

STELLAR ENVIRONMENTAL SOLUTIONS, INC.
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TRANSMITTAL MEMORANDUM	
TO: LOCAL OVERSIGHT PROGRAM ENVIRONMENTAL HEALTH SERVICES ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY 1131 HARBOR BAY PARKWAY ALAMEDA, CALIFORNIA 94502-6577	DATE: JANUARY 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	
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THE FOLLOWING: FOURTH QUARTER 2004 GROUNDWATER MONITORING AND ANNUAL SUMMARY REPORT (1 COPY)	
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COPY TO: MR. GLEN POY-WING, PROPERTY OWNER	BY: <u>BRUCE RUCKER</u> <u>BNR</u>

**FOURTH QUARTER 2004
GROUNDWATER MONITORING
AND ANNUAL SUMMARY REPORT**

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

**MR. CLYDE FORAYNE
OAKLAND, CALIFORNIA
OAKLAND, CALIFORNIA**

January 2005

STELLAR

www.stellar.com



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GEOSCIENCE & ENGINEERING CONSULTING

January 18, 2005

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

Subject: Fourth Quarter 2004 Groundwater Monitoring and Annual Summary 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 presenting the findings of the Fourth Quarter 2004 groundwater monitoring event for the Oakland Auto Works facility. This is the 25th site groundwater monitoring event since August 1997.

This report also summarizes historical findings, evaluates hydrologic and hydrochemical contaminant trends, and assesses contaminant plume stability and the potential for migration.

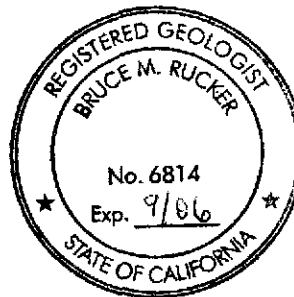
If you have any questions regarding this report, please contact us at (510) 644-3123.

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



**FOURTH QUARTER 2004
GROUNDWATER MONITORING
AND ANNUAL SUMMARY 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
BERKELEY, CALIFORNIA 94710**

January 18, 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 7.0, References and Bibliography. This report presents finding for the 25th 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 – San Francisco Bay Region (RWQCB). There are no Alameda County Health or RWQCB 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 (discussed below).

The most recent regulatory agency directive was an October 27, 2004 Alameda County Health letter requesting a technical workplan for additional site characterization. That workplan was submitted to Alameda County Health on December 27, 2004) (SES, 2004f).

The site is in full compliance with State of California “GeoTracker” requirements. Tasks conducted have included: uploading field point (well) names; surveying groundwater

monitoring well horizontal and vertical coordinates and uploading that data; uploading maps showing sampling/well locations; and uploading groundwater monitoring analytical data from groundwater monitoring and borehole sampling events conducted by SES (beginning in August 2003).

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 activities, conducted between October 1 and December 31, 2004:

- The 25th groundwater monitoring and sampling event, conducted on December 7, 2004.
- An evaluation of historical analytical results, hydrochemical and hydrologic trends, and the stability of the groundwater contaminant plume.

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 tanks (UFSTs) 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 their removals).



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04996

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

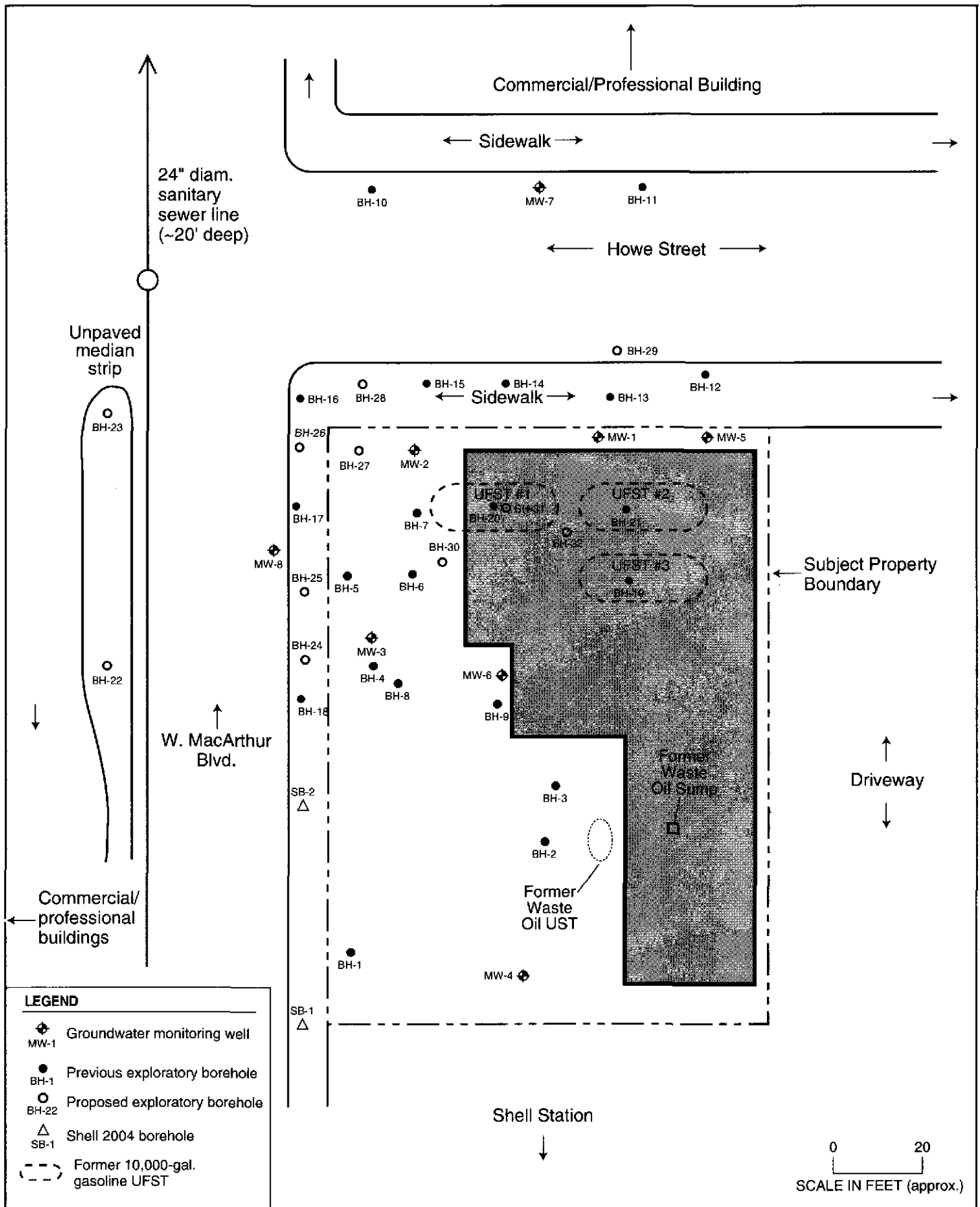
By: MJC

APRIL 2004

Figure 1

★ Stellar Environmental Solutions, Inc.
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2003-43-01



24" diam.
sanitary
sewer line
(~20' deep)

Commercial/Professional Building

← Sidewalk →

BH-10

MW-7

BH-11

← Howe Street →

Unpaved
median
strip

BH-23

BH-29

BH-16

BH-28

BH-15

BH-14

BH-13

BH-12

← Sidewalk →

BH-26

BH-27

MW-2

BH-20

BH-31

BH-32

BH-21

BH-22

BH-23

BH-24

BH-25

MW-8

BH-17

BH-7

BH-30

MW-1

MW-5

BH-25

BH-5

BH-6

MW-3

BH-4

BH-8

MW-6

BH-9

Subject Property
Boundary

W. MacArthur
Blvd.

SB-2

BH-18

MW-3

BH-4

BH-8

BH-9

Former
Waste
Oil Sump

↑
Driveway
↓

Commercial/
professional
buildings

Former
Waste
Oil UST

BH-1

BH-2

MW-4

Shell Station

0 20

SCALE IN FEET (approx.)

- **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 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.
- **December 2000.** Quarterly (approximately) groundwater monitoring began.
- **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 gasoline and 25.6 mg/kg 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.

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

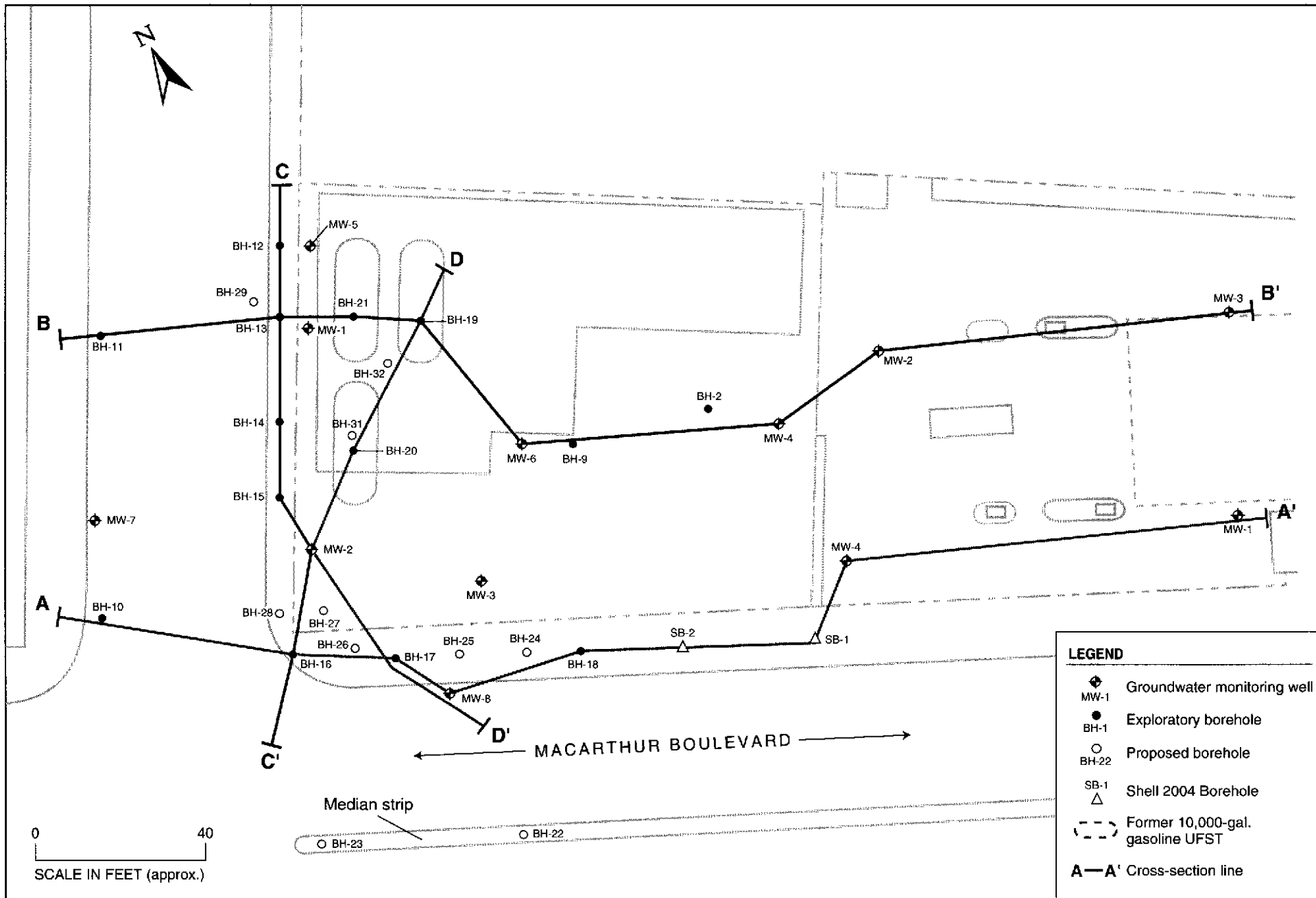
The site is on a gently-sloping alluvial fan at the base of the Berkeley/Oakland Hills, which rise approximately 1,100 feet above mean sea level (amsl) and are located approximately 3 miles east of San Francisco Bay. The mean elevation of the subject property is approximately 82 feet amsl. The subject 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

Figure 3 shows the location of geologic cross-sections for the site and immediate vicinity. Figures 4 and 5 show the geologic cross-sections.

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



LEGEND

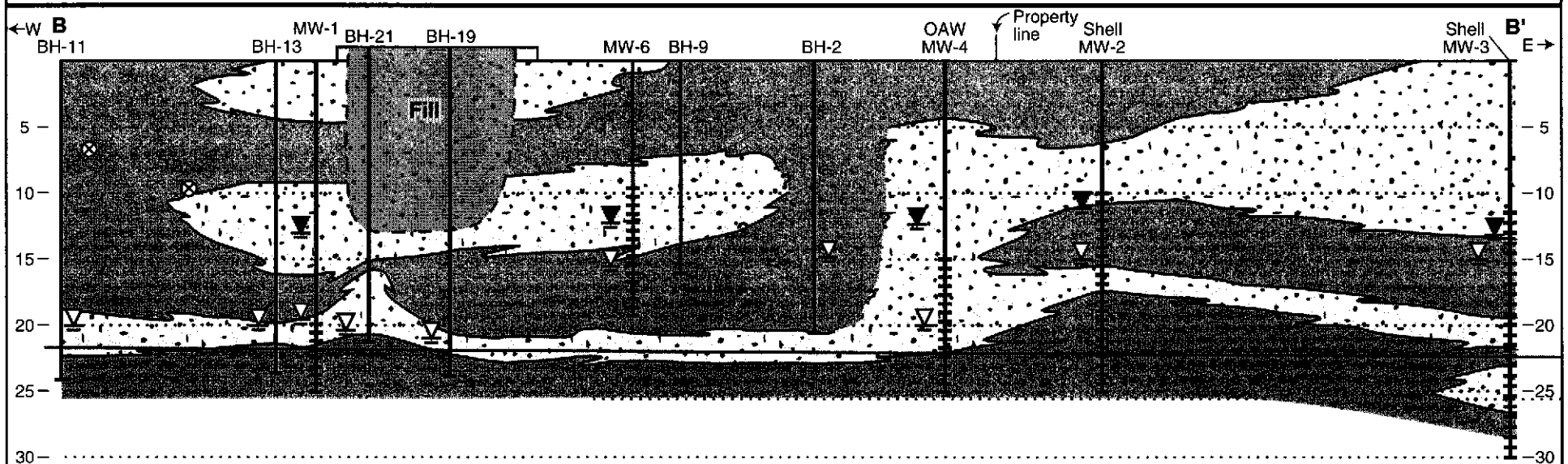
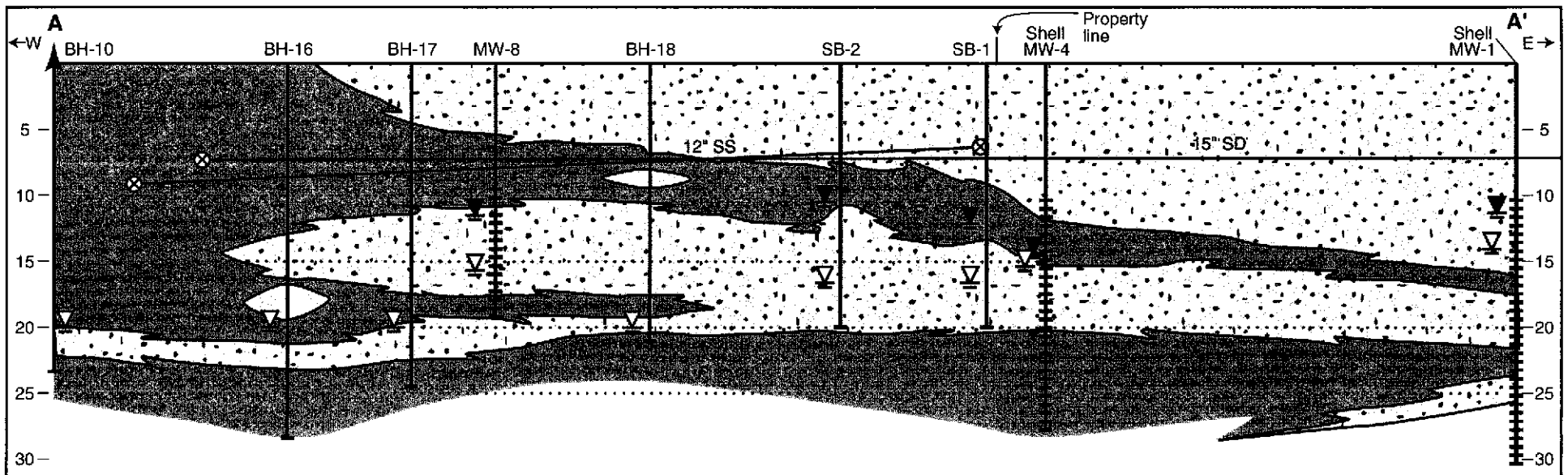
- ◆ MW-1 Groundwater monitoring well
- BH-1 Exploratory borehole
- BH-22 Proposed borehole
- △ SB-1 Shell 2004 Borehole
- ⋯ Former 10,000-gal. gasoline UFST
- A—A' Cross-section line

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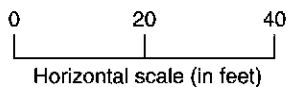
GEOLOGIC CROSS-SECTION LINE LOCATIONS
240 W. MacArthur Blvd., Oakland, CA

Figure 3
 by: MJC DECEMBER 2004

2003-43-95



Note: All depths are relative to ground surface at that location, and do not correspond to actual elevations between boreholes.



- Sand; Gravel
- Clay, Silt

- Sanitary sewer (SS) or storm drain (SD) with diameter in inches

- Monitoring well showing screened interval

- Highest water level in well
- Water level during drilling

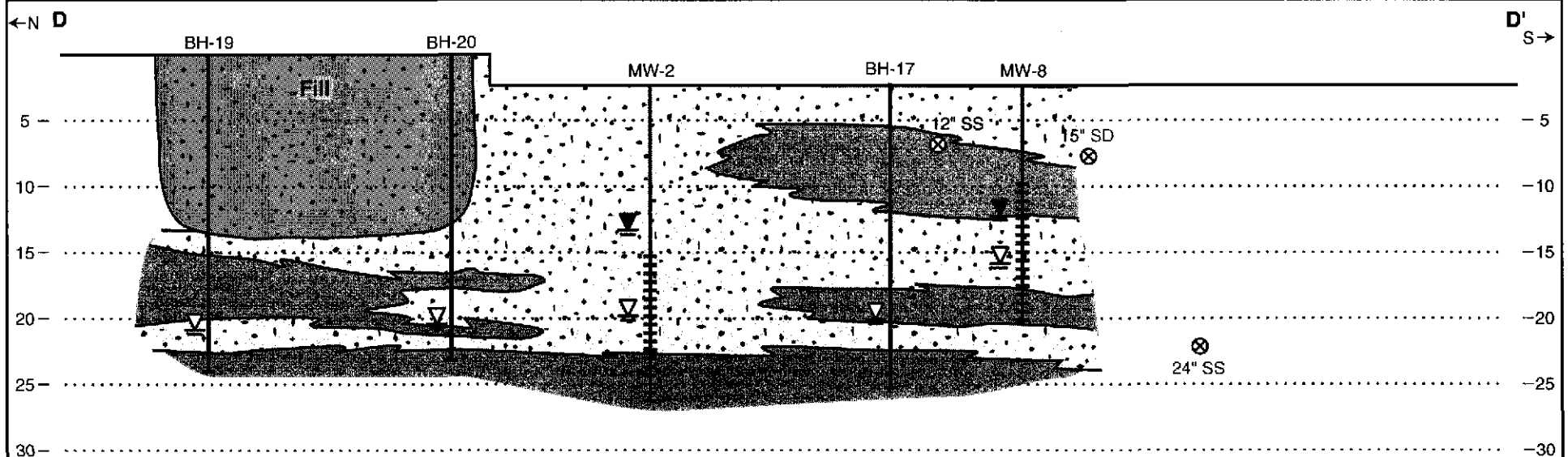
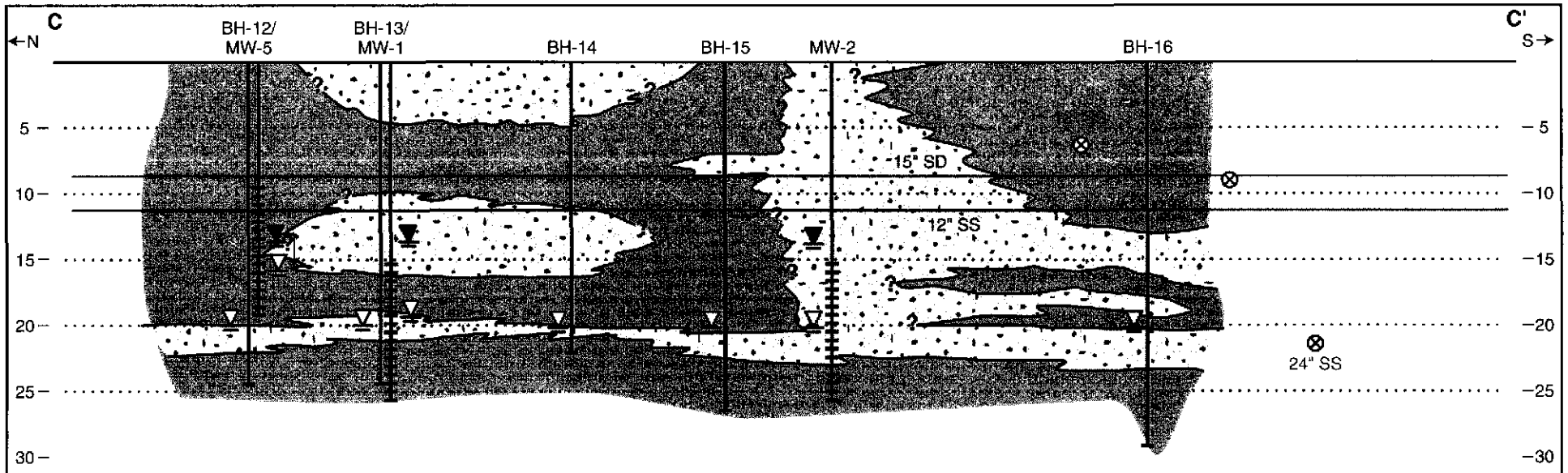
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GEOLOGIC CROSS SECTIONS A-A' AND B-B'
240 W. MacArthur Blvd., Oakland, CA

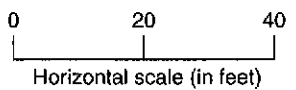
Figure 4

by: MJC

MAY 2004



Note: All depths are relative to ground surface at that location, and do not correspond to actual elevations between boreholes.



- Sand; Gravel
- Clay, Silt

- Sanitary sewer (SS) or storm drain (SD) with diameter in inches

- Monitoring well showing screened interval

- Highest water level in well
- Water level during drilling

2003-43-77

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GEOLOGIC CROSS SECTIONS C-C' AND D-D'
240 W. MacArthur Blvd., Oakland, CA

Figure 5

by: MJC

MAY 2004

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.

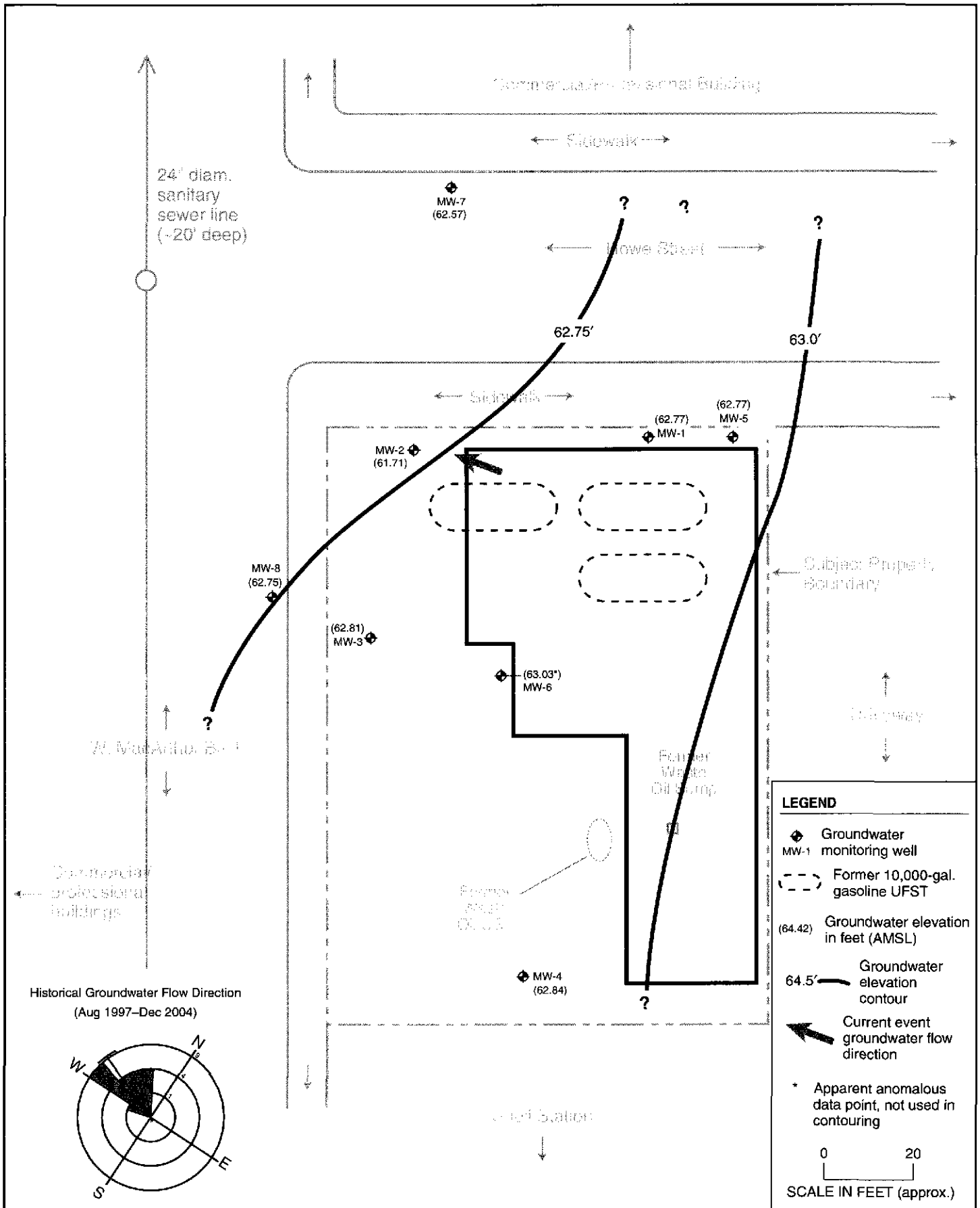
The site lithology is consistent with that documented at the adjacent Shell service station site. Specifically, the boreholes document that the thin upper, water-bearing zone is underlain by what site-specific data suggest is a non-water-bearing clay unit. In three of the four well boreholes at the Shell site, 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 most shallow saturated zone above it that occurs across the site. 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.

Figure 6 is a groundwater elevation map that shows elevations and contours from the most recent (December 2004) 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, 2003). Groundwater gradient in the December 2004 event was relatively flat, at approximately 0.003 feet/foot. Figure 6 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.
- 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.



GROUNDWATER ELEVATION MAP—December 7, 2004

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

JANUARY 2005

Figure 6

★ Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

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. Section 5.0 discusses historical groundwater elevations and flow direction trends.

3.0 DECEMBER 2004 GROUNDWATER MONITORING AND SAMPLING

This section presents the groundwater sampling and analytical methods for the most recent event (Fourth Quarter 2004), conducted on December 7, 2004. Table 1 summarizes monitoring well construction and groundwater monitoring data. Groundwater analytical results are presented and discussed in Section 4.0. Monitoring and sampling protocols were in accordance with the SES technical workplan (SES, 2003) submitted to Alameda County Health, and subsequent technical revision requested by Alameda County Health. The December 2004 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;
- 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) on December 7, 2004, under the direct supervision of SES personnel. To minimize the potential for cross-contamination, wells were purged and sampled in order of anticipated increasing contamination (based on analytical results from the previous quarter).

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) December 7, 2004	Groundwater Elevation ^(b) December 7, 2004
		Depth (feet)	Elevation (feet)		
MW-1	25	19.5 to 24.5	54.5 to 49.5	16.38	62.77
MW-2	25	14.5 to 24.5	64.2 to 54.2	15.74	62.71
MW-3	25	14.5 to 24.5	63.4 to 53.4	14.77	62.81
MW-4	25	14.5 to 24.5	63.6 to 53.6	14.90	62.84
MW-5	20	9 to 19	70.6 to 60.6	16.59	62.77
MW-6	20	9 to 19	69.7 to 59.7	15.40	63.03
MW-7	20	9 to 19	69.6 to 59.6	15.70	62.57
MW-8	20	9 to 19	67.7 to 57.7	13.64	62.75

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 on site. This non-hazardous water will continue to be accumulated on site 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. Tables 2 and 3 summarize the contaminant analytical results of the most recent monitoring event. Appendix B contains the certified analytical laboratory report and chain-of-custody record.

REGULATORY CONSIDERATIONS

Environmental Screening Levels

There are no published cleanup goals for detected site contaminants in groundwater. The RWQCB 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. Where one or more ESLs are exceeded, additional remediation and/or investigation may be warranted. The decision about the type and extent of remediation—if any—is generally based, among other factors, on the degree to which the analytes of concern have exceeded their respective ESLs, the potential for sensitive receptors, and whether a source area remains where mass contamination can be efficiently captured. Remediation can take the form of an active plan to remove subsurface contamination or a passive monitoring of natural attenuation to track plume stability and 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—i.e., 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.

Table 2
Groundwater Sample Analytical Results – December 7, 2004
Hydrocarbons, BTEX and MTBE
240 W. MacArthur Boulevard, Oakland, California ^(a)

Well	TVHg	TEHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-1	11,000	3,300	830	21	74	118	7.9
MW-2	1,400	540	26	1.1	1.8	3.5	91
MW-3	5,300	2,400	91	7.4	21	19	92
MW-4	< 50	NA	NA	NA	NA	NA	NA
MW-5	16,000	3,300	730	200	250	1,100	< 4.2
MW-6	280	1,100	4.9	< 0.5	1.4	4.4	< 0.5
MW-7	< 50	NA	NA	NA	NA	NA	NA
MW-8	270	84	< 0.5	< 0.5	< 0.5	< 0.5	94
RWQCB 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 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.

Analytes in **bold face** exceed ESLs or drinking water standards.

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.

Table 3
Groundwater Sample Analytical Results – December 7, 2004
Lead Scavengers and Fuel Oxygenates
240 W. MacArthur Boulevard, Oakland, California ^(a)

Well	EDC	EDB	TBA	DIPE
MW-1	< 1.3	< 1.3	< 25	< 1.3
MW-2	< 0.5	< 0.5	< 10	0.8
MW-3	< 0.7	< 0.7	< 14	1.3
MW-4	NA	NA	NA	NA
MW-5	< 4.2	< 4.2	< 83	< 4.2
MW-6	24	< 0.5	32	0.7
MW-7	NA	NA	NA	NA
MW-8	< 0.5	< 0.5	< 10	1.0
RWQCB Environmental Screening Levels ^(c)				
	0.5	0.05	12	NLP
Drinking Water Standards ^(b)				
	NLP	NLP	NLP	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 = di-isopropyl ether
EDB = ethylene dibromide (1,2-dibromoethane)
EDC = ethylene dichloride (1,2-dichloroethane)
TBA = *tertiary*-butyl alcohol

NA = Not analyzed for this contaminant
NLP = No level published.

Analytes in **bold face** exceed drinking water standards.

Table includes only detected fuel oxygenates. Appendix B contains the full list of analytical compounds.

As specified in the RWQCB's San Francisco Bay Region Water Quality Control Plan, all groundwater is considered a potential source of drinking water unless otherwise approved by the RWQCB, and is 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 RWQCB has completed the "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report" (RWQCB, 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 RWQCB. 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* and *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 (all wells except MW-4 and MW-7);
- The lead scavengers 1,2-dichloroethane (EDC) and 1,2-dibromoethane (EDB), by EPA Method 8260B (all wells except MW-4 and MW-7);
- 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

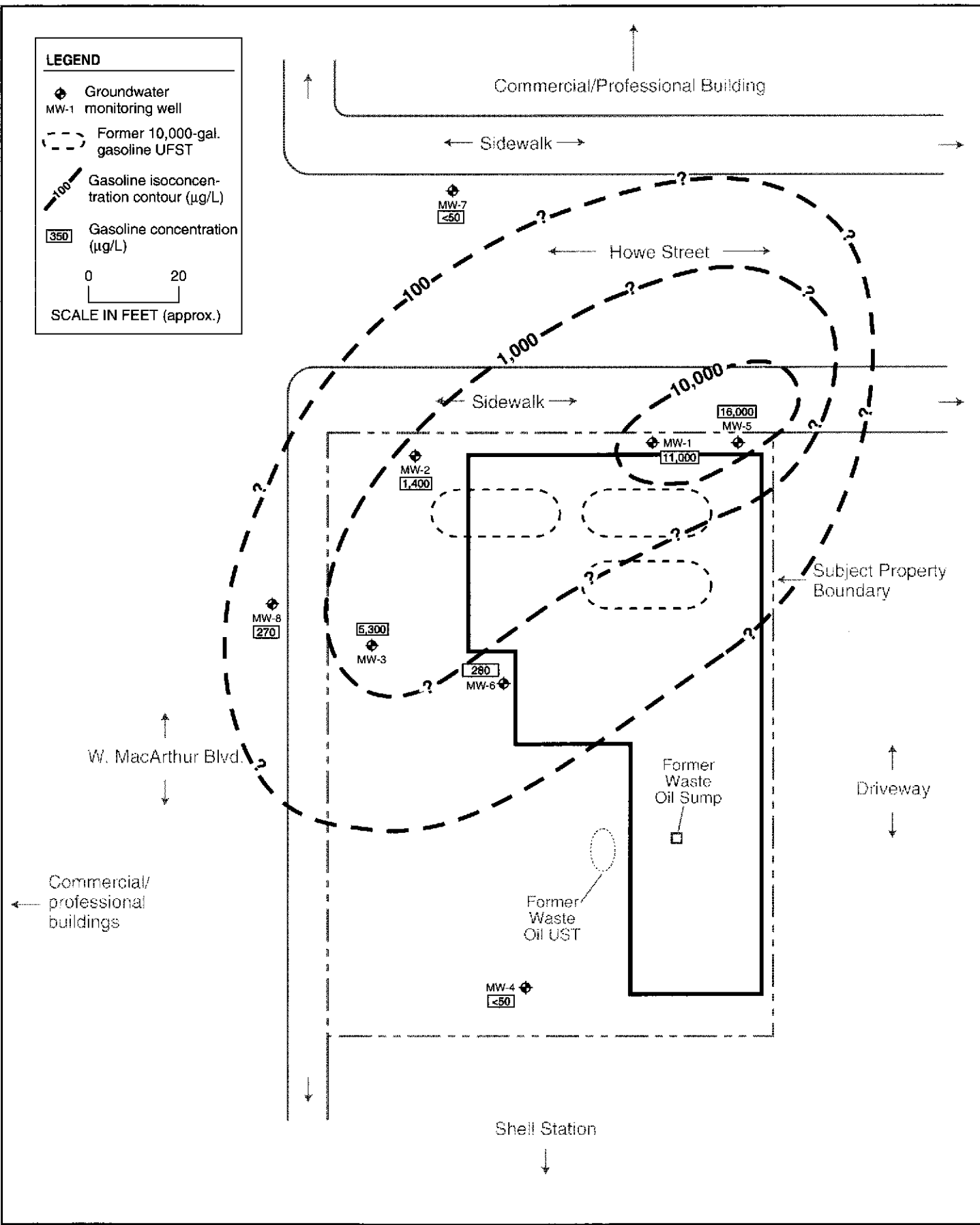
Gasoline and Diesel

Figure 7 shows gasoline isoconcentration contours for the recent event. Gasoline was detected in all site wells, except MW-4 and MW-7, with concentrations between 270 µg/L (well MW-8) and 16,000 µg/L (well MW-5). The center of contaminant mass is near source area wells MW-1 and MW-5. All of the detected gasoline concentrations exceeded the 100 µg/L ESL criterion. The

LEGEND

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

0 20
SCALE IN FEET (approx.)



GASOLINE ISOCONCENTRATION CONTOURS (DECEMBER 2004)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

JANUARY 2005

Figure 7

★ Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

2003-43-104

longitudinal axis of the gasoline plume is oriented north-south, with a concentration of 270 mg/kg extending offsite (beneath W. MacArthur Boulevard). The north-northwestern limit of the gasoline plume appears to be underneath Howe Street, and the eastern limit is constrained on site. The exact northern (upgradient) limit of the plume is not known, but is likely no more than 20-30 feet off site.

Figure 8 shows diesel isoconcentration contours for the recent event. The plume orientation is similar to the gasoline plume. With the exception of one well (MW-6), diesel concentrations are approximately one-third to one-half the amount of the gasoline concentrations in individual wells. Diesel concentrations ranged from 84 $\mu\text{g/L}$ (well MW-8) to 3,300 $\mu\text{g/L}$ (wells MW-1 and MW-5), with all concentrations except MW-8 exceeding the 100 $\mu\text{g/L}$ ESL criterion. The diesel plume extent closely mirrors the gasoline plume, with the center of contaminant mass near the source area and a southward longitudinal axis. However, diesel does not appear to extend off site to the south (beneath W. MacArthur Boulevard).

Benzene, Toluene, Ethylbenzene, and Total Xylenes

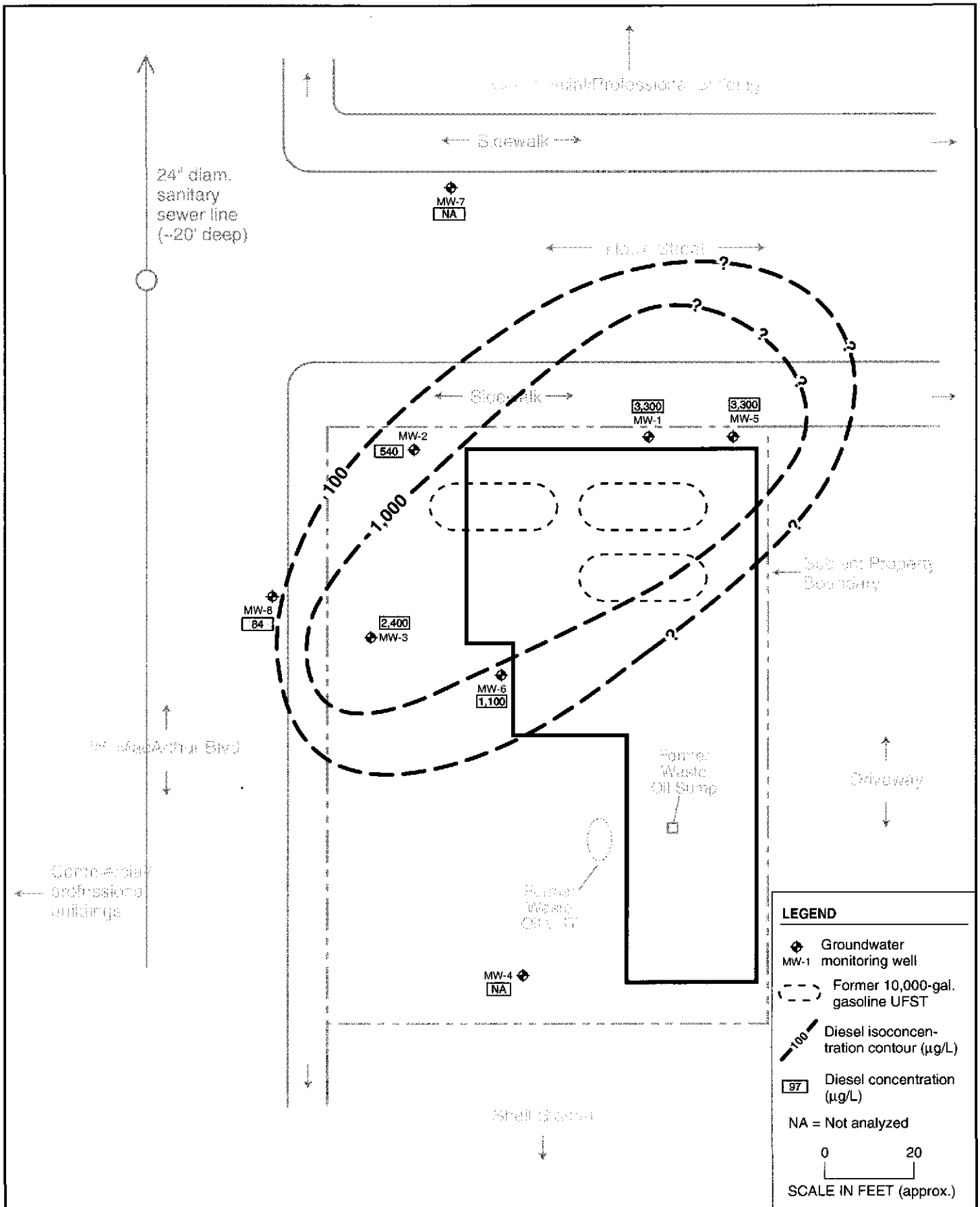
The principal BTEX contaminant, given its concentrations above ESLs, is benzene. The benzene plume shows a similar geometry as the gasoline and diesel plumes. Benzene was detected in five of the six wells for which it was analyzed, at concentrations ranging from 4.9 $\mu\text{g/L}$ to 830 $\mu\text{g/L}$. Figure 9 shows benzene isoconcentration contours for the recent event. The benzene plume configuration is generally the same as for gasoline and diesel.

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

Methyl tertiary-Butyl Ether

Figure 10 shows MTBE isoconcentration contours for the recent event. MTBE was detected in four of the six wells for which it was analyzed, at concentrations ranging from 7.9 $\mu\text{g/L}$ to 94 $\mu\text{g/L}$. Unlike the distribution of gasoline, diesel, and benzene, the center of mass of MTBE contamination in groundwater appears to be near the downgradient (south) property line, with concentrations above 100 $\mu\text{g/L}$ extending beneath W. MacArthur Boulevard.

As discussed in a previous report (SES, 2004c), there appears to be migration of MTBE 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.



DIESEL ISOCONCENTRATION CONTOURS (DECEMBER 2004)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

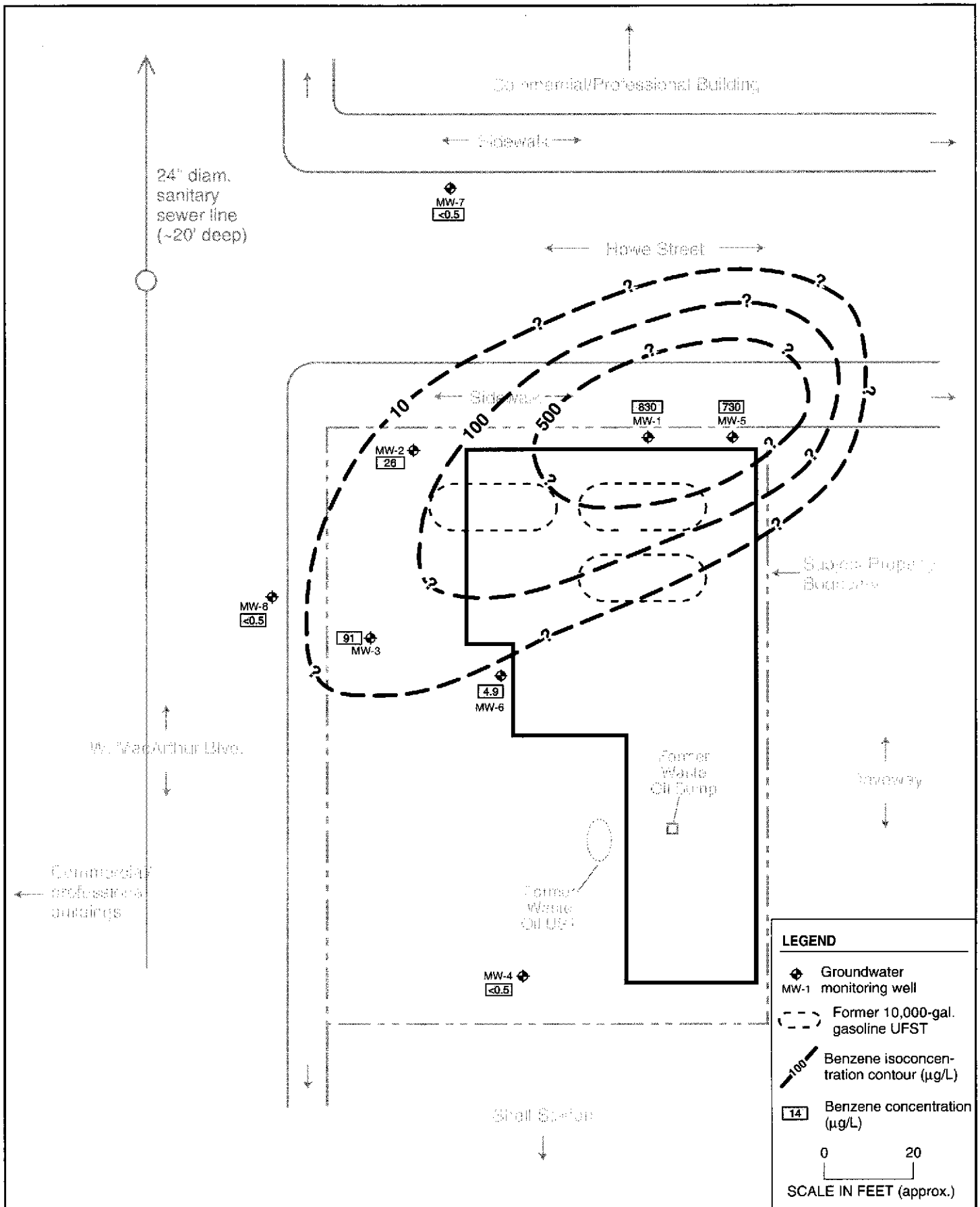
JANUARY 2005

Figure 8

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2008-43-103





2003-43-102



BENZENE ISOCONCENTRATION CONTOURS (DECEMBER 2004)

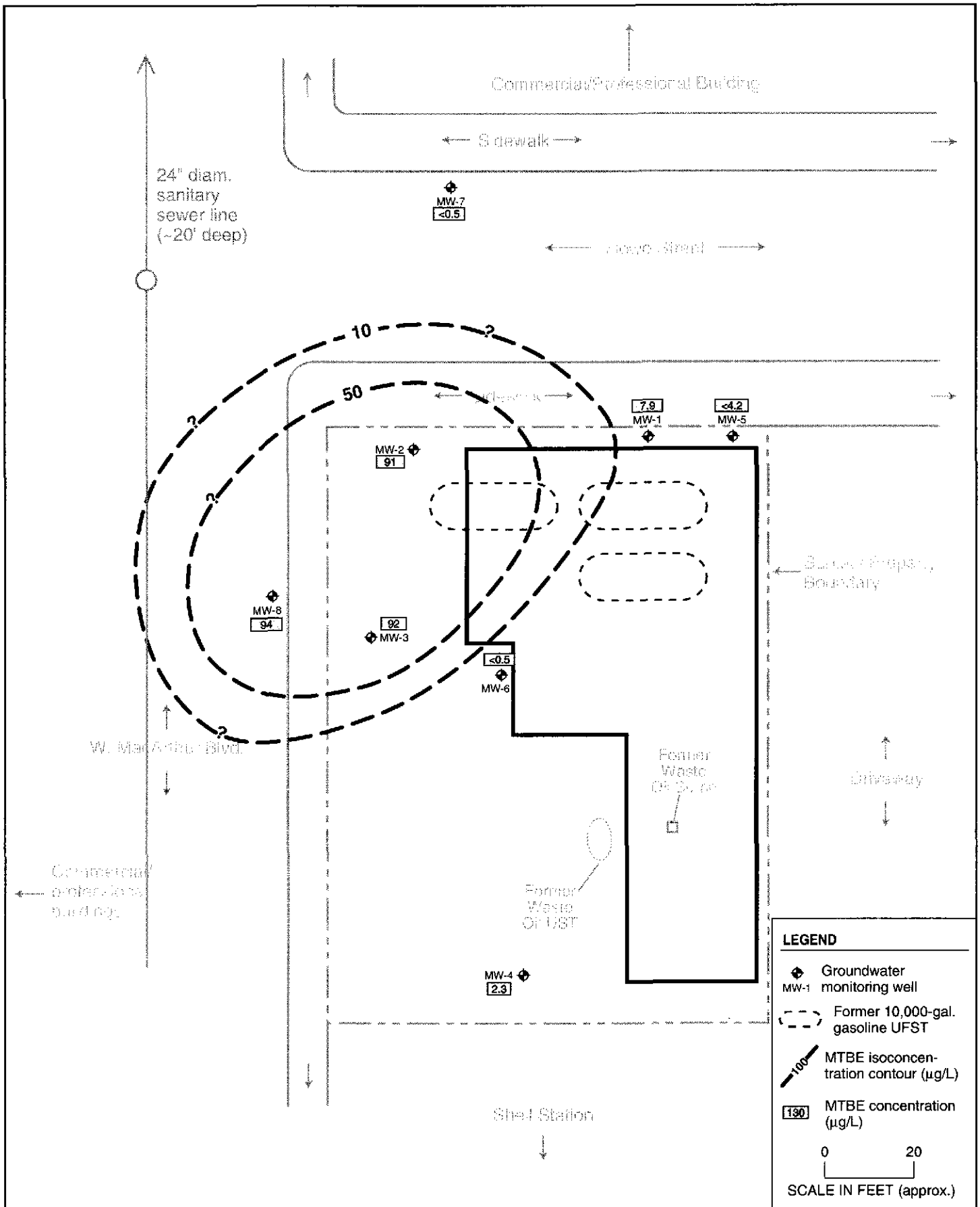
240 W. MacArthur Blvd.
Oakland, CA

By: MJC

JANUARY 2005

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Figure 9



MTBE ISOCONCENTRATION CONTOURS (DECEMBER 2004)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC

JANUARY 2005

Figure 10

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2008-43-106



Lead Scavengers and Fuel Oxygenates

The lead scavenger EDC was detected only in MW-6, at a concentrations of 24 µg/L (exceeding the 0.5 µg/L ESL criterion). EDB was not detected in any of the wells.

Two fuel oxygenates were detected: *tertiary*-butyl alcohol (TBA) and di-isopropyl ether (DIPE). TBA was detected only in monitoring well MW-6, at a concentration of 32 µg/L (exceeding the 12 µg/L ESL criterion). DIPE was detected in four wells, at a maximum concentration of 1.3 µg/L.

Summary

With the exception of EDC and MTBE, maximum contaminant concentrations were detected in wells MW-5 or MW-1, located in the northeastern corner of the property (near the former UFSTs) which appears to be the center of the groundwater contaminant mass. Groundwater contamination above ESL criteria extends offsite to the west-northwest and to the south (into Howe Street and W. MacArthur Boulevard, respectively).

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 B).

5.0 EVALUATION OF HYDROCHEMICAL TRENDS AND PLUME STABILITY

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

CONTAMINANT SOURCE ASSESSMENT

Three UFSTs were removed (i.e., discharge was discontinued) prior to 1991, although there is no documentation of conditions at the time of the removals, or if any contaminated soil was removed at that time. Borehole soil sampling has provided data on the extent and magnitude of soil contamination in the vicinity of the former UFSTs ("source area") and the outlying area (in the capillary fringe above the groundwater plume). A full discussion of residual soil contamination was presented in the SES June 2004 Soil and Groundwater Investigation Report (SES, 2004c). Appendix C contains key historical soil analytical results.

Source Area

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

Source area wells MW-1 and MW-5 historically showed evidence of separate-phase hydrocarbons (i.e., floating product). Limited "Hi-Vac" removal (short-term pumping) of contaminated groundwater from these wells in October 2001 appears to have removed the floating product, which has not been observed since that time.

Outlying Area Soil Contamination

Soil contamination has been detected in boreholes greater than 10 feet from the former UFSTs only to the southwest (BH-16 approximately 40 feet away) and to the south (BH-4 and BH-8, approximately 40 feet away). Intervening boreholes (MW-2, BH-7, and BH-15) showed low to no soil contamination. Low to no soil contamination was detected in boreholes other than those discussed above, even in the capillary fringe. Soil contamination above ESL criteria appears to be constrained on site, except for the apparently localized "hot spot" at BH-16 (southwest corner of property).

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

Summary

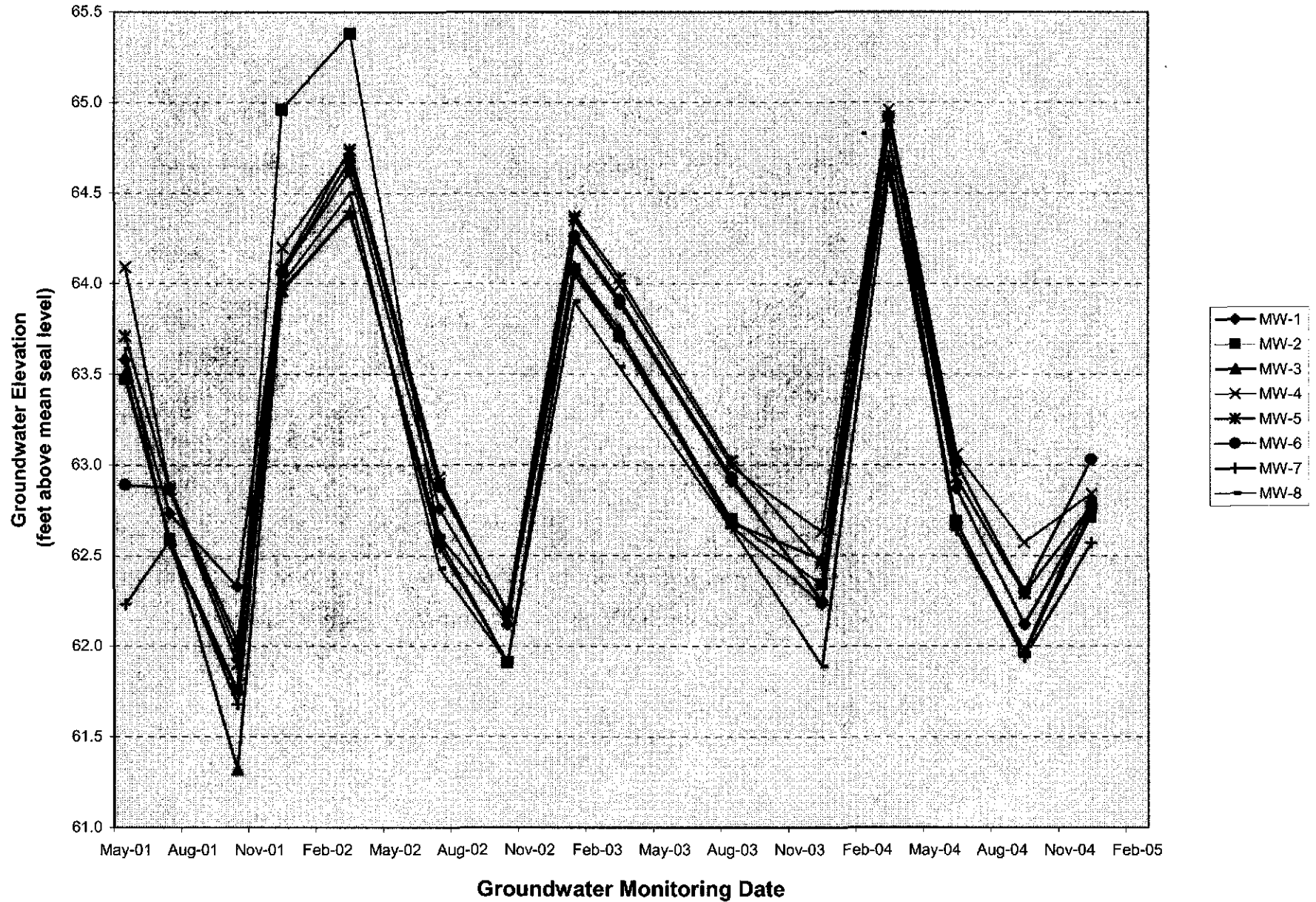
A substantial mass of unsaturated zone soil contamination is located beneath the subject property building and to the immediate south-southwest. While the contamination is largely constrained on site, it will continue to be a source of long-term groundwater contamination unless abated.

WATER LEVEL TRENDS

Appendix D contains historical groundwater elevation and gradient data. Figure 11 shows a trendline of site groundwater elevations in wells since May 2001. The data support the following conclusions:

- Groundwater elevations in all wells show a strong elevation change correlation with rainy versus dry season. Elevations decrease from approximately March through December, followed by an increase in March. This is a common seasonal trend observed in the upper water-bearing zone in the Bay Area region.
- The range of water level elevations (in a given year) has varied by approximately 3 feet, and no substantial differences in elevations have been noted since 2001.
- Historical groundwater flow direction has been predominantly to the west-northwest.
- Historical groundwater gradient has varied between approximately 0.002 feet/foot and 0.008 feet/foot, averaging approximately 0.005 feet/foot.

**FIGURE 11: Historical Groundwater Elevations in Monitoring Wells
240 W. Macarthur Blvd., Oakland, CA**



HYDROCHEMICAL TRENDS

Historical groundwater analytical results are included in Appendix C for reference.

Gasoline

Figures 12 and 13 show hydrochemical trend data for gasoline in source area wells and downgradient wells, respectively, for the past 3 years of monitoring.

Source area wells MW-1 and MW-5 have shown an overall increasing gasoline concentration trend since December 2001, with the most recent event reaching near historical maxima. MW-5 has displayed higher gasoline concentrations than MW-1. Gasoline concentrations have generally shown the expected seasonal trend of higher concentrations in the high water (rainy) period and lower concentrations in the low water (dry) period.

Downgradient wells MW-2, MW-6, and MW-8 have shown a relatively stable gasoline concentration over the previous 3 years of monitoring, with some seasonal variations within particular years. Downgradient well MW-3 showed a trend of decreasing gasoline concentrations from December 2001 to June 2002, then increasing concentrations until December 2003, then a decrease and subsequent stabilization in the most recent four events.

Diesel

Figures 14 and 15 show hydrochemical trend data for diesel in source area wells and downgradient wells, respectively, for the past 1.5 years of monitoring.

Source area wells MW-1 and MW-5 have shown substantial variations in diesel concentrations, with the most recent event showing a diesel concentration between historical maxima and minima. Unlike the gasoline trend, MW-1 has displayed higher diesel concentrations than in MW-5.

Downgradient wells MW-2, MW-3, and MW-6 have shown a similar diesel hydrochemical trend: a substantial decrease from August 2003 to December 2003, similar concentrations in the subsequent event, then a general increase since March 2004 to historical maxima or near maxima. Well MW-8 (the most downgradient well) has historically shown low to non-detect diesel concentrations, with the exception of an apparently anomalous measurement of approximately 2,500 mg/L in September 2004, then a return to a concentration of less than 100 mg/L in the most recent event.

**Figure 12: Gasoline Hydrochemical Trends
Source Area Wells
240 W. MacArthur Blvd, Oakland, California**

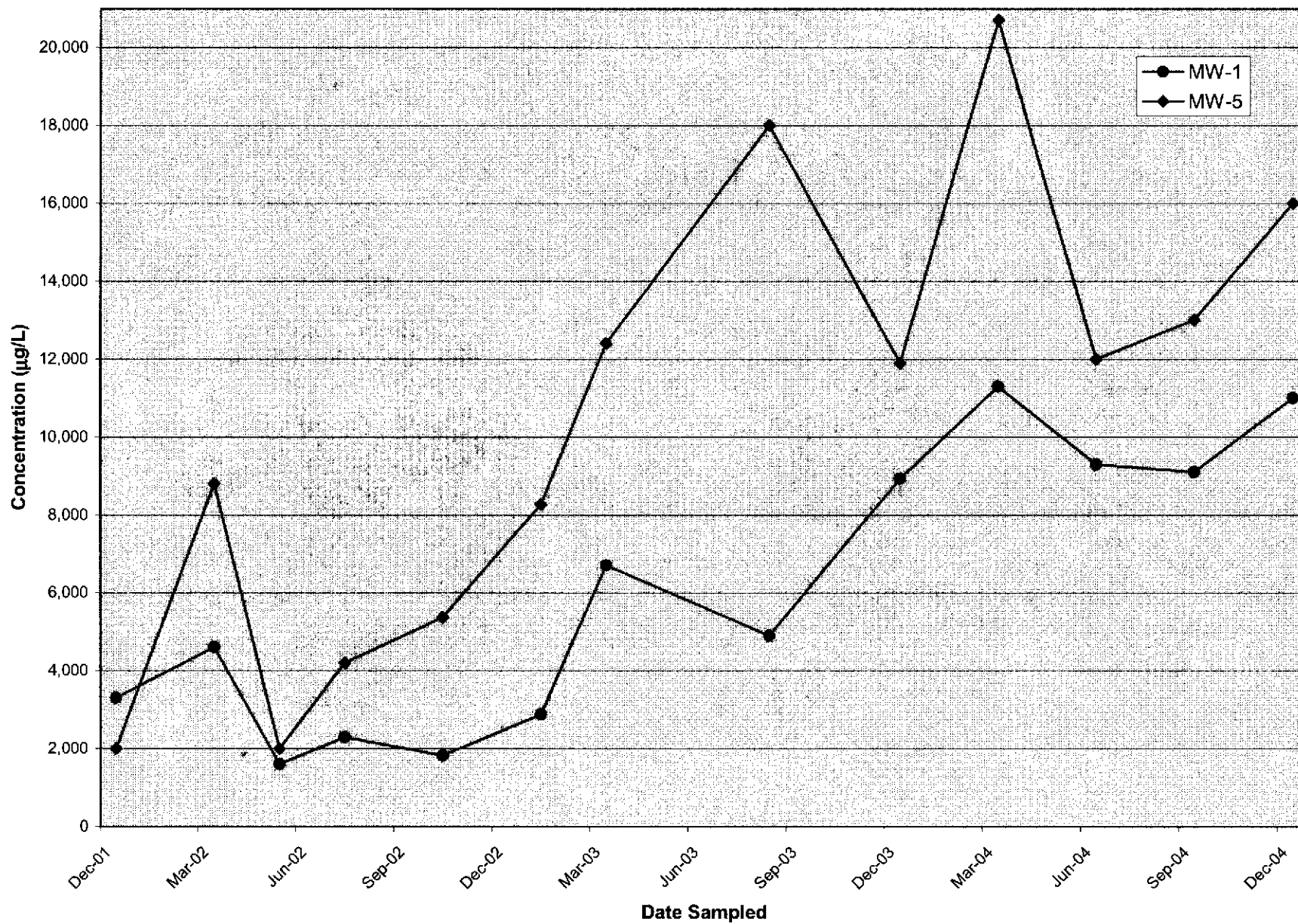


Figure 13: Gasoline Hydrochemical Trends
Downgradient Wells
240 W. MacArthur Blvd, Oakland, California

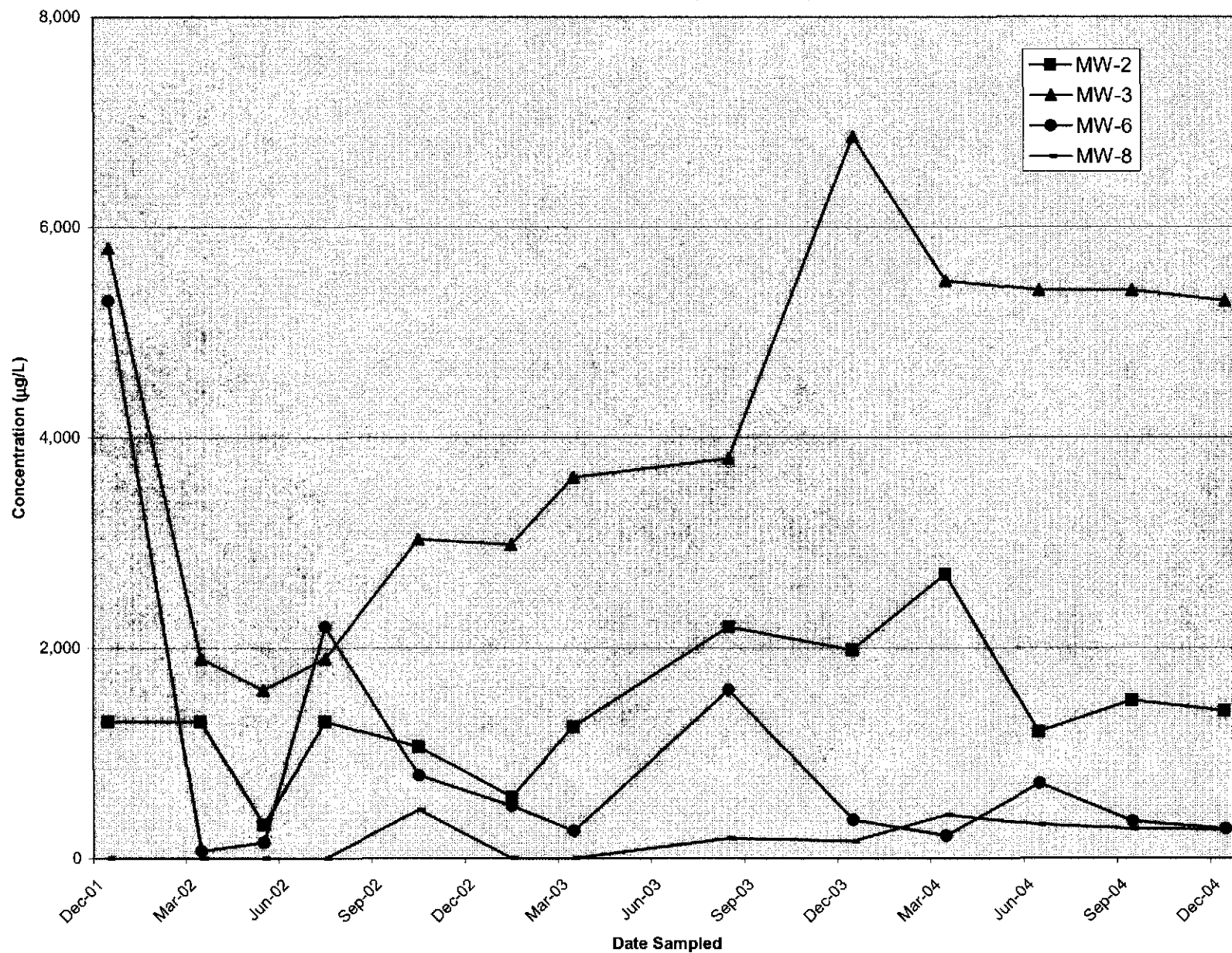


Figure 14: Diesel Hydrochemical Trends
Source Area Wells
240 W. MacArthur Blvd, Oakland, California

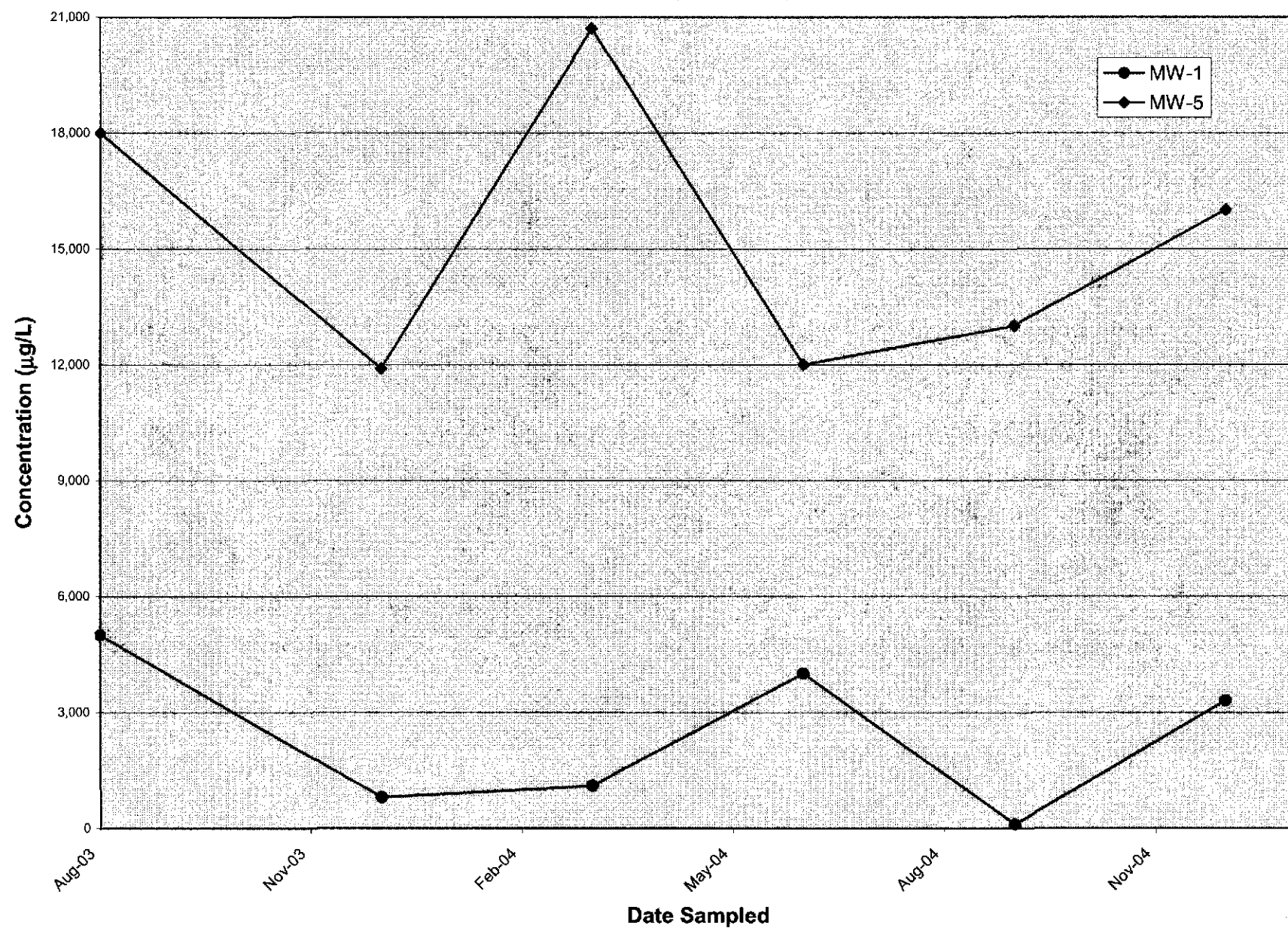
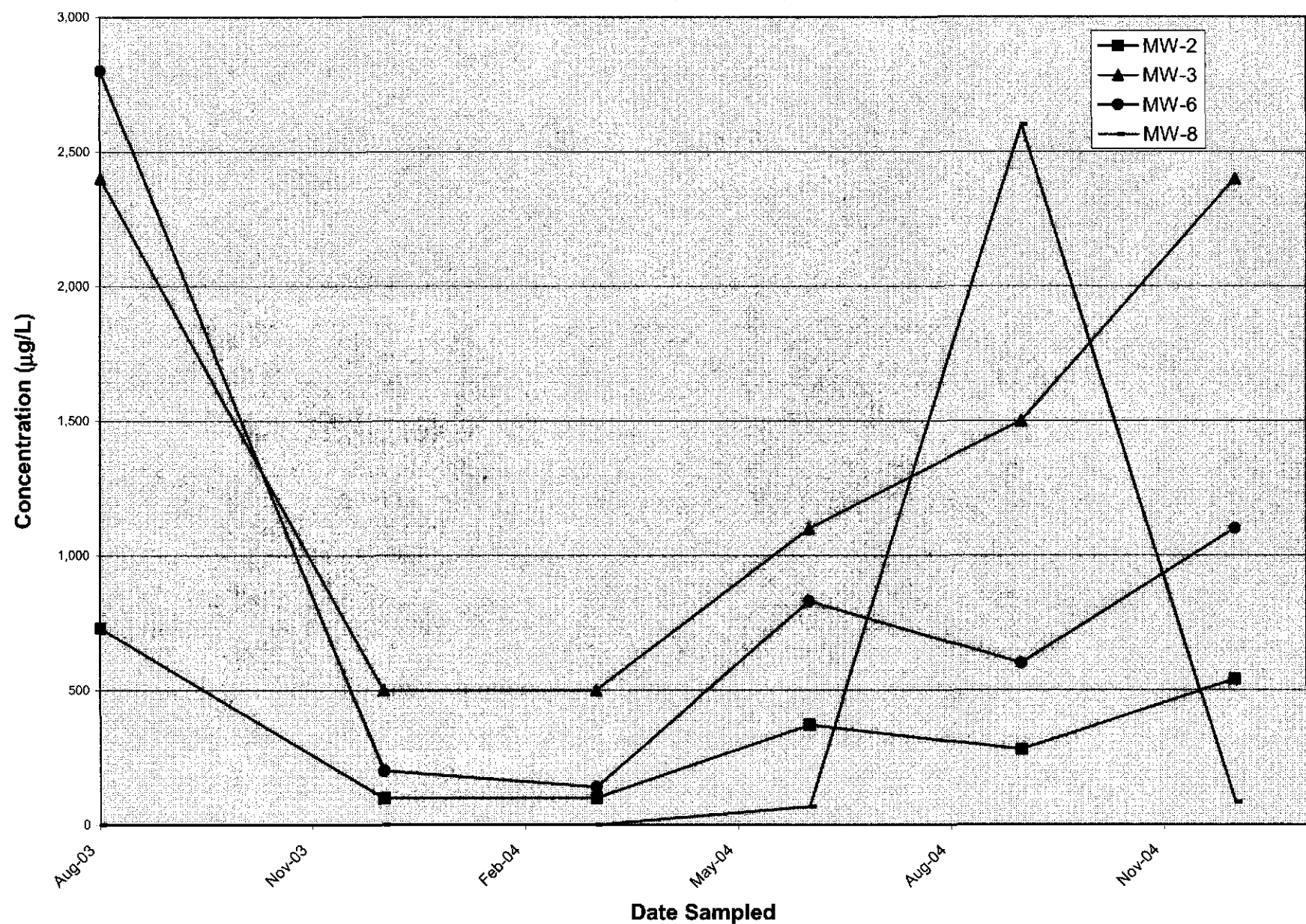


Figure 15: Diesel Hydrochemical Trends
Downgradient Wells
240 W. MacArthur Blvd, Oakland, California



Benzene

Figure 16 shows hydrochemical trend data for benzene in key site wells for the past 3 years of monitoring.

Source area wells MW-1 and MW-5 have shown substantial variations in benzene concentrations—an overall increase in concentration over time, with generally higher concentrations in the wet season and lower concentrations in the dry season. Benzene concentrations generally have been comparable between MW-1 and MW-5. Most recent benzene concentrations in source area wells are at or above December 2001 concentrations.

Downgradient wells MW-2, MW-3 and MW-6 have all shown a relatively stable benzene concentration trend, with the most recent concentrations comparable to those in December 2001.

MTBE

Figure 17 shows hydrochemical trend data for MTBE in key site wells for the past 3 years of monitoring.

Source area wells MW-1 and MW-5 have shown substantial variations in MTBE concentrations, with generally the same trend of higher concentrations in the wet season and lower concentrations in the dry season, with some expectations. Following historical maximum concentrations in December 2003, MTBE concentrations decreased to low or none in June 2004, and have remained there since.

Downgradient wells MW-2 and MW-3 have shown substantial variations in MTBE concentration over the 3 years of monitoring, with the expected higher concentrations in the rainy season. MTBE concentrations have shown a declining trend since December 2003, and in the most recent event are approximately 200 percent lower than in December 2001. MTBE concentrations in MW-8 (the most downgradient well) also have shown substantial variations in concentration, and have shown an increasing trend since August 2003. MTBE has not been detected in downgradient well MW-6 above 5 µg/L since October 2002. The data indicate that the center of MTBE mass in the plume has migrated beyond the source area to the downgradient (southern) portion of the property.

PLUME GEOMETRY AND MIGRATION INDICATIONS

As discussed in detail in Section 4.0, the contaminant plume in groundwater (gasoline, diesel, and BTEX concentrations above ESL criteria) is approximately 180 feet long by 100 feet wide, with a generally north-south longitudinal axis. The source area, represented by wells MW-1 and MW-5, show concentrations of gasoline and benzene remaining high and trending upward in concentration over the past 3 years.

Figure 16: Benzene Hydrochemical Trends
240 W. MacArthur Blvd, Oakland, California

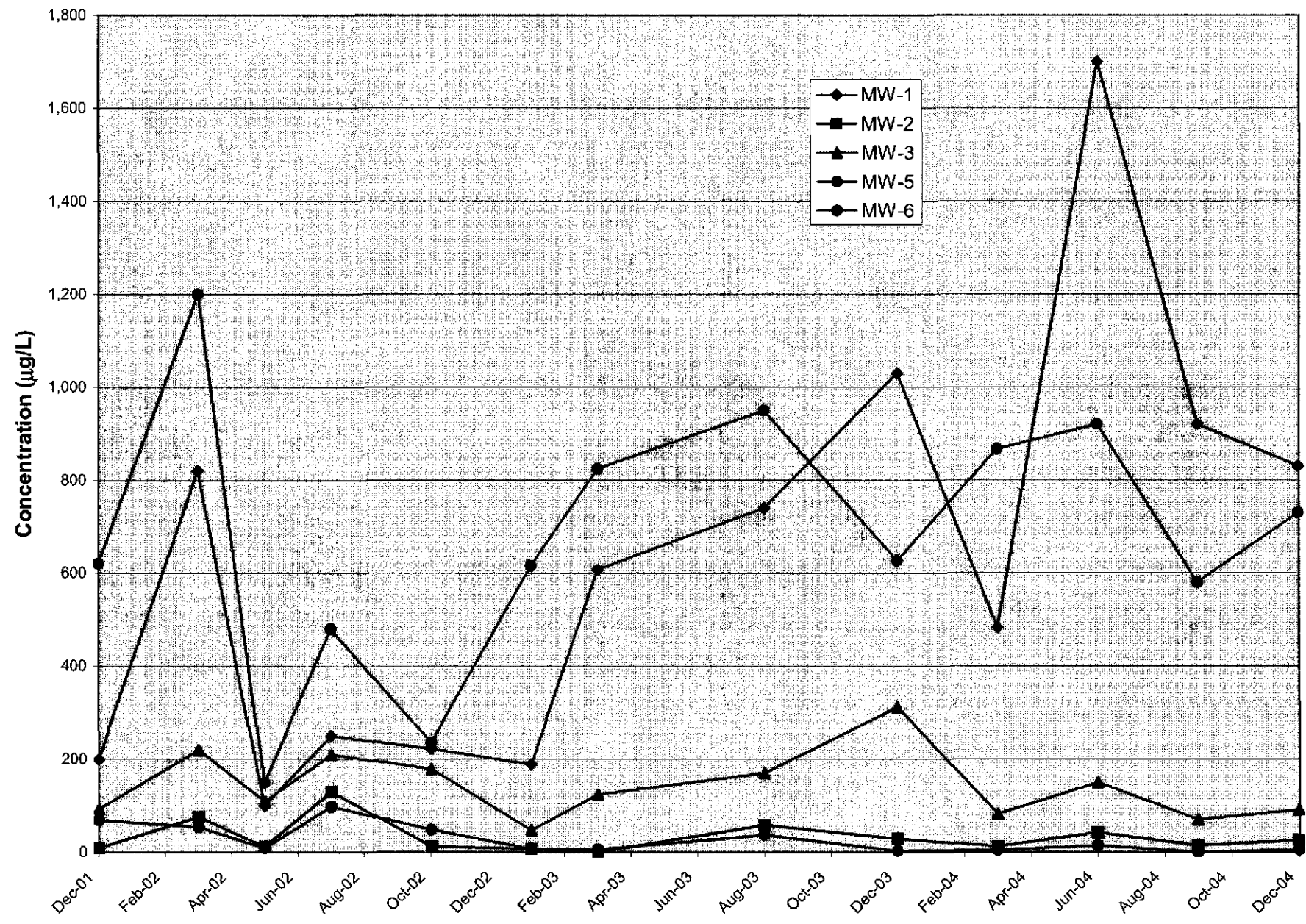
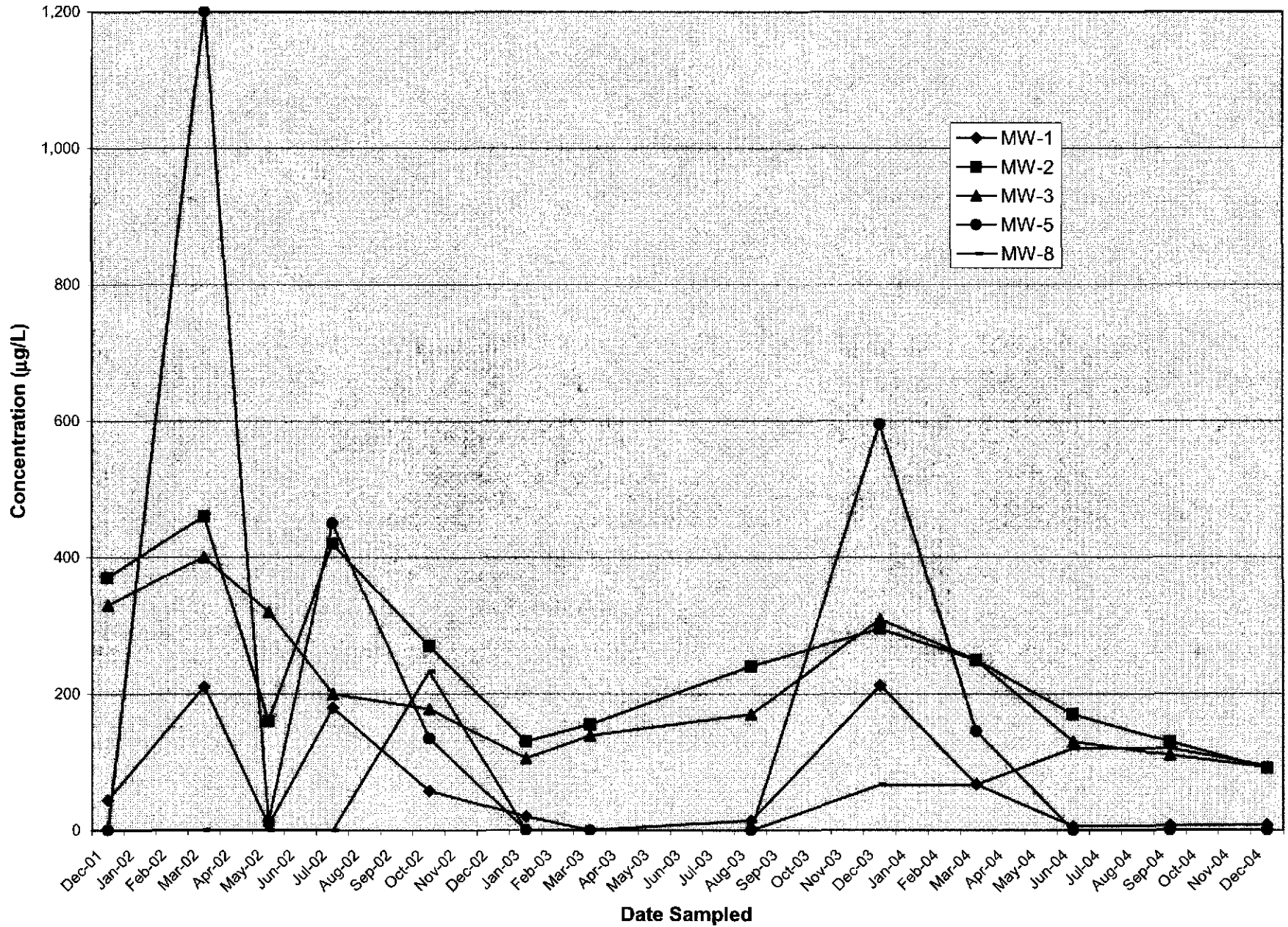


Figure 17: MTBE Hydrochemical Trends
240 W. MacArthur Blvd, Oakland, California



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

The plume geometry has not varied substantially over the last 3 years of monitoring, although seasonal fluctuations in contaminant concentrations have been observed. Increasing diesel and MTBE concentrations in downgradient wells MW-8, MW-2, and MW-3 suggest that the center of contaminant mass for these constituents is moving slowly downgradient. Relatively stable gasoline and benzene concentrations in downgradient wells suggest that downgradient migration of these constituents is not occurring.

Groundwater contaminant migration appears to be controlled locally by hydrogeologic conditions. Based on our experience, it is likely that the contaminant concentrations attenuate to below ESL criteria no more than 50 feet off site. However, continued quarterly groundwater monitoring in site wells is warranted to confirm that groundwater contaminant concentrations do not increase and/or there is no indication of significant plume migration.

CLOSURE CRITERIA ASSESSMENT AND PROPOSED ACTIONS

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

1. ***The contaminant source has been removed (i.e., the source of the discharge and obviously-contaminated soil).*** This criterion has not been met. While the USTs have been removed, borehole soil sampling has shown a substantial mass of residual source area soil contamination that will act as an ongoing source of groundwater contamination. As discussed below, the property owner has proposed to Alameda County Health to implement a soil vapor extraction system as an interim remedial action to reduce contaminant mass.
2. ***The groundwater contaminant plume is well characterized, and is stable or reducing in magnitude and extent.*** As discussed above, in our professional opinion, this criterion has not been met, and continued groundwater monitoring will be needed to demonstrate plume stability.
3. ***If residual contamination (soil or groundwater) exists, there is no reasonable risk to sensitive receptors (i.e., contaminant discharge to surface water or water supply wells) or to site occupants.*** This criterion is generally met by conducting a Risk-Based Corrective Action (RBCA) assessment that models the fate and transport of residual contamination in the context of potential impacts to sensitive receptors (e.g., water wells,

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8.0 LIMITATIONS

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

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

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

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	12/3/11/03 6/17/04	9/13/04	12/2/04
Number of drum(s) empty:	0			0
Number of drum(s) 1/4 full:			1	0
Number of drum(s) 1/2 full:		1		1
Number of drum(s) 3/4 full:				
Number of drum(s) full:			1	2
Total drum(s) on site:		1	2	2
Are the drum(s) properly labeled?		yes	yes	Y
Drum ID & Contents:		purge water	purge water	Sample Purging
If any drum(s) are partially or totally filled, what is the first use date:		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	12/2/04
Number of drums empty:					
Number of drum(s) 1/4 full:	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
Total drum(s) on site:	1	2	2	3	3
Are the drum(s) properly labeled?	yes	yes	yes	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
Date of inspection:	12/3/03	3/11/04	6/17/04	9/13/04	12/2/04
Drum(s) labelled properly:	yes	Y	Y	Y	Y
Logged by BTS Field Tech:	Ac	MJ	DW	MJ	PC
Office reviewed by:	mj	maj	ol	nj	

WELLHEAD INSPECTION CHECKLIST

Date 12/7/04 Client Stellar
 Site Address 240 W. MacArthur Blvd., Oakland
 Job Number 041207-PC3 Technician P. Corush

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							A	
MW-2		^					C	
MW-3							A	
MW-4	A		A					
MW-5	A		^					
MW-6							A	
MW-7	A	A	^				A	
MW-8	A	A	^					

NOTES: MW-1 2 1/2 bolts missing MW-2 1/2 tabs stripped MW-3 2 1/2 tabs stripped
MW-6 - PVC cracked MW-7 PVC cracked

WELL GAUGING DATA

Project # 041207PC3 Date 12/7/04 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 TOB
MW-1	2					16.38	24.39	TOC
MW-2	2					15.74	24.32	↓
MW-3	2					14.77	24.29	
MW-4	2					14.90	24.30	
MW-5	2					16.59	20.09	
MW-6	2					15.40	20.15	
MW-7	2					15.70	20.02	
MW-8	2					13.64	20.03	

WELL MONITORING DATA SHEET

Project #: <u>041207-PC3</u>	Client: <u>STELLAR</u>
Sampler: <u>PC</u>	Date: <u>12/7/04</u>
Well I.D.: <u>MW-1</u>	Well Diameter: <u>3</u> 4 6 8
Total Well Depth (TD): <u>24.39</u>	Depth to Water (DTW): <u>16.38</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>17.98</u>	

Purge Method: Bailer Water
 Disposable Bailer Peristaltic
 Positive Air Displacement Extraction Pump
 Electric Submersible Other _____

Sampling Method: Bailer
 Disposable Bailer
 Extraction Port
 Dedicated Tubing
 Other: _____

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

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

Time	Temp (°F or °C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1358	64.4	6.6	797	71000	1.3	grey, slurry
1403	65.9	6.5	868	71000	2.6	↓
1406	65.7	6.5	883	71000	3.9	↓
						1.2 mg/L Ferrrous Iron

Did well dewater? Yes Gallons actually evacuated: 4

Sampling Date: 12/7/04 Sampling Time: 1430 Depth to Water: 17.29

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

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

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>0.2</u>	
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>041207-PC3</u>	Client: <u>STELLAR</u>
Sampler: <u>PC</u>	Date: <u>12/7/04</u>
Well I.D.: <u>MW-2</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): <u>24.32</u>	Depth to Water (DTW): <u>15.74</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVD</u> Grade	D.O. Meter (if req'd): <u>CS</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>17.46</u>	

Purge Method: Bailer Waterm
 Disposable Bailer Peristaltic
 Positive Air Displacement Extraction Pump
 Electric Submersible Other _____

Sampling Method: Bailer
 Disposable Bailer
 Extraction Port
 Dedicated Tubing
 Other: _____

$\frac{1.4 \text{ (Gals.)} \times 3}{\text{Specified Volumes}} = \frac{4.2 \text{ Gals.}}{\text{Calculated Volume}}$	<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 (^o F or ^o C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1300	65.8	6.7	658	21000	1.4	grey ↓
1302	68.2	6.6	652	21000	2.8	
1305	67.8	6.7	645	21000	4.2	
						1.1 mg/L Ferrrous Iron

Did well dewater? Yes No Gallons actually evacuated: 4.2

Sampling Date: 12/7/04 Sampling Time: 1316 Depth to Water: 17.05

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

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

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

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

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

WELL MONITORING DATA SHEET

Project #: <u>041207-PC</u>	Client: <u>STELLAR</u>
Sampler: <u>PC</u>	Date: <u>12/7/04</u>
Well I.D.: <u>MW-3</u>	Well Diameter: <u>3</u> 3 4 6 8 _____
Total Well Depth (TD): <u>24.29</u>	Depth to Water (DTW): <u>14.77</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>VC</u> Grade	D.O. Meter (if req'd): <u>YS</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 18.50 ^R <u>16.67</u>	

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

$\frac{1.5 \times 2.5}{1} \text{ (Gals.)} \times \frac{3}{1} = \frac{4.5}{1} \text{ Gals.}$ <p>1 Case Volume Specified Volumes Calculated Volume</p>	<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														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1324	67.0	6.8	689	>1000	1.5	
1328	68.1	6.8	678	>1000	3	
1332	67.8	6.8	688	356	4.5	
						1.9 mg/L Ferrrous Iron

Did well dewater? Yes No Gallons actually evacuated: 4.5

Sampling Date: 12/7/04 Sampling Time: 1350 Depth to Water: 16.50

Sample I.D.: MW-3 Laboratory: Kiff CalScience Other: CBF

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

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

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

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

WELL MONITORING DATA SHEET

Project #: <u>041207-PC</u>	Client: <u>STELLAR</u>
Sampler: <u>PC</u>	Date: <u>12/7/04</u>
Well I.D.: <u>MW-4</u>	Well Diameter: <u>Ø 3 4 6 8</u> _____
Total Well Depth (TD): <u>24.30</u>	Depth to Water (DTW): <u>14.90</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>IVC</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>16.78</u>	

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

Other: _____

1.5 (Gals.) X 3 = 4.5 Gals.
 1 Case Volume Specified Volumes Calculated Volume

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

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1050	67.4	7.0	517	71000	1.5	brown
1053	68.4	6.4	519	71000	3	↓
1056	68.0	6.3	519	71000	4.5	↓
						Ferrous Iron 0.2 mg/L

Did well dewater? Yes No Gallons actually evacuated: 4.5

Sampling Date: 12/07/04 Sampling Time: 1105 Depth to Water: 16.69

Sample I.D.: MW-4 Laboratory: Kiff CalScience Other: ERT

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

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

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

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

WELL MONITORING DATA SHEET

Project #: <u>241207PCS</u>	Client: <u>240 W. MacArthur Blvd., Oakland</u>
Sampler: <u>PC</u>	Date: <u>12/7/04</u>
Well I.D.: <u>MW-8</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth (TD): <u>20.09</u>	Depth to Water (DTW): <u>16.57</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PC</u> Grade	D.O. Meter (if req'd): <u>(S)</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>17.27</u>	

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

$0.6 \text{ (Gals.)} \times \underline{3} = \underline{1.8} \text{ Gals.}$ I Case Volume Specified Volumes Calculated Volume	<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														

Time	Temp (° or °C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1412	66.1	6.7	739	21000	1.6	grey ↓
1414	66.5	6.6	737	21000	1.2	
1416	66.0	6.6	740	21000	1.8	
						3.1 mg/L Ferrous Iron

Did well dewater? Yes No Gallons actually evacuated: 1.8

Sampling Date: 12/7/04 Sampling Time: 1440 Depth to Water: 17.09

Sample I.D.: MW-8 Laboratory: Kiff CalScience Other: CAT

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.3	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

WELL MONITORING DATA SHEET

Project #: <u>041207PC3</u>	Client: <u>STELLAR</u>
Sampler: <u>PC</u>	Date: <u>12/7/04</u>
Well I.D.: <u>MW-6</u>	Well Diameter: <u>3</u> 4 6 8 _____
Total Well Depth (TD): <u>20.15</u>	Depth to Water (DTW): <u>15.40</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVO)</u> Grade	D.O. Meter (if req'd): <u>(S)</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>16.35</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: _____

$\frac{0.8 \text{ (Gals.)} \times 3}{1 \text{ Case Volume}} = 2.4 \text{ Gals.}$ <p align="center">Specified Volumes Calculated Volume</p>	<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 (<u>F</u> or °C)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
1138	67.1	6.7	931	706	.8	
1140	68.7	6.6	956	71000	1.6	
1143	68.9	6.6	960	71000	2.4	
						0 mg/L Ferrrous Iron

Did well dewater? Yes No Gallons actually evacuated: 2.5

Sampling Date: 12/7/04 Sampling Time: 1200 Depth to Water: 16.28

Sample I.D.: MW-6 Laboratory: Kiff CalScience Other: (CAT)

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: TVH-Gas, TEH-Diesel, see loc

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

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.6 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET 1

Project #: <u>041207-PC3</u>	Client: <u>STELLAR</u>
Sampler: <u>PC</u>	Date: <u>12/7/04</u>
Well I.D.: <u>MW-7</u>	Well Diameter: <u>Ø 3 4 6 8</u> _____
Total Well Depth (TD): <u>20.02</u>	Depth to Water (DTW): <u>15.70</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVT</u> Grade	D.O. Meter (if req'd): <u>(81)</u> HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>16.56</u>	

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

0.7 (Gals.) X 3 = 2.1 Gals.
 I Case Volume Specified Volumes Calculated Volume

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

Time	Temp (<u>°F</u> or °C)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
1117	65.8	6.5	666	71000	.7	
1120	68.7	6.5	717	71000	1.4	
1122	68.6	6.5	726	71000	2.7	
						0.09 mg/L Ferrus Iron

Did well dewater? Yes No Gallons actually evacuated: 2.1

Sampling Date: 12/7/04 Sampling Time: 1130 Depth to Water: 16.99 ^{to top of well}

Sample I.D.: MW-7 Laboratory: Kiff CalScience Other: EST

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

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

WELL MONITORING DATA SHEET

Project #: 241207-PC3	Client: STELLAR
Sampler: PC	Date: 12/7/04
Well I.D.: MW-8	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 2003	Depth to Water (DTW): 13.64
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: MVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.92	

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

<u>1.0</u> (Gals.) X <u>3</u> = <u>3</u> Gals.	<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														
I Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (° or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1228	65.5	7.3	527	71000	1	
1230	67.9	6.9	512	21000	2	
1233	67.3	6.9	541	21000	3	

Did well dewater? Yes <input type="checkbox"/> NO <input checked="checked" type="checkbox"/>	Gallons actually evacuated: <u>3</u>	
Sampling Date: 12/7/04	Sampling Time: 1242	Depth to Water: 14.81
Sample I.D.: MW-8	Laboratory: Kiff CalScience	Other: C&D
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5)	Other: seccol
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>0.8</u> mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

0.00 mg/L Ferrous Iron



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

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

A N A L Y T I C A L R E P O R T

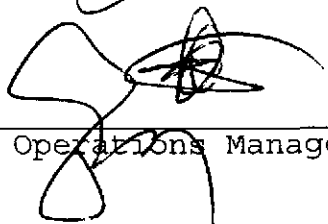
Prepared for:

Stellar Environmental Solutions
2198 6th Street
Suite 201
Berkeley, CA 94710

Date: 28-DEC-04
Lab Job Number: 176509
Project ID: 041207-PC3
Location: Oakland Auto Works

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

Reviewed by: 
Project Manager

Reviewed by: 
Operations Manager

This package may be reproduced only in its entirety.



CASE NARRATIVE

Laboratory number: 176509
Client: Stellar Environmental Solutions
Project: 041207-PC3
Location: Oakland Auto Works
Request Date: 12/08/04
Samples Received: 12/08/04

This hardcopy data package contains sample and QC results for eight water samples, requested for the above referenced project on 12/08/04. The samples were received cold and intact.

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

High surrogate recoveries were observed for trifluorotoluene (FID) in a number of samples, due to interference from coeluting hydrocarbon peaks. High surrogate recoveries were observed for bromofluorobenzene (FID) in MW-2 (lab # 176509-002) and MW-3 (lab # 176509-003), due to interference from coeluting hydrocarbon peaks. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

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

No analytical problems were encountered.

176509

Chain of Custody Record

Lab job no. _____

Date _____

Page 1 of 1

Laboratory Cuens + Tompkins

Method of Shipment LAB COURIER

Address 2323 FIFTH ST
BERKELEY, CA

Shipment No. _____

Airbill No. _____

Cooler No. _____

Project Owner STELLAR

Project Manager BRUCE RUCKER

Site Address 2198 SIXTH ST.
BERKELEY, CA

Telephone No. (510) 644-3123

Project Name DALLAS AUTO WORKS

Fax No. (510) 644-3859

Project Number 041207-PCS

Samplers: (Signature) DATA

Filtered
No. of Containers
11W-6AS (BOISIN)
11H-D (BOISIN)
11EX-11B (FDB, EDC + 5 D+V/S (02608))

Analysis Required

Remarks

1
2
3
4
5
6
7
8

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Analysis Required	Remarks
						Cooler	Chemical		
MW-1		12/10/04	1430	H ₂ O	3 VOAS 2 liter Ambers		HCl	X X X	
MW-2			1316	"	" "		HCl	X X X	
MW-3			1350	"	" "		HCl	X X X	
MW-4			1105		3 VOAS		HCl	X	
MW-5			1440		3 VOAS 2 liter Ambers		HCl	X X X	
MW-6			1200		" "		HCl	X X X	
MW-7			1130		3 VOAS		HCl	X	
MW-8			1242		3 VOAS 2 liter Ambers		HCl	X X X	

Relinquished by: Signature <u>DATA</u> Printed <u>R. Cornish</u> Company <u>Blaine Tech</u>	Date <u>12/10/04</u> Time <u>1426</u>	Received by: Signature <u>Ricky Grams</u> Printed <u>Ricky Grams</u> Company <u>C&T</u>	Date <u>12/10/04</u> Time <u>1426</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____ Time _____	Received by: Signature _____ Printed _____ Company _____	Date _____ Time _____
Turnaround Time: _____ Comments: _____				Relinquished by: Signature _____ Printed _____ Company _____	Date _____ Time _____	Received by: Signature _____ Printed _____ Company _____	Date _____ Time _____

2000-00-01

rec'd intact cold RC

Total Volatile Hydrocarbons

Lab #: 176509	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 041207-PC3	Analysis: EPA 8015B
Matrix: Water	Sampled: 12/07/04
Units: ug/L	Received: 12/08/04
Batch#: 97305	

Field ID: MW-1	Diln Fac: 20.00
Type: SAMPLE	Analyzed: 12/09/04
Lab ID: 176509-001	

Analyte	Result	RL
Gasoline C7-C12	11,000 Y	1,000

Surrogate	%REC	Limits
Trifluorotoluene (FID)	158 *	70-141
Bromofluorobenzene (FID)	132	80-143

Field ID: MW-2	Diln Fac: 1.000
Type: SAMPLE	Analyzed: 12/09/04
Lab ID: 176509-002	

Analyte	Result	RL
Gasoline C7-C12	1,400 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	196 *	70-141
Bromofluorobenzene (FID)	158 *	80-143

Field ID: MW-3	Diln Fac: 1.000
Type: SAMPLE	Analyzed: 12/09/04
Lab ID: 176509-003	

Analyte	Result	RL
Gasoline C7-C12	5,300 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	156 *	70-141
Bromofluorobenzene (FID)	177 *	80-143

*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

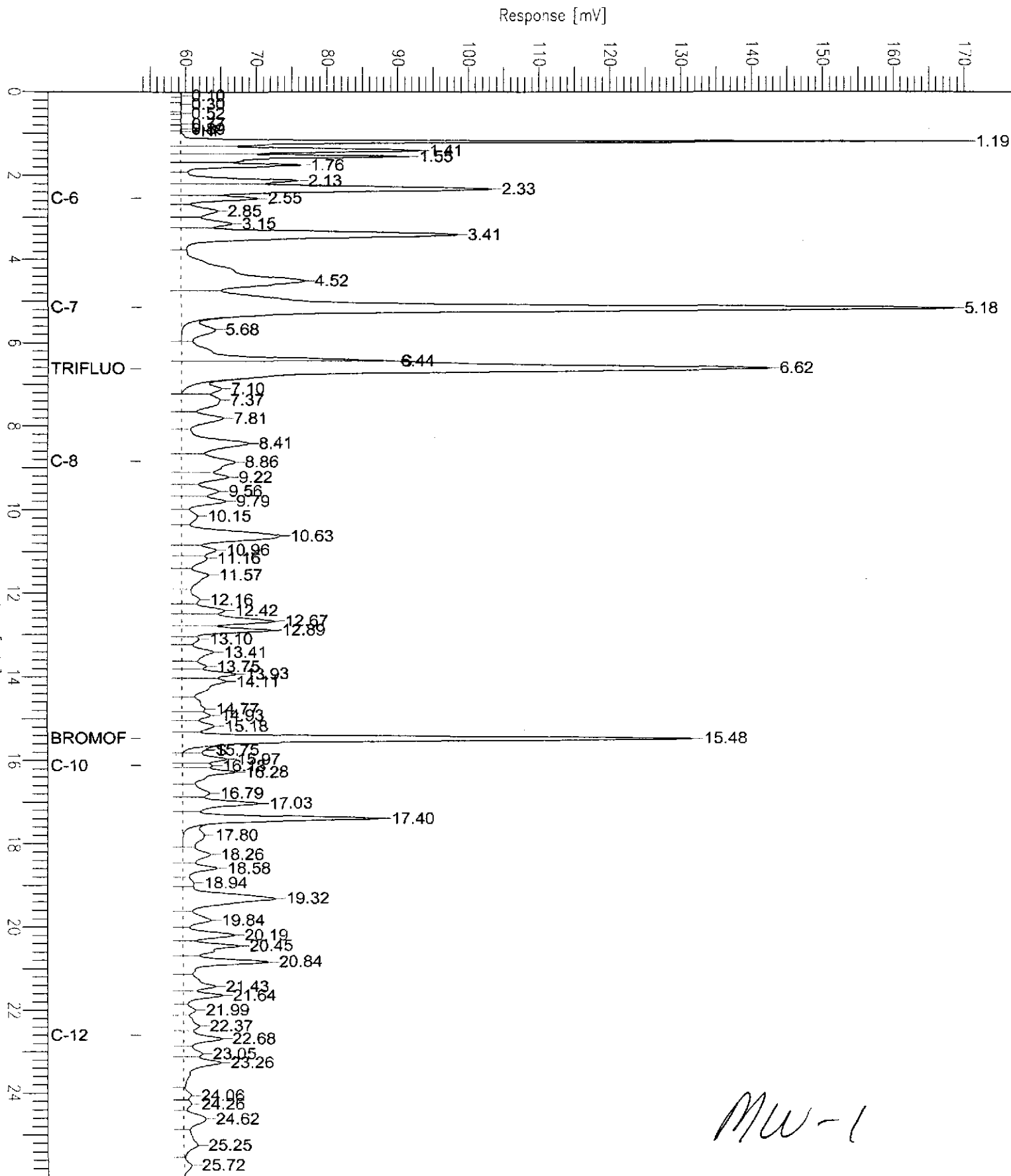
ND= Not Detected

RL= Reporting Limit

GC04 TVH 'J' Data File FID

Sample Name : 176509-001,97305,tvh
 FileName : G:\GC04\DATA\344J018.raw
 Method : TVHBTXE
 Start Time : 0.00 min End Time : 26.00 min
 Scale Factor : 1.0 Plot Offset : 54 mV

Sample #: a1.0 Page 1 of 1
 Date : 12/10/04 10:57 AM
 Time of Injection: 12/9/04 09:28 PM
 Low Point : 53.73 mV High Point : 170.24 mV
 Plot Scale: 116.5 mV

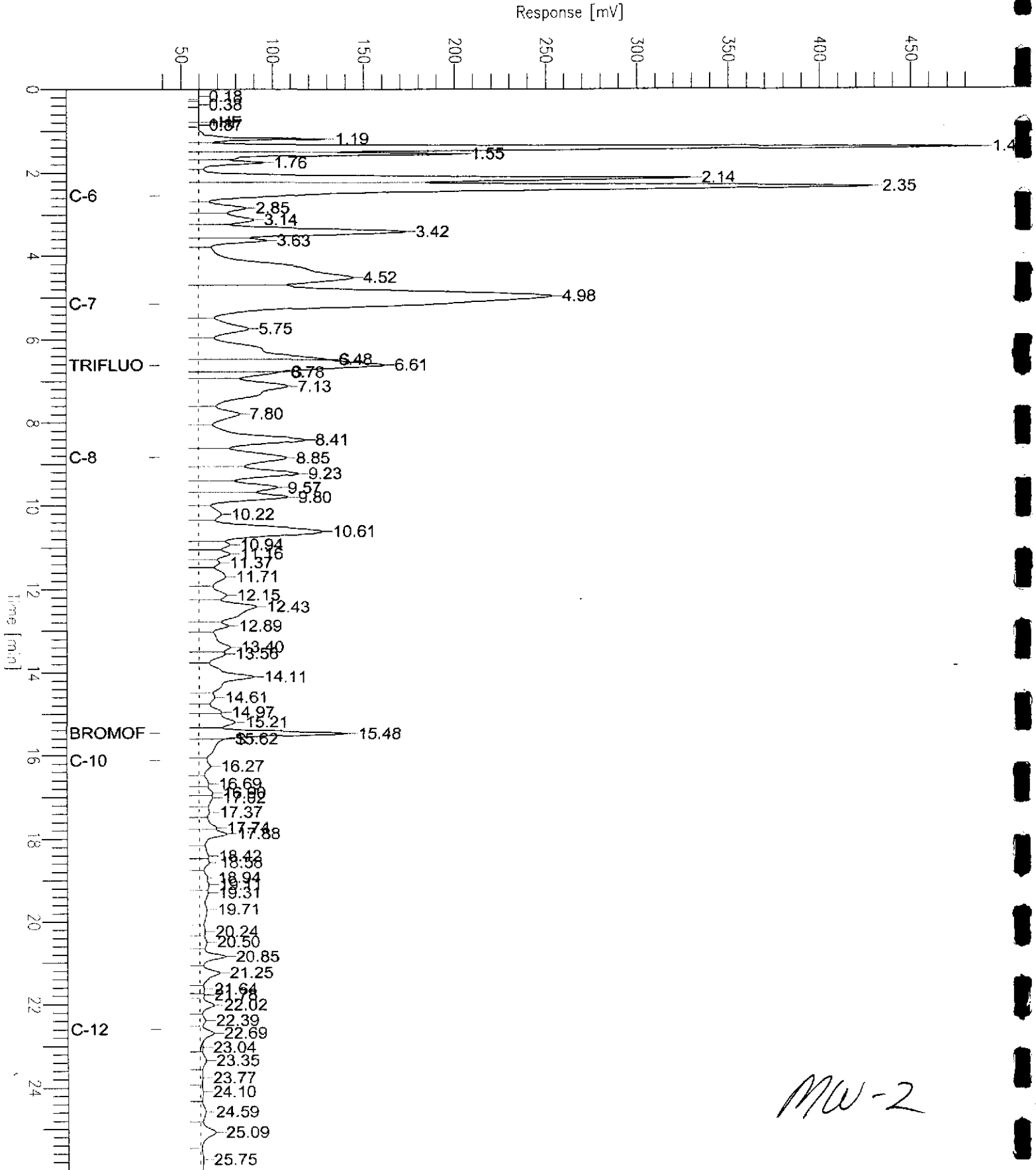


MW-1

GC04 TVH 'J' Data File FID

Sample Name : 176509-002,97305,tvh
FileName : G:\GC04\DATA\344J021.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor : 1.0 Plot Offset : 38 mV

Sample #: a1.0 Page 1 of 1
Date : 12/10/04 10:57 AM
Time of Injection: 12/9/04 11:15 PM
Low Point : 38.06 mV High Point : 489.13 mV
Plot Scale: 451.1 mV



GC04 TVH 'J' Data File FID

Sample Name : 176509-003,97305,tvh

Sample #: a1.0

Page 1 of 1

File Name : G:\GC04\DATA\344J022.raw

Date : 12/10/04 10:57 AM

Method : TVHBTXE

Time of Injection: 12/9/04 11:51 PM

Start Time : 0.00 min

End Time : 26.00 min

Low Point : 18.44 mV

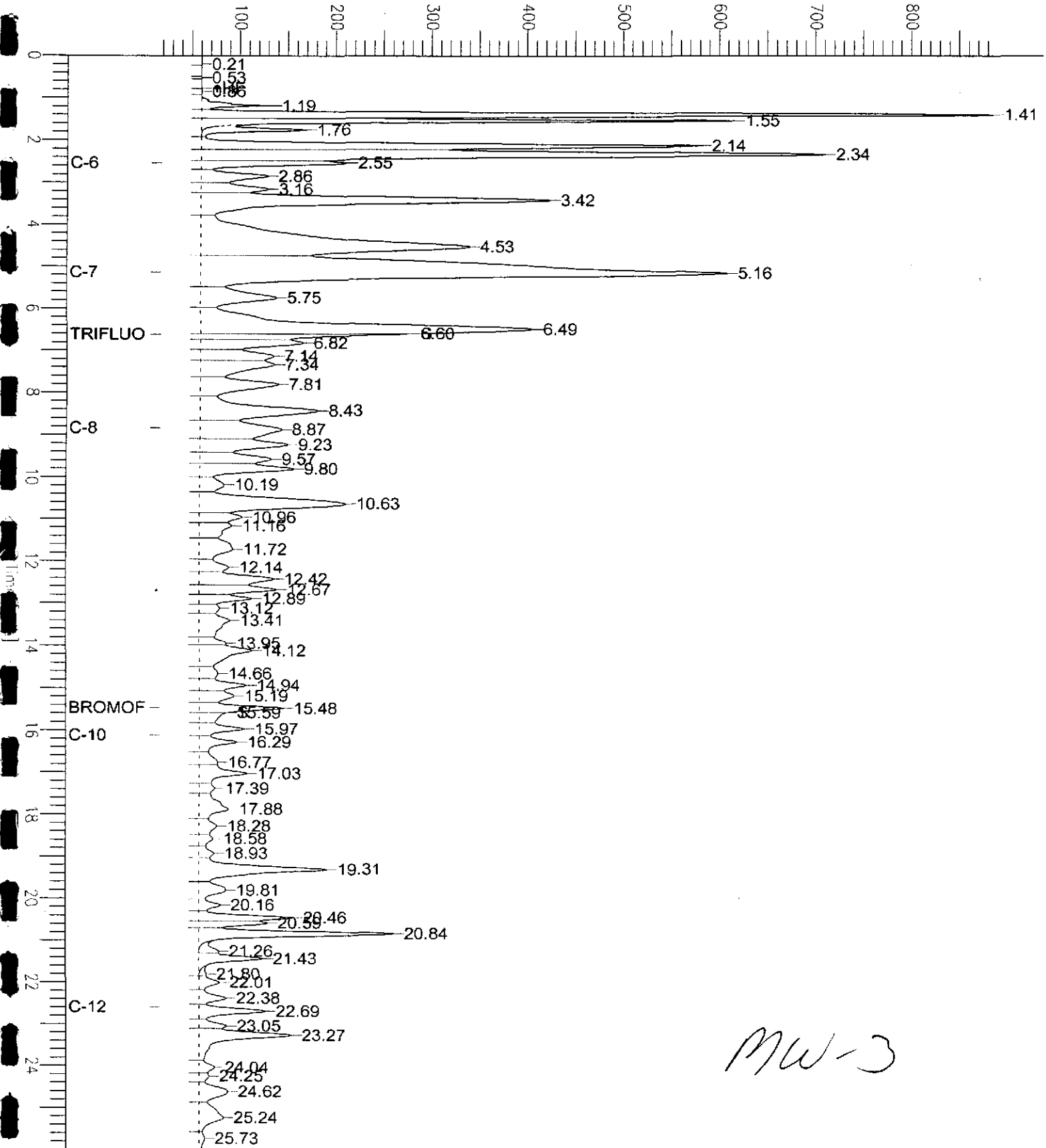
High Point : 886.00 mV

Scale Factor : 1.0

Plot Offset: 18 mV

Plot Scale: 867.6 mV

Response [mV]



MW-3

Total Volatile Hydrocarbons

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/07/04
Units:	ug/L	Received:	12/08/04
Batch#:	97305		

Field ID:	MW-4	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/09/04
Lab ID:	176509-004		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	70-141
Bromofluorobenzene (FID)	125	80-143

Field ID:	MW-5	Diln Fac:	10.00
Type:	SAMPLE	Analyzed:	12/10/04
Lab ID:	176509-005		

Analyte	Result	RL
Gasoline C7-C12	16,000	500

Surrogate	%REC	Limits
Trifluorotoluene (FID)	147 *	70-141
Bromofluorobenzene (FID)	141	80-143

Field ID:	MW-6	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/09/04
Lab ID:	176509-006		

Analyte	Result	RL
Gasoline C7-C12	280 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	119	70-141
Bromofluorobenzene (FID)	137	80-143

*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit

GC04 TVH 'J' Data File FID

Sample Name : 176509-005,97305

Sample #: a1.0

Page 1 of 1

File Name : G:\GC04\DATA\344J033.raw

Date : 12/10/04 10:22 AM

Method : TVHBTXE

Time of Injection: 12/10/04 09:50 AM

Start Time : 0.00 min

End Time : 26.00 min

Low Point : 49.97 mV

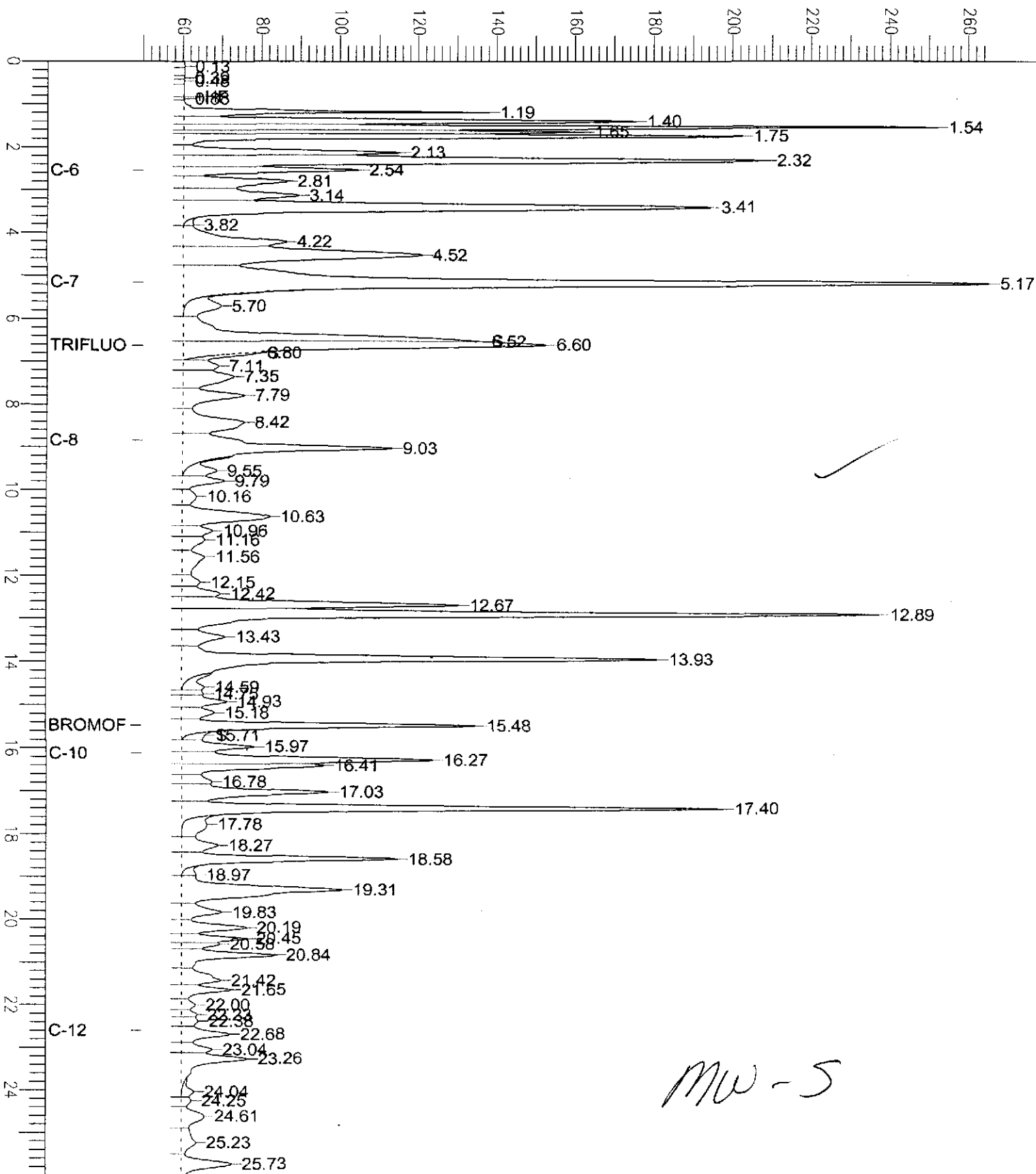
High Point : 265.51 mV

Scale Factor: 1.0

Plot Offset: 50 mV

Plot Scale: 215.5 mV

Response [mV]



MW-5

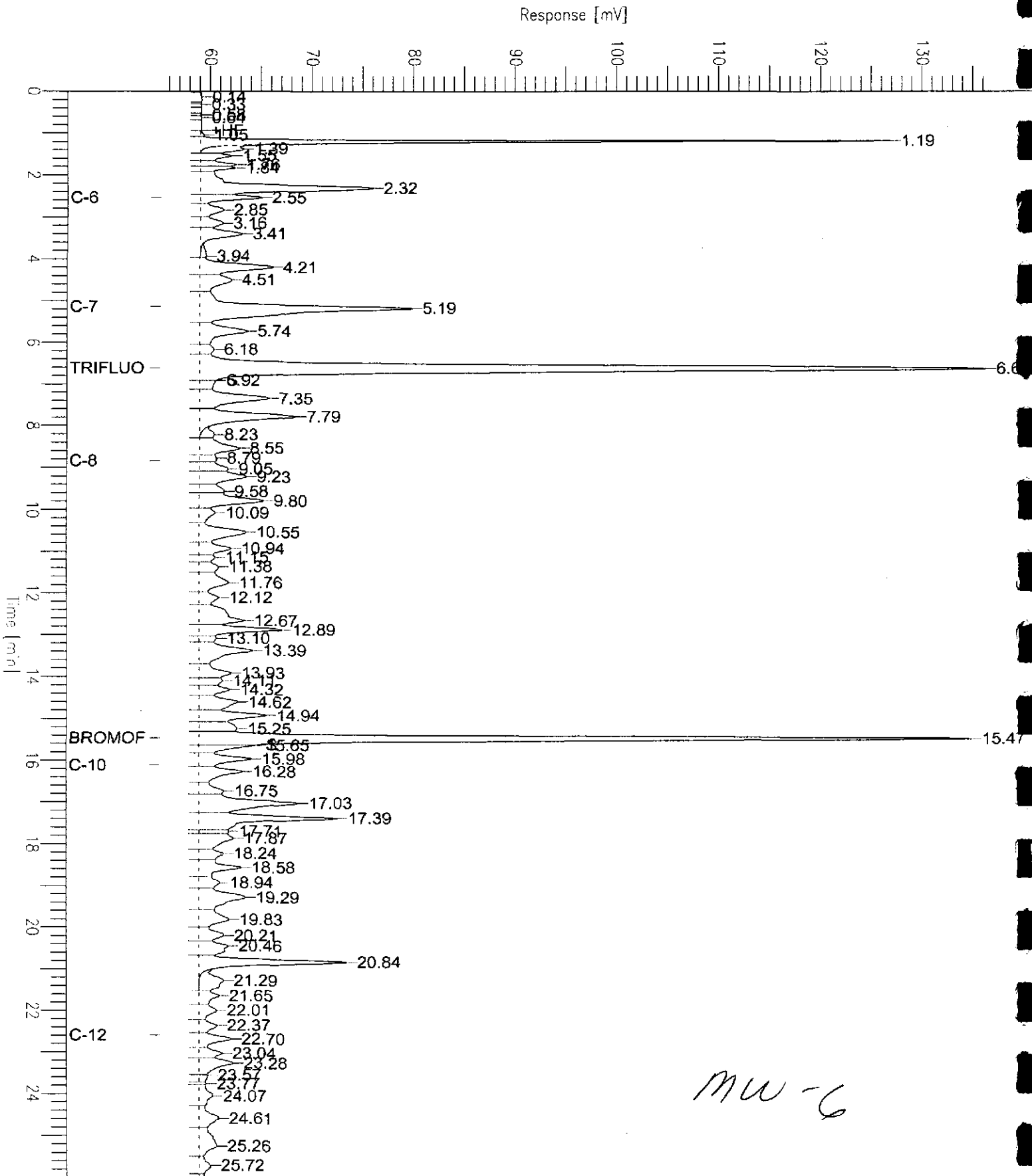
GC04 TVH 'J' Data File FID

Sample Name : 176509-006,97305,tvh
FileName : G:\GC04\DATA\344J016.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

End Time : 26.00 min
Plot Offset : 55 mV

Sample #: a1.0
Date : 12/10/04 10:56 AM
Time of Injection: 12/9/04 08:17 PM
Low Point : 55.16 mV
Plot Scale: 81.3 mV
High Point : 136.42 mV

Page 1 of 1



Total Volatile Hydrocarbons

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/07/04
Units:	ug/L	Received:	12/08/04
Batch#:	97305		

Field ID:	MW-7	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/09/04
Lab ID:	176509-007		

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	70-141
Bromofluorobenzene (FID)	126	80-143

Field ID:	MW-8	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/09/04
Lab ID:	176509-008		

Analyte	Result	RL
Gasoline C7-C12	270	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	140	70-141
Bromofluorobenzene (FID)	135	80-143

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC275595	Analyzed:	12/09/04

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	70-141
Bromofluorobenzene (FID)	118	80-143

*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

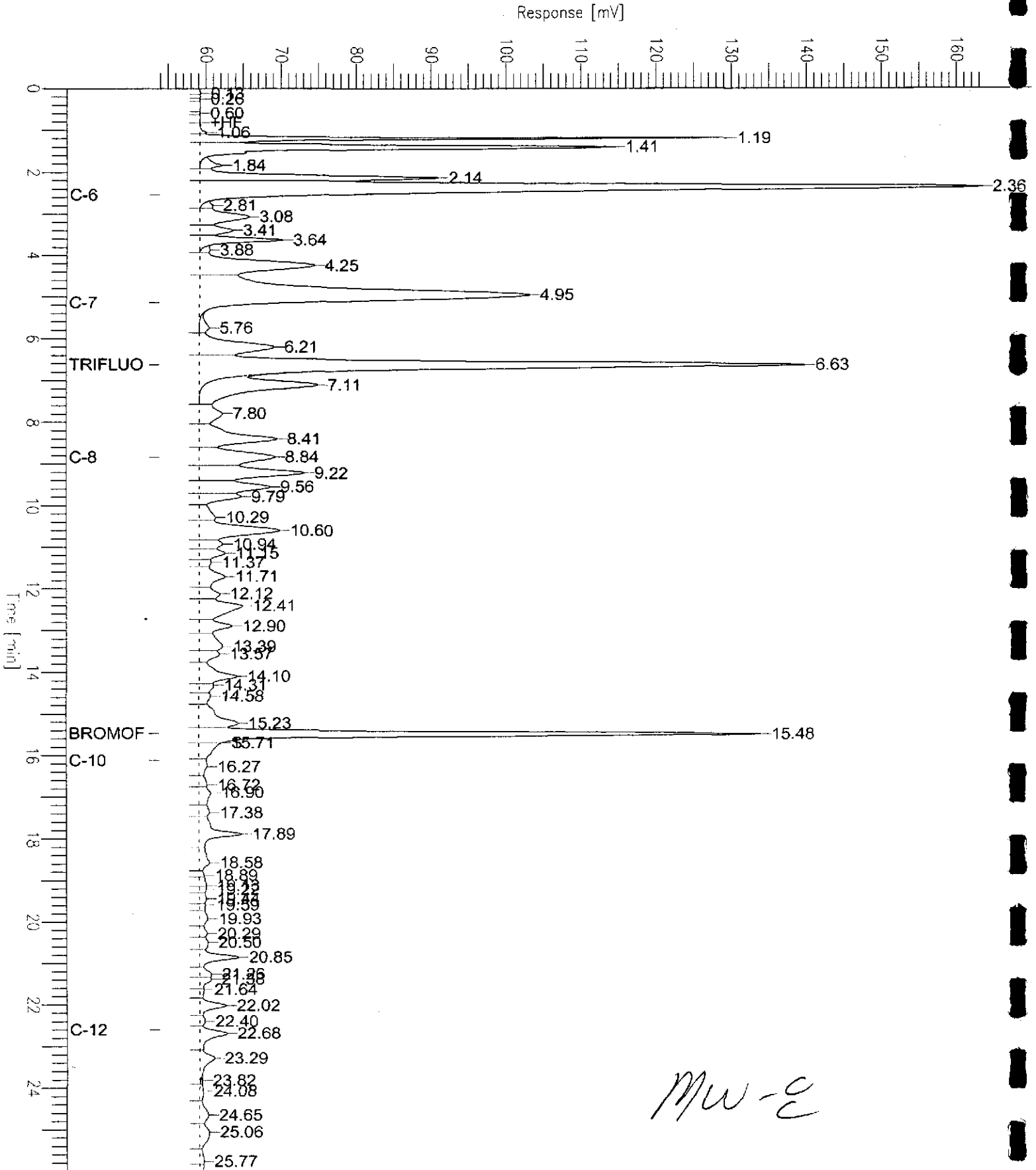
RL= Reporting Limit

Page 3 of 3

GC04 TVH 'J' Data File FID

Sample Name : 176509-008,97305,tvh
FileName : G:\GC04\DATA\344J017.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 54 mV

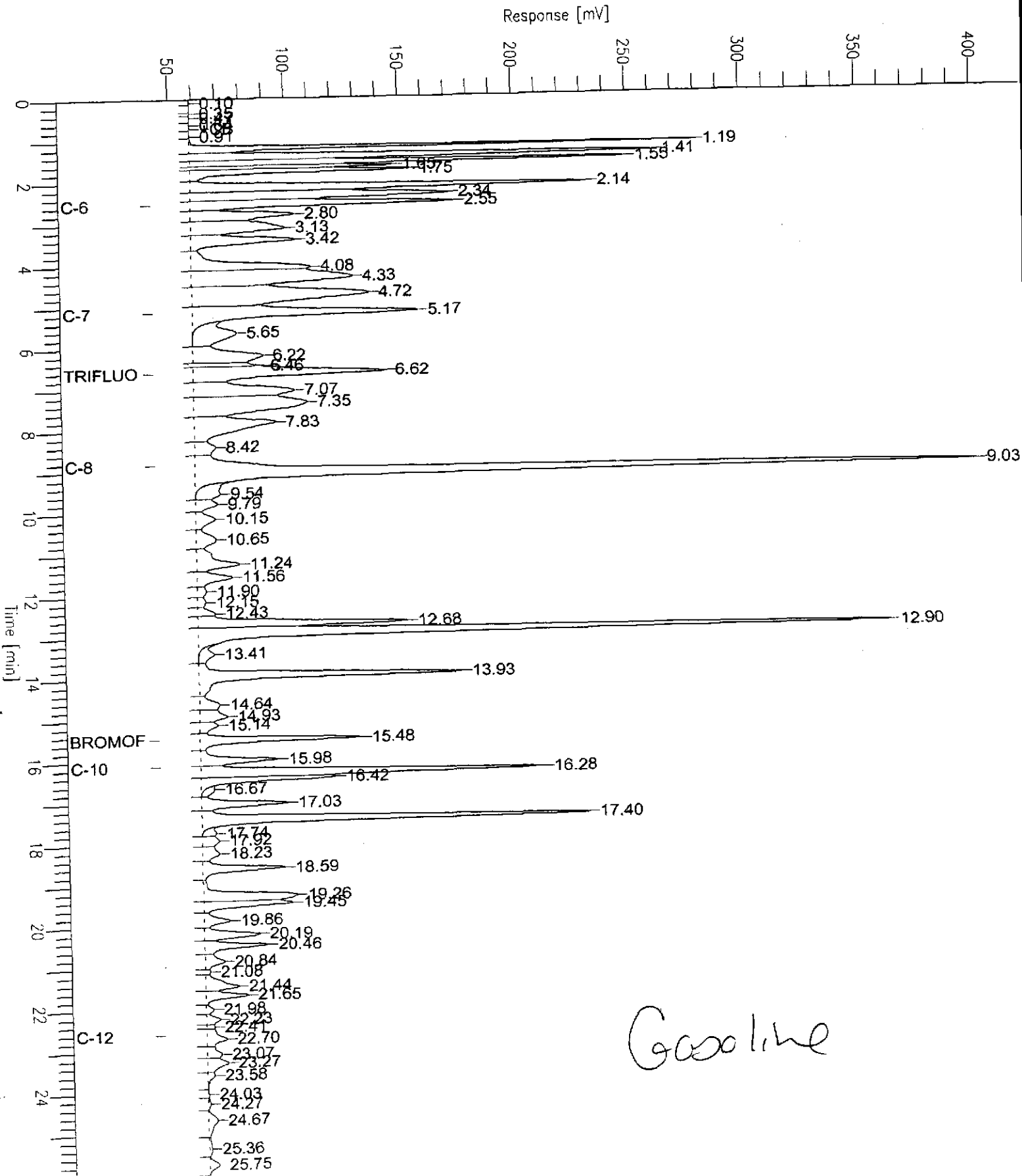
Sample #: a1.0 Page 1 of 1
Date : 12/10/04 10:57 AM
Time of Injection: 12/9/04 08:53 PM
Low Point : 53.90 mV High Point : 163.48 mV
Plot Scale: 109.6 mV



GC04 TVH 'J' Data File FID

Sample Name : ccv/lcs.qc275596,97305,04ws2235,5/5000
FileName : G:\GC04\DATA\344J002.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor : 1.0

Sample # :
Date : 12/10/04 10:56 AM
Time of Injection: 12/9/04 11:56 AM
Low Point : 42.06 mV
Plot Scale: 358.5 mV



Gasoline

Total Extractable Hydrocarbons

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	041207-PC3	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/07/04
Units:	ug/L	Received:	12/08/04
Batch#:	97387	Prepared:	12/12/04

Field ID:	MW-1	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/14/04
Lab ID:	176509-001		

Analyte	Result	RL
Diesel C10-C24	3,300 L Y	50

Surrogate	%REC	Limits
Hexacosane	87	53-143

Field ID:	MW-2	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/14/04
Lab ID:	176509-002		

Analyte	Result	RL
Diesel C10-C24	540 L Y	50

Surrogate	%REC	Limits
Hexacosane	109	53-143

Field ID:	MW-3	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/14/04
Lab ID:	176509-003		

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

Surrogate	%REC	Limits
Hexacosane	109	53-143

Field ID:	MW-5	Diln Fac:	5.000
Type:	SAMPLE	Analyzed:	12/15/04
Lab ID:	176509-005		

Analyte	Result	RL
Diesel C10-C24	3,300 L Y	250

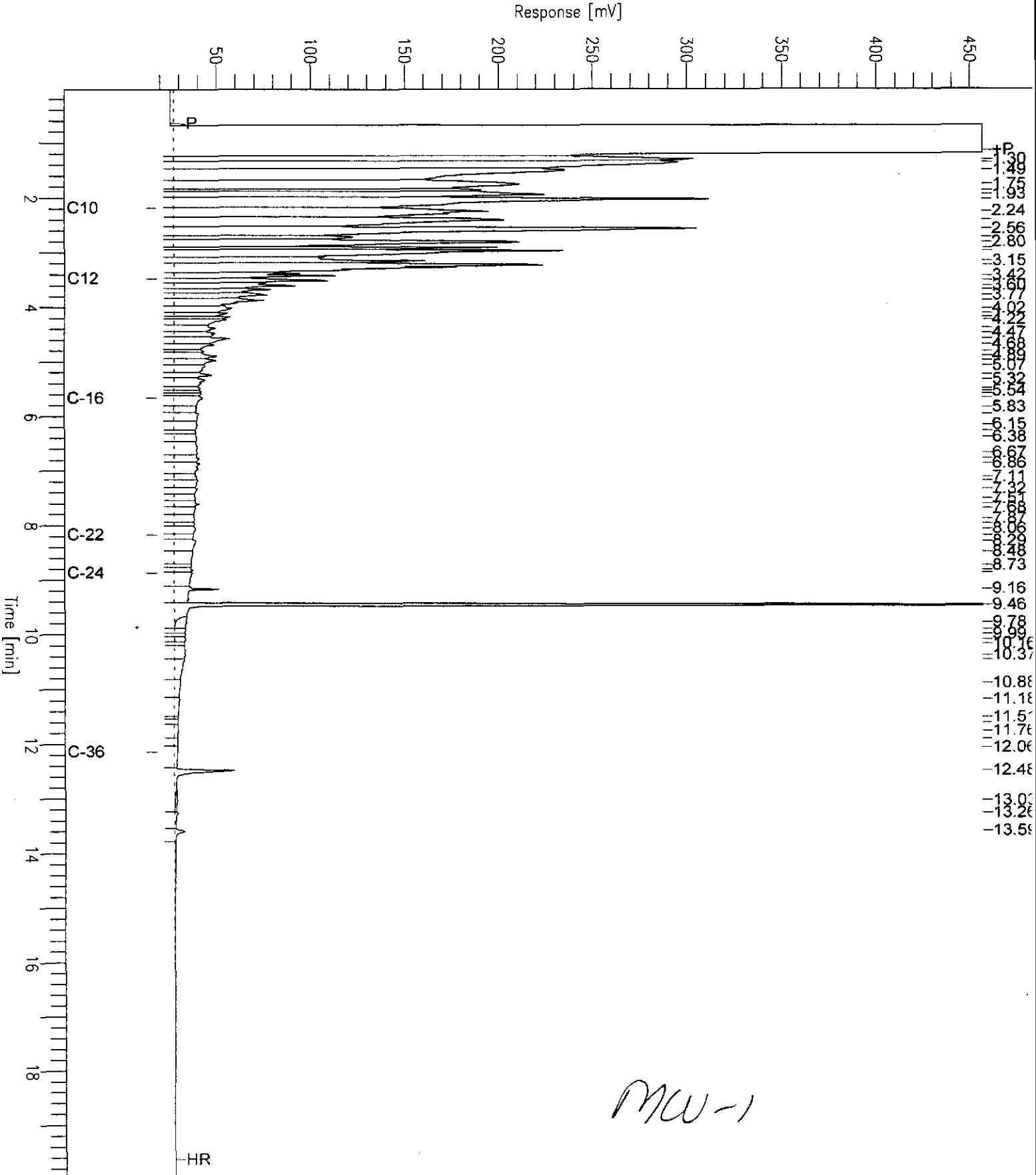
Surrogate	%REC	Limits
Hexacosane	115	53-143

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 1 of 2

Chromatogram

Sample Name : 176509-001,97387
FileName : G:\GC15\CHB\349B019.RAW
Method : BTEH335S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

Sample #: 97387
Date : 12/15/04 07:57 AM
Time of Injection: 12/14/04 08:00 PM
Low Point : 18.25 mV
Plot Scale: 438.6 mV



Chromatogram

Sample Name : 176509-002,97387

FileName : G:\GC15\CHB\349B020.RAW

Method : BTEH335S.MTH

Start Time : 0.01 min

Scale Factor: 0.0

End Time : 19.99 min

Plot Offset: 11 mV

Sample #: 97387

Date : 12/15/04 07:58 AM

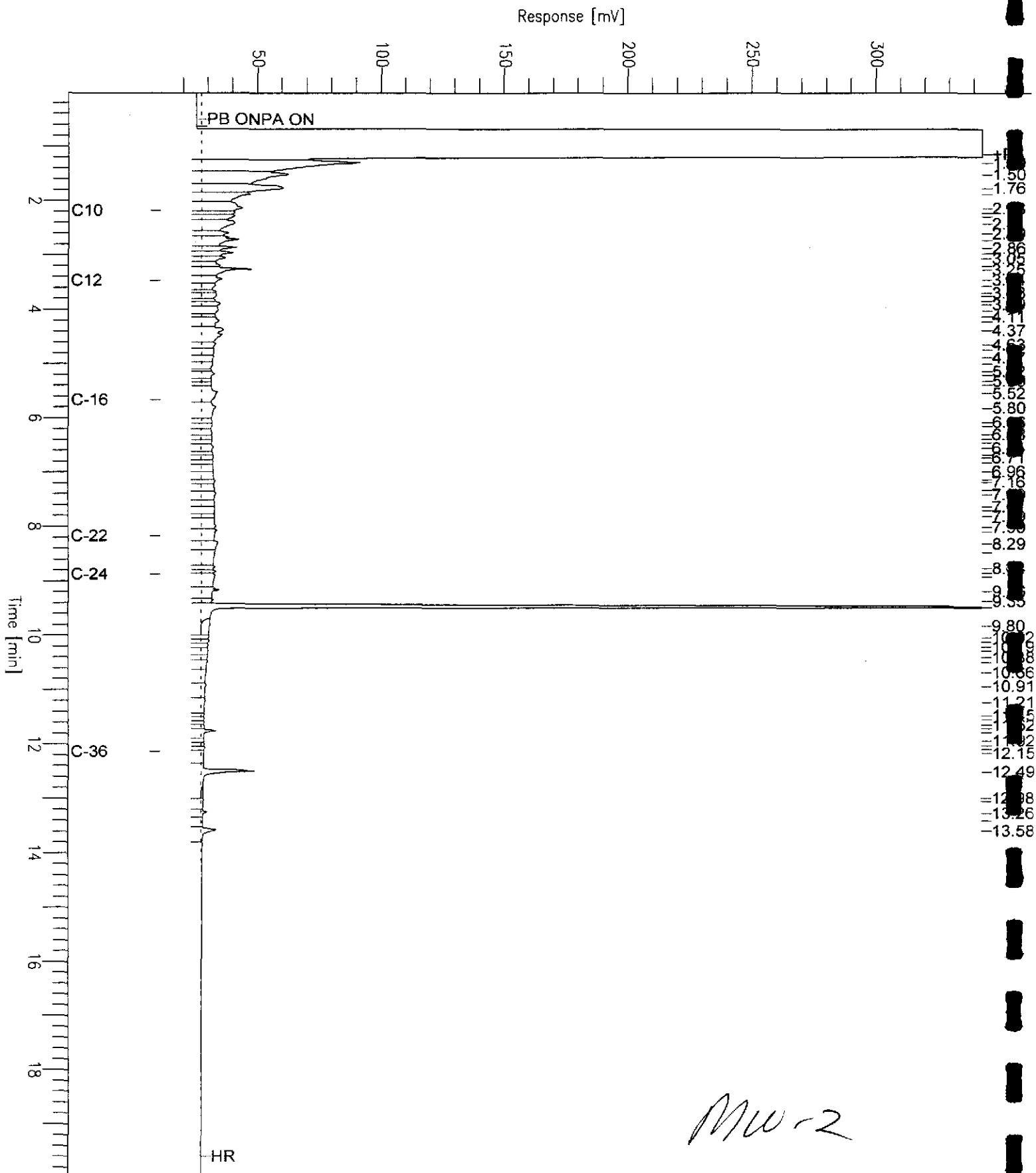
Time of Injection: 12/14/04 08:28 PM

Low Point : 10.62 mV

Plot Scale: 332.7 mV

Page 1 of 1

High Point : 343.35 mV



MW-2

Chromatogram

Sample Name : 176509-003,97387

Sample #: 97387

Page 1 of 1

FileName : G:\GC15\CHB\349B021.RAW

Date : 12/15/04 07:58 AM

Method : BTEH335S.MTH

Time of Injection: 12/14/04 08:58 PM

Start Time : 0.01 min End Time : 19.99 min

Low Point : 10.65 mV

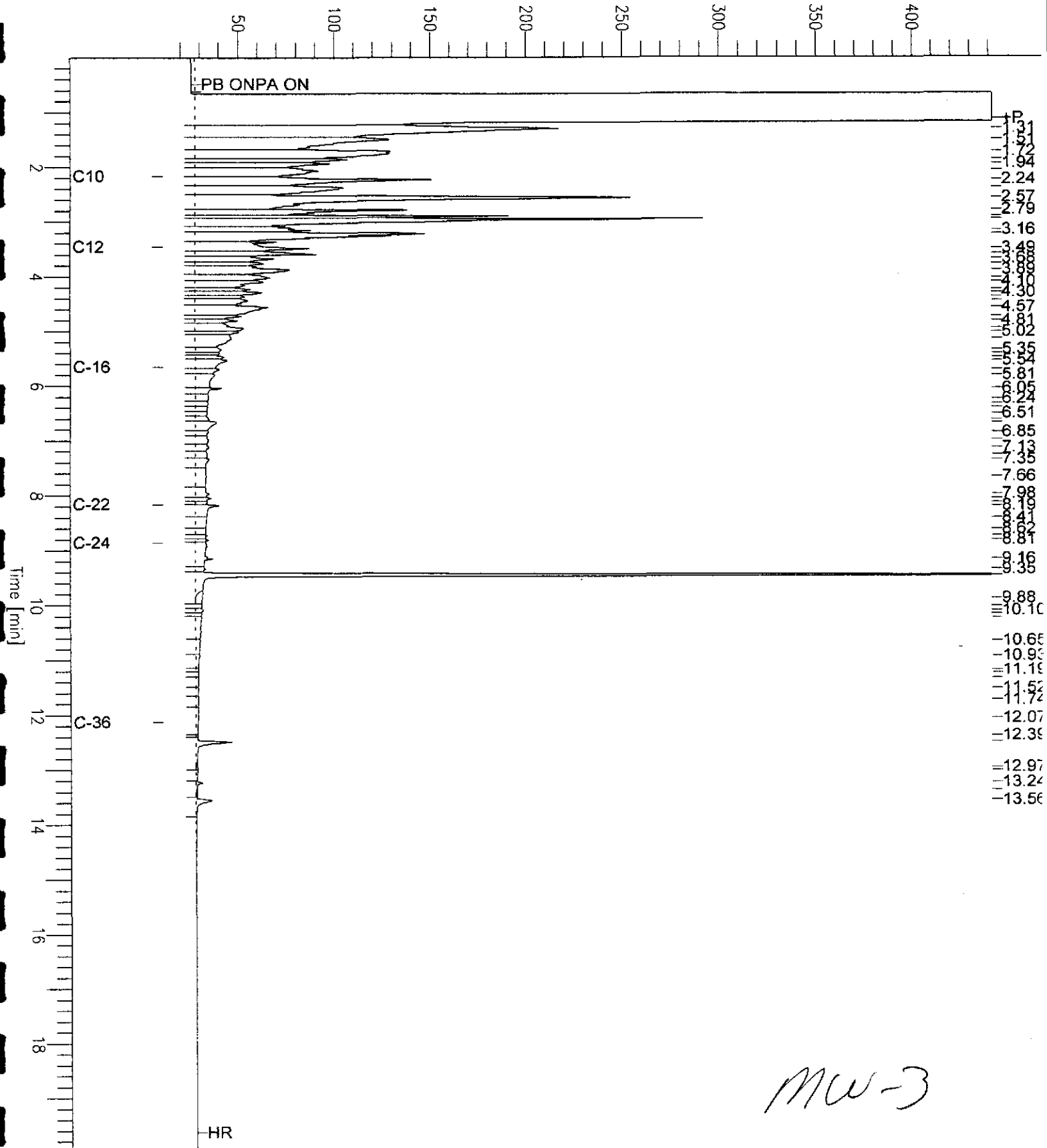
High Point : 441.66 mV

Scale Factor: 0.0

Plot Offset: 11 mV

Plot Scale: 431.0 mV

Response [mV]



MW-3

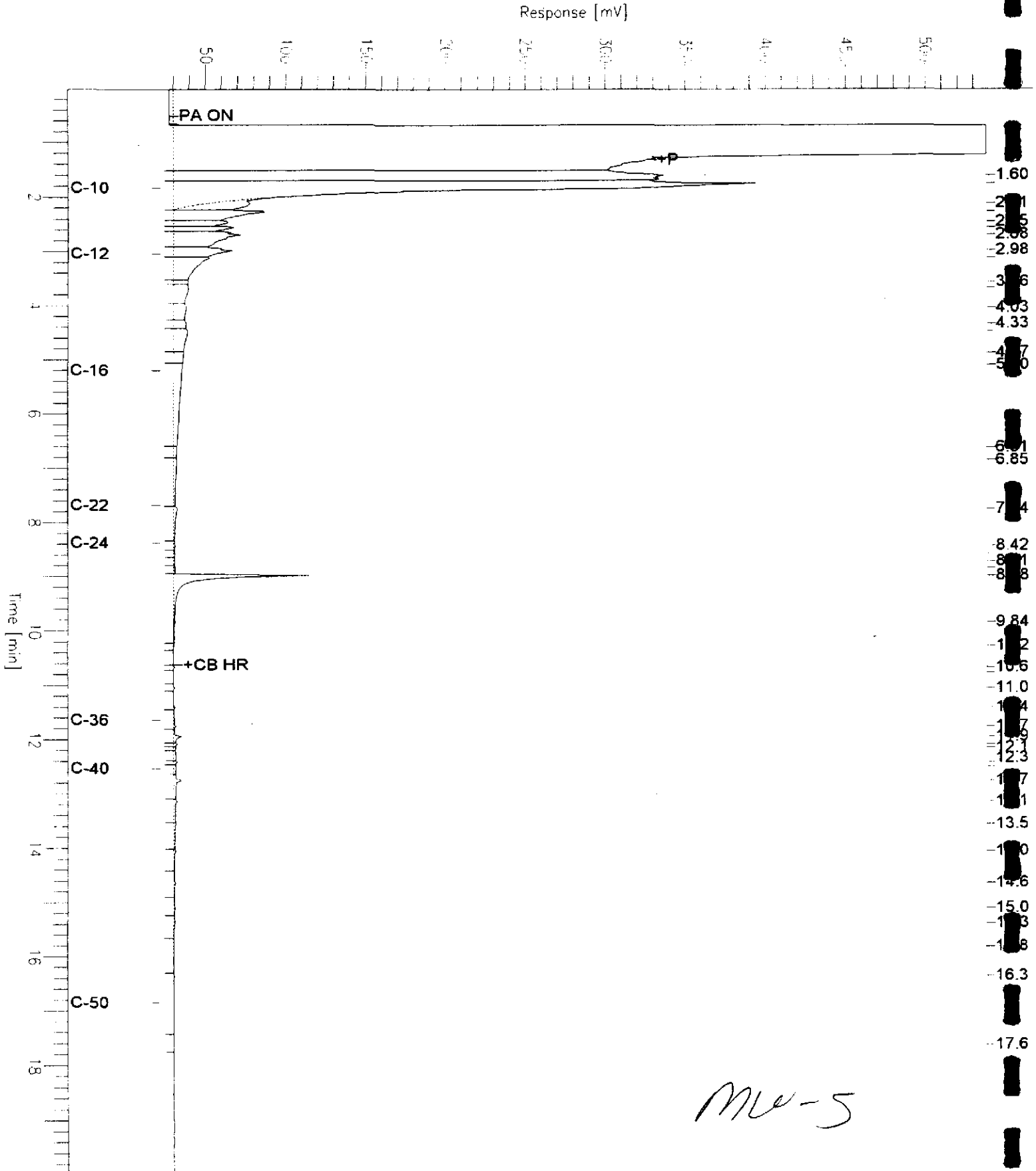
Chromatogram

Sample Name : 176509-005,97387
FileName : G:\GC17\CHA\350A006.RAW
Method : ATEH349.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.99 min
Plot Offset: 22 mV

Sample #: 97387
Date : 12/15/04 02:06 PM
Time of Injection: 12/15/04 01:22 PM
Low Point : 22.42 mV
Plot Scale: 516.2 mV

Page 1 of 1





Total Extractable Hydrocarbons

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	041207-PC3	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	12/07/04
Units:	ug/L	Received:	12/08/04
Batch#:	97387	Prepared:	12/12/04

Field ID:	MW-6	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/15/04
Lab ID:	176509-006		

Analyte	Result	RL
Diesel C10-C24	1,100 H L Y	50

Surrogate	%REC	Limits
Hexacosane	104	53-143

Field ID:	MW-8	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	12/15/04
Lab ID:	176509-008		

Analyte	Result	RL
Diesel C10-C24	84 H L Y	50

Surrogate	%REC	Limits
Hexacosane	95	53-143

Type:	BLANK	Analyzed:	12/14/04
Lab ID:	QC275915	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	92	53-143

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

Chromatogram

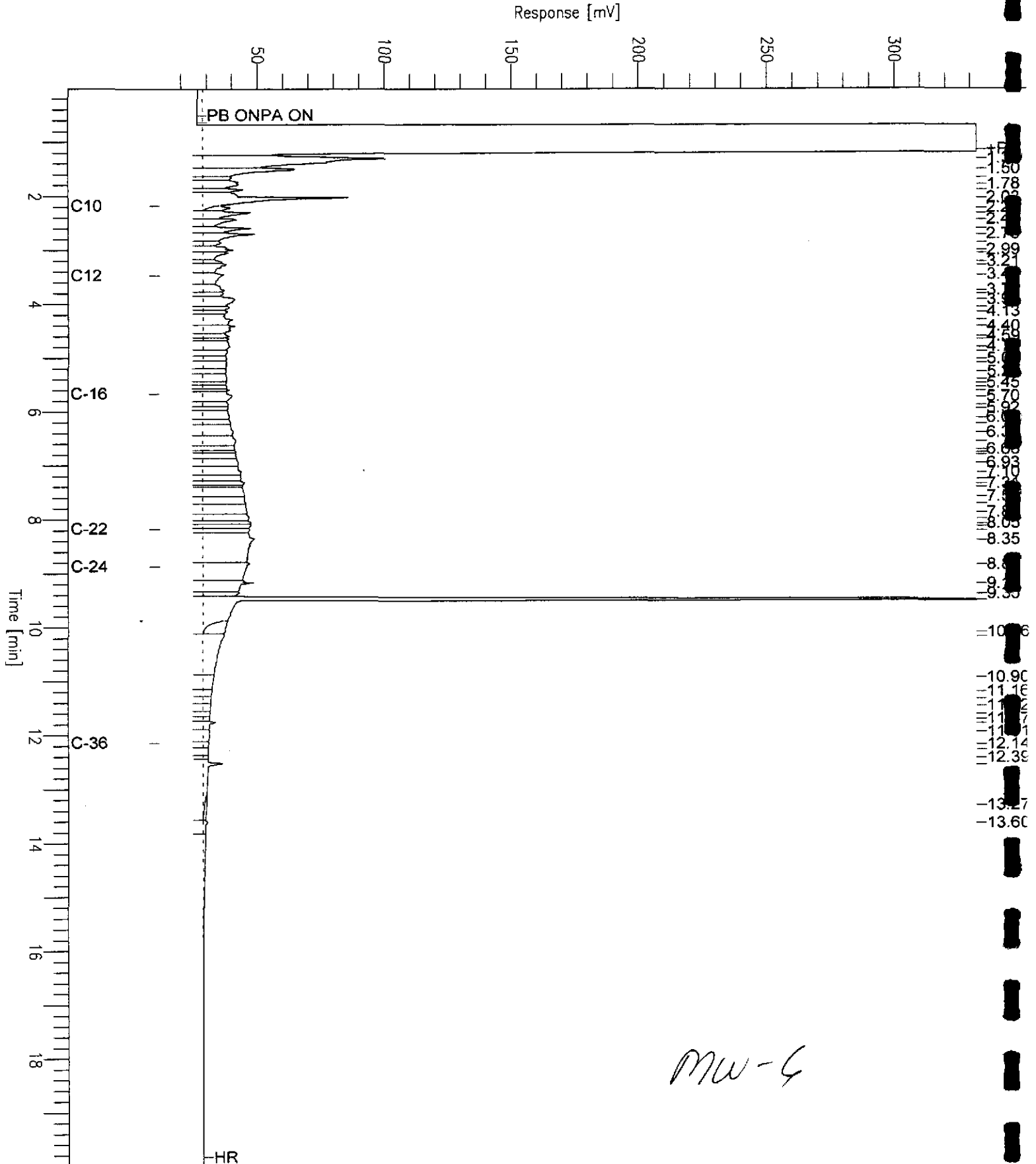
Sample Name : 176509-006,97387
FileName : G:\GC15\CHB\349B023.RAW
Method : BTEH333S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.99 min
Plot Offset: 12 mV

Sample #: 97387
Date : 12/15/04 08:56 AM
Time of Injection: 12/15/04 08:08 AM
Low Point : 11.70 mV
Plot Scale: 321.1 mV

Page 1 of 1

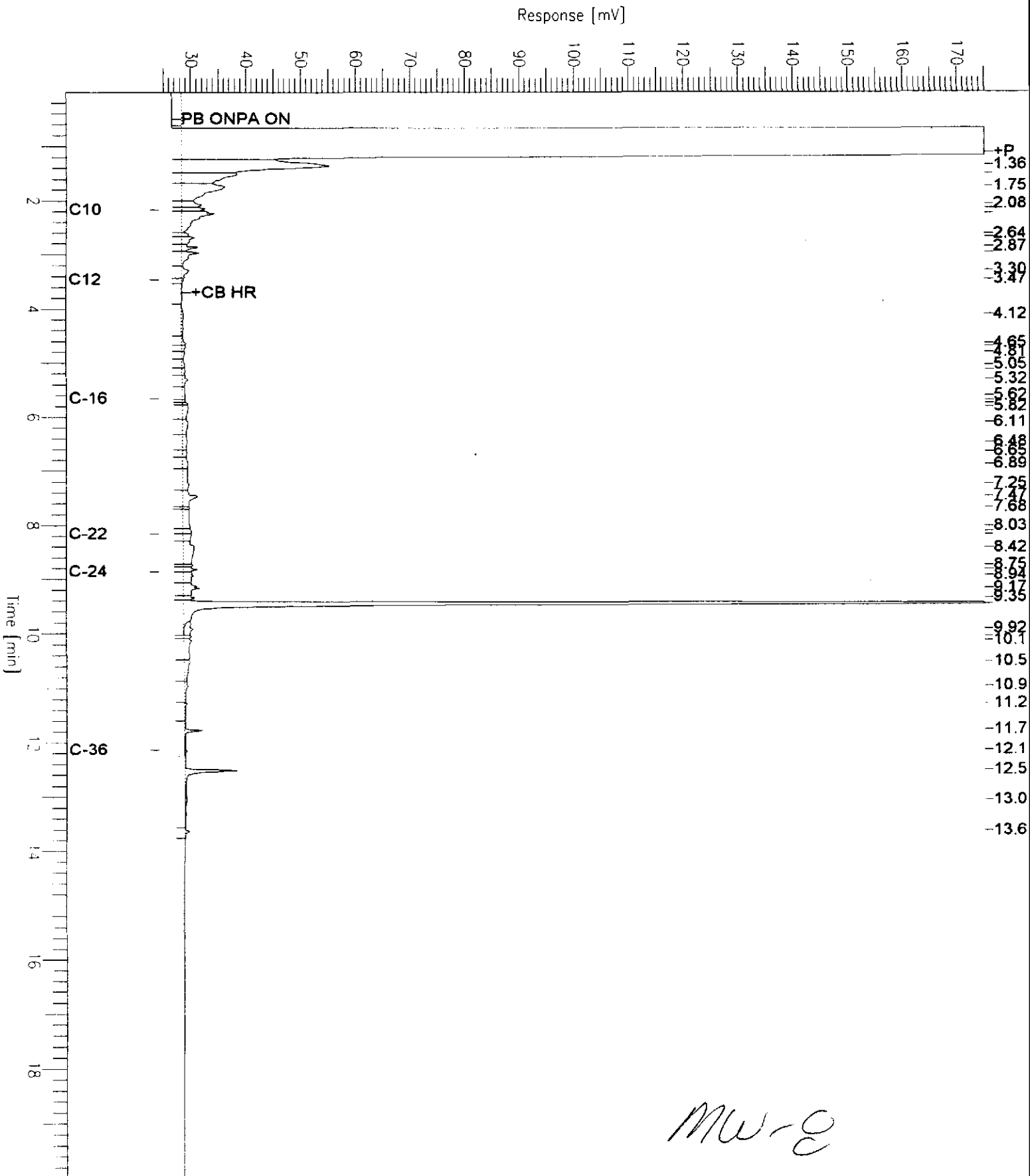
High Point : 332.81 mV



Chromatogram

Sample Name : 176509-008,97387
FileName : G:\GC15\CHBA\349B024.RAW
Method : BTEH335S.MTH
Start Time : 0.01 min End Time : 19.99 min
Scale Factor: 0.0 Plot Offset: 24 mV

Sample #: 97387 Page 1 of 1
Date : 12/15/04 09:26 AM
Time of Injection: 12/15/04 08:37 AM
Low Point : 24.21 mV High Point : 175.06 mV
Plot Scale: 150.8 mV



Chromatogram

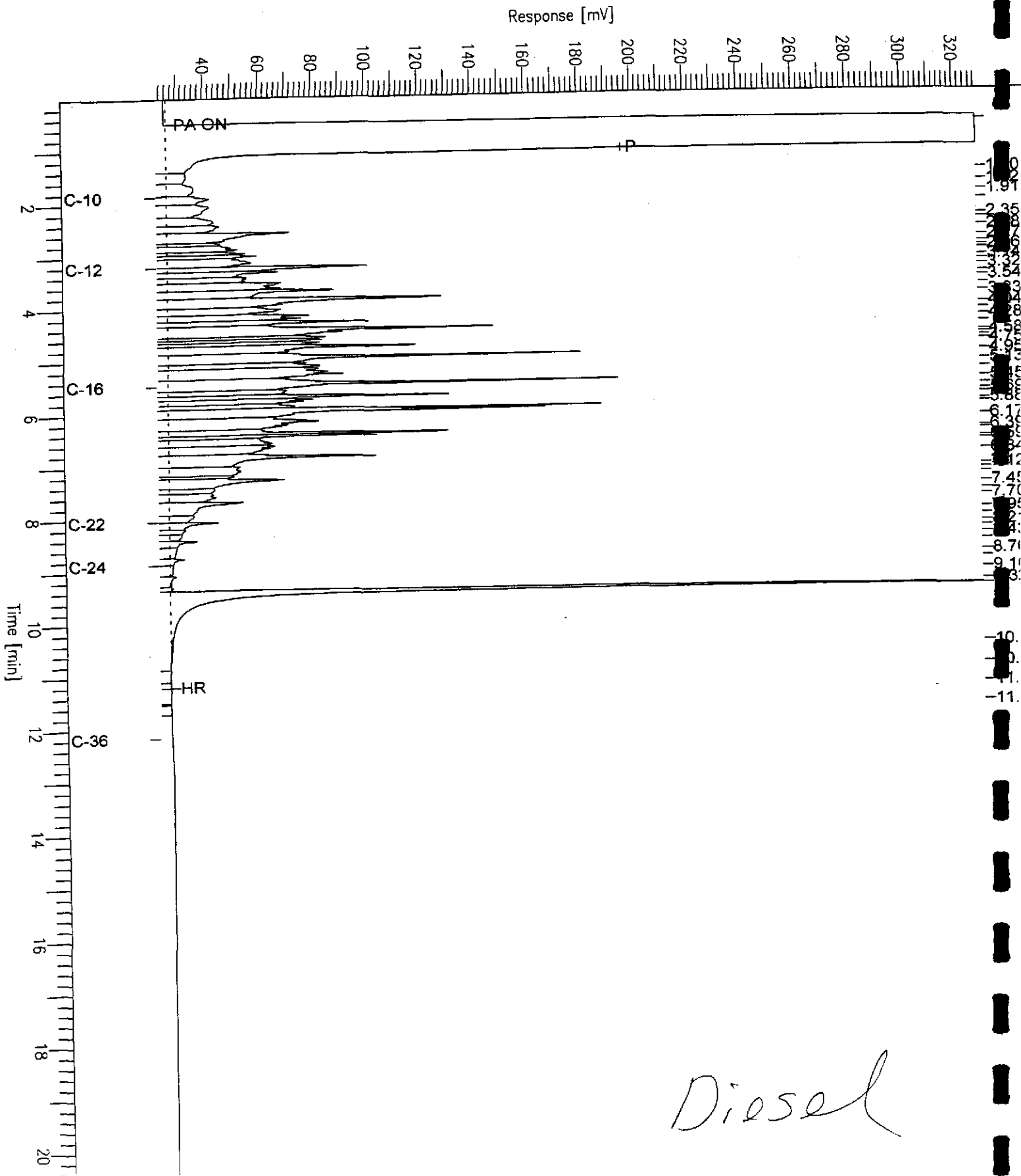
Sample Name : ccv,04ws2215,ds1
FileName : G:\GC11\CHA\348A003.RAW
Method : ATEH341S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 20.45 min
Plot Offset: 22 mV

Sample #: 500mg/L
Date : 12/13/04 02:21 PM
Time of Injection: 12/13/04 01:54 PM
Low Point : 22.32 mV
Plot Scale: 306.2 mV

Page 1 of 1

High Point : 328.57 mV





Batch QC Report

Total Extractable Hydrocarbons

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	041207-PC3	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	97387
Units:	ug/L	Prepared:	12/12/04
Diln Fac:	1.000	Analyzed:	12/14/04

Type: BS Cleanup Method: EPA 3630C
 Lab ID: QC275916

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,869	75	51-131
Surrogate	%REC	Limits		
Hexacosane	91	53-143		

Type: BSD Cleanup Method: EPA 3630C
 Lab ID: QC275917

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,430	57	51-131	27	42
Surrogate	%REC	Limits				
Hexacosane	66	53-143				

RPD= Relative Percent Difference

Purgeable Aromatics by GC/MS

Lab #: 176509	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 041207-PC3	Analysis: EPA 8260B
Field ID: MW-1	Units: ug/L
Lab ID: 176509-001	Sampled: 12/07/04
Matrix: Water	Received: 12/08/04

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
MTBE	7.9	1.3	2.500	97404	12/13/04
Benzene	830	6.3	12.50	97438	12/14/04
Toluene	21	1.3	2.500	97404	12/13/04
Chlorobenzene	ND	1.3	2.500	97404	12/13/04
Ethylbenzene	74	1.3	2.500	97404	12/13/04
m,p-Xylenes	80	1.3	2.500	97404	12/13/04
o-Xylene	38	1.3	2.500	97404	12/13/04
1,3-Dichlorobenzene	ND	1.3	2.500	97404	12/13/04
1,4-Dichlorobenzene	ND	1.3	2.500	97404	12/13/04
1,2-Dichlorobenzene	ND	1.3	2.500	97404	12/13/04

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
1,2-Dichloroethane-d4	110	80-120	2.500	97404	12/13/04
Toluene-d8	105	80-120	2.500	97404	12/13/04
Bromofluorobenzene	97	80-122	2.500	97404	12/13/04

Purgeable Aromatics by GC/MS

Lab #: 176509	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 041207-PC3	Analysis: EPA 8260B
Field ID: MW-2	Units: ug/L
Lab ID: 176509-002	Sampled: 12/07/04
Matrix: Water	Received: 12/08/04

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
MTBE	91	0.7	1.429	97404	12/13/04
Benzene	26	0.5	1.000	97438	12/14/04
Toluene	1.1	0.5	1.000	97438	12/14/04
Chlorobenzene	ND	0.5	1.000	97438	12/14/04
Ethylbenzene	1.8	0.5	1.000	97438	12/14/04
m,p-Xylenes	2.4	0.5	1.000	97438	12/14/04
o-Xylene	1.1	0.5	1.000	97438	12/14/04
1,3-Dichlorobenzene	ND	0.5	1.000	97438	12/14/04
1,4-Dichlorobenzene	ND	0.5	1.000	97438	12/14/04
1,2-Dichlorobenzene	ND	0.5	1.000	97438	12/14/04

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
1,2-Dichloroethane-d4	117	80-120	1.000	97438	12/14/04
Toluene-d8	109	80-120	1.000	97438	12/14/04
Bromofluorobenzene	106	80-122	1.000	97438	12/14/04

ND= Not Detected
 RL= Reporting Limit

Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	97404
Lab ID:	176509-003	Sampled:	12/07/04
Matrix:	Water	Received:	12/08/04
Units:	ug/L	Analyzed:	12/13/04
Diln Fac:	1.429		

Analyte	Result	RL
MTBE	92	0.7
Benzene	91	0.7
Toluene	7.4	0.7
Chlorobenzene	ND	0.7
Ethylbenzene	21	0.7
m,p-Xylenes	15	0.7
o-Xylene	4.1	0.7
1,3-Dichlorobenzene	ND	0.7
1,4-Dichlorobenzene	ND	0.7
1,2-Dichlorobenzene	ND	0.7

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	89	80-120
Toluene-d8	93	80-120
Bromofluorobenzene	100	80-122



Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	97438
Lab ID:	176509-005	Sampled:	12/07/04
Matrix:	Water	Received:	12/08/04
Units:	ug/L	Analyzed:	12/15/04
Diln Fac:	8.333		

Analyte	Result	RL
MTBE	ND	4.2
Benzene	730	4.2
Toluene	200	4.2
Chlorobenzene	ND	4.2
Ethylbenzene	250	4.2
m,p-Xylenes	640	4.2
o-Xylene	470	4.2
1,3-Dichlorobenzene	ND	4.2
1,4-Dichlorobenzene	ND	4.2
1,2-Dichlorobenzene	ND	4.2

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	100	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected

RL= Reporting Limit

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**Purgeable Aromatics by GC/MS**

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Field ID:	MW-6	Batch#:	97404
Lab ID:	176509-006	Sampled:	12/07/04
Matrix:	Water	Received:	12/08/04
Units:	ug/L	Analyzed:	12/13/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	4.9	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	1.4	0.5
m,p-Xylenes	3.3	0.5
o-Xylene	1.1	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-122

Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Field ID:	MW-8	Batch#:	97446
Lab ID:	176509-008	Sampled:	12/07/04
Matrix:	Water	Received:	12/08/04
Units:	ug/L	Analyzed:	12/15/04
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	94	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	80-120
Toluene-d8	102	80-120
Bromofluorobenzene	111	80-122

ND= Not Detected
 RL= Reporting Limit
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Batch QC Report
Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC275975	Batch#:	97404
Matrix:	Water	Analyzed:	12/13/04
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-122



Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC276125	Batch#:	97438
Matrix:	Water	Analyzed:	12/14/04
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected

RL= Reporting Limit

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Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC276126	Batch#:	97438
Matrix:	Water	Analyzed:	12/14/04
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	107	80-122

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC276150	Batch#:	97446
Matrix:	Water	Analyzed:	12/14/04
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	102	80-120
Bromofluorobenzene	112	80-122

Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC276151	Batch#:	97446
Matrix:	Water	Analyzed:	12/14/04
Units:	ug/L		

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	102	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	109	80-122

ND= Not Detected

RL= Reporting Limit

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Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	97404
Units:	ug/L	Analyzed:	12/13/04
Diln Fac:	1.000		

Type: BS Lab ID: QC275973

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	41.78	84	74-128
Benzene	50.00	43.69	87	79-120
Toluene	50.00	46.88	94	80-120
Chlorobenzene	50.00	47.49	95	80-120
Ethylbenzene	50.00	45.61	91	80-121
m,p-Xylenes	100.0	86.26	86	80-120
o-Xylene	50.00	45.56	91	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-122

Type: BSD Lab ID: QC275974

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	45.00	90	74-128	7	20
Benzene	50.00	45.32	91	79-120	4	20
Toluene	50.00	49.32	99	80-120	5	20
Chlorobenzene	50.00	50.59	101	80-120	6	20
Ethylbenzene	50.00	49.73	99	80-121	9	20
m,p-Xylenes	100.0	94.66	95	80-120	9	20
o-Xylene	50.00	47.38	95	80-120	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

Batch QC Report
Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	97438
Units:	ug/L	Analyzed:	12/14/04
Diln Fac:	1.000		

Type: BS Lab ID: QC276123

Analyte	Spiked	Result	%REC	Limits
MTBE	37.50	31.22	83	74-128
Benzene	37.50	31.82	85	79-120
Toluene	37.50	35.25	94	80-120
Chlorobenzene	37.50	34.47	92	80-120
Ethylbenzene	37.50	34.56	92	80-121
m,p-Xylenes	75.00	66.82	89	80-120
o-Xylene	37.50	34.11	91	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-122

Type: BSD Lab ID: QC276124

Analyte	Spiked	Result	%REC	Limits	RPD	Li
MTBE	37.50	30.96	83	74-128	1	20
Benzene	37.50	33.03	88	79-120	4	20
Toluene	37.50	35.48	95	80-120	1	20
Chlorobenzene	37.50	35.73	95	80-120	4	20
Ethylbenzene	37.50	35.83	96	80-121	4	20
m,p-Xylenes	75.00	68.99	92	80-120	3	20
o-Xylene	37.50	35.55	95	80-120	4	20

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

RPD= Relative Percent Difference



Batch QC Report

Purgeable Aromatics by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	97446
Units:	ug/L	Analyzed:	12/14/04
Diln Fac:	1.000		

Type: BS Lab ID: QC276148

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	24.17	97	74-128
Benzene	25.00	23.50	94	79-120
Toluene	25.00	23.25	93	80-120
Chlorobenzene	25.00	22.61	90	80-120
Ethylbenzene	25.00	22.46	90	80-121
m,p-Xylenes	50.00	43.37	87	80-120
o-Xylene	25.00	21.65	87	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-122

Type: BSD Lab ID: QC276149

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	25.00	24.33	97	74-128	1	20
Benzene	25.00	24.49	98	79-120	4	20
Toluene	25.00	23.80	95	80-120	2	20
Chlorobenzene	25.00	23.15	93	80-120	2	20
Ethylbenzene	25.00	23.68	95	80-121	5	20
m,p-Xylenes	50.00	45.13	90	80-120	4	20
o-Xylene	25.00	22.74	91	80-120	5	20

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

RPD= Relative Percent Difference

Gasoline Oxygenates by GC/MS

Lab #: 176509	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 041207-PC3	Analysis: EPA 8260B
Matrix: Water	Sampled: 12/07/04
Units: ug/L	Received: 12/08/04

Field ID: MW-1	Diln Fac: 2.500
Type: SAMPLE	Batch#: 97404
Lab ID: 176509-001	Analyzed: 12/13/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	25
MTBE	7.9	1.3
Isopropyl Ether (DIPE)	ND	1.3
Ethyl tert-Butyl Ether (ETBE)	ND	1.3
Methyl tert-Amyl Ether (TAME)	ND	1.3
1,2-Dichloroethane	ND	1.3
1,2-Dibromoethane	ND	1.3

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	110	80-120
Toluene-d8	105	80-120
Bromofluorobenzene	97	80-122

Field ID: MW-2	Lab ID: 176509-002
Type: SAMPLE	

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
tert-Butyl Alcohol (TBA)	ND	10	1.000	97438	12/14/04
MTBE	91	0.7	1.429	97404	12/13/04
Isopropyl Ether (DIPE)	0.8	0.5	1.000	97438	12/14/04
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	1.000	97438	12/14/04
Methyl tert-Amyl Ether (TAME)	ND	0.5	1.000	97438	12/14/04
1,2-Dichloroethane	ND	0.5	1.000	97438	12/14/04
1,2-Dibromoethane	ND	0.5	1.000	97438	12/14/04

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	112	80-120	1.000	97438	12/14/04
1,2-Dichloroethane-d4	117	80-120	1.000	97438	12/14/04
Toluene-d8	109	80-120	1.000	97438	12/14/04
Bromofluorobenzene	106	80-122	1.000	97438	12/14/04

Gasoline Oxygenates by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	12/07/04
Units:	ug/L	Received:	12/08/04

Field ID:	MW-3	Diln Fac:	1.429
Type:	SAMPLE	Batch#:	97404
Lab ID:	176509-003	Analyzed:	12/13/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	14
MTBE	92	0.7
Isopropyl Ether (DIPE)	1.3	0.7
Ethyl tert-Butyl Ether (ETBE)	ND	0.7
Methyl tert-Amyl Ether (TAME)	ND	0.7
1,2-Dichloroethane	ND	0.7
1,2-Dibromoethane	ND	0.7

Surrogate	%REC	Limits
Dibromofluoromethane	85	80-120
1,2-Dichloroethane-d4	89	80-120
Toluene-d8	93	80-120
Bromofluorobenzene	100	80-122

Field ID:	MW-5	Diln Fac:	8.333
Type:	SAMPLE	Batch#:	97438
Lab ID:	176509-005	Analyzed:	12/15/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	83
MTBE	ND	4.2
Isopropyl Ether (DIPE)	ND	4.2
Ethyl tert-Butyl Ether (ETBE)	ND	4.2
Methyl tert-Amyl Ether (TAME)	ND	4.2
1,2-Dichloroethane	ND	4.2
1,2-Dibromoethane	ND	4.2

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	100	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-122

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #: 176509	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 041207-PC3	Analysis: EPA 8260B
Matrix: Water	Sampled: 12/07/04
Units: ug/L	Received: 12/08/04

Field ID: MW-6	Diln Fac: 1.000
Type: SAMPLE	Batch#: 97404
Lab ID: 176509-006	Analyzed: 12/13/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	32	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	0.7	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	24	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-122

Field ID: MW-8	Diln Fac: 1.000
Type: SAMPLE	Batch#: 97446
Lab ID: 176509-008	Analyzed: 12/15/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	94	0.5
Isopropyl Ether (DIPE)	1.0	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	110	80-120
Toluene-d8	102	80-120
Bromofluorobenzene	111	80-122



Gasoline Oxygenates by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	12/07/04
Units:	ug/L	Received:	12/08/04

Type:	BLANK	Batch#:	97404
Lab ID:	QC275975	Analyzed:	12/13/04
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-120
1,2-Dichloroethane-d4	104	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-122

Type:	BLANK	Lab ID:	QC275976
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Analyte	Result
tert-Butyl Alcohol (TBA)	NA
MTBE	NA
Isopropyl Ether (DIPE)	NA
Ethyl tert-Butyl Ether (ETBE)	NA
Methyl tert-Amyl Ether (TAME)	NA
1,2-Dichloroethane	NA
1,2-Dibromoethane	NA

Surrogate	Result
Dibromofluoromethane	NA
1,2-Dichloroethane-d4	NA
Toluene-d8	NA
Bromofluorobenzene	NA

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Gasoline Oxygenates by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	12/07/04
Units:	ug/L	Received:	12/08/04

Type:	BLANK	Batch#:	97438
Lab ID:	QC276125	Analyzed:	12/14/04
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-120
1,2-Dichloroethane-d4	101	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-122

Type:	BLANK	Batch#:	97438
Lab ID:	QC276126	Analyzed:	12/14/04
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	111	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	107	80-122



Gasoline Oxygenates by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	12/07/04
Units:	ug/L	Received:	12/08/04

Type:	BLANK	Batch#:	97446
Lab ID:	QC276150	Analyzed:	12/14/04
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	102	80-120
Bromofluorobenzene	112	80-122

Type:	BLANK	Batch#:	97446
Lab ID:	QC276151	Analyzed:	12/14/04
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	102	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	109	80-122

NA= Not Analyzed
 ND= Not Detected
 RL= Reporting Limit
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Batch QC Report

Gasoline Oxygenates by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	97404
Units:	ug/L	Analyzed:	12/13/04
Diln Fac:	1.000		

Type: BS Lab ID: QC275973

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	500.0	390.7	78	74-135
MTBE	50.00	41.78	84	74-128
Isopropyl Ether (DIPE)	50.00	40.34	81	80-120
Ethyl tert-Butyl Ether (ETBE)	50.00	44.39	89	80-120
Methyl tert-Amyl Ether (TAME)	50.00	46.69	93	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-120
1,2-Dichloroethane-d4	97	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-122

Type: BSD Lab ID: QC275974

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	500.0	451.2	90	74-135	14	25
MTBE	50.00	45.00	90	74-128	7	20
Isopropyl Ether (DIPE)	50.00	43.86	88	80-120	8	20
Ethyl tert-Butyl Ether (ETBE)	50.00	47.06	94	80-120	6	20
Methyl tert-Amyl Ether (TAME)	50.00	48.67	97	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-120
1,2-Dichloroethane-d4	97	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

Batch QC Report

Gasoline Oxygenates by GC/MS

Lab #: 176509	Location: Oakland Auto Works
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 041207-PC3	Analysis: EPA 8260B
Matrix: Water	Batch#: 97438
Units: ug/L	Analyzed: 12/14/04
Diln Fac: 1.000	

Type: BS Lab ID: QC276123

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	375.0	308.4	82	74-135
MTBE	37.50	31.22	83	74-128
Isopropyl Ether (DIPE)	37.50	30.02	80	80-120
Ethyl tert-Butyl Ether (ETBE)	37.50	32.45	87	80-120
Methyl tert-Amyl Ether (TAME)	37.50	33.25	89	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-120
1,2-Dichloroethane-d4	97	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-122

Type: BSD Lab ID: QC276124

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	375.0	313.9	84	74-135	2	25
MTBE	37.50	30.96	83	74-128	1	20
Isopropyl Ether (DIPE)	37.50	30.51	81	80-120	2	20
Ethyl tert-Butyl Ether (ETBE)	37.50	31.26	83	80-120	4	20
Methyl tert-Amyl Ether (TAME)	37.50	34.14	91	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-120
1,2-Dichloroethane-d4	96	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	96	80-122

Batch QC Report

Gasoline Oxygenates by GC/MS

Lab #:	176509	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	041207-PC3	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	97446
Units:	ug/L	Analyzed:	12/14/04
Diln Fac:	1.000		

Type: BS Lab ID: QC276148

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	250.0	259.0	104	74-135
MTBE	25.00	24.17	97	74-128
Isopropyl Ether (DIPE)	25.00	24.52	98	80-120
Ethyl tert-Butyl Ether (ETBE)	25.00	24.56	98	80-120
Methyl tert-Amyl Ether (TAME)	25.00	24.11	96	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-122

Type: BSD Lab ID: QC276149

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	250.0	253.9	102	74-135	2	25
MTBE	25.00	24.33	97	74-128	1	20
Isopropyl Ether (DIPE)	25.00	25.35	101	80-120	3	20
Ethyl tert-Butyl Ether (ETBE)	25.00	25.03	100	80-120	2	20
Methyl tert-Amyl Ether (TAME)	25.00	24.16	97	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	107	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-122

TABLE C-1
Historical Borehole Soil Sample Analytical Results
Petroleum and Aromatic Hydrocarbons
240 W. MacArthur Boulevard, Oakland, Alameda, California
(all concentrations in mg/Kg)

Borehole / Well I.D.	Sample Depth (ft)	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
BH-1	15'	Jan-97	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
BH-2	15'	Jan-97	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
BH-3	15'	Jan-97	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
BH-4	15'	Jan-97	1,100	370	<0.02	<0.02	4.4	14	<3.0
BH-5	15'	Jan-97	2.1	1.9	0.009	0.006	<0.005	0.016	<0.05
BH-6	15'	Jan-97	190	140	0.25	0.50	8.4	3.6	<0.6
BH-7	12'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
	16'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
BH-8	8'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
	12'	Aug-97	168	<5.0	0.02	<0.005	5.1	0.045	NA
	16'	Aug-97	21	<5.0	0.027	0.07	0.75	<0.005	NA
BH-9	8'	Aug-97	<5.0	<5.0	<0.005	0.032	0.28	0.029	NA
	12'	Aug-97	<5.0	<5.0	<0.005	0.012	<0.005	<0.005	NA
	16'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
MW-1	10'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
	17'	Aug-97	<5.0	<5.0	<0.005	0.031	<0.005	<0.005	NA
MW-2	10'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
	17'	Aug-97	16	<5.0	0.035	0.037	0.15	0.018	NA
MW-3	10'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
	15'	Aug-97	<5.0	<5.0	0.027	<0.005	<0.005	<0.005	NA
MW-4	10'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
	17'	Aug-97	<5.0	<5.0	<0.005	<0.005	<0.005	<0.005	NA
MW-5	5'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.005
	10'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.005
	15'	Feb-01	11,700	NA	25.6	12	38.6	55.8	55.8
	20'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.005
MW-7	10'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.005
	15'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.005
	20'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.005
MW-8	10'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.005
	15'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.005
	20'	Feb-01	<10	NA	<0.005	<0.005	<0.015	<0.005	<0.0723

(Table continued on next page)

TABLE C-1 (continued)

Borehole / Well I.D.	Sample Depth (ft)	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
BH-10	9.5'	Apr-04	< 3.0	1.4	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	12'	Apr-04	< 3.0	1.4	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	17'	Apr-04	< 3.0	1.3	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	20.5' *	Apr-04	< 3.0	2.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	23.5' **	Apr-04	< 3.0	1.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-11	4.5'	Apr-04	< 3.0	1.6	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	9.5'	Apr-04	< 3.0	1.1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	15'	Apr-04	< 3.0	1.4	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	21.5' *	Apr-04	< 3.0	2.5	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	23.5' **	Apr-04	< 3.0	1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-12	4.5'	Apr-04	< 3.0	2.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	9.5'	Apr-04	< 3.0	1.1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	12'	Apr-04	< 3.0	1.5	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	20' (a)	Apr-04	< 3.0	1.8	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	20.5' *	Apr-04	< 3.0	1.6	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	23.5' **	Apr-04	< 3.0	1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-13	4.5'	Apr-04	< 3.0	1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	9.5'	Apr-04	< 3.0	1.5	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	15.5'	Apr-04	3,240	215	3.3	6.5	14	142	< 3.5
	19.5'	Apr-04	< 3.0	3	0.21	< 0.005	< 0.005	< 0.015	< 0.035
	23.5' **	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-14	4.5'	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	9.5'	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	16'	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	20' *	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	21.5' **	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	4.5'	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-15	9.5'	Apr-04	< 3.0	1.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	15'	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	20' *	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	23.5' **	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-16	4.5'	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	9.5'	Apr-04	< 3.0	1.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	15'	Apr-04	2,950	10	2.8	12	19	72	< 17.5
	20' *	Apr-04	352	10	< 0.25	1.2	< 0.25	6.9	< 1.75
	23.5' **	Apr-04	4	1.8	< 0.005	0.015	0.027	0.081	< 0.035
	27.5' **	Apr-04	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	0.043

(Table continued on next page)

TABLE C-1 (continued)

Borehole / Well I.D.	Sample Depth (ft)	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
BH-17	4.5'	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	9.5'	Apr-04	< 3.0	1.4	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	15'	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	20' *	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	23.5' **	Apr-04	< 3.0	1.1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-18	4.5'	Apr-04	< 3.0	1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	9.5'	Apr-04	< 3.0	1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
	17'	Apr-04	17	6	< 0.005	0.035	0.12	0.29	0.25
	20' *	Apr-04	45	3.8	0.049	0.15	0.24	0.56	0.84
BH-19	4.5'	Apr-04	< 3.0	1.7	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	9'	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	13'	Apr-04	105	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	18'	Apr-04	859	66	< 0.500	< 0.500	0.616	0.714	< 0.500
	21' *	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	23.5' **	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-20	4.5'	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	9'	Apr-04	12	21	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
	13'	Apr-04	9.5	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	20'	Apr-04	353	20	< 0.050	< 0.050	0.0075	0.039	< 0.050
	21.5' *	Apr-04	1,060	50	< 0.500	< 0.500	< 0.500	5.34	< 0.500
	23.5' **	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-21	4.5'	Apr-04	< 3.0	1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	9.5'	Apr-04	< 3.0	1.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	15.5'	Apr-04	690	43	< 0.500	< 0.500	0.823	3.98	< 0.500
	20.5' *	Apr-04	84	<1.0	0.056	<0.025	0.06	0.245	<0.025
	21.5' **	Apr-04	< 3.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Notes:

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

NA = Not analyzed for this constituent.

* Sample collected within the saturated zone

** Sample collected beneath the saturated zone

^(a) Depth of sample uncertain due to minimal recovery in sampling sleeve.

TABLE C-2
April 2004 Borehole Soil Sample Analytical Results
Lead Scavengers and Fuel Oxygenates
240 W. MacArthur Boulevard, Oakland, California
(all results reported in mg/kg)

Sample I.D.	EDC	EDB	ETBE	DIPE	TAME	TBA
BH-19-4.5'	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-19-9'	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-19-13'	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-19-18'	< 0.500	< 0.500	< 1	< 1	< 1	< 5
BH-19-21' *	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-19-23.5' **	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-20-4.5'	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-20-9'	< 0.025	< 0.025	< 0.05	< 0.05	< 0.05	< 0.25
BH-20-13'	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-20-20'	< 0.050	< 0.050	< 0.1	< 0.1	< 0.1	< 0.5
BH-20-21.5' *	< 0.500	< 0.500	< 1	< 1	< 1	< 5
BH-20-23.5' **	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-21-4.5'	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-21-9.5'	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05
BH-21-15.5'	< 0.500	< 0.500	< 1	< 1	< 1	< 5
BH-21-20.5' *	< 0.025	< 0.025	< 0.05	< 0.05	< 0.05	< 0.25
BH-21-21.5' **	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.05

Notes:

Samples BH-10 through BH-18 (non-source area boreholes) were not analyzed for lead scavengers or fuel oxygenates.

* Sample collected within the saturated zone

** Sample collected beneath the saturated zone

^(a) Depth of sample uncertain due to minimal recovery in sampling sleeve.

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

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

TBA = Tertiary butyl alcohol NLP = No Level Published

TABLE C-3
Historical Borehole Grab Groundwater Sample Analytical Results
Petroleum and Aromatic Hydrocarbons
240 W. MacArthur Boulevard, Oakland, Alameda, California
(all concentrations in µg/L)

Borehole / Well I.D.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
BH1W ^(a)	Jan-97	330	490	2	0.72	< 0.5	1.3	220
BH2W ^(b)	Jan-97	< 50	320	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
BH4W	Jan-97	6,600	NA	58	13	110	270	170
BH6W ^(a)	Jan-97	13,000	450,000	870.00	65.00	130	570	320
BH-10-GW	Apr-04	78	< 100	1	7	2	7	20
BH-11-GW	Apr-04	74	< 100	3	8	2	9	< 5.0
BH-12-GW	Apr-04	77	< 100	1	8	2	9	< 5.0
BH-13-GW	Apr-04	68,300	300	617	527	668	4,680	548
BH-14-GW	Apr-04	923	170	13	5	6	9	189
BH-15-GW	Apr-04	742	< 100	2	3	2	5	400
BH-16-GW	Apr-04	26,800	300	73	138	222	946	288
BH-17-GW	Apr-04	206	< 100	< 1.0	3	< 5	3	143
BH-18-GW	Apr-04	3,220	1,000	< 10	< 10	76	232	348
BH-19-GW	Apr-04	10,000	1,300	24	< 50	65	108	< 10
BH-20-GW	Apr-04	122,000	2,700	1,830	69	227	1,430	18
BH-21-GW	Apr-04	10,300	1,900	485	70	474	2,620	< 10

Notes:

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

NA = Not analyzed for this constituent.

(a) Sample also analyzed for lead. No concentrations of concern.

(b) Sample also analyzed for lead, total oil & grease, and Poly-nuclear-aromatic hydrocarbons: no concentrations of concern.

TABLE C-4
Historical Borehole Grab Groundwater Sample Analytical Results
Oxygenates and Lead Scavengers
240 W. MacArthur Boulevard, Oakland, Alameda, California
(all concentrations in µg/L)

Borehole / Well ID.	Date Sampled	Lead Scavengers		Fuel Oxygenates			
		EDB	EDC	ETBE	DIPE	TAME	TBA
BH1W	Jan-97	NA	NA	NA	NA	NA	NA
BH2W	Jan-97	NA	NA	NA	NA	NA	NA
BH4W	Jan-97	NA	NA	NA	NA	NA	NA
BH6W	Jan-97	NA	NA	NA	NA	NA	NA
BH-10-GW	Apr-04	NA	NA	NA	NA	NA	NA
BH-11-GW	Apr-04	NA	NA	NA	NA	NA	NA
BH-12-GW	Apr-04	NA	NA	NA	NA	NA	NA
BH-13-GW	Apr-04	NA	NA	NA	NA	NA	NA
BH-14-GW	Apr-04	NA	NA	NA	NA	NA	NA
BH-15-GW	Apr-04	NA	NA	NA	NA	NA	NA
BH-16-GW	Apr-04	NA	NA	NA	NA	NA	NA
BH-17-GW	Apr-04	< 5.0	< 5.0	< 1	< 1	< 1	< 10
BH-18-GW	Apr-04	< 50	< 50	< 10	< 10	< 10	< 10
BH-19-GW	Apr-04	< 50	< 50	< 10	< 10	< 10	< 10
BH-20-GW	Apr-04	< 50	< 50	< 10	< 10	< 10	114
BH-21-GW	Apr-04	< 50	< 50	< 10	< 10	< 10	< 100

Notes:

NA = Not analyzed for this constituent.

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

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

TBA = Tertiary butyl alcohol

TABLE C-5
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	NA
Yes	2	Dec-97	ND	NA	ND	ND	ND	31	NA
Yes	3	Mar-98	370	NA	8.9	< 0.5	< 0.5	2.2	18
Yes	4	Jul-98	6,400	NA	1,300	23	3.7	58	97
Yes	5	Oct-98	2,500	NA	360	44	1.3	150	< 0.5
Yes	6	Jan-99	2,700	NA	1,200	28	140	78	130
(a)	7	Jun-00	27,000	NA	5,200	500	320	3,100	1,300
(a)	8	Dec-00	976,000	NA	2,490	1,420	3,640	10,100	< 150
(a)	9	Feb-01	NA	NA	NA	NA	NA	NA	NA
(a)	10	May-01	20,000	NA	2,900	310	230	1,900	< 30
(a)	11	Jul-01	92,000	NA	2,900	580	2,800	20,000	560
Pre"hi-vac"	12	Oct 22-01	20,000	NA	3,700	560	410	4,600	2,600
Post "hi-vac"	12	Oct 26-01	< 0.05	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	3,300	NA	200	12	5.7	43	44
No	14	Mar-02	4,600	NA	820	4.4	100	300	210
No	15	May-02	1,600	NA	100	23	20	190	7.7
No	16	Jul-02	2,300	NA	250	15	13	180	180
No	17	Oct-02	1,820	NA	222	16	< 0.3	59	58
No	18	Jan-03	2,880	NA	188	< 50	< 50	157	20
No	19	Mar-03	6,700	NA	607	64	64	288	< 0.18
No	20	Aug-03	4,900	5,000	740	45	85	250	14
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

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

TABLE C-5 (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

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

TABLE C-5 (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	NA
Yes	2	Dec-97	5,200	NA	180	6.0	5.0	9.3	NA
Yes	3	Mar-98	1,000	NA	6.0	< 0.5	< 0.5	< 0.5	810
Yes	4	Jul-98	6,400	NA	490	57	23	78	220
Yes	5	Oct-98	2,100	NA	< 5.0	< 5.0	< 5.0	< 5.0	2,100
Yes	6	Jan-99	4,400	NA	450	65	26	42	1,300
(a)	7	Jun-00	1,700	NA	110	13	34	13	96
(a)	8	Dec-00	5,450	NA	445	< 7.5	23.8	< 7.5	603
(a)	9	Feb-01	NA	NA	NA	NA	NA	NA	NA
(a)	10	May-01	1,900	NA	180	12	< 3.0	19	330
(a)	11	Jul-01	10,000	NA	830	160	150	260	560
Pre"hi-vac"	12	Oct 22-01	1,400	NA	240	7.8	4.1	15	220
Post "hi-vac"	12	Oct 26-01	1,900	NA	200	16	51	30	290
(a)	13	Dec-01	5,800	NA	93	< 20	31	< 20	330
No	14	Mar-02	1,900	NA	220	16	31	24	400
No	15	May-02	1,600	NA	110	3.4	29	14	320
No	16	Jul-02	1,900	NA	210	27	30	55	200
No	17	Oct. 2002	3,030	NA	178	19	6.2	36	178
No	18	Jan-03	2,980	NA	47	< 5.0	7.6	6.3	105
No	19	Mar-03	3,620	NA	124	< 0.32	22	12	139
No	20	Aug-03	3,800	2,400	170	28	31	31	170
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

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TABLE C-5 (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	NA
Yes	2	Dec-97	ND	NA	ND	ND	ND	ND	NA
Yes	3	Mar-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	4	Jul-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	5	Oct-98	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	6	Jan-99	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	7	Jun-00	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	8	Dec-00	< 500	NA	< 0.3	< 0.3	< 0.6	< 0.3	< 0.3
(a)	9	Feb-01	NA	NA	NA	NA	NA	NA	NA
(a)	10	May-01	< 50	NA	1.2	< 0.3	0.55	1.2	2.9
(a)	11	Jul-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre"hi-vac"	12	Oct 22-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post "hi-vac"	12	Oct 26-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	ND	NA	ND	ND	ND	ND	ND
No	14	Mar-02	< 50	NA	< 1	< 1	< 1	< 1	< 1
No	15	May-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 0.3
No	18	Jan-03	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	14
No	19	Mar-03	< 15	NA	< 0.4	< 0.02	< 0.02	< 0.06	5.2
No	20	Aug-03	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre-Purge	21	Dec-03	71	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Post-Purge	21	Dec-03	63	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	22	Mar-04	< 50	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	23	Jun-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	0.9
Yes	24	Sep-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	2.3
Yes	25	Dec-04	< 50	NA	NA	NA	NA	NA	NA

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TABLE C-5 (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	NA	76.9	21.1	47.3	312	< 0.3
(a)	10	May-01	22,000	NA	2,600	480	220	2,700	< 30
(a)	11	Jul-01	72,000	NA	3,500	1,100	4,300	22,000	2,500
Pre"hi-vac"	12	Oct 22-01	26,000	NA	2,800	980	6,000	950	2,300
Post "hi-vac"	12	Oct 26-01	17,000	NA	1,200	470	2,900	440	900
(a)	13	Dec-01	2,000	NA	620	190	110	910	< 20
No	14	Mar-02	8,800	NA	1,200	72	7.4	350	1,200
No	15	May-02	2,000	NA	150	38	21	260	13
No	16	Jul-02	4,200	NA	480	68	29	280	450
No	17	Oct-02	5,370	NA	236	45	23	39	135
No	18	Jan-03	8,270	NA	615	156	174	1,010	< 10
No	19	Mar-03	12,400	NA	824	195	213	1,070	< 0.18
No	20	Aug-03	18,000	10,000	950	290	330	1,820	< 2.0
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

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

TABLE C-5 (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	NA	17	0.967	11.1	51.4	< 0.3
(a)	10	May-01	610	NA	15	0.97	< 0.5	46	< 0.5
(a)	11	Jul-01	2,500	NA	130	4.7	53	170	120
Pre"hi-vac"	12	Oct 22-01	280	NA	18	1.2	6.2	4.7	6.0
Post "hi-vac"	12	Oct 26-01	3,600	NA	210	20	170	62	120
(a)	13	Dec-01	5,300	NA	69	5.6	14	17	< 2.0
No	14	Mar-02	71	NA	54	4.2	27	17	8.5
No	15	May-02	150	NA	9.3	< 0.5	< 0.5	< 0.5	1.5
No	16	Jul-02	2,200	NA	98	32	46	150	66
No	17	Oct-02	786	NA	48	5.0	2.2	44	16
No	18	Jan-03	497	NA	6.8	< 5.0	< 5.0	11	< 1.0
No	19	Mar-03	258	NA	5.4	< 0.32	3.3	< 1.1	< 0.18
No	20	Aug-03	1,600	2,800	37	4.1	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

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

TABLE C-5 (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	NA	ND	ND	ND	ND	ND
(a)	10	May-01	< 50	NA	0.75	0.77	0.48	2.4	1.1
(a)	11	Jul-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre"hi-vac"	12	Oct 22-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post "hi-vac"	12	Oct 26-01	6,000	NA	170	550	110	120	970
(a)	13	Dec-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	43
No	14	Mar-02	< 50	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
No	15	May-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
No	18	Jan-03	NA	NA	NA	NA	NA	NA	NA
No	19	Mar-03	< 15	NA	< 0.04	< 0.02	< 0.02	< 0.06	< 0.03
No	20	Aug-03	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre-Purge	21	Dec-03	< 50	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Post-Purge	21	Dec-03	< 50	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
Yes	22	Mar-04	86	NA	< 0.3	< 0.3	< 0.3	< 0.6	57
Yes	23	Jun-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	24	Sep-04	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Yes	25	Dec-04	< 50	NA	NA	NA	NA	NA	NA

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

TABLE C-5 (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	NA	3.97	< 0.3	3.78	1.63	620
(a)	10	May-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	4.4
(a)	11	Jul-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Pre"hi-vac"	12	Oct 22-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Post "hi-vac"	12	Oct 26-01	< 5.0	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
(a)	13	Dec-01	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	14	Mar-02	< 50	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
No	15	May-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	16	Jul-02	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
No	17	Oct-02	458	NA	1.7	< 0.3	< 0.3	< 0.6	233
No	18	Jan-03	< 100	NA	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0
No	19	Mar-03	< 15	NA	< 0.22	< 0.32	< 0.31	< 0.4	< 0.18
No	20	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

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-6
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
	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
	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
	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

TABLE C-6 (continued)

	14	Mar-02	< 1.0	< 1.0	< 1	2.7	640	NA	< 2	< 1	< 1	< 1	< 1	ND
	18	Jan-03	< 5.0	< 5.0	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
	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
	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
	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

Notes:

Table includes only detected contaminants.

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

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

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

TBA = Tertiary butyl alcohol

PCE = Tetrachloroethylene DCE = Dichloroethylene

NLP = No Level Published

TCE = Trichloroethylene TMB = Trimethylbenzene

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.

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

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-1	1	Aug-97	16.83	62.32
	2	Dec-97	NA	NA
	3	Mar-98	13.58	65.57
	4	Jul-98	15.55	63.60
	5	Oct-98	15.70	63.45
	6	Jan-99	15.21	63.94
	7	Jun-00	15.41	63.74
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	15.57	63.58
	11	Jul-01	16.42	62.73
	12	Oct-01	16.82	62.33
	13	Dec-01	15.08	64.07
	14	Mar-02	14.53	64.62
	15	May-02	NA	NA
	16	Jul-02	16.39	62.76
	17	Oct-02	17.03	62.12
	18	Jan-03	14.91	64.24
	19	Mar-03	15.26	63.89
	20	Aug-03	16.24	62.91
	21	Dec-03	16.90	62.25
	22	Mar-04	14.33	64.82
	23	Jun-04	16.28	62.87
	24	Sep-04	17.03	62.12
	25	Dec-04	16.38	62.77

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

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

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-2				
	1	Aug-97	16.32	62.13
	2	Dec-97	NA	NA
	3	Mar-98	13.05	64.95
	4	Jul-98	14.95	63.50
	5	Oct-98	15.09	63.36
	6	Jan-99	14.61	63.84
	7	Jun-00	14.80	63.65
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	14.98	63.47
	11	Jul-01	15.86	62.59
	12	Oct-01	16.69	61.76
	13	Dec-01	13.49	64.96
	14	Mar-02	13.07	65.38
	15	May-02	NA	NA
	16	Jul-02	15.86	62.59
	17	Oct-02	16.54	61.91
	18	Jan-03	14.37	64.08
	19	Mar-03	14.74	63.71
	20	Aug-03	15.75	62.70
	21	Dec-03	16.11	62.34
	22	Mar-04	13.83	64.82
	23	Jun-04	15.76	62.69
	24	Sep-04	16.48	61.97
25	Dec-04	15.74	62.71	

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

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

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-3	1	Aug-97	15.36	62.22
	2	Dec-97	NA	NA
	3	Mar-98	12.18	65.40
	4	Jul-98	14.08	63.50
	5	Oct-98	14.24	63.34
	6	Jan-99	13.74	63.84
	7	Jun-00	13.94	63.64
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	14.08	63.50
	11	Jul-01	14.99	62.59
	12	Oct-01	16.26	61.32
	13	Dec-01	13.62	63.96
	14	Mar-02	13.19	64.39
	15	May-02	NA	NA
	16	Jul-02	14.97	62.61
	17	Oct. 2002	15.44	62.14
	18	Jan-03	13.49	64.09
	19	Mar-03	13.83	63.75
	20	Aug-03	14.90	62.68
	21	Dec-03	15.10	62.48
	22	Mar-04	12.93	64.65
	23	Jun-04	14.90	62.68
	24	Sep-04	15.61	61.97
	25	Dec-04	14.77	62.81

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

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

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-4	1	Aug-97	NA	NA
	2	Dec-97	NA	NA
	3	Mar-98	11.87	65.87
	4	Jul-98	13.90	63.84
	5	Oct-98	14.10	63.64
	6	Jan-99	13.56	64.18
	7	Jun-00	13.75	63.99
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	13.65	64.09
	11	Jul-01	14.87	62.87
	12	Oct-01	15.78	61.96
	13	Dec-01	13.54	64.20
	14	Mar-02	13.02	64.72
	15	May-02	NA	NA
	16	Jul-02	14.81	62.93
	17	Oct-02	15.56	62.18
	18	Jan-03	13.39	64.35
	19	Mar-03	13.75	63.99
	20	Aug-03	14.75	62.99
	21	Dec-03	15.11	62.63
	22	Mar-04	12.78	64.96
	23	Jun-04	14.68	63.06
	24	Sep-04	15.17	62.57
	25	Dec-04	14.90	62.84

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

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

Table D-1 (continued)

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-5	9	Feb-01	NA	NA
	10	May-01	15.65	63.71
	11	Jul-01	16.50	62.86
	12	Oct-01	17.46	61.90
	13	Dec-01	15.28	64.08
	14	Mar-02	14.62	64.74
	15	May-02	NA	NA
	16	Jul-02	16.46	62.90
	17	Oct-02	17.18	62.18
	18	Jan-03	14.99	64.37
	19	Mar-03	15.33	64.03
	20	Aug-03	16.34	63.02
	21	Dec-03	16.90	62.46
	22	Mar-04	14.44	64.92
	23	Jun-04	16.43	62.93
MW-6	9	Feb-01	NA	NA
	10	May-01	15.54	62.89
	11	Jul-01	15.56	62.87
	12	Oct-01	16.41	62.02
	13	Dec-01	14.37	64.06
	14	Mar-02	13.75	64.68
	15	May-02	NA	NA
	16	Jul-02	15.55	62.88
	17	Oct-02	16.24	62.19
	18	Jan-03	14.17	64.26
	19	Mar-03	14.52	63.91
	20	Aug-03	15.50	62.93
	21	Dec-03	16.19	62.24
	22	Mar-04	13.51	64.92
	23	Jun-04	15.42	63.01
24	Sep-04	16.13	62.30	
25	Dec-04	15.40	63.03	

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

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

Table D-1 (continued)

Well ID.	Sampling Event No.	Date Measured	Water Level Depth (a)	Water Level Elevation (b)
MW-7	9	Feb-01	NA	NA
	10	May-01	15.04	62.23
	11	Jul-01	15.69	62.58
	12	Oct-01	16.59	61.68
	13	Dec-01	14.30	63.97
	14	Mar-02	13.87	64.40
	15	May-02	NA	NA
	16	Jul-02	15.72	62.55
	17	Oct-02	16.36	61.91
	18	Jan-03	14.22	64.05
	19	Mar-03	14.57	63.70
	20	Aug-03	15.61	62.66
	21	Dec-03	16.04	62.23
	22	Mar-04	13.57	64.70
	23	Jun-04	15.63	62.64
MW-8	10	May-01	12.75	63.64
	11	Jul-01	13.84	62.55
	12	Oct-01	14.65	61.74
	13	Dec-01	12.39	64.00
	14	Mar-02	11.89	64.50
	15	May-02	NA	NA
	16	Jul-02	13.96	62.43
	17	Oct-02	14.48	61.91
	18	Jan-03	12.49	63.90
	19	Mar-03	12.85	63.54
	20	Aug-03	13.75	62.65
	21	Dec-03	14.5	61.89
	22	Mar-04	11.78	64.61
	23	Jun-04	13.71	62.68
	24	Sep-04	14.43	61.96
25	Dec-04	13.64	62.75	

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

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

Table D-2
Historical Hydraulic Gradient
240 W. MacArthur Boulevard, Oakland, Alameda, California

Sampling Event No.	Date Measured	Groundwater Flow Direction	Groundwater Hydraulic Gradient (feet/foot)
1	Aug-97	NW	0.005
2	Dec-97	NW	0.005
3	Mar-98	NW	0.006
4	Jul-98	N46W	0.005
5	Oct-98	N46W	0.005
6	Jan-99	N73W	0.004
7	Jun-00	N78W	0.005
8	Dec-00	NA	NA
9	Feb-01	N50W	0.003
10	May-01	NA	NA
11	Jul-01	N85W	NA
12	Oct-01	N71W	NA
13	Dec-01	N71W	0.003
14	Mar-02	N50W	0.002
15	May-02	NA	NA
16	Jul-02	N80W	0.008
17	Oct-02	N45W	0.003
18	Jan-03	N70W	0.003
19	Mar-03	N80W	0.006
20	Aug-03	S80W	0.005
21	Dec-03	W	0.006
22	Mar-04	W	0.005
23	Jun-04	W	0.005
24	Sep-04	W	0.005
25	Dec-04	W	0.003

Notes:

NA = Data Not Available

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