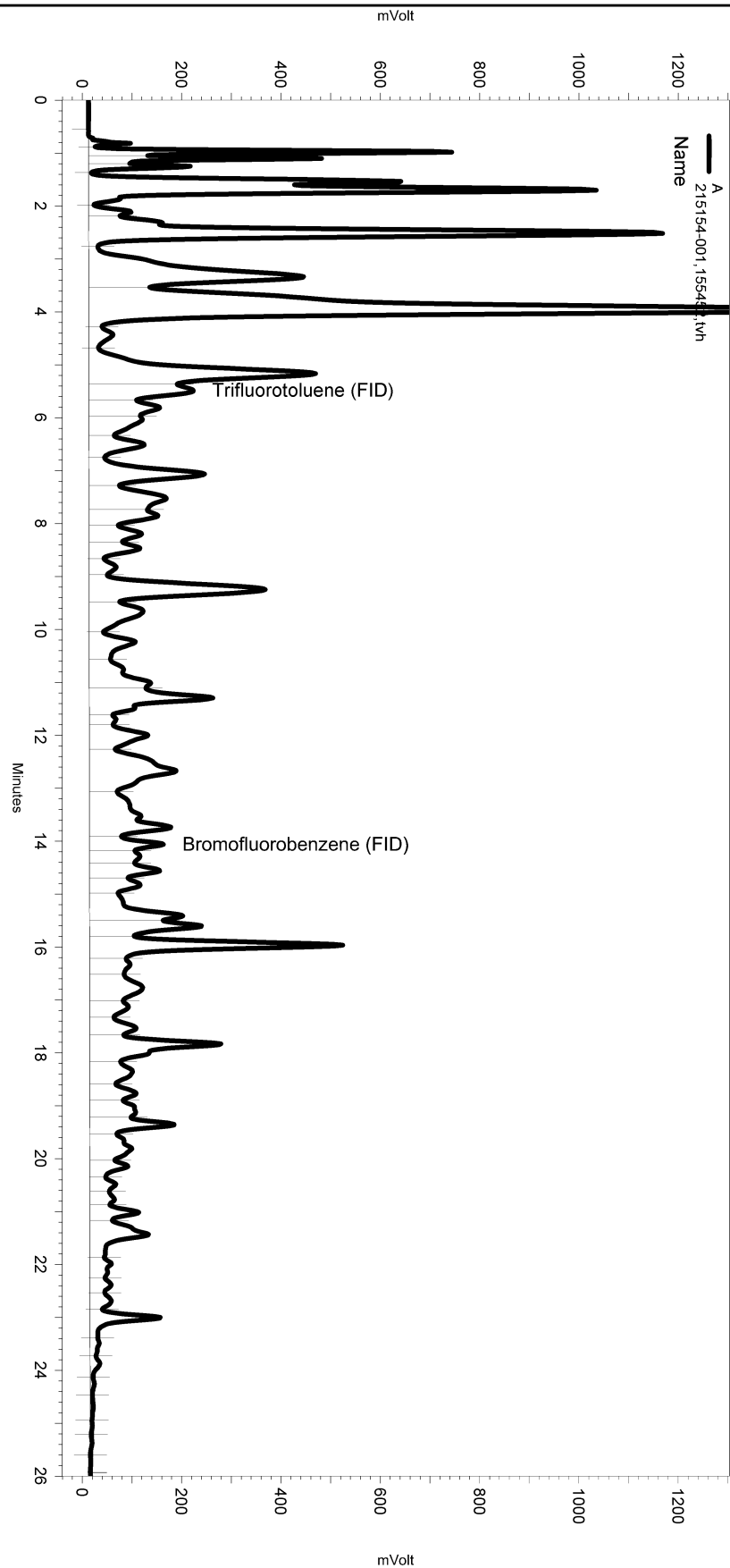
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,142	106	66-110	4	11

Surrogate	%REC	Limits
Trifluorotoluene (FID)	137	64-147
Bromofluorobenzene (FID)	113	71-138

RPD= Relative Percent Difference

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC19\Sequence\272.seq
 Sample Name: 215154-001,155452,tvh
 Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_039
 Instrument: GC19 Vial: N/A Operator: lims2k3\tvh3
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\tvhbx271.met

Software Version 3.1.7
 Run Date: 9/30/2009 4:36:59 PM
 Analysis Date: 9/30/2009 5:06:04 PM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: a1.3



Channel A

---< General Method Parameters >---

No items selected for this section

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No items selected for this section

Integration Events

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

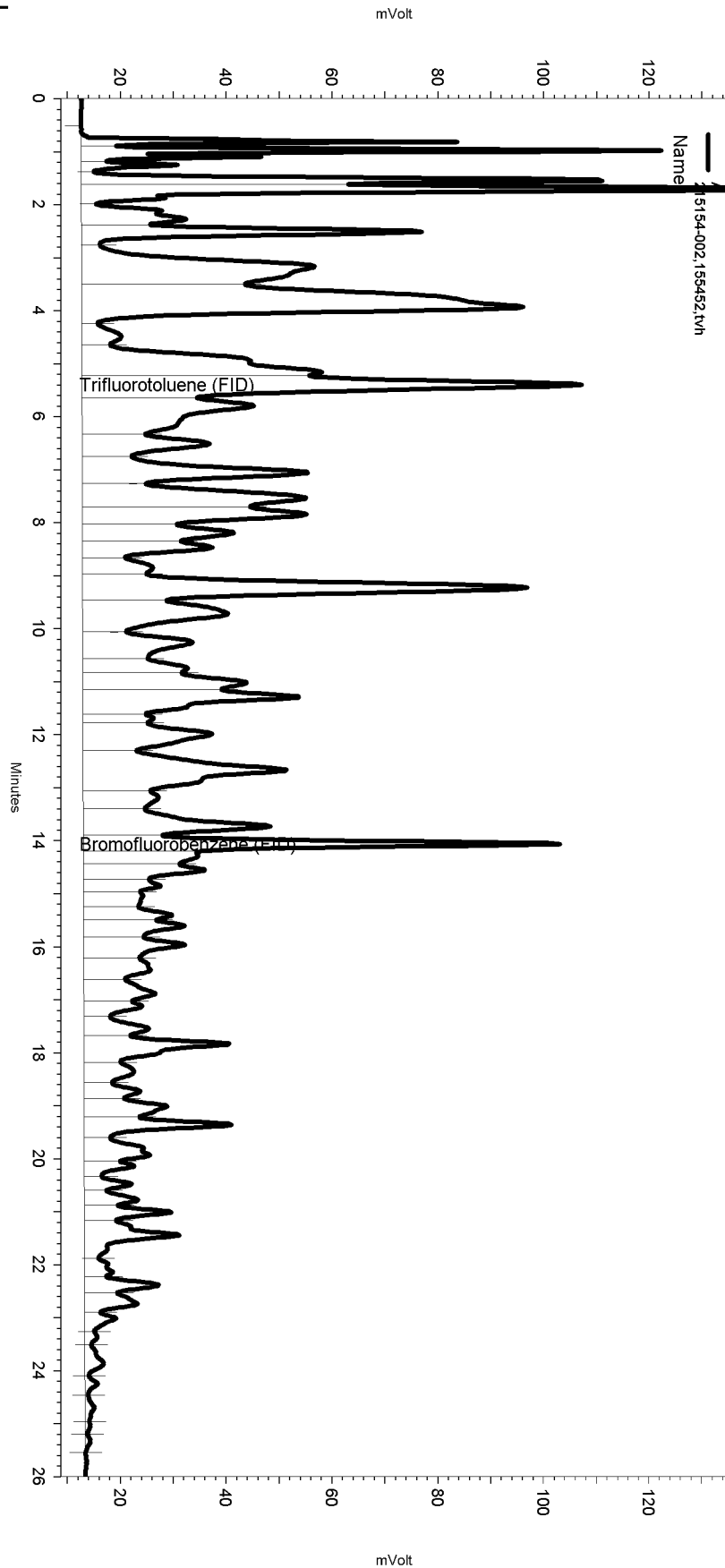
Manual Integration Fixes

Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10050\272_039_57AB.tmp

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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 Sample Name: 215154-002,155452,tvh
 Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_040
 Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\TVHBTXE271.met

Software Version 3.1.7
 Run Date: 9/30/2009 5:14:31 PM
 Analysis Date: 10/1/2009 7:48:54 AM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: a1.3



Channel A

---< General Method Parameters >---

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No items selected for this section

Integration Events

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

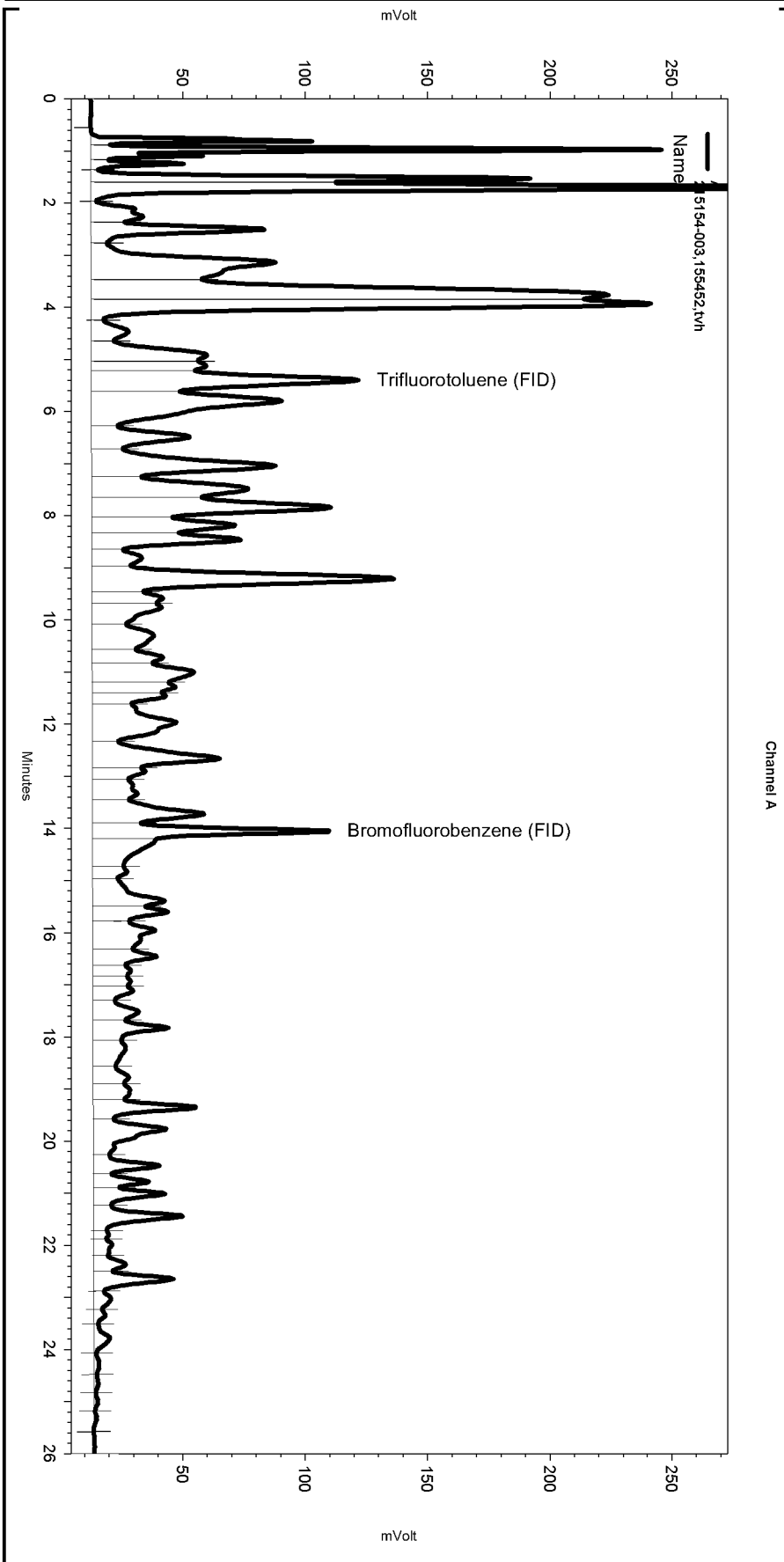
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_040

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Yes	Split Peak	5.237	0	0
Yes	Split Peak	14.205	0	0

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 Sample Name: 215154-003,155452,tvh
 Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_041
 Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\tvhbtxe271.met

Software Version 3.1.7
 Run Date: 9/30/2009 5:52:03 PM
 Analysis Date: 10/1/2009 7:49:42 AM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: a1.3



---< General Method Parameters >---

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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

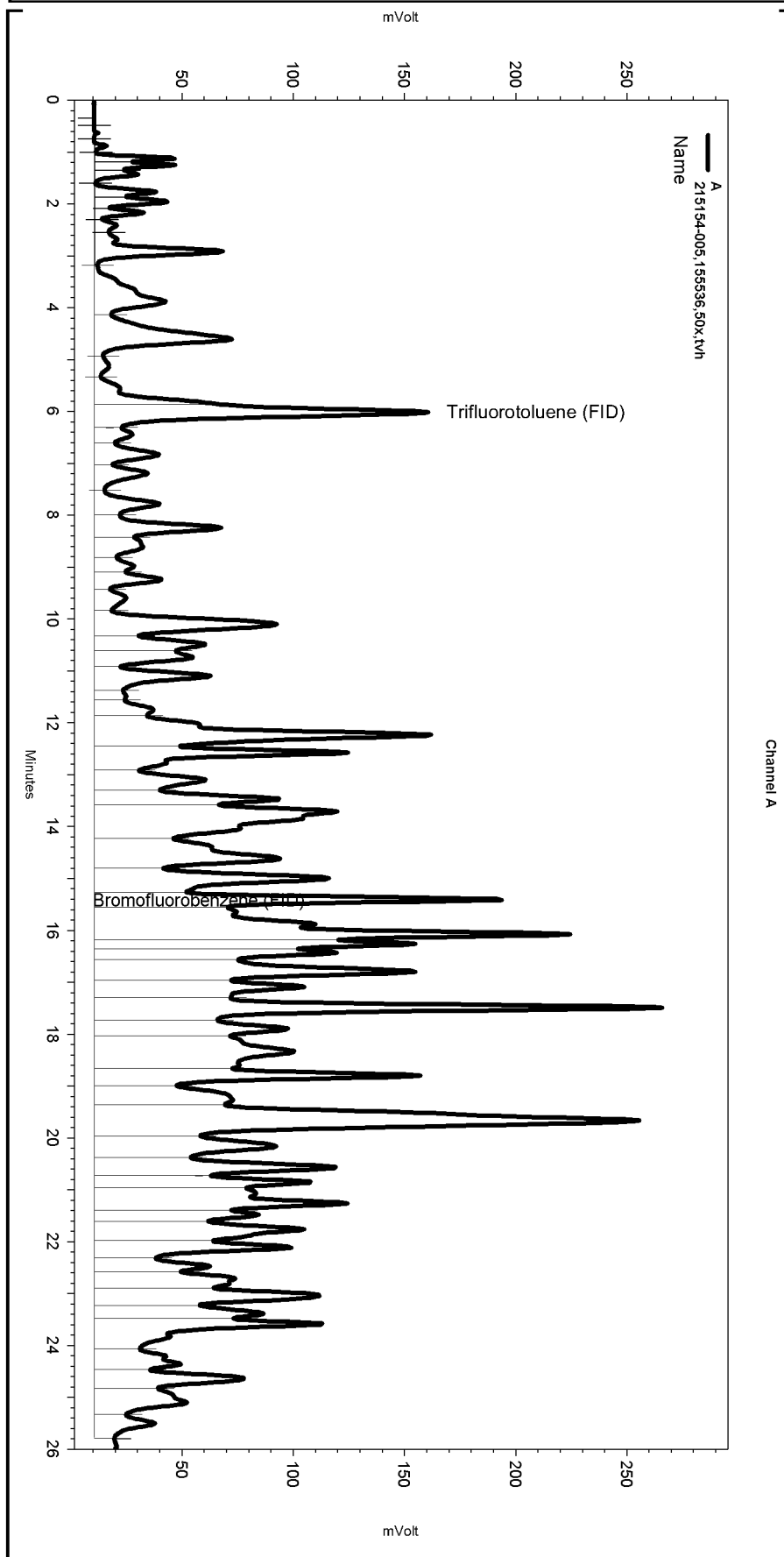
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_041

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	14.208	0	0

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\274.seq
 Sample Name: 215154-005,155536,50x,tvh
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\274_020
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 1. Analyst (lims2k3\tvh1)
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TVHBTX267.met

Software Version 3.1.7
 Run Date: 10/1/2009 9:22:39 PM
 Analysis Date: 10/2/2009 4:43:10 PM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: b1.0



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

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

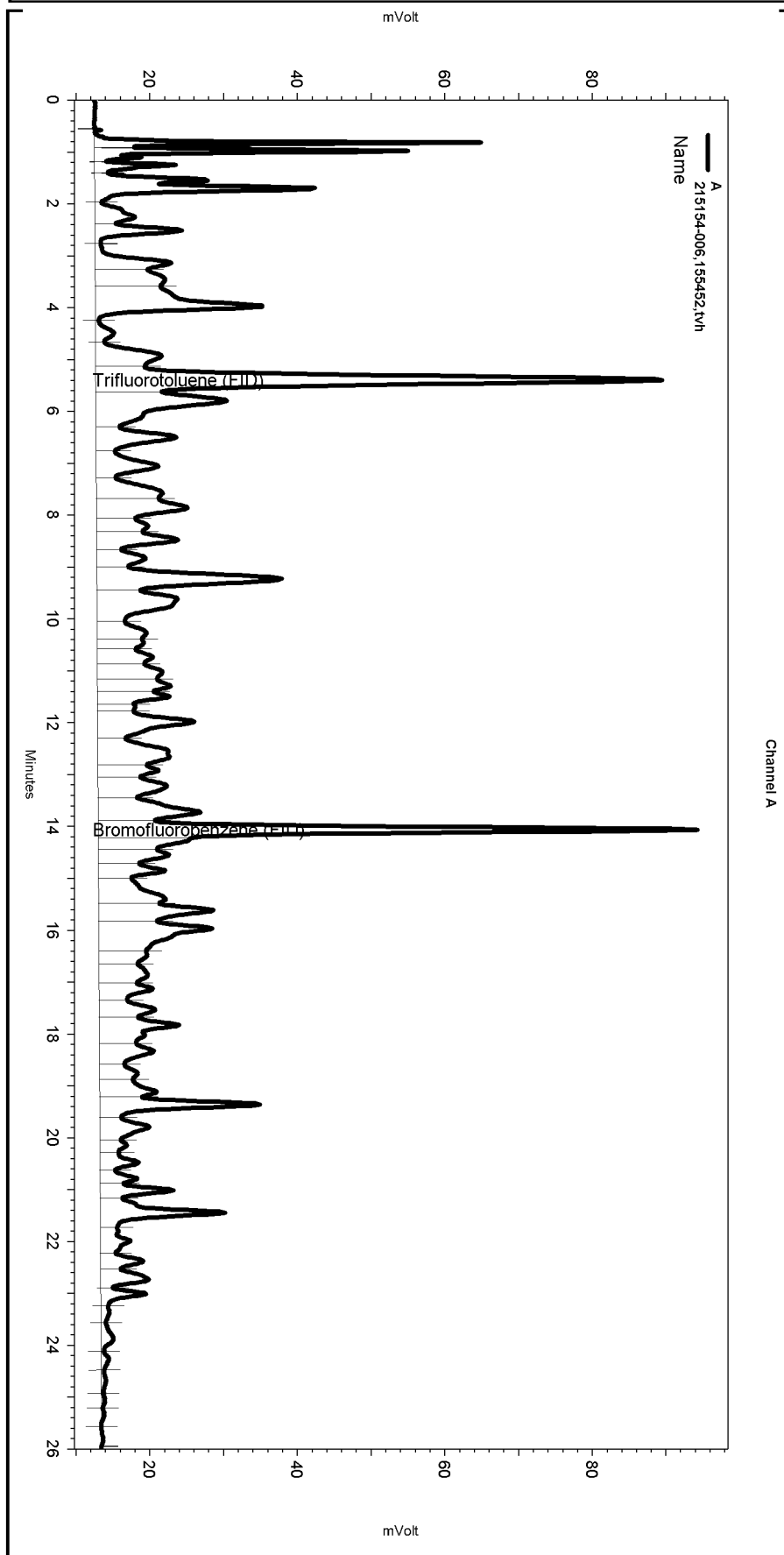
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\274_020

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Horizontal Baseline	0.628	25.788	0
Yes	Split Peak	5.862	0	0

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC19\Sequence\272.seq
 Sample Name: 215154-006,155452,tvh
 Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_044
 Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\tvhbtxe271.met

Software Version 3.1.7
 Run Date: 9/30/2009 7:44:31 PM
 Analysis Date: 10/1/2009 7:51:49 AM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: c1.3



 ---< General Method Parameters >-----

No items selected for this section

 ---< A >-----

No items selected for this section

Integration Events

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

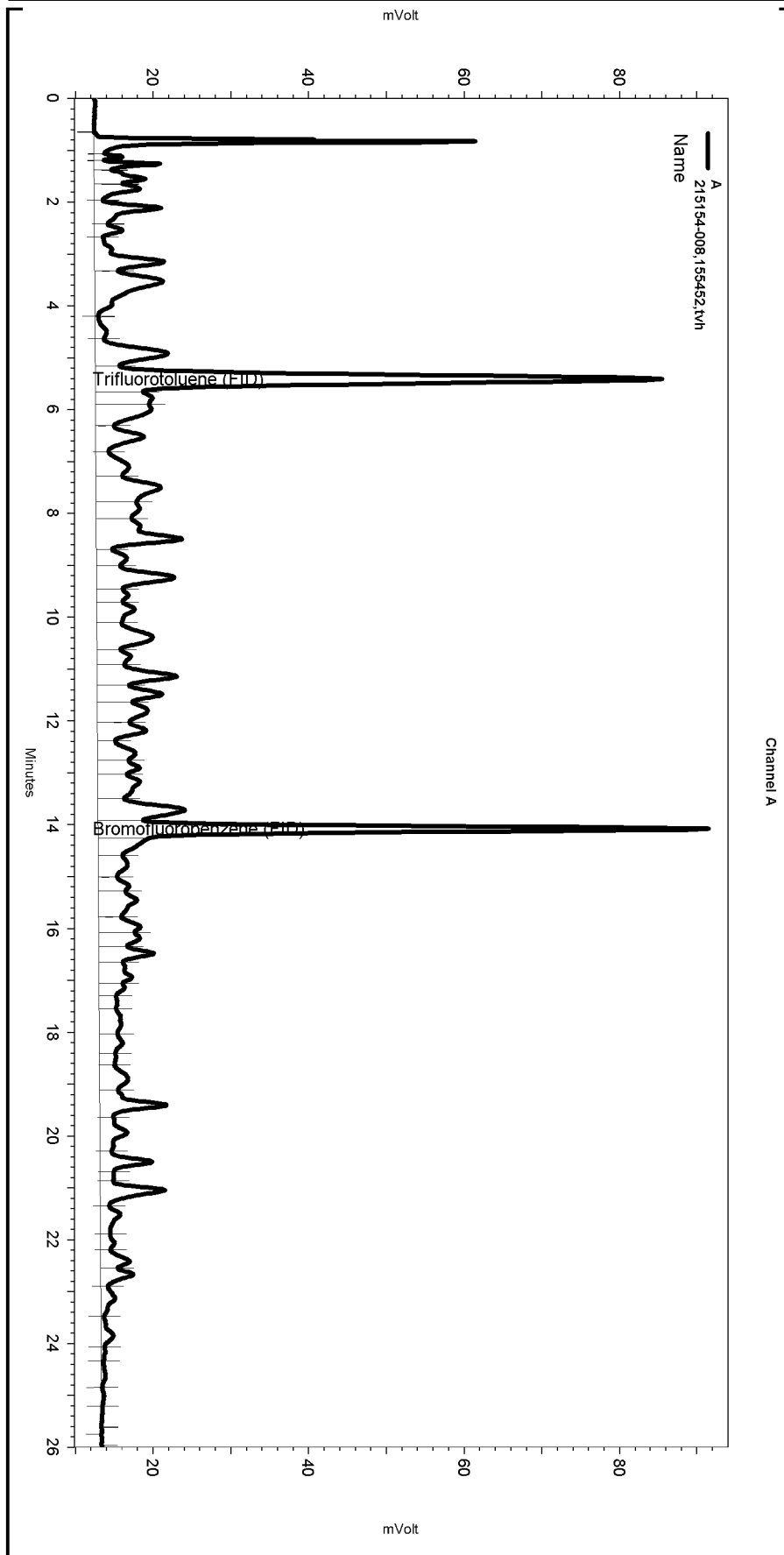
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_044

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	14.211	0	0

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC19\Sequence\272.seq
 Sample Name: 215154-008,155452,tvh
 Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_045
 Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\tvhbtxe271.met

Software Version 3.1.7
 Run Date: 9/30/2009 8:21:59 PM
 Analysis Date: 10/1/2009 7:52:36 AM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: a1.3



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

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

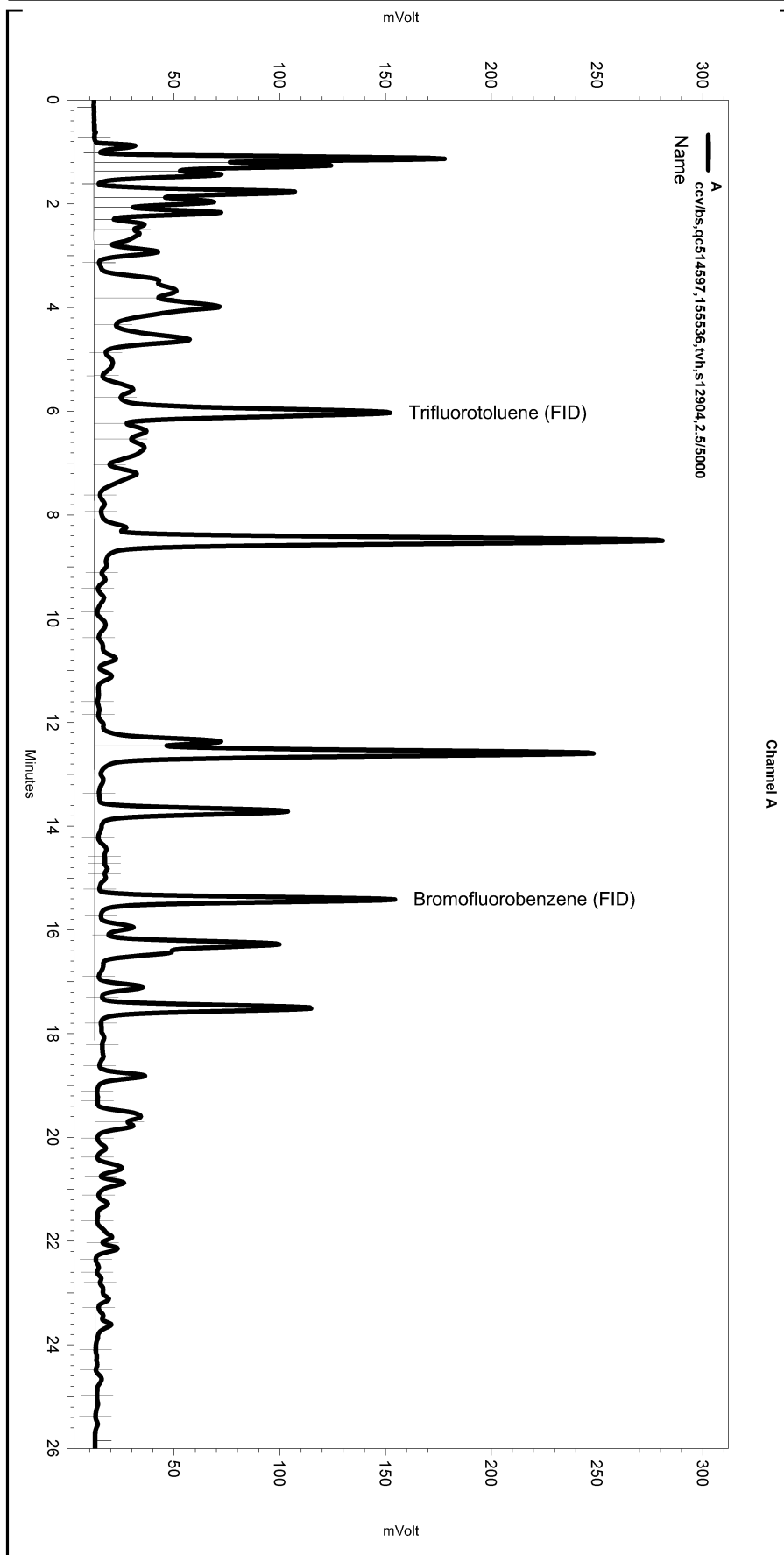
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\272_045

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	14.259	0	0

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\274.seq
 Sample Name: ccv/bs,qc514597,155536,tvh,s12904,2.5/5000
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\274_003
 Instrument: GC07 Vial: N/A Operator: Tvh 3. Analyst (lims2k3\tvh3)
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TVHBTXE267.met

Software Version 3.1.7
 Run Date: 10/1/2009 8:41:13 AM
 Analysis Date: 10/1/2009 11:47:56 AM
 Sample Amount: 5 Multiplier: 5
 Vial & pH or Core ID: {Data Description}



 ---< General Method Parameters >-----

No items selected for this section

 ---< A >-----

No items selected for this section

 Integration Events

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

 Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\274_003

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

Total Extractable Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2003-43	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/18/09
Units:	ug/L	Received:	09/22/09
Batch#:	155457	Prepared:	09/29/09

Field ID: MW-1 Diln Fac: 1.000
 Type: SAMPLE Analyzed: 10/01/09
 Lab ID: 215154-001

Analyte	Result	RL
Diesel C10-C24	5,200 Y	50

Surrogate	%REC	Limits
o-Terphenyl	102	60-130

Field ID: MW-2 Diln Fac: 1.000
 Type: SAMPLE Analyzed: 10/01/09
 Lab ID: 215154-002

Analyte	Result	RL
Diesel C10-C24	940 Y	50

Surrogate	%REC	Limits
o-Terphenyl	92	60-130

Field ID: MW-3 Diln Fac: 1.000
 Type: SAMPLE Analyzed: 10/01/09
 Lab ID: 215154-003

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

Surrogate	%REC	Limits
o-Terphenyl	95	60-130

Field ID: MW-5 Diln Fac: 2.000
 Type: SAMPLE Analyzed: 10/02/09
 Lab ID: 215154-005

Analyte	Result	RL
Diesel C10-C24	44,000 Y	100

Surrogate	%REC	Limits
o-Terphenyl	85	60-130

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

Total Extractable Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2003-43	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/18/09
Units:	ug/L	Received:	09/22/09
Batch#:	155457	Prepared:	09/29/09

Field ID: MW-6 Diln Fac: 1.000
 Type: SAMPLE Analyzed: 10/01/09
 Lab ID: 215154-006

Analyte	Result	RL
Diesel C10-C24	1,600 Y	50
Surrogate	%REC	Limits
o-Terphenyl	96	60-130

Field ID: MW-8 Diln Fac: 1.000
 Type: SAMPLE Analyzed: 10/01/09
 Lab ID: 215154-008

Analyte	Result	RL
Diesel C10-C24	1,300 Y	50
Surrogate	%REC	Limits
o-Terphenyl	98	60-130

Type: BLANK Diln Fac: 1.000
 Lab ID: QC514263 Analyzed: 10/02/09

Analyte	Result	RL
Diesel C10-C24	ND	50
Surrogate	%REC	Limits
o-Terphenyl	98	60-130

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

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2003-43	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC514264	Batch#:	155457
Matrix:	Water	Prepared:	09/29/09
Units:	ug/L	Analyzed:	10/02/09

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,660	106	53-122

Surrogate	%REC	Limits
o-Terphenyl	109	60-130

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2003-43	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	155457
MSS Lab ID:	215131-001	Sampled:	09/23/09
Matrix:	Water	Received:	09/23/09
Units:	ug/L	Prepared:	09/29/09
Diln Fac:	1.000	Analyzed:	10/01/09

Type: MS Lab ID: QC514265

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	205.6	2,500	2,421	89	45-137

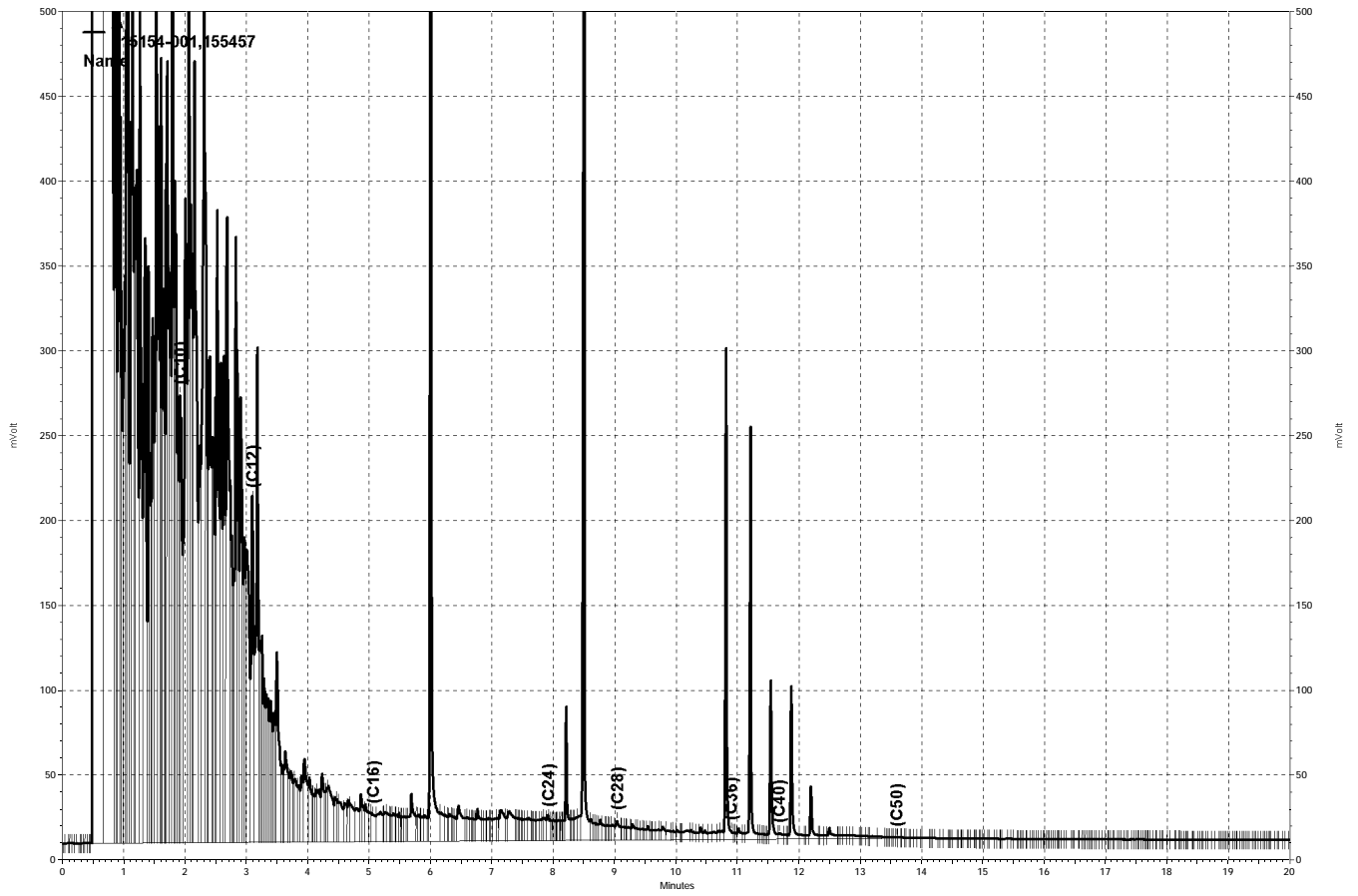
Surrogate	%REC	Limits
o-Terphenyl	98	60-130

Type: MSD Lab ID: QC514266

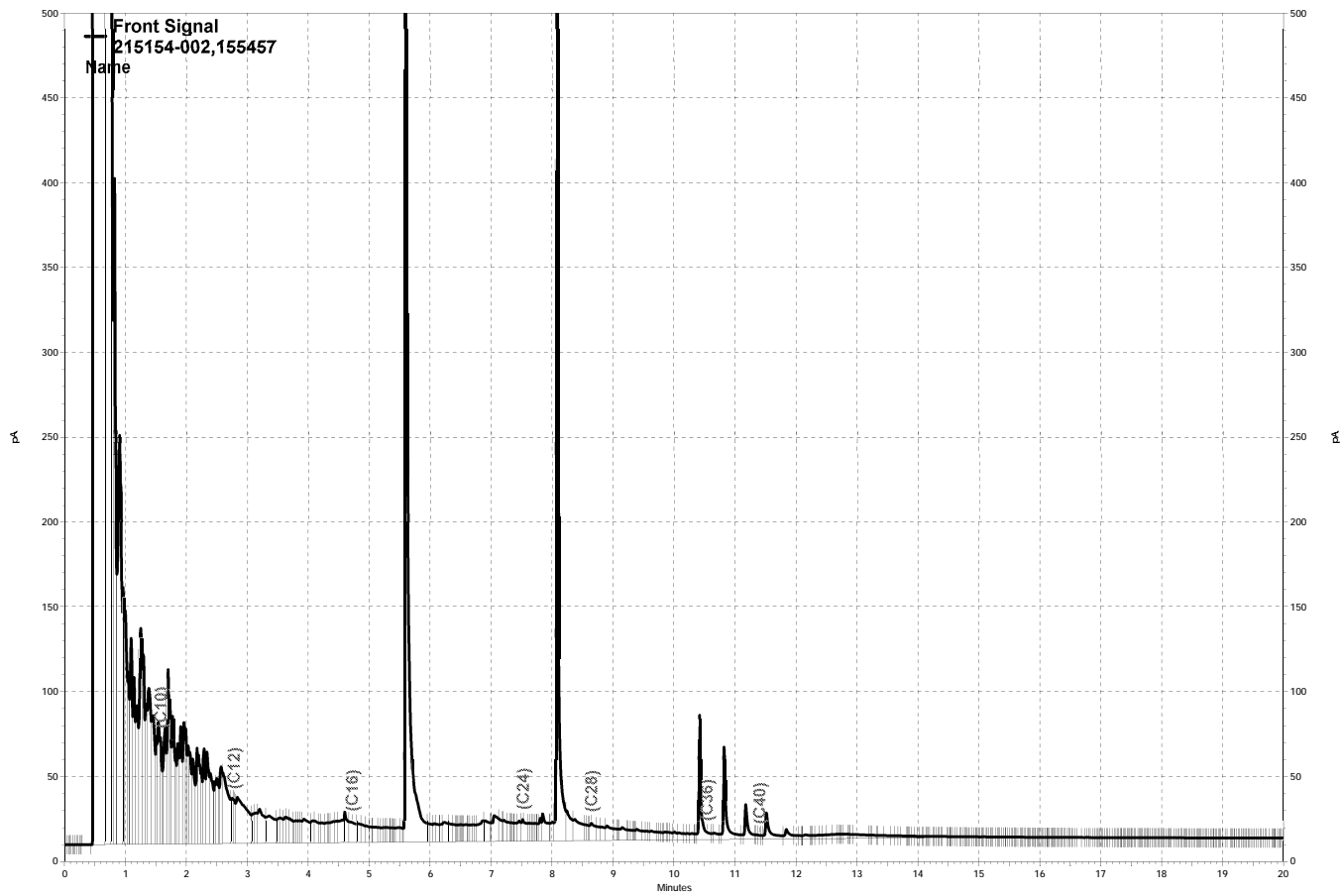
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,569	95	45-137	6	37

Surrogate	%REC	Limits
o-Terphenyl	104	60-130

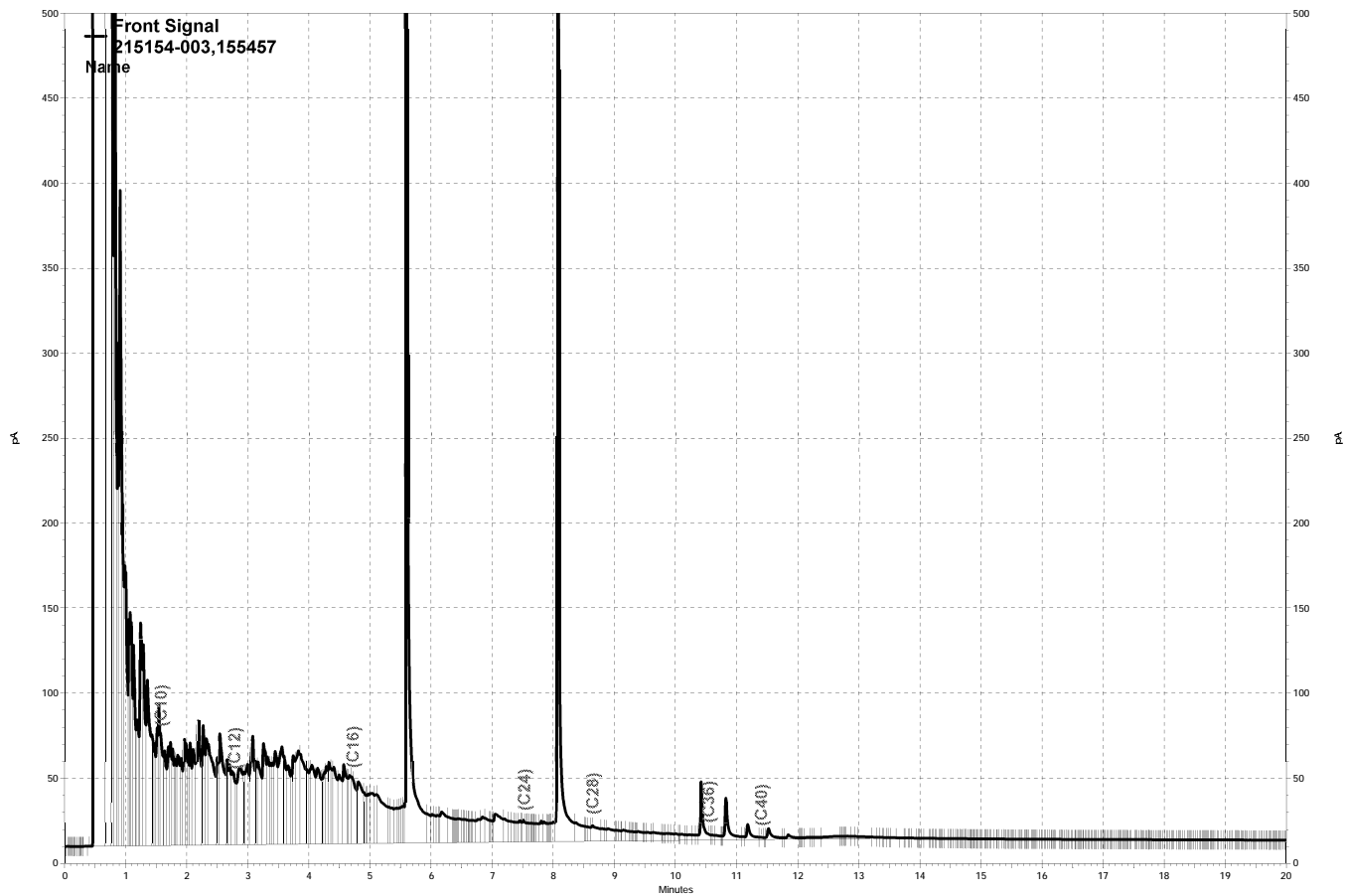
RPD= Relative Percent Difference



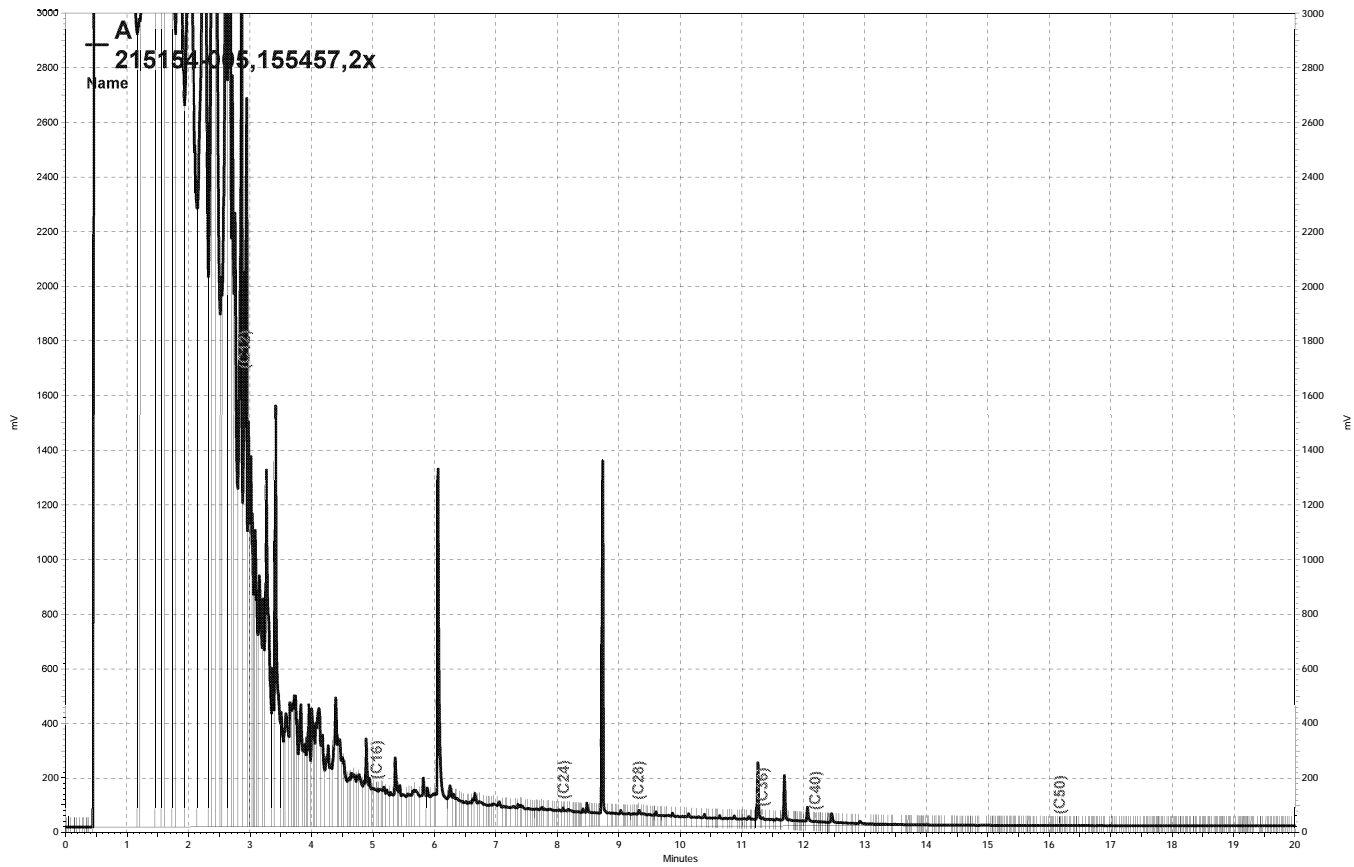
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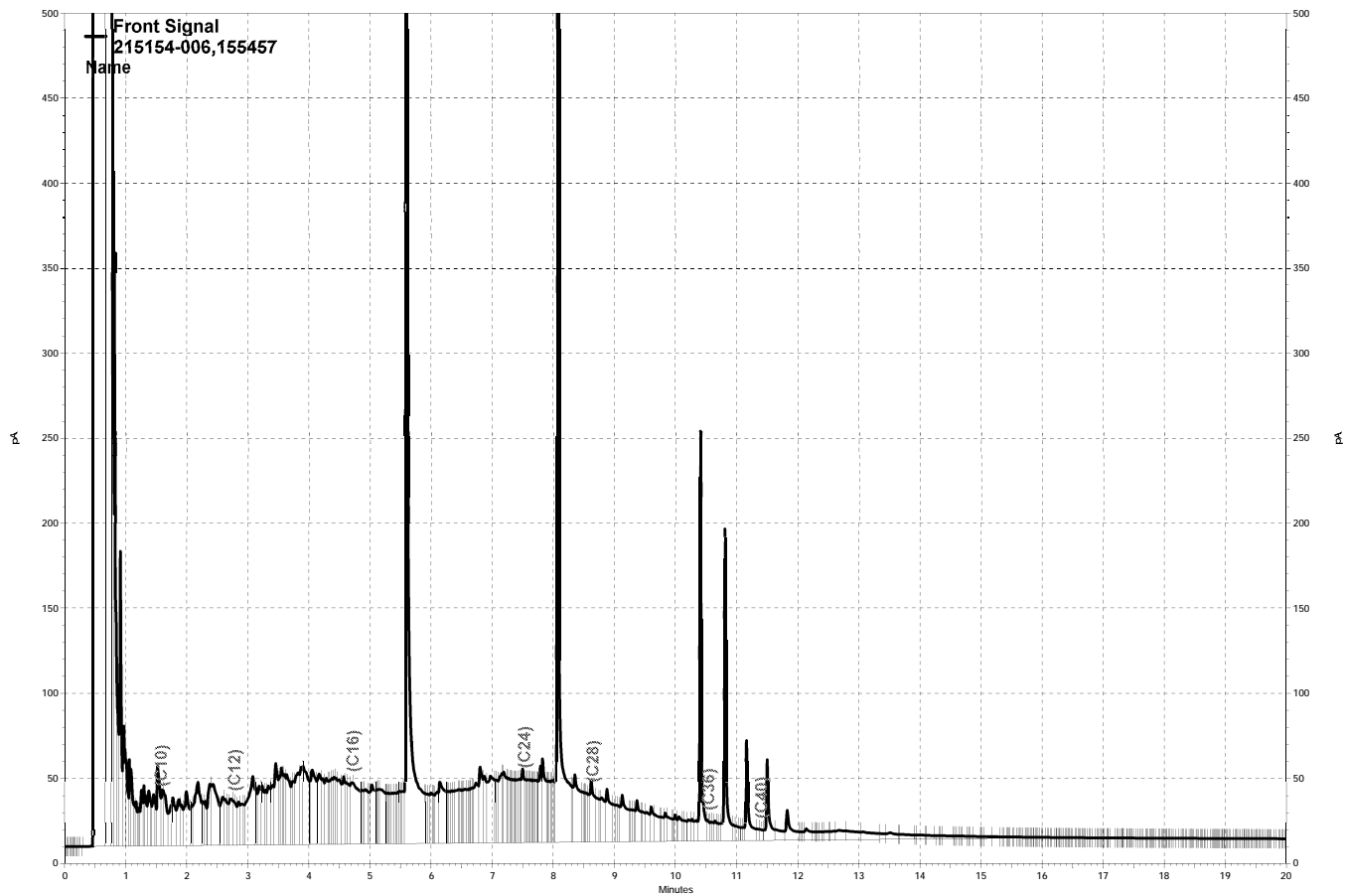
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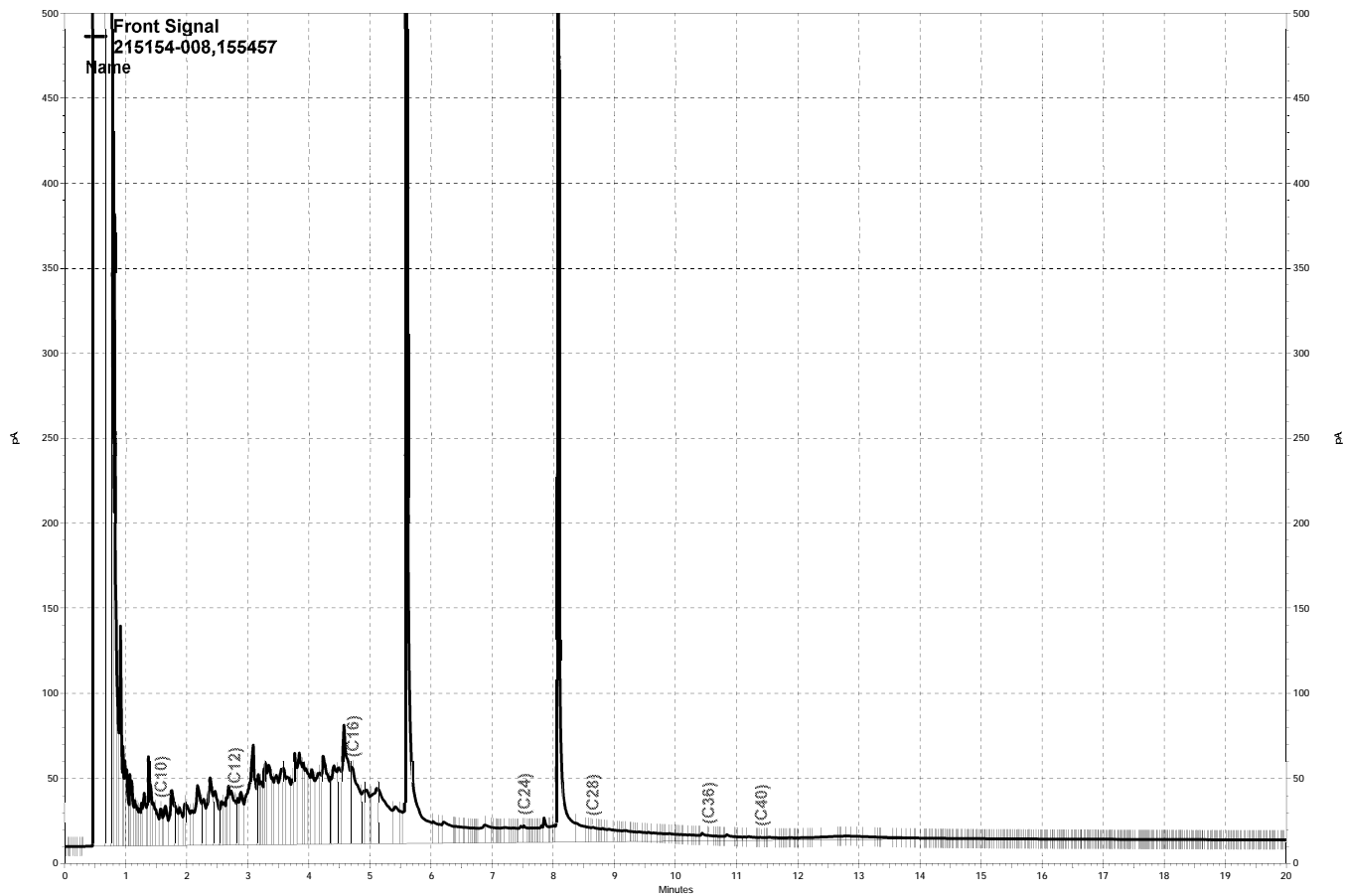
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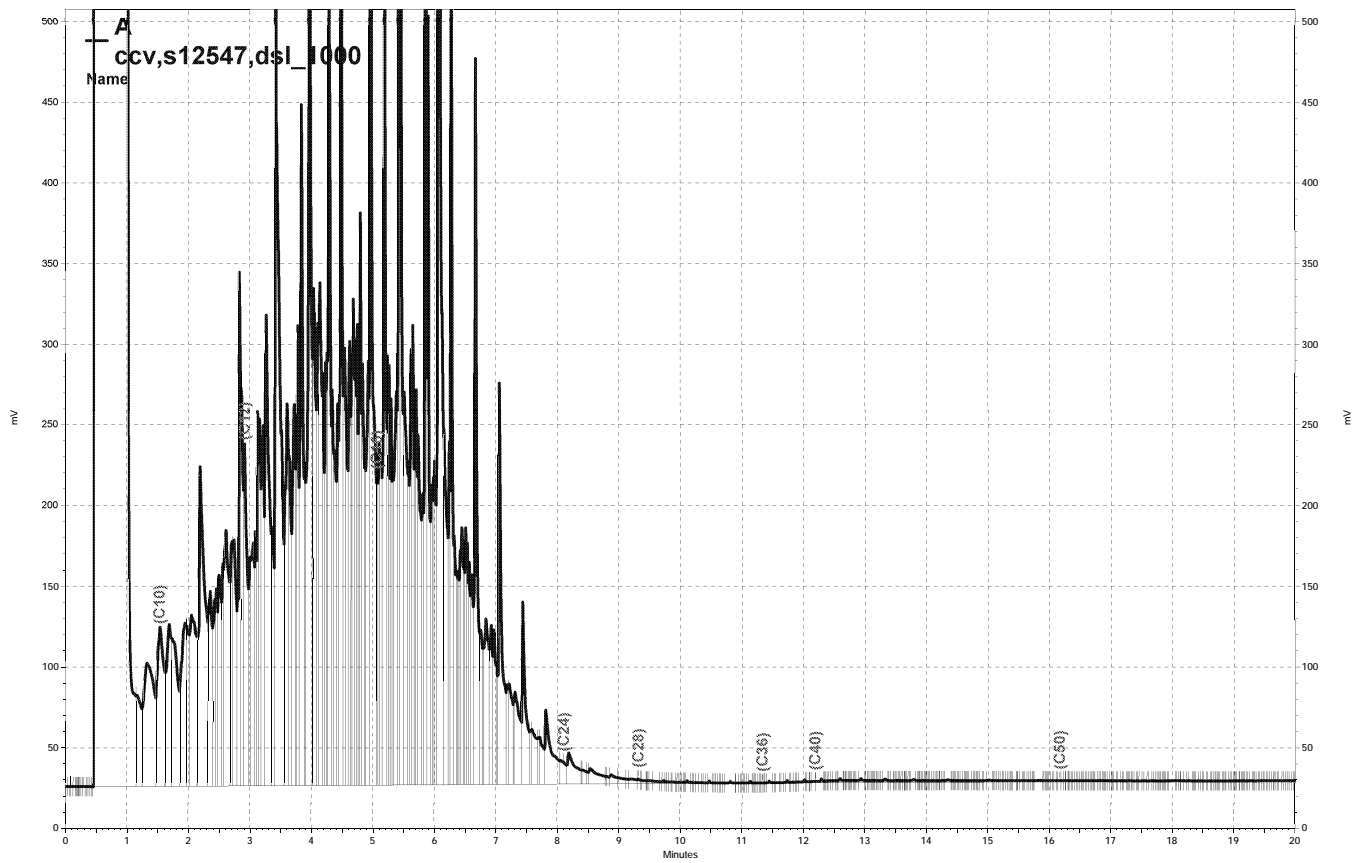
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— G:\ezchrom\Projects\GC27\Data\274a012.dat, Front Signal



— G:\ezchrom\Projects\GC27\Data\274a013.dat, Front Signal



— \\Lims\gdrive\ezchrom\Projects\GC17A\Data\275a003, A

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Field ID:	MW-1	Units:	ug/L
Lab ID:	215154-001	Sampled:	09/18/09
Matrix:	Water	Received:	09/22/09

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
tert-Butyl Alcohol (TBA)	49	10	1.000	155491	09/30/09
MTBE	0.5	0.5	1.000	155491	09/30/09
Isopropyl Ether (DIPE)	ND	0.5	1.000	155491	09/30/09
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	1.000	155491	09/30/09
1,2-Dichloroethane	7.1	0.5	1.000	155491	09/30/09
Benzene	370	5.0	10.00	155525	10/01/09
Methyl tert-Amyl Ether (TAME)	ND	0.5	1.000	155491	09/30/09
Toluene	14	0.5	1.000	155491	09/30/09
1,2-Dibromoethane	ND	0.5	1.000	155491	09/30/09
Ethylbenzene	52	0.5	1.000	155491	09/30/09
m,p-Xylenes	21	0.5	1.000	155491	09/30/09
o-Xylene	12	0.5	1.000	155491	09/30/09

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	97	80-120	1.000	155491	09/30/09
1,2-Dichloroethane-d4	109	75-137	1.000	155491	09/30/09
Toluene-d8	95	80-120	1.000	155491	09/30/09
Bromofluorobenzene	109	80-123	1.000	155491	09/30/09

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	155525
Lab ID:	215154-002	Sampled:	09/18/09
Matrix:	Water	Received:	09/22/09
Units:	ug/L	Analyzed:	10/01/09
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	18	10
MTBE	11	0.5
Isopropyl Ether (DIPE)	1.4	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	1.0	0.5
Benzene	11	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	1.4	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	5.0	0.5
m,p-Xylenes	2.2	0.5
o-Xylene	0.6	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	114	75-137
Toluene-d8	101	80-120
Bromofluorobenzene	106	80-123

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	155491
Lab ID:	215154-003	Sampled:	09/18/09
Matrix:	Water	Received:	09/22/09
Units:	ug/L	Analyzed:	09/30/09
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	35	10
MTBE	19	0.5
Isopropyl Ether (DIPE)	1.8	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	1.8	0.5
Benzene	23	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	1.8	0.5
m,p-Xylenes	1.2	0.5
o-Xylene	0.7	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-120
1,2-Dichloroethane-d4	108	75-137
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-123

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	155579
Lab ID:	215154-005	Sampled:	09/18/09
Matrix:	Water	Received:	09/22/09
Units:	ug/L	Analyzed:	10/02/09
Diln Fac:	20.00		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	200
MTBE	ND	10
Isopropyl Ether (DIPE)	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	10
1,2-Dichloroethane	ND	10
Benzene	730	10
Methyl tert-Amyl Ether (TAME)	ND	10
Toluene	160	10
1,2-Dibromoethane	ND	10
Ethylbenzene	270	10
m,p-Xylenes	1,300	10
o-Xylene	700	10

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	105	75-137
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-123

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Field ID:	MW-6	Batch#:	155491
Lab ID:	215154-006	Sampled:	09/18/09
Matrix:	Water	Received:	09/22/09
Units:	ug/L	Analyzed:	09/30/09
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	13	10
MTBE	1.3	0.5
Isopropyl Ether (DIPE)	0.8	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	8.9	0.5
Benzene	2.7	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	0.9	0.5
m,p-Xylenes	1.2	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	106	75-137
Toluene-d8	100	80-120
Bromofluorobenzene	102	80-123

ND= Not Detected
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Field ID:	MW-8	Batch#:	155491
Lab ID:	215154-008	Sampled:	09/18/09
Matrix:	Water	Received:	09/22/09
Units:	ug/L	Analyzed:	09/30/09
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	46	10
MTBE	5.7	0.5
Isopropyl Ether (DIPE)	2.8	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	0.6	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	98	80-120
1,2-Dichloroethane-d4	104	75-137
Toluene-d8	97	80-120
Bromofluorobenzene	103	80-123

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC514421	Batch#:	155491
Matrix:	Water	Analyzed:	09/30/09
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	103	80-120
1,2-Dichloroethane-d4	107	75-137
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-123

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	155491
Units:	ug/L	Analyzed:	09/30/09
Diln Fac:	1.000		

Type: BS Lab ID: QC514422

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	133.6	107	51-141
MTBE	25.00	24.35	97	70-120
Isopropyl Ether (DIPE)	25.00	25.61	102	65-130
Ethyl tert-Butyl Ether (ETBE)	25.00	24.79	99	74-126
1,2-Dichloroethane	25.00	28.23	113	70-137
Benzene	25.00	27.48	110	80-120
Methyl tert-Amyl Ether (TAME)	25.00	24.92	100	80-120
Toluene	25.00	27.47	110	80-120
1,2-Dibromoethane	25.00	27.54	110	80-120
Ethylbenzene	25.00	28.00	112	80-122
m,p-Xylenes	50.00	58.61	117	80-123
o-Xylene	25.00	27.95	112	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	101	75-137
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-123

Type: BSD Lab ID: QC514423

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	130.8	105	51-141	2	20
MTBE	25.00	26.03	104	70-120	7	20
Isopropyl Ether (DIPE)	25.00	26.58	106	65-130	4	20
Ethyl tert-Butyl Ether (ETBE)	25.00	25.87	103	74-126	4	20
1,2-Dichloroethane	25.00	28.82	115	70-137	2	20
Benzene	25.00	28.01	112	80-120	2	20
Methyl tert-Amyl Ether (TAME)	25.00	26.29	105	80-120	5	20
Toluene	25.00	28.25	113	80-120	3	20
1,2-Dibromoethane	25.00	28.44	114	80-120	3	20
Ethylbenzene	25.00	28.01	112	80-122	0	20
m,p-Xylenes	50.00	58.49	117	80-123	0	20
o-Xylene	25.00	27.79	111	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	101	75-137
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-123

RPD= Relative Percent Difference

Batch QC Report

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	155525
Units:	ug/L	Analyzed:	10/01/09
Diln Fac:	1.000		

Type: BS Lab ID: QC514552

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	127.3	102	51-141
MTBE	25.00	24.25	97	70-120
Isopropyl Ether (DIPE)	25.00	25.71	103	65-130
Ethyl tert-Butyl Ether (ETBE)	25.00	25.83	103	74-126
1,2-Dichloroethane	25.00	29.38	118	70-137
Benzene	25.00	25.75	103	80-120
Methyl tert-Amyl Ether (TAME)	25.00	25.27	101	80-120
Toluene	25.00	25.49	102	80-120
1,2-Dibromoethane	25.00	27.72	111	80-120
Ethylbenzene	25.00	26.05	104	80-122
m,p-Xylenes	50.00	55.32	111	80-123
o-Xylene	25.00	26.79	107	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	111	75-137
Toluene-d8	100	80-120
Bromofluorobenzene	99	80-123

Type: BSD Lab ID: QC514553

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	137.3	110	51-141	8	20
MTBE	25.00	23.84	95	70-120	2	20
Isopropyl Ether (DIPE)	25.00	24.49	98	65-130	5	20
Ethyl tert-Butyl Ether (ETBE)	25.00	24.38	98	74-126	6	20
1,2-Dichloroethane	25.00	28.08	112	70-137	4	20
Benzene	25.00	25.29	101	80-120	2	20
Methyl tert-Amyl Ether (TAME)	25.00	24.43	98	80-120	3	20
Toluene	25.00	25.82	103	80-120	1	20
1,2-Dibromoethane	25.00	27.27	109	80-120	2	20
Ethylbenzene	25.00	25.73	103	80-122	1	20
m,p-Xylenes	50.00	54.04	108	80-123	2	20
o-Xylene	25.00	25.79	103	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	107	75-137
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-123

RPD= Relative Percent Difference

Batch QC Report

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC514554	Batch#:	155525
Matrix:	Water	Analyzed:	10/01/09
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	104	80-120
1,2-Dichloroethane-d4	112	75-137
Toluene-d8	102	80-120
Bromofluorobenzene	110	80-123

ND= Not Detected

RL= Reporting Limit

Batch QC Report

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC514781	Batch#:	155579
Matrix:	Water	Analyzed:	10/02/09
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	105	80-120
1,2-Dichloroethane-d4	110	75-137
Toluene-d8	103	80-120
Bromofluorobenzene	101	80-123

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

BTXE & Oxygenates			
Lab #:	215154	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	155579
Units:	ug/L	Analyzed:	10/02/09
Diln Fac:	1.000		

Type: BS Lab ID: QC514782

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	93.75	87.14	93	51-141
MTBE	18.75	18.91	101	70-120
Isopropyl Ether (DIPE)	18.75	19.40	103	65-130
Ethyl tert-Butyl Ether (ETBE)	18.75	19.25	103	74-126
1,2-Dichloroethane	18.75	21.43	114	70-137
Benzene	18.75	20.46	109	80-120
Methyl tert-Amyl Ether (TAME)	18.75	19.46	104	80-120
Toluene	18.75	20.13	107	80-120
1,2-Dibromoethane	18.75	20.21	108	80-120
Ethylbenzene	18.75	22.07	118	80-122
m,p-Xylenes	37.50	42.92	114	80-123
o-Xylene	18.75	21.05	112	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	109	75-137
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-123

Type: BSD Lab ID: QC514783

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	93.75	88.01	94	51-141	1	20
MTBE	18.75	18.28	97	70-120	3	20
Isopropyl Ether (DIPE)	18.75	17.89	95	65-130	8	20
Ethyl tert-Butyl Ether (ETBE)	18.75	18.10	97	74-126	6	20
1,2-Dichloroethane	18.75	19.99	107	70-137	7	20
Benzene	18.75	18.94	101	80-120	8	20
Methyl tert-Amyl Ether (TAME)	18.75	18.19	97	80-120	7	20
Toluene	18.75	18.74	100	80-120	7	20
1,2-Dibromoethane	18.75	19.14	102	80-120	5	20
Ethylbenzene	18.75	20.51	109	80-122	7	20
m,p-Xylenes	37.50	39.52	105	80-123	8	20
o-Xylene	18.75	19.29	103	80-120	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-120
1,2-Dichloroethane-d4	110	75-137
Toluene-d8	102	80-120
Bromofluorobenzene	98	80-123

RPD= Relative Percent Difference

APPENDIX C

Historical Groundwater Monitoring Well Analytical Data

Table C-1
Historical Groundwater Monitoring Well Groundwater Analytical Results
Petroleum and Aromatic Hydrocarbons (µg/L)
240 W. MacArthur Boulevard, Oakland, Alameda, California

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-1									
Yes	1	Aug-97	1,140	< 1,000	110	16	15	112	NA
Yes	2	Dec-97	ND	NA	ND	ND	ND	31	NA
Yes	3	Mar-98	370	NA	8.9	< 0.5	< 0.5	2.2	18
Yes	4	Jul-98	6,400	NA	1,300	23	3.7	58	97
Yes	5	Oct-98	2,500	NA	360	44	1.3	150	< 0.5
Yes	6	Jan-99	2,700	NA	1,200	28	140	78	130
(a)	7	Jun-00	27,000	NA	5,200	500	320	3,100	1,300
(a)	8	Dec-00	976,000	NA	2,490	1,420	3,640	10,100	< 150
(a)	9	Feb-01	NA	NA	NA	NA	NA	NA	NA
(a)	10	May-01	20,000	NA	2,900	310	230	1,900	< 30
(a)	11	Jul-01	92,000	NA	2,900	580	2,800	20,000	560
Pre“hi-vac”	12	Oct 22-01	20,000	NA	3,700	560	410	4,600	2,600
Post “hi-vac”	12	Oct 26-01	< 0.05	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	3,300	NA	200	12	5.7	43	44
No	14	Mar-02	4,600	NA	820	4.4	100	300	210
No	15	May-02	1,600	NA	100	23	20	190	7.7
No	16	Jul-02	2,300	NA	250	15	13	180	180
No	17	Oct-02	1,820	NA	222	16	< 0.3	59	58
No	18	Jan-03	2,880	NA	188	< 50	< 50	157	20
No	19	Mar-03	6,700	NA	607	64	64	288	< 0.18
No	20	Aug-03	4,900	5,000	740	45	85	250	14
Yes	21	Dec-03	8,930	800	1,030	55	127	253	212
Yes	22	Mar-04	11,300	1,100	483	97	122	452	67
Yes	23	Jun-04	9,300	4,000	1,700	75	92	350	6.0
Yes	24	Sep-04	9,100	97	920	19	82	201	7.2
Yes	25	Dec-04	11,000	3,300	830	21	74	118	7.9
Yes	26	Mar-05	4,700	3,500	450	28	42	97	6.7
Yes	27	Jun-05	21,000	6,800	1,900	270	320	2,800	< 13
Yes	28	Sep-05	23,000	2,500	2,100	100	200	880	< 2.5
Yes	29	Dec-05	4,300	3,000	500	22	72	228	5.5
Yes	30	Mar-06	11,000	3,000	340	45	89	630	4.3
Yes	31	Jun-06	21,000	8,500	1,600	160	170	1,000	< 2.5
Yes	32	Sep-06	13,000	6,200	1,700	76	110	440	< 13
Yes	33	Dec-06	16,000	4,100	1,500	100	160	670	< 13
Yes	34	Mar-07	22,000	6,200	1,700	140	180	1,100	< 13
Yes	35	Jun-07	3,600	1,500	210	10	19	61	3.2
Yes	36	Sep-07	1,400	1,700	50	< 0.5	1.3	< 0.5	4.1
Yes	37	Dec-07	2,700	840	170	5.5	7.5	34.6	3.1
Yes	38	Mar-08	2,300	1,000	77	<2.5	8.2	10	<2.5
No	39	Jun-08	NS	NS	NS	NS	NS	NS	NS
Yes	40	Sep-08	1,700	2,600	170	5	3	19	<1.3
Yes	41	Dec-08	4,300	1,100	180	6.7	12	27.3	<1.3
Yes	42	Mar-09	9,200	5,200	84	6.4	29	54.0	1.0
Yes	43	Sep-09	4,300	5,200	370	14.0	52	33.0	0.5

(table continued on next page; footnotes on final page)

Table C-1 continued

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-2									
Yes	1	Aug-97	5,350	< 1,000	108	36	33	144	NA
Yes	2	Dec-97	1,600	NA	73	ND	ND	ND	NA
Yes	3	Mar-98	3,400	NA	830	100	210	240	870
Yes	4	Jul-98	3,100	NA	25	2.2	< 0.5	0.9	1,900
Yes	5	Oct-98	4,300	NA	< 0.5	1.2	< 0.5	1	4,200
Yes	6	Jan-99	2,900	NA	160	8.9	6.9	78.4	2,100
(a)	7	Jun-00	2,700	NA	200	17	30	16	680
(a)	8	Dec-00	3,020	NA	56.7	< 1.5	< 1.5	< 3.0	3,040
(a)	9	Feb-01	NA	NA	NA	NA	NA	NA	NA
(a)	10	May-01	720	NA	49	< 3.0	4.6	< 3.0	380
(a)	11	Jul-01	8,400	NA	350	44	77	78	550
Pre "hi-vac"	12	Oct 22-01	850	NA	170	4.9	5.1	14	260
Post "hi-vac"	12	Oct 26-01	770	NA	86	5.5	9.6	8.5	310
(a)	13	Dec-01	1,300	NA	9.2	< 2.0	< 2.0	< 2.0	370
No	14	Mar-02	1,300	NA	76	3.8	21	15	460
No	15	May-02	320	NA	12	1.1	4.6	4.8	160
No	16	Jul-02	1,300	NA	130	1	9.4	5.6	420
No	17	Oct-02	1,060	NA	12	2.2	4.2	3.5	270
No	18	Jan-03	581	NA	6.5	< 5.0	< 5.0	< 5.0	130
No	19	Mar-03	1,250	NA	< 0.22	< 0.32	< 0.31	< 0.4	155
No	20	Aug-03	2,200	730	58	9.2	< 0.5	28	240
Yes	21	Dec-03	1,980	100	29	22.0	7.4	13	295
Yes	22	Mar-04	2,700	100	12	16.0	9	12	249
Yes	23	Jun-04	1,200	370	42	0.7	2.6	0.9	170
Yes	24	Sep-04	1,500	280	14	< 0.5	< 0.5	0.6	130
Yes	25	Dec-04	1,400	540	26	1.1	1.8	3.5	91
Yes	26	Mar-05	2,300	420	5.3	< 1.0	3.7	< 2.0	120
Yes	27	Jun-05	1,600	500	14	< 0.5	1.8	0.68	66
Yes	28	Sep-05	1,400	210	30	1.3	12	26	58
Yes	29	Dec-05	1,300	800	4.9	0.6	0.7	0.8	74
Yes	30	Mar-06	1,300	400	3.2	< 0.7	< 0.7	< 1.4	120
Yes	31	Jun-06	1,400	1,200	33.0	1.3	3.5	< 1.6	84
Yes	32	Sep-06	8,300	1,600	67.0	4.1	4.6	15.4	64
Yes	33	Dec-06	1,500	940	22.0	2.9	2.6	3.5	67
Yes	34	Mar-07	1,200	760	65	1.9	3.7	1.6	59
Yes	35	Jun-07	2,900	1,000	67	3.2	14.0	7.5	49
No	36	Sep-07	NS	NS	NS	NS	NS	NS	NS
Yes	37	Dec-07	1,200	510	14	< 0.5	< 0.5	0.5	33
Yes	38	Mar-08	1,100	3,800	13	0.9	0.9	2.3	61
Yes	39	Jun-08	2,400	4,300	3.9	2.2	3	9.4	73
Yes	40	Sep-08	1,300	1,800	12	8.6	10	34.6	72
Yes	41	Dec-08	2,100	620	46	22	39	73	41
Yes	42	Mar-09	2,200	1,600	22	3	10	16	17
Yes	43	Sep-09	750	940	11	1	5	3	11

(table continued on next page; footnotes on final page)

Table C-1 continued

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-3									
Yes	1	Aug-97	8,500	< 1,000	450	30	53	106	NA
Yes	2	Dec-97	5,200	NA	180	6	5	9.3	NA
Yes	3	Mar-98	1,000	NA	6	< 0.5	< 0.5	< 0.5	810
Yes	4	Jul-98	6,400	NA	490	57	23	78	220
Yes	5	Oct-98	2,100	NA	< 5.0	< 5.0	< 5.0	< 5.0	2,100
Yes	6	Jan-99	4,400	NA	450	65	26	42	1,300
(a)	7	Jun-00	1,700	NA	110	13	34	13	96
(a)	8	Dec-00	5,450	NA	445	< 7.5	23.8	< 7.5	603
(a)	9	Feb-01	NA	NA	NA	NA	NA	NA	NA
(a)	10	May-01	1,900	NA	180	12	< 3.0	19	330
(a)	11	Jul-01	10,000	NA	830	160	150	260	560
Pre“hi-vac”	12	Oct 22-01	1,400	NA	240	7.8	4.1	15	220
Post “hi-vac”	12	Oct 26-01	1,900	NA	200	16	51	30	290
(a)	13	Dec-01	5,800	NA	93	< 20	31	< 20	330
No	14	Mar-02	1,900	NA	220	16	31	24	400
No	15	May-02	1,600	NA	110	3.4	29	14	320
No	16	Jul-02	1,900	NA	210	27	30	55	200
No	17	Oct. 2002	3,030	NA	178	19	6.2	36	178
No	18	Jan-03	2,980	NA	47	< 5.0	7.6	6.3	105
No	19	Mar-03	3,620	NA	124	< 0.32	22	12	139
No	20	Aug-03	3,800	2,400	170	28	31	31	170
Yes	21	Dec-03	6,860	500	312	20	55	58	309
Yes	22	Mar-04	5,490	500	82	34	46	49	249
Yes	23	Jun-04	5,400	1,100	150	30	45	66	130
Yes	24	Sep-04	5,400	1,500	70	3.2	16	13	110
Yes	25	Dec-04	5,300	2,400	91	7.4	21	19	92
Yes	26	Mar-05	4,700	2,000	19	1.1	10	3.7	76
Yes	27	Jun-05	4,200	1,800	49	4.5	23	16	66
Yes	28	Sep-05	5,000	950	60	3.1	12	26	59
Yes	29	Dec-05	3,200	1,800	29	1.3	6.6	5.6	80
Yes	30	Mar-06	4,100	1,200	24	1.1	8.5	3.4	99
Yes	31	Jun-06	4,000	1,400	89.0	8.4	14.0	16.7	75
Yes	32	Sep-06	6,100	2,600	190	15.0	24.0	59.0	51
Yes	33	Dec-06	4,500	2,000	110	4.0	7.3	19.1	47
Yes	34	Mar-07	3,800	2,400	90	3.7	9.8	11.1	51
Yes	35	Jun-07	4,500	2,100	8.9	1.4	14.0	4.0	77
Yes	36	Sep-07	4,000	NA	4.6	< 0.5	1.3	< 0.5	75
Yes	37	Dec-07	1,400	2,600	11.0	0.8	0.7	3.9	84
Yes	38	Mar-08	1,700	9,600	19.0	< 0.5	< 0.5	0.6	100
Yes	39	Jun-08	2,100	1,200	7.9	< 0.5	< 0.5	0.8	86
Yes	40	Sep-08	1,400	4,300	14.0	< 0.5	0.7	1.5	75
Yes	41	Dec-08	1,700	4,100	79	1.6	5.2	10.6	47
Yes	42	Mar-09	1,100	5,100	41	0.6	2.4	3.0	44
Yes	43	Sep-09	1,100	1,700	23	< 0.5	1.8	1.9	19

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Table C-1 continued

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-4									
Yes	1	Aug-97	< 500	< 1,000	< 0.5	< 0.5	< 0.5	< 1.5	NA
Yes	2	Dec-97	ND	NA	ND	ND	ND	ND	NA
Yes	3	Mar-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	4	Jul-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	5	Oct-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	6	Jan-99	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	7	Jun-00	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	8	Dec-00	< 500	NA	< 0.3	< 0.3	< 0.6	< 0.3	< 0.3
(a)	9	Feb-01	NA	NA	NA	NA	NA	NA	NA
(a)	10	May-01	< 50	NA	1.2	< 0.3	0.55	1.2	2.9
(a)	11	Jul-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre“hi-vac”	12	Oct 22-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post “hi-vac”	12	Oct 26-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	ND	NA	ND	ND	ND	ND	ND
No	14	Mar-02	< 50	NA	< 1	< 1	< 1	< 1	< 1
No	15	May-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 0.3
No	18	Jan-03	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	14
No	19	Mar-03	< 15	NA	< 0.4	< 0.02	< 0.02	< 0.06	5.2
No	20	Aug-03	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	21	Dec-03	63	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	22	Mar-04	< 50	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	23	Jun-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	0.9
Yes	24	Sep-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	2.3
Yes	25	Dec-04	< 50	NA	NA	NA	NA	NA	NA
Yes	26	Mar-05	< 50	NA	NA	NA	NA	NA	NA
Yes	27	Jun-05	< 50	NA	NA	NA	NA	NA	NA
Yes	28	Sep-05	< 50	NA	NA	NA	NA	NA	NA
Yes	29	Dec-05	< 50	NA	NA	NA	NA	NA	NA
Yes	30	Mar-06	< 50	NA	NA	NA	NA	NA	NA
Yes	31	Jun-06	< 50	NA	NA	NA	NA	NA	NA
Yes	32	Sep-06	< 50	NA	NA	NA	NA	NA	NA
Yes	33	Dec-06	59	NA	NA	NA	NA	NA	NA
Yes	34	Mar-07	<50	NA	NA	NA	NA	NA	NA
Yes	35	Jun-07	57	NA	NA	NA	NA	NA	NA
Yes	36	Sep-07	70	NA	NA	NA	NA	NA	NA
Yes	37	Dec-07	90	NA	NA	NA	NA	NA	NA
Yes	38	Mar-08	120	NA	NA	NA	NA	NA	NA
Yes	39	Jun-08	190	NA	NA	NA	NA	NA	NA
Yes	40	Sep-08	140	NA	NA	NA	NA	NA	NA
Yes	41	Dec-08	130	NA	NA	NA	NA	NA	NA
Yes	42	Mar-09	81	NA	NA	NA	NA	NA	NA
Yes	43	Sep-09	<50	NA	NA	NA	NA	NA	NA

(table continued on next page; footnotes on final page)

Table C-1 continued

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-5									
(a)	9	Feb-01	5,660	NA	76.9	21.1	47.3	312	< 0.3
(a)	10	May-01	22,000	NA	2,600	480	220	2,700	< 30
(a)	11	Jul-01	72,000	NA	3,500	1,100	4,300	22,000	2,500
Pre“hi-vac”	12	Oct 22-01	26,000	NA	2,800	980	6,000	950	2,300
Post “hi-vac”	12	Oct 26-01	17,000	NA	1,200	470	2,900	440	900
(a)	13	Dec-01	2,000	NA	620	190	110	910	< 20
No	14	Mar-02	8,800	NA	1,200	72	7.4	350	1,200
No	15	May-02	2,000	NA	150	38	21	260	13
No	16	Jul-02	4,200	NA	480	68	29	280	450
No	17	Oct-02	5,370	NA	236	45	23	39	135
No	18	Jan-03	8,270	NA	615	156	174	1,010	< 10
No	19	Mar-03	12,400	NA	824	195	213	1,070	< 0.18
No	20	Aug-03	18,000	10,000	950	290	330	1,820	< 2.0
Yes	21	Dec-03	11,900	800	627	263	288	1,230	595
Yes	22	Mar-04	20,700	850	867	266	305	678	145
Yes	23	Jun-04	12,000	1,700	920	240	260	1,150	< 3.1
Yes	24	Sep-04	13,000	1,900	580	240	260	1,260	< 4.2
Yes	25	Dec-04	16,000	3,300	730	200	250	1,100	< 4.2
Yes	26	Mar-05	6,300	4,600	190	28	42	280	< 1.7
Yes	27	Jun-05	16,000	4,100	1,100	260	380	1,590	< 7.1
Yes	28	Sep-05	15,000	3,600	810	210	300	1,300	< 1.3
Yes	29	Dec-05	9,600	3,600	270	80	110	710	< 1.7
Yes	30	Mar-06	9,800	5,100	240	47	97	590	< 2.0
Yes	31	Jun-06	28,000	4,900	920.0	250.0	350.0	1,480	< 2.0
Yes	32	Sep-06	12,000	2,400	580	170	230	980	< 3.6
Yes	33	Dec-06	15,000	3,400	510	160	260	1,190	< 3.6
Yes	34	Mar-07	20,000	4,600	910	230	360	1,560	< 3.6
No	35	Jun-07	NS	NS	NS	NS	NS	NS	NS
No	36	Sep-07	NS	NS	NS	NS	NS	NS	NS
No	37	Dec-07	NS	NS	NS	NS	NS	NS	NS
No	38	Mar-08	NS	NS	NS	NS	NS	NS	NS
No	39	Jun-08	NS	NS	NS	NS	NS	NS	NS
No	40	Sep-08	NS	NS	NS	NS	NS	NS	NS
Yes	41	Dec-08	32,000	34,000	400	90	64	640	< 6.3
Yes	42	Mar-09	9,700	9,000	140	34	38	280	< 107
Yes	43	Sep-09	210,000	44,000	730	160	270	2,000	< 10

(table continued on next page; footnotes on final page)

Table C-1 continued

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-6									
(a)	9	Feb-01	1,340	NA	17	0.967	11.1	51.4	< 0.3
(a)	10	May-01	610	NA	15	0.97	< 0.5	46	< 0.5
(a)	11	Jul-01	2,500	NA	130	4.7	53	170	120
Pre“hi-vac”	12	Oct 22-01	280	NA	18	1.2	6.2	4.7	6
Post “hi-vac”	12	Oct 26-01	3,600	NA	210	20	170	62	120
(a)	13	Dec-01	5,300	NA	69	5.6	14	17	< 2.0
No	14	Mar-02	71	NA	54	4.2	27	17	8.5
No	15	May-02	150	NA	9.3	< 0.5	< 0.5	< 0.5	1.5
No	16	Jul-02	2,200	NA	98	32	46	150	66
No	17	Oct-02	786	NA	48	5.0	2.2	44	16
No	18	Jan-03	497	NA	6.8	< 5.0	< 5.0	11	< 1.0
No	19	Mar-03	258	NA	5.4	< 0.32	3.3	< 1.1	< 0.18
No	20	Aug-03	1,600	2,800	37	4	23	58	< 0.5
Yes	21	Dec-03	365	200	2.5	3.8	1.4	6.1	< 5.0
Yes	22	Mar-04	215	140	4.0	1.2	1.4	1.4	3.7
Yes	23	Jun-04	710	830	14.0	0.7	5.2	6.6	< 0.5
Yes	24	Sep-04	350	600	< 0.5	2.4	< 0.5	< 0.5	< 0.5
Yes	25	Dec-04	280	1,100	4.9	< 0.5	1.4	4.4	< 0.5
Yes	26	Mar-05	300	980	5.4	< 0.5	3.3	2.3	< 0.5
Yes	27	Jun-05	150	1,100	< 0.5	< 0.5	< 0.5	0.77	28
Yes	28	Sep-05	680	200	13	0.9	6.6	13	< 0.5
Yes	29	Dec-05	240	890	3.6	< 0.5	0.7	2.4	0.5
Yes	30	Mar-06	530	950	8.3	< 0.5	4.0	2.1	0.6
Yes	31	Jun-06	460	1,300	8.3	< 0.5	1.4	2.6	< 0.5
Yes	32	Sep-06	530	730	10.0	0.8	4.1	7.5	< 0.5
Yes	33	Dec-06	500	750	7.5	< 0.5	2.6	2.5	< 0.5
Yes	34	Mar-07	430	530	7.1	< 0.5	1.7	0.8	< 0.5
No	35	Jun-07	NS	NS	NS	NS	NS	NS	NS
No	36	Sep-07	NS	NS	NS	NS	NS	NS	NS
No	37	Dec-07	NS	NS	NS	NS	NS	NS	NS
No	38	Mar-08	NS	NS	NS	NS	NS	NS	NS
No	39	Jun-08	NS	NS	NS	NS	NS	NS	NS
No	40	Sep-08	NS	NS	NS	NS	NS	NS	NS
Yes	41	Dec-08	810	810	2.6	<0.5	0.8	3.1	1.1
Yes	42	Mar-09	740	3,300	14.0	<0.5	1.6	8.6	2.6
Yes	43	Sep-09	340	1,600	2.7	<0.5	0.9	1.2	1.3

(table continued on next page; footnotes on final page)

Table C-1 continued

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-7									
(a)	9	Feb-01	ND	NA	ND	ND	ND	ND	ND
(a)	10	May-01	< 50	NA	0.75	0.77	0.48	2.4	1.1
(a)	11	Jul-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre“hi-vac”	12	Oct 22-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post “hi-vac”	12	Oct 26-01	6,000	NA	170	550	110	120	970
(a)	13	Dec-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	43
No	14	Mar-02	< 50	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
No	15	May-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
No	18	Jan-03	NA	NA	NA	NA	NA	NA	NA
No	19	Mar-03	< 15	NA	< 0.04	< 0.02	< 0.02	< 0.06	< 0.03
No	20	Aug-03	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	21	Dec-03	< 50	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	22	Mar-04	86	NA	< 0.3	< 0.3	< 0.3	< 0.6	57
Yes	23	Jun-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	24	Sep-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	25	Dec-04	< 50	NA	NA	NA	NA	NA	NA
Yes	26	Mar-05	< 50	NA	NA	NA	NA	NA	NA
Yes	27	Jun-05	< 50	NA	NA	NA	NA	NA	NA
Yes	28	Sep-05	< 50	NA	NA	NA	NA	NA	NA
Yes	29	Dec-05	< 50	NA	NA	NA	NA	NA	NA
Yes	30	Mar-06	< 50	NA	NA	NA	NA	NA	NA
Yes	31	Jun-06	< 50	NA	NA	NA	NA	NA	NA
Yes	32	Sep-06	< 50	NA	NA	NA	NA	NA	NA
Yes	33	Dec-06	< 50	NA	NA	NA	NA	NA	NA
Yes	34	Mar-07	< 50	NA	NA	NA	NA	NA	NA
No	35	Jun-07	NS	NA	NA	NA	NA	NA	NA
No	36	Sep-07	NS	NA	NA	NA	NA	NA	NA
No	37	Dec-07	NS	NA	NA	NA	NA	NA	NA
No	38	Mar-08	NS	NA	NA	NA	NA	NA	NA
No	39	Jun-08	NS	NS	NS	NS	NS	NS	NS
No	40	Sep-08	NS	NS	NS	NS	NS	NS	NS
Yes	41	Dec-08	<50	NA	NA	NA	NA	NA	NA
Yes	42	Mar-09	<50	NA	NA	NA	NA	NA	NA
Yes	43	Sep-09	<50	NA	NA	NA	NA	NA	NA

(table continued on next page; footnotes on final page)

Table C-1 continued

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-8									
(a)	9	Feb-01	1,000	NA	3.97	< 0.3	3.78	1.63	620
(a)	10	May-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	4.4
(a)	11	Jul-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre“hi-vac”	12	Oct 22-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post “hi-vac”	12	Oct 26-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	14	Mar-02	< 50	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
No	15	May-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	458	NA	1.7	< 0.3	< 0.3	< 0.6	233
No	18	Jan-03	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
No	19	Mar-03	< 15	NA	< 0.22	< 0.32	< 0.31	< 0.4	< 0.18
No	20	Aug-03	190	< 50	< 0.5	< 0.5	< 0.5	0.6	< 0.5
Yes	21	Dec-03	163	< 100	< 0.3	< 0.3	< 0.3	< 0.6	66
Yes	22	Mar-04	412	< 100	1.2	< 0.3	1.7	3.9	66
Yes	23	Jun-04	320	68	< 0.5	< 0.5	< 0.5	< 0.5	120
Yes	24	Sep-04	280	2600	< 0.5	< 0.5	< 0.5	< 0.5	120
Yes	25	Dec-04	270	84	< 0.5	< 0.5	< 0.5	< 0.5	94
Yes	26	Mar-05	270	120	< 0.5	< 0.5	< 0.5	< 1.0	66
Yes	27	Jun-05	510	63	6.8	< 0.5	2.4	5.3	< 0.5
Yes	28	Sep-05	520	< 50	< 0.5	< 0.5	< 0.5	< 1.0	65
Yes	29	Dec-05	65	57	< 0.5	< 0.5	< 0.5	< 1.0	29
Yes	30	Mar-06	140	120	< 0.5	< 0.5	< 0.5	0.6	24
Yes	31	Jun-06	710	170	< 0.5	< 0.5	< 0.5	< 1.0	81
Yes	32	Sep-06	330	260	< 0.5	< 0.5	< 0.5	< 0.5	44
Yes	33	Dec-06	63	< 50	< 0.5	< 0.5	< 0.5	< 0.5	21
Yes	34	Mar-07	250	130	< 0.5	< 0.5	< 0.5	0.5	5
Yes	35	Jun-07	320	150	5.2	< 0.5	< 0.5	0.7	89
No	36	Sep-07	NS	NS	NS	NS	NS	NS	NS
No	37	Dec-07	NS	NS	NS	NS	NS	NS	NS
No	38	Mar-08	NS	NS	NS	NS	NS	NS	NS
No	39	Jun-08	NS	NS	NS	NS	NS	NS	NS
No	40	Sep-08	NS	NS	NS	NS	NS	NS	NS
Yes	41	Dec-08	350	280	< 0.5	< 0.5	< 0.5	< 0.5	22
Yes	42	Mar-09	110	1,000	< 0.5	< 0.5	< 0.5	< 0.5	5.2
Yes	43	Sep-09	190	1,300	< 0.5	< 0.5	< 0.5	< 0.5	5.7

Notes:

(a) Data not available to SES as to whether the samples were collected "post-purge" or before purging.

"No Purge" means no purging was conducted before the groundwater sample was collected.

TVH-g = Total Volatile Hydrocarbons - gasoline range. TEH-d = Total Extractable Hydrocarbons - diesel range.

NA = Not analyzed for this constituent in this event.

ND = Not Detected (method reporting limit not specified in the information available to SES).

TABLE C-2
Historical Groundwater Monitoring Well Groundwater Analytical Results
Fuel Oxygenates and VOCs (µg/L)
240 W. MacArthur Boulevard, Oakland, California

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-1	7	Jun-00	< 5.0	< 5.0	51	< 5	< 1,000	< 1000	< 50	< 5	< 5	< 5	< 5	ND
	14	Mar-02	< 1.0	< 1.0	< 1	1.6	< 10	NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	< 50	< 50	150	< 50	NA	68	< 10	< 50	< 50	< 50	< 50	ND
	19	Mar-03	< 0.26	< 0.17	373	< 0.49	NA	< 10	< 0.29	< 0.88	< 0.30	< 0.23	< 0.36	ND
	20	Aug-03	< 1.0	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	< 5.0	< 5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	< 0.26	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 5.0	< 5.0	NA	NA	NA	270	< 5.0	NA	NA	NA	NA	NA
	24	Sep-04	< 5.0	< 5.0	NA	NA	NA	120	< 5.0	NA	NA	NA	NA	NA
	25	Dec-04	< 1.3	< 1.3	NA	NA	NA	< 25	< 1.3	NA	NA	NA	NA	NA
	26	Mar-05	< 0.50	< 0.50	NA	NA	NA	< 10	< 0.50	NA	NA	NA	NA	NA
	27	Jun-05	< 13	< 13	NA	NA	NA	< 250	< 13	NA	NA	NA	NA	NA
	28	Sep-05	< 2.5	6.5	NA	NA	NA	240	< 2.5	NA	NA	NA	NA	NA
	29	Dec-05	< 1.3	< 1.3	NA	NA	NA	100	< 3.6	NA	NA	NA	NA	NA
	30	Mar-06	< 2.0	< 2.0	NA	NA	NA	83	< 2.0	NA	NA	NA	NA	NA
	31	Jun-06	< 2.5	< 2.5	NA	NA	NA	220	< 2.5	NA	NA	NA	NA	NA
	32	Sep-06	< 13	< 13	NA	NA	NA	320	< 13	NA	NA	NA	NA	NA
	33	Dec-06	< 13	< 13	NA	NA	NA	320	< 13	NA	NA	NA	NA	NA
	34	Mar-07	< 13	< 13	NA	NA	NA	< 250	< 13	NA	NA	NA	NA	NA
	35	Jun-07	< 1.7	< 1.7	NA	NA	NA	37	< 1.7	NA	NA	NA	NA	NA
	36	Sep-07	< 0.5	1.8	NA	NA	NA	66	< 0.5	NA	NA	NA	NA	NA
	37	Dec-07	< 1.0	< 1.0	NA	NA	NA	26	< 1.0	NA	NA	NA	NA	NA
	38	Mar-08	< 2.5	4.6	NA	NA	NA	66	< 2.5	NA	NA	NA	NA	NA
39	Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
40	Sep-08	< 1.3	3.8	NA	NA	NA	49	< 1.3	NA	NA	NA	NA	NA	
41	Dec-08	< 1.3	3.0	NA	NA	NA	34	< 1.3	NA	NA	NA	NA	NA	
42	Mar-09	< 0.5	2.3	NA	NA	NA	21	< 0.5	NA	NA	NA	NA	NA	
43	Sep-09	< 0.5	7.1	NA	NA	NA	49	< 0.5	NA	NA	NA	NA	NA	

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Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-2	7	Jun-00	< 0.5	< 0.5	< 0.5	< 0.5	< 100	< 100	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	< 1.0	< 1.0	< 1	< 1	220	NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	< 5	< 5	< 5	< 5	NA	34	< 1	< 5	24	< 5	< 5	ND
	19	Mar-03	< 0.26	< 0.17	< 0.49	< 0.26	NA	94	< 0.29	< 0.88	15	< 0.23	< 0.36	ND
	21	Dec-03	< 0.6	< 0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	20	Aug-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	2.0	NA	NA	NA	190	1.1	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	1.2	NA	NA	NA	130	0.9	NA	NA	NA	NA	NA
	25	Dec-04	< 0.5	< 0.5	NA	NA	NA	< 10	0.8	NA	NA	NA	NA	NA
	26	Mar-05	< 1.0	< 1.0	NA	NA	NA	< 20	1.3	NA	NA	NA	NA	NA
	27	Jun-05	< 0.50	< 0.50	NA	NA	NA	200	0.79	NA	NA	NA	NA	NA
	28	Sep-05	< 0.50	0.6	NA	NA	NA	150	0.8	NA	NA	NA	NA	NA
	29	Dec-05	< 0.50	< 0.50	NA	NA	NA	54	1.0	NA	NA	NA	NA	NA
	30	Mar-06	< 0.7	< 0.7	NA	NA	NA	56	1.2	NA	NA	NA	NA	NA
	31	Jun-06	< 0.8	1.4	NA	NA	NA	56	< 0.8	NA	NA	NA	NA	NA
	32	Sep-06	< 0.5	1.3	NA	NA	NA	59	0.8	NA	NA	NA	NA	NA
	33	Dec-06	< 0.5	1.3	NA	NA	NA	59	0.8	NA	NA	NA	NA	NA
	34	Mar-07	< 0.5	2.5	NA	NA	NA	65	1.2	NA	NA	NA	NA	NA
	35	Jun-07	< 0.5	< 0.5	NA	NA	NA	24	6.1	NA	NA	NA	NA	NA
	37	Dec-07	< 0.5	< 0.5	NA	NA	NA	21	3.4	NA	NA	NA	NA	NA
	38	Mar-08	< 0.5	1.4	NA	NA	NA	87	17	NA	NA	NA	NA	NA
39	Jun-08	< 0.5	1.9	NA	NA	NA	71	11	NA	NA	NA	NA	NA	
40	Sep-08	< 0.5	1.8	NA	NA	NA	52	8	NA	NA	NA	NA	NA	
41	Dec-08	< 0.5	1.8	NA	NA	NA	40	4.4	NA	NA	NA	NA	NA	
42	Mar-09	< 0.5	1.1	NA	NA	NA	22	2.2	NA	NA	NA	NA	NA	
43	Sep-09	< 0.5	1.0	NA	NA	NA	18	14.0	NA	NA	NA	NA	NA	

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Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-3	14	Mar-02	< 1.0	< 1.0	1.8	4.7	180	NA	< 2	2.2	< 1	< 1	< 1	ND
	18	Jan-03	< 5	< 5	< 5	5.0	NA	76	< 1	< 5	21	< 5	< 5	(a)
	19	Mar-03	< 0.26	< 0.17	< 0.49	< 0.26	NA	< 10	< 0.29	< 0.88	24	< 0.23	< 0.36	ND
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	< 0.5	NA	NA	NA	130	1.9	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	< 0.5	NA	NA	NA	82	1.5	NA	NA	NA	NA	NA
	25	Dec-04	< 0.7	< 0.7	NA	NA	NA	< 14	1.3	NA	NA	NA	NA	NA
	26	Mar-05	< 1.0	< 1.0	NA	NA	NA	< 20	1.1	NA	NA	NA	NA	NA
	27	Jun-05	< 0.5	< 0.5	NA	NA	NA	160	1.4	NA	NA	NA	NA	NA
	28	Sep-05	< 0.5	1.5	NA	NA	NA	94	0.9	NA	NA	NA	NA	NA
	29	Dec-05	< 0.7	< 0.7	NA	NA	NA	67	1.2	NA	NA	NA	NA	NA
	30	Mar-06	< 0.5	< 0.5	NA	NA	NA	29	1.0	NA	NA	NA	NA	NA
	31	Jun-06	< 0.5	< 0.5	NA	NA	NA	52	2.2	NA	NA	NA	NA	NA
	32	Sep-06	< 1.7	1.8	NA	NA	NA	53	1.7	NA	NA	NA	NA	NA
	33	Dec-06	< 1.7	1.8	NA	NA	NA	53	1.7	NA	NA	NA	NA	NA
	34	Mar-07	< 0.5	< 0.5	NA	NA	NA	37	1.9	NA	NA	NA	NA	NA
	35	Jun-07	< 0.5	< 0.5	NA	NA	NA	10	1.0	NA	NA	NA	NA	NA
	36	Sep-07	< 0.5	< 0.5	NA	NA	NA	49	1.9	NA	NA	NA	NA	NA
37	Dec-07	< 0.5	< 0.5	NA	NA	NA	71	8.6	NA	NA	NA	NA	NA	
38	Mar-08	< 0.5	1.9	NA	NA	NA	74	8.3	NA	NA	NA	NA	NA	
39	Jun-08	< 0.5	1.1	NA	NA	NA	22	3.2	NA	NA	NA	NA	NA	
40	Sep-08	< 0.5	1.7	NA	NA	NA	21	3.0	NA	NA	NA	NA	NA	
41	Dec-08	< 0.5	2.4	NA	NA	NA	33	3.2	NA	NA	NA	NA	NA	
42	Mar-09	< 0.5	1.8	NA	NA	NA	41	2.8	NA	NA	NA	NA	NA	
43	Sep-09	< 0.5	1.8	NA	NA	NA	35	1.8	NA	NA	NA	NA	NA	

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Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-4	7	Jun-00	< 0.5	< 0.5	< 0.5	< 0.5	< 100	< 100	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	< 1.0	< 1.0	< 1	< 1	< 10	NA	< 2	< 1	2.9	3.7	5.0	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	19	Mar-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	< 0.5	NA	NA	NA	< 10	< 0.5	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	< 0.5	NA	NA	NA	< 10	< 0.5	NA	NA	NA	NA	NA
	25	Dec-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	26	Mar-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	27	Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	28	Sep-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	29	Dec-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30	Mar-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	31	Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	32	Sep-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	33	Dec-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	34	Mar-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	36	Sep-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
37	Dec-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
38	Mar-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
39	Jun-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
40	Sep-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
41	Dec-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
42	Mar-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
43	Sep-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

(table continued on next page)

Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-5	14	Mar-02	< 1.0	< 1.0	< 1	2.7	640	NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	< 50	< 50	512	122	NA	< 100	< 10	120	< 50	< 50	< 50	ND
	19	Mar-03	< 0.26	< 0.17	554	107	NA	< 10	< 0.29	251	< 0.3	< 0.23	< 0.36	(b)
	20	Aug-03	< 2.0	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	< 5.0	< 5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	< 0.26	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 3.1	< 3.1	NA	NA	NA	120	< 3.1	NA	NA	NA	NA	NA
	24	Sep-04	< 4.2	18	NA	NA	NA	87	< 4.2	NA	NA	NA	NA	NA
	25	Dec-04	< 4.2	< 4.2	NA	NA	NA	< 83	< 4.2	NA	NA	NA	NA	NA
	26	Mar-05	< 1.7	< 1.7	NA	NA	NA	< 33	< 1.7	NA	NA	NA	NA	NA
	27	Jun-05	< 7.1	< 7.1	NA	NA	NA	< 140	< 7.1	NA	NA	NA	NA	NA
	28	Sep-05	< 1.3	7.7	NA	NA	NA	87	< 0.50	NA	NA	NA	NA	NA
	29	Dec-05	< 1.7	< 1.7	NA	NA	NA	< 33	< 1.7	NA	NA	NA	NA	NA
	30	Mar-06	< 2.0	< 2.0	NA	NA	NA	< 2.0	< 2.0	NA	NA	NA	NA	NA
	31	Jun-06	< 2.0	10	NA	NA	NA	61	< 2.0	NA	NA	NA	NA	NA
	32	Sep-06	< 3.6	5.5	NA	NA	NA	76	< 3.6	NA	NA	NA	NA	NA
	33	Dec-06	< 3.6	5.5	NA	NA	NA	76	< 3.6	NA	NA	NA	NA	NA
	34	Mar-07	< 3.6	< 3.6	NA	NA	NA	< 71	< 3.6	NA	NA	NA	NA	NA
	35	Jun-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	36	Sep-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
37	Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
38	Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
39	Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
40	Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
41	Dec-08	< 6.3	< 6.3	NA	NA	NA	< 130	< 6.3	NA	NA	NA	NA	NA	
42	Mar-09	< 1.7	2.1	NA	NA	NA	33	< 1.7	NA	NA	NA	NA	NA	
43	Sep-09	< 10	< 10	NA	NA	NA	< 200	< 10	NA	NA	NA	NA	NA	

(table continued on next page)

Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-6	14	Mar-02	< 1.0	< 1.0	< 1	2.2	< 10	NA	< 2	1.6	< 1	< 1	< 1	ND
	18	Jan-03	< 5.0	< 5.0	13	< 5	NA	46	< 1	< 5	< 5	< 5	< 5	ND
	19	Mar-03	< 0.26	6.9	< 0.49	< 0.26	NA	40	< 0.29	< 0.88	< 0.3	< 0.23	< 0.36	(c.)
	20	Aug-03	< 0.5	12.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	< 5.0	11 / 17.1 ^(d)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	< 0.26	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	19	NA	NA	NA	54	1.0	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	31	NA	NA	NA	43	1.0	NA	NA	NA	NA	NA
	25	Dec-04	< 0.5	24	NA	NA	NA	32	0.7	NA	NA	NA	NA	NA
	26	Mar-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	27	Jun-05	< 0.50	< 0.50	NA	NA	NA	26	< 0.50	NA	NA	NA	NA	NA
	28	Sep-05	< 0.50	15	NA	NA	NA	43	0.7	NA	NA	NA	NA	NA
	29	Dec-05	< 0.50	13	NA	NA	NA	30	0.9	NA	NA	NA	NA	NA
	30	Mar-06	< 0.50	15	NA	NA	NA	19	0.6	NA	NA	NA	NA	NA
	31	Jun-06	< 0.50	28	NA	NA	NA	53	1.3	NA	NA	NA	NA	NA
	32	Sep-06	< 0.50	11	NA	NA	NA	46	0.7	NA	NA	NA	NA	NA
	33	Dec-06	< 0.50	11	NA	NA	NA	46	0.7	NA	NA	NA	NA	NA
	34	Mar-07	< 0.5	10	NA	NA	NA	25	< 0.5	NA	NA	NA	NA	NA
	35	Jun-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	36	Sep-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	37	Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	38	Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	39	Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
40	Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
41	Dec-08	< 0.5	18	NA	NA	NA	< 10	0.7	NA	NA	NA	NA	NA	
42	Mar-09	< 0.5	4.7	NA	NA	NA	< 10	0.6	NA	NA	NA	NA	NA	
43	Sep-09	< 0.5	9	NA	NA	NA	< 10	0.8	NA	NA	NA	NA	NA	

(table continued on next page)

Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-7	14	Mar-02	< 1.0	< 1.0	< 1	< 1	< 10	NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	19	Mar-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	< 0.5	NA	NA	NA	< 10	< 0.5	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	< 0.5	NA	NA	NA	< 10	< 0.5	NA	NA	NA	NA	NA
	25	Dec-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	26	Mar-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	27	Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	28	Sep-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	29	Dec-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	30	Mar-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	31	Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	32	Sep-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	32	Sep-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	33	Dec-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	34	Mar-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	35	Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	36	Sep-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
37	Dec-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
38	Mar-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
39	Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
40	Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
41	Dec-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
42	Mar-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
43	Sep-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

(table continued on next page)

Table C-2 Continued

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-8	14	Mar-02	< 1.0	< 1.0	< 1	< 1	< 10	NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	< 0.26	< 0.17	< 0.49	< 0.26	NA	< 10	< 0.29	< 0.88	< 0.3	< 0.23	< 0.36	ND
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	< 0.5	NA	NA	NA	61	1.0	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	< 0.5	NA	NA	NA	96	1.1	NA	NA	NA	NA	NA
	25	Dec-04	< 0.5	< 0.5	NA	NA	NA	< 10	1.0	NA	NA	NA	NA	NA
	26	Mar-05	< 0.5	< 0.5	NA	NA	NA	< 10	0.6	NA	NA	NA	NA	NA
	27	Jun-05	< 0.50	25.0	NA	NA	NA	42	1.1	NA	NA	NA	NA	NA
	28	Sep-05	< 0.50	< 0.5	NA	NA	NA	120	1.4	NA	NA	NA	NA	NA
	29	Dec-05	< 0.50	< 0.50	NA	NA	NA	27	< 0.50	NA	NA	NA	NA	NA
	30	Mar-06	< 0.50	< 0.50	NA	NA	NA	17	0.6	NA	NA	NA	NA	NA
	31	Jun-06	< 0.50	< 0.50	NA	NA	NA	20	0.9	NA	NA	NA	NA	NA
	32	Sep-06	< 0.50	< 0.50	NA	NA	NA	12	< 0.50	NA	NA	NA	NA	NA
	33	Dec-06	< 0.50	< 0.50	NA	NA	NA	12	< 0.50	NA	NA	NA	NA	NA
	34	Mar-07	< 0.50	< 0.50	NA	NA	NA	< 10	< 0.50	NA	NA	NA	NA	NA
	35	Jun-07	< 0.5	< 0.5	NA	NA	NA	14	1.3	NA	NA	NA	NA	NA
	36	Sep-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
37	Dec-07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
38	Mar-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
39	Jun-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
40	Sep-08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
41	Dec-08	< 0.5	< 0.5	NA	NA	NA	24	2.6	NA	NA	NA	NA	NA	
42	Mar-09	< 0.5	< 0.5	NA	NA	NA	34	2.5	NA	NA	NA	NA	NA	
43	Sep-09	< 0.5	0.6	NA	NA	NA	46	2.8	NA	NA	NA	NA	NA	

Table C-2 - Footnotes

Notes:

Table includes only detected contaminants.

EDB = Ethylene dibromide, aka 1,2-Dibromoethane (lead scavenger)

EDC = Ethylene dichloride, aka 1,2-Dichloroethane (lead scavenger)

PCE = Tetrachloroethylene

DCE = Dichloroethylene

TCE = Trichloroethylene

TMB = Trimethylbenzene

DIPE = Isopropyl Ether (a.k.a. di-isopropyl ether)

TBA = Tertiary butyl alcohol

NLP = No Level Published

NA = Not analyzed for this constituent. ND = Not Detected

(a) Also detected were: n-propylbenzene (5.4 mg/L); p-Isopropyltoluene (14 mg/L); sec-Butylbenzene (7.2 mg/L)

(b) Also detected were: isopropylbenzene (38 mg/L); n-Butylbenzene (20 mg/L); n-propylbenzene (36 mg/L); p-Isopropyltoluene (14 mg/L).

(c.) Also detected were: isopropylbenzene (3.4 mg/L); n-propylbenzene (2.3 mg/L).

(d) Pre-purge / post-purge sampling, conducted in same event.

NS = Not Sampled

APPENDIX D

Historical Groundwater Elevation Data

Table D-1
Historical Water Levels in Monitoring Wells
240 W. MacArthur Boulevard, Oakland, Alameda, California

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-1	1	Aug-97	16.83	62.32
	2	Dec-97	NA	NA
	3	Mar-98	13.58	65.57
	4	Jul-98	15.55	63.60
	5	Oct-98	15.70	63.45
	6	Jan-99	15.21	63.94
	7	Jun-00	15.41	63.74
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	15.57	63.58
	11	Jul-01	16.42	62.73
	12	Oct-01	16.82	62.33
	13	Dec-01	15.08	64.07
	14	Mar-02	14.53	64.62
	15	May-02	NA	NA
	16	Jul-02	16.39	62.76
	17	Oct-02	17.03	62.12
	18	Jan-03	14.91	64.24
	19	Mar-03	15.26	63.89
	20	Aug-03	16.24	62.91
	21	Dec-03	16.90	62.25
	22	Mar-04	14.33	64.82
	23	Jun-04	16.28	62.87
	24	Sep-04	17.03	62.12
	25	Dec-04	16.38	62.77
	26	Mar-05	14.30	64.85
	27	Jun-05	15.53	63.82
	28	Sep-05	16.42	62.73
	29	Dec-05	15.67	63.48
	30	Mar-06	12.75	66.40
	31	Jun-06	14.60	64.55
	32	Sep-06	16.52	62.63
	33	Dec-06	15.89	63.26
	34	Mar-07	15.50	63.65
	35	Jun-07	20.90	58.25
	36	Sep-07	23.30	55.85
	37	Dec-07	22.51	56.64
	38	Mar-08	20.70	58.45
	39	Jun-08	NM	Dry
	40	Sep-08	22.20	56.95
	41	Dec-08	17.90	61.25
	42	Mar-09	14.93	64.22
	43	Sep-09	15.70	63.45

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

NM = Not Measurable

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-2				
	1	Aug-97	16.32	62.13
	2	Dec-97	NA	NA
	3	Mar-98	13.05	64.95
	4	Jul-98	14.95	63.50
	5	Oct-98	15.09	63.36
	6	Jan-99	14.61	63.84
	7	Jun-00	14.80	63.65
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	14.98	63.47
	11	Jul-01	15.86	62.59
	12	Oct-01	16.69	61.76
	13	Dec-01	13.49	64.96
	14	Mar-02	13.07	65.38
	15	May-02	NA	NA
	16	Jul-02	15.86	62.59
	17	Oct-02	16.54	61.91
	18	Jan-03	14.37	64.08
	19	Mar-03	14.74	63.71
	20	Aug-03	15.75	62.70
	21	Dec-03	16.11	62.34
	22	Mar-04	13.83	64.82
	23	Jun-04	15.76	62.69
	24	Sep-04	16.48	61.97
	25	Dec-04	15.74	62.71
	26	Mar-05	13.48	64.97
	27	Jun-05	14.48	63.97
	28	Sep-05	16.00	62.45
	29	Dec-05	14.88	63.57
	30	Mar-06	12.20	66.25
	31	Jun-06	14.15	64.30
	32	Sep-06	16.00	62.45
	33	Dec-06	15.19	63.26
	34	Mar-07	14.78	63.67
	35	Jun-07	20.60	57.85
	36	Sep-07	23.80	54.65
	37	Dec-07	22.36	56.09
	38	Mar-08	20.15	58.30
	39	Jun-08	20.60	57.85
	40	Sep-08	22.23	56.52
	41	Dec-08	17.94	60.51
	42	Mar-09	14.45	64.00
43	Sep-09	15.90	62.55	

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-3	1	Aug-97	15.36	62.22
	2	Dec-97	NA	NA
	3	Mar-98	12.18	65.40
	4	Jul-98	14.08	63.50
	5	Oct-98	14.24	63.34
	6	Jan-99	13.74	63.84
	7	Jun-00	13.94	63.64
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	14.08	63.50
	11	Jul-01	14.99	62.59
	12	Oct-01	16.26	61.32
	13	Dec-01	13.62	63.96
	14	Mar-02	13.19	64.39
	15	May-02	NA	NA
	16	Jul-02	14.97	62.61
	17	Oct. 2002	15.44	62.14
	18	Jan-03	13.49	64.09
	19	Mar-03	13.83	63.75
	20	Aug-03	14.90	62.68
	21	Dec-03	15.10	62.48
	22	Mar-04	12.93	64.65
	23	Jun-04	14.90	62.68
	24	Sep-04	15.61	61.97
	25	Dec-04	14.77	62.81
	26	Mar-05	12.60	64.98
	27	Jun-05	13.73	63.85
	28	Sep-05	15.14	62.44
	29	Dec-05	13.94	63.64
	30	Mar-06	11.25	66.33
	31	Jun-06	13.27	64.31
	32	Sep-06	15.12	62.46
	33	Dec-06	14.34	63.24
	34	Mar-07	13.96	63.62
	35	Jun-07	19.60	57.98
	36	Sep-07	22.90	54.68
	37	Dec-07	21.45	56.13
	38	Mar-08	19.20	58.38
	39	Jun-08	18.80	58.78
	40	Sep-08	21.97	55.61
	41	Dec-08	16.74	60.84
	42	Mar-09	13.68	63.90
	43	Sep-09	15.10	62.48

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-4	1	Aug-97	NA	NA
	2	Dec-97	NA	NA
	3	Mar-98	11.87	65.87
	4	Jul-98	13.90	63.84
	5	Oct-98	14.10	63.64
	6	Jan-99	13.56	64.18
	7	Jun-00	13.75	63.99
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	13.65	64.09
	11	Jul-01	14.87	62.87
	12	Oct-01	15.78	61.96
	13	Dec-01	13.54	64.20
	14	Mar-02	13.02	64.72
	15	May-02	NA	NA
	16	Jul-02	14.81	62.93
	17	Oct-02	15.56	62.18
	18	Jan-03	13.39	64.35
	19	Mar-03	13.75	63.99
	20	Aug-03	14.75	62.99
	21	Dec-03	15.11	62.63
	22	Mar-04	12.78	64.96
	23	Jun-04	14.68	63.06
	24	Sep-04	15.17	62.57
	25	Dec-04	14.90	62.84
	26	Mar-05	12.57	65.17
	27	Jun-05	13.43	64.31
	28	Sep-05	15.13	62.61
	29	Dec-05	13.83	63.91
	30	Mar-06	10.90	66.84
	31	Jun-06	13.02	64.72
	32	Sep-06	15.16	62.58
	33	Dec-06	14.35	63.39
	34	Mar-07	13.85	63.89
	35	Jun-07	18.41	59.33
	36	Sep-07	19.36	58.38
	37	Dec-07	19.13	58.61
	38	Mar-08	17.91	59.83
	39	Jun-08	18.23	59.51
	40	Sep-08	19.89	57.85
	41	Dec-08	16.41	61.33
	42	Mar-09	13.30	64.44
	43	Sep-09	14.88	62.86

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-5	9	Feb-01	NA	NA
	10	May-01	15.65	63.71
	11	Jul-01	16.50	62.86
	12	Oct-01	17.46	61.90
	13	Dec-01	15.28	64.08
	14	Mar-02	14.62	64.74
	15	May-02	NA	NA
	16	Jul-02	16.46	62.90
	17	Oct-02	17.18	62.18
	18	Jan-03	14.99	64.37
	19	Mar-03	15.33	64.03
	20	Aug-03	16.34	63.02
	21	Dec-03	16.90	62.46
	22	Mar-04	14.44	64.92
	23	Jun-04	16.43	62.93
	24	Sep-04	17.07	62.29
	25	Dec-04	16.59	62.77
	26	Mar-05	14.08	65.28
	27	Jun-05	15.33	64.03
	28	Sep-05	16.61	62.75
	29	Dec-05	15.81	63.55
	30	Mar-06	12.75	66.61
	31	Jun-06	14.65	64.71
	32	Sep-06	16.66	62.70
	33	Dec-06	16.10	63.26
	34	Mar-07	15.22	64.14
	35	Jun-07	19.29	60.07
	36	Sep-07	NM	Dry
	37	Dec-07	NM	Dry
	38	Mar-08	NM	Dry
	39	Jun-08	NM	Dry
	40	Sep-08	NM	Dry
	41	Dec-08	17.81	61.55
	42	Mar-09	15.02	64.34
	43	Sep-09	16.50	62.86 (c)

Notes:

(a) Feet below well top of casing.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

(b) Relative to mean sea level.

(c) 0.20 feet of LNPL measured

NM = Not Measurable

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-6	9	Feb-01	NA	NA
	10	May-01	15.54	62.89
	11	Jul-01	15.56	62.87
	12	Oct-01	16.41	62.02
	13	Dec-01	14.37	64.06
	14	Mar-02	13.75	64.68
	15	May-02	NA	NA
	16	Jul-02	15.55	62.88
	17	Oct-02	16.24	62.19
	18	Jan-03	14.17	64.26
	19	Mar-03	14.52	63.91
	20	Aug-03	15.50	62.93
	21	Dec-03	16.19	62.24
	22	Mar-04	13.51	64.92
	23	Jun-04	15.42	63.01
	24	Sep-04	16.13	62.30
	25	Dec-04	15.40	63.03
	26	Mar-05	13.28	65.15
	27	Jun-05	14.14	64.29
	28	Sep-05	15.61	62.82
	29	Dec-05	14.90	63.53
	30	Mar-06	11.85	66.58
	31	Jun-06	13.73	64.70
	32	Sep-06	15.71	62.72
	33	Dec-06	15.15	63.28
	34	Mar-07	14.58	63.85
	35	Jun-07	19.40	59.03
	36	Sep-07	20.00	Dry
	37	Dec-07	NM	Dry
	38	Mar-08	NM	Dry
	39	Jun-08	NM	Dry
	40	Sep-08	NM	Dry
	41	Dec-08	16.91	61.52
	42	Mar-09	14.32	64.11
	43	Sep-09	15.55	62.88

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

NM = Not Measurable

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-7	9	Feb-01	NA	NA
	10	May-01	15.04	62.23
	11	Jul-01	15.69	62.58
	12	Oct-01	16.59	61.68
	13	Dec-01	14.30	63.97
	14	Mar-02	13.87	64.40
	15	May-02	NA	NA
	16	Jul-02	15.72	62.55
	17	Oct-02	16.36	61.91
	18	Jan-03	14.22	64.05
	19	Mar-03	14.57	63.70
	20	Aug-03	15.61	62.66
	21	Dec-03	16.04	62.23
	22	Mar-04	13.57	64.70
	23	Jun-04	15.63	62.64
	24	Sep-04	16.33	61.94
	25	Dec-04	15.70	62.57
	26	Mar-05	13.42	64.85
	27	Jun-05	14.53	63.74
	28	Sep-05	15.81	62.46
	29	Dec-05	14.88	63.39
	30	Mar-06	13.00	65.27
	31	Jun-06	13.98	64.29
	32	Sep-06	15.82	62.45
	33	Dec-06	15.12	63.15
	34	Mar-07	14.66	63.61
	35	Jun-07	19.18	59.09
	36	Sep-07	19.96	Dry
	37	Dec-07	NM	Dry
	38	Mar-08	NM	Dry
	39	Jun-08	NM	Dry
	40	Sep-08	NM	Dry
	41	Dec-08	17.25	61.02
	42	Mar-09	14.30	63.97
	43	Sep-09	15.71	62.56

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

NM = Not Measurable

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-8	10	May-01	12.75	63.64
	11	Jul-01	13.84	62.55
	12	Oct-01	14.65	61.74
	13	Dec-01	12.39	64.00
	14	Mar-02	11.89	64.50
	15	May-02	NA	NA
	16	Jul-02	13.96	62.43
	17	Oct-02	14.48	61.91
	18	Jan-03	12.49	63.90
	19	Mar-03	12.85	63.54
	20	Aug-03	13.75	62.65
	21	Dec-03	14.50	61.89
	22	Mar-04	11.78	64.61
	23	Jun-04	13.71	62.68
	24	Sep-04	14.43	61.96
	25	Dec-04	13.64	62.75
	26	Mar-05	11.52	64.87
	27	Jun-05	12.50	63.89
	28	Sep-05	13.90	62.49
	29	Dec-05	12.75	63.64
	30	Mar-06	10.80	65.59
	31	Jun-06	12.10	64.29
	32	Sep-06	13.93	62.46
	33	Dec-06	13.12	63.27
	34	Mar-07	12.76	63.63
	35	Jun-07	18.40	Dry
	36	Sep-07	19.12	Dry
	37	Dec-07	NM	Dry
	38	Mar-08	NM	Dry
	39	Jun-08	NM	Dry
	40	Sep-08	NM	Dry
	41	Dec-08	17.21	59.18
	42	Mar-09	12.60	63.79
	43	Sep-09	13.95	62.44

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

NM = Not Measurable

Data prior to August 2003 are likely not valid as well elevations were not surveyed.