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Environmental Health

MAR 23 2005

Alameda County

TRANSMITTAL MEMORANDUM	
TO: LOCAL OVERSIGHT PROGRAM ENVIRONMENTAL HEALTH SERVICES ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY 1131 HARBOR BAY PARKWAY ALAMEDA, CALIFORNIA 94502-6577	DATE: MARCH 21, 2005
ATTENTION: MR. DON HWANG	FILE: SES 2003-43
SUBJECT: OAKLAND AUTO WORKS 240 W. MACARTHUR BLVD OAKLAND, CALIFORNIA ALAMEDA COUNTY HEALTH FUEL LEAK CASE No. R00000142	
WE ARE SENDING: <input checked="" type="checkbox"/> HEREWITH	<input type="checkbox"/> UNDER SEPARATE COVER
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THE FOLLOWING: FIRST QUARTER 2005 GROUNDWATER MONITORING REPORT (1 COPY)	
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COPY TO: MR. GLEN POY-WING, PROPERTY OWNER	BY: <u>BRUCE RUCKER</u>

FIRST QUARTER 2005
GROUNDWATER
MONITORING REPORT

210 W. MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

PREPARED BY
MR. GLEN FRYCHES
OAKLAND AUTO WORKS
OAKLAND, CALIFORNIA

APRIL 2005

STELLAR

March 31, 2005

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

Alameda County
MAR 29 2005
Environmental Health

Subject: First Quarter 2005 Groundwater Monitoring Report
Oakland Auto Works Facility – 240 W. MacArthur Boulevard, Oakland, California
Alameda County Health Department Fuel Leak Case No. RO0000142

Dear Mr. Hwang:

Enclosed is the Stellar Environmental Solutions, Inc. (SES) report summarizing recent activities conducted at the referenced site. This report presents the findings of the First Quarter 2005 groundwater monitoring event (the 26th site groundwater monitoring event since August 1997).

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

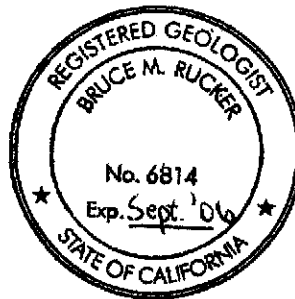
Sincerely,



Bruce M. Rucker, R.G., R.E.A.
Project Manager



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



cc: Mr. Glen Poy-Wing, Property Owner

**FIRST QUARTER 2005
GROUNDWATER
MONITORING REPORT**

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

Prepared for:

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

Prepared by:

**STELLAR ENVIRONMENTAL SOLUTIONS, INC.
2198 SIXTH STREET
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March 31, 2005

Project No. 2003-43

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1.0 INTRODUCTION

PROJECT BACKGROUND

The subject property, located at 240 W. MacArthur Boulevard, Oakland, Alameda County, California, is owned by Glen Poy-Wing and his wife of Oakland Auto Works, for whom Stellar Environmental Solutions, Inc. (SES) has provided environmental consulting services since July 2003. The site has undergone contaminant investigations and remediation since 1991 (discussed below). A list of all known environmental reports is included in Section 6.0, References and Bibliography. This report presents finding for the 26th 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 Health Department (Alameda County Health) 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 Alameda County Health or Water Board cleanup orders for the site; however, all site work has been conducted under oversight of Alameda County Health. In our August 2003 review of the Alameda County Health case file, we determined that all known technical reports for the site were included in that file.

The previous consultant requested site closure in March 2003 (AEC, 2003a). Alameda County Health denied 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). Alameda County Health has not yet responded to that report.

The site is in compliance with State of California "GeoTracker" requirements. Tasks conducted include: uploading field point (well) names; surveying groundwater monitoring well horizontal and vertical coordinates, and uploading that data; and uploading groundwater monitoring analytical data from groundwater monitoring events conducted by SES (beginning in August 2003). Beginning January 1, 2005, portable data format (pdf) electronic copies of site technical

reports were uploaded to GeoTracker, along with hard-copy reports submitted to Alameda County Health. On July 1, 2005, the electronic copy upload will entirely replace the hard-copy submittal.

In December 2003, the owner submitted to Alameda County Health a workplan for interim corrective action (focused on soil vapor extraction to reduce source area contaminant mass). Alameda County Health has not responded to that workplan.

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 following work, conducted between January 1 and March 31, 2005:

- 26th groundwater monitoring and sampling event, conducted on March 3, 2005.

SITE DESCRIPTION

The project site is located at 240 W. MacArthur Boulevard in Oakland, California (see Figure 1). The rectangular-shaped project site is approximately 14,000 square feet (140 feet long by 100 feet wide), and is oriented with its long axis parallel to W. MacArthur Boulevard (approximately northwest-southeast). The project site is essentially flat and is wholly paved. One structure currently exists on the property—an automobile servicing shop that covers approximately 50 percent of the property. The building is currently occupied by Oakland Auto Works. Figure 2 is a site plan showing adjacent land uses.

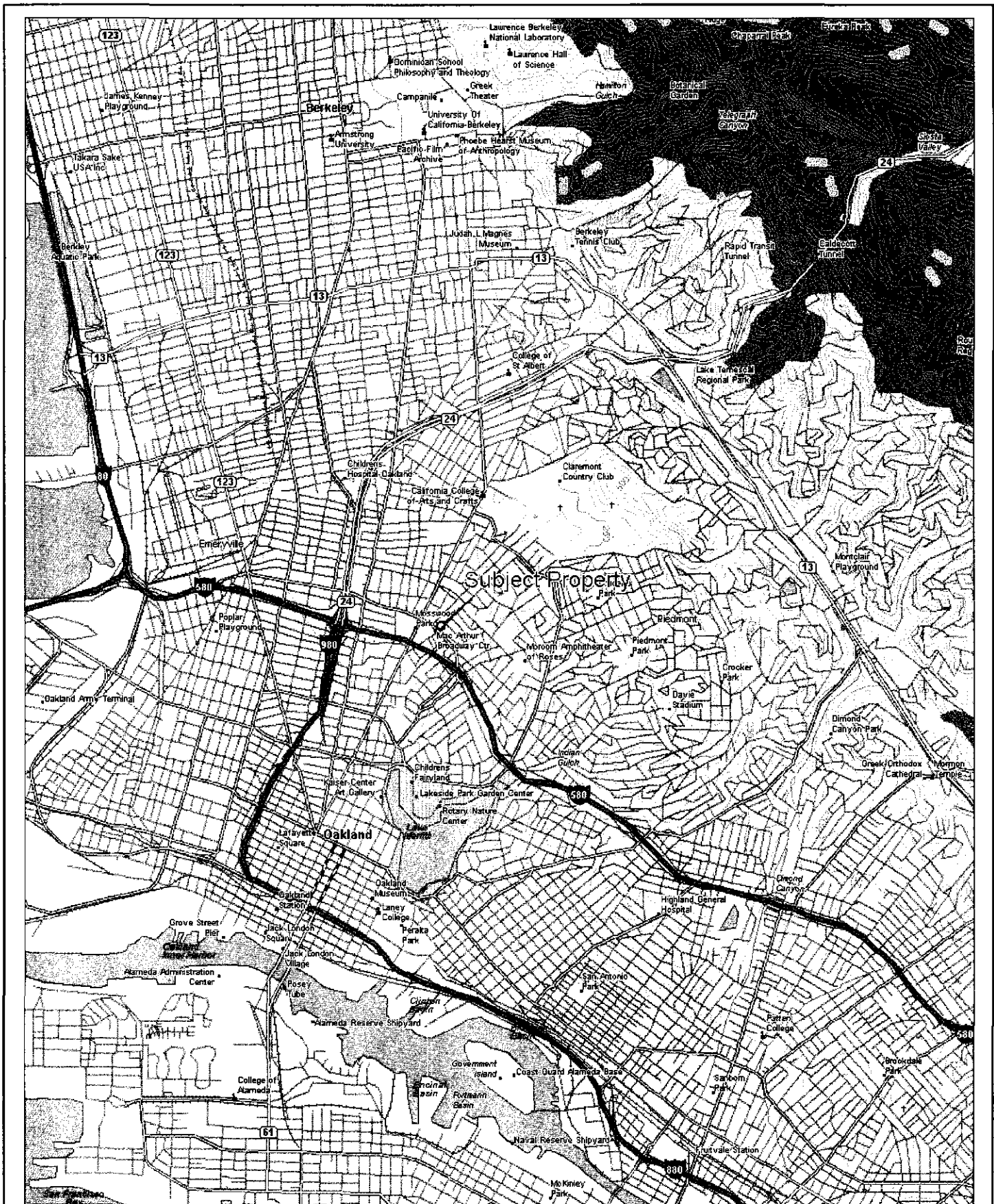
Adjacent land use includes: a Shell-branded service station (*to the south*); W. MacArthur Boulevard (*to the west*); Howe Street (*to the north*); and a paved driveway, then a multi-story (with basement) health services building (*to the east*).

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 Alameda County Health files. Figure 2 shows the site plan with the current groundwater well and former underground fuel storage tank (UFST) locations.

Historical remediation and site characterization activities include:

- **Pre-1991.** Three 10,000-gallon gasoline UFSTs from a former Gulf service station occupancy were removed prior to 1991 (there is no available documentation regarding the removals).



3-D TopoQuads Copyright © 1999 DeLorme, Yarmouth, ME 04096

1500 ft Scale: 1:50,000 Detail: 12.0 Datum: WGS84



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

240 W. MacArthur Blvd.
Oakland, CA

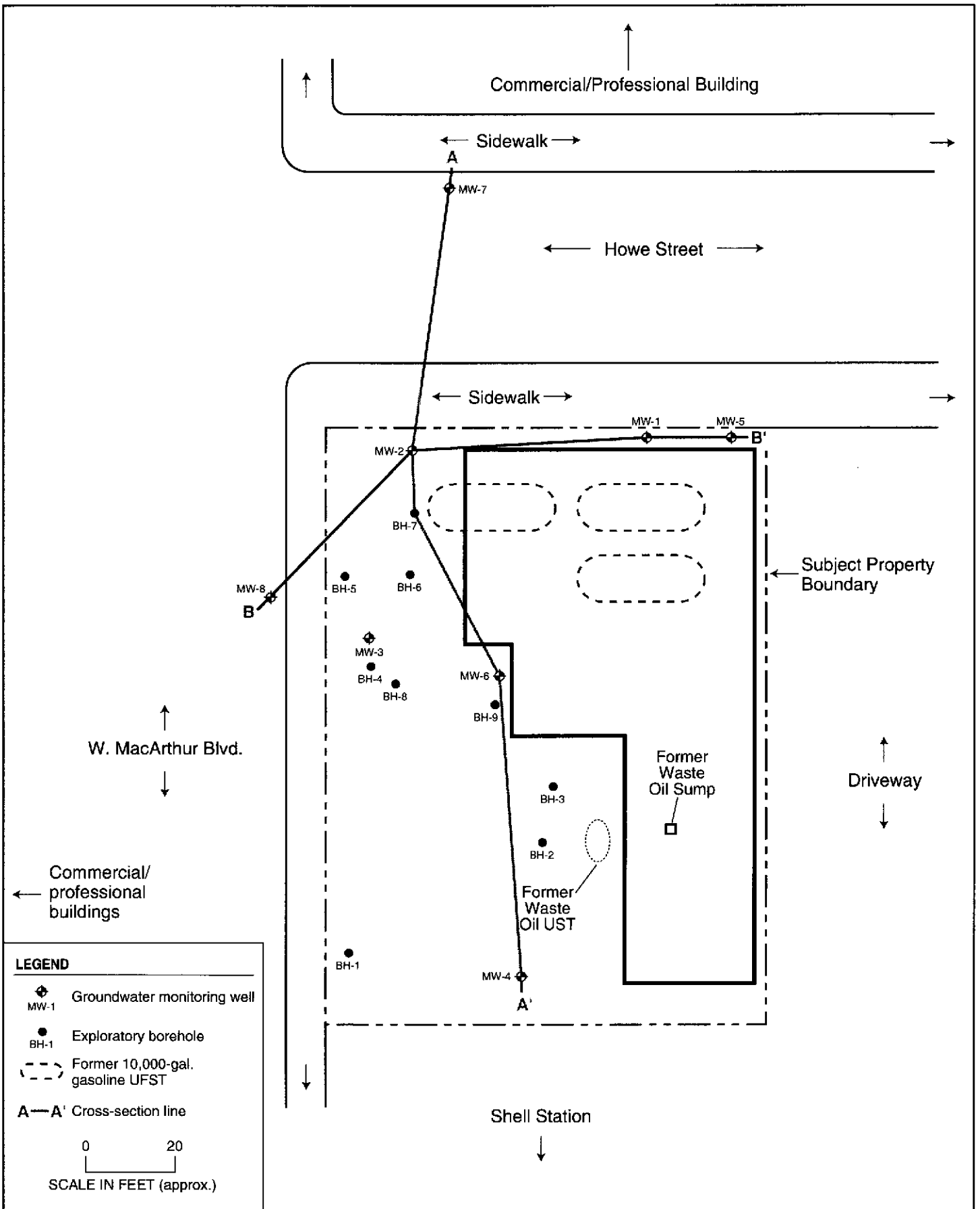
By: MJC

APRIL 2004

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Figure 1

2003-43-01



SITE PLAN WITH BOREHOLE AND GROUNDWATER WELL LOCATIONS

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

AUGUST 2003

Figure 2

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2003-43-13



- **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 UST 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 Alameda County Health, 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, which included sampling three boreholes, installing four groundwater monitoring wells, and conducting 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 12 exploratory boreholes; analyzing 64 soil and 12 grab-groundwater sample results; and further evaluating site hydrogeology and contaminant extent and magnitude.

To date, a total of 26 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 inspections 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 to 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 a common depositional facies in this area.

Depth to groundwater in all onsite April 2004 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 between approximately 21 and 23 feet. Of the 12 boreholes, 9 were

advanced at least 1.5 feet into this clay before terminating (and not encountering visible moisture or sand). One of the boreholes was advanced deeper, documenting a thickness of at least 4.5 feet. The lithologic data (supported by soil sample analytical data) strongly suggest that this clay unit inhibits downward migration of groundwater contamination.

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

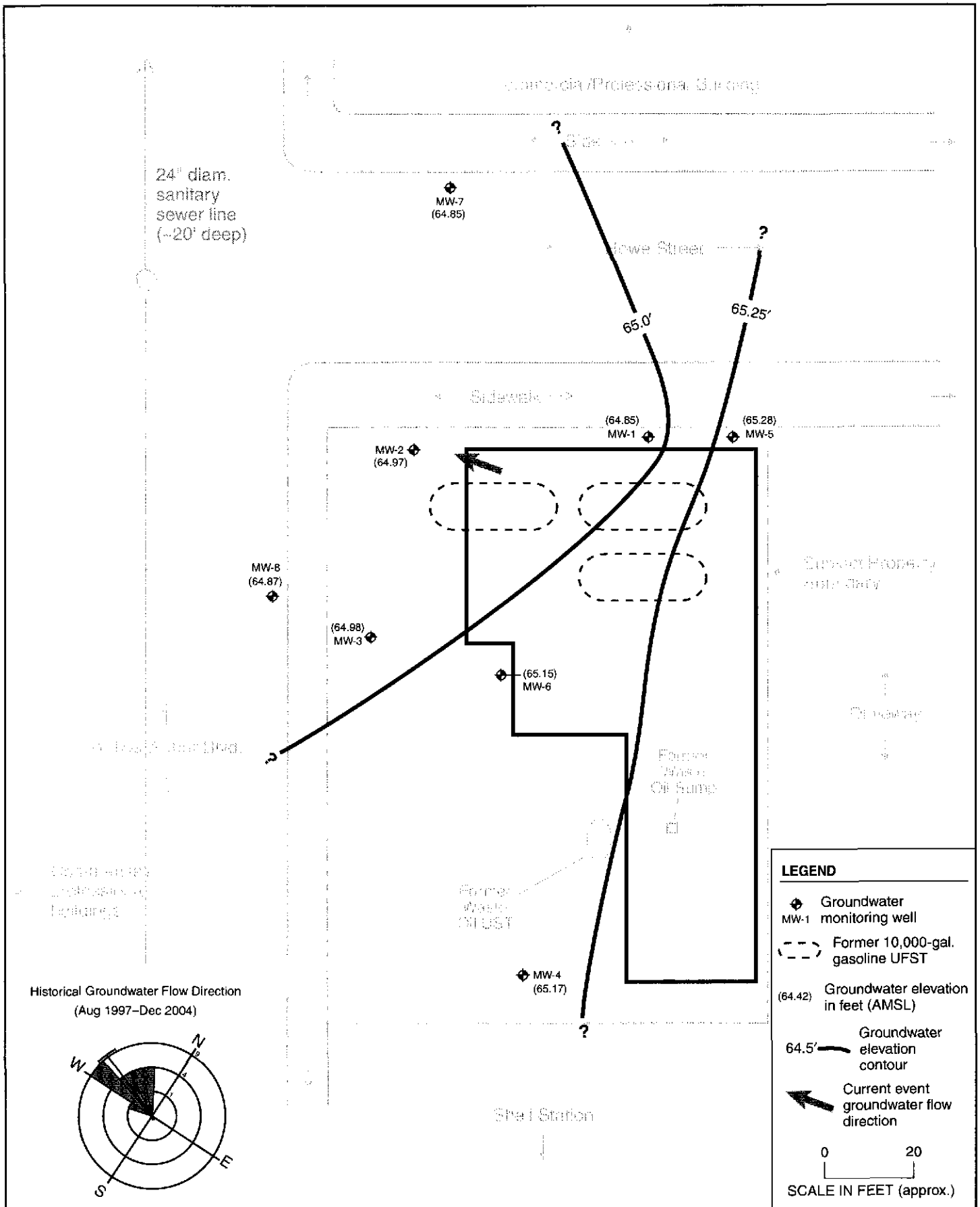
GROUNDWATER HYDROLOGY

The number and positioning of the existing eight site monitoring wells is currently adequate to evaluate the general groundwater flow direction and gradient. Four of the wells (MW-1, MW-2, MW-3, and MW-4) are screened between approximately 25 and 15 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.

Following the September 26, 2003 well surveying, SES evaluated groundwater flow direction of events (from October 2001 to March 2003), finding groundwater flow to be generally westward, with a slight northern component in some events. Figure 3 is a groundwater elevation map that shows elevations and contours from the current (March 2005) groundwater monitoring event. Groundwater flow direction in this event was to the west. 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 March 2005 event was relatively flat, at approximately 0.005 feet/foot. Historical groundwater gradient has varied between approximately 0.002 feet/foot and 0.008 feet/foot, averaging approximately 0.005 feet/foot.

Figure 3 includes 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.



GROUNDWATER ELEVATION MAP—March 3, 2005

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

MARCH 2005

Figure 3

★ Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

2005-43-107

- 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.

3.0 MARCH 2005 GROUNDWATER MONITORING AND SAMPLING

This section presents the groundwater sampling and analytical methods for the current event (First Quarter 2005), conducted on March 3, 2005. Table 1 summarizes monitoring well construction and groundwater monitoring data. Groundwater analytical results are presented and discussed in Section 5.0. Monitoring and sampling protocols were in accordance with the SES technical workplan (SES, 2003) submitted to Alameda County Health, and subsequent technical revision requested by Alameda County Health. 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 Alameda County Health. Specific activities for this event included:

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

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

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

As the first monitoring task, static water levels were measured in the eight site wells using an electric water level indicator. Grab-groundwater samples were then collected from each well (using a new disposable bailer) and field-analyzed for aquifer stability parameters—including temperature, pH, electrical conductivity, turbidity, and dissolved oxygen.

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

Well	Well Depth (feet bgs)	Well Screened Interval		Groundwater Level Depth ^(a) March 3, 2005	Groundwater Elevation ^(b) March 3, 2005
		Depth (feet)	Elevation (feet)		
MW-1	25	19.5 to 24.5	54.5 to 49.5	14.30	64.85
MW-2	25	14.5 to 24.5	64.2 to 54.2	13.48	64.97
MW-3	25	14.5 to 24.5	63.4 to 53.4	12.60	64.98
MW-4	25	14.5 to 24.5	63.6 to 53.6	12.57	65.17
MW-5	20	9 to 19	70.6 to 60.6	14.08	65.28
MW-6	20	9 to 19	69.7 to 59.7	13.28	65.15
MW-7	20	9 to 19	69.6 to 59.6	13.42	64.85
MW-8	20	9 to 19	67.7 to 57.7	11.52	64.87

Notes:

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

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

Each well was then purged (by hand bailing with a new disposable bailer) of three wetted casing volumes, and aquifer stability parameters (pH, temperature, electrical conductivity, and turbidity) 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. These samples were field-measured for pH, temperature, electrical conductivity, turbidity, and dissolved oxygen. 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.

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

4.0 REGULATORY CONSIDERATIONS, ANALYTICAL RESULTS AND FINDINGS

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

REGULATORY CONSIDERATIONS

Environmental Screening Levels

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

The City of Oakland, via its Urban Land Redevelopment (URL) 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 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 California 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 Water Board's San Francisco Bay Region Water Quality Control Plan, all groundwaters are considered potential sources of drinking water unless otherwise approved by the Water Board, and are assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. In the case of groundwater contamination, ESLs are published for two scenarios: groundwater *is* a source of drinking water, and groundwater *is not* a source of drinking water. Qualifying for the higher ESLs (applicable to groundwater *is not* a source of drinking water) requires meeting one of the following two criteria:

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

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

GROUNDWATER SAMPLE ANALYTICAL METHODS

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

- Total volatile hydrocarbons – gasoline range (TVHg), by EPA Method 8015B (all wells);
- BTEX and MTBE, by EPA Method 8260B;
- The lead scavengers 1,2-dichloroethane (EDC) and 1,2-dibromoethane (EDB), by EPA Method 8260B (wells MW-1, MW-5, and MW-6—the only wells with detectable concentrations in the previous monitoring event);
- 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 SAMPLE RESULTS

All of the chemical constituents monitored for during this event were at lower concentrations than in previous quarters; this reflects recharge dilution from the winter rains. 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 six of the eight wells (not in MW-4 or MW-7). Detected concentrations ranged from 270 micrograms per liter ($\mu\text{g/L}$) (well MW-8) to 6,300 $\mu\text{g/L}$ (well MW-5). All of the gasoline concentrations exceeded the 100- $\mu\text{g/L}$ ESL criterion. The gasoline plume extends to the south along the Howe Street side of the property, and to the east (toward well MW-4). To the south, the plume extends somewhat offsite into W. MacArthur Boulevard. Well MW-5, at the northern corner of the site (near the original source area) had the highest gasoline concentration, as it has historically. The gasoline plume also extends offsite to the north (beneath Howe Street).

Figure 5 shows diesel isoconcentration contours for the recent event. Diesel was detected in all six of the wells analyzed for diesel, but is of secondary concern relative to gasoline, with concentrations historically at significantly lower levels than gasoline. Diesel concentrations ranged from 120 $\mu\text{g/L}$ (well MW-8) to 4,600 $\mu\text{g/L}$ (well MW-5), with all concentrations exceeding the 100 $\mu\text{g/L}$ ESL criterion. The diesel plume footprint is similar to that of the gasoline plume. Diesel is present offsite under Howe Street (to the north) and under W. MacArthur Boulevard (to the west).

Benzene, Toluene, Ethylbenzene, and Total Xylenes

Figure 6 shows benzene isoconcentration contours for the recent event. Benzene was detected in five of the six wells for which benzene was analyzed, at concentrations ranging from 5.3 $\mu\text{g/L}$ (MW-2) to 450 $\mu\text{g/L}$ (MW-1). Maximum benzene concentrations were detected in source area wells MW-1 and MW-5, as historically has been the case. The lateral extent of the benzene plume is constrained to the east, and extends under Howe Street to the north (up to approximately 10 $\mu\text{g/L}$), and under W. MacArthur Boulevard to the west and south (up to 73 $\mu\text{g/L}$). The benzene plume configuration is generally the same as for gasoline and diesel.

Toluene, ethylbenzene, and xylenes were detected in generally the same wells in which benzene was detected, and contaminant concentrations exceeded respective ESL criteria in several of the wells.

Table 2
Groundwater Sample Analytical Results – March 3, 2005
Hydrocarbons, BTEX, and MTBE ^(a)
240 W. MacArthur Boulevard, Oakland, California

Well	TVHg	TEHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-1	4,700	3,500	450	28	42	97	6.7
MW-2	2,300	420	5.3	< 1.0	3.7	< 1.0	120
MW-3	4,700	2,000	19	1.1	9.9	3.7	76
MW-4	< 50	NA	NA	NA	NA	NA	NA
MW-5	6,300	4,600	190	28	42	280	< 1.7
MW-6	300	980	5.4	< 0.5	3.3	2.3	< 0.5
MW-7	< 50	NA	NA	NA	NA	NA	NA
MW-8	270	120	< 0.5	< 0.5	< 0.5	< 1.0	66
Environmental Screening Levels ^(b)							
	NLP	NLP	1.0	40	30	20	5.0
Drinking Water Standards ^(c)							
	100	100	1.0 ^(d)	40	30	13	5.0

Notes:

- ^(a) All concentrations in micrograms per liter ($\mu\text{g/L}$), equivalent to parts per billion (ppb).
- ^(b) For commercial/industrial sites where a known or potential drinking water resource is threatened.
- ^(c) Drinking water standards are State of California Secondary Maximum Contaminant Levels (MCLs) – Proposed, unless specified otherwise.
- ^(d) State of California Primary MCL.

MTBE = Methyl *tertiary*-butyl ether
 TEHd = Total extractable hydrocarbons - diesel range
 TVHg = Total volatile hydrocarbons - gasoline range
 NA = Not analyzed for this contaminant.
 NLP = No level published.

Methyl *tertiary*-Butyl Ether

Figure 7 shows MTBE isoconcentration contours for the recent event. MTBE was detected in four of the six site wells for which MTBE was analyzed, at concentrations ranging from 6.7 $\mu\text{g/L}$ to 120 $\mu\text{g/L}$. The center of mass of the MTBE plume has migrated downgradient from the source area to the southern side of the property (adjacent to W. MacArthur Boulevard), with only low concentrations present in source area wells MW-1 and MW-5.

Table 3
Groundwater Sample Analytical Results – March 3, 2005
Lead Scavengers and Fuel Oxygenates ^(a)
240 W. MacArthur Boulevard, Oakland, California

Well	EDC	DIPE	Well	EDC	DIPE
MW-1	< 0.5	< 0.5	MW-6	20	0.52
MW-2	< 1.0	1.3	MW-8	< 0.5	0.59
MW-3	< 1.0	1.1	Drinking Water Standards ^(b)	NLP	NLP
MW-5	< 1.7	< 1.7	ESLs ^(c)	0.5	NLP

Notes:

^(a) All concentrations in micrograms per liter ($\mu\text{g/L}$), equivalent to parts per billion (ppb).

^(b) Drinking water standards are State of California Secondary Maximum Contaminant Levels (MCLs) – Proposed, unless specified otherwise.

^(c) For commercial/industrial sites where known/potential drinking water resource is threatened.

DIPE – Isopropyl Ether.

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

NLP = No level published.

Table includes only detected fuel oxygenates. Contaminants analyzed for and not detected include EDB, TBA, ETBE, and TAME.

The lateral extent of the MTBE plume is constrained onsite in all directions except to the south, where MTBE concentrations between 50 and 100 $\mu\text{g/L}$ extend beneath W. MacArthur Boulevard. As discussed in a previous report (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

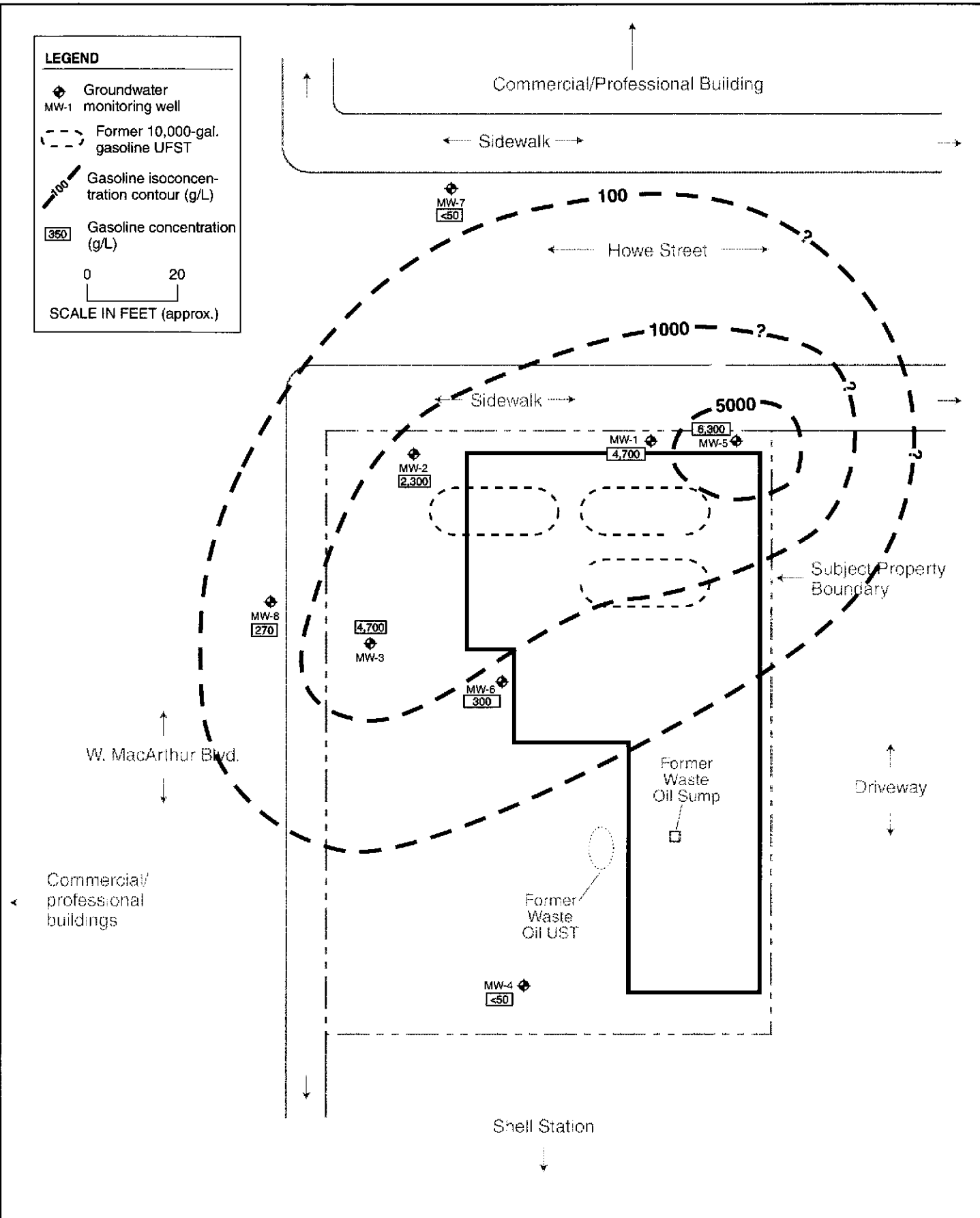
The lead scavenger EDC was detected in only one of the six site wells for which lead scavengers were analyzed: 20 mg/L in MW-6. The lead scavenger EDB was not detected in any of the six wells.

The only fuel oxygenate detected in the current event was DIPE, detected in four wells at concentrations between 0.52 and 1.3 $\mu\text{g/L}$. No other fuel oxygenates were detected.

LEGEND

- ◆ MW-1 Groundwater monitoring well
- Former 10,000-gal. gasoline UFST
- - - Gasoline isoconcentration contour (g/L)
- 350 Gasoline concentration (g/L)

SCALE IN FEET (approx.)



GASOLINE ISOCONCENTRATION CONTOURS (MARCH 2005)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

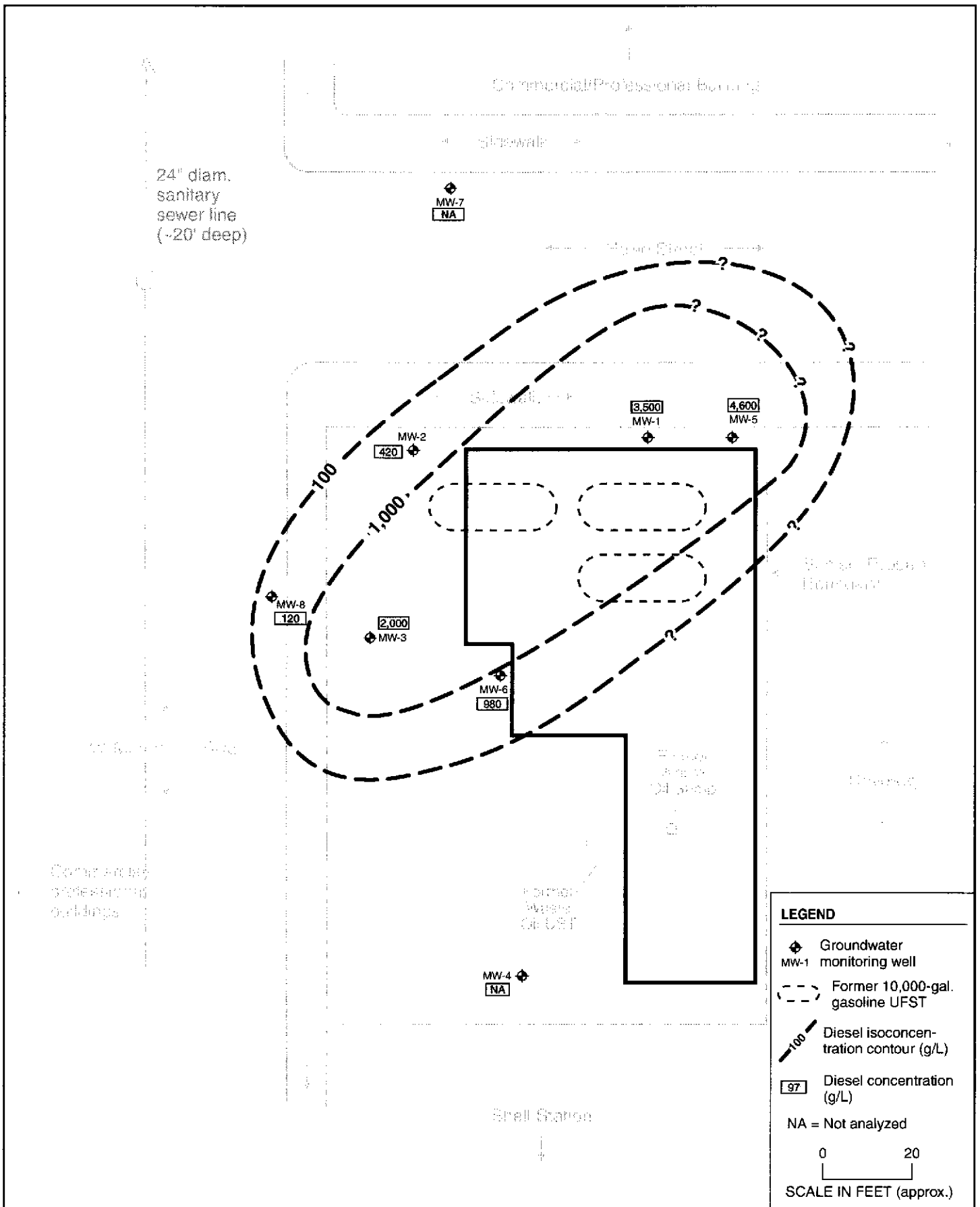
MARCH 2005

Figure 4

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2003-43-111



LEGEND

- ◆ Groundwater monitoring well
- MW-1 monitoring well
- Former 10,000-gal. gasoline UFST
- Diesel isoconcentration contour (g/L)
- 97 Diesel concentration (g/L)
- NA = Not analyzed

0 20
SCALE IN FEET (approx.)

DIESEL ISOCONCENTRATION CONTOURS (MARCH 2005)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

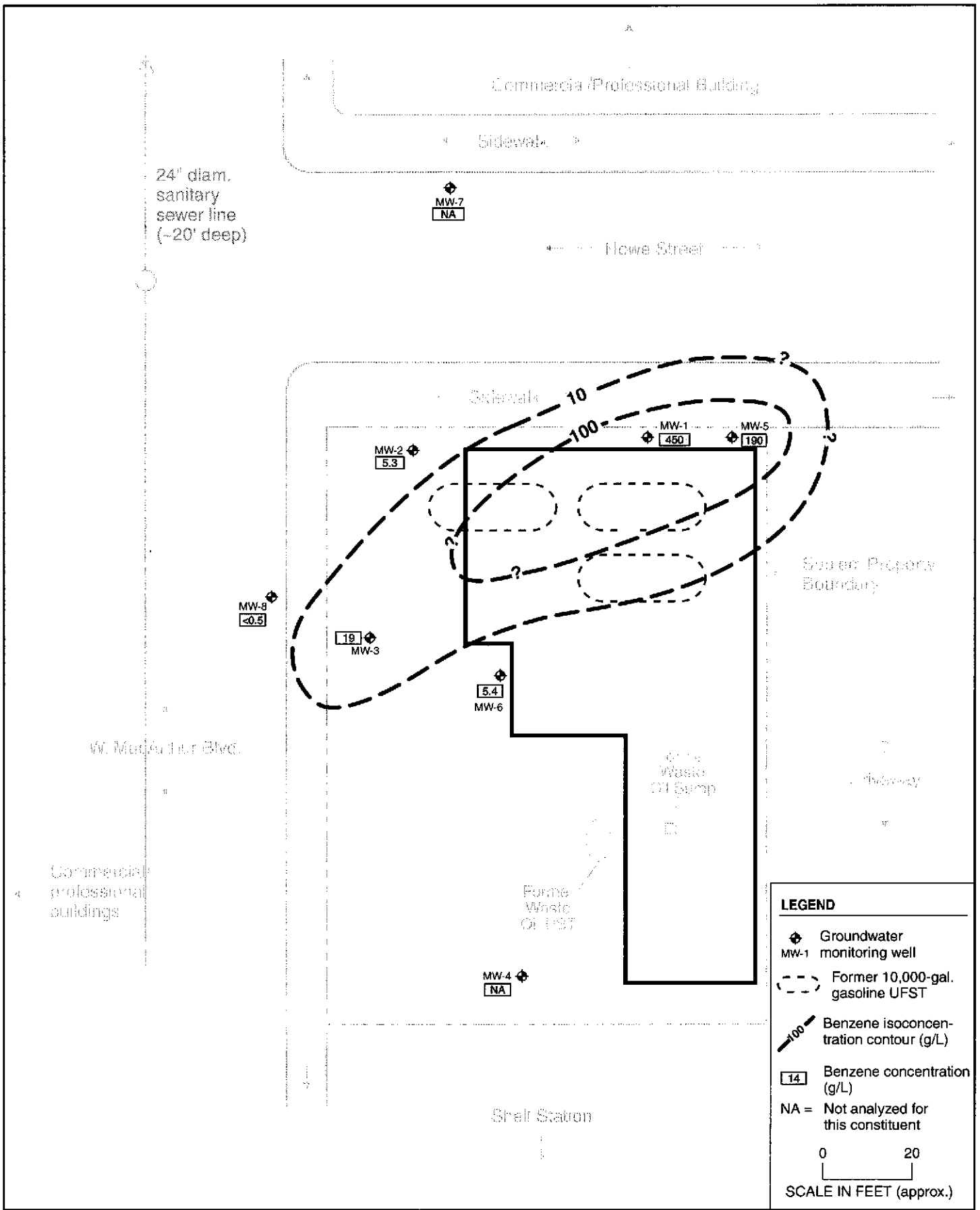
MARCH 2005

Figure 5

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2003-43-109



LEGEND

- ◆ Groundwater monitoring well
- MW-1
- Former 10,000-gal. gasoline UFST
- Benzene isoconcentration contour (g/L)
- 14 Benzene concentration (g/L)
- NA = Not analyzed for this constituent

0 20
SCALE IN FEET (approx.)

BENZENE ISOCONCENTRATION CONTOURS (MARCH 2005)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

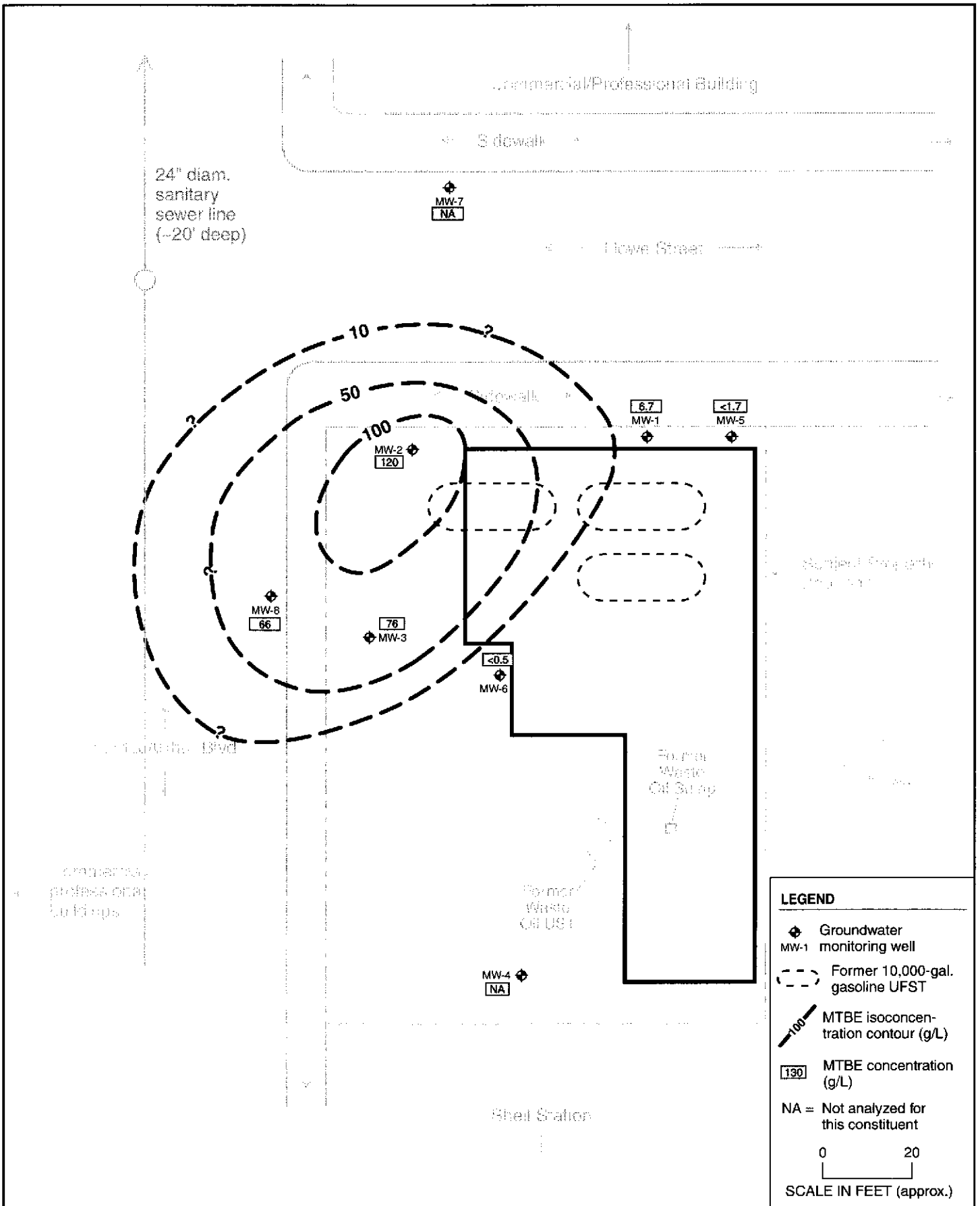
MARCH 2005

Figure 6

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2003-43-108





LEGEND

- ◆ Groundwater monitoring well
- Former 10,000-gal. gasoline UFST
- 100 MTBE isoconcentration contour (g/L)
- 130 MTBE concentration (g/L)
- NA = Not analyzed for this constituent

0 20
SCALE IN FEET (approx.)

MTBE ISOCONCENTRATION CONTOURS (MARCH 2005)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

MARCH 2005

Figure 7

Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

2003-43-110

Summary of Groundwater Contamination

Maximum concentrations of gasoline and diesel were detected in wells MW-5 or MW-1, located in the northeastern corner of the property (near the former UFSTs). Maximum concentrations of MTBE were detected in downgradient wells MW-2 and MW-3 (adjacent to W. MacArthur Boulevard), indicating that the center of mass of MTBE has migrated downgradient. Groundwater contamination extends offsite to the south and west (beneath Howe Street and W. MacArthur Boulevard).

QUALITY CONTROL SAMPLE ANALYTICAL RESULTS

Laboratory QC samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) 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 C).

5.0 SUMMARY, CONCLUSIONS, AND PROPOSED ACTIONS

SUMMARY AND CONCLUSIONS

- All of the chemical constituents monitored for in the current event were at lower concentrations than in previous quarters; this was most likely a result of recharge dilution from the winter rains. The groundwater flow direction and gradient was within the historical range.
- The site has undergone site investigations and remediation since 1991 (SES has been involved since August 2003) to address soil and groundwater contamination resulting from leaking UFSTs that were reportedly removed. Alameda County Health is the lead regulatory agency.
- A total of 26 groundwater monitoring/sampling events have been conducted in the eight site wells between August 1997 and March 2005 (the most recent event).
- Additional site characterization (exploratory borehole drilling and sampling) in 2004 provided additional data on the extent and magnitude of residual soil and groundwater contamination.
- Groundwater at the site appears to be slightly confined, with a flow direction ranging between northwest and west, with a relatively flat hydraulic gradient averaging approximately 0.005 ft/ft.
- The primary site chemicals of concern, with regard to concentrations and risk issues, are gasoline, benzene, and MTBE. Diesel, aromatic hydrocarbons, lead scavengers, and fuel oxygenates are present at lesser concentrations and over a smaller area.
- As stipulated by Alameda County Health, analysis for lead scavengers will continue to be conducted in wells MW-1, MW-5, and MW-6. Fuel oxygenates were detected in those wells, and in MW-2, MW-3, and MW-8. Because lead scavengers and fuel oxygenates are analyzed by the same method at no additional cost, the responsible party has elected to continue analysis for lead scavengers and fuel oxygenates lead scavengers in all wells except MW-4 and MW-7.
- 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 a limited distance) beneath Howe Street and W. MacArthur Boulevard.

- A previous water well survey identified no vicinity water wells with the potential to intercept site-sourced groundwater contamination.
- Potential preferential pathways identified include deep sanitary sewer lines beneath Howe Street and W. MacArthur Boulevard (adjacent to the subject property). Based on the detection of gasoline and MTBE in well MW-7 (beyond the Howe Street deep utilities), it appears unlikely that the Howe Street deep utilities are acting as a preferential pathway for site-sourced groundwater contamination. The influence of deep utilities beneath W. MacArthur Boulevard is not known.
- The adjacent Shell service station is contributing minor MTBE groundwater contamination to the eastern corner of the subject property. This contamination is unrelated to the separate, site-sourced MTBE groundwater contamination in the northern and western portions of the subject property.
- 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 corrective action is not conducted, residual site contamination will remain at elevated levels for at least several years and likely longer.
- In December 2003, the property owner submitted to Alameda County Health a workplan for interim remedial action (focusing on soil vapor extraction to reduce source area contaminant mass). Alameda County Health has not yet responded to that workplan.

PROPOSED ACTIONS

The property owner proposes to implement the following action to address regulatory concerns:

- Implement the SES recommended December 2004 Additional Site Characterization and Interim Remedial Action Workplan as soon as it is approved by Alameda County Health.
- Continue the program of quarterly groundwater sampling and reporting, with the objectives of obtaining site closure and continuing reimbursement requests under the State of California Petroleum UST Cleanup Fund.
- Continue the modified quarterly groundwater monitoring program to include analysis for fuel oxygenates and lead scavengers in all wells except MW-4 and MW-7.
- Continue to upload Electronic Data Format analytical and water level results to the GeoTracker database.

6.0 REFERENCES AND BIBLIOGRAPHY

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7.0 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.

SPH or Purge Water Drum Log

Client: Stellar Environmental

Site Address: 240 W. MacArthur Oakland

STATUS OF DRUM(S) UPON ARRIVAL

Date	12/3/03	3/11/04 6/17/04	9/13/04	12/7/04	3-3-05
Number of drum(s) empty:	0			0	1
Number of drum(s) 1/4 full:			1		
Number of drum(s) 1/2 full:		1		1	
Number of drum(s) 3/4 full:					
Number of drum(s) full:			1	2	2
Total drum(s) on site:		1	2	2	3
Are the drum(s) properly labeled?		Yes	Yes	Y	Y
Drum ID & Contents:		Purge water	Purge water	Sample port	→
If any drum(s) are partially or totally filled, what is the first use date:	Y	12/3/03			

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purge water or DI Water.
- If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.
- All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE

Date	12/3/03	3/11/04	6/17/04	9/13/04	12/7/04	3-3-05
Number of drums empty:						
Number of drum(s) 1/4 full:	1	1			1	1
Number of drum(s) 1/2 full:				1		
Number of drum(s) 3/4 full:			1			
Number of drum(s) full:		1	1	2	2	4
Total drum(s) on site:	1	2	2	3	3	5
Are the drum(s) properly labeled?	Yes	Yes	Yes	Y	Y	Y
Drum ID & Contents:	Purge water	Purge water	→	→ " "	→	→

LOCATION OF DRUM(S)

Describe location of drum(s): Behind Dumpsters along Fenceline of property

FINAL STATUS

Number of new drum(s) left on site this event	1	1	0	1	1	1
Date of inspection:	12/3/03	3/11/04	6/17/04	9/13/04	12/7/04	3-3-05
Drum(s) labelled property:	Yes	Y	Y	Y	Y	Y
Logged by BTS Field Tech:	Ac	MN	DW	MW	PC	DW
Office reviewed by:	MN	MN	RS	NJ	PC	16

WELLHEAD INSPECTION CHECKLIST

Date 3-3-05 Client Stellar

Site Address 240 W. MacArthur Blvd Oakland

Job Number 050303-DW-2 Technician DW

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

NOTES: _____

WELL GAUGING DATA

Project # 050303-DW-2 Date 3-3-05 Client Stellar

Site 240 W. MacArthur Blvd Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or <u>FOC</u>
MW-1	2					14.30	24.42	
MW-2	2					13.48	24.30	
MW-3	2					12.60	24.30	
MW-4	2					12.57	23.70	
MW-5	2					14.08	20.05	
MW-6	2					13.28	19.90	
MW-7	2					13.42	19.90	
MW-8	2					11.52	19.70	✓

WELL MONITORING DATA SHEET

Project #: <u>050303-DW-2</u>	Client: <u>Stellar</u>
Sampler: <u>DW</u>	Date: <u>3-3-05</u>
Well I.D.: <u>MW-1</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth (TD): <u>24.42</u>	Depth to Water (DTW): <u>14.30</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>16.37</u>	

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

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

1.6 (Gals.) X 3 = 4.8 Gals.
 Case Volume Specified Volumes Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
<u>14:26</u>	<u>65.9</u>	<u>6.6</u>	<u>903</u>	<u>>1000</u>	<u>1.6</u>	<u>gray/odor</u>
<u>14:27</u>	<u>66.0</u>	<u>6.5</u>	<u>983</u>	<u>>1000</u>	<u>3.2</u>	" "
<u>14:29</u>	<u>66.1</u>	<u>6.5</u>	<u>1014</u>	<u>>1000</u>	<u>4.8</u>	" "
						<u>Fe²⁺ = 2.2</u>

Did well dewater? Yes No Gallons actually evacuated: 4.8

Sampling Date: 3-3-05 Sampling Time: 14:34 Depth to Water: 15.40

Sample I.D.: MW-1 Laboratory: Kiff CalScience Other C+T

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	<u>0.5</u> mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>050303-DW-2</u>	Client: <u>Stellar</u>
Sampler: <u>DW</u>	Date: <u>3-3-05</u>
Well I.D.: <u>MW-2</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth (TD): <u>2430</u>	Depth to Water (DTW): <u>13.48</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YS</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>15.64</u>	

Purge Method: <input checked="" type="checkbox"/> Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	Peristaltic	<input checked="" type="checkbox"/> Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		Other: _____

<u>6.7</u> (Gals.) X <u>3</u> = <u>5.1</u> Gals.		
1 Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F or °C)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
<u>13:35</u>	<u>66.9</u>	<u>6.7</u>	<u>528</u>	<u>>1000</u>	<u>1.7</u>	<u>gray</u>
<u>13:38</u>	<u>67.4</u>	<u>6.7</u>	<u>558</u>	<u>>1000</u>	<u>3.4</u>	"
<u>13:41</u>	<u>67.5</u>	<u>6.7</u>	<u>562</u>	<u>>1000</u>	<u>5.1</u>	"
						<u>Fe²⁺ = 1.2</u>

Did well dewater? Yes No Gallons actually evacuated: 5.1

Sampling Date: 3-3-05 Sampling Time: 13:46 Depth to Water: 13.52

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

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

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

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

D.O. (if req'd): Pre-purge: _____ mg/L Post-purge: 1.5 mg/L

O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

WELL MONITORING DATA SHEET

Project #: <u>050303-0W-2</u>	Client: <u>Stellar</u>
Sampler: <u>DW</u>	Date: <u>3-3-05</u>
Well I.D.: <u>MW-3</u>	Well Diameter: <u>3</u> 3 4 6 8 _____
Total Well Depth (TD): <u>12.60 24.30</u>	Depth to Water (DTW): <u>21.30 12.60</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>20.5 14.94</u>	

Purge Method:	Bailer	Water	Sampling Method:	Bailer
	Disposable Bailer	Peristaltic		<input checked="" type="checkbox"/> Disposable Bailer
	Positive Air Displacement	Extraction Pump		Extraction Port
	Electric Submersible	Other _____		Dedicated Tubing
			Other: _____	

<u>1.9</u> (Gals.) X <u>3</u> = <u>5.7</u> Gals.
1 Case Volume Specified Volumes Calculated Volume

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

Time	Temp (°F or °C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
<u>14:00</u>	<u>67.2</u>	<u>6.7</u>	<u>604</u>	<u>>1000</u>	<u>1.9</u>	<u>gray</u>
<u>14:03</u>	<u>67.3</u>	<u>6.7</u>	<u>636</u>	<u>>1000</u>	<u>3.8</u>	"
<u>14:06</u>	<u>67.5</u>	<u>6.7</u>	<u>637</u>	<u>>1000</u>	<u>5.7</u>	"
						<u>Fe²⁺ = 1.4</u>

Did well dewater? Yes No Gallons actually evacuated: 5.7

Sampling Date: 3-3-05 Sampling Time: 14:11 Depth to Water: 13.05

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

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

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

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

D.O. (if req'd): Pre-purge: _____ mg/L Post-purge: 1.0 mg/L

O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

WELL MONITORING DATA SHEET

Project #: <u>050303-DW-2</u>	Client: <u>Stellar</u>
Sampler: <u>DW</u>	Date: <u>3-3-05</u>
Well I.D.: <u>MW-4</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth (TD): <u>23.70</u>	Depth to Water (DTW): <u>12.57</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>Y81</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>14.79</u>	

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

<u>1.8</u> (Gals.) X	<u>3</u> Specified Volumes	<u>5.4</u> Gals. Calculated Volume
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Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
<u>11:40</u>	<u>65.0</u>	<u>6.7</u>	<u>461</u>	<u>>1000</u>	<u>1.8</u>	<u>Brown</u>
<u>11:43</u>	<u>65.8</u>	<u>6.6</u>	<u>504</u>	<u>>1000</u>	<u>3.6</u>	"
<u>11:46</u>	<u>66.0</u>	<u>6.5</u>	<u>534</u>	<u>>1000</u>	<u>5.4</u>	"
						<u>Fe²⁺ = 0</u>

Did well dewater? Yes No Gallons actually evacuated: 5.4

Sampling Date: 3-3-05 Sampling Time: 11:56 Depth to Water: 14.79

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

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	5.0 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>050303-DW-2</u>	Client: <u>Stellar</u>
Sampler: <u>DW</u>	Date: <u>3-3-05</u>
Well I.D.: <u>MW-5</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): <u>20.05</u>	Depth to Water (DTW): <u>14.08</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>15.27</u>	

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

<u>1</u> (Gals.) X <u>3</u> = <u>3</u> Gals. I Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (<u>F</u> or °C)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
14:45	65.6	6.6	690	>1000	1	gray / odor
14:47	65.2	6.6	645	>1000	2	" "
14:49	65.5	6.6	648	>1000	3	" "
						Fe ²⁺ = 2.6

Did well dewater? Yes No Gallons actually evacuated: 3

Sampling Date: 3-3-05 Sampling Time: 1455 Depth to Water:

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

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

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

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

D.O. (if req'd): Pre-purge: mg/L Post-purge: 1.0 mg/L

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

WELL MONITORING DATA SHEET

Project #: 050303-DW-2	Client: Stellar
Sampler: DW	Date: 3-3-05
Well I.D.: MW-6	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 19.90	Depth to Water (DTW): 13.28
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.60	

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

Other: _____

$\frac{1.1}{1} \text{ (Gals.)} \times \frac{3}{3} = 3.3 \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
12:40	66.3	6.6	949	>1000	1.1	Brown
12:42	67.4	6.6	963	>1000	2.2	"
12:43	67.8	6.6	965	>1000	3.3	"
						Fe ²⁺ = 0.4

Did well dewater? Yes No Gallons actually evacuated: **3.3**

Sampling Date: **3-3-05** Sampling Time: **12:58** Depth to Water: **14.60**

Sample I.D.: **MW-6** Laboratory: Kiff CalScience Other **C+T**

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.8	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

WELL MONITORING DATA SHEET

Project #: <u>050303-DW-2</u>	Client: <u>Stellar</u>
Sampler: <u>DW</u>	Date: <u>3-3-05</u>
Well I.D.: <u>MW-7</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): <u>19.90</u>	Depth to Water (DTW): <u>13.42</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <input checked="" type="radio"/> PVC <input type="radio"/> Grade	D.O. Meter (if req'd): <input checked="" type="radio"/> YSI <input type="radio"/> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>14.71</u>	

Purge Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible	Watterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Extraction Pump <input type="checkbox"/> Other _____	Sampling Method: <input checked="" type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing Other: _____
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<u>1</u> (Gals.) X <u>3</u> - <u>3</u> Gals. 1 Case Volume Specified Volumes Calculated Volume	<table border="1" style="width:100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (<input checked="" type="radio"/> F or °C)	pH	Cond. (mS or <input checked="" type="radio"/> μS)	Turbidity (NTUs)	Gals. Removed	Observations
12:10	65.7	6.6	594	>1000	1	Brown
12:12	66.1	6.6	602	>1000	2	"
12:13	66.5	6.6	612	>1000	3	"
						Fe ₂ = 0

Did well dewater? Yes No Gallons actually evacuated: 3

Sampling Date: 3-3-05 Sampling Time: 12:18 Depth to Water: 14.65

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

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
			<u>1.4</u>	
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>050303-DW-2</u>	Client: <u>Stellar</u>
Sampler: <u>DW</u>	Date: <u>3-3-05</u>
Well I.D.: <u>MW-8</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth (TD): <u>19.70</u>	Depth to Water (DTW): <u>11.52</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): <u>(YSI)</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>13.15</u>	

Purge Method: <input checked="" type="checkbox"/> Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: <input checked="" type="checkbox"/> Bailer Disposal Bailer Extraction Port Dedicated Tubing Other: _____
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Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

<u>1.3</u> (Gals.) X	<u>3</u>	= <u>3.9</u> Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Time	Temp (°F or °C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
<u>13:10</u>	<u>65.1</u>	<u>6.9</u>	<u>406</u>	<u>>1000</u>	<u>1.3</u>	<u>Brown</u>
<u>13:12</u>	<u>65.9</u>	<u>6.9</u>	<u>426</u>	<u>>1000</u>	<u>2.6</u>	<u>"</u>
<u>13:14</u>	<u>65.9</u>	<u>6.9</u>	<u>435</u>	<u>>1000</u>	<u>3.9</u>	<u>"</u>
						<u>Fe²⁺ = 0</u>

Did well dewater? Yes No Gallons actually evacuated: 3.9

Sampling Date: 3-3-05 Sampling Time: 13:19 Depth to Water: 13.15

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

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

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

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

D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: <u>2.0</u> mg/L
--	-----------------------------

O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV
--	----------------------

Total Volatile Hydrocarbons

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8015B
Matrix: Water	Sampled: 03/03/05
Units: ug/L	Received: 03/04/05
Batch#: 99777	Analyzed: 03/07/05

Field ID: MW-1	Lab ID: 178039-001
Type: SAMPLE	Diln Fac: 5.000

Analyte	Result	RL
Gasoline C7-C12	4,700	250

Surrogate	%REC	Limits
Trifluorotoluene (FID)	153 *	63-141
Bromofluorobenzene (FID)	144 *	79-139

Field ID: MW-2	Lab ID: 178039-002
Type: SAMPLE	Diln Fac: 5.000

Analyte	Result	RL
Gasoline C7-C12	2,300 Y	250

Surrogate	%REC	Limits
Trifluorotoluene (FID)	145 *	63-141
Bromofluorobenzene (FID)	132	79-139

Field ID: MW-3	Lab ID: 178039-003
Type: SAMPLE	Diln Fac: 5.000

Analyte	Result	RL
Gasoline C7-C12	4,700 Y	250

Surrogate	%REC	Limits
Trifluorotoluene (FID)	132	63-141
Bromofluorobenzene (FID)	140 *	79-139

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

Total Volatile Hydrocarbons

Lab #:	178039	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	050303-DW-2	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	03/03/05
Units:	ug/L	Received:	03/04/05
Batch#:	99777	Analyzed:	03/07/05

Field ID:	MW-4	Lab ID:	178039-004
Type:	SAMPLE	Diln Fac:	1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	63-141
Bromofluorobenzene (FID)	122	79-139

Field ID:	MW-5	Lab ID:	178039-005
Type:	SAMPLE	Diln Fac:	1.000

Analyte	Result	RL
Gasoline C7-C12	6,300	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	139	63-141
Bromofluorobenzene (FID)	192 *	79-139

Field ID:	MW-6	Lab ID:	178039-006
Type:	SAMPLE	Diln Fac:	1.000

Analyte	Result	RL
Gasoline C7-C12	300	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	119	63-141
Bromofluorobenzene (FID)	133	79-139

*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit

Page 2 of 3

Total Volatile Hydrocarbons

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8015B
Matrix: Water	Sampled: 03/03/05
Units: ug/L	Received: 03/04/05
Batch#: 99777	Analyzed: 03/07/05

Field ID: MW-7	Lab ID: 178039-007
Type: SAMPLE	Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	63-141
Bromofluorobenzene (FID)	128	79-139

Field ID: MW-8	Lab ID: 178039-008
Type: SAMPLE	Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	270 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	145 *	63-141
Bromofluorobenzene (FID)	135	79-139

Type: BLANK	Diln Fac: 1.000
Lab ID: QC284948	

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	63-141
Bromofluorobenzene (FID)	121	79-139

*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	178039	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	050303-DW-2	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC284949	Batch#:	99777
Matrix:	Water	Analyzed:	03/07/05
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,973	99	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	163 *	63-141
Bromofluorobenzene (FID)	132	79-139

Batch QC Report

Total Volatile Hydrocarbons

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8015B
Field ID: MW-4	Batch#: 99777
MSS Lab ID: 178039-004	Sampled: 03/03/05
Matrix: Water	Received: 03/04/05
Units: ug/L	Analyzed: 03/07/05
Diln Fac: 1.000	

Type: MS Lab ID: QC285008

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	22.91	2,000	1,987	98	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	161 *	63-141
Bromofluorobenzene (FID)	132	79-139

Type: MSD Lab ID: QC285009

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,999	99	80-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	162 *	63-141
Bromofluorobenzene (FID)	133	79-139

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Total Extractable Hydrocarbons

Lab #:	178039	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520
Project#:	050303-DW-2	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	03/03/05
Units:	ug/L	Received:	03/04/05
Diln Fac:	1.000	Prepared:	03/08/05
Batch#:	99856	Analyzed:	03/11/05

Field ID:	MW-8	Lab ID:	178039-008
Type:	SAMPLE		

Analyte	Result	RL
Diesel C10-C24	120 H L Y	50

Surrogate	REC	Limits
Hexacosane	102	55-143

Type:	BLANK	Cleanup Method:	EPA 3630C
Lab ID:	QC285237		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	REC	Limits
Hexacosane	81	55-143

H= Heavier hydrocarbons contributed to the quantitation
 L= Lighter hydrocarbons contributed to the quantitation
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	178039	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520
Project#:	050303-DW-2	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	99856
Units:	ug/L	Prepared:	03/08/05
Diln Fac:	1.000	Analyzed:	03/10/05

Type: BS Cleanup Method: EPA 3630C
 Lab ID: QC285238

Analyte	Spiked	Result	REC	Limit
Diesel C10-C24	2,500	2,166	87	50-133
Surrogate	REC	Limit		
Hexacosane	76	55-143		

Type: BSD Cleanup Method: EPA 3630C
 Lab ID: QC285239

Analyte	Spiked	Result	REC	Limit	RPD	Lim
Diesel C10-C24	2,500	2,082	83	50-133	4	4
Surrogate	REC	Limit				
Hexacosane	71	55-143				

Curtis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Field ID: MW-1	Units: ug/L
Lab ID: 178039-001	Sampled: 03/03/05
Matrix: Water	Received: 03/04/05

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
tert-Butyl Alcohol (TBA)	ND	10	1.000	99820	03/08/05
MTBE	6.7	0.50	1.000	99820	03/08/05
Isopropyl Ether (DIPE)	ND	0.50	1.000	99820	03/08/05
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	1.000	99820	03/08/05
1,2-Dichloroethane	ND	0.50	1.000	99820	03/08/05
Benzene	450	5.0	10.00	99884	03/09/05
Methyl tert-Amyl Ether (TAME)	ND	0.50	1.000	99820	03/08/05
Toluene	28	0.50	1.000	99820	03/08/05
1,2-Dibromoethane	ND	0.50	1.000	99820	03/08/05
Ethylbenzene	42	0.50	1.000	99820	03/08/05
m,p-Xylenes	46	0.50	1.000	99820	03/08/05
o-Xylene	51	0.50	1.000	99820	03/08/05

Surrogate	REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	106	80-120	1.000	99820	03/08/05
1,2-Dichloroethane-d4	101	80-122	1.000	99820	03/08/05
Toluene-d8	104	80-120	1.000	99820	03/08/05
Bromofluorobenzene	101	80-124	1.000	99820	03/08/05

Curtis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Field ID: MW-2	Batch#: 99820
Lab ID: 178039-002	Sampled: 03/03/05
Matrix: Water	Received: 03/04/05
Units: ug/L	Analyzed: 03/08/05
Diln Fac: 2.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	20
MTBE	120	1.0
Isopropyl Ether (DIPE)	1.3	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
1,2-Dichloroethane	ND	1.0
Benzene	5.3	1.0
Methyl tert-Amyl Ether (TAME)	ND	1.0
Toluene	ND	1.0
1,2-Dibromoethane	ND	1.0
Ethylbenzene	3.7	1.0
m,p-Xylenes	ND	1.0
o-Xylene	ND	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-120
1,2-Dichloroethane-d4	101	80-122
Toluene-d8	96	80-120
Bromofluorobenzene	104	80-124

Curtis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Field ID: MW-3	Batch#: 99884
Lab ID: 178039-003	Sampled: 03/03/05
Matrix: Water	Received: 03/04/05
Units: ug/L	Analyzed: 03/09/05
Diln Fac: 2.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	20
MTBE	76	1.0
Isopropyl Ether (DIPE)	1.1	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
1,2-Dichloroethane	ND	1.0
Benzene	19	1.0
Methyl tert-Amyl Ether (TAME)	ND	1.0
Toluene	1.1	1.0
1,2-Dibromoethane	ND	1.0
Ethylbenzene	9.9	1.0
m,p-Xylenes	3.7	1.0
o-Xylene	ND	1.0

Surrogate	REC	Limits
Dibromofluoromethane	108	80-120
1,2-Dichloroethane-d4	104	80-122
Toluene-d8	99	80-120
Bromofluorobenzene	103	80-124

Curis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Field ID: MW-5	Batch#: 99820
Lab ID: 178039-005	Sampled: 03/03/05
Matrix: Water	Received: 03/04/05
Units: ug/L	Analyzed: 03/08/05
Diln Fac: 3.333	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	33
MTBE	ND	1.7
Isopropyl Ether (DIPE)	ND	1.7
Ethyl tert-Butyl Ether (ETBE)	ND	1.7
1,2-Dichloroethane	ND	1.7
Benzene	190	1.7
Methyl tert-Amyl Ether (TAME)	ND	1.7
Toluene	28	1.7
1,2-Dibromoethane	ND	1.7
Ethylbenzene	42	1.7
m,p-Xylenes	150	1.7
o-Xylene	130	1.7

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-120
1,2-Dichloroethane-d4	103	80-122
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-124

Curtis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Field ID: MW-6	Batch#: 99884
Lab ID: 178039-006	Sampled: 03/03/05
Matrix: Water	Received: 03/04/05
Units: ug/L	Analyzed: 03/09/05
Diln Fac: 1.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.50
Isopropyl Ether (DIPE)	0.52	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
1,2-Dichloroethane	20	0.50
Benzene	5.4	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	3.3	0.50
m,p-Xylenes	2.3	0.50
o-Xylene	ND	0.50

Surrogate	REC	Limits
Dibromofluoromethane	112	80-120
1,2-Dichloroethane-d4	105	80-122
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-124

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 1

Curtis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Field ID: MW-8	Batch#: 99820
Lab ID: 178039-008	Sampled: 03/03/05
Matrix: Water	Received: 03/04/05
Units: ug/L	Analyzed: 03/08/05
Diln Fac: 1.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	66	0.50
Isopropyl Ether (DIPE)	0.59	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-120
1,2-Dichloroethane-d4	103	80-122
Toluene-d8	94	80-120
Bromofluorobenzene	105	80-124

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Matrix: Water	Batch#: 99820
Units: ug/L	Analyzed: 03/08/05
Diln Fac: 1.000	

Type: BS Lab ID: QC285100

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	133.3	107	65-139
MTBE	25.00	20.86	83	72-129
Isopropyl Ether (DIPE)	25.00	26.15	105	76-120
Ethyl tert-Butyl Ether (ETBE)	25.00	23.50	94	80-120
1,2-Dichloroethane	25.00	24.84	99	75-120
Benzene	25.00	24.02	96	80-120
Methyl tert-Amyl Ether (TAME)	25.00	20.40	82	80-120
Toluene	25.00	23.71	95	80-120
1,2-Dibromoethane	25.00	23.24	93	80-120
Ethylbenzene	25.00	24.16	97	80-120
m,p-Xylenes	50.00	49.53	99	80-120
o-Xylene	25.00	24.69	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-120
1,2-Dichloroethane-d4	107	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	97	80-124

Type: BSD Lab ID: QC285101

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	121.9	98	65-139	9	27
MTBE	25.00	20.79	83	72-129	0	20
Isopropyl Ether (DIPE)	25.00	25.88	104	76-120	1	20
Ethyl tert-Butyl Ether (ETBE)	25.00	23.52	94	80-120	0	20
1,2-Dichloroethane	25.00	24.52	98	75-120	1	20
Benzene	25.00	23.52	94	80-120	2	20
Methyl tert-Amyl Ether (TAME)	25.00	20.34	81	80-120	0	20
Toluene	25.00	23.36	93	80-120	1	20
1,2-Dibromoethane	25.00	23.02	92	80-120	1	20
Ethylbenzene	25.00	23.70	95	80-120	2	20
m,p-Xylenes	50.00	48.73	97	80-120	2	20
o-Xylene	25.00	24.32	97	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-120
1,2-Dichloroethane-d4	107	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	98	80-124

Batch QC Report

Curis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Type: BLANK	Diln Fac: 1.000
Lab ID: QC285102	Batch#: 99820
Matrix: Water	Analyzed: 03/08/05
Units: ug/L	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.50
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m, p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	SREC	Limits
Dibromofluoromethane	113	80-120
1,2-Dichloroethane-d4	109	80-122
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-124

Batch OC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #: 178039	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 050303-DW-2	Analysis: EPA 8260B
Matrix: Water	Batch#: 99884
Units: ug/L	Analyzed: 03/09/05
Diln Fac: 1.000	

Type: BS Lab ID: QC285351

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	124.0	99	65-139
MTBE	25.00	21.15	85	72-129
Isopropyl Ether (DIPE)	25.00	25.98	104	76-120
Ethyl tert-Butyl Ether (ETBE)	25.00	24.72	99	80-120
1,2-Dichloroethane	25.00	24.96	100	75-120
Benzene	25.00	24.00	96	80-120
Methyl tert-Amyl Ether (TAME)	25.00	21.22	85	80-120
Toluene	25.00	24.04	96	80-120
1,2-Dibromoethane	25.00	23.43	94	80-120
Ethylbenzene	25.00	24.46	98	80-120
m,p-Xylenes	50.00	49.15	98	80-120
o-Xylene	25.00	25.07	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-120
1,2-Dichloroethane-d4	107	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-124

Type: BSD Lab ID: QC285352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	111.7	89	65-139	10	27
MTBE	25.00	20.45	82	72-129	3	20
Isopropyl Ether (DIPE)	25.00	25.32	101	76-120	3	20
Ethyl tert-Butyl Ether (ETBE)	25.00	24.08	96	80-120	3	20
1,2-Dichloroethane	25.00	24.02	96	75-120	4	20
Benzene	25.00	23.57	94	80-120	2	20
Methyl tert-Amyl Ether (TAME)	25.00	20.37	81	80-120	4	20
Toluene	25.00	23.09	92	80-120	4	20
1,2-Dibromoethane	25.00	22.85	91	80-120	3	20
Ethylbenzene	25.00	23.86	95	80-120	2	20
m,p-Xylenes	50.00	48.06	96	80-120	2	20
o-Xylene	25.00	24.38	98	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	106	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-124

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	178039	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	050303-DW-2	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC285353	Batch#:	99884
Matrix:	Water	Analyzed:	03/09/05
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.50
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-120
1,2-Dichloroethane-d4	109	80-122
Toluene-d8	97	80-120
Bromofluorobenzene	105	80-124

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

MW-1									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Yes	1	Aug-97	1,140	< 1,000	110	16	15	112	
Yes	2	Dec-97	ND		ND	ND	ND	31	
Yes	3	Mar-98	370		8.9	< 0.5	< 0.5	2.2	18
Yes	4	Jul-98	6,400		1,300	23	3.7	58	97
Yes	5	Oct-98	2,500		360	44	1.3	150	< 0.5
Yes	6	Jan-99	2,700		1,200	28	140	78	130
(a)	7	Jun-00	27,000		5,200	500	320	3,100	1,300
(a)	8	Dec-00	976,000		2,490	1,420	3,640	10,100	< 150
(a)	9	Feb-01							
(a)	10	May-01	20,000		2,900	310	230	1,900	< 30
(a)	11	Jul-01	92,000		2,900	580	2,800	20,000	560
Pre"hi-vac"	12	Oct 22-01	20,000		3,700	560	410	4,600	2,600
Post "hi-vac"	12	Oct 26-01	< 0.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	3,300		200	12	5.7	43	44
No	14	Mar-02	4,600		820	4.4	100	300	210
No	15	May-02	1,600		100	23	20	190	7.7
No	16	Jul-02	2,300		250	15	13	180	180
No	17	Oct-02	1,820		222	16	< 0.3	59	58
No	18	Jan-03	2,880		188	< 50	< 50	157	20
No	19	Mar-03	6,700		607	64	64	288	< 0.18
No	20	Aug-03	4,900	5,000	740	45	85	250	14
Pre-Purge	21	Dec-03	5,060	400	654	11	79	92	129
Post-Purge	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

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

TABLE C-1 (continued)

MW-2									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
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	1.0	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
Pre-Purge	21	Dec-03	2,120	100	45	9.4	9.5	20	289
Post-Purge	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

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

TABLE C-1 (continued)

MW-3									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Yes	1	Aug-97	8,500	< 1,000	450	30	53	106	
Yes	2	Dec-97	5,200		180	6.0	5.0	9.3	
Yes	3	Mar-98	1,000		6.0	< 0.5	< 0.5	< 0.5	810
Yes	4	Jul-98	6,400		490	57	23	78	220
Yes	5	Oct-98	2,100		< 5.0	< 5.0	< 5.0	< 5.0	2,100
Yes	6	Jan-99	4,400		450	65	26	42	1,300
(a)	7	Jun-00	1,700		110	13	34	13	96
(a)	8	Dec-00	5,450		445	< 7.5	23.8	< 7.5	603
(a)	9	Feb-01							
(a)	10	May-01	1,900		180	12	< 3.0	19	330
(a)	11	Jul-01	10,000		830	160	150	260	560
Pre"hi-vac"	12	Oct 22-01	1,400		240	7.8	4.1	15	220
Post "hi-vac"	12	Oct 26-01	1,900		200	16	51	30	290
(a)	13	Dec-01	5,800		93	< 20	31	< 20	330
No	14	Mar-02	1,900		220	16	31	24	400
No	15	May-02	1,600		110	3.4	29	14	320
No	16	Jul-02	1,900		210	27	30	55	200
No	17	Oct. 2002	3,030		178	19	6.2	36	178
No	18	Jan-03	2,980		47	< 5.0	7.6	6.3	105
No	19	Mar-03	3,620		124	< 0.32	22	12	139
No	20	Aug-03	3,800	2,400	170	28	31	31	170
Pre-Purge	21	Dec-03	5,550	400	311	20	41	48	357
Post-Purge	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	9.9	3.7	76

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

TABLE C-1 (continued)

MW-4									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Yes	1	Aug-97	< 500	< 1,000	< 0.5	< 0.5	< 0.5	< 1.5	
Yes	2	Dec-97	ND		ND	ND	ND	ND	
Yes	3	Mar-98	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	4	Jul-98	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	5	Oct-98	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	6	Jan-99	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	7	Jun-00	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	8	Dec-00	< 500		< 0.3	< 0.3	< 0.6	< 0.3	< 0.3
(a)	9	Feb-01			NA	NA	NA	NA	NA
(a)	10	May-01	< 50		1.2	< 0.3	0.55	1.2	2.9
(a)	11	Jul-01	< 5.0		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre"hi-vac"	12	Oct 22-01	< 5.0		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post "hi-vac"	12	Oct 26-01	< 5.0		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	ND		ND	ND	ND	ND	ND
No	14	Mar-02	< 50		< 1	< 1	< 1	< 1	< 1
No	15	May-02	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	< 100		< 0.3	< 0.3	< 0.3	< 0.6	< 0.3
No	18	Jan-03	< 100		< 0.3	< 0.3	< 0.3	< 0.6	14
No	19	Mar-03	< 15		< 0.4	< 0.02	< 0.02	< 0.06	5.2
No	20	Aug-03	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre-Purge	21	Dec-03	71		< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Post-Purge	21	Dec-03	63		< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	22	Mar-04	< 50		< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	23	Jun-04	< 50		< 0.5	< 0.5	< 0.5	< 0.5	0.9
Yes	24	Sep-04	< 50		< 0.5	< 0.5	< 0.5	< 0.5	2.3
Yes	25	Dec-04	< 50		NA	NA	NA	NA	NA
Yes	26	Mar-05	< 50		NA	NA	NA	NA	NA

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

TABLE C-1 (continued)

MW-5									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
(a)	9	Feb-01	5,660		76.9	21.1	47.3	312	< 0.3
(a)	10	May-01	22,000		2,600	480	220	2,700	< 30
(a)	11	Jul-01	72,000		3,500	1,100	4,300	22,000	2,500
Pre"hi-vac"	12	Oct 22-01	26,000		2,800	980	6,000	950	2,300
Post "hi-vac"	12	Oct 26-01	17,000		1,200	470	2,900	440	900
(a)	13	Dec-01	2,000		620	190	110	910	< 20
No	14	Mar-02	8,800		1,200	72	7.4	350	1,200
No	15	May-02	2,000		150	38	21	260	13
No	16	Jul-02	4,200		480	68	29	280	450
No	17	Oct-02	5,370		236	45	23	39	135
No	18	Jan-03	8,270		615	156	174	1,010	< 10
No	19	Mar-03	12,400		824	195	213	1,070	< 0.18
No	20	Aug-03	18,000	10,000	950	290	330	1,820	< 2.0
Pre-Purge	21	Dec-03	12,800	600	1,140	327	354	1,530	682
Post-Purge	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

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

TABLE C-1 (continued)

MW-6									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
(a)	9	Feb-01	1,340		17	0.967	11.1	51.4	< 0.3
(a)	10	May-01	610		15	0.97	< 0.5	46	< 0.5
(a)	11	Jul-01	2,500		130	4.7	53	170	120
Pre "hi-vac"	12	Oct 22-01	280		18	1.2	6.2	4.7	6.0
Post "hi-vac"	12	Oct 26-01	3,600		210	20	170	62	120
(a)	13	Dec-01	5,300		69	5.6	14	17	< 2.0
No	14	Mar-02	71		54	4.2	27	17	8.5
No	15	May-02	150		9.3	< 0.5	< 0.5	< 0.5	1.5
No	16	Jul-02	2,200		98	32	46	150	66
No	17	Oct-02	786		48	5.0	2.2	44	16
No	18	Jan-03	497		6.8	< 5.0	< 5.0	11	< 1.0
No	19	Mar-03	258		5.4	< 0.32	3.3	< 1.1	< 0.18
No	20	Aug-03	1,600	2,800	37	4.1	23	58	< 0.5
Pre-Purge	21	Dec-03	444	100	4.7	4.9	1.8	5.9	4.4
Post-Purge	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

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

TABLE C-1 (continued)

MW-7									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
(a)	9	Feb-01	ND		ND	ND	ND	ND	ND
(a)	10	May-01	< 50		0.75	0.77	0.48	2.4	1.1
(a)	11	Jul-01	< 5.0		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre"hi-vac"	12	Oct 22-01	< 5.0		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post "hi-vac"	12	Oct 26-01	6,000		170	550	110	120	970
(a)	13	Dec-01	< 50		< 0.5	< 0.5	< 0.5	< 0.5	43
No	14	Mar-02	< 50		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
No	15	May-02	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	< 100		< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
No	18	Jan-03	NA					NA	NA
No	19	Mar-03	< 15		< 0.04	< 0.02	< 0.02	< 0.06	< 0.03
No	20	Aug-03	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre-Purge	21	Dec-03	< 50		< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Post-Purge	21	Dec-03	< 50		< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	22	Mar-04	86		< 0.3	< 0.3	< 0.3	< 0.6	57
Yes	23	Jun-04	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	24	Sep-04	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	25	Dec-04	< 50		NA	NA	NA	NA	NA
Yes	26	Mar-05	< 50		NA	NA	NA	NA	NA

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

TABLE C-1 (continued)

MW-8									
Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
(a)	9	Feb-01	1,000		3.97	< 0.3	3.78	1.63	620
(a)	10	May-01	< 50		< 0.5	< 0.5	< 0.5	< 0.5	4.4
(a)	11	Jul-01	< 5.0		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre"hi-vac"	12	Oct 22-01	< 5.0		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post "hi-vac"	12	Oct 26-01	< 5.0		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	14	Mar-02	< 50		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
No	15	May-02	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	458		1.7	< 0.3	< 0.3	< 0.6	233
No	18	Jan-03	< 100		< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
No	19	Mar-03	< 15		< 0.22	< 0.32	< 0.31	< 0.4	< 0.18
No	20	Jul-03	190	< 50	< 0.5	< 0.5	< 0.5	0.6	< 0.5
Pre-Purge	21	Dec-03	144	< 100	< 0.3	< 0.3	< 0.3	< 0.6	7.6
Post-Purge	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

Notes:

(a) Data not available to SES as to whether the samples were collected "post-purge" or without purging.

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

TVH-g = Total volatile hydrocarbons – gasoline range. TEH-d – Total extractable hydrocarbons – diesel range.

NA = Not analyzed for this constituent in this event.

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

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

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	DIPE	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
	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
MW-1	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
	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
MW-2	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

Table C-2 Continued

	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	1.8	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
MW-3	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
	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
MW-4	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
	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)
MW-5	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

Table C-2 Continued

	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
MW-6	21	Dec-03	< 5.0	11 / 17.1 ^(d)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	< 0.26	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	23	Jun-04	< 0.5	19	NA	NA	NA	54	1.0	NA	NA	NA	NA	NA
	24	Sep-04	< 0.5	31	NA	NA	NA	43	1.0	NA	NA	NA	NA	NA
	25	Dec-04	< 0.5	24	NA	NA	NA	32	0.7	NA	NA	NA	NA	NA
	26	Mar-05	< 0.5	20	NA	NA	NA	< 10	0.5	NA	NA	NA	NA	NA
	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
MW-7	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

Table C-2 Continued

	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
MW-8	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

Notes:

Table includes only detected contaminants.

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

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

PCE = Tetrachloroethylene

DCE = Dichloroethylene

TCE = Trichloroethylene

TMB = Trimethylbenzene

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

TBA = Tertiary butyl alcohol

NLP = No Level Published

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

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

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

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

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