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# THIRD QUARTER 2008 GROUNDWATER MONITORING REPORT

## 240 W. MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

Prepared for:

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

October 2008



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### Prepared for:

MR. GLEN POY-WING OAKLAND AUTO WORKS 240 W. MACARTHUR BOULEVARD OAKLAND, CALIFORNIA 94612

Prepared by:

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October 14, 2008

Project No. 2003-43



GEOSCIENCE & ENGINEERING CONSULTING

October 14, 2008

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

Subject: Third Quarter 2008 Groundwater Monitoring 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. report summarizing recent activities conducted at the referenced site. This report presents the findings of the Third Quarter 2008 groundwater monitoring event (the 40<sup>th</sup> site groundwater monitoring event since August 1997).

This report was uploaded to both the State Water Board's GeoTracker system (T0600102243) and the Alameda County Environmental Health Department's 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,

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

Brust S. Mpkdin

Henry Rehysola

Project Manager

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

Principal

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 in Oakland, Alameda County, California, is owned by Glen Poy-Wing and his wife, owners 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 40<sup>th</sup> 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/personal considerations. The delay has been tentatively approved by ACEH who has requested to be kept apprised of the situation every 6 months. Quarterly groundwater monitoring is still being conducted on an uninterrupted basis at the site.

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.

### **SCOPE OF REPORT**

This report discusses the work conducted between July 1<sup>st</sup> and September 30, 2008 (i.e., the 40<sup>th</sup> groundwater monitoring and sampling event, conducted on September 19, 2008).

### SITE DESCRIPTION

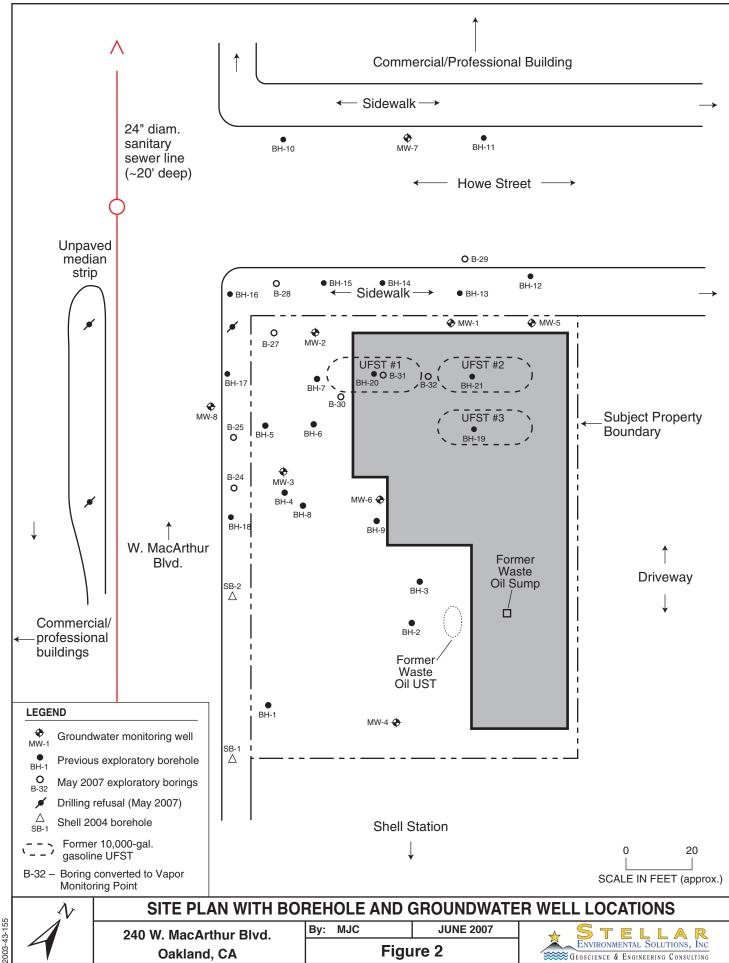
The project site is located at 240 W. MacArthur Boulevard in Oakland, California (see Figure 1). The rectangular-shaped project site is approximately 14,000 square feet (140 feet long by 100 feet wide), and is oriented with its long axis parallel to W. MacArthur Boulevard (approximately northwest-southeast). 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-brand 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*).

Figure 1 shows the site location. Figure 2 shows the site plan and locations of current groundwater monitoring well, previous investigative borings and former underground fuel storage tanks (UFSTs).





### 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.

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 overexcavation 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 overexcavation 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 sample and 12 grabgroundwater sample results; and further evaluation of site hydrogeology and contaminant extent and magnitude.
- **June 2004 to present.** 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.

To date, a total of 40 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. Locally, this unit is interbedded with a sandy clay. The sediment types and geometry are suggestive of channel deposits, which is common in 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

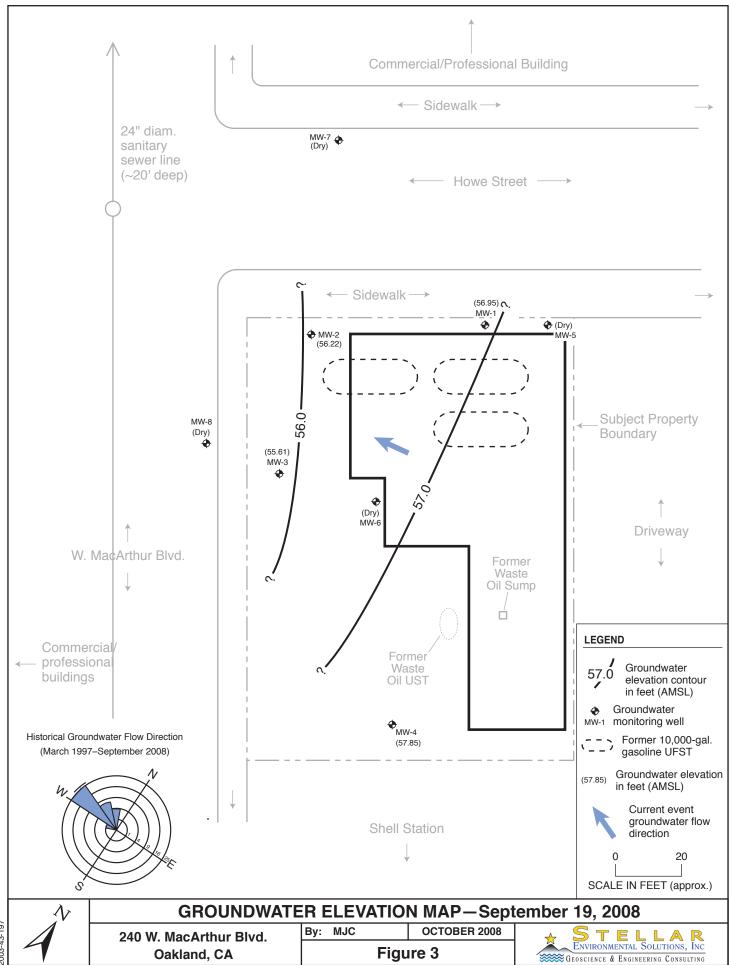
this clay was consistently at a depth of approximately 21 to 23 feet. Of the 12 boreholes in the April 2004 investigation, 9 were advanced at least 1.5 feet into this clay before terminating (and not encountering visible moisture or sand). Two boreholes B31 and B32 were advanced to 32 feet bgs in the 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 is insufficient data to conclude whether the second deepest saturated clayey sand is connected to the shallower sitewide saturated zone. The 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 2008) groundwater monitoring event. Monitoring wells MW-5, MW-6, MW-7, and MW-8 were dry during this sampling event, and therefore were not used in the construction of the Figure 3 groundwater elevation map. 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 could not be measured in all areas of the site, however it was approximately 0.01 feet/foot between wells where measurable. Historical groundwater gradient has varied between approximately 0.002 and 0.008 feet/foot, averaging approximately 0.005 feet/foot. A pattern of steeper gradients appears to be related to the lowered groundwater conditions associated with the regional drought.



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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 16 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 THIRD QUARTER 2008 GROUNDWATER MONITORING AND SAMPLING

This section presents the groundwater sampling and analytical methods for the current event (Third Quarter 2008), conducted on September 19, 2008. 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 four of the eight onsite wells for field measurement of the aforementioned hydrogeochemical parameters, and for offsite laboratory analyses for contaminants of concern.

Four of the eight monitoring wells could not be sampled due to seasonally lowered groundwater levels that resulted from the low seasonal rainfall in 2007-2008. 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 Scree	ned Interval	Groundwater	Groundwater	
Well	Well Depth (feet bgs)	Depth (feet)		Level Depth <sup>(a)</sup> September 19, 2008	Elevation (b) September 19, 2008	
MW-1	25	19.5 to 24.5	54.5 to 49.5	22.20	55.95	
MW-2	25	14.5 to 24.5	64.2 to 54.2	22.23	56.22	
MW-3	25	14.5 to 24.5	63.4 to 53.4	21.97	55.61	
MW-4	25	14.5 to 24.5	63.6 to 53.6	19.89	57.85	
MW-5	20	9 to 19	70.6 to 60.6	Dry	NR	
MW-6	20	9 to 19	69.7 to 59.7	Dry	NR	
MW-7	20	9 to 19	69.6 to 59.6	Dry	NR	
MW-8	20	9 to 19	67.7 to 57.7	Dry	NR	

#### Notes:

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

As the first monitoring task, static water levels were measured in the site wells (four of the site wells were dry) 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 4.5 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.

<sup>(</sup>a) Pre-purge measurement, feet below top of well casing.

<sup>(</sup>b) Pre-purge measurement, feet above mean sea level

### 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 Regional Water Quality Control Board (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 <u>is</u> a source of drinking water, and groundwater <u>is not</u> a source of drinking water. Qualifying for the higher ESLs (applicable to groundwater <u>is not</u> 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.
- 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 <u>is</u> versus <u>is not</u> 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 <u>is</u> 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;
- 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);
- Total extractable hydrocarbons diesel range (TEHd), by EPA Method 8015M (all wells except MW-4 and MW-7, which historically have never detected diesel); and
- Fuel oxygenates, by EPA Method 8260B.

Groundwater samples were analyzed in accordance with the methods proposed in the SES technical workplan. The analytical results for the current event indicate no significant differences from historical analytical results.

### GROUNDWATER SAMPLE RESULTS

Four of the eight monitoring wells could not be sampled during this event because of insufficient water due to seasonally lowered groundwater levels. 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.

#### Gasoline and Diesel

Figure 4 shows gasoline isoconcentration contours for the recent event. Gasoline was detected in all four of the wells sampled. Detected concentrations ranged from 140 micrograms per liter ( $\mu$ g/L) in well MW-4 to 2,400  $\mu$ g/L in well MW-2. All of the gasoline concentrations exceeded the 100- $\mu$ g/L ESL criterion where groundwater is a drinking water resource. Monitoring wells MW-1, MW-2 and MW-3 also exceeded the ESL where groundwater is not a drinking water resource (210  $\mu$ g/L).

The gasoline concentrations in the Third Quarter 2008 compared to the previous sampling event in June 2008 showed a decrease in the gasoline concentration at the monitoring well located just upgradient of the source area (MW-2). A decrease in the gasoline concentration was also observed in downgradient well MW-3 since the previous sampling in June 2008. Gasoline is known to be present offsite under Howe Street (to the northwest) and under W. MacArthur Boulevard (to the southwest). The TPHg in MW-4 is suspected to be migrating from the adjacent Shell contaminant plume to the southeast.

Figure 5 shows diesel isoconcentration contours for the recent event. Diesel was detected in all of the wells in which it was analyzed for, with concentrations ranging from 4,300 µg/L in MW-3, 2,600 µg/L in MW-1, and 1,800 µg/L in MW-2. These concentrations exceed the 210-µg/L ESL criterion (where groundwater is not a drinking water resource) in all the wells. The diesel concentration detected in downgradient well MW-3 increased during this Third Quarter 2008 event as compared to the previous June 2008 event but was still lower than the historic high detected in the March 2008 event. The diesel plume footprint has historically been similar to that of the gasoline plume but somewhat smaller, and of secondary concern relative to gasoline, with concentrations historically at significantly lower levels than gasoline. Diesel is known to be present offsite under Howe Street (to the northwest) and under W. MacArthur Boulevard (to the southwest).

Table 2 Groundwater Sample Analytical Results – September 19, 2008 Hydrocarbons, BTEX, and MTBE

Well	TVHg	TEHd	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
MW-1	1,700	2,600	170	4.7	3.2	19	<1.3
MW-2	1,300	1,800	12	8.6	10	34.6	72
MW-3	1,400	4,300	14	< 0.5	0.7	1.5	75
MW-4	140	NA	NA	NA	NA	NA	NA
MW-5	NS	NS	NS	NS	NS	NS	NS
MW-6	NS	NS	NS	NS	NS	NS	NS
MW-7	NS	NS	NS	NS	NS	NS	NS
MW-8	NS	NS	NS	NS	NS	NS	NS
ESLs	100 / 210	100 / 210	1.0 / 46	150 / 650	40 / 130	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 19, 2008
Lead Scavengers and Fuel Oxygenates

Well	EDC	DIPE	TBA
MW-1	3.8	<1.3	49
MW-2	1.8	8.0	52
MW-3	1.7	3.0	21
MW-4	NA	NA	NA
MW-5	NS	NS	NS
MW-6	NS	NS	NS
MW-7	NS	NS	NS
MW-8	NS	NS	NS
ESLs	0.5 / 690	NLP	12 / 18,000

#### Notes:

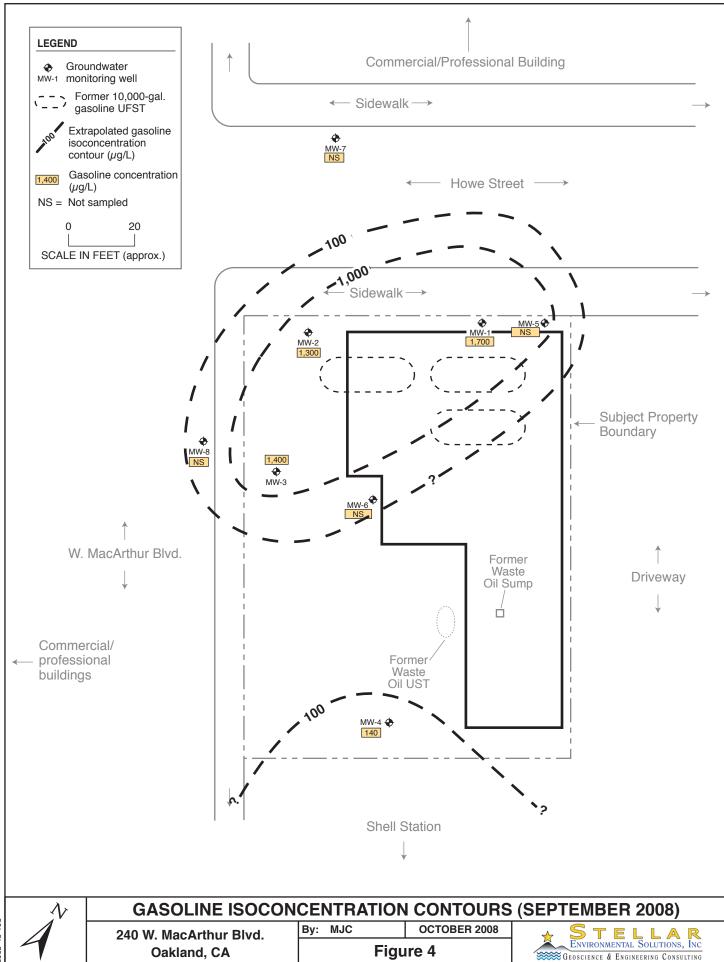
ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater *is/is not* considered a drinking water resource. Samples in **bold-face** type exceed the ESL commercial/industrial criterion where groundwater is considered a potential drinking water resource.

DIPE = isopropyl ether; EDC = ethylene dichloride (1,2-dichloroethane); TBA = tertiary-butyl alcohol

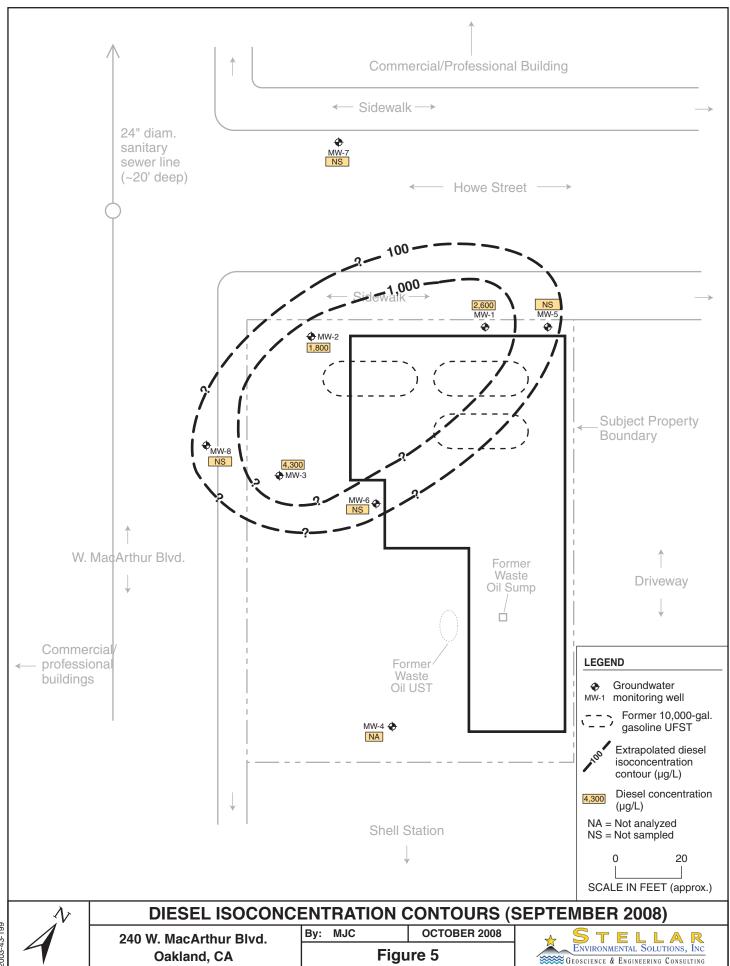
The table includes only detected fuel oxygenates and lead scavengers; contaminants analyzed for and not detected include EDB, ETBE, and TAME.

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).



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### Benzene, Toluene, Ethylbenzene, and Total Xylenes

Figure 6 shows the benzene isoconcentration contours for the recent event. Benzene was detected in all of the wells in which it was analyzed—at concentrations of 170  $\mu$ g/L in MW-1, 12  $\mu$ g/L in MW-2, and 14  $\mu$ g/L in MW-3. These concentrations were in excess of the 1.0  $\mu$ g/L ESL criterion where groundwater is a drinking water resource, and above the 46  $\mu$ g/L ESL where groundwater is not a drinking water resource in MW-1.

Trace concentrations of toluene, ethylbenzene, and total xylenes were also detected during this event, but only total xylenes in MW-2 exceed the ESL criteria where groundwater is a drinking water resource. Historically these analytes are detected in generally the same wells in which benzene is detected.

### Methyl tertiary-Butyl Ether

Figure 7 shows MTBE isoconcentration contours for the recent event. MTBE was detected above the regulatory ESLs in two of the three wells in which it was sampled; in MW-2 at 72  $\mu$ g/L and MW-3 at 75  $\mu$ g/L. As discussed in previous reports (SES, 2004c), MTBE appears to be migrating onto the subject property from the adjacent (to the east) Shell-branded service station. This contamination, however, is unrelated to the separate site-sourced MTBE contamination.

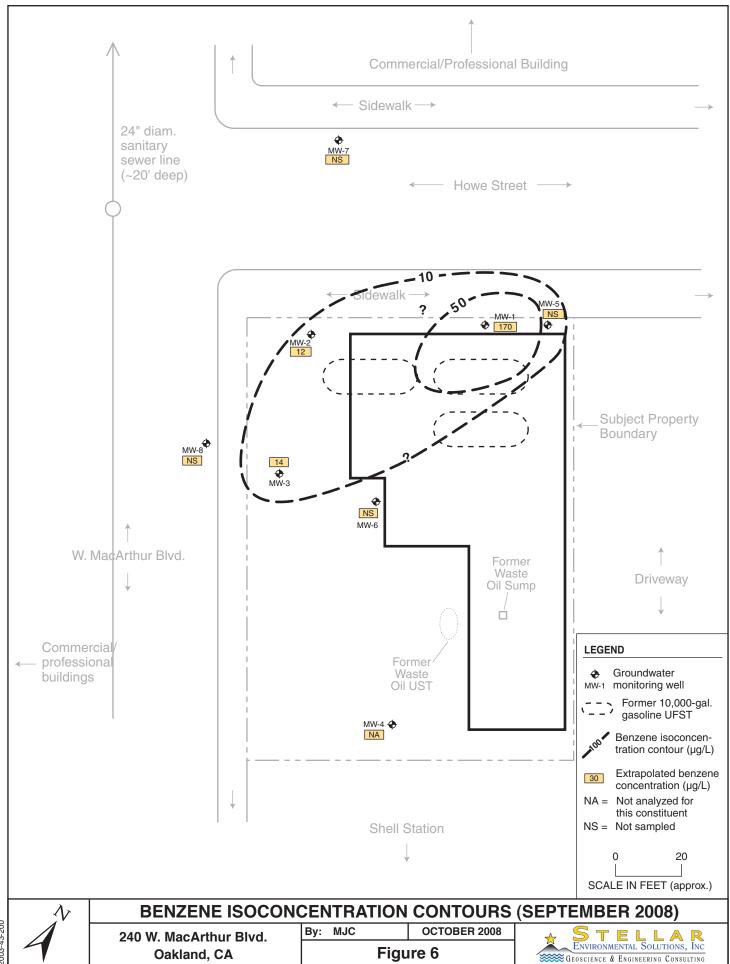
### **Lead Scavengers and Fuel Oxygenates**

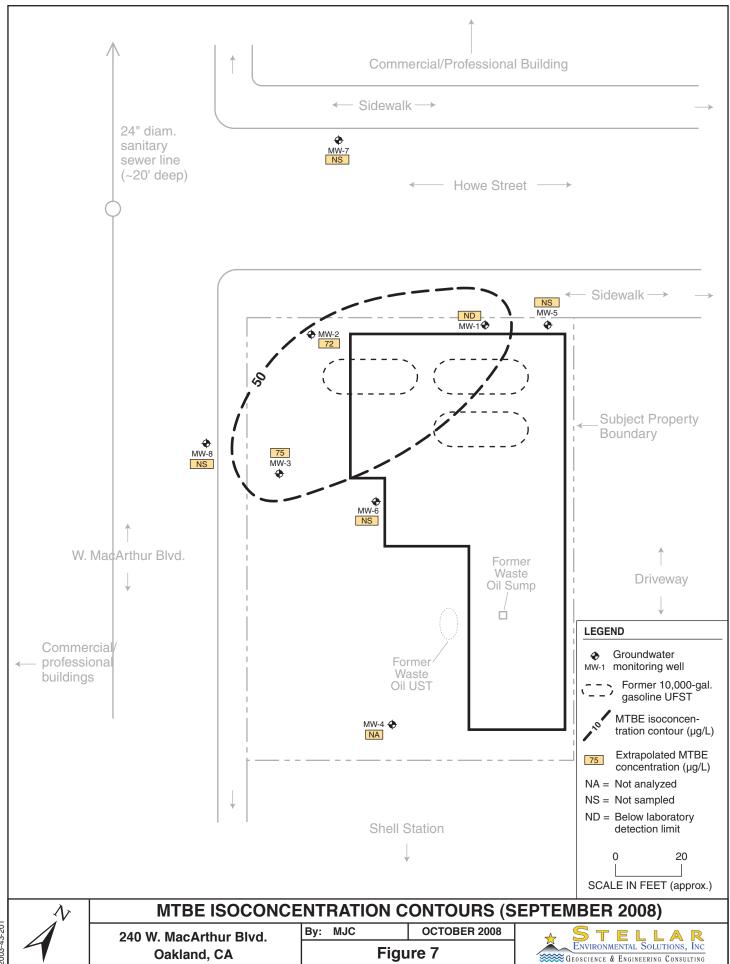
The lead scavenger EDC was in excess of the ESL criteria where groundwater is a potential drinking water resource (0.5  $\mu$ g/L) in MW-1 at 3.8  $\mu$ g/L, MW-2 at 1.8  $\mu$ g/L, and MW-3 at 1.7  $\mu$ g/L. However, the concentrations were well below the ESL where groundwater is not a potential drinking water resource of 690  $\mu$ g/L. The lead scavenger EDB was not detected in any of the wells it was analyzed for during this event.

Two fuel oxygenates were detected during the current event. DIPE was detected in both of the wells it was analyzed for—at  $8.0 \,\mu\text{g/L}$  in MW-2 and  $3.2 \,\mu\text{g/L}$  in MW-3. There are currently no ESLs for DIPE. TBA was detected in all wells in which it was analyzed for—at  $49 \,\mu\text{g/L}$  in MW-1,  $52 \,\mu\text{g/L}$  in MW-2, and  $21 \,\mu\text{g/L}$  in MW-3. The concentration of TBA was above the ESL of  $12 \,\mu\text{g/L}$  where groundwater is a drinking water resource in all three wells, but far below the ESL where groundwater is not considered a drinking water resource at  $18,000 \,\mu\text{g/L}$ .

### 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 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 associated with the former onsite UFSTs.
- Sufficient site characterization has been conducted to evaluate the risks associated with residual soil contamination, and to evaluate corrective action options. 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 40 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.
- Four of the eight monitoring wells could not be sampled during this monitoring event because of insufficient water due to low groundwater levels.
- Groundwater at the site appears to be slightly confined, with a flow direction ranging between northwest and west. Groundwater levels in wells that were reliably measurable (MW-2, MW-3, and MW-4) lowered by an average of 2.14 feet since the previous quarter. Subject property groundwater gradient in the current event could not be measured in all areas of the site; however, it was approximately 0.01 feet/foot between measurable wells. Historical groundwater gradient has varied between approximately 0.002 and 0.008 feet/foot, averaging approximately 0.005 feet/foot. A pattern of steeper gradients measured at the site appears to be related to lowered groundwater conditions associated with the regional drought.
- The groundwater 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, but 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. The diesel concentration detected in downgradient well MW-3 increased during this Third Quarter 2008 from the previous event, but was still lower than the historic high detected in March 2008. Continued monitoring of this well will indicate whether a significant diesel mass is migrating downgradient.
- As stipulated by ACEH, analysis for lead scavengers will continue to be conducted in wells MW-1, MW-5, and MW-6 (provided there is sufficient water). 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 historical 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 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. The TPHg detected in MW-4 is suspected to be migrating from the adjacent Shell contaminant plume to the southeast.
- The current lower than average groundwater level elevations continue to present excellent conditions for maximizing contaminant mass recovery through the proposed SVE system.
- The site is currently receiving reimbursements from the California Tank Fund.

### PROPOSED ACTIONS

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

- ACEH requested a SVE System Start-Up Report be submitted by March 10, 2008; however, 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.
- SES recommends that the SVE be installed and operated to remove source area subsurface contamination and move the site toward regulatory closure.
- Quarterly groundwater monitoring of site wells should be continued to monitor the stability of the contaminant plume.
- 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.
- Reimbursement requests should continue to be submitted under the State of California Petroleum UST Cleanup Fund. In the event the property is sold, the current Responsibility Party will coordinate with the new Responsibility Party to transfer Tank Fund eligibility.

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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	1/08	_ Client		10/10	Y ~	En	V	
Date	40 W.	Muc 1	A fho	· B/	(D)	OSKL	AND	<u>C4</u>
Job Number					hnician		. Dos	112-
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	X							
m W - Z	X			٨				
m W - 3	X							
MW-4	X							
MW-5	X							
mu-6	X							
MW-7	X							
mw-8	X							
1.2								
201-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-								
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## WELL GAUGING DATA

Project #	09/9-1501	Date	1/19/08	Client	Ste	llar	
Site <i>240</i>	61 mm - 1	L. Lher	151. D	D 115			

	1	T	T	1	Laur	T		Y		
		*** ***			Thickness	I .	l .		Survey	
		Well		Depth to	of	Immiscibles	1		Point:	
		Size	Sheen /				Depth to water	Depth to well	TOB or	
Well ID	Time	(in.)	Odor	Liquid (ft.)	Liquid (ft.)	(ml)	(ft.)	bottom (ft.)	76c)	Notes
										I.F
MW-1	1005	2	XX	b SOH	DETEC	TED ¥	22.20	24.32	100	2.7
				7	120120				•	
mW-Z	0450	2					22.23	24.30		
27.00 2		<b>†</b>								
	anne	2					21.97	24.33		
mw-3	0733							77.32		
m6-4	0920	2					19.89	23.89		
										· · · · · · · · · · · · · · · · · · ·
mW-5	1000	2	# INSU	EFICION	+ 14	0 *	19.90	20.10		
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mw-6	0945	2	*	FICIEN		0 ×	19.76	20.02		
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		#155500g								
MW-7	0930	2	* 195	ufficies	+ H	20 ¥	19.91	20.00		
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MN-B	0940	2	* Insu	EFICIEN	T H.	0*	19.95	19.99	*	
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## V LL MONITORING DATA SHL I

Project #:	08097	19-13	D/	Client	ح :	fe	v <u>f</u>	Env	
Sampler:	131	)		Date:		9/	19/6	, , , ,	
Well I.D.:	mw-1			Well I	Diameter		4	6 8	
Total Well			32	Depth	to Wate	r (DTW):	2	2.70	
Depth to Fr	ee Produc	t:		Thick	ness of F	ree Produ	ict (fee	et):	
Referenced	to:	(VC)	Grade	D.O. Meter (if req'd): YSI HACH					
DTW with	80% Rech	arge [(E	leight of Water	Colum	n x 0.20	) + DTW	]:		
Purge Method:		Displaceme mersible	Other		2	Sampling  Multiplier 0.04 0.16 0.37	Other:	Msposable Bail Extraction Por Dedicated Tubir	t
I Case volume	Spec	ified Volum	nes Calculated Vo	olume		T	- Care	740163 0.703	
Time	Temp (F)or °C)	pН	Cond. (mS or AS)	1	bidity TUs)	Gals. Rer	noved	Observations	
1145	73.2	5.82	615	/	59	0.3		elouby	,
1146	72.6	5.79	611	/	7/	0.6			
1147	72.1	5.74	613	1	75	0.9	1		
Did well de	water?	Yes	Mo)	Gallon	s actuall	y evacuat	ed:	0 0	Wiles and the second
Sampling D	ate: 9/,	g Ina	Sampling Time	e: //s		Depth to	Wateı	23.15	
Sample I.D.	·	y - 1		Labora		Kiff Cal	Science		
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygen	ates (5)	Other:	5e e	COC	
EB I.D. (if a	applicable)	):	@ Time	Duplic	ate I.D. (	(if applica			
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygen		Other:			A
D.O. (if req'	'd): Pr	e-purge:		mg/L	P	ost-purge:			mg/L
O.R.P. (if re	eg'd): Pr	e-purge:	** *** *** *** *** *** *** *** *** ***	mV	Po	ost-purge:			тV

### V LL MONITORING DATA SHL Z

Project #:	0809	19-1	13D/	Client:	ellar En	
Sampler:	BD			Date:	ellar En	5
Well I.D.:	mw-	. 2		Well Diamete		6 8
Total Well	Depth (TI	)): 24!	30	Depth to Wate	er (DTW): 22	. 2 3
Depth to Fi	ree Produc	t:			Free Product (fe	
Referenced	to:	#VC)	Grade	D.O. Meter (i	f rea'd):	YSI HACH
DTW with	80% Rech	narge [(H	Ieight of Water	Column x 0.20		The state of the s
Purge Method:	Bailer Disposable E Positive Air Electric Subr	Bailer Displaceme		Waterra Peristaltic ction Pump ————————————————————————————————————	Sampling Method Other	Disposable Bailer Extraction Port Dedicated Tubing
o. 3 (		ified Volum	= <u>0.9</u> nes Calculated Vo	_ Gals. 1"	0.04 4" 0.16 6" 0.37 Other	Diameter         Multiplier           0.65         1.47           radius² * 0.163
Time	Temp	рН	Cond. (mS or AS)	Turbidity (NTUs)	Gals. Removed	Observations
1100	71.2	6.54	676	80	0.3	Clear
1101	69.8	6.51	676	195	0.6	cloupy
MOZ	69.7	6.49	674	197	0.9	_
*****						
Did well de	water?	Yes (	X197	Gallons actual	ly evacuated:	0.9
Sampling D	ate: 🥠	19/08	Sampling Time	e: //08	Depth to Wate	r: <i>22.9</i> /
Sample I.D.		-2_		Laboratory:	Kiff CalScience	•
Analyzed fo	or: TPH-G	BTEX	МТВЕ ТРН-D	Oxygenates (5)	Other: See	COC
EB I.D. (if a	applicable)	):	@ Time	Duplicate I.D.	(if applicable):	
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygenates (5)	Other:	
D.O. (if req	'd): P1	re-purge:		mg/L F	Post-purge:	mg/ <sub>L</sub>
O.R.P. (if re		re-purge:		mV F	Post-nurge:	171 V

### V LL MONITORING DATA SHL Z

Project #:	0809	719-,	<i>13D]</i>	Client: 5/	ellar En					
Sampler:	BL	)		Date:						
Well I.D.:	MW-	3		Well Diameter		6 8				
Total Well	Date: 11 I.D.: 12 Well Diameter: 2 3 4 6 8  All Well Depth (TD): 24 3 Depth to Water (DTW): 21, 47  Oth to Free Product: Thickness of Free Product (feet): Presenced to: P									
Depth to Fr	Date: 9/19/08  Well Diameter: D 3 4 6 8  Tal Well Depth (TD): 29/35 Depth to Water (DTW): 2/, 97  Thickness of Free Product (feet): Ferenced to: Thickness of Free Product (feet): Ferenced to: Thickness of Free Product (feet): Thickness of Free Product (feet): Ferenced to: Thickness of Free Product (feet): Thicknes of Free Product (feet): Thickness of Free Product (feet): Thickn									
Referenced	mpler: BD Date; 9/19/08  Well Diameter: D 3 4 6 8									
DTW with	80% Rech	arge [(H	leight of Water	Column x 0.20	) + DTW]:					
	Disposable B Positive Air I Electric Subr  Gals.) X	Displaceme nersible	ent Extrac Other	Peristaltic tion Pump  Well Diamete 1" 2" 3"	Other: 0.04 4" 0.16 6"	Disposable Bailer Extraction Port Dedicated Tubing  Diameter Multiplier 0.65 1.47				
Time	_ *	pН		,	Gals. Removed	Observations				
1126	Depth to Water (DTW): 21, 97  The to Free Product: Thickness of Free Product (feet): The to Free Product: Thickness of Free Product (feet): Th									
1127	Date: ### Date: ### Date: ### Date: ### Date: ### Date: ### Depth (TD): ### Depth (TD): ### Depth to Water (DTW): ### Dept									
1128	Date: ### Date: ### Date: ### Date: ### Date: ### Date: ### Depth (TD): ### Depth (TD): ### Depth to Water (DTW): ### Dept									
			***************************************							
Did well de	water?	Yes	<u>K</u> 67	Gallons actuall	y evacuated:	0.9				
Sampling D	ate: 9/	9/08	Sampling Time	: 1132	Depth to Wate	r: 23.01				
				Laboratory:	Kiff CalScience	e Other				
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygenates (5)	Other: See	COC				
EB I.D. (if a	npplicable)	:	@ Time	Duplicate I.D.						
Analyzed fo	r: TPH-G	BTEX	MTBE TPH-D		Other:					
D.O. (if req'	d): Pı	e-purge:	- September 1 -	mg/ <sub>L</sub> P	ost-purge:	mg <sub>/L</sub>				
O.R.P. (if re	ea'd): Pr	e-niirge		mV P	ost_nurge:	mV				

## V LL MONITORING DATA SHL

Project #:	0809)	191 - 13	D/	Client:	رک	te llar	I	- - -
Sampler:	Date:    Mode   Depth   Depth							
Well I.D.:	Date: #/#/##  well Diameter: ② 3 4 6 8							
Total Well	Depth (TD	)): 23	3. 84	Depth	to Water	r (DTW):		
Depth to Fr	ee Product			Thickr	ness of F	ree Produ		
Referenced	to:	P(VC)	Grade	D.O. N	Aeter (if	req'd):		YSI HACH
DTW with	80% Rech	arge [(E	leight of Water	Colum	n x 0.20)	) + DTW]		20 (SD)
/	Disposable B Positive Air I Electric Subn  Gals.) X	Displaceme nersible	Other	Peristaltic	Well Diamete 1" 2"	er <u>Multiplier</u> 0.04 0.16	Other: Well I 4" 6"	Extraction Port Dedicated Tubing  Diameter Multiplier  0.65 1.47
Time	1	pН			-	Gals. Ren	noved	
1027	72.0	5.70	497	25	52	0.6	7	Brown
1029	69.4	5.11	473	30	g	1.2		
1031	69.1 6.9180	5.15	476	36	3	1.8		
Did well de	water?	Yes	(No	Gallon	s actuall	y evacuate	ed:	1.8
Sampling D	ate:	19/02	Sampling Time	e: <i>106</i>	10	Depth to	Wate	r: 21.07
Sample I.D.	: mw-	_	.e	Labora	tory:	Kiff Cals	Science	Other_ C \$ 7
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygena	ates (5)	Other:	See	e e e e
EB I.D. (if a	applicable)		<del></del>	Duplic	ate I.D. (			
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygena	ates (5)	Other:		
D.O. (if req	'd): Pr	e-purge:		mg/ <sub>L</sub>	P	ost-purge:	~	mg/L
ORP (if re	ea'd). Pr	e-purge:		mV	D.	oct purge:		122 V

## V LL MONITORING DATA SHL Z

Project #:	_080 <u>9</u>	719-	75D(	Client:	57	tellur	En	/ V
Sampler:	BD	>		Date:		<u> 4/1</u>	8/05	<del></del>
Well I.D.:	MW-3	5		Well I	Diameter		4	6 8
Total Well	Depth (TD	)): 20	·.10	Depth	to Water	er (DTW):	19	7. 90
Depth to Fr				Thickr	ness of F	ree Produ		
Referenced	to:	<b>E</b> VO	Grade	D.O. N	Meter (if	req'd):		YSI HACH
DTW with	80% Rech	arge [(F	Height of Water	· Colum	n x 0.20	) + DTW]	<b> :</b>	
Purge Method:	Bailer Disposable Ba Positive Air D Electric Subm	Displaceme	ent Extrac Other/	Waterra Peristaltic ction Pump		Sampling I	Other:	Bailer  Disposable Bailer  Extraction Port  Dedicated Tubing
((	Gals.) X			Gals.	l" 2"	0.04 0.16	4" 6"	0.65 1.47
l Case Volume	,	fied Volum	nes Calculated Vo	_	3"	0.37	Other	radius <sup>2</sup> * 0.163
Time	Temp (°F or °C) * No	рН	Cond. (mS or µS)	(N	bidity TUs)	Gals. Ren		Observations
	, ,,,	- Faro	e samp	12 10	1541-	CLENT		20 8
Did well de	water?	Yes	No .	Gallon	s actuall	ly eva <b>c</b> uate	ed:	
Sampling D	ate:		Sampling Time	e:	- Control of the Cont	Depth to	Water	::
Sample I.D.	•			Labora	tory: /	Kiff Cals	Science	Other
Analyzed fo	or: TPH-G/	BTEX	MTBE TPH-D	Oxygena	ates (5)	Other:		
EB I.D. (if a	applicable)	:	@ Time	Duplic	ate I.D. (	(if applica	ıble).	7
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygena		Other:	<del>/</del> -	
D.O. (if req'	'd): Pr	e-purge:	/	mg/ <sub>L</sub>	P	ost-purge:		mg/L
O.R.P. (if re	eq'd): Pr	e-purge:		mV	P	ost-purge:		mV

## WELL MONITORING DATA SHEET

Project #:	0809	19-1	301	Client		fe//	g ev	En	V
Sampler:	311	7		Date:		91	/19/	08	
Well I.D.:	mw-	6		Well I	Diameter	: D 3	3 4	6	8
Total Well	Depth (TD	): 20.	02	Depth	to Water	r (DTW)	): 19.	76	
Depth to Fr	ee Product	•		Thickr	ness of F	ree Prod	uct (fee	et):	
Referenced	to:	évc	Grade	D.O. N	Aeter (if	req'd):		YSI	НАСН
DTW with	80% Rech	arge [(H	leight of Water	Colum	n x 0.20)	) + DTW	7]:		
Purge Method:	Bailer Disposable B Positive Air I Elegaric Subn	Displaceme	ent Extrac Other	Waterra Peristaltic ction Pump	Well Diamete	r Multiplie			Bailer Disposable Bailer Extraction Port Dedicated Tubing  Multiplier
1 Case Volume	Gals.) XSpeci	fied Volum	es Calculated Vo	_ Gals. olume	1" 2" 3"	0.04 0.16 0.37	4" 6" Other		0.65 1.47 radius <sup>2</sup> * 0.163
Time	Temp (°F or °C)	pН	Cond. (mS or µS) Sample	(N'	bidity TUs)	Gals. Ro	emoved	? ¥	Observations
							· .		
Did well de	water?	Yes	Nø	Gallon	s actuall	y exacua	ated:		
Sampling D	ate:		Sampling Time	e:		Depth t	o Wateı		
Sample I.D.	.:			Labora	itory.	Kiff C	alScience	Ot	her
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygen	ates (5)	Other:			
EB I.D. (if	applicable)	:	@ Time	Duplic	ate I.D.	(if appli	çable):		
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Øxygen	ates (5)	Other.			
D.O. (if req.	(d): Pr	e-purge:		mg/ <sub>L</sub>	Р	ost-purge		iki dikadi di kacamatak d	mg/L
O.R.P. (if re	eq'd): Pr	e-purge:		mV	P	ost-purge	:		mV

## V. LLL MONITORING DATA SHELL

Project #:	08091	19-1	<i>301</i>	Client:	and in the last of	Stel	lar	ENV
Sampler:	BD			Date:	ý	7/19/	08	
Well I.D.:	mw-	7		Well D	iameter	:: <i>(2)</i> 3	4	6 8
Total Well l	Depth (TD	1): 2	0.00	Depth t	o Wate	er (DTW)	: /	9.91
Depth to Fro	ee Product	•		Thickne	ess of F	ree Produ		
Referenced	to:	PVC)	Grade	D.O. M	leter (if	req'd):		YSI HACH
DTW with 8	80% Recha	arge [(H	Ieight of Water	Column	1 x 0.20	) + DTW	]:	
Purge Method:	Bailer Disposable Ba Positive Air D Electric Subm	Displaceme		Wateyla Peristaltic tion Pump		Sampling	g Method: Other:	Disposable Bailer Extraction Port Dedicated Tubing
(Case Volume	Gals.) XSpecif	fied Volum	= nes Calculated Vo	_ Gals.	Well Diamete 1" 2" 3"	er Multiplier 0.04 0.16 0.37	Well D 4" 6" Other	Diameter Multiplier 0.65 1.47 radius <sup>2</sup> * 0.163
Time	Temp (°F or °C)	рН	Cond. (mS or µS)	Turb (NT	(Us)	Gals. Re	moved	Observations
¥ 1	lo Puro	) / S	ample in	SUFFI	cient	4 14	20	*
Did well de	water?	Yes	No/	Gallons	actuall	I ly evacua	ited:	7
Sampling D	ate:		Sampling Time	e:		Depth to	Wate	r: /
Sample I.D.	•			Laborat	ory:	Kiff Ca	alScience	other
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygena	tes (5)	Other:		
EB I.D. (if a	ipplicable)		@ Time	Duplica	ite I.D.	(if applic	able):	
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygena	tes (5)	Other:		
D.O. (if reg	d): Pr	e-purge:	. /	mg/L	P	Post-purge:		nng / L
O.R.P. (if re	q'd): Pr	e-purge:		mV	P	ost-purge:		mV

## W. L MONITORING DATA SHEL

	, <u>, , , , , , , , , , , , , , , , , , </u>			1		
Project #:	080	919.	- BD1	Client:	stellar	Ev
Sampler:	BL	2		Date:	9/19/	, 198
Well I.D.:	mw-	8		Well Diameter	r: 25 3 4	6 8
Total Well	Depth (TD	): 19	4.99	Depth to Wate	er (DTW): /9	7.95
Depth to Fr	ee Product	•		Thickness of I	Free Product (fee	et):
Referenced	to:	p(V)	Grade	D.O. Meter (if	req'd):	YSI HACH
DTW with	80% Recha	arge [(H	leight of Water	Column x 0.20	)) + DTW]:	
Purge Method:	Bailer Disposable Ba Positive Air E Electric Subm	Displaceme	nt Extrac Other	Well Diame		Bailer Disposable Bailer Extraction Port Dedicated Tubing
1 Case Volume	Gals.) XSpeci	— fied Volum	= nes Calculated Vo	Gals. 1" 2" 3"	0.04 4" 0.16 6" 0.37 Other	0.65 1.47 radius <sup>2</sup> * 0.163
Time	Temp (°F or °C)	pH	Cond. (mS or µS) Sumple	Turbidity (NTUs)	Gals. Removed	Observations 
Did well de	ewater?	Y∉s	No	Gallons actua	lly evacuated:	/
Sampling I	Date:	/	Sampling Tim	e:/	Depth to Wate	r:
Sample I.D	).: /			Laboratory:	Kiff CalScience	e Other
Analyzed f	or: 7рн-G	BTEX	мтве три-d	Oxygenates (5)	Othery.	
EB I.D. (if	applicable)	):	@ T/me	Duplicate I.D	. (if applicable):	
Analyzed f	or: TPH-G	BTEX	МТВЕ ТРН-D	Oxygenates (5)	Other:	
D.O. (if red	q'd): Pi	re-purge:		mg/L	Post-purge:	<sup>ing</sup> /L
O.R.P. (if 1	req'd): P	re-purgø:		mV	Post-purge:	mV

## SPH or Purge Water Drum Log

Client: Stellar Env.

Site Address: 240 W. Macarthur blod., Oaleland

STATUS OF DRUM(S) UPON.	ARRIVAL					
Date	6/27/64	9/16/07	12/19/07	3/28/08	6/17/08	9/19/08
Number of drum(s) empty:	0	2	2_	2	1	1
Number of drum(s) 1/4 full:						
Number of drum(s) 1/2 full:	200 1				+ 30	
Number of drum(s) 3/4 full:	Ø					
Number of drum(s) full:					1	
Total drum(s) on site:	3	3	3	3		3
Are the drum(s) properly labeled?	Y	M	У	У	Y	y
Drum ID & Contents:	Pirge HZO -	Soil Cutting	5 DUGE > 50:1 -	-3)	Purge/soil	parge itel
If any drum(s) are partially or totally filled, what is the first use date:						4/17/68

- 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.

ARTUF	1	12/19/07	3(28/08	6/17/08	1/19/08
	1	, , , , , , , , , , , , , , , , , , ,		1	\(\frac{\lambda}{\cdot\}\)
		<b>1</b>			
	3	3	3	3	3
	Y	l y	l y	415	705
120 -5	os/whire	, purpersoil	<u></u>	purae/soil	1 501
	t20 te	7	y y	y y y	y y 405

Describe location of drum(s):

Next to Dompster

FINAL STATUS.						
Number of new drum(s) left on site this event	0	0	0	0	0	0
Date of inspection:	6/22/07	16 9/14/27	12/19/07	3/28/08	6/17/08	9/19/08
Drum(s) labelled properly:	Y	N Y	y	1	4	40
Logged by BTS Field Tech:	Sil	801	KR	15	80	BP
Office reviewed by:	M	men	6	R	B)	14

## **APPENDIX B**

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

				Chair	n of C	us	tody F	ec	ord		2	/(			.1	ľ	<b>A</b>			1	ah ioh	<i>08</i> (	5917.	ح21.
Laboratory Curtis and Tompkins, Ltd.  Address 2323 Fifth Street				hod of Shipment	Hand	<u>Deliv</u>	/ery									ď	3			D	Date	9/	17/0	-
Berkeley, California 94710 510-486-0900	<del></del>			ill No				<del></del>		/	<del></del>		$\overline{}$		$\wedge$	_							OI	
Project Owner Mr. Glen Poy-Wing				ler No				-				A	-	<b>a</b>	<u>/</u>	Ana	lysis	equire	ed .					
Site Address 240 W. MacArthur Blvd.		<del></del>		ect Manager	Bruce Ru	ucke	·r	_	/	/	/ &	8	¥ [		4	//	ij					7		
Oakland, California				phone No. (510)				_	Filles	ß /		8	60)			\ \s\	7	/ ,	Ι,	Ι,	/ /	/		
Project Name Oakland Auto Works Project Number 2003-43			Fax	No(510)	644-3859			- - /		\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	Significance of the state of th			2	€/ ,		/	/				Rem	narks	
Field Country   Location/				plers: (Signature,				-/			3/2	<b>∄</b>	S.	w,	<b>X</b>		/ /	/	/ /	/ /	/			l
Depth Da		Time Sam	e	Type/Size of Contain	I Cool		ervation Chemical		/ /	F	76	YA	Y	γL	/									
1 1 1	00 11	50	- 1	IL Amper N		3	HCL			X	X	X	X	X						$\uparrow$	<del></del>			+
mv-2	_//	00	_		yes	5	_{			X	X	X	×	×					<del> </del>	+				$\dashv$
m~-3	//	72		<b>↑</b> 1	yes	; T				<u>'                                    </u>	4		X		_			-	-	+-				$\dashv$
mw-4	10	40	3	YOML HEL	yes ze	;	1	$\neg \uparrow$			~	X	~	<u>^</u>	. 7	D			┼─	+-				
					-yec	-		_	+	_	1510		^					_	<del> </del>	-				_
					yes	<b>-</b>			- '	7			$\dashv$						-	-				$\dashv$
					yes					$\dashv$	1	+								-				
										$\dashv$		$\neg \uparrow$	7	$\dashv$						_				-
									$\top$	$\top$		7	$\dashv$	-	_					-				$\dashv$
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								$\neg \uparrow$	_	+	$\dashv$	+			$\dashv$	_		<del>-</del>			—			_
					_   _			_	_	+	_	$\dashv$	-	$\dashv$	-	┪				<del> </del>				$\dashv$
Relinquished by: Date	Re	ceived by:	5		Dat	te	Relinquished by	 :					7	Date	Rec	eived I		n	1	<u> </u>			Τ	_
Printed B. Dashie	8	Signature	_ <u>_</u>	2 /			Signature	ng	<b>X</b> _				9/	24/58			re L	lul	KJ	<u>, /</u>	<u>Z</u>		Date 9/2	1.
Printed B. //o.s/1/		Printed	<u>S.</u>	1)oshi	Tim		Printed	WR	Jon	استيار	<u>s</u>		. <del>                                    </del>	ime	Р	rinted	Ru	ŧ,		01	سعة	5	<u> </u>	
Company 875		Company	13	<u>7-</u> S			Company	BT	5				ļ	340			•	7	7حر		<del></del>		Time	
Turnaround Time: 5 Day TAT						+	Relinquished by						`	ate		ompar	<del>-</del>						ļ	4
Comments: EDF R	= 114	IRE	D		···········	-	Signature		·				.   `	, ale		eived t gnatu	•		·				Date	
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						-	Company								Co	ompan	ıv							

206219

**Stellar Environmental Solutions** 

intact cold RL

2198 Sixth Street #201, Berkeley, CA 94710

#### Jessie Kim

From: Mike Ninokata [mNinokata@blainetech.com]

Sent: Tuesday, September 23, 2008 10:38 AM

To: Jessie Kim

Cc: William Jones

Subject: Sample switch - Shell @ 230 W Macarthur Blvd., Oakland

Hi Jessie.

Just to confirm.

When the samples for the above mentioned site arrive at the lab today, you should be missing the sample for MW-4 and have two samples labeled MW-1.

One of the MW-1 samples is from another project and need to be shipped to Curtis and Tompkins, Ltd. This sample label should indicate "Stellar @ Oakland Auto Works" and the sample time will read 1150.

The other MW-1 is for the Shell project and the label should indicate "Shell @ 230 W. Macarthur Blvd., Oakland" sample time 1615.

The missing MW-4 sample will be sent out today for receipt tomorrow (9/24). It will be coming from our office via On Trac or Fed Ex.

#### Please Ship the Stellar project sample MW-1 to:

Curtis and Tompkins Attn: Tracy Babjar 2323 Fifth St. Berkeley, CA 94710

#### **Blaine Tech Fed Ex # 123042743**

Please let me know if you note any discrepancy with this when you receive the samples. I'll be looking for the log in number from you so I can ship the MW-4 sample to you and keep this project on a single report.

Thanks so much, sorry for the extra work ®

#### Michael Ninokata

Project Manager Blaine Tech Services, Inc. 1680 Rogers Ave. San Jose, CA 95112 408.573.0555 x202 office 408.573.7771 fax www.blainetech.com

#### COOLER RECEIPT CHECKLIST



Login # _	206219	Date Received	9-22-08	Number of coolers	
Client	SES	Pr	oject ZOD3	-43	
Date Open Date Logg	ned <u>9-22-08</u> B ged in <u>U</u> B	y (print) F NiCho y (print) J	(sign)	Latt L	
1. Did coo	ler come with a sl	tipping slip (airbill, e	etc)?		YES NO
Ho 2B. Were cu 3. Were cu 4. Were cu 5. Is the p 6. Indicate	ow manycustody seals intactive interest into the control of	ent?  YES ( Name tupon arrival? and intact when rece dout properly (ink, s from custody papers oler: (if other, descr	ived?igned, etc)?? (If so fill out topibe)	DateYES	NO N/A YES NO YES NO
		☐ Foam blocks ☐ Cardboard on:			els
X	Samples Received	Wet □ Blue/Go	out a temperature l		
8. Were M  If Y  9. Did all to  10. Are sand  11. Are sand  12. Do the  13. Was sund  14. Are the  15. Are bund  16. Was the  If Y  COMMENT  ** No ween	Method 5035 samp YES, what time we pottles arrive unbramples in the appro- mple labels preser sample labels agrafficient amount of esamples appropriate samples appropriate bbles > 6mm abserved YES, Who was call WTS	on ice directly from ling containers preserve they transferred to oken/unopened? opriate containers for the time of the containers for the containers	ont? ofreezer? r indicated tests? and complete? ers? s requested? ple delivery? By  MW-L"	YES  Date: 7	YES NO YES NO YES NO YES NO YES NO NO N/A NO N/A YES NO 2 3 / SE
	ot on COC.	Fed Ex	7Le	mi55-hJ	Syl

SOP Volume:

Client Services

Section:

1.1.2

Page:

I of I

Rev. 6 Number 1 of 3

Effective: 23 July 2008

F:\qc\forms\checklists\Cooler Receipt Checklist\_rv6.doc



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

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

## Laboratory Job Number 206219 ANALYTICAL REPORT

Stellar Environmental Solutions Project : 2003-43

2198 6th Street Location : Oakland Auto Works

Berkeley, CA 94710 Level : II

Sample ID	<u>Lab ID</u>
MW-1	206219-001
MW-2	206219-002
MW-3	206219-003
MW-4	206219-004
MW-4	206219-005

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

Signature:

Project Manager

Date: <u>10/02/2008</u>

Signature:

Senior Program Manager

Date: <u>10/02/2008</u>



#### CASE NARRATIVE

Laboratory number: 206219

Client: Stellar Environmental Solutions

Project: 2003-43

Location: Oakland Auto Works

Request Date: 09/22/08 Samples Received: 09/22/08

This hardcopy data package contains sample and QC results for four water samples, requested for the above referenced project on 09/22/08. 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 MW-2 (lab # 206219-002), MW-3 (lab # 206219-003), and the MS/MSD of MW-2 (lab # 206219-002), due to interference from coeluting hydrocarbon peaks. 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.



Total Volatile Hydrocarbons Lab #: 206219 Location: Oakland Auto Works EPA 5030B Client: Stellar Environmental Solutions Prep: Project#: 2003-43 EPA 8015B Analysis: 09/19/08 09/22/08 Sampled: Matrix: Water Units: ug/L Received: Diln Fac: 1.000

Field ID: MW-1 Batch#: 142861 Type: SAMPLE Analyzed: 09/25/08

Lab ID: 206219-001

Analyte	Result	RL	
Gasoline C7-C12	1,700	50	

Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	61-149
Bromofluorobenzene (FID)	129	65-146

Field ID: MW-2 Batch#: 142797
Type: SAMPLE Analyzed: 09/23/08

Lab ID: 206219-002

Analyte	Result	RL	
Gasoline C7-C12	1,300	50	

Surrogate	%REC	Limits
Trifluorotoluene (FID)	170 *	61-149
Bromofluorobenzene (FID)	140	65-146

Field ID: MW-3 Batch#: 142797 Type: SAMPLE Analyzed: 09/23/08

Lab ID: 206219-003

Anal	lyte Res	sult RL	
Gasoline C7-C12	2 1,4	100 50	

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	182 *	61-149	
Bromofluorobenzene (FID)	146	65-146	

Field ID: MW-4 Batch#: 142797 Type: SAMPLE Analyzed: 09/23/08

Lab ID: 206219-004

Analyte	Result	RL	
Gasoline C7-C12	140 Y Z	50	

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	100	61-149	
Bromofluorobenzene (FID)	120	65-146	

<sup>\*=</sup> Value outside of QC limits; see narrative

Page 1 of 2

Y= Sample exhibits chromatographic pattern which does not resemble standard

Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit



Total Volatile Hydrocarbons Lab #: 206219 Location: Oakland Auto Works Client: Stellar Environmental Solutions EPA 5030B Prep: Analysis: Sampled: EPA 8015B 09/19/08 Project#: 2003-43 Matrix: Water 09/22/08 Units: ug/L Received: Diln Fac: 1.000

Type: BLANK Batch#: 142797 Lab ID: QC461537 Analyzed: 09/23/08

 Analyte
 Result
 RL

 Gasoline C7-C12
 ND
 50

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	97	61-149	
Bromofluorobenzene (FID)	104	65-146	

Type: BLANK Batch#: 142861 Lab ID: QC461776 Analyzed: 09/24/08

Analyte	Result	RL	
Gasoline C7-C12	ND	50	

Surrogate	e %REC	Limits
Trifluorotoluene (FII	FID) 100	61-149
Bromofluorobenzene (F	/ _ · _ · _ ` .	65-146

<sup>\*=</sup> Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit



	Total Volatile Hydrocarbons					
Lab #: 206219		Location:	Oakland Auto Works			
Client: Stella	ar Environmental Solutions	Prep:	EPA 5030B			
Project#: 2003-4	13	Analysis:	EPA 8015B			
Field ID:	MW-2	Batch#:	142797			
MSS Lab ID:	206219-002	Sampled:	09/19/08			
Matrix:	Water	Received:	09/22/08			
Units:	ug/L	Analyzed:	09/23/08			
Diln Fac:	1.000					

Type: MS

Lab ID: QC461540

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,315	2,000	2,838	76	65-120

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	181 *	61-149	
Bromofluorobenzene (FID)	148 *	65-146	

Type: MSD Lab ID: QC461541

Analyt	e Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,891	79	65-120	2	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	183 *	61-149
Bromofluorobenzene (FID)	151 *	65-146

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<sup>\*=</sup> Value outside of QC limits; see narrative RPD= Relative Percent Difference



	Total Volati	le Hydrocarbo	ns
Lab #:	206219	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:	QC461575	Batch#:	142797
Matrix:	Water	Analyzed:	09/23/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	877.9	88	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	61-149
Bromofluorobenzene (FID)	116	65-146

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Total Volatile Hydrocarbons						
Lab #:	206219	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:	QC461777	Batch#:	142861			
Matrix:	Water	Analyzed:	09/24/08			
Units:	ug/L					

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,079	108	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	129	61-149
Bromofluorobenzene (FID)	109	65-146

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Total Volatile Hydrocarbons						
Lab #: 20621	9	Location:	Oakland Auto Works			
Client: Stella	ar Environmental Solutions	Prep:	EPA 5030B			
Project#: 2003-	43	Analysis:	EPA 8015B			
Field ID:	ZZZZZZZZZZ	Batch#:	142861			
MSS Lab ID:	206261-004	Sampled:	09/23/08			
Matrix:	Water	Received:	09/23/08			
Units:	ug/L	Analyzed:	09/24/08			
Diln Fac:	1.000					

Type: MS

Lab ID:	QC461778
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Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	101.8	2,000	1,486	69	65-120

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	100	61-149	
Bromofluorobenzene (FID)	99	65-146	

Type: MSD Lab ID: QC461779

Analyte	Spiked	Result	%REC	Limits	RPD L
Gasoline C7-C12	2,000	1,490	69	65-120	0 2

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	61-149
Bromofluorobenzene (FID)	105	65-146



Total Extractable Hydrocarbons Lab #: 206219 Location: Oakland Auto Works Client: EPA 3520C Stellar Environmental Solutions Prep: Project#: 2003-43 Analysis: EPA 8015B Sampled: 09/19/08 Matrix: Water 09/22/08 Units: ug/L Received: Prepared: Diln Fac: 1.000 09/29/08 Batch#: 143059 Analyzed: 09/30/08

Field ID: MW-1 Lab ID: 206219-001

Type: SAMPLE

 Analyte
 Result
 RI.

 Diesel C10-C24
 2,600
 50

Surrogate %REC Limits
Hexacosane 106 58-127

Field ID: MW-2 Lab ID: 206219-002

Type: SAMPLE

 Analyte
 Result
 RL

 Diesel C10-C24
 1,800
 50

Surrogate %REC Limits
Hexacosane 105 58-127

Field ID: MW-3 Lab ID: 206219-003

Type: SAMPLE

AnalyteResultRI.Diesel C10-C244,30050

Surrogate %REC Limits
Hexacosane 104 58-127

Type: BLANK Lab ID: QC462704

Analyte Result RI.
Diesel C10-C24 ND 50

 Surrogate
 %REC
 Limits

 Hexacosane
 92
 58-127



Total Extractable Hydrocarbons				
Lab #:	206219	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:	QC462705	Batch#:	143059	
Matrix:	Water	Prepared:	09/29/08	
Units:	ug/L	Analyzed:	09/30/08	

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,963	79	52-120

Surrogate	%REC	Limits
Hexacosane	94	58-127

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Total Extractable Hydrocarbons					
Lab #: 206219	9	Location:	Oakland Auto Works		
Client: Stella	ar Environmental Solutions	Prep:	EPA 3520C		
Project#: 2003-4	13	Analysis:	EPA 8015B		
Field ID:	ZZZZZZZZZ	Batch#:	143059		
MSS Lab ID:	206261-004	Sampled:	09/23/08		
Matrix:	Water	Received:	09/23/08		
Units:	ug/L	Prepared:	09/29/08		
Diln Fac:	1.000	Analyzed:	09/30/08		

Type: MS Cleanup Method: EPA 3630C

Lab ID: QC462706

Analyte	MSS Result	Spiked	Result	%REC Limits
Diesel C10-C24	2,754	2,500	5,545	112 43-121

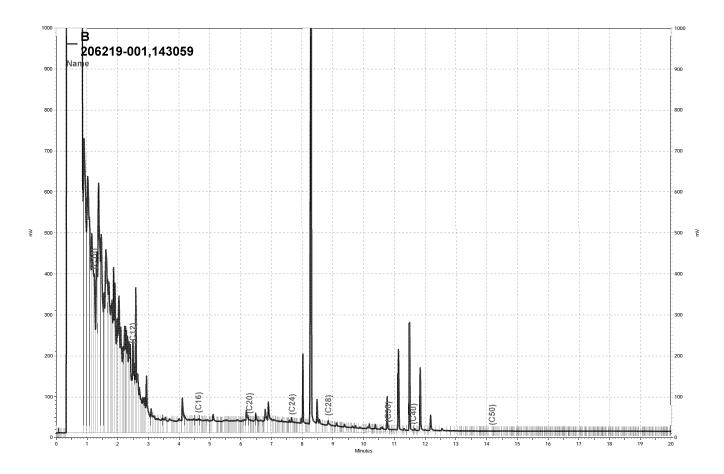
Surrogate	%REC	Limits
Hexacosane	98	58-127

Type: MSD Cleanup Method: EPA 3630C

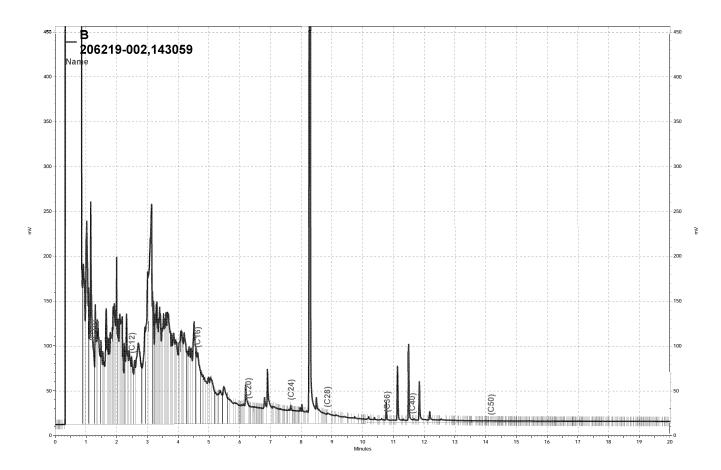
Lab ID: QC462707

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	4,954	88	43-121	11	36

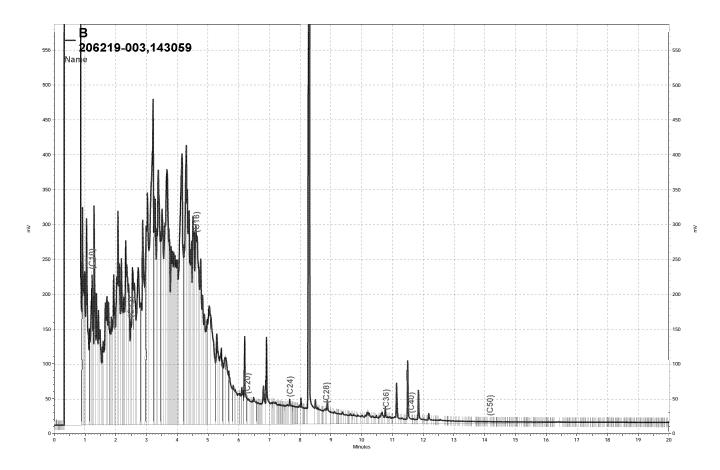
Surrogate	%REC	Limits
Hexacosane	101	58-127



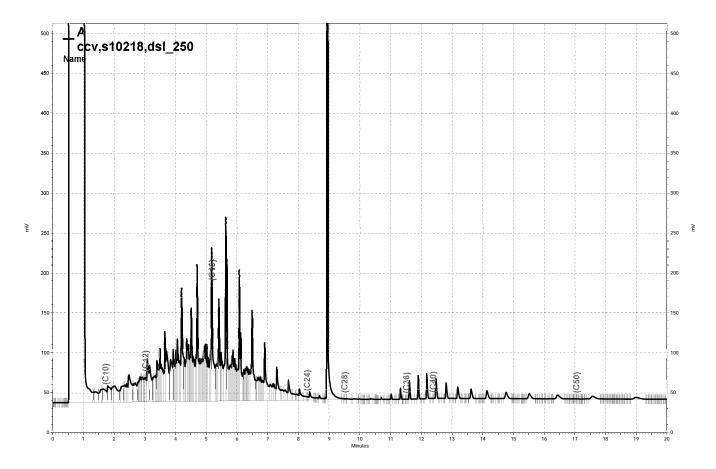
\Lims\gdrive\ezchrom\Projects\GC14B\Data\274b010, B



\Lims\gdrive\ezchrom\Projects\GC14B\Data\274b011, B



\Lims\gdrive\ezchrom\Projects\GC14B\Data\274b012, B



\Lims\gdrive\ezchrom\Projects\GC11A\Data\274a004, A



	BTXE & Oxygenates				
Lab #:	206219	Location:	Oakland Auto Works		
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B		
Project#:	2003-43	Analysis:	EPA 8260B		
Field ID:	MW-1	Batch#:	142955		
Lab ID:	206219-001	Sampled:	09/19/08		
Matrix:	Water	Received:	09/22/08		
Units:	ug/L	Analyzed:	09/26/08		
Diln Fac:	2.500				

Analyte	Result	RL	
tert-Butyl Alcohol (TBA)	49	25	
MTBE	ND	1.3	
Isopropyl Ether (DIPE)	ND	1.3	
Ethyl tert-Butyl Ether (ETBE)	ND	1.3	
1,2-Dichloroethane	3.8	1.3	
Benzene	170	1.3	
Methyl tert-Amyl Ether (TAME)	ND	1.3	
Toluene	4.7	1.3	
1,2-Dibromoethane	ND	1.3	
Ethylbenzene	3.2	1.3	
m,p-Xylenes	16	1.3	
o-Xylene	3.0	1.3	

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-125
1,2-Dichloroethane-d4	105	80-137
Toluene-d8	103	80-120
Bromofluorobenzene	105	80-122

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	BTXE & Oxygenates				
Lab #:	206219	Location:	Oakland Auto Works		
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B		
Project#:	2003-43	Analysis:	EPA 8260B		
Field ID:	MW-2	Batch#:	142898		
Lab ID:	206219-002	Sampled:	09/19/08		
Matrix:	Water	Received:	09/22/08		
Units:	ug/L	Analyzed:	09/25/08		
Diln Fac:	1.000				

Analyte	Result	RL	
tert-Butyl Alcohol (TBA)	52	10	
MTBE	72	0.5	
Isopropyl Ether (DIPE)	8.0	0.5	
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	
1,2-Dichloroethane	1.8	0.5	
Benzene	12	0.5	
Methyl tert-Amyl Ether (TAME)	ND	0.5	
Toluene	8.6	0.5	
1,2-Dibromoethane	ND	0.5	
Ethylbenzene	10	0.5	
m,p-Xylenes	26	0.5	
o-Xylene	8.6	0.5	

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-125
1,2-Dichloroethane-d4	96	80-137
Toluene-d8	102	80-120
Bromofluorobenzene	107	80-122

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	BTXE & Oxygenates				
Lab #:	206219	Location:	Oakland Auto Works		
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B		
Project#:	2003-43	Analysis:	EPA 8260B		
Field ID:	MW-3	Batch#:	142898		
Lab ID:	206219-003	Sampled:	09/19/08		
Matrix:	Water	Received:	09/22/08		
Units:	ug/L	Analyzed:	09/25/08		
Diln Fac:	1.000				

Analyte	Result	RL	
tert-Butyl Alcohol (TBA)	21	10	
MTBE	75	0.5	
Isopropyl Ether (DIPE)	3.0	0.5	
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	
1,2-Dichloroethane	1.7	0.5	
Benzene	14	0.5	
Methyl tert-Amyl Ether (TAME)	ND	0.5	
Toluene	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Ethylbenzene	0.7	0.5	
m,p-Xylenes	1.5	0.5	
o-Xylene	ND	0.5	

Surrogate	%REC	Limits
Dibromofluoromethane	84	80-125
1,2-Dichloroethane-d4	90	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	107	80-122

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BTXE & Oxygenates				
Lab #:	206219	Location:	Oakland Auto Works	
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B	
Project#:	2003-43	Analysis:	EPA 8260B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC461949	Batch#:	142898	
Matrix:	Water	Analyzed:	09/25/08	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	114.3	91	59-152
MTBE	25.00	24.03	96	70-125
Isopropyl Ether (DIPE)	25.00	25.54	102	67-126
Ethyl tert-Butyl Ether (ETBE)	25.00	24.57	98	69-127
1,2-Dichloroethane	25.00	27.20	109	78-132
Benzene	25.00	26.27	105	80-120
Methyl tert-Amyl Ether (TAME)	25.00	26.10	104	80-122
Toluene	25.00	28.28	113	80-120
1,2-Dibromoethane	25.00	24.80	99	80-120
Ethylbenzene	25.00	26.24	105	80-122
m,p-Xylenes	50.00	53.97	108	80-126
o-Xylene	25.00	25.74	103	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-125
1,2-Dichloroethane-d4	92	80-137
Toluene-d8	106	80-120
Bromofluorobenzene	103	80-122

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BTXE & Oxygenates					
Lab #:	206219	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:	QC461950	Batch#:	142898		
Matrix:	Water	Analyzed:	09/25/08		
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	87	80-125
1,2-Dichloroethane-d4	95	80-137
Toluene-d8	106	80-120
Bromofluorobenzene	104	80-122

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BTXE & Oxygenates						
Lab #:	206219	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:	QC461951	Batch#:	142898			
Matrix:	Water	Analyzed:	09/25/08			
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	92	80-125
1,2-Dichloroethane-d4	95	80-137
Toluene-d8	108	80-120
Bromofluorobenzene	107	80-122

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BTXE & Oxygenates					
Lab #: 206219	Location:	Oakland Auto Works			
Client: Stellar Environmental Solutions	Prep:	EPA 5030B			
Project#: 2003-43	Analysis:	EPA 8260B			
Field ID: ZZZZZZZZZZ	Batch#:	142898			
MSS Lab ID: 206213-001	Sampled:	09/19/08			
Matrix: Water	Received:	09/22/08			
Units: ug/L	Analyzed:	09/25/08			
Diln Fac: 1.000	1				

Type: MS Lab ID: QC461976

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<2.000	125.0	115.7	93	65-150
MTBE	<0.1000	25.00	23.08	92	74-124
Isopropyl Ether (DIPE)	<0.1000	25.00	24.28	97	73-127
Ethyl tert-Butyl Ether (ETBE)	<0.1000	25.00	23.67	95	74-125
1,2-Dichloroethane	<0.1000	25.00	27.84	111	80-133
Benzene	<0.1000	25.00	25.91	104	80-121
Methyl tert-Amyl Ether (TAME)	<0.1000	25.00	24.04	96	80-120
Toluene	<0.1000	25.00	27.03	108	80-120
1,2-Dibromoethane	<0.1000	25.00	24.83	99	80-120
Ethylbenzene	<0.1000	25.00	25.41	102	80-120
m,p-Xylenes	<0.1000	50.00	51.56	103	80-121
o-Xylene	<0.1000	25.00	24.96	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-125
1,2-Dichloroethane-d4	94	80-137
Toluene-d8	105	80-120
Bromofluorobenzene	104	80-122

Type: MSD Lab ID: QC461977

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	112.0	90	65-150	3	20
MTBE	25.00	23.32	93	74-124	1	20
Isopropyl Ether (DIPE)	25.00	24.15	97	73-127	1	20
Ethyl tert-Butyl Ether (ETBE)	25.00	23.42	94	74-125	1	20
1,2-Dichloroethane	25.00	27.79	111	80-133	0	20
Benzene	25.00	26.83	107	80-121	3	20
Methyl tert-Amyl Ether (TAME)	25.00	24.82	99	80-120	3	20
Toluene	25.00	27.79	111	80-120	3	20
1,2-Dibromoethane	25.00	25.38	102	80-120	2	20
Ethylbenzene	25.00	26.45	106	80-120	4	20
m,p-Xylenes	50.00	53.43	107	80-121	4	20
o-Xylene	25.00	25.48	102	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-125
1,2-Dichloroethane-d4	94	80-137
Toluene-d8	105	80-120
Bromofluorobenzene	104	80-122



BTXE & Oxygenates						
Lab #: Client: Project#:	206219 Stellar Environmental Solutions 2003-43	Location: Prep: Analysis:	Oakland Auto Works EPA 5030B EPA 8260B			
Matrix: Units: Diln Fac:	Water ug/L 1.000	Batch#: Analyzed:	142955 09/26/08			

Type: BS Lab ID: QC462206

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	112.5	90	59-152
MTBE	25.00	25.62	102	70-125
Isopropyl Ether (DIPE)	25.00	26.62	106	67-126
Ethyl tert-Butyl Ether (ETBE)	25.00	25.95	104	69-127
1,2-Dichloroethane	25.00	27.70	111	78-132
Benzene	25.00	26.61	106	80-120
Methyl tert-Amyl Ether (TAME)	25.00	26.27	105	80-122
Toluene	25.00	27.85	111	80-120
1,2-Dibromoethane	25.00	26.07	104	80-120
Ethylbenzene	25.00	26.91	108	80-122
m,p-Xylenes	50.00	54.29	109	80-126
o-Xylene	25.00	25.92	104	80-120

Surrogate	%REC	imits	
Dibromofluoromethane	91	0-125	
1,2-Dichloroethane-d4	90	0-137	
Toluene-d8	103	0-120	
Bromofluorobenzene	101	0-122	

Type: BSD Lab ID: QC462207

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	110.3	88	59-152	2	20
MTBE	25.00	24.44	98	70-125	5	20
Isopropyl Ether (DIPE)	25.00	25.12	100	67-126	6	20
Ethyl tert-Butyl Ether (ETBE)	25.00	24.88	100	69-127	4	20
1,2-Dichloroethane	25.00	25.89	104	78-132	7	20
Benzene	25.00	25.08	100	80-120	6	20
Methyl tert-Amyl Ether (TAME)	25.00	25.87	103	80-122	2	20
Toluene	25.00	26.86	107	80-120	4	20
1,2-Dibromoethane	25.00	24.44	98	80-120	6	20
Ethylbenzene	25.00	25.04	100	80-122	7	20
m,p-Xylenes	50.00	50.90	102	80-126	6	20
o-Xylene	25.00	24.50	98	80-120	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	87	80-125
1,2-Dichloroethane-d4	89	80-137
Toluene-d8	106	80-120
Bromofluorobenzene	103	80-122



BTXE & Oxygenates							
Lab #:	206219	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:	QC462209	Batch#:	142955				
Matrix:	Water	Analyzed:	09/26/08				
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	88	80-125
1,2-Dichloroethane-d4	95	80-137
Toluene-d8	112	80-120
Bromofluorobenzene	104	80-122

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## **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
				M	W-1		L		
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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
		1 1		M	W-2			v	
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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
				M	W-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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
				M	W-4		<u> </u>		
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	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	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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
			•	M	W-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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	МТВЕ
				M	W-6			<u> </u>	
(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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
			I	M	W-7			<u> </u>	
(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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
				M	W-8			<u> </u>	
(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

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

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

NA = Not analyzed for this constituent in this event.

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

<sup>&</sup>quot;No Purge" means no purging was conducted before the groundwater sample was collected.

TABLE C-2 Historical Groundwater Monitoring Well Groundwater Analytical Results Fuel Oxygenates and VOCs  $(\mu g/L)$ 

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
	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
MW-1	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	NA	NA	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

Table C-2 Continued

					,		C-2 Commi							
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
	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
MW-2	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

Table C-2 Continued

						Tubie	C-2 Contini	леи						
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
	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
MW-3	28	Sep-05	< 0.5	1.5	NA	NA	NA	94	0.9	NA	NA	NA	NA	NA
IVI VV -3	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

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
	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	ND
	19	Mar-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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	< 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
MW-4	27	Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
111111	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

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
	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
MW-5	28	Sep-05	< 1.3	7.7	NA	NA	NA	87	< 0.50	NA	NA	NA	NA	NA
IVI VV -3	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
	36	Sep-07	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

Table C-2 Continued

							C-2 Contini	ieu	1					1
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
	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 <sup>(d)</sup>	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
MW-6	28	Sep-05	< 0.50	15	NA	NA	NA	43	0.7	NA	NA	NA	NA	NA
1,1,1,1	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
	37	Dec-07	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
	39	Jun-08	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

Table C-2 Continued

	G 11	<b>.</b> .	1	1	404		C-2 Contini	ieu	l	1				
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
	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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	< 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
MW-7	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

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
	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
MW-8	28	Sep-05	< 0.50	< 0.5	NA	NA	NA	120	1.4	NA	NA	NA	NA	NA
141 44 -0	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

### Table C-2 - Footnotes

### Notes:

Table includes only detected contaminants.

EDB = Ethylene dibromide, aka 1,2-Dibromoethane (lead scavenger) DIPE = Isopropyl Ether (a.k.a. di-isopropyl ether)

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

TBA = Tertiary butyl alcohol

PCE = Tetrachloroethylene

DCE = Dichloroethylene

NLP = No Level Published

TCE = Trichloroethyene TMB = Trimethylbenzene 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

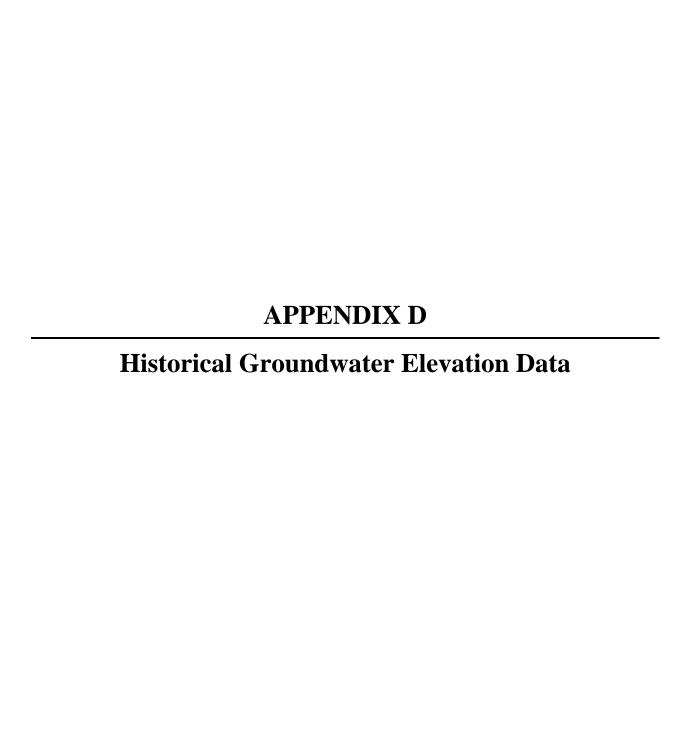


Table D-1
Historical Water Levels in Monitoring Wells
240 W. MacArthur Boulevard, Oakland, Alameda, California

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
	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
MW-1	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	22.2	56.95

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

NM = Not Measurable

**Table D-1 (continued)** 

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
	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
MW-2	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
Notes:	70	5 <b>0</b> p 00	44.43	50.52

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

**Table D-1 (continued)** 

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
	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
MW-3	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

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

**Table D-1 (continued)** 

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
	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
MW-4	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

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

**Table D-1 (continued)** 

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
	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
MW-5	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

(a) Feet below well top of casing. (b) Relative to mean sea level.

NA = Data Not Available NM = Not Measurable

**Table D-1 (continued)** 

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
	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
MW-6	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	58.43 (Dry)
	37	Dec-07	NM	Dry
	38	Mar-08	NM	Dry
	39	Jun-08	NM	Dry
	40	Sep-08	NM	Dry

(a) Feet below well top of casing.(b) Relative to mean sea level.NA = Data Not AvailableNM = Not Measurable

**Table D-1 (continued)** 

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
	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
MW-7	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

(a) Feet below well top of casing. (b) Relative to mean sea level.

NA = Data Not Available NM = Not Measurable

**Table D-1 (continued)** 

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
	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
MW-8	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	57.99
	36	Sep-07	19.12	57.27 (Dry)
	37	Dec-07	NM	Dry
	38	Mar-08	NM	Dry
	39	Jun-08	NM	Dry
	40	Sep-08	NM	Dry

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

NM = Not Measurable