STELLAR ENVIRONMENTAL SOLUTIONS, INC.
2198 SIXTH STREET, SUITE 201, BERKELEY, CA 94710
TEL: 510.644.3123 FAX: 510.644.3859

TRANSMITTAL MEMORANDUM	
TO: LOCAL OVERSIGHT PROGRAM ENVIRONMENTAL HEALTH SERVICES ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY 1131 HARBOR BAY PARKWAY ALAMEDA, CALIFORNIA 94502-6577	DATE: SEPTEMBER 8, 2003
ATTENTION: DON HWANG	FILE: SES 2003-43
SUBJECT: OAKLAND AUTO WORKS 240 W. MACARTHUR BLVD OAKLAND, CALIFORNIA ACEH FUEL LEAK CASE NO. R00000142	
WE ARE SENDING: ☒ HEREWITH	☐ UNDER SEPARATE COVER
☒ VIA MAIL	☐ VIA
THE FOLLOWING: THIRD QUARTER 2003 GROUNDWATER MONITORING REPORT (1 COPY)	
☐ AS REQUESTED	☐ FOR YOUR APPROVAL
☐ FOR REVIEW	☒ FOR YOUR USE
☐ FOR SIGNATURE	☒ FOR YOUR FILES
COPY TO: MR. GLEN POY-WING OAKLAND AUTO WORKS 240 WEST MCARTHUR BLVD. OAKLAND, CA 94711	BY: JOE DINAN

THIRD QUARTER 2003 GROUNDWATER MONITORING REPORT

240 WEST MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

Prepared for:

MR. GLEN BOYWING
OAKLAND AUTOWORKS
OAKLAND, CALIFORNIA

September 2003

★ **Stellar Environmental Solutions**

2198 Sixth Street, Suite 201, Berkeley, CA 94710
Tel: (510) 644-3123 • Fax: (510) 644-3859
Geoscience & Engineering Consulting

September 5, 2003

Mr. Glen Poy-Wing
Oakland Auto Works
240 W. MacArthur Boulevard
Oakland, CA 94711

Subject: Third Quarter 2003 Groundwater Monitoring Report
Oakland Auto Works Facility – 240 W. MacArthur Boulevard, Oakland, California
ACEH Fuel Leak Case No. RO0000142

Dear Mr. Poy-Wing

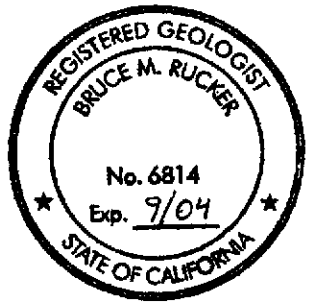
Enclosed is the Stellar Environmental Solutions, Inc. (SES) report summarizing the Third Quarter 2003 groundwater water monitoring event (conducted in August 2003) at the referenced site. The lead regulatory agency for this investigation is the Alameda County Environmental Health Department (ACEH), to which we have provided a copy of this report.

This report summarizes the 20th quarterly groundwater monitoring event since the installation of eight groundwater monitoring wells in August 1997/Febraury 2001. This represents the first quarterly report by SES on behalf of Oakland Auto Works. If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,

Bruce M. Rucker

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



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

cc: Don Hwang – Alameda County Environmental Health (ACEH), Local Oversight Program

THIRD QUARTER 2003 GROUNDWATER MONITORING REPORT

240 W. MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

Prepared for:

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

Prepared by:

STELLAR ENVIRONMENTAL SOLUTIONS, INC.
2198 SIXTH STREET
BERKELEY, CALIFORNIA 94710

September 5, 2003

Project No. 2003-08

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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 beginning in July 2003. The site has undergone site investigations and remediation since 1991. Previous remediation and investigation activities are summarized in the final subsection of this chapter. A list of all known environmental reports is included in Section 7.0, References and Bibliography.

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, Local Oversight Program (ACEH) is the lead regulatory agency for the case, acting as a Local Oversight Program (LOP) for the California Regional Water Quality Control Board – San Francisco Bay Region (RWQCB). There are no ACEH or RWQCB cleanup orders for the site; however, all site work has been conducted under oversight of the ACEH. In our August 2003 review of the ACEH case file, we determined that all known technical reports for the site were in the ACEH case file.

The previous consultant requested site closure in March 2003 (AEC, 2003a). The ACEH denied that request for case closure, and, in an April 16, 2003 letter, requested additional site characterization prior to considering case closure. Requested activities include: exploratory borehole drilling/sampling in the source area and downgradient area; a preferential pathway survey (identifying underground utilities); a vicinity water well search; and continued quarterly groundwater monitoring (including revisions to the analytical program). On behalf of the property owner, SES submitted to ACEH a technical workplan for the requested work (SES, 2003).

The site is not yet in compliance with State of California "GeoTracker" requirements—including the surveying of groundwater monitoring well horizontal and vertical coordinates, and the

uploading of groundwater monitoring analytical data. Those tasks will likely be conducted before the end of 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 20th groundwater monitoring event, conducted on August 18, 2003. Tasks for this event included: determining groundwater monitoring well water elevations to evaluate groundwater flow direction, and collecting groundwater samples for contaminant analysis.

The ACEH has requested (and we proposed in our workplan) that the additional tasks be discussed in a separate Soil and Water Investigation Report; applicable elements will also be included in future site groundwater monitoring reports. The separate Soil and Water Investigation Report will be prepared following completion of the ACEH-requested field activities. Technical elements requested by ACEH that were incorporated into the recent groundwater monitoring event include:

- Analysis of groundwater samples for diesel and lead scavengers; and
- Providing a tabular summary of historical groundwater depths.

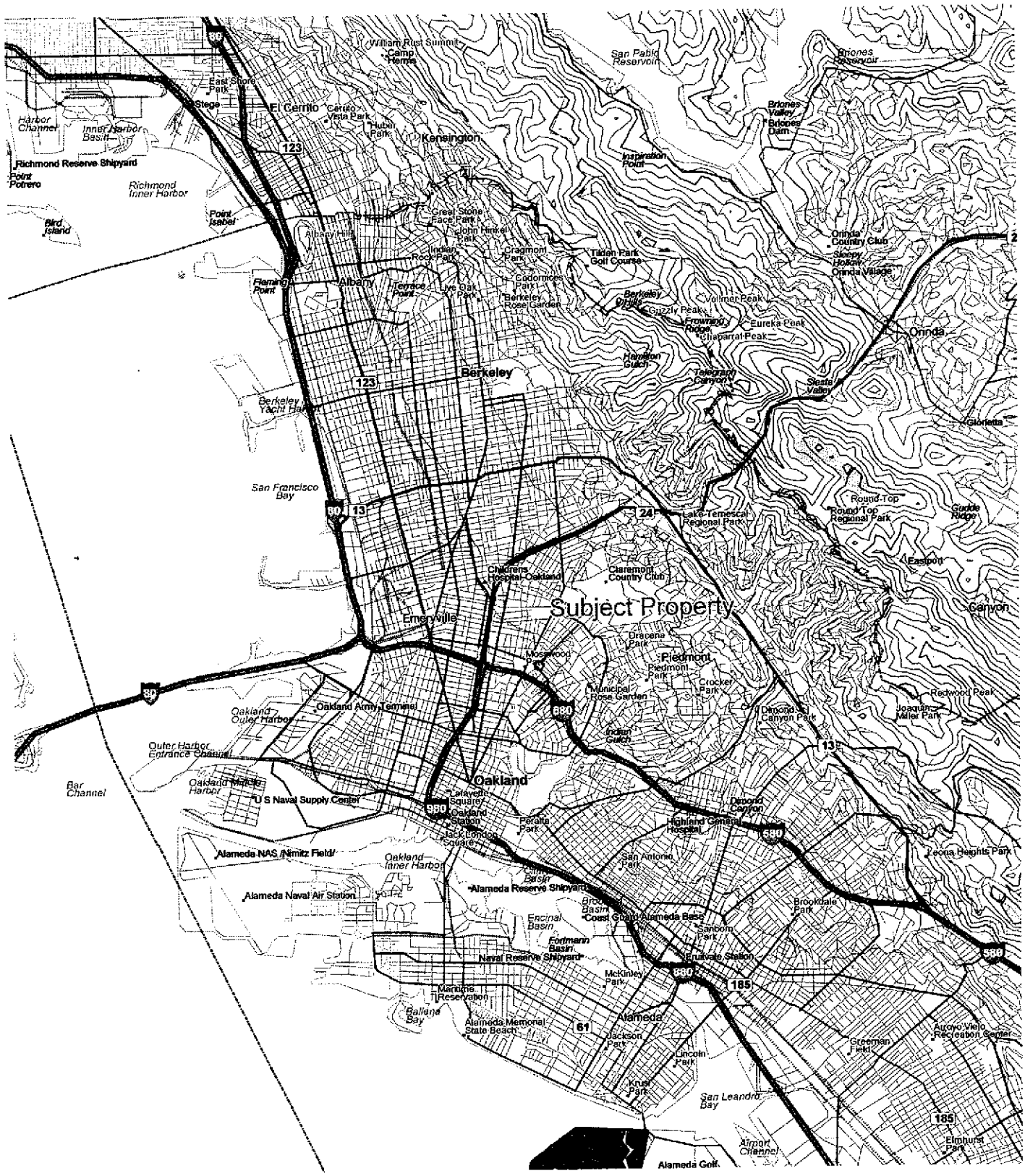
SITE DESCRIPTION

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 Service Station (*to the south*); W. MacArthur Boulevard (*to the west*); Howe Street (*to the north*); and a paved driveway, then a multi-story commercial building (*to the east*).

PREVIOUS ENVIRONMENTAL ACTIVITIES

This section summarizes previous environmental remediation and site characterization activities, based on documentation provided by the current property owners as well as ACEH files. A detailed discussion of the magnitude and extent of residual soil and groundwater contamination



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

240 W. MacArthur Blvd.
Oakland, CA

By: MJC | AUGUST 2003

Figure 1

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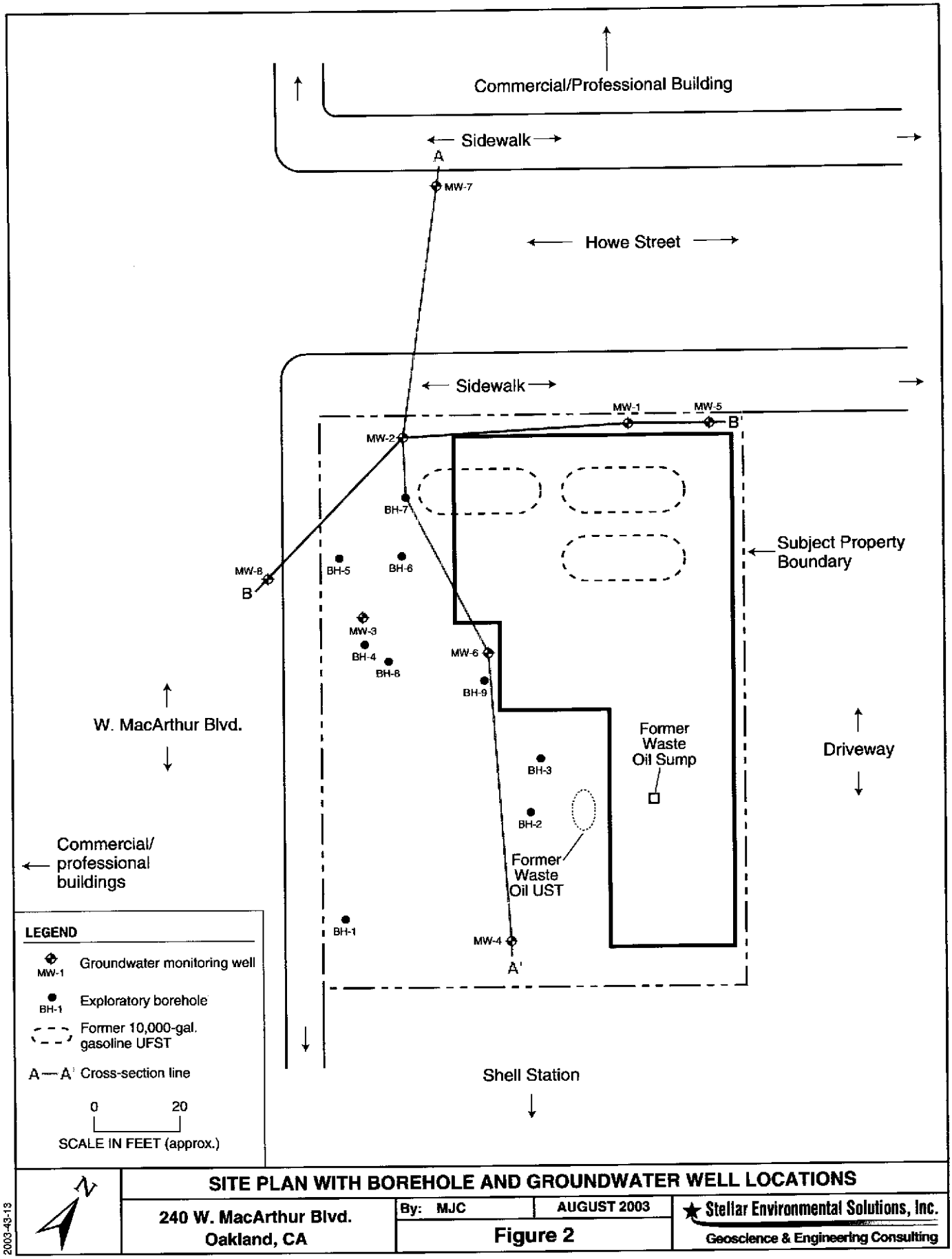

SITE PLAN WITH BOREHOLE AND GROUNDWATER WELL LOCATIONS

240 W. MacArthur Blvd.
Oakland, CA

By: MJC | AUGUST 2003

Figure 2

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2003-43-13

is presented in a subsequent section of this report, and a tabular summary of historical groundwater samples is included as Appendix A. Figure 2 shows the site plan with the current groundwater well locations.

Historical remediation and site characterization activities include:

- 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).
- A waste oil sump was removed in 1991. 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).
- A 350-gallon waste oil UFST was removed in 1996. 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).
- In accordance with a request by ACEH, a subsurface investigation was conducted in January 1997 (All Environmental, Inc., 1997b). Six exploratory boreholes were advanced to a maximum depth of 20 feet, and soil samples were collected.
- Additional site characterization (three boreholes sampled and four monitoring wells installed) was performed in August 1997, and well locations were selected.
- Groundwater sampling of four onsite wells installed was conducted in March 1998, July 1998, October 1998, and January 1999.
- Four additional groundwater monitoring wells were installed in February 2001. 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 (Advanced Environmental Concepts, Inc., 2001b).
- Short-term (less than 1-day duration) groundwater and vapor extraction from five wells was conducted over 4 days in October 2001 (Advanced Environmental Concepts, Inc., 2001e).

A total of 20 groundwater monitoring/sampling events have been conducted in available site wells between August 1997 and August 2003 (the most recent event).

The ACEH has specified that future groundwater monitoring samples be analyzed for gasoline, BTEX, and MTBE. Diesel is also to be analyzed in selected wells. Two fuel-related lead scavengers [ethylene dibromide (EDB) and ethylene dichloride (EDC)] are to be analyzed once to determine if they are detected as site chemicals of concern (posing a risk to human health, the environment, or water resources) and subsequently sampled if they are.

Previous investigation reports conducted by the previous consultant (report documentation listed in Section 7.0) provide a fuller discussion of prior site remediation and investigations, site geology and hydrogeology, and residual site contamination. Appendix A is a tabular summary of historical site groundwater monitoring well contaminant analytical results.

2.0 PHYSICAL SETTING

The following evaluation of the physical setting of the site—including topography, 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 August 2003.

TOPOGRAPHY AND DRAINAGE

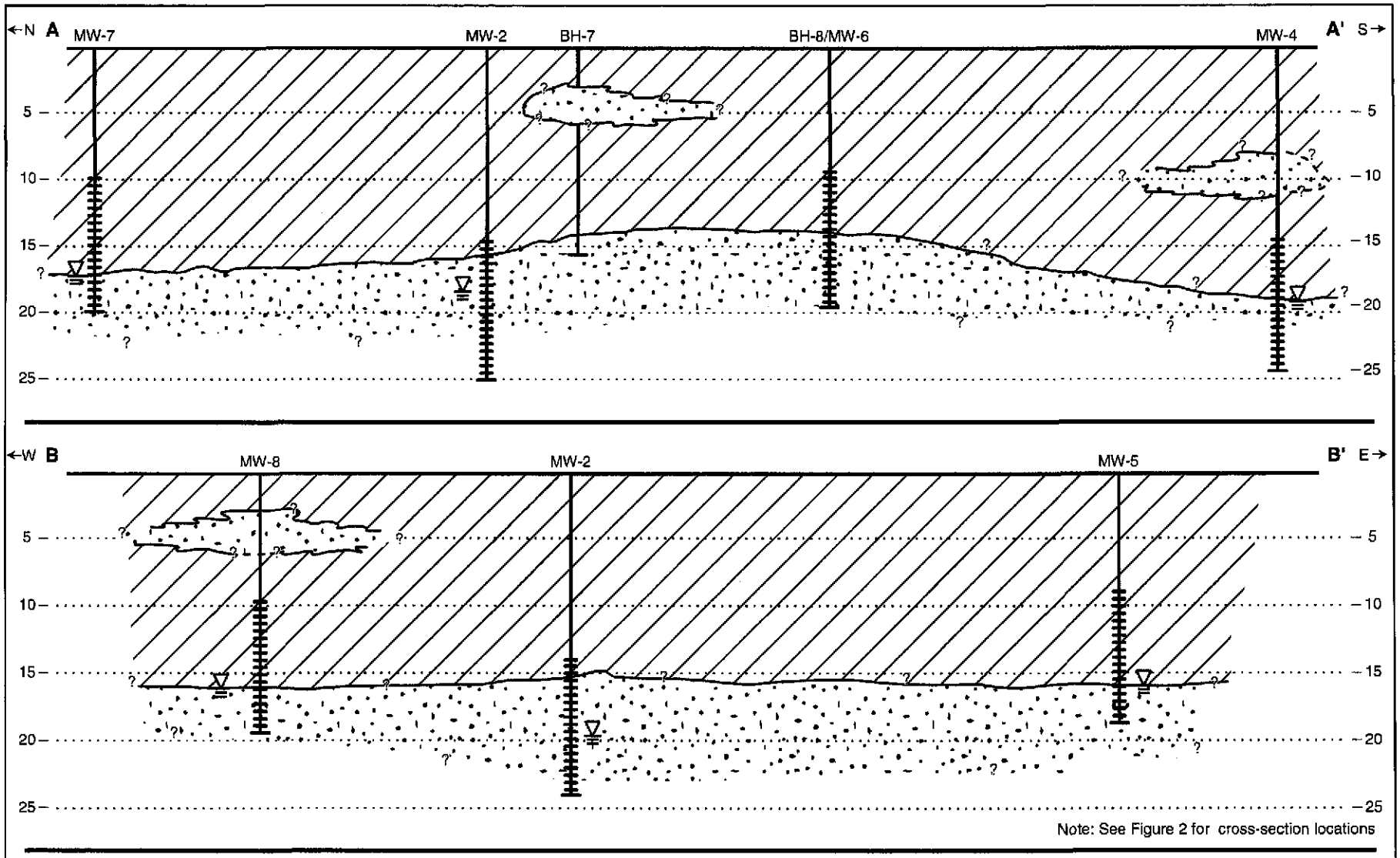
The site is on a gently sloping alluvial fan at the base of the Berkeley/Oakland Hills, which rise approximately 1,100 feet above mean sea level (amsl) and are located approximately 3 miles east of San Francisco Bay. The mean elevation of the subject property is approximately 82 feet amsl. The subject property is essentially flat with a local topographic gradient to the west. The nearest surface water body 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.

SHALLOW LITHOLOGY

Site lithology is relatively consistent across the site. Lower-permeability soils (clays, silts, and silty sand) occur between ground surface and depths of approximately 15 to 18 feet. Locally-occurring thin lenses of higher-permeability soil (sand and gravel) have also been encountered in this depth interval. The upper zone is underlain by a laterally-continuous sand/gravel zone, the top of which is encountered at approximately 15 to 18 feet deep. In all site boreholes for which data were available, groundwater was encountered at or just below the top of this zone. The depth to the bottom of this upper water-bearing zone has not been determined. Figure 3 shows two geologic cross-sections through the area of historical investigations, based on historical geologic logging data.

GROUNDWATER HYDROLOGY

Historical equilibrated water levels (in wells) have been measured at depths of approximately 13 to 16 feet (slightly higher than first occurrence of groundwater encountered during drilling), indicating that groundwater occurs under slightly confining conditions. The number and positioning of existing site wells is adequate to evaluate the general groundwater flow direction.



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GEOLOGIC CROSS SECTIONS A–A' AND B–B'

240 W. MacArthur Blvd., Oakland, CA

Figure 3

by: MJC | AUGUST 2003

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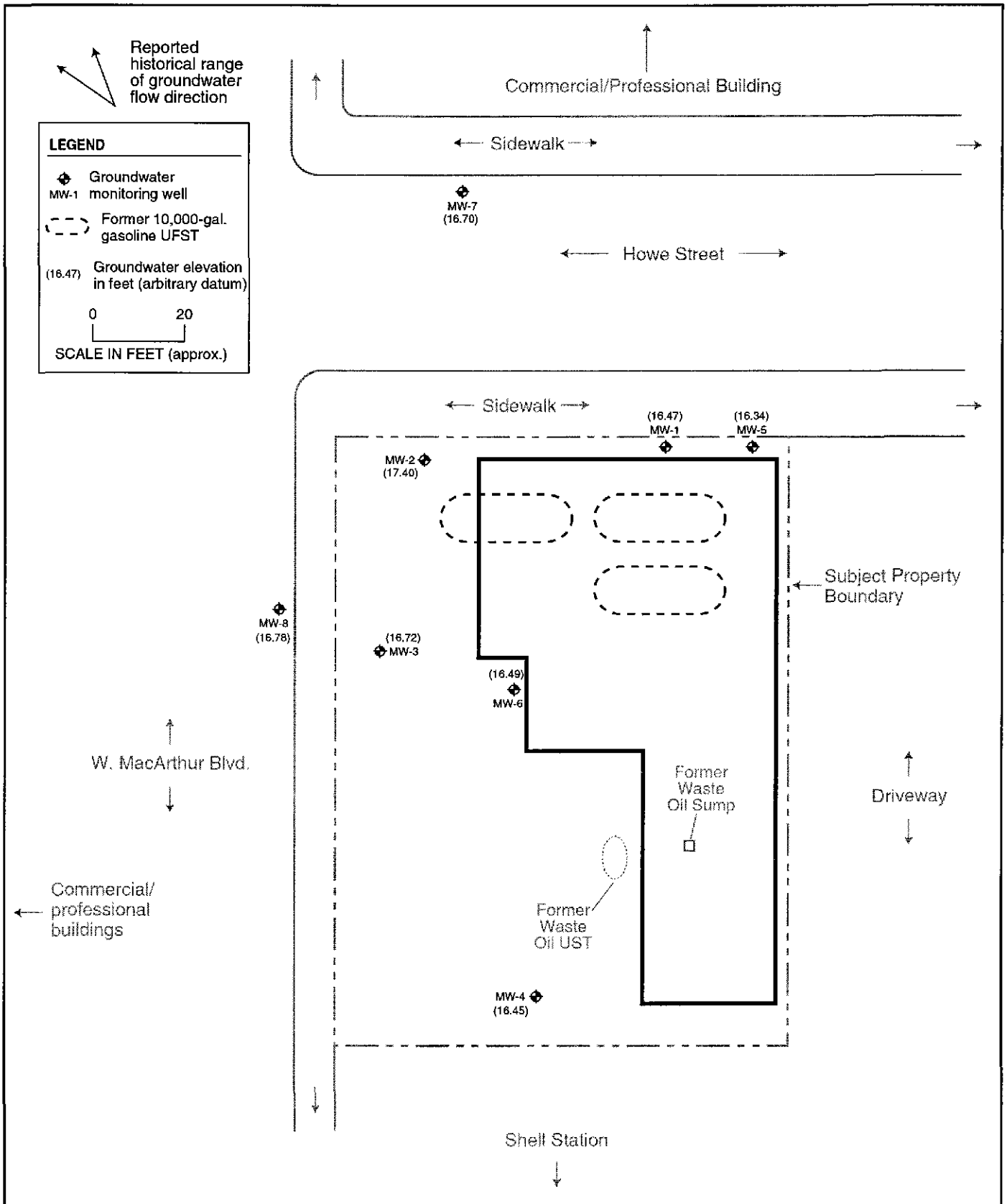
As tabulated in Appendix A, the previous consultant has reported historical groundwater flow direction (since 1997) as ranging from "northwest" to N80W, and groundwater gradient ranging from approximately 0.003 feet/foot to approximately 0.008 feet/foot.

Vertical elevations of wells have not yet been surveyed by a licensed land surveyor, and all historical (before August 2003) groundwater elevations are reported relative to an arbitrary site datum of 4.15 feet above MW-5 top of casing (as surveyed by the previous consultant using a transit). SES attempted to replicate the previous consultant's groundwater flow direction and gradient using its data from several recent events, but found the data to be highly inconsistent with no discernible gradient. The consultant for environmental investigations at the adjacent (to the east) Shell Service Station site verbally reported to SES that recent groundwater monitoring has shown variable groundwater flow directions (possibly due to the presence of a hydrologic ridge), although a generally westward groundwater flow direction was inferred (Kremmel, 2003).

Figure 4 is a groundwater elevation map showing groundwater elevations measured during the most recent groundwater monitoring event. The data do not demonstrate any discernible groundwater flow direction or gradient. We infer that the inconsistent groundwater elevation data is due to either incorrect well elevations and/or a flat hydraulic gradient. Following ACEH's approval of the recent SES workplan, horizontal and vertical coordinates of site wells will be surveyed by a licensed land surveyor, in accordance with State of California GeoTracker requirements.



GROUNDWATER ELEVATION MAP—AUGUST 18, 2003

240 W. MacArthur Blvd. Oakland, CA	By: MJC	AUGUST 2003	Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 4		

2003-43-12

3.0 CURRENT EVENT GROUNDWATER MONITORING AND SAMPLING

This section presents the groundwater sampling and analytical methods for the current event (August 18, 2003). Table 1 summarizes monitoring well construction and groundwater monitoring data. Groundwater analytical results are summarized in Section 4.0.

Monitoring and sampling protocols were in accordance with the SES technical workplan (SES, 2003) submitted to ACEH. Activities for this event include:

- Measuring static water levels and field analyzing pre-purge groundwater samples for hydrogeochemical parameters (temperature, pH, and electrical conductivity) in the eight site wells; and
- Collecting "no-purge" groundwater samples for laboratory analysis of site contaminants from the eight site wells.

The locations of all site monitoring well sampling locations 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 indicate that they are 4-inch diameter. Appendix B contains the groundwater monitoring field records for the current event.

Groundwater monitoring well water level measurements, sampling, and field analyses were conducted by SES personnel on August 18, 2003. Historical groundwater monitoring/sampling events have utilized a "no-purge" sampling approach (i.e., wells are not purged, but rather "grab" groundwater samples are collected with a bailer). There is no available documentation regarding ACEH approval of this method; however, we assume ACEH's tacit approval because it has not requested a change in sampling protocols over the course of receiving historical reports that outline the procedure. The no-purge method has been approved by the RWQCB San Francisco Bay Region in its technical guidance "Utilization of Non-Purge Approach for Sampling of Monitoring Wells Impacted by Petroleum Hydrocarbons, BTEX, and MTBE" (dated January 31, 1997). The guidance stipulates that certain criteria should be met: unconfined aquifer, no separate-phase petroleum product, well screened across the water table, etc. Site conditions appear to meet these criteria. The criteria also specify that the initial and final (before site

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

Well	Well Depth (feet bgs)	Screened Interval	Water Level Depth [a] August 18, 2003	Relative Water Elevation [b] August 18, 2003
MW-1	25	19.5 to 24.5	16.24	16.47
MW-2	25	14.5 to 24.5	15.75	17.40
MW-3	25	14.5 to 24.5	14.90	16.72
MW-4	25	14.5 to 24.5	14.75	16.45
MW-5	20	9 to 19	16.34	16.34
MW-6	20	9 to 19	15.50	16.49
MW-7	20	9 to 19	15.61	16.70
MW-8	20	9 to 19	13.75	16.78

Notes:
[a] Feet below top of well casing.
[b] Relative to an arbitrary elevation datum of 4.15 feet at MW-5 top of casing.
All wells are 2-inch-diameter PVC.

closure) events include both purge and no-purge sampling/analysis. The "initial" purge event has apparently not been conducted, and will be conducted following ACEH's approval of the recent SES workplan.

As the first task of the monitoring event, 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 with separate disposable bailers and field-analyzed for hydrogeologic parameters—including temperature, pH, and electrical conductivity. During the sampling, a petroleum sheen and odor were evident in the water in wells MW-1, MW-5, and MW-6. A faint petroleum odor was noted in wells MW-2 and MW-3.

"Grab" groundwater samples were then collected from each well and transferred to appropriate sampling containers (40-ml VOA vials with hydrochloric acid preservative, and 1-liter amber glass jars), labeled, placed in coolers with "blue ice," and transported under chain-of-custody documentation the same day to the analytical laboratory.

4.0 CURRENT MONITORING EVENT ANALYTICAL RESULTS AND FINDINGS

This section presents the analytical results of the current groundwater monitoring event. Table 2 and Figures 5 through 8 are contaminant isoconcentration maps for the current monitoring event. Appendix C contains the certified analytical laboratory report and chain-of-custody record. Appendix A contains a tabulation of historical groundwater contaminant analytical results.

GROUNDWATER SAMPLE ANALYTICAL METHODS

Groundwater samples were analyzed in accordance with the methods proposed in the SES technical workplan, which included revisions requested by ACEH. Analytical methods included:

- Total volatile hydrocarbons – gasoline range (TVHg) by EPA Method 8015B (all wells);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl *tertiary*-butyl ether (MTBE) by EPA Method 8021B;
- The lead scavengers 1,2-dichloroethane (EDC) and 1,2-dibromoethane (EDB) by EPA Method 8260B (all wells); and
- Total extractable hydrocarbons – diesel range (TEHd) by EPA Method 8015M (all wells except MW-4 and MW-7).

As stipulated by ACEH and proposed in our technical workplan, future (beyond this event) groundwater well samples are not to be analyzed for lead scavengers if they are: 1) not detected in this event; or 2) detected in this event, but deemed to be of low risk.

REGULATORY CONSIDERATIONS

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

Table 2
Groundwater Sample Analytical Results – August 18, 2003
240 W. MacArthur Boulevard, Oakland, California

Well	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB
MW-1	4,900	5,000	740	45	85	250	14	7.2	*<1.0*
MW-2	2,200	730	58	9.2	*<0.5*	28	240	*<0.6*	*<0.6*
MW-3	3,800	2,400	170	28	31	30.9	170	*<0.5*	*<0.5*
MW-4	*<50*	*NA*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
MW-5	18,000	10,000	950	290	330	1,820	*<2.0*	6.1	*<2.0*
MW-6	1,600	2,800	37	4.1	23	58	*<0.5*	12	*<0.5*
MW-7	*<50*	*NA*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
MW-8	190	*<50*	*<0.5*	*<0.5*	*<0.5*	0.6	*<0.5*	*<0.5*	*<0.5*
Drinking Water Standards [a]									
	NLP	NLP	1 [b]	40	30	20	5	NLP	NLP
RWQCB Environmental Screening Levels [c]									
	100 / 500	100 / 640	1.0 / 46	40 / 130	30 / 290	13 / 13	5 / 1,800	0.5 / 500	0.05 / 84

Notes:

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

[b] State of California Primary MCL

[c] First value listed is for sites where drinking water resource is threatened; second value listed is for sites where drinking water resource is not threatened.

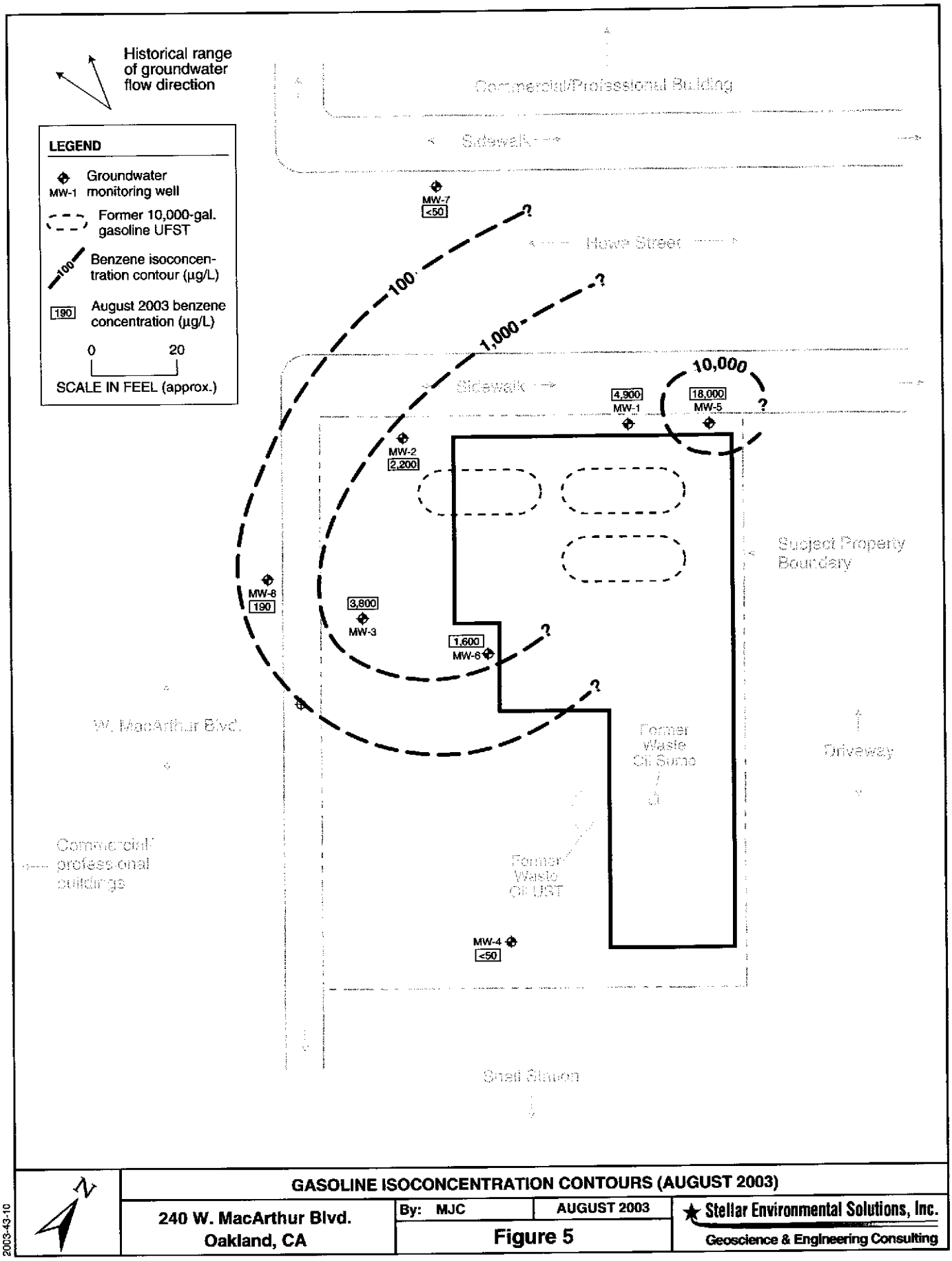
All concentrations in micrograms per liter (µg/L), equivalent to parts per billion (ppb).

EDB = Ethylene dibromide (1,2-dibromoethane).
EDC = Ethylene dichloride (1,2-dichloroethane).
MTBE = Methyl *tertiary*-butyl ether.
NLP = No level published.
TPHg = Total petroleum hydrocarbons - gasoline range (equivalent to total volatile hydrocarbons - gasoline range).
TPHd = Total petroleum hydrocarbons - diesel range (equivalent to total extractable hydrocarbons - diesel range).

more components, including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional remediation and/or investigation may be warranted, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

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

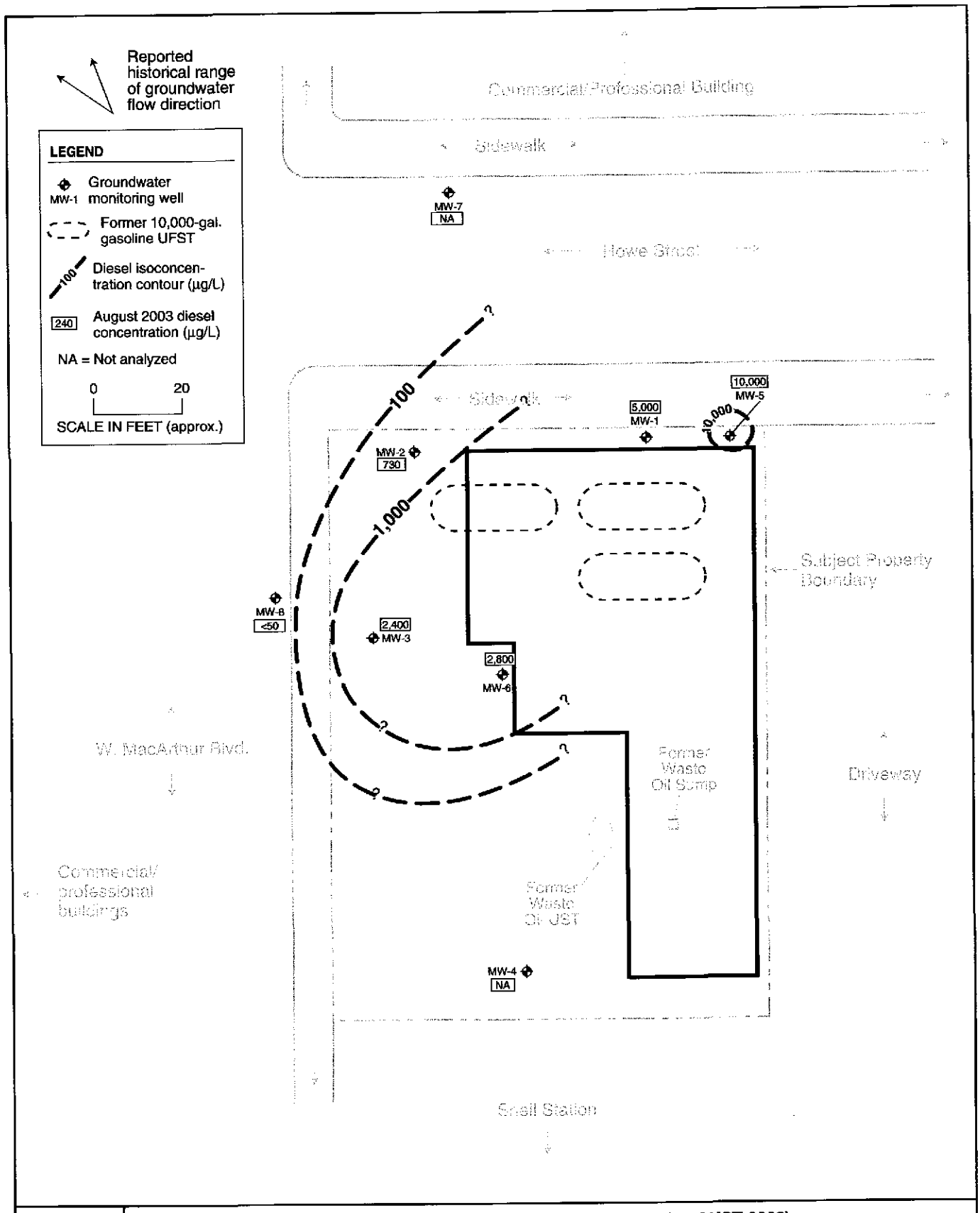
For all site contaminants with published drinking water standards (BTEX and MTBE), the drinking water standards are equal to or greater than the published ESLs.



GASOLINE ISOCONCENTRATION CONTOURS (AUGUST 2003)

240 W. MacArthur Blvd. Oakland, CA	By: MJC	AUGUST 2003	Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 5		

2005-43-10



DIESEL ISOCONCENTRATION CONTOURS (AUGUST 2003)

240 W. MacArthur Blvd.
Oakland, CA

By: MJC | AUGUST 2003

Figure 6

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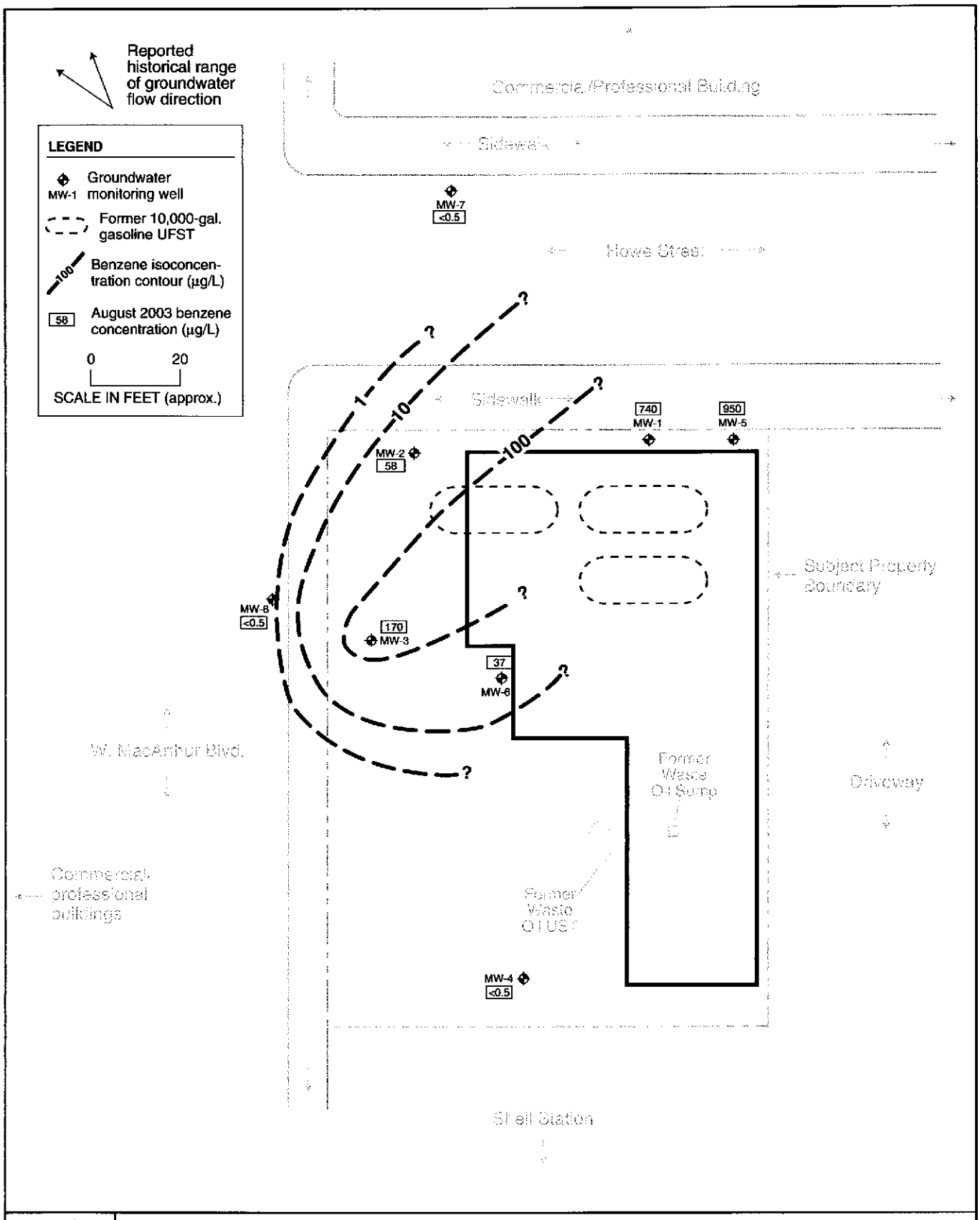
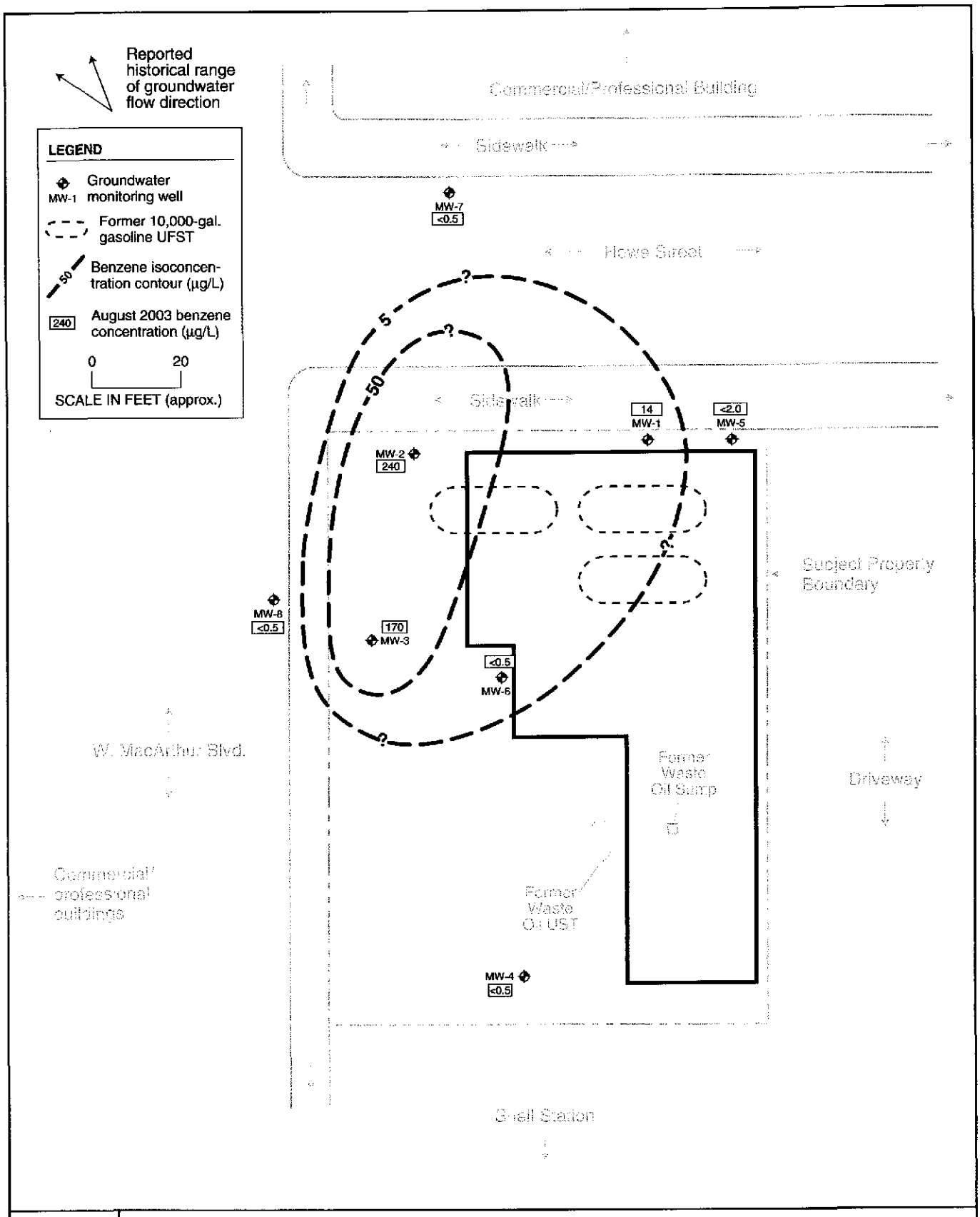


N	**BENZENE ISOCONCENTRATION CONTOURS (AUGUST 2003)**		
	240 W. MacArthur Blvd. Oakland, CA	By: MJC / AUGUST 2003	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
		Figure 7	

2003-43-09



	MTBE ISOCONCENTRATION CONTOURS (AUGUST 2003)		
240 W. MacArthur Blvd. Oakland, CA	By: MJC	AUGUST 2003	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 8		

2003-43-08

Risk evaluation commonly includes identifying sensitive receptors, including vicinity groundwater supply wells. As will be discussed in more detail in the upcoming Soil and Groundwater Investigation Report (proposed in the SES August 2003 technical workplan), the California Department of Water Resources identified only one groundwater supply well within 1,500 feet of the site. That well is located at 4082 Howe Street, approximately 1,600 feet to the northeast (crossgradient or downgradient) of the site. The well was installed in 1979 to a depth of 198 feet, was screened between 132 and 189 feet deep, and had a sanitary seal from surface to 30 feet. While it is not known if this well is still in use, its location and construction suggest that it would not intercept shallow groundwater emanating from the subject property.

As specified in the RWQCB's San Francisco Bay Region Water Quality Control Plan, all groundwaters are considered potential sources of drinking water unless otherwise approved by the RWQCB, and are assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. In the case of groundwater contamination, ESLs are published for two scenarios: groundwater *is* a source of drinking water, and groundwater *is not* a source of drinking water. Qualifying for the higher ESLs (applicable to groundwater *is not* a source of drinking water) requires meeting one of the two following 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* versus *is not* a potential drinking water resource). These data indicate that continued site characterization is warranted until it can be demonstrated that site-sourced contamination poses no unacceptable risk to sensitive receptors.

GROUNDWATER SAMPLE RESULTS

Gasoline

Gasoline was detected in all site wells except MW-4 (southernmost well) and MW-7 (northernmost well) at concentrations between 190 µg/L (well MW-8) and 18,000 µg/L (well MW-5). These concentrations exceed the 100 µg/L ESL (groundwater *is* a potential drinking

water resource), and all but one exceeds the 500 µg/L ESL (groundwater *is not* a potential drinking water resource).

As shown on Figure 5, the lateral extent of the gasoline plume is well defined to the west and south, and does not appear to extend offsite more than 10 feet. The gasoline plume extends offsite to the north (beneath Howe Street) and to the east an undefined distance.

Diesel

Diesel was detected in five of the six wells analyzed for diesel. Diesel concentrations ranged from 730 µg/L (well MW-2) to 10,000 µg/L (well MW-5). These concentrations exceed both the 100 µg/L ESL (groundwater *is* a potential drinking water resource), and the 640 µg/L ESL (groundwater *is not* a potential drinking water resource).

As shown on Figure 6, the lateral extent of the diesel plume is well defined to the west and south, and does not appear to extend offsite more than 10 feet. The diesel plume extends offsite to the north (beneath Howe Street) and to the east an undefined distance.

Benzene, Toluene, Ethylbenzene, and Total Xylenes

Benzene was detected in all wells except periphery wells MW-4, MW-7, and MW-8, at concentrations ranging from 37 to 950 µg/L. Toluene was detected in all wells except periphery wells MW-4, MW-7, and MW-8, at concentrations ranging from 4.1 to 290 µg/L. Ethylbenzene was detected in four of the eight site wells at concentrations ranging from 23 to 330 µg/L. Total xylenes were detected in all site wells except periphery wells MW-4 and MW-7, at concentrations ranging from 0.6 to 1,820 µg/L. Maximum BTEX constituent concentrations were all detected in well MW-5. Maximum BTEX concentrations were all in excess of both ESLs (groundwater *is* and *is not* a potential drinking water resource).

As shown on Figure 7, the lateral extent of the benzene plume is well defined to the west and south, and does not extend offsite in those directions. The benzene plume extends offsite to the north (beneath Howe Street) and to the east an undefined distance.

Methyl *tertiary*-Butyl Ether

The fuel oxygenate MTBE was detected in three of the eight site wells (MW-1, MW-2, and MW-3). MTBE concentrations ranged from 14 µg/L (well MW-1) to 240 µg/L (well MW-3). These concentrations exceed the 5 µg/L ESL (groundwater *is* a potential drinking water resource), and are below the 1,800 µg/L ESL (groundwater *is not* a potential drinking water resource).

As shown on Figure 8, the lateral extent of the MTBE plume is well defined in all directions, and extends offsite only to the north (approximately halfway across Howe Street).

Lead Scavengers

The lead scavenger EDC was detected in three of the eight site wells at concentrations ranging from 6.1 µg/L (well MW-5) to 12 µg/L (well MW-6). These concentrations exceed the 0.5 µg/L ESL (groundwater *is* a potential drinking water resource), and are below the 500 µg/L ESL (groundwater *is not* a potential drinking water resource). The lead scavenger EDB was not detected in any of the wells.

There appears to be a low risk to sensitive receptors (there are no known water supply wells in the area, the nearest surface water body is approximately 800 feet away, and there is a low potential for site contaminants to volatize upwards through the soil column and impact site workers). However, no site-specific exemption has been obtained that would qualify the site for the higher ESL; therefore, EDC should be considered a site contaminant of concern until further site characterization and/or risk evaluation indicates otherwise.

Summary

With the exception of MTBE and EDC, maximum contaminant concentrations were detected in wells MW-5 and MW-1, located in the northern corner of the property, which appears to be the center of the groundwater contaminant mass. Maximum MTBE concentration was in MW-2 on the northwestern corner of the property. Groundwater contamination to the west and to the south does not extend offsite. The lateral extent of groundwater contamination to the east and to the north is undefined.

QUALITY CONTROL SAMPLE ANALYTICAL RESULTS

Laboratory QC samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) were analyzed by the laboratory in accordance with requirements of each analytical method. All laboratory QC sample results and sample holding times were within the acceptance limits of the methods (Appendix C), with one exception. As summarized in the analytical laboratory case narrative (Appendix C), high surrogate recoveries were observed for the MW-2 sample due to sample hydrocarbons co-eluting with the surrogates. This does not appear to have any significant adverse impact on the reported sample concentrations.

5.0 SUMMARY, CONCLUSIONS, AND PROPOSED ACTIONS

SUMMARY AND CONCLUSIONS

- The site has undergone site investigations and remediation since 1991 (and by SES since August 2003) to address soil and groundwater contamination resulting from leaking underground fuel storage tanks (UFSTs) that were reportedly removed. The Alameda County Environmental Health Department, Local Oversight Program (ACEH) is the lead implementing agency. A total of 20 groundwater monitoring/sampling events have been conducted in available site wells between August 1997 and August 2003 (the most recent event). The ACEH recently denied a request for case closure, and requested a technical workplan for additional site characterization. That workplan was submitted by SES in August 2003, and the ACEH response has not yet been received.
- Site lithology is consistent across the site. Lower-permeability soils (clays, silts, and silty sand) occur between ground surface and depths of approximately 15 to 18 feet. The upper zone is underlain by a laterally-continuous sand/gravel zone, the top of which is encountered at approximately 15 to 18 feet deep.
- Shallow groundwater occurs at depths of approximately 15 to 18 feet deep, and appears to be slightly confined. The depth to the bottom of the upper water-bearing zone has not been determined. Groundwater flow direction has been reported to range between northwest and west, although these data are suspect given that well elevations have not been surveyed by a licensed land surveyor.
- Site groundwater contaminants include gasoline, diesel, BTEX, MTBE, and the lead scavenger EDB. Current-event groundwater concentrations for all these contaminants exceed RWQCB ESLs (screening-level criteria) except EDB, for which no ESL is published.
- Maximum groundwater contamination is located in the northern corner of the site (near wells MW-1 and MW-5). The limits of groundwater contamination for all contaminants are well defined to the west and to the south, and do not extend offsite more than approximately 10 feet. The lateral extent of groundwater contamination to the north and to the east are undefined due to the absence of groundwater monitoring wells in those directions.

- Diesel was detected in five of the six site wells analyzed for diesel, all at concentrations in excess of ESL criteria. There are insufficient historical groundwater monitoring data on diesel to evaluate the stability of the diesel contaminant plume. Analysis for diesel in wells MW-4 and MW-7 was not requested by ACEH, and was not analyzed in the current event. Based on the current event analytical results, the lateral extent (to the north and south) of diesel contamination in groundwater cannot be determined without diesel analysis in those wells.
- The lead scavenger EDC was detected in three of the eight site wells near the former USTs (MW-1, MW-2, and MW-3) at concentrations in excess of the ESL (for sites where groundwater *is* a potential drinking water resource). While there appears to be a low risk to sensitive receptors, EDC should be considered a site contaminant of concern until further site characterization and/or risk evaluation indicates otherwise. The lead scavenger EDB was not detected in any of the site wells.

PROPOSED ACTIONS

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

- Continue the program of quarterly groundwater sampling and reporting, with the objectives of obtaining site closure and supporting the owner's application for reimbursement under the State of California Petroleum UST Cleanup Fund.
- Add the analysis of diesel and EDC (in all site wells) to the groundwater monitoring program based on their detections in the August 2003 groundwater monitoring event.
- Discontinue analysis for the lead scavenger EDB because it was not detected in any of the site wells in the August 2003 groundwater monitoring event.
- Implement the activities proposed in the SES August 2003 workplan, following ACEH approval of that workplan.
- Survey site monitoring well vertical and horizontal coordinates in accordance with State of California Water Resources Control Board's GeoTracker specifications, and upload the electronic data to the GeoTracker database.
- Upload Electronic Data Format (EDF) analytical results to the GeoTracker database from the most recent groundwater monitoring event and from future groundwater monitoring events and supplemental investigations.

6.0 REFERENCES AND BIBLIOGRAPHY

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7.0 LIMITATIONS

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

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

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

Historical Water Level and Hydraulic Gradient Data
240 W. MacArthur Boulevard, Oakland, California

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Relative Water Level Elevation (b)
MW-1	1	Aug-97	16.83	16.83
	2	Dec-97	NA	NA
	3	Mar-98	13.58	13.58
	4	Jul-98	15.55	15.55
	5	Oct-98	15.70	15.70
	6	Jan-99	15.21	15.21
	7	Jun-00	15.41	15.41
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	15.57	15.80
	11	Jul-01	16.42	16.65
	12	Oct-01	16.82	17.05
	13	Dec-01	15.08	15.31
	14	Mar-02	14.53	14.76
	15	May-02	NA	NA
	16	Jul-02	16.39	16.62
	17	Oct-02	17.03	17.26
	18	Jan-03	14.91	15.14
	19	Mar-03	15.26	15.49
	20	Aug-03	16.24	16.47
MW-2	1	Aug-97	16.32	17.02
	2	Dec-97	NA	NA
	3	Mar-98	13.05	13.75
	4	Jul-98	14.95	15.65
	5	Oct-98	15.09	15.79
	6	Jan-99	14.61	15.31
	7	Jun-00	14.80	15.50
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	14.98	16.63
	11	Jul-01	15.86	17.51
	12	Oct-01	16.69	18.34
	13	Dec-01	13.49	15.14
	14	Mar-02	13.07	14.72
	15	May-02	NA	NA
	16	Jul-02	15.86	17.51
	17	Oct-02	16.54	18.19
	18	Jan-03	14.37	16.02
	19	Mar-03	14.74	16.39
	20	Aug-03	15.75	17.40

Table continued on next page

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Relative Water Level Elevation (b)
MW-3	1	Aug-97	15.36	16.91
	2	Dec-97	NA	NA
	3	Mar-98	12.18	13.73
	4	Jul-98	14.08	15.63
	5	Oct-98	14.24	15.79
	6	Jan-99	13.74	15.29
	7	Jun-00	13.94	15.49
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	14.08	15.90
	11	Jul-01	14.99	16.81
	12	Oct-01	16.26	18.08
	13	Dec-01	13.62	15.44
	14	Mar-02	13.19	15.01
	15	May-02	NA	NA
	16	Jul-02	14.97	16.79
	17	Oct. 2002	15.44	17.26
	18	Jan-03	13.49	15.31
	19	Mar-03	13.83	15.65
	20	Aug-03	14.90	16.72
MW-4	1	Aug-97	NA	NA
	2	Dec-97	NA	NA
	3	Mar-98	11.87	13.20
	4	Jul-98	13.90	15.23
	5	Oct-98	14.10	15.43
	6	Jan-99	13.56	14.89
	7	Jun-00	13.75	15.08
	8	Dec-00	NA	NA
	9	Feb-01	NA	NA
	10	May-01	13.65	15.35
	11	Jul-01	14.87	16.57
	12	Oct-01	15.78	17.48
	13	Dec-01	13.54	15.24
	14	Mar-02	13.02	14.72
	15	May-02	NA	NA
	16	Jul-02	14.81	16.51
	17	Oct-02	15.56	17.26
	18	Jan-03	13.39	15.09
	19	Mar-03	13.75	15.45
	20	Aug-03	14.75	16.45

Table continued on next page

Well I.D.	Sampling Event No.	Date Measured	Water Level Depth (a)	Relative Water Level Elevation (b)
MW-5	9	Feb-01	NA	NA
	10	May-01	15.65	15.65
	11	Jul-01	16.50	16.50
	12	Oct-01	17.46	17.46
	13	Dec-01	15.28	15.28
	14	Mar-02	14.62	14.62
	15	May-02	NA	NA
	16	Jul-02	16.46	16.46
	17	Oct-02	17.18	17.18
	18	Jan-03	14.99	14.99
	19	Mar-03	15.33	15.33
	20	Aug-03	16.34	16.34
MW-6	9	Feb-01	NA	NA
	10	May-01	15.54	16.53
	11	Jul-01	15.56	16.55
	12	Oct-01	16.41	17.40
	13	Dec-01	14.37	15.36
	14	Mar-02	13.75	14.74
	15	May-02	NA	NA
	16	Jul-02	15.55	16.54
	17	Oct-02	16.24	17.23
	18	Jan-03	14.17	15.16
	19	Mar-03	14.52	15.51
	20	Aug-03	15.50	16.49
MW-7	9	Feb-01	NA	NA
	10	May-01	15.04	16.13
	11	Jul-01	15.69	16.78
	12	Oct-01	16.59	17.68
	13	Dec-01	14.30	15.39
	14	Mar-02	13.87	14.96
	15	May-02	NA	NA
	16	Jul-02	15.72	16.81
	17	Oct-02	16.36	12.45
	18	Jan-03	14.22	15.31
	19	Mar-03	14.57	15.66
	20	Aug-03	15.61	16.70
MW-8	9	Feb-01	NA	NA
	10	May-01	12.75	15.78
	11	Jul-01	13.84	16.87
	12	Oct-01	14.65	17.68
	13	Dec-01	12.39	15.42
	14	Mar-02	11.89	14.92
	15	May-02	NA	NA
	16	Jul-02	13.96	16.99
	17	Oct-02	14.48	17.51
	18	Jan-03	12.49	15.52
	19	Mar-03	12.85	15.88
	20	Aug-03	13.75	16.78

Table continued on next page

Sampling Event No.	Date Measured	Groundwater Flow Direction	Groundwater Hydraulic Gradient (feet/foot)
1	Aug-97	NW	0.0048
2	Dec-97	NW	0.0051
3	Mar-98	NW	0.0063
4	Jul-98	N46W	0.0053
5	Oct-98	N46W	0.0053
6	Jan-99	N73W	0.0043
7	Jun-00	N78W	0.0050
8	Dec-00	NA	NA
9	Feb-01	N50W	0.0028
10	May-01	NA	NA
11	Jul-01	N85W	NA
12	Oct-01	N71W	NA
13	Dec-01	N71W	0.0027
14	Mar-02	N50W	0.0021
15	May-02	NA	NA
16	Jul-02	N80W	0.0075
17	Oct-02	N45W	0.0030
18	Jan-03	N70W	0.0033
19	Mar-03	N80W	0.0063
20	Aug-03	(c.)	(c.)

Notes:

(a) Feet below well top of casing.

(b) Relative to an abitrary elevation datum.

(c.) Data does not support a conclusion.

NA = Data Not Available

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

Historical Groundwater Monitoring Well Groundwater Analytical Results
Petroleum and Aromatic Hydrocarbons
240 W. MacArthur Boulevard, Oakland, California
(all concentrations in µg/L)

Borehole / Well I.D.	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-1	1	Aug-97	1,140	*< 1,000*	110	16	15	112	*NA*
	2	Dec-97	ND	*NA*	ND	ND	ND	31	*NA*
	3	Mar-98	370	*NA*	8.9	*< 0.5*	*< 0.5*	2.2	18
	4	Jul-98	6,400	*NA*	1,300	23	3.7	58	97
	5	Oct-98	2,500	*NA*	360	44	1.3	150	*< 0.5*
	6	Jan-99	2,700	*NA*	1,200	28	140	78	130
	7	Jun-00	27,000	*NA*	5,200	500	320	3,100	1,300
	8	Dec-00	976,000	*NA*	2,490	1,420	3,640	10,100	*< 150*
	9	Feb-01	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	10	May-01	20,000	*NA*	2,900	310	230	1,900	*< 30*
	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*
	13	Dec-01	3,300	*NA*	200	12	5.7	43	44
	14	Mar-02	4,600	*NA*	820	4.4	100	300	210
	15	May-02	1,600	*NA*	100	23	20	190	7.7
	16	Jul-02	2,300	*NA*	250	15	13	180	180
	17	Oct-02	1,820	*NA*	222	16	*< 0.3*	59	58
	18	Jan-03	2,880	*NA*	188	*< 50*	*< 50*	157	20
	19	Mar-03	6,700	*NA*	607	64	64	288	*< 0.18*
	20	Aug-03	4,900	5,000	740	45	85	250	14
MW-2	1	Aug-97	5,350	*< 1,000*	108	36	33	144	*NA*
	2	Dec-97	1,600	*NA*	73	ND	ND	ND	*NA*
	3	Mar-98	3,400	*NA*	830	100	210	240	870
	4	Jul-98	3,100	*NA*	25	2.2	*< 0.5*	0.9	1,900
	5	Oct-98	4,300	*NA*	*< 0.5*	1.2	*< 0.5*	1	4,200
	6	Jan-99	2,900	*NA*	160	8.9	6.9	78.4	2,100
	7	Jun-00	2,700	*NA*	200	17	30	16	680
	8	Dec-00	3,020	*NA*	56.7	*< 1.5*	*< 1.5*	*< 3.0*	3,040
	9	Feb-01	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	10	May-01	720	*NA*	49	*< 3.0*	4.6	*< 3.0*	380
	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
	13	Dec-01	1,300	*NA*	9.2	*< 2.0*	*< 2.0*	*< 2.0*	370
	14	Mar-02	1,300	*NA*	76	3.8	21	15	460
	15	May-02	320	*NA*	12	1.1	4.6	4.8	160
	16	Jul-02	1,300	*NA*	130	1	9.4	5.6	420
	17	Oct-02	1,060	*NA*	12	2.2	4.2	3.5	270
	18	Jan-03	581	*NA*	6.5	*< 5.0*	*< 5.0*	*< 5.0*	130
	19	Mar-03	1,250	*NA*	*< 0.22*	*< 0.32*	*< 0.31*	*< 0.4*	155
	20	Aug-03	2,200	730	58	9.2	*< 0.5*	28	240

Table continued on next page

Borehole / Well I.D.	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-3	1	Aug-97	8,500	*< 1,000*	450	30	53	106	*NA*
	2	Dec-97	5,200	*NA*	180	6	5	9.3	*NA*
	3	Mar-98	1,000	*NA*	6	*< 0.5*	*< 0.5*	*< 0.5*	810
	4	Jul-98	6,400	*NA*	490	57	23	78	220
	5	Oct-98	2,100	*NA*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	2,100
	6	Jan-99	4,400	*NA*	450	65	26	42	1,300
	7	Jun-00	1,700	*NA*	110	13	34	13	96
	8	Dec-00	5,450	*NA*	445	*< 7.5*	23.8	*< 7.5*	603
	9	Feb-01	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	10	May-01	1,900	*NA*	180	12	*< 3.0*	19	330
	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
	13	Dec-01	5,800	*NA*	93	*< 20*	31	*< 20*	330
	14	Mar-02	1,900	*NA*	220	16	31	24	400
	15	May-02	1,600	*NA*	110	3.4	29	14	320
	16	Jul-02	1,900	*NA*	210	27	30	55	200
	17	Oct. 2002	3,030	*NA*	178	19	6.2	36	178
	18	Jan-03	2,980	*NA*	47	*< 5.0*	7.6	6.3	105
	19	Mar-03	3,620	*NA*	124	*< 0.32*	22	12	139
	20	Aug-03	3,800	2,400	170	28	31	31	170
MW-4	1	Aug-97	*< 500*	*< 1,000*	*< 0.5*	*< 0.5*	*< 0.5*	*< 1.5*	*NA*
	2	Dec-97	ND	*NA*	ND	ND	ND	ND	*NA*
	3	Mar-98	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	4	Jul-98	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	5	Oct-98	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	6	Jan-99	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	7	Jun-00	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	8	Dec-00	*< 500*	*NA*	*< 0.3*	*< 0.3*	*< 0.6*	*< 0.3*	*< 0.3*
	9	Feb-01	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	10	May-01	*< 50*	*NA*	1.2	*< 0.3*	0.55	1.2	2.9
	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*
	13	Dec-01	ND	*NA*	ND	ND	ND	ND	ND
	14	Mar-02	*< 50*	*NA*	*< 1*	*< 1*	*< 1*	*< 1*	*< 1*
	15	May-02	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	16	Jul-02	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	17	Oct-02	*< 100*	*NA*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*< 0.3*
	18	Jan-03	*< 100*	*NA*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	14
	19	Mar-03	*< 15*	*NA*	*< 0.4*	*< 0.02*	*< 0.02*	*< 0.06*	5.2
	20	Aug-03	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*

Table continued on next page

Borehole / Well I.D.	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-5	9	Feb-01	5,660	*NA*	76.9	21.1	47.3	312	*< 0.3*
	10	May-01	22,000	*NA*	2,600	480	220	2,700	*< 30*
	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
	13	Dec-01	2,000	*NA*	620	190	110	910	*< 20*
	14	Mar-02	8,800	*NA*	1,200	72	7.4	350	1,200
	15	May-02	2,000	*NA*	150	38	21	260	13
	16	Jul-02	4,200	*NA*	480	68	29	280	450
	17	Oct-02	5,370	*NA*	236	45	23	39	135
	18	Jan-03	8,270	*NA*	615	156	174	1,010	*< 10*
	19	Mar-03	12,400	*NA*	824	195	213	1,070	*< 0.18*
	20	Aug-03	18,000	10,000	950	290	330	1,820	*< 2.0*
MW-6	9	Feb-01	1,340	*NA*	17	0.967	11.1	51.4	*< 0.3*
	10	May-01	610	*NA*	15	0.97	*< 0.5*	46	*< 0.5*
	11	Jul-01	2,500	*NA*	130	4.7	53	170	120
Pre"hi-vac"	12	Oct 22-01	280	*NA*	18	1.2	6.2	4.7	6
Post "hi-vac"	12	Oct 26-01	3,600	*NA*	210	20	170	62	120
	13	Dec-01	5,300	*NA*	69	5.6	14	17	*< 2.0*
	14	Mar-02	71	*NA*	54	4.2	27	17	8.5
	15	May-02	150	*NA*	9.3	*< 0.5*	*< 0.5*	*< 0.5*	1.5
	16	Jul-02	2,200	*NA*	98	32	46	150	66
	17	Oct-02	786	*NA*	48	5	2.2	44	16
	18	Jan-03	497	*NA*	6.8	*< 5.0*	*< 5.0*	11	*< 1.0*
	19	Mar-03	258	*NA*	5.4	*< 0.32*	3.3	*< 1.1*	*< 0.18*
	20	Aug-03	1,600	2,800	37	4	23	58	*< 0.5*
MW-7	9	Feb-01	ND	*NA*	ND	ND	ND	ND	ND
	10	May-01	*< 50*	*NA*	0.75	0.77	0.48	2.4	1.1
	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
	13	Dec-01	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	43
	14	Mar-02	*< 50*	*NA*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*
	15	May-02	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	16	Jul-02	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	17	Oct-02	*< 100*	*NA*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*< 5.0*
	18	Jan-03	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	19	Mar-03	*< 15*	*NA*	*< 0.04*	*< 0.02*	*< 0.02*	*< 0.06*	*< 0.03*
	20	Aug-03	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*

Table continued on next page

Borehole / Well I.D.	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-8	9	Feb-01	1,000	*NA*	3.97	< 0.3	3.78	1.63	620
	10	May-01	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	4.4
	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*
	13	Dec-01	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	14	Mar-02	*< 50*	*NA*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*
	15	May-02	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	16	Jul-02	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
	17	Oct-02	458	*NA*	1.7	*< 0.3*	*< 0.3*	*< 0.6*	233
	18	Jan-03	*< 100*	*NA*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*< 5.0*
	19	Mar-03	*< 15*	*NA*	*< 0.22*	*< 0.32*	*< 0.31*	*< 0.4*	*< 0.18*
	20	Jul-03	190	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	1	*< 0.5*
ESLs			**100**	**100**	**1.0**	**40**	**30**	**13**	**5.0**

Notes:

(a) First value is for sites where a drinking water resource is not threatened; 2nd value is for sites where a drinking water resource is threatened.

ESLs = Regional Water Quality Control Board Risk-Based Environmental Levels (see "Regulatory Considerations" text for applicable criteria)

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

NA = Not analyzed for this constituent.

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

Historical Groundwater Monitoring Well Groundwater Analytical Results
Fuel Oxygenates and VOCs
240 W. MacArthur Boulevard, Oakland, California
(all concentrations in µg/L)

Well I.D.	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-1	7	Jun-00	NA	NA	51	< 5	< 1,000	NA	<5	< 5	< 5	< 5	ND
	14	Mar-02	NA	NA	< 1	1.6	< 10	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	150	< 50	NA	68	< 50	< 50	< 50	< 50	ND
	19	Mar-03	NA	NA	373	< 0.49	NA	< 10	< 0.88	< 0.30	< 0.23	< 0.36	ND
	20	Aug-03	< 1	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	7	Jun-00	NA	NA	< 0.5	< 0.5	< 100	NA	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	NA	NA	< 1	< 1	220	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	< 5	< 5	NA	34	< 5	24	< 5	< 5	ND
	19	Mar-03	NA	NA	< 0.49	< 0.26	NA	94	< 0.88	15	< 0.23	< 0.36	ND
	20	Aug-03	< 0.6	< 0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	7	Jun-00	NA	NA	< 0.5	< 0.5	< 100	NA	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	NA	NA	2	4.7	180	NA	2.2	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	< 5	5.0	NA	76	< 5	21	< 5	< 5	(a)
	19	Mar-03	NA	NA	< 0.49	< 0.26	NA	< 10	< 0.88	24	< 0.23	< 0.36	ND
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4	7	Jun-00	NA	NA	< 0.5	< 0.5	< 100	NA	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	NA	NA	< 1	< 1	< 10	NA	< 1	2.9	3.7	5.0	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	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
MW-5	14	Mar-02	NA	NA	< 1	2.7	640	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	512	122	NA	< 100	120	< 50	< 50	< 50	ND
	19	Mar-03	NA	NA	554	107	NA	< 10	251	< 0.3	< 0.23	< 0.36	(b)
	20	Aug-03	< 2	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-6	14	Mar-02	NA	NA	< 1	2.2	< 10	NA	1.6	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	13	< 5	NA	46	< 5	< 5	< 5	< 5	ND
	19	Mar-03	NA	NA	< 0.49	< 0.26	NA	40	< 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
MW-7	14	Mar-02	NA	NA	< 1	< 1	< 10	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	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
MW-8	14	Mar-02	NA	NA	< 1	< 1	< 10	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	NA	NA	< 0.49	< 0.26	NA	< 10	< 0.88	< 0.3	< 0.23	< 0.36	ND
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Groundwater ESLs			NLP	NLP	NLP	NLP	NLP	NLP	21	5.0	5.0	5.0	NLP

Notes:
Table includes only detected contaminants
DCE = Dichloroethylene
EDB = Ethylene dibromide, aka 1,2-Dibromoethane (lead scavenger)
EDC = Ethylene dichloride, aka 1,2-Dichloroethane (lead scavenger)
PCE = Tetrachloroethylene
TCE = Trichloroethyene
TBA = Tertiary butyl alcohol
TMB = Trimethylbenzene
(a) Also detected were: isopropyl ether (DIPE - 2.0 mg/l); n-propylbenzene (5.4 mg/L); p-Isopropyltoluene (14 mg/L); sec-Butylbenzene (7.2 mg/L)
(b) Also detected were: isopropylbenzene (38 mg/L); n-Butylbenzene (20 mg/L); n-propylbenzene (36 mg/L); p-Isopropyltoluene (14 mg/L).
(c.) Also detected were: isopropylbenzene (3.4 mg/L); n-propylbenzene (2.3 mg/L).
ESLs = Regional Water Quality Control Board Risk-Based Environmental Levels (see "Regulatory Considerations" text for applicable criteria)
NA = Not analyzed for this constituent. ND = Not Detected
NLP = No Level Published

GROUNDWATER WELL SAMPLING DOCUMENTATION FORM

Project Address: 240 W. Macarthur Blvd. Oakland, California

Sampler Name: Joe Dinan

Sampling Firm: Stellar Environmental Solutions, Inc.

Sampling Date: 8/18/03

Well Name: MW-1

Well Diameter (inches): 2-inch

Measured Well Depth (feet from top of casing): 24.30

Water Level (feet from top of casing): 16.24

Height of Water Column in feet (well depth - water level):

Gallons per casing volume: Not applicable (no purging)

2-inch wells: Height of water column * 0.16

4-inch wells: Height of water column * 0.65

Well Purging Method: No purging

Purging Record

	Temp (°F)	pH	Electrical Conductivity	Gallons Purged (running total)	Petroleum Sheen or Odor?
Initial Measurement					
Purge volume #1	67.9	6.80	926		sheen + odor
Purge volume #2					
Purge volume #3					
Did well dewater?					

Sampling Method: Disposable bailer (Dedicated Bailer)

Sampling Time: 1225

Sampling Containers Filled: Three 40 ml VOA vials (with HCL preservative)

(no., type, preservative) One 1-liter amber glass (no preservative)

missing a bolt on well box

Stellar Environmental Solutions, Inc.
2198 Sixth Street, #201, Berkeley, CA 510-644-3123

GROUNDWATER WELL SAMPLING DOCUMENTATION FORM

Project Address: 240 W. Macarthur Blvd. Oakland, California

Sampler Name: Joe Dinan

Sampling Firm: Stellar Environmental Solutions, Inc.

Sampling Date: 8/18/03

Well Name: MW-2

Well Diameter (inches): 2-inch

Measured Well Depth (feet from top of casing): 24.30

Water Level (feet from top of casing): 15.75

Height of Water Column in feet (well depth - water level):

Gallons per casing volume: Not applicable (no purging)

2-inch wells: Height of water column * 0.16

4-inch wells: Height of water column * 0.65

Well Purging Method: No purging

Purging Record

	Temp (°F)	pH	Electrical Conductivity	Gallons Purged (running total)	Petroleum Sheen or Odor?
Initial Measurement					
Purge volume #1	76.1	6.11	718		Faint petrol odor
Purge volume #2					
Purge volume #3					
Did well dewater?					

Sampling Method: Disposable bailer (Dedicated Bailer)

Sampling Time: 1155

Sampling Containers Filled: Three 40 ml VOA vials (with HCL preservative)

(no., type, preservative) One 1-liter amber glass (no preservative)

Stellar Environmental Solutions, Inc.
2198 Sixth Street, #201, Berkeley, CA 510-644-3123

GROUNDWATER WELL SAMPLING DOCUMENTATION FORM

Project Address: 240 W. Macarthur Blvd. Oakland, California

Sampler Name: Joe Dinan

Sampling Firm: Stellar Environmental Solutions, Inc.

Sampling Date: 8/18/03

Well Name: MW-3

Well Diameter (inches): 2-inch

Measured Well Depth (feet from top of casing): 24.1

Water Level (feet from top of casing): 14.9

Height of Water Column in feet (well depth - water level):

Gallons per casing volume: Not applicable (no purging)

2-inch wells: Height of water column * 0.16

4-inch wells: Height of water column * 0.65

Well Purging Method: No purging

Purging Record

	Temp (°F)	pH	Electrical Conductivity	Gallons Purged (running total)	Petroleum Sheen or Odor?
Initial Measurement	76.7	6.57	810		No sheen, faint odor
Purge volume #1					
Purge volume #2					
Purge volume #3					
Did well dewater?					

Sampling Method: Disposable bailer (Dedicated Bailer)

Sampling Time: 1135

Sampling Containers Filled: Three 40 ml VOA vials (with HCL preservative)

(no., type, preservative) One 1-liter amber glass (no preservative)

Stellar Environmental Solutions, Inc.
2198 Sixth Street, #201, Berkeley, CA 510-644-3123

GROUNDWATER WELL SAMPLING DOCUMENTATION FORM

Project Address: 240 W. Macarthur Blvd. Oakland, California

Sampler Name: Joe Dinan

Sampling Firm: Stellar Environmental Solutions, Inc.

Sampling Date: 8/18/03

Well Name: MW-4

Well Diameter (inches): 2-inch

Measured Well Depth (feet from top of casing): 24.2

Water Level (feet from top of casing): 14.75

Height of Water Column in feet (well depth - water level):

Gallons per casing volume: Not applicable (no purging)

2-inch wells: Height of water column * 0.16

4-inch wells: Height of water column * 0.65

Well Purging Method: No purging

Purging Record

	Temp (°F)	pH	Electrical Conductivity	Gallons Purged (running total)	Petroleum Sheen or Odor?
Initial Measurement	69.3	5.75	477		none
Purge volume #1					
Purge volume #2					
Purge volume #3					
Did well dewater?					

Sampling Method: Disposable bailer (Dedicated Bailer)

Sampling Time: 1120

Sampling Containers Filled: Three 40 ml VOA vials (with HCL preservative)

(no., type, preservative) One 1-liter amber glass (no preservative)

Stellar Environmental Solutions, Inc.
2198 Sixth Street, #201, Berkeley, CA 510-644-3123

GROUNDWATER WELL SAMPLING DOCUMENTATION FORM

Project Address: 240 W. Macarthur Blvd. Oakland, California

Sampler Name: Joe Dinan

Sampling Firm: Stellar Environmental Solutions, Inc.

Sampling Date: 8/18/03

Well Name: MW-5

Well Diameter (inches): 2-inch

Measured Well Depth (feet from top of casing): 20.0

Water Level (feet from top of casing): 16.34

Height of Water Column in feet (well depth - water level):

Gallons per casing volume: Not applicable (no purging)

2-inch wells: Height of water column * 0.16

4-inch wells: Height of water column * 0.65

Well Purging Method: No purging

Purging Record

	Temp (°F)	pH	Electrical Conductivity	Gallons Purged (running total)	Petroleum Sheen or Odor?
Initial Measurement	66.4	6.07	780		Sheen + odor
Purge volume #1					
Purge volume #2					
Purge volume #3					
Did well dewater?					

Sampling Method: Disposable bailer (Dedicated Bailer)

Sampling Time: 1240

Sampling Containers Filled: Three 40 ml VOA vials (with HCL preservative)

(no., type, preservative) One 1-liter amber glass (no preservative)

Stellar Environmental Solutions, Inc.
2198 Sixth Street, #201, Berkeley, CA 510-644-3123

GROUNDWATER WELL SAMPLING DOCUMENTATION FORM

Project Address: 240 W. Macarthur Blvd. Oakland, California

Sampler Name: Joe Dinan

Sampling Firm: Stellar Environmental Solutions, Inc.

Sampling Date: 8/18/03

Well Name: MW-6

Well Diameter (inches): 2-inch

Measured Well Depth (feet from top of casing): 20.0

Water Level (feet from top of casing): 15.5

Height of Water Column in feet (well depth - water level):

Gallons per casing volume: Not applicable (no purging)

2-inch wells: Height of water column * 0.16

4-inch wells: Height of water column * 0.65

Well Purging Method: No purging

Purging Record

	Temp (°F)	pH	Electrical Conductivity	Gallons Purged (running total)	Petroleum Sheen or Odor?
Initial Measurement	71.8	6.10	1076		sheen +odor
Purge volume #1					
Purge volume #2					
Purge volume #3					
Did well dewater?					

Sampling Method: Disposable bailer (Dedicated Bailer)

Sampling Time: 1100

Sampling Containers Filled: Three 40 ml VOA vials (with HCL preservative)

(no., type, preservative) One 1-liter amber glass (no preservative)

Stellar Environmental Solutions, Inc.
2198 Sixth Street, #201, Berkeley, CA 510-644-3123

GROUNDWATER WELL SAMPLING DOCUMENTATION FORM

Project Address: 240 W. Macarthur Blvd. Oakland, California

Sampler Name: Joe Dinan

Sampling Firm: Stellar Environmental Solutions, Inc.

Sampling Date: 8/18/03

Well Name: MW-7

Well Diameter (inches): 2-inch

Measured Well Depth (feet from top of casing): ~~20.0~~ 19.9

Water Level (feet from top of casing): ~~15.5~~ 15.61

Height of Water Column in feet (well depth - water level):

Gallons per casing volume: Not applicable (no purging)

2-inch wells: Height of water column * 0.16

4-inch wells: Height of water column * 0.65

Well Purging Method: No purging

Purging Record

	Temp (°F)	pH	Electrical Conductivity	Gallons Purged (running total)	Petroleum Sheen or Odor?
Initial Measurement	77.6	6.46	686		None
Purge volume #1					
Purge volume #2					
Purge volume #3					
Did well dewater?					

Sampling Method: Disposable bailer (Dedicated Bailer)

Sampling Time: 1250

Sampling Containers Filled: Three 40 ml VOA vials (with HCL preservative)

(no., type, preservative) One 1-liter amber glass (no preservative)

Stellar Environmental Solutions, Inc.
2198 Sixth Street, #201, Berkeley, CA 510-644-3123

GROUNDWATER WELL SAMPLING DOCUMENTATION FORM

Project Address: 240 W. Macarthur Blvd. Oakland, California

Sampler Name: Joe Dinan

Sampling Firm: Stellar Environmental Solutions, Inc.

Sampling Date: 8/18/03

Well Name: MW-8

Well Diameter (inches): 2-inch

Measured Well Depth (feet from top of casing): 19.9

Water Level (feet from top of casing): 13.75

Height of Water Column in feet (well depth - water level):

Gallons per casing volume: Not applicable (no purging)

2-inch wells: Height of water column * 0.16

4-inch wells: Height of water column * 0.65

Well Purging Method: No purging

Purging Record

	Temp (°F)	pH	Electrical Conductivity	Gallons Purged (running total)	Petroleum Sheen or Odor?
Initial Measurement	77.4	6.30	424		none
Purge volume #1					
Purge volume #2					
Purge volume #3					
Did well dewater?					

Sampling Method: Disposable bailer (Dedicated Bailer)

Sampling Time: 1215

Sampling Containers Filled: Three 40 ml VOA vials (with HCL preservative)

(no., type, preservative) One 1-liter amber glass (no preservative)

Stellar Environmental Solutions, Inc.
2198 Sixth Street, #201, Berkeley, CA 510-644-3123

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: 25-AUG-03
Lab Job Number: 166997
Project ID: 2003-43
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

Curtis & Tompkins, Ltd.

Laboratory Numbers: **166997**
Client: **Stellar Environmental Solutions**
Project #: **2003-43**
Location: **Oakland Auto Works**

Sampled Date: **08/[illegible]**
Received Date: **08/18/03**

CASE NARRATIVE

This hardcopy data package contains sample and QC results for eight water samples, which were received from the site referenced above on August 18, 2003. The samples were received intact.

TVH by EPA 8015B: High surrogate recoveries were observed for sample MW-2 (CT# 166997-002) as a result of hydrocarbons co-eluting with the surrogates. No other analytical problems were encountered.

TEH by EPA 8015B: No analytical problems were encountered.

VOCs by EPA 8260B: No analytical problems were encountered.

Chain of Custody Record

Lab Job no. _____

Date _____

Page 1 of 1

Laboratory: Curtis & Tompkins, Ltd.
Address: 2323 Fifth Street, Berkeley, CA 94710, 510-486-0900
Project Owner: Glen Poy-Wing
Site Address: 940 W. Macarthur Blvd., Oakland, CA
Project Name: Oakland Auto Works
Project Number: 2003-43

Method of Shipment: hand delivery
Shipment No.: —
Airbill No.: —
Cooler No.: —
Project Manager: Bruce Rukert
Telephone No.: (510) 644-3123
Fax No.: (510) 644-3859
Samplers: (Signature)

GSCX

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	Analysis Required: TVH-gas / BTEX / MTBE	Analysis Required: TEH-diesel	Analysis Required: 5 oxygenates + lead scavengers (8260)	Remarks
-1 MW-1		5/13/03	12:25	H2O	40 ml VOA / 1L Amber	✓	HCl / None		4	✓	✓	✓	✓
-2 MW-2		5/13/03	11:55	H2O		✓			4	✓	✓	✓	✓
-3 MW-3		5/13/03	11:35	H2O		✓			4	✓	✓	✓	✓
-4 MW-4		5/13/03	11:20	H2O		✓			4	✓		✓	✓	Hold 1L Amber
-5 MW-5		5/13/03	12:40	H2O		✓			4	✓	✓	✓	✓
-6 MW-6		5/13/03	11:00	H2O		✓			4	✓	✓	✓	✓
-7 MW-7		5/13/03	12:50	H2O		✓			4	✓		✓	✓	Hold 1L Amber
-8 MW-8		5/13/03	12:15	H2O		✓			4	✓	✓	✓	✓

Received: ☒ Cold ☐ Ambient ☐ On ice ☐ Intact

Preservation Correct: ☑ Yes ☐ No ☐ N/A

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature:	5/13/03	Signature:	5/13/03	Signature:		Signature:	
Printed: Joseph Dinan	Time: 14:20	Printed: A. Oliver	Time: 2:20	Printed:	Time:	Printed:	Time:
Company: Stellar Env. Solutions		Company: C-T		Company:		Company:	

Turnaround Time: 1 week.

Comments:

Relinquished by:	Date	Received by:	Date
Signature:		Signature:	
Printed:	Time:	Printed:	Time:
Company:		Company:	

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43		
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

Field ID:	MW-1	Diln Fac:	20.00
Type:	SAMPLE	Batch#:	83807
Lab ID:	166997-001	Analyzed:	08/20/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	4,900	1,000	8015B
MTBE	ND	40	EPA 8021B
Benzene	740	10	EPA 8021B
Toluene	45	10	EPA 8021B
Ethylbenzene	85	10	EPA 8021B
m,p-Xylenes	140	10	EPA 8021B
o-Xylene	110	10	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	113	57-150	8015B
Bromofluorobenzene (FID)	123	65-144	8015B
Trifluorotoluene (PID)	93	54-149	EPA 8021B
Bromofluorobenzene (PID)	103	58-143	EPA 8021B

Field ID:	MW-2	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83807
Lab ID:	166997-002	Analyzed:	08/20/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,200	50	8015B
MTBE	230	2.0	EPA 8021B
Benzene	58	0.50	EPA 8021B
Toluene	9.2	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	15	0.50	EPA 8021B
o-Xylene	13	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	190 *	57-150	8015B
Bromofluorobenzene (FID)	186 *	65-144	8015B
Trifluorotoluene (PID)	127	54-149	EPA 8021B
Bromofluorobenzene (PID)	123	58-143	EPA 8021B

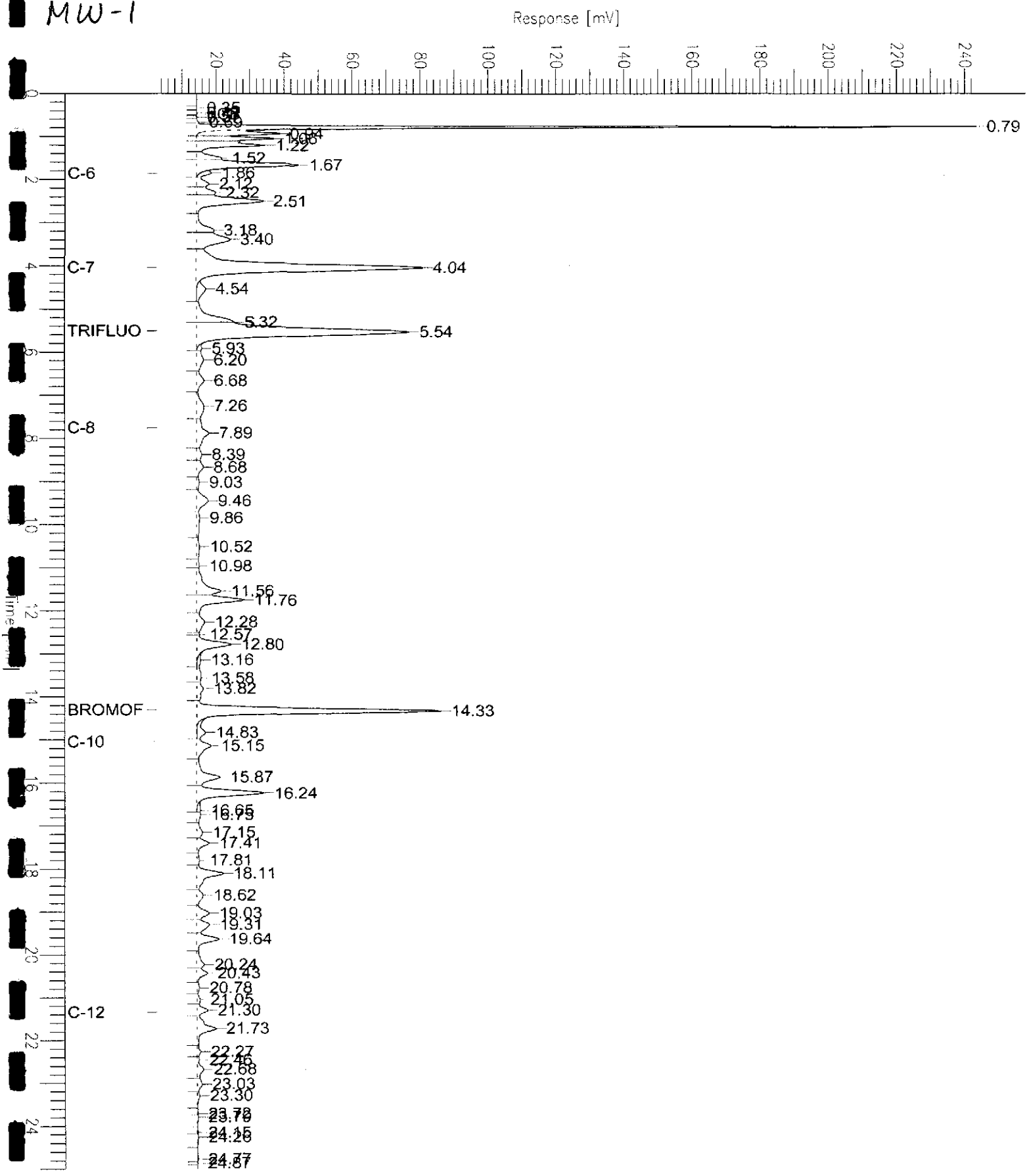
*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 166997-001,83807
FileName : G:\GC05\DATA\231G033.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 3 mV

Sample #: d1.0 Page 1 of 1
Date : 8/22/03 11:26 AM
Time of Injection: 8/20/03 05:46 AM
Low Point : 2.86 mV High Point : 243.56 mV
Plot Scale: 240.7 mV

MW-1

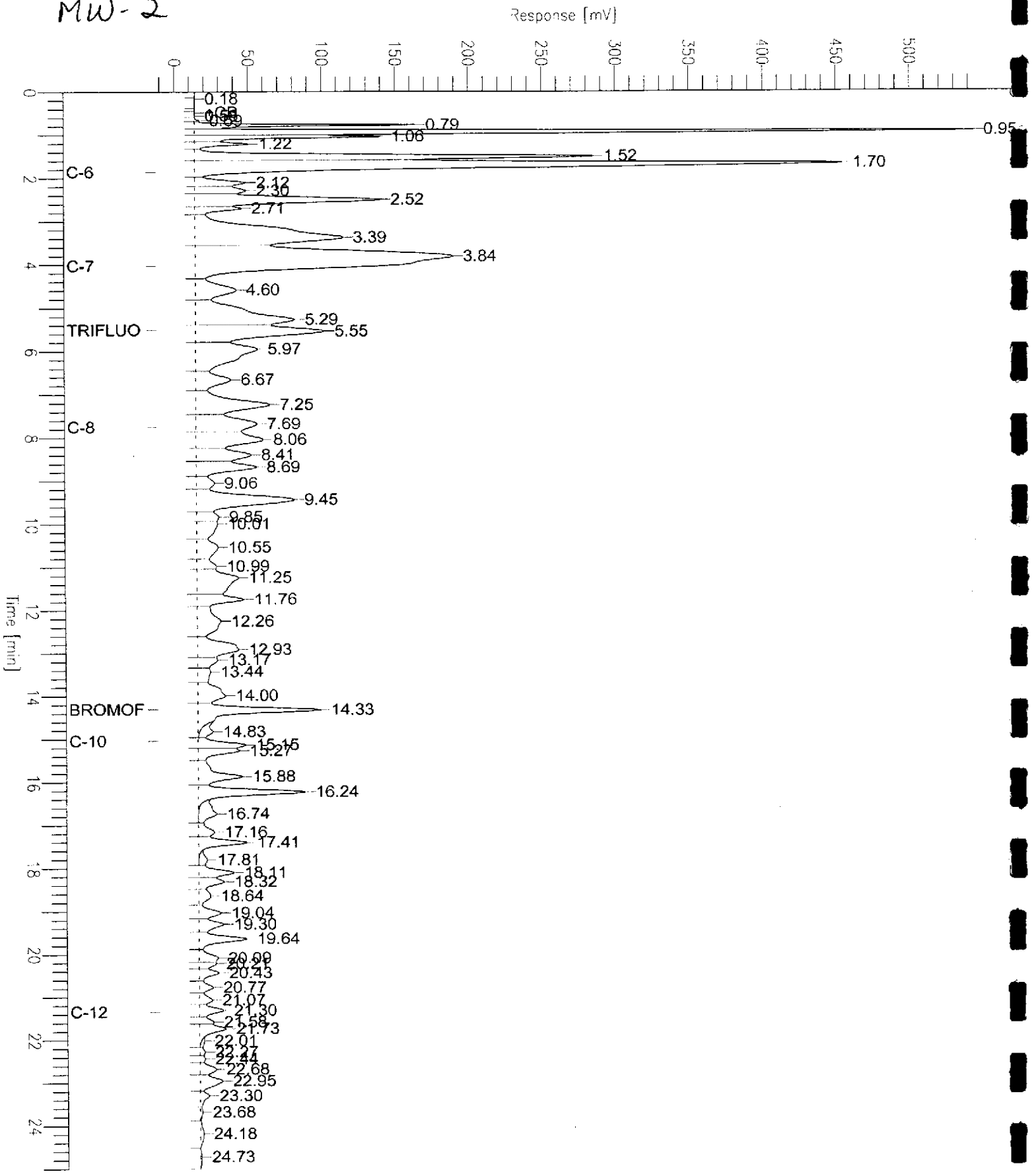


Chromatogram

Sample Name : 166997-002,83807
FileName : G:\GC05\DATA\231G025.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -12 mV

Sample #: d1.0 Page 1 of 1
Date : 8/20/03 01:42 AM
Time of Injection: 8/20/03 01:17 AM
Low Point : -12.48 mV High Point : 543.82 mV
Plot Scale: 556.3 mV

MW-2



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43		
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

Field ID:	MW-3	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	83807
Lab ID:	166997-003	Analyzed:	08/20/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	3,800	250	8015B
MTBE	310	10	EPA 8021B
Benzene	170	2.5	EPA 8021B
Toluene	28	2.5	EPA 8021B
Ethylbenzene	31	2.5	EPA 8021B
m,p-Xylenes	22	2.5	EPA 8021B
o-Xylene	8.9	2.5	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	134	57-150	8015B
Bromofluorobenzene (FID)	136	65-144	8015B
Trifluorotoluene (PID)	101	54-149	EPA 8021B
Bromofluorobenzene (PID)	105	58-143	EPA 8021B

Field ID:	MW-4	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83807
Lab ID:	166997-004	Analyzed:	08/19/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	101	57-150	8015B
Bromofluorobenzene (FID)	116	65-144	8015B
Trifluorotoluene (PID)	87	54-149	EPA 8021B
Bromofluorobenzene (PID)	102	58-143	EPA 8021B

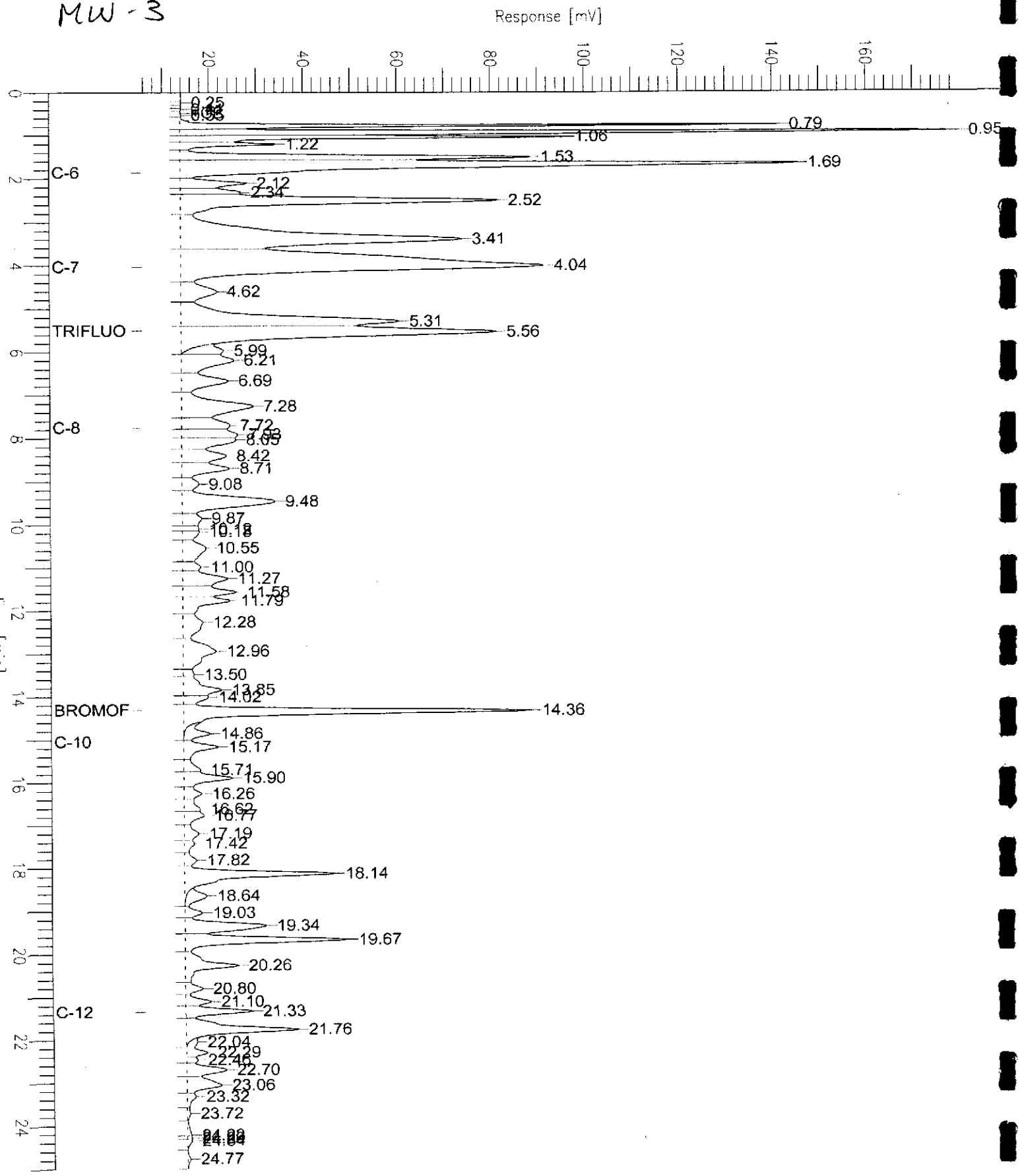
*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 166997-003,83807
FileName : G:\GC05\DATA\231G042.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 6 mV

Sample #: d1.0 Page 1 of 1
Date : 8/20/03 11:17 AM
Time of Injection: 8/20/03 10:52 AM
Low Point : 5.61 mV High Point : 179.95 mV
Plot Scale: 174.3 mV

MW-3



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43		
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

ield ID:	MW-5	Diln Fac:	50.00
ype:	SAMPLE	Batch#:	83807
Lab ID:	166997-005	Analyzed:	08/20/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	18,000	2,500	8015B
MTBE	ND	100	EPA 8021B
Benzene	950	25	EPA 8021B
Toluene	290	25	EPA 8021B
Ethylbenzene	330	25	EPA 8021B
m,p-Xylenes	1,100	25	EPA 8021B
o-Xylene	720	25	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	118	57-150	8015B
Bromofluorobenzene (FID)	123	65-144	8015B
Trifluorotoluene (PID)	97	54-149	EPA 8021B
Bromofluorobenzene (PID)	104	58-143	EPA 8021B

Field ID:	MW-6	Diln Fac:	1.000
ype:	SAMPLE	Batch#:	83881
ab ID:	166997-006	Analyzed:	08/22/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	1,600	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	37	0.50	EPA 8021B
Toluene	4.1	0.50	EPA 8021B
Ethylbenzene	23	0.50	EPA 8021B
m,p-Xylenes	40	0.50	EPA 8021B
o-Xylene	18	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	136	57-150	8015B
Bromofluorobenzene (FID)	131	65-144	8015B
Trifluorotoluene (PID)	121	54-149	EPA 8021B
Bromofluorobenzene (PID)	105	58-143	EPA 8021B

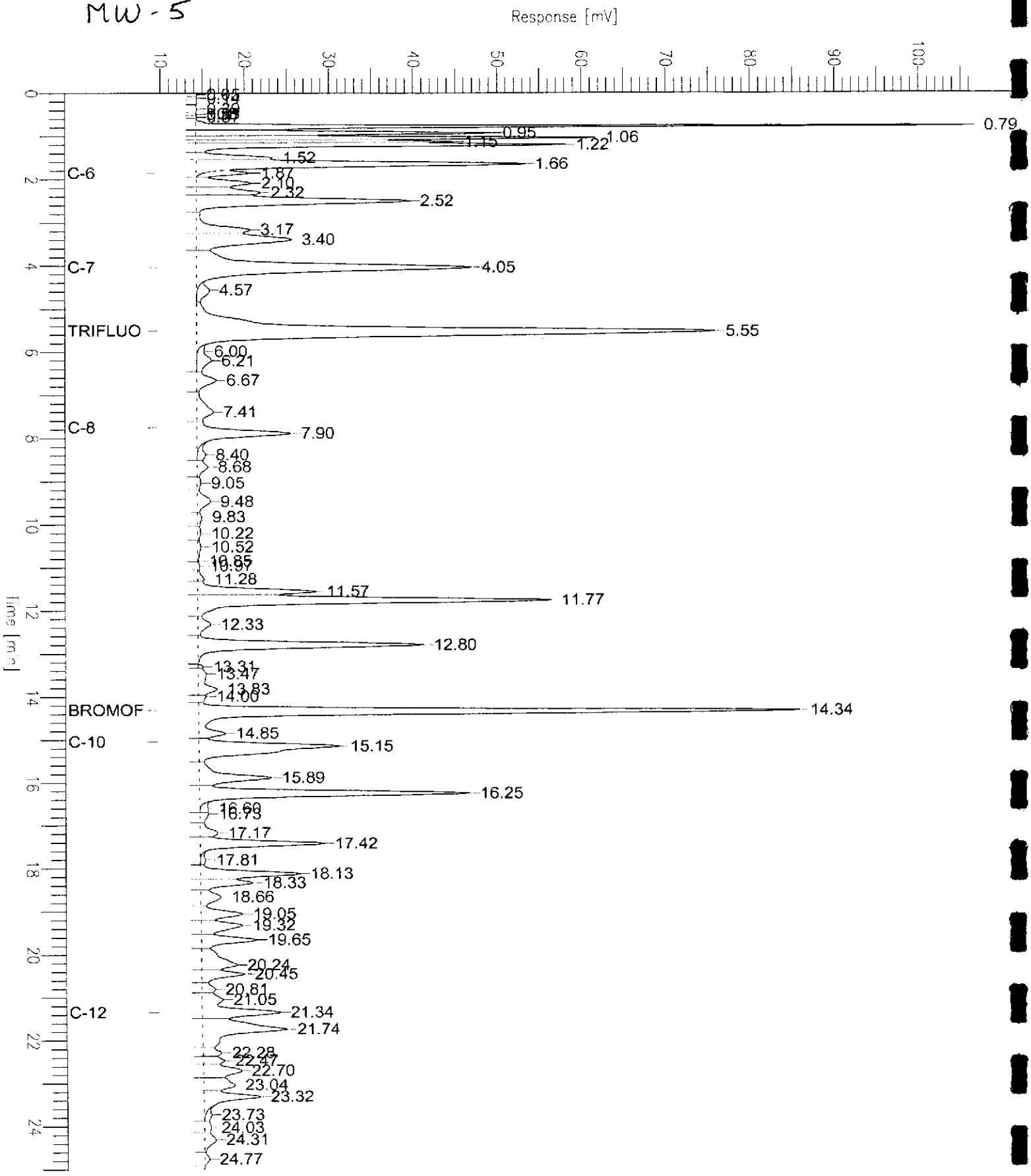
*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
D= Not Detected
L= Reporting Limit

Chromatogram

Sample Name : 166997-005,83807
FileName : G:\GC05\DATA\231G040.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 10 mV

Sample #: d1.0 Page 1 of 1
Date : 8/20/03 10:10 AM
Time of Injection: 8/20/03 09:45 AM
Low Point : 9.63 mV High Point : 106.66 mV
Plot Scale: 97.0 mV

MW-5

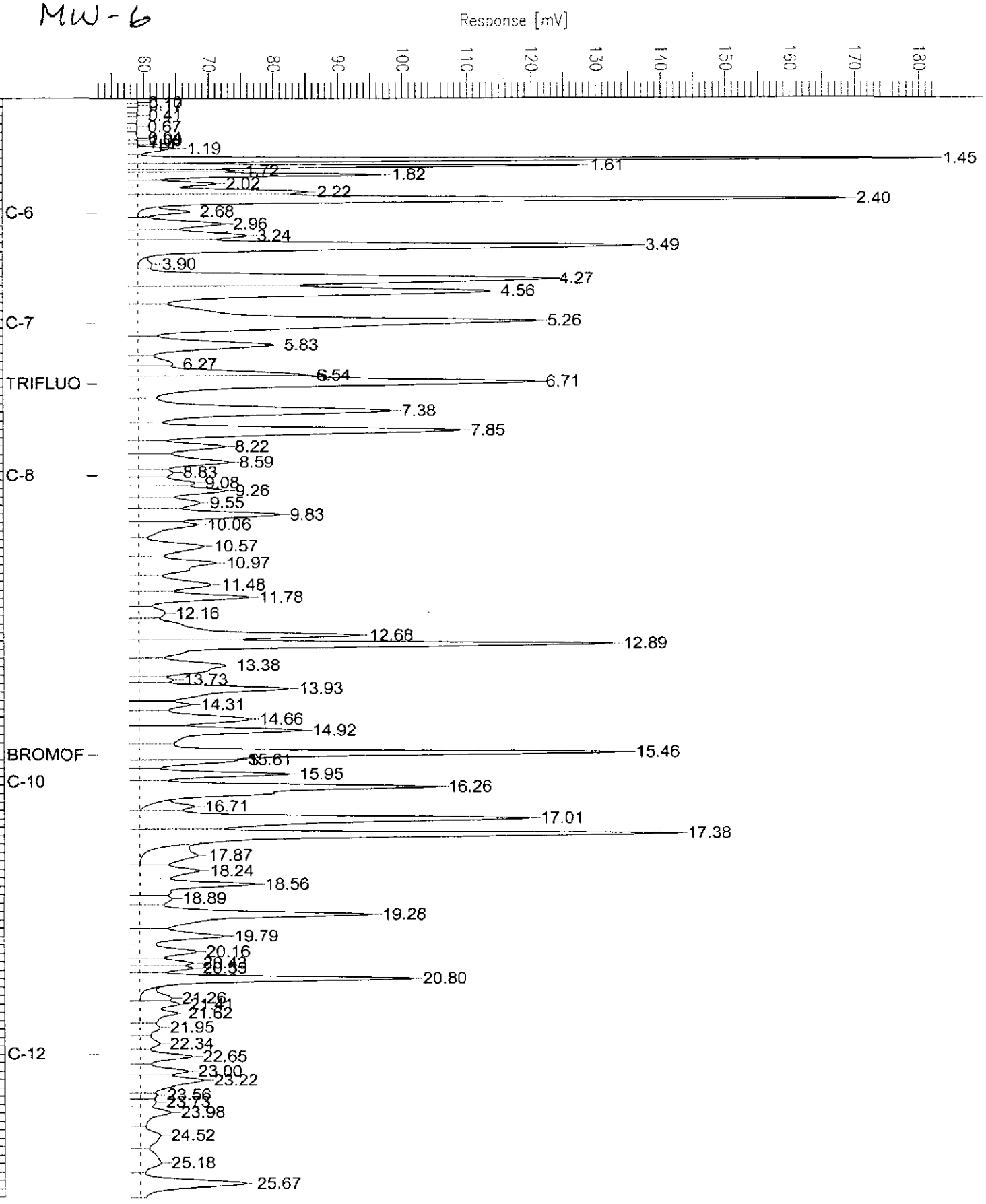


GC04 TVH 'J' Data File FID

Sample Name : 166997-006,83881
FileName : G:\GC04\DATA\233J033.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: 1.0 Plot Offset: 53 mV

Sample #: d1.0 Page 1 of 1
Date : 8/22/03 08:32 AM
Time of Injection: 8/22/03 05:44 AM
Low Point : 52.78 mV High Point : 182.14 mV
Plot Scale: 129.4 mV

MW-6



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43		
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

Field ID:	MW-7	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83807
Lab ID:	166997-007	Analyzed:	08/20/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	99	57-150	8015B
Bromofluorobenzene (FID)	123	65-144	8015B
Trifluorotoluene (PID)	80	54-149	EPA 8021B
Bromofluorobenzene (PID)	103	58-143	EPA 8021B

Field ID:	MW-8	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83807
Lab ID:	166997-008	Analyzed:	08/20/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	190	50	8015B
MTBE	8.1	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	0.60 C	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	110	57-150	8015B
Bromofluorobenzene (FID)	129	65-144	8015B
Trifluorotoluene (PID)	88	54-149	EPA 8021B
Bromofluorobenzene (PID)	106	58-143	EPA 8021B

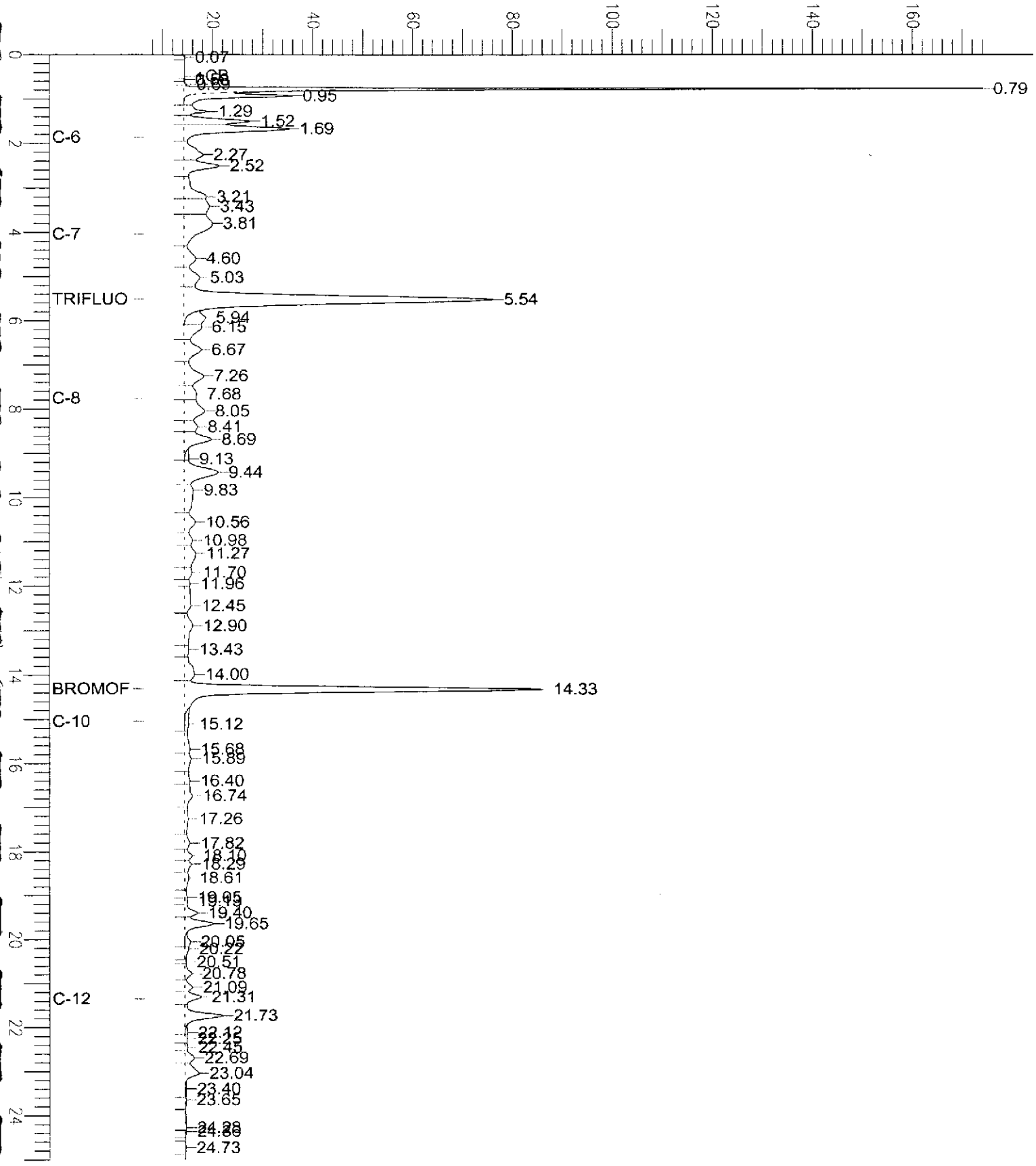
*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 166997-008,83807
leName : G:\GC05\DATA\231G032.raw
thod : TVHBTXE
tart Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 6 mV

Sample #: d1.0 Page 1 of 1
Date : 8/20/03 05:38 AM
Time of Injection: 8/20/03 05:12 AM
Low Point : 6.30 mV High Point : 174.17 mV
Plot Scale: 167.9 mV

MW-8



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43		
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

Type: BLANK
Lab ID: QC222815
Diln Fac: 1.000

Batch#: 83807
Analyzed: 08/19/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	97	57-150	8015B
Bromofluorobenzene (FID)	108	65-144	8015B
Trifluorotoluene (PID)	84	54-149	EPA 8021B
Bromofluorobenzene (PID)	95	58-143	EPA 8021B

Type: BLANK
Lab ID: QC223111
Diln Fac: 1.000

Batch#: 83881
Analyzed: 08/21/03

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	110	57-150	8015B
Bromofluorobenzene (FID)	91	65-144	8015B
Trifluorotoluene (PID)	102	54-149	EPA 8021B
Bromofluorobenzene (PID)	84	58-143	EPA 8021B

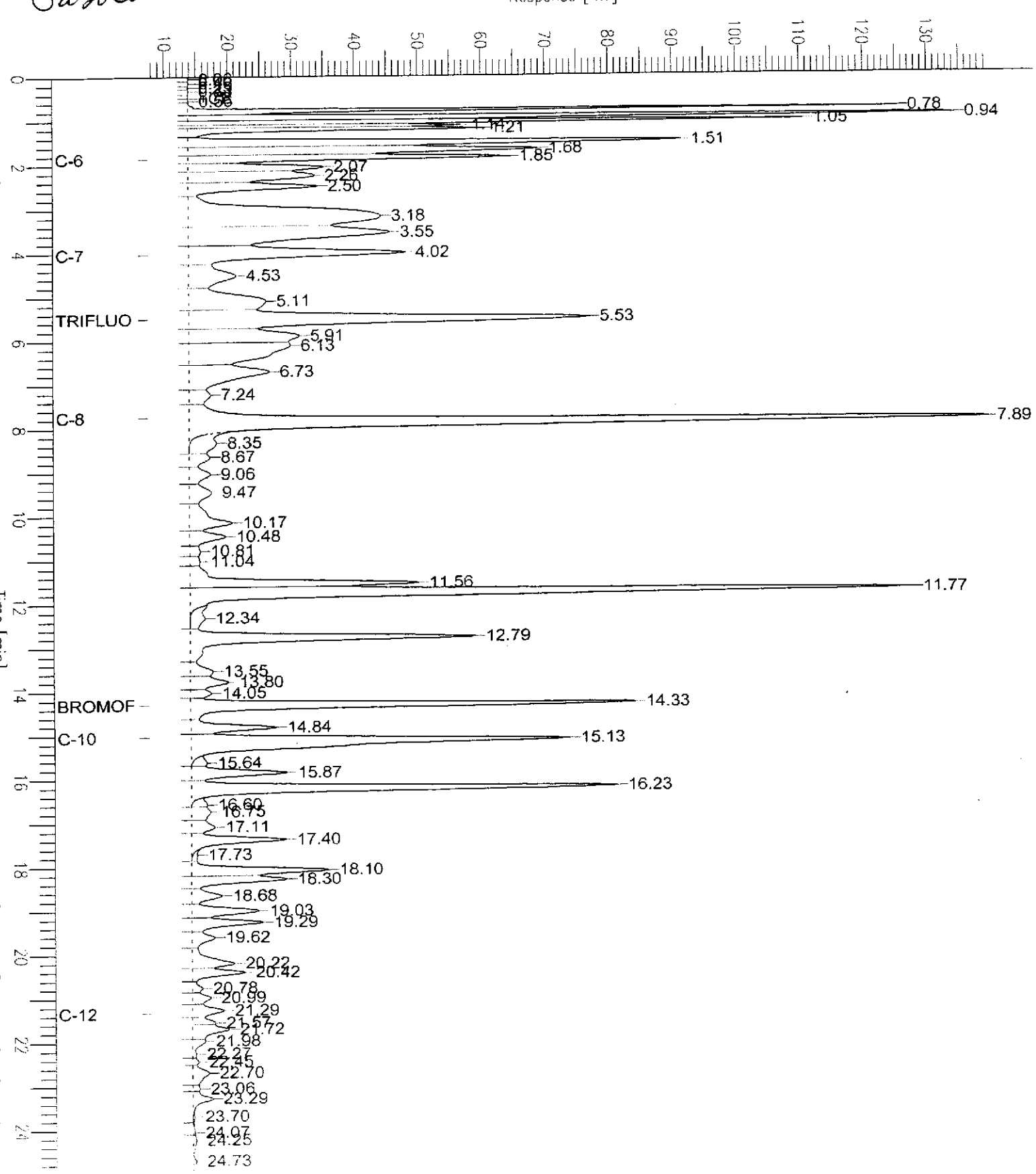
*= Value outside of QC limits; see narrative
C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : ccv/lcs,qc222817,83807,03wsl335,2.5/5000
FileName : G:\GC05\DATA\231G002.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: Page 1 of 1
Date : 8/19/03 11:26 AM
Time of Injection: 8/19/03 11:00 AM
Low Point : 7.49 mV High Point : 139.01 mV
Plot Scale: 131.5 mV

Gasoline



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC222816	Batch#:	83807
Matrix:	Water	Analyzed:	08/19/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12		NA		
MTBE	10.00	9.035	90	51-125
Benzene	10.00	9.074	91	78-123
Toluene	10.00	8.812	88	79-120
Ethylbenzene	10.00	9.140	91	80-120
m,p-Xylenes	20.00	18.27	91	76-120
o-Xylene	10.00	9.214	92	80-121

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		90	54-149
Bromofluorobenzene (PID)		101	58-143

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC222817	Batch#:	83807
Matrix:	Water	Analyzed:	08/19/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,072	107	80-120
MTBE		NA		
Benzene		NA		
Toluene		NA		
Ethylbenzene		NA		
m,p-Xylenes		NA		
o-Xylene		NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		117	57-150
Bromofluorobenzene (FID)		122	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed

8.0

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC223112	Batch#:	83881
Matrix:	Water	Analyzed:	08/21/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12		NA		
MTBE	10.00	9.533	95	51-125
Benzene	10.00	10.86	109	78-123
Toluene	10.00	10.70	107	79-120
Ethylbenzene	10.00	10.38	104	80-120
m,p-Xylenes	20.00	21.80	109	76-120
o-Xylene	10.00	10.78	108	80-121

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		108	54-149
Bromofluorobenzene (PID)		110	58-143

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC223113	Batch#:	83881
Matrix:	Water	Analyzed:	08/21/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,090	109	80-120
MTBE		NA		
Benzene		NA		
Toluene		NA		
Ethylbenzene		NA		
m,p-Xylenes		NA		
o-Xylene		NA		

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)		121	57-150
Bromofluorobenzene (FID)		99	65-144
Trifluorotoluene (PID)	NA		
Bromofluorobenzene (PID)	NA		

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8021B
Field ID:	MW-4	Batch#:	83807
MSS Lab ID:	166997-004	Sampled:	08/18/03
Matrix:	Water	Received:	08/18/03
Units:	ug/L	Analyzed:	08/20/03
Diln Fac:	1.000		

Type: MS Lab ID: QC222914

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12		NA			
MTBE	1.938	20.00	17.56	78	33-131
Benzene	<0.1200	20.00	17.20	86	75-128
Toluene	<0.03500	20.00	16.15	81	79-127
Ethylbenzene	<0.03800	20.00	16.77	84	78-124
m,p-Xylenes	<0.05100	40.00	33.64	84	67-121
o-Xylene	<0.03400	20.00	17.00	85	77-131

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		87	54-149
Bromofluorobenzene (PID)		105	58-143

Type: MSD Lab ID: QC222915

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12		NA				
MTBE	20.00	18.69	84	33-131	6	20
Benzene	20.00	16.78	84	75-128	2	20
Toluene	20.00	15.79	79	79-127	2	20
Ethylbenzene	20.00	15.83	79	78-124	6	20
m,p-Xylenes	40.00	33.34	83	67-121	1	20
o-Xylene	20.00	16.57	83	77-131	3	20

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		89	54-149
Bromofluorobenzene (PID)		109	58-143

NA= Not Analyzed
RPD= Relative Percent Difference

9.0

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8021B
Field ID:	ZZZZZZZZZZ	Batch#:	83881
MSS Lab ID:	167058-020	Sampled:	08/19/03
Matrix:	Water	Received:	08/20/03
Units:	ug/L	Analyzed:	08/21/03
Diln Fac:	1.000		

Type: MS Lab ID: QC223158

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12		NA			
MTBE	<0.4200	20.00	20.43	102	33-131
Benzene	<0.09400	20.00	21.88	109	75-128
Toluene	<0.1200	20.00	20.83	104	79-127
Ethylbenzene	<0.08300	20.00	20.05	100	78-124
m,p-Xylenes	<0.07100	40.00	42.81	107	67-121
o-Xylene	<0.1100	20.00	20.79	104	77-131

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		104	54-149
Bromofluorobenzene (PID)		97	58-143

Type: MSD Lab ID: QC223159

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12		NA				
MTBE	20.00	20.13	101	33-131	1	20
Benzene	20.00	21.41	107	75-128	2	20
Toluene	20.00	20.60	103	79-127	1	20
Ethylbenzene	20.00	19.90	99	78-124	1	20
m,p-Xylenes	40.00	42.05	105	67-121	2	20
o-Xylene	20.00	20.43	102	77-131	2	20

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		113	54-149
Bromofluorobenzene (PID)		105	58-143

NA= Not Analyzed
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2003-43	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03
Batch#:	83820	Prepared:	08/19/03

Field ID: MW-1 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 08/20/03
Lab ID: 166997-001

Analyte	Result	RL
Diesel C10-C24	5,000 L Y	50

Surrogate	%REC	Limits
Hexacosane	114	44-146

Field ID: MW-2 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 08/20/03
Lab ID: 166997-002

Analyte	Result	RL
Diesel C10-C24	730 L Y	50

Surrogate	%REC	Limits
Hexacosane	107	44-146

Field ID: MW-3 | Diln Fac: 1.000
Type: SAMPLE | Analyzed: 08/20/03
Lab ID: 166997-003

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

Surrogate	%REC	Limits
Hexacosane	108	44-146

Field ID: MW-5 | Diln Fac: 3.000
Type: SAMPLE | Analyzed: 08/21/03
Lab ID: 166997-005

Analyte	Result	RL
Diesel C10-C24	10,000 L Y	150

Surrogate	%REC	Limits
Hexacosane	94	44-146

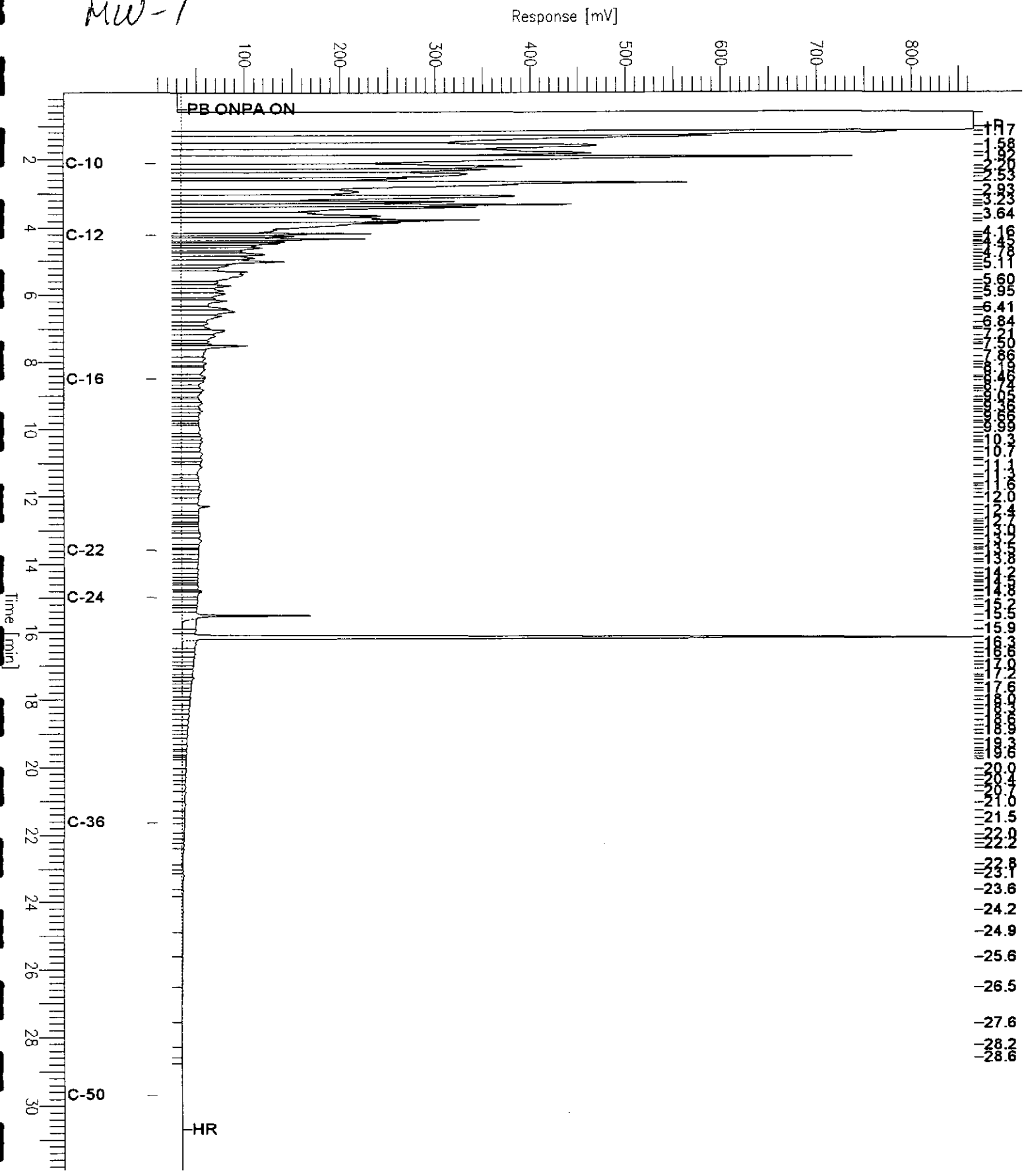
H= Heavier hydrocarbons contributed to the quantitation
L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Chromatogram

Sample Name : 166997-001,83820
FileName : G:\GC15\CHB\232B012.RAW
Method : BTEH219.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 8 mV

Sample #: 83820 Page 1 of 1
Date : 8/21/03 09:28 AM
Time of Injection: 8/20/03 07:46 PM
Low Point : 7.86 mV High Point : 865.96 mV
Plot Scale: 858.1 mV

MW-1

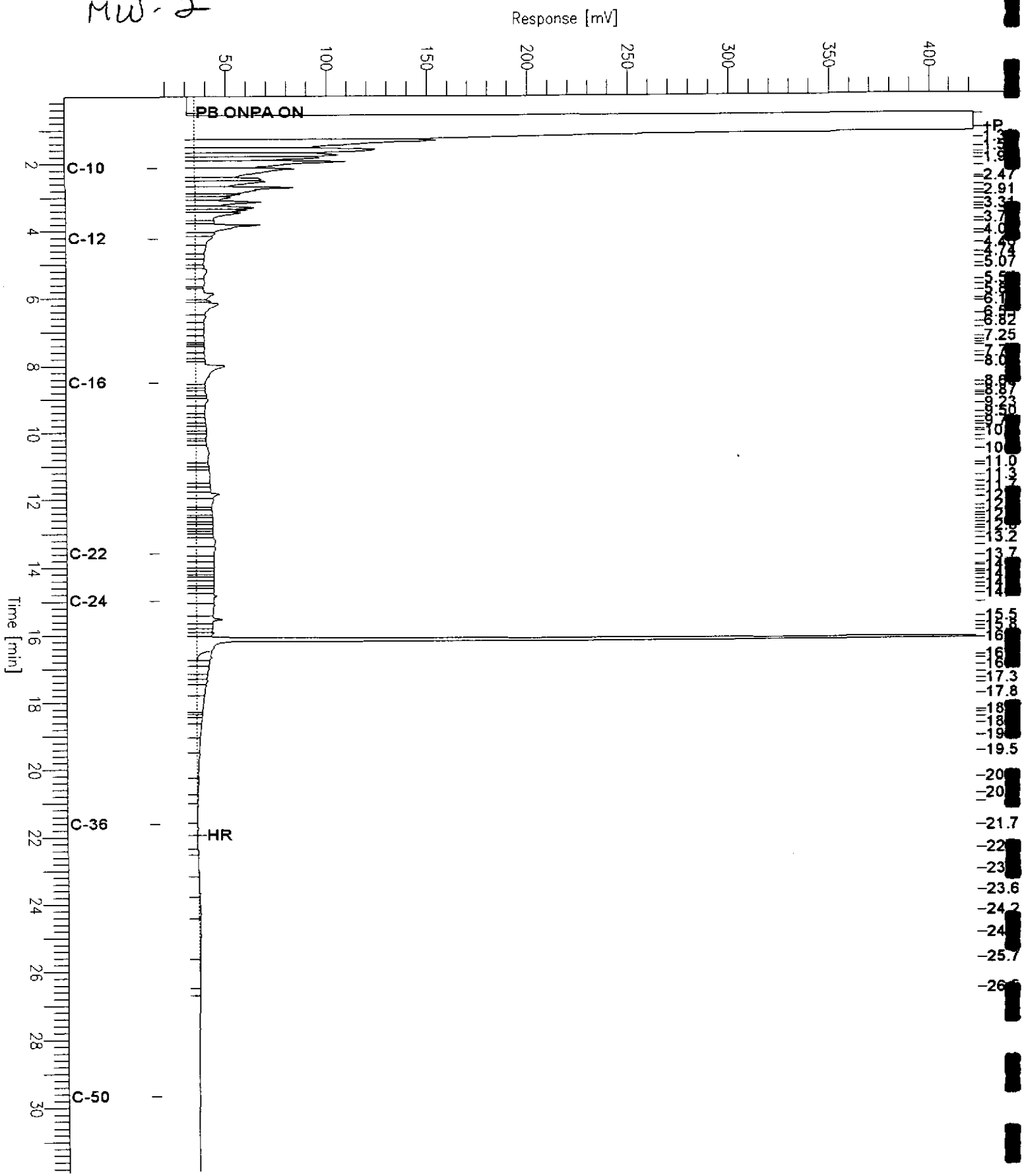


Chromatogram

Sample Name : 166997-002,83820
FileName : G:\GC15\CHB\232B013.RAW
Method : BTEH219.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 16 mV

Sample #: 83820
Date : 8/21/03 09:28 AM
Time of Injection: 8/20/03 08:27 PM
Low Point : 16.13 mV High Point : 422.28 mV
Plot Scale: 406.2 mV

MW-2

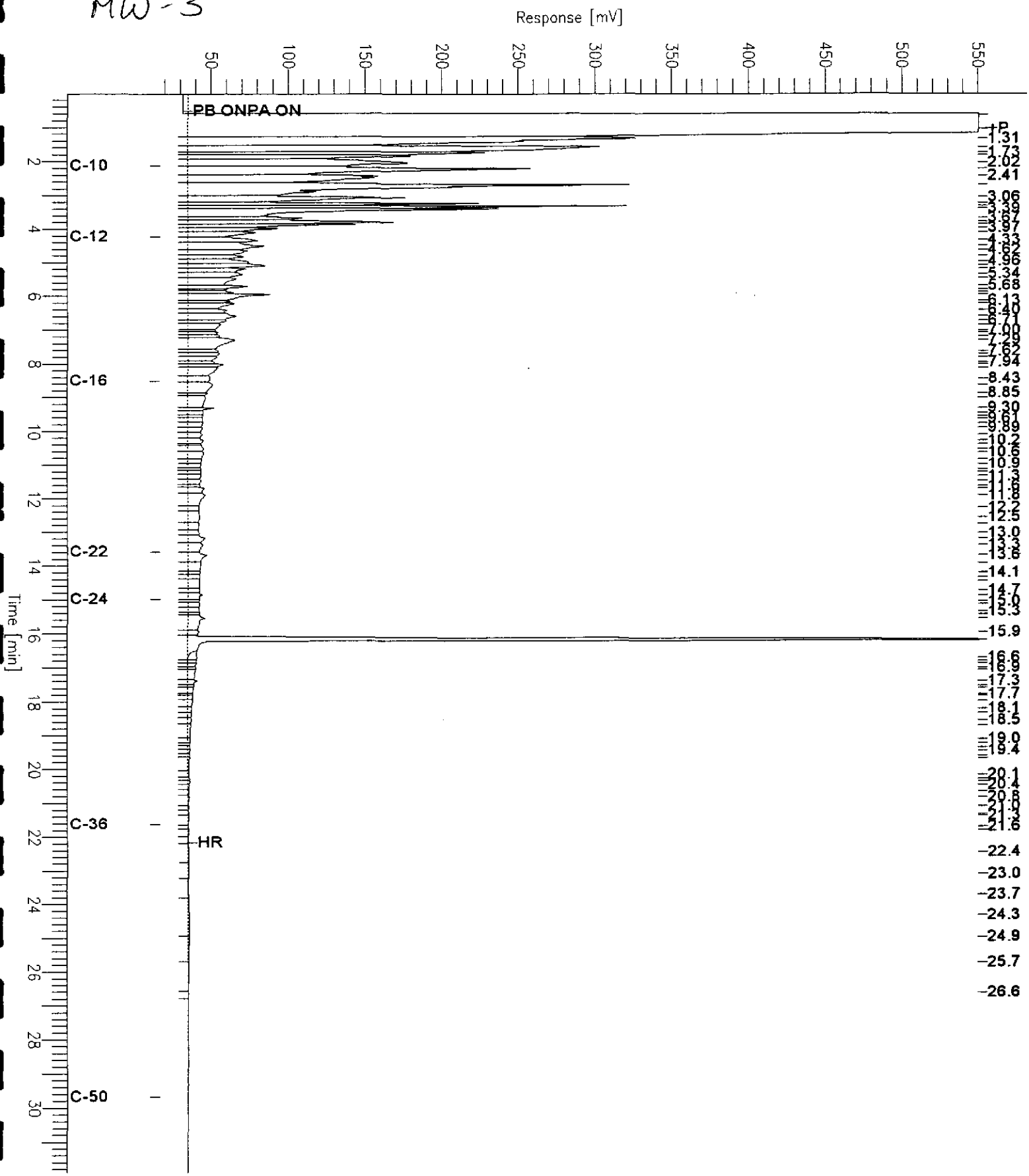


Chromatogram

Sample Name : 166997-003,83820
FileName : G:\GC15\CHB\232B014.RAW
Method : BTEH219.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 17 mV

Sample #: 83820 Page 1 of 1
Date : 8/21/03 09:29 AM
Time of Injection: 8/20/03 09:07 PM
Low Point : 16.91 mV High Point : 550.57 mV
Plot Scale: 533.7 mV

MW-3

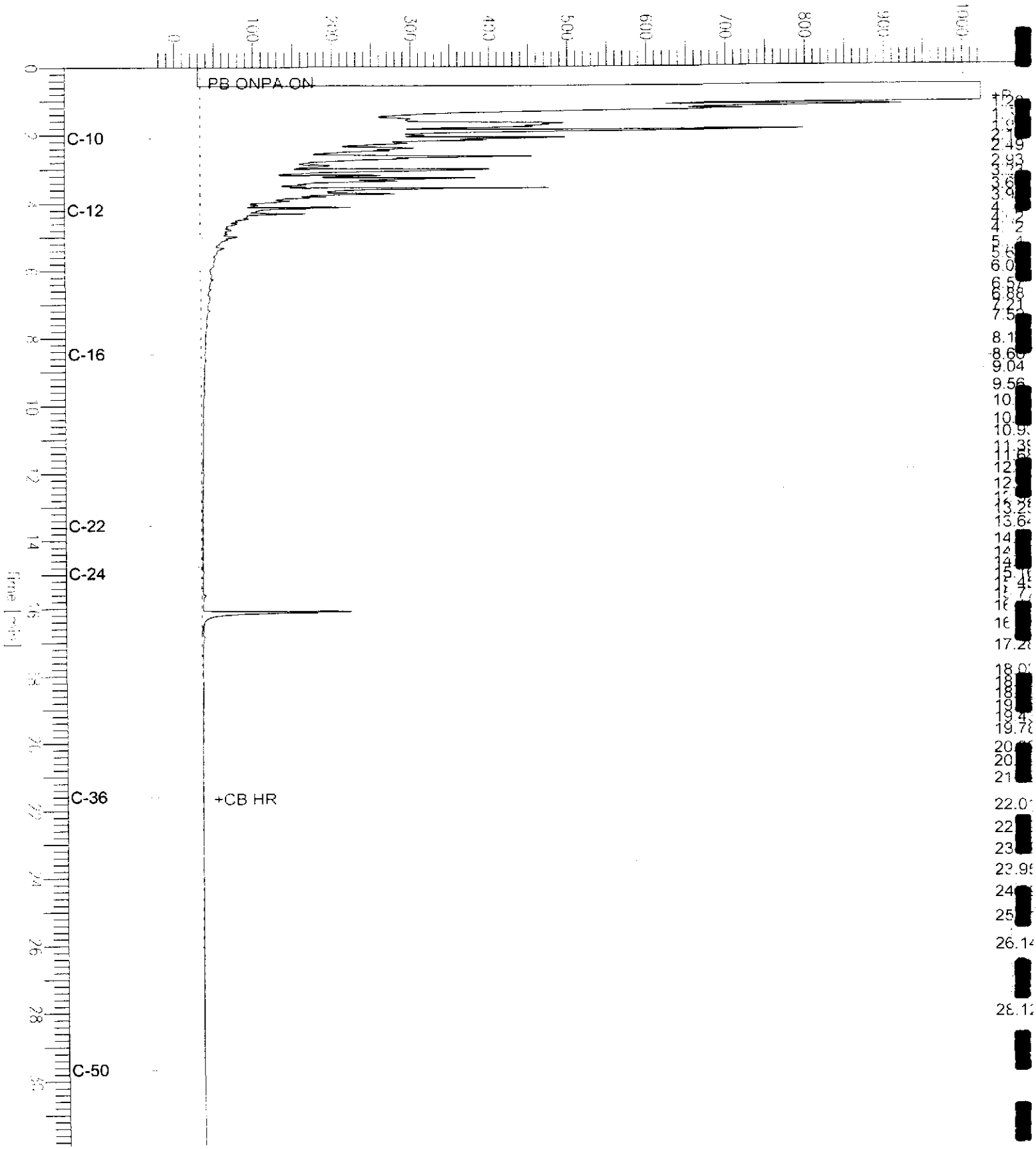


Chromatogram

Sample Name : 166997-005,83820
FileName : G:\GC15\CHB\232B040.RAW
Method : BTEH219.MTH
Start Time : 0.00 min End Time : 31.90 min
Scale Factor: 0.0 Plot Offset: -22 mV

Sample #: 83820
Date : 8/22/03 01:51 PM
Time of Injection: 8/21/03 05:01 PM
Low Point : -22.06 mV High Point : 1024.00 mV
Plot Scale: 1046.1 mV

MW-5



Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2003-43	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03
Batch#:	83820	Prepared:	08/19/03

Field ID:	MW-6	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	08/20/03
Lab ID:	166997-006		

Analyte	Result	RL
Diesel C10-C24	2,800 H L Y	50

Surrogate	%REC	Limits
Hexacosane	120	44-146

Field ID:	MW-8	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	08/21/03
Lab ID:	166997-008		

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	112	44-146

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC222855	Analyzed:	08/20/03

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	86	44-146

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

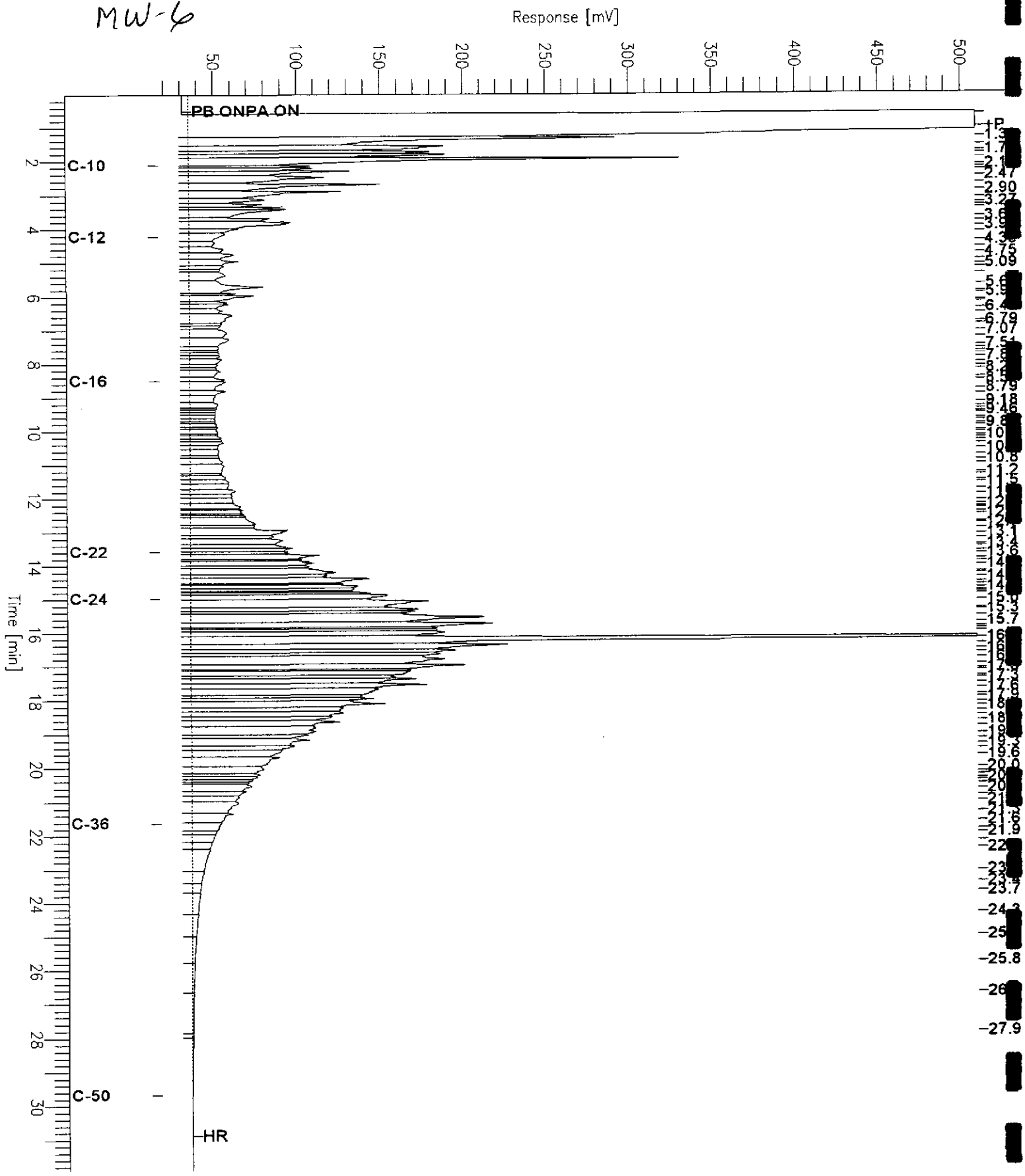
13.0

Chromatogram

Sample Name : 166997-006,83820
FileName : G:\GC15\CHB\232B016.RAW
Method : BTEH219.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 17 mV

Sample #: 83820
Date : 8/21/03 09:30 AM
Time of Injection: 8/20/03 10:29 PM
Low Point : 16.95 mV High Point : 509.29 mV
Plot Scale: 492.3 mV

MW-6

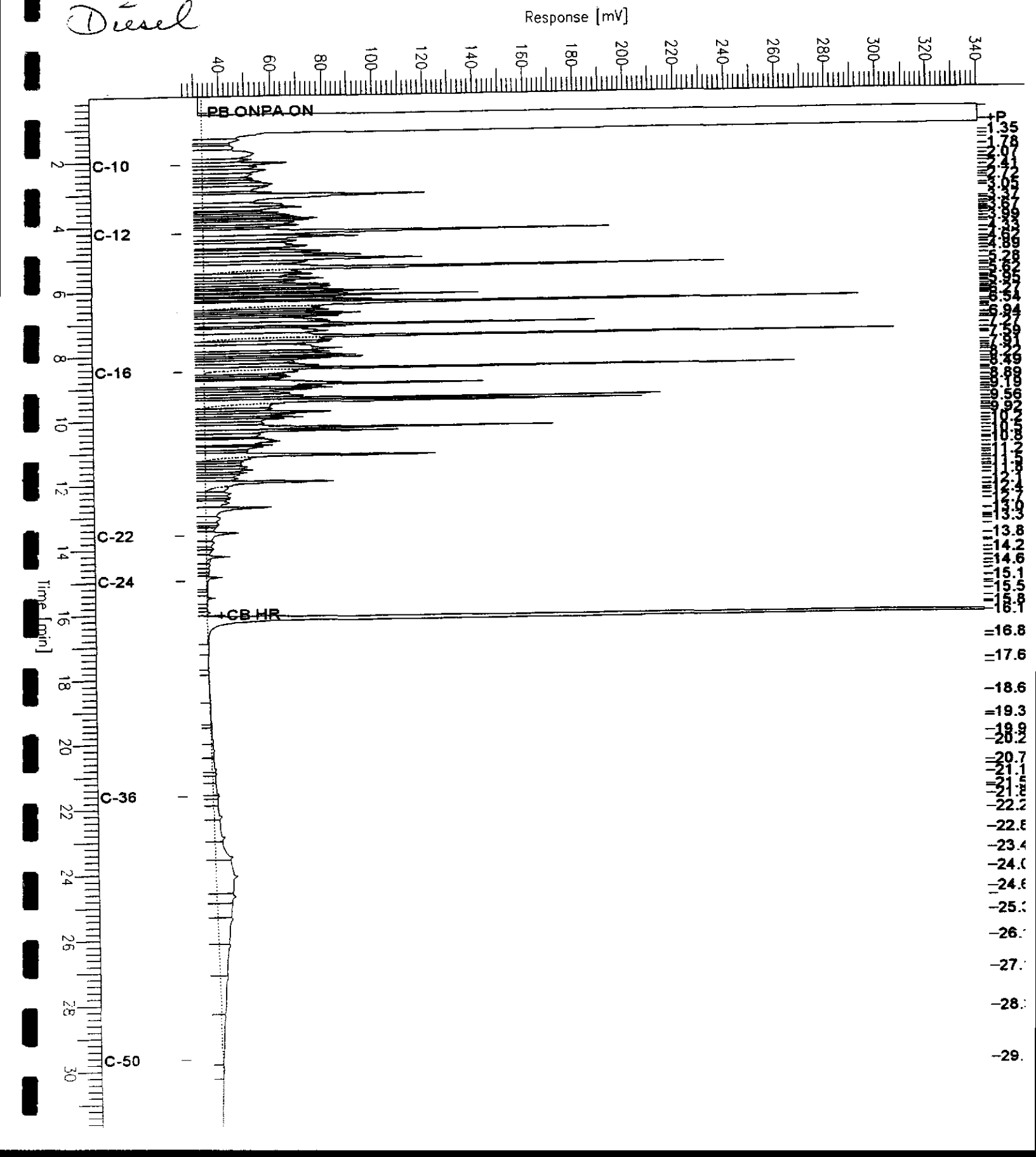


Chromatogram

mple Name : ccv,03ws1153,dsl
leName : G:\GC15\CHB\232B001.RAW
thod : BTEH219.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 25 mV

Sample #: 500mg/L
Date : 8/20/03 10:22 AM
Time of Injection: 8/20/03 09:41 AM
Low Point : 24.73 mV High Point : 340.30 mV
Plot Scale: 315.6 mV

Diesel



Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2003-43	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	83820
Units:	ug/L	Prepared:	08/19/03
Diln Fac:	1.000	Analyzed:	08/20/03

Type: BS Lab ID: QC222856

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,482	99	38-137

Surrogate	%REC	Limits
Hexacosane	92	44-146

Type: BSD Lab ID: QC222857

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,641	106	38-137	6	35

Surrogate	%REC	Limits
Hexacosane	92	44-146

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Gasoline Oxygenates by GC/MS

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

Field ID:	MW-1	Diln Fac:	2.000
Type:	SAMPLE	Batch#:	83851
Lab ID:	166997-001	Analyzed:	08/20/03

Analyte	Result	RL
1,2-Dichloroethane	7.2	1.0
1,2-Dibromoethane	ND	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-121
1,2-Dichloroethane-d4	93	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-123

Field ID:	MW-2	Diln Fac:	1.250
Type:	SAMPLE	Batch#:	83851
Lab ID:	166997-002	Analyzed:	08/20/03

Analyte	Result	RL
1,2-Dichloroethane	ND	0.6
1,2-Dibromoethane	ND	0.6

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-121
1,2-Dichloroethane-d4	92	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-123

Field ID:	MW-3	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83851
Lab ID:	166997-003	Analyzed:	08/20/03

Analyte	Result	RL
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-121
1,2-Dichloroethane-d4	102	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	106	80-123

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline Oxygenates by GC/MS

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

Field ID:	MW-4	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83812
Lab ID:	166997-004	Analyzed:	08/19/03

Analyte	Result	RL
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-121
1,2-Dichloroethane-d4	104	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-123

Field ID:	MW-5	Diln Fac:	4.000
Type:	SAMPLE	Batch#:	83851
Lab ID:	166997-005	Analyzed:	08/20/03

Analyte	Result	RL
1,2-Dichloroethane	6.1	2.0
1,2-Dibromoethane	ND	2.0

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-121
1,2-Dichloroethane-d4	94	77-129
Toluene-d8	103	80-120
Bromofluorobenzene	102	80-123

Field ID:	MW-6	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83851
Lab ID:	166997-006	Analyzed:	08/20/03

Analyte	Result	RL
1,2-Dichloroethane	12	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-121
1,2-Dichloroethane-d4	94	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-123

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline Oxygenates by GC/MS

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

Field ID:	MW-7	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83812
Lab ID:	166997-007	Analyzed:	08/19/03

Analyte	Result	RL
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-121
1,2-Dichloroethane-d4	101	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	106	80-123

Field ID:	MW-8	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	83812
Lab ID:	166997-008	Analyzed:	08/20/03

Analyte	Result	RL
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-121
1,2-Dichloroethane-d4	101	77-129
Toluene-d8	102	80-120
Bromofluorobenzene	104	80-123

Type:	BLANK	Batch#:	83812
Lab ID:	QC222830	Analyzed:	08/19/03
Diln Fac:	1.000		

Analyte	Result	RL
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-121
1,2-Dichloroethane-d4	98	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	104	80-123

NA= Not Analyzed
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline Oxygenates by GC/MS

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	08/18/03
Units:	ug/L	Received:	08/18/03

Type:	BLANK	Batch#:	83851
Lab ID:	QC222997	Analyzed:	08/20/03
Diln Fac:	1.000		

Analyte	Result	RL
1,2-Dichloroethane	ND	0.5
1,2-Dibromoethane	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-121
1,2-Dichloroethane-d4	102	77-129
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-123

Type: BLANK Lab ID: QC222998

Analyte	Result
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

Curtis & Tompkins, Ltd.

Gasoline Oxygenates by GC/MS

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	83812
Diln Fac:	1.000	Analyzed:	08/19/03

Type: BS Lab ID: QC222828

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-121
1,2-Dichloroethane-d4	100	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-123

Type: BSD Lab ID: QC222829

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-121
1,2-Dichloroethane-d4	95	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-123

Curtis & Tompkins, Ltd.

Gasoline Oxygenates by GC/MS

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	83812
Diln Fac:	1.000	Analyzed:	08/19/03

Type: BS Lab ID: QC222835

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-121
1,2-Dichloroethane-d4	96	77-129
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-123

Type: BSD Lab ID: QC222836

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-121
1,2-Dichloroethane-d4	97	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-123

Curtis & Tompkins, Ltd.

Gasoline Oxygenates by GC/MS

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	83851
Diln Fac:	1.000	Analyzed:	08/20/03

Type: BS Lab ID: QC222993

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-121
1,2-Dichloroethane-d4	95	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-123

Type: BSD Lab ID: QC222994

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-121
1,2-Dichloroethane-d4	97	77-129
Toluene-d8	100	80-120
Bromofluorobenzene	101	80-123

Curtis & Tompkins, Ltd.

Gasoline Oxygenates by GC/MS

Lab #:	166997	Location:	Oakland Auto Works
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2003-43	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	83851
Diln Fac:	1.000	Analyzed:	08/20/03

Type: BS Lab ID: QC222995

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-121
1,2-Dichloroethane-d4	96	77-129
Toluene-d8	98	80-120
Bromofluorobenzene	104	80-123

Type: BSD Lab ID: QC222996

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-121
1,2-Dichloroethane-d4	99	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	105	80-123