ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

April 16, 2003

Warren Dodson
Dodson Ltd.
PO Box 69807
Los Angeles, CA 90067-0809

APR 21 2003

Dear Mr. Dodson:

Subject: Fuel Leak Case No. RO0000142, Vogue Tyres, 240 W. MacArthur Blvd., Oakland, CA 94611

Alameda County Environmental Health (ACEH) staff has reviewed "4th Quarter Groundwater Sampling Report" dated November 11, 2002 and "1st Quarter Groundwater Sampling Report" dated March 7, 2003 prepared by Advanced Environmental Concepts, Inc. We request that you address the following technical comments, perform the proposed work, and send us the technical reports requested below.

TECHNICAL COMMENTS

1) Site Characterization – Up to 976,000 microgram/liter (ug/l) Total Petroleum Hydrocarbons-gasoline (TPH-g), 5,200 ug/l Benzene, and 4,200 ug/l Methyl Tertiary-Butyl Ether (MTBE) have been detected in monitoring wells at the property boundaries of your site. Thus, the lateral and vertical extent of your dissolved contaminant plumes is undefined. Please propose additional sampling locations to define the plumes associated with your site in the work plan requested below. Include geologic cross-sections and show soil and groundwater analytical results, utility conduits, well screens, etc., and explain your rationale for additional sampling locations. You may want to consider performing an investigation to quickly define the location of the contaminant plume downgradient from the release site prior to installing the permanent monitoring network. That will allow you to optimize the location and depth of the permanent wells, thereby reducing the cost of the monitoring work. Collection of groundwater samples using a one-time direct push water sampling tool would be appropriate for this investigation.

2) Source Characterization – Up to 11,700 milligram/kilogram (mg/kg) TPH-G and 25.6 mg/kg Benzene have been detected in soil at the northeast corner of your site. Thus, the lateral and vertical extent of soil contamination is undefined. Please include your proposal for soil contamination is definition in the work plan requested below. Include geologic cross-sections and show soil and groundwater analytical results, utility conduits, well screens, etc., and explain your rationale for additional sampling locations.

3) Preferential Pathway Survey – We request that you perform a preferential pathway study that details the potential migration pathways and potential conduits (wells, utilities, pipelines, etc.) for horizontal and vertical migration that may be present in the vicinity of the site. The purpose of the preferential pathway study is to locate potential migration pathways and conduits and determine the probability of the plume encountering preferential pathways and conduits that could spread contamination.
   a) Utility Survey - Please submit map(s) and cross-sections showing the location and depth of all utility lines and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s). Evaluate the probability of the contaminant plumes encountering preferential pathways and conduits that could spread the contamination, particularly in the vertical direction to deeper water aquifers. Report your findings in the Soil and Water Investigation Report (SWI) Report requested below.
   b) Well Survey – Locate wells within a quarter mile radius of the site. Show the location of the wells and the site on a map. List well construction details for each well. Please submit.

4) Groundwater Sampling for Total Petroleum Hydrocarbons-Diesel (TPH-D) – Borings BH-6 found 450,000 microgram/liter (ug/l) TPH-D on January 10, 1997. Groundwater sampling of the existing monitoring wells for TPH-D was only performed on August 3, 1997. MW-1, MW-2, MW-3, and MW-4, were all nondetectable (ND) for TPH-D. MW-1, MW-2, and MW-3, are all downgradient of and within 10 feet of either the former tank or dispenser locations. Please sample MW-1, MW-2, MW-3, MW-5, MW-6, and MW-8 for TPH D. If TPH-D is detected in any well, it is to be incorporated into your regular monitoring plan.

5) Methyl Tertiary-Butyl Ether (MTBE) – Up to 4,200 ug/l MTBE has been detected onsite. The removal of a waste oil tank on October 3, 1996 has been documented. The background history of the site showed that the gasoline tanks were from Gulf Oil which was prior to the use of MTBE. None of the soil samples collected onsite found MTBE concentrations above the detection limits. Adjacent and upgradient of the site is Shell Service Station, 230 W. MacArthur Blvd., where up to 3,200 ug/l MTBE was found. However, MW-4 which is within 15 feet of the property line and is located on the Vogue Tyres side, has never found MTBE above the detection limits. We request that you develop extended geologic cross-sections which incorporate data (analytical results, utility conduits, well screens, etc.) from adjacent sites to use to propose work to evaluate the occurance and distribution of MTBE at your site.

6) Historical Groundwater Depths - Please add a column for groundwater depths to the Table of Analytical Results.

7) "Recommendation (3)" – Our review of boring logs did not find the confining clay layers described by your consultant. Please use the geologic cross sections requested above to clarify their assessment.

8) Historical Hydraulic Gradient – Please provide rose diagrams, which include cumulative groundwater gradients in all future reports submitted for this site.

9) Analyses for lead scavengers Ethylene Dibromide (EDB) and Ethylene Dichloride (EDC) were previously requested but omitted. Please include in the next round of groundwater monitoring. If any of the compounds are detected, and are determined to be of concern (poses a risk to human health, the environment, or water resources) it is to be incorporated into your regular monitoring plan. Also, please analyze for these compounds in source area soil. Please propose additional sampling locations to define the plumes associated with your site in the work plan requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to the Alameda County Environmental Health (Attention: Don Hwang), according to the following schedule:

- June 3, 2003 - Work Plan
- July 31, 2003 - Quarterly Report for the Second Quarter 2003
- October 31, 2003 - Quarterly Report for the Third Quarter 2003
- January 31, 2004 - Quarterly Report for the Fourth Quarter 2003

These reports are being requested pursuant to the Regional Water Quality Control Board's (Regional Board) authority under Section 13267 of the California Water Code.

If you have any questions, please call me at (510) 567-6746.

Sincerely,

Don Hwang
Hazardous Materials Specialist
Local Oversight Program

C: Jonathan Buck, Advanced Environmental Concepts, Inc., 4400 Ashe Rd. #206, Bakersfield, CA 93313
Donna Drogos
File

★ **Stellar Environmental Solutions, Inc.**
2198 Sixth Street, Berkeley, CA 94710
Tel: (510) 644-3123 • Fax: (510) 644-3859
Geoscience & Engineering Consulting

August 20, 2003

Mr. Don Hwang
Local Oversight Program
Environmental Health Services – Environmental Protection
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Subject: Workplan for Additional Site Characterization
Oakland Auto Works (Former Vogue Tyres) – 240 W. MacArthur Blvd., Oakland, CA
ACEH Fuel Leak Case No. R00000142

Dear Mr. Hwang:

INTRODUCTION AND BACKGROUND

On behalf of the property owners (Glen Poy-Wing and his wife), Stellar Environmental Solutions, Inc. (SES) is submitting to the Alameda County Environmental Health Care Services Agency (ACEH) this workplan for additional site characterization at the referenced site. Figure 1 shows the site location. This workplan is being submitted in response to the ACEH letter dated April 16, 2003. The property owners recently submitted to ACEH a letter of their intention to fully comply with the ACEH requirements, and provided an estimated schedule for the proposed tasks.

Previous environmental remediation and investigations associated with former underground fuel storage tanks (UFSTs) and a waste oil underground storage tank (UFST) have been conducted at the site since 1991. All known UFSTs have been removed, and there are currently eight site groundwater monitoring wells. In 2002, the current property owners purchased the property and become solely responsible for the remaining site environmental issues. SES was recently retained to replace the owners' existing environmental contractor.

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 in ACEH files. A detailed discussion of the magnitude and extent of residual soil and groundwater contamination

is presented in a subsequent section of this report, and a tabular summary of historical soil and groundwater samples is included as Attachment A. Figure 2 shows the site plan with historical borehole and 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 contamination with the exception of 360 mg/kg of petroleum oil & grease.
- A 350-gallon waste oil UFST was removed in 1996. Elevated levels of diesel and oil & grease were detected in confirmation samples. Subsequent overexcavation was conducted, and there was no evidence of residual contamination.
- In accordance with a request by ACDEH, a subsurface investigation was conducted in January 1997. 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 later in 1997 and well location 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.
- Short-term (less than 1 day) groundwater and vapor extraction from wells was conducted in October 2001.

A total of 19 groundwater monitoring/sampling events have been conducted in available site wells between August 1997 and March 2003 (the most recent event).

SITE CHEMICALS OF CONCERN

Waste Oil Sump and UFST

Soil samples collected during the waste oil sump and waste oil UFST removals (1991 through 1997) and in the first phase of boreholes were analyzed for the following (not all samples analyzed by all methods):

- Gasoline-range (TPHg) and diesel-range (TPHd) petroleum hydrocarbons;
- Petroleum oil & grease;
- Volatile organic compounds (VOCs);
- Semi-volatile organic compounds (SVOCs) or polynuclear aromatics (PNAs); and
- Metals.

As summarized in attached Tables 1 and 2 (attached), the only contaminants detected in residual (not excavated) soil near the waste oil UFST was oil & grease (at 360 mg/kg). This is well below the Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL) of 1,000 mg/kg. As summarized in Table 6, neither oil & grease nor PNAs were detected in the "grab" groundwater sample from BH-2, adjacent to the former waste oil UFST. The data indicate that none of the waste oil-related contaminants should be considered site chemicals of concern.

UFST Investigations

Soil and groundwater samples collected since 1997 (in investigation of the former gasoline UFSTs) have been analyzed for the following (not all samples analyzed by all methods):

- TPHg and TPHd;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl *tertiary*-butyl ether (MTBE);
- VOCs (including fuel oxygenates); and
- Lead.

As summarized in Tables 2 and 3, contaminants detected in residual (not excavated) soils and/or groundwater at concentrations above ESLs include gasoline, diesel, BTEX, and MTBE. Metals (including lead) concentrations have all been below hazardous waste criteria and ESLs.

As summarized in Tables 4 and 5, the same contaminants detected in residual soils are present in groundwater at concentrations above ESLs.

As discussed later in this workplan, the ACEH has specified that all 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 site chemicals of concern.

TECHNICAL OBJECTIVES AND PROPOSED SCOPE OF WORK

The objective of the proposed work is to satisfy ACEH requirements as stipulated in the April 16, 2003 ACEH letter. In general, the ACEH is requesting additional site characterization and development of a contaminant conceptual model, to evaluate whether additional investigative work (i.e., more wells and/or more groundwater monitoring) is required or whether the findings will support case closure.

The scope of work proposed herein is presented below in the numerical order of the ACEH letter items. As requested by ACEH, this workplan presents specific technical data/documentation to support the workplan, including: geologic cross-sections; soil and groundwater analytical results; location of known utility conduits; site monitoring well screen intervals; and our technical rationale for proposed sampling locations.

As will be discussed in more detail in our proposed Soil and Water Investigation Report, we are comparing groundwater contaminant concentrations to the San Francisco Bay Region RWQCB ESLs for soil and groundwater (from commercial/industrial sites where groundwater is a potential drinking water source). While these are not cleanup goals, they establish threshold concentrations below which further investigation/remediation would not be warranted. Actual site-specific case closure criteria should be determined following collection and evaluation of the proposed characterization data.

SITE HYDROGEOLOGY AND WELL CONSTRUCTION

Figure 3 shows two geologic cross-sections through the area of historical investigations, based on historical geologic logging data. SES proposes to refine and/or supplement those cross-sections using data generated in the proposed investigation. Boreholes have been advanced to a maximum depth of 22 feet below grade. In summary, site lithology is fairly 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 soils (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.

Figures 4, 5, and 6 show gasoline, benzene, and MTBE isoconcentration contours, respectively, along with historical groundwater flow direction. As summarized in Table 7, equilibrated water

levels (in wells) have been measured at depths of approximately 12.5 feet to 15.5 feet, 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. As summarized in Table 7 (and shown in Figure 4), historical groundwater flow direction (since 1997) has been measured as ranging from northwest to N80W. The groundwater gradient has been measured to be relatively flat, ranging from approximately 0.003 feet/foot to approximately 0.008 feet/foot. At an adjacent site (230 W. MacArthur Boulevard), historical groundwater monitoring has demonstrated a west-northwest groundwater flow direction.

Table 8 summarizes well depth and screened intervals of existing groundwater monitoring wells. All wells are 4-inch-diameter PVC. Well screened intervals are either 5 feet long (one well) or 10 feet long (seven wells). Screened intervals ranges vary from approximately 20 to 25 feet deep (one well), approximately 15 to 25 feet (three wells) and 9 to 19 feet deep (four wells). In all cases, the top of the well screen is above the water table depth (i.e., the potentiometric surface is not above the top of the well screens). This is appropriate well construction to monitor dissolved petroleum hydrocarbons in groundwater, and would also be appropriate if separate-phase petroleum product was present (that has never been documented at the site).

POTENTIAL PREFERENTIAL PATHWAYS FOR CONTAMINANT MIGRATION

Onsite underground utilities include those typical of a small commercial development. Electrical, natural gas, and water service branch off the main service lines at sidewalk vaults. Underground piping convey these services from the sidewalk onto the property at a depth no greater than 3 feet (well above any documented soil or groundwater contamination). The depth to the base of the main service lines in the adjacent sidewalks/streets) is not known. As discussed below (Item 3), this workplan proposes to collect additional information on potential preferential pathways (i.e., utility conduits and further assessment of potential vertical pathways).

PROPOSED ADDITIONAL SITE CHARACTERIZATION ACTIVITIES

Figures 4, 5, and 6 present the hydrochemical data for the site contaminants of concern using the most recent (March 2003) groundwater analytical data for gasoline, benzene, and MTBE, respectively. Each figure shows the locations of the proposed boreholes associated with this workplan. For each groundwater contaminant, the isoconcentration contours were selected based on that contaminant's RWQCB ESL (lowest value contour), with each higher value contour

increasing by 1 order of magnitude. For example, the RWQCB ESL for benzene is 1.0 µg/L. Therefore, we present isoconcentration contours of 1, 10, and 100 µg/L.

Item 1 – Site Characterization

The lateral limits of the groundwater contaminant plume above ESL criteria have not been fully defined to the west, north, and east of the former source area (for gasoline and benzene). The lateral limits of MTBE groundwater contamination is well defined by existing data. In addition, the vertical extent of the contaminant plume has not been well defined (i.e., the depth to the bottom of the upper water-bearing zone and the top of the inferred lower confining layer). At this time, ACEH is not requiring additional groundwater monitoring wells, but is requesting exploratory borehole sampling. Those data will then be used to determine if (and where) additional groundwater wells should be installed.

As shown on Figures 4 through 6, we propose to advance approximately six exploratory boreholes surrounding the former UFSTs. These boreholes will provide additional data on the plume extent in those directions, with the specific objective of defining the limits of groundwater contamination above RWQCB ESLs. Depending on the findings, additional (more distal) boreholes may be necessary to fully define the lateral extent of contamination, which would be addressed in a subsequent phase of work. Each borehole will be advanced to first occurrence of groundwater (likely less than 15 feet deep). In each borehole, one soil sample will be collected for laboratory analysis from the unsaturated zone (either where contamination is most evident or at the capillary fringe). One "grab" groundwater sample will be collected from each borehole, immediately upon reaching a depth that yields groundwater sufficient to allow sampling from the borehole. Each borehole will then be deepened to a depth at least 3 feet below the bottom of the higher-permeability upper water-bearing zone (i.e., 3 feet into the lower-permeability zone that likely underlies the water-bearing zone and acts as a vertical confining layer). One soil sample will be collected from that zone for laboratory analysis.

Attachment A contains our proposed methods and protocols for exploratory borehole drilling and sampling.

Item 2 – Source Characterization

No analytical data are available regarding source area (former gasoline UFSTs) soil contamination, other than exploratory boreholes drilled on two sides of the former UFST area (to the north and west). Determining the magnitude and types of residual soil contamination at the

source area is important for evaluating potential long-term contribution of contamination from soil to groundwater.

As shown on Figures 4 through 6, we propose to install approximately four exploratory boreholes in and around the locations of the former UFSTs. One borehole will be advanced through the inferred center of each of the three former gasoline UFSTs, and one borehole will be advanced immediately adjacent to the south of the former UFSTs. Sampling from the proposed plus existing boreholes will provide analytical borehole data from all sides of (as well as through) the former UFSTs.

Each borehole will be advanced through the UFST excavation backfill material and into native soil. If the native soil layer is above the groundwater table, one soil sample will be collected from that depth (top of native soil) for laboratory analysis. One "grab" groundwater sample will be collected from each borehole, immediately upon reaching a depth that yields groundwater sufficient to allow sampling from the borehole. Each borehole will then be deepened to a depth at least 3 feet below the bottom of the higher-permeability upper water-bearing zone (i.e., 3 feet into the lower-permeability zone that likely underlies the water-bearing zone and acts as a vertical confining layer). One soil sample will be collected from that zone for laboratory analysis.

Item 3 – Preferential Pathway Survey

Utility Survey

The ACEH has requested that an underground utility survey be conducted to evaluate the potential for preferential horizontal/vertical contaminant migration pathways. As part of pre-drilling planning, we will contact Underground Service Alert of California (USA), which will notify all known utility providers in the area; the utility providers will then be responsible for marking the locations of underground utilities servicing the property. We will also retain a private utility locating firm to confirm those utilities, including the onsite portions which may or may not be identified by USA. Please note that the exact locations and depths of nearby offsite underground utilities (i.e., main service lines) may not be fully delineated by the USA notification or the private utility locator. We will attempt to obtain said information directly from the utility providers, but cannot predict in advance if the information will be available.

Well Survey

The ACEH has requested that a survey be conducted to identify "wells" within ¼ mile of the subject property. While the type of wells to be identified are not delineated (i.e., water supply

vs. groundwater monitoring), we assume that ACEH's reference to water supply wells are those considered potential receptors for site-sourced groundwater contamination. We will make a formal well survey request to the California Department of Water Resources (DWR), the agency ultimately responsible for permitting water supply wells. DWR generally provides a list of identified wells (which may or may not contain well construction details) and a figure showing the well locations. We will then review the available information and evaluate the likelihood of impacts to any of the identified wells by the site contamination.

Items 4 and 9 – Laboratory Analyses

A California-certified (ELAP) analytical laboratory will complete all laboratory analyses. The ACEH has requested, and the proposed program for future groundwater monitoring will include, the following revisions:

- For all site wells except MW-4 and MW-7, add total extractable hydrocarbons – diesel range (TEHd) by modified EPA Method 8015 (Item 4). While not specified in the ACEH letter, we propose to also analyze all proposed exploratory borehole soil and groundwater samples for TEHd.
- For all site wells in the next groundwater monitoring event (and in the proposed source area soil samples), add analysis for the lead scavengers EDB and EDC. If warranted by the findings, SES will recommend revising the ongoing groundwater monitoring program to include those compounds.

All soil and groundwater samples will continue to be analyzed for TPHg, BTEX, and MTBE.

Item 5 – MTBE

Our review of the available data indicates the following regarding the fuel oxygenate MTBE:

- Onsite usage of gasoline likely ended before MTBE was widely used in retail gasoline supplies;
- MTBE has never been detected in site soil samples;
- MTBE has been detected at elevated concentrations in site groundwater monitoring samples; and
- The adjacent (upgradient) Shell service station has a petroleum release that includes MTBE, and may be the source of the subject property MTBE contamination in groundwater.

In accordance with the ACEH request, SES will conduct a critical evaluation of the likely source(s) and distribution of site MTBE contamination. This evaluation will focus on:

- MTBE concentrations in source area soils;
- Distribution of MTBE in site groundwater samples; and
- The distribution of MTBE in groundwater samples at the adjacent Shell site, and the likelihood that this a source of the MTBE contamination.

All proposed exploratory borehole soil and groundwater samples and continued groundwater monitoring well water samples will be analyzed for MTBE.

Items 6 and 8 – Historical Groundwater Depths and Hydraulic Gradient

As requested by ACEH, all future reports will include a tabular summary of historical groundwater depths (which we infer to mean depth to water in wells). Our future reports will also include (on the figure showing current water level elevations and groundwater flow direction) a "rose diagram" showing cumulative historical groundwater flow direction. Not all historical data on groundwater flow direction and depths were available to SES at the time of this workplan submittal, and we have requested these data from the previous consultant. The workplan figures therefore show only the historical range of groundwater flow direction.

Item 7 – Confining Clay Layer

The ACEH has requested that an inferred (by the previous consultant) confining clay layer be evaluated in the current investigation. As discussed previously, SES will geologically log all proposed boreholes, create revised geologic cross-sections, and evaluate the data in the context of contaminant distribution and transport mechanisms.

Technical Reports

The ACEH letter contains a reference (in Item 3) to a "Soil and Water Investigation Report"; however, that report is not listed in the "Technical Reports" section of the letter. We propose the following reporting program for future site work, presented in chronological order.

- ***Second Quarter 2003 Groundwater Monitoring Progress Report.*** This report will not be prepared as no groundwater monitoring was conducted in this period.
- ***Third Quarter 2003 Groundwater Monitoring Progress Report.*** This report will be submitted in September 2003, following the proposed August 2003 groundwater

monitoring event, and will focus on the methods and findings of the current groundwater monitoring event.

- ***Soil and Water Investigation Report.*** This report will summarize the methods and findings of the work proposed herein (site characterization, source characterization, and preferential pathway assessment), and will be submitted within approximately 2 months following ACEH approval of this workplan.
- ***Continued Groundwater Monitoring Progress Reports.*** One progress report will be submitted following each subsequent quarterly groundwater monitoring event. At such time as the data warrant (likely within approximately 1 year following completion of the proposed site characterization work), SES will prepare a closure assessment report evaluating current conditions and historical trends with regard to the magnitude and extent of residual contamination and the stability of the contaminant plume.

The entire project will be overseen by and all technical reports/workplans will be signed by a California Registered Geologist.

Other Scope of Work Considerations

Groundwater Monitoring

The ACEH letter makes various references to continued groundwater monitoring/sampling/ reporting, and we assume that ACEH is requesting ongoing quarterly groundwater monitoring/ sampling/reporting. The most recent groundwater monitoring event was conducted in March 2003 (First Quarter 2003). No groundwater monitoring was conducted in Second Quarter 2003 (the property owners were in the process of changing consultants). The next groundwater monitoring event will be conducted in August 2003 (Third Quarter 2003). We propose to continue quarterly groundwater monitoring until groundwater monitoring cessation or frequency reduction is approved by ACEH.

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 several reports that outline the procedure. The "grab" 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. As part of the proposed work, we will evaluate site conditions with regard to these criteria, and make a recommendation as to whether future groundwater monitoring protocols should be revised to incorporate well purging. For the upcoming (Third Quarter 2003) groundwater monitoring event—which will likely be conducted before ACEH responds to this workplan—we will utilize the historically-conducted "no purge" method for sampling.

Well Elevation Surveying

Site groundwater monitoring wells have not been surveyed by a licensed land surveyor, nor have surveyed well location/elevation data been uploaded to the State Water Resources Control Board's "GeoTracker" database, as required by State regulations passed in 2001. Groundwater elevations (and gradient) information presented in previous groundwater monitoring reports have been relative elevations, as determined by the transit surveying of a Registered Geologist. While this level of accuracy may be sufficient to evaluate general groundwater flow direction, it is not in compliance with GeoTracker requirements. Therefore, we propose to have the wells (location and elevation) surveyed by a licensed land surveyor, in accordance with GeoTracker requirements.

GeoTracker EDF Uploads

As discussed above, the proposed well survey will be uploaded to the GeoTracker database. We will also upload "field point names" (i.e., well names), and all future groundwater monitoring well groundwater analytical data will be uploaded to the GeoTracker database in an electronic data format (EDF).

ESTIMATED SCHEDULE

The next groundwater monitoring event (Third Quarter 2003) will be conducted in August 2003. The progress report will be submitted in September 2003.

The other proposed elements (exploratory borehole drilling, preferential pathway/well assessment, and completion of the Soil and Water Investigation Report) will likely be completed within 2 months following ACEH approval of this workplan.

Continued groundwater monitoring will be conducted on a quarterly basis (likely to be November, February, May, and August), and quarterly progress reports will be submitted in the month following each monitoring event.

TEAM QUALIFICATIONS

Stellar Environmental Solutions, Inc. has completed dozens of similar projects, including several under the jurisdiction of ACEH. Our team will consist of the following:

- Stellar Environmental Solutions, Inc. (owners' consultant responsible for overall project coordination, geologic evaluation, sampling, data evaluation, and report certification by a California Registered Geologist);
- Borehole installation driller with a current C-57 license;
- Analytical laboratory with a current California ELAP certification; and
- Private utility locator with appropriate equipment and trained personnel.

We trust that this submittal meets your agency's needs. We request that ACEH provide to SES and the property owners written approval of this workplan. Please contact the undersigned directly if you have any questions.

Sincerely,

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

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

Attachments: Location Map and Site Plan with Proposed Borehole Locations
Tables 1 and 2 (Historical Analytical Results)
Drilling & Sampling Methods and Protocols

cc: Mr. Glen Poy-Wing (Property Owner)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

December 3, 2003

Glen Poy-Wing
Oakland Auto Works
240 W. MacArthur Blvd.
Oakland, CA 94611

Dear Mr. Poy-Wing:

Subject: Fuel Leak Case No. RO0000142, Vogue Tyres, 240 W. MacArthur Blvd., Oakland, CA 94611

Alameda County Environmental Health (ACEH) staff has reviewed "Workplan for Additional Site Characterization" dated August 20, 2003 by Stellar Environmental Solutions. The Workplan is not approved. We request that you address the remaining technical comments, and send us the technical reports requested below.

TECHNICAL COMMENTS

1) Site Characterization – The Workplan proposes boreholes to define the groundwater contaminant plume. We do not agree with the three proposed boring locations east of the property because the groundwater flow has been indicated west and north. Instead, we believe that to define the plume, additional boreholes ought to be located west of the former fuel tanks and boreholes BH-6 and BH-4, and north of the former fuel tanks and MW-1 and MW-5 on the site side of Howe St. Please propose additional sampling locations to define the plume associated with your site in the amended work plan requested below.

2) Borehole Samples and Depths – a) The proposed number of borehole soil samples are inadequate. Instead, we please collect soil samples at a minimum of 5-foot intervals, changes in lithology, the soil/groundwater interface, and areas of obvious contamination. b) The proposed borehole depths are inadequate for vertical delineation. Several of the well logs indicated gasoline odors at 20 ft.

   Please propose procedures for sample collection and borehole depths in the amended work plan requested below.

3) Preferential Pathway Survey – a) Utility Survey - Please submit map(s) and cross-sections showing the location and depth of all utility lines and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s). Evaluate the probability of the contaminant plumes encountering preferential pathways and conduits that could spread the contamination, particularly in the vertical direction to deeper water aquifers. Report your findings in the Soil and Water Investigation Report (SWI) Report requested below. b) Well Survey – The Workplan proposes to only include water supply wells. Water wells are to be included. Locate water wells within a quarter mile radius of the site. Show the location of the wells and the site on a map. List well construction details for each well. Please submit in the Soil and Water Investigation Report.

4) Geologic cross-sections – A-A' and B-B' were provided. Please show their locations on the site plan. In your cross-sections, please also include soil and groundwater analytical results, and utility conduits. Please use cross-sections to propose additional boreholes, evaluate the probability of the contaminant plumes encountering preferential pathways and the occurrence and distribution of MTBE at your site in the Soil and Water Investigation Report.

5) Methyl Tertiary-Butyl Ether (MTBE) – Include extended geologic cross-sections, which incorporate data (analytical results, utility conduits, well screens, etc.) from adjacent sites to use to evaluate the occurrence and distribution of MTBE at your site in the Soil and Water Investigation Report.

6) Professional seal - All technical reports must contain a statement of professional certification with the appropriate professional signatures and seals.

TECHNICAL REPORT REQUEST

Please submit technical reports to the Alameda County Environmental Health (Attention: Don Hwang), according to the following schedule:

January 31, 2004 – Amended Work Plan
January 31, 2004 - Fourth Quarter 2003 Groundwater Monitoring Report
60 days after Work Plan approval - Soil and Water Investigation Report
April 30, 2004 – First Quarter 2004 Groundwater Monitoring Report
July 31, 2004 - Second Quarter 2004 Groundwater Monitoring Report
October 31, 2004 - Third Quarter 2004 Groundwater Monitoring Report

★ **Stellar Environmental Solutions, Inc.**
2198 Sixth Street, Berkeley, CA 94710
Tel: (510) 644-3123 • Fax: (510) 644-3859
Geoscience & Engineering Consulting

December 10, 2003

Mr. Don Hwang
Local Oversight Program
Environmental Health Services – Environmental Protection
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Subject: Amended Workplan for Additional Site Characterization
Oakland Auto Works (Former Vogue Tyres) – 240 W. MacArthur Blvd., Oakland, CA
ACEH Fuel Leak Case No. R00000142

Dear Mr. Hwang:

Stellar Environmental Solutions, Inc. (SES) is submitting this workplan amendment to you in response to your letter of December 3, 2003 regarding your review of our August 20, 2003 workplan for the referenced site. This workplan amendment addresses all of the technical revisions requested in the Alameda County Environmental Health Care Services Agency (ACEH) requests for modification and/or clarification to the workplan. We trust that based on this response SES can more forward without delay to complete the characterization work. Unless specified otherwise, all other proposed elements of our original workplan are unchanged, and are incorporated by reference. Specific responses to the ACEH letter are presented below.

1) Site Characterization

The ACEH requested that the three originally-proposed boreholes to the east of the property be eliminated, and that additional boreholes be placed to the west and to the north of the former UFSTs. Our revised, proposed borehole locations are shown on the attached figure. We are proposing a total of 12 boreholes, focused on the north and west sides of the plume, and in the area of the former UFSTs.

2) Borehole Samples and Depths

Soil samples from all proposed boreholes will be collected for laboratory analysis at depth intervals of no more than 5 feet. We anticipate that boreholes will be advanced to a maximum depth of 25 feet, hence we anticipate collecting 5 soil samples per borehole. If no soil

contamination is evident by PID readings during drilling, soil samples will be collected at 5-foot intervals, or at significant lithologic changes, and/or at the depth just above first occurrence of groundwater. If soil contamination is evident by PID readings, the soil sample collected from laboratory analysis will be from the depth within that 5-foot interval that displays the maximum PID reading. Soil samples will not be collected for laboratory analysis from the saturated zone, which will be characterized by grab-groundwater sampling in the boreholes), however soil samples will be collected from the anticipated lower non-water-bearing unit below the upper aquifer, to evaluate the vertical extent of contamination. Soil sampling protocols are discussed in detail in the original workplan.

3) Preferential Pathway Survey

The ACEH December 3, 2003 letter requests no additional information regarding the utility survey relative to the original ACEH request for workplan.

The ACEH has requested that the water well survey include all water wells (not just water supply wells). The letter does not specify specifically whether this is to include groundwater monitoring wells. It is our professional experience that the objective of this task is to identify potential sensitive receptors, which would not include groundwater monitoring wells. Our previously-conducted well survey, through California DWR, included identifying all water supply wells (which DWR defines as irrigation, domestic, municipal and industrial). We assume that this satisfies the ACEH objective, and will conduct a new DWR survey request to include groundwater monitoring wells only if ACEH specifically requests that this be done.

4) Geologic Cross-Sections

Per ACEH request, attached is the amended site plan showing the site cross-section locations. The cross-sections for the Soil and Water Investigation Report will be amended to include the findings of the proposed investigation, including soil and groundwater analytical results and utility conduits. The cross-sections will be used in the Report to evaluate the probability of the plume encountering preferential pathways.

5) MTBE

SES will complete an evaluation of the distribution of MTBE (including potential offsite sources and migration). This will include an extended geologic cross-section(s) which will incorporate

data (analytical results, utility conduits, well screens, etc.). The findings will be discussed in the Soil and Water Investigation Report.

6) Professional Seal

All technical reports/workplans will be signed by a California Registered Geologist.

Technical Reports

The following technical reports will be submitted to ACEH.

- ***Amended Workplan*** (this document).
- ***Fourth Quarter 2003 Groundwater Monitoring Progress Report.*** This report will be submitted by January 31, 2004.
- ***Soil and Water Investigation Report.*** This report will be submitted within 60 days following ACEH approval of this amended workplan..
- ***First Quarter 2004 Groundwater Monitoring Progress Report.*** This report will be submitted by April 30, 2004.
- ***Second Quarter 2004 Groundwater Monitoring Progress Report.*** This report will be submitted by July 31, 2004.
- ***Third Quarter 2004 Groundwater Monitoring Progress Report.*** This report will be submitted by October 31, 2004.

We trust that this submittal meets your agency's needs. In so much as this workplan amendment provides you with all the requested elements and/or clarifications, we request your expedited approval so that we can move forward with project this month. Your quick response is greatly appreciated. Please contact the undersigned directly if you have any questions.

Sincerely,

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

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

Attachments: Revised Site Plan with cross-section locations and proposed borehole locations

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

February 9, 2004

Glen Poy-Wing
Oakland Auto Works
240 W. MacArthur Blvd.
Oakland, CA 94611

Dear Mr. Poy-Wing:

Subject: Fuel Leak Case No. RO0000142, Vogue Tyres, 240 W. MacArthur Blvd., Oakland, CA 94611

Alameda County Environmental Health (ACEH) staff has reviewed "Amended Workplan for Additional Site Characterization" dated December 10, 2003 by Stellar Environmental Solutions. The Workplan is not approved. We request that you address the remaining technical comments, and send us the technical reports requested below.

TECHNICAL COMMENTS

1) Site Characterization – The approval of the two proposed boreholes on Howe St. will be subject to the Utility Survey, which will determine if the groundwater contaminant plume will be intercepted prior to reaching the proposed, boring locations.

2) Borehole Sampling - The proposal calls for soil samples to not be collected from the saturated zone. We disagree because product can become entrapped below the water table. Therefore, adequate vertical delineation may require sampling from the saturated zone.

3) Well Survey – The Workplan proposes to only include water supply wells for the purpose of identifying potential sensitive receptors. However, wells also are to be evaluated as potential conduits for contamination to migrate from shallow aquifers to deep aquifers. Therefore, wells other than water supply wells may need to be evaluated.

4) Geologic cross-sections – Please also provide a length wide cross-section of the property.

Please revise the amended work plan to incorporate the changes requested above.

TECHNICAL REPORT REQUEST

Please submit technical reports to the Alameda County Environmental Health (Attention: Don Hwang), according to the following schedule:

April 9, 2004 – Amended Work Plan
60 days after Work Plan approval - Soil and Water Investigation Report
April 30, 2004 – First Quarter 2004 Groundwater Monitoring Report
July 31, 2004 - Second Quarter 2004 Groundwater Monitoring Report
October 31, 2004 - Third Quarter 2004 Groundwater Monitoring Report
January 31, 2005 - Fourth Quarter 2004 Groundwater Monitoring Report

These reports are being requested pursuant to the Regional Water Quality Control Board's (Regional Board) authority under Section 13267 of the California Water Code.

If you have any questions, please call me at (510) 567-6746.

Sincerely,

Don Hwang
Hazardous Materials Specialist
Local Oversight Program

C: Bruce Rucker, Stellar Environmental Solutions, 2198-6th St., Suite 201, Berkeley, CA 94710
Donna Drogos
File

★ **Stellar Environmental Solutions, Inc.**
2198 Sixth Street, Berkeley, CA 94710
Tel: (510) 644-3123 • Fax: (510) 644-3859
Geoscience & Engineering Consulting

February 12, 2004

Ms. Donna Drogos - Supervisor
Local Oversight Program
Alameda County Health Care Services Agency
Environmental Health Services – Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Workplan for Additional Site Characterization
Oakland Auto Works (Former Vogue Tyres) – 240 W. MacArthur Blvd., Oakland, CA
ACEH Fuel Leak Case No. R00000142

Dear Ms. Drogos:

Stellar Environmental Solutions, Inc. (SES) is requesting your assistance in resolving issues on this case, with the specific objective of obtaining Alameda County Health's approval on work that the responsible party (Glen Poy-Wing) has proposed. Mr. Don Hwang is the Alameda County Health case officer. Below is a brief history of the case since the initial workplan was requested by Alameda County Health.

April 16, 2003. Alameda County Health letter requests a technical workplan for additional site characterization. That ltter asked for characterization work to be performed. The part of the of the County letter that referenced a utility survey (to identify potential preferential pathways), stated: "report your findings in the Soil and Water Investigation Report." None of the information requested (specifically well survey, preferential pathway survey or geologic cross-sections) were requested to be submitted with the workplan.

August 8, 2003. Letter from Mr. Poy-Wing to Alameda County Heath explaining that due to a consultant transition on the project, the technical workplan would be submitted in August 2003.

August 20, 2003. SES submits the requested technical workplan, which indicated that all activities requested by Alameda County Health would be conducted.

December 3, 2003. Alameda County Health sends a letter disapproving the technical workplan, and requests some technical revisions and additional activities (including revising some of the borehole locations, and increasing the frequency of soil sampling). This letter once again reiterated that all findings are to be reported in the Soil and Water Investigation Report, not in the technical workplan. The "disapproval" of the workplan occurred despite SES contacting Mr. Hwang numerous times to

indicate that as the workplan was taking so long to be reviewed, to please include any additional or exceptions as conditions of approval of the workplan so that the project work could move forward. The approach of approval contingent on some addition is a common response to regulatory workplans with the RWQCB, SCVWD, and other ACH case officers.

December 10, 2003. Following a discussion between SES and Mr. Hwang to clarify these issues, SES submits the amended technical workplan. In accordance with Mr. Hwang's verbally direction, the amendment specifically addressed only those revised items, rather than re-writing the entire workplan, to minimize the duration of the review cycle. The workplan amendment wholly addressed the Alameda County Health-requested revisions.

February 6, 2004. After several attempts by SES to contact Mr. Hwang to determine when the workplan would be approved, SES reaches Mr. Hwang by telephone and discusses the case. Mr. Hwang then states that Alameda County Health wants soil samples collected for analysis from the unsaturated zone (the first time this request was made either verbally or in writing). While this is a highly unusual technical request (since the "soil" data will be a combination of both sorbed-phase and dissolved-phase contamination), SES immediately agrees to conduct the additional analysis. Mr. Hwang suggested a meeting (between Alameda County Health, SES and the responsible party) to discuss the case. While we indicated that a meeting between all parties would certainly be beneficial after the collection of the new data, we stressed that a meeting should not be necessary to approve the proposed work, and it was our opinion that it would add additional, unnecessary delays. At our suggestion, in order to expedite the completion of the investigation work proposed in the workplan, Mr. Hwang agreed to send out a letter approving the workplan contingent upon conducting the saturated soil sampling. This approach was recently utilized by a different Alameda County Health case officer on a similar SES project.

February 9, 2004. Alameda County Health sends a letter with a request contradictory to previous requests (and contradictory to what Mr. Hwang verbally agreed to), as follows:

- Item 1 - Site Characterization. The letter says that the proposed borehole locations are "subject to the Utility Survey." The first two letters from Alameda County Health both said that the findings of the utility survey are to be reported in the Soil and Water Investigation Report, not in the workplan.

- Item 2 – Borehole Sampling. This item was the one Mr. Hwang requested verbally, and which we verbally agreed to do February 6, 2004.

- Item 3 – Well Survey. Mr. Hwang had previously (November 2003) verbally indicated that our already-conducted water well survey (including only water supply wells) would be adequate, however our amended workplan committed to doing another survey (to include all wells) if requested, and thus this could have been stated as a condition of the approval.

- Item 4 – Geologic Cross Sections. The first two letters from Alameda County Health both said that the cross-sections are to be reported in the Soil and Water Investigation Report, not in the workplan.

Summary

The property owner is committed to conducting the work necessary to move the site toward regulatory closure, and our previous submittals have agreed to conduct any and all work that Alameda County Health requests. However, there appears to be a serious communication problem between SES and Alameda County Health on this particular case. It has been 6-month delay in implementing the work. In our previous experience a six-month timeframe for the approval of a workplan is unprecedented. We have diligently tried to address Alameda County Health's requests, however the requirements have changed with the successive Alameda County Health letters disapproving the workplan. Now six months after the initial submittal, Alameda County Health is requesting information to be included in the workplan that previous Alameda County Health requests specifically said were to be discussed in the Soil and Water Investigation Report.

Our initial workplan and subsequent amendment fully addressed all the requirements stipulated in the associated Alameda County Health letters. We also verbally agreed with Mr. Hwang to conduct the saturated soil sampling he indicated was the only remaining technical issue for the final approval. We therefore respectfully request that Alameda County Health provide written of the proposed work. Please contact the undersigned directly if you have any questions.

Sincerely,

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

cc: Mr. Glen Poy-Wing (responsible party)

Stellar Environmental Solutions, Inc.
2198 Sixth Street, Suite 201, Berkeley, CA 94710
Tel: 510-644-3123 • Fax: 510-644-3859

POINTS FOR DISCUSSION - ROUNDTABLE MEETING

Date: April 28, 2004

Attending: Glen Poy-Wing (Property Owner)
Donna Drogos and Don Hwang (Alameda County Environmental Health)
Bruce Rucker and Richard Makdisi (SES)

Subject: Current Phase of Work, 240 West Macarthur Blvd., Oakland

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Current Phase Scope of Work Objectives

- Augment existing site conceptual model as regards contaminant magnitude, extent, migrational pathways, and potential sensitive receptors.

Scope of Work

Site and Source Characterization (Borehole Drilling/Sampling Program)

- 12 boreholes including 3 in the former UFST source area and 9 outboard (see figure), to north, west and south
- Continuous core soil sampling and geologic logging
- Lab analysis sample soil sampling on 5-foot depth intervals (unless otherwise dictated by PID readings, lithology changes, saturation changes, etc.)
- Grab-groundwater sampling
- Lab analyses (see spreadsheet)
- Evaluation of the lower "aquitard" zone

Vicinity Well & Potential Preferential Pathway Survey

- Vicinity well survey identified no wells likely to be impacted by site contamination
- Deep sanitary sewer under Howe Street and Macarthur Boulevard could be a pathway, although recent MW-7 groundwater data suggest not (see figure)
- Both surveys were conducted and reported in April 2004 report and will be discussed again in the Soil and Water Investigation Report

Offsite MTBE Component

- Preliminary evaluation shows some contribution, unrelated to site-sourced component (see figure)
- Proposed borehole program, and existing Shell data, to more fully evaluate
- Findings to be reported in Soil and Water Investigation Report

Geologic Cross-Sections

- Submitted with Sept 2003 report, based wholly on previous consultant logs, not including adjacent Shell site data
- Existing sections will be updated/augmented by proposed borehole data, in Soil and Water Investigation Report

Continued Groundwater Monitoring and Reporting

- Re-evaluation of the program based on the findings of this work, to be documented in the Soil and Water Investigation Report

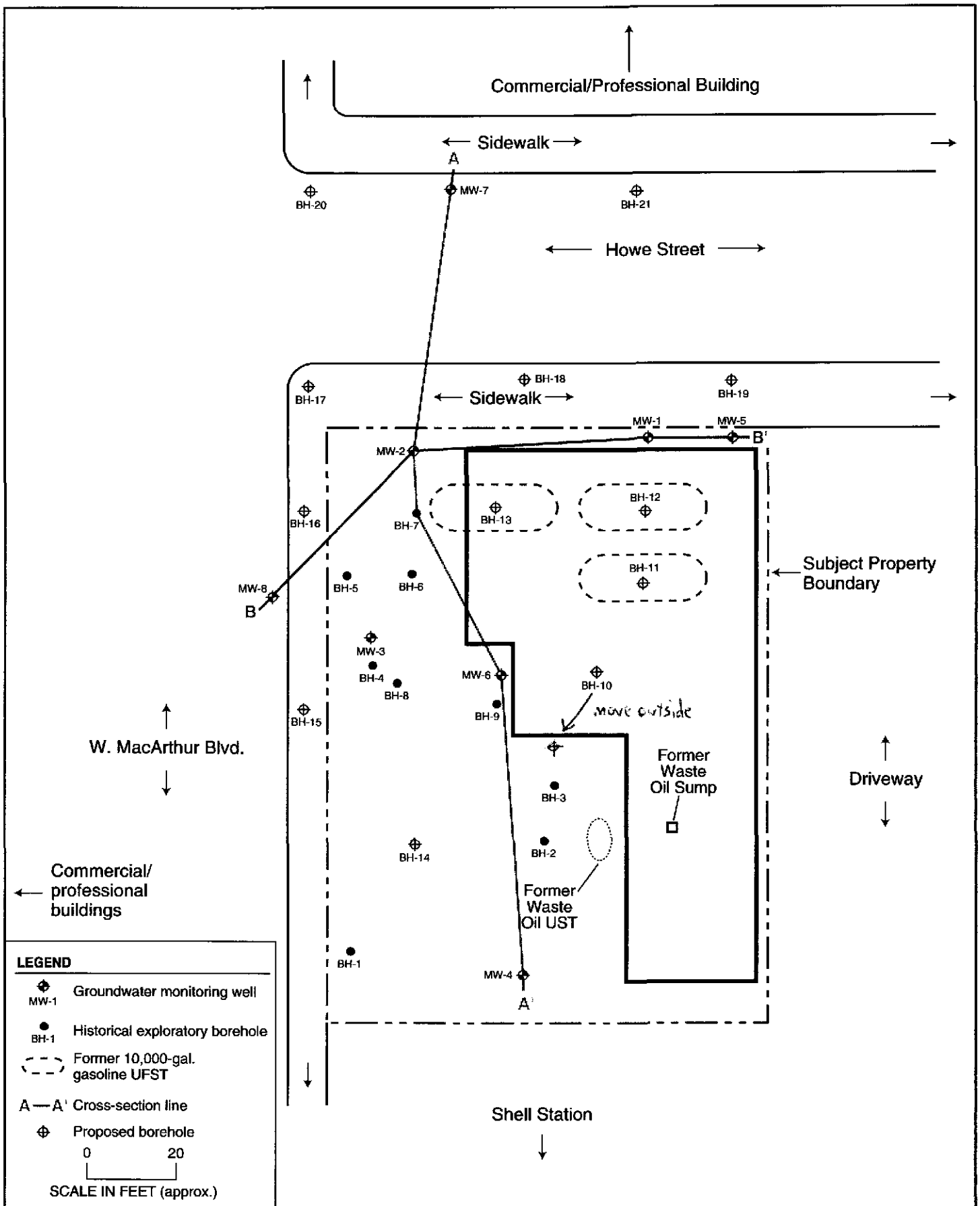
PROPOSED SOIL AND GRAB-GROUNDWATER SAMPLE ANALYTICAL PROGRAM
APRIL 2004 EXPLORATORY BOREHOLE DRILLING PROGRAM
240 W. MACARTHUR BLVD., OAKLAND, CA

Source Area (within UFST excavations) Boreholes (3)			
	Gas/BTEX/MTBE (8015/8021)	Diesel (8015)	EDB/EDC (EPA 8260)
Soil	**X (a)**	**X**	**X**
Groundwater	**X**	**X**	
Periphery Boreholes (9)			
	Gas/BTEX/MTBE (8015/8021)	Diesel (8015)	EDB/EDC (EPA 8260)
Soil	**X**	**X**	
Groundwater	**X**	**X**	

Note: (a) For samples analyzed for both BTEX/MTBE and for EDB/EDC, the BTEX/MTBE will be analyzed by 8260, not 8021

ONGOING GROUNDWATER MONITORING WELL ANALYTICAL PROGRAM
240 W. MACARTHUR BLVD., OAKLAND, CA

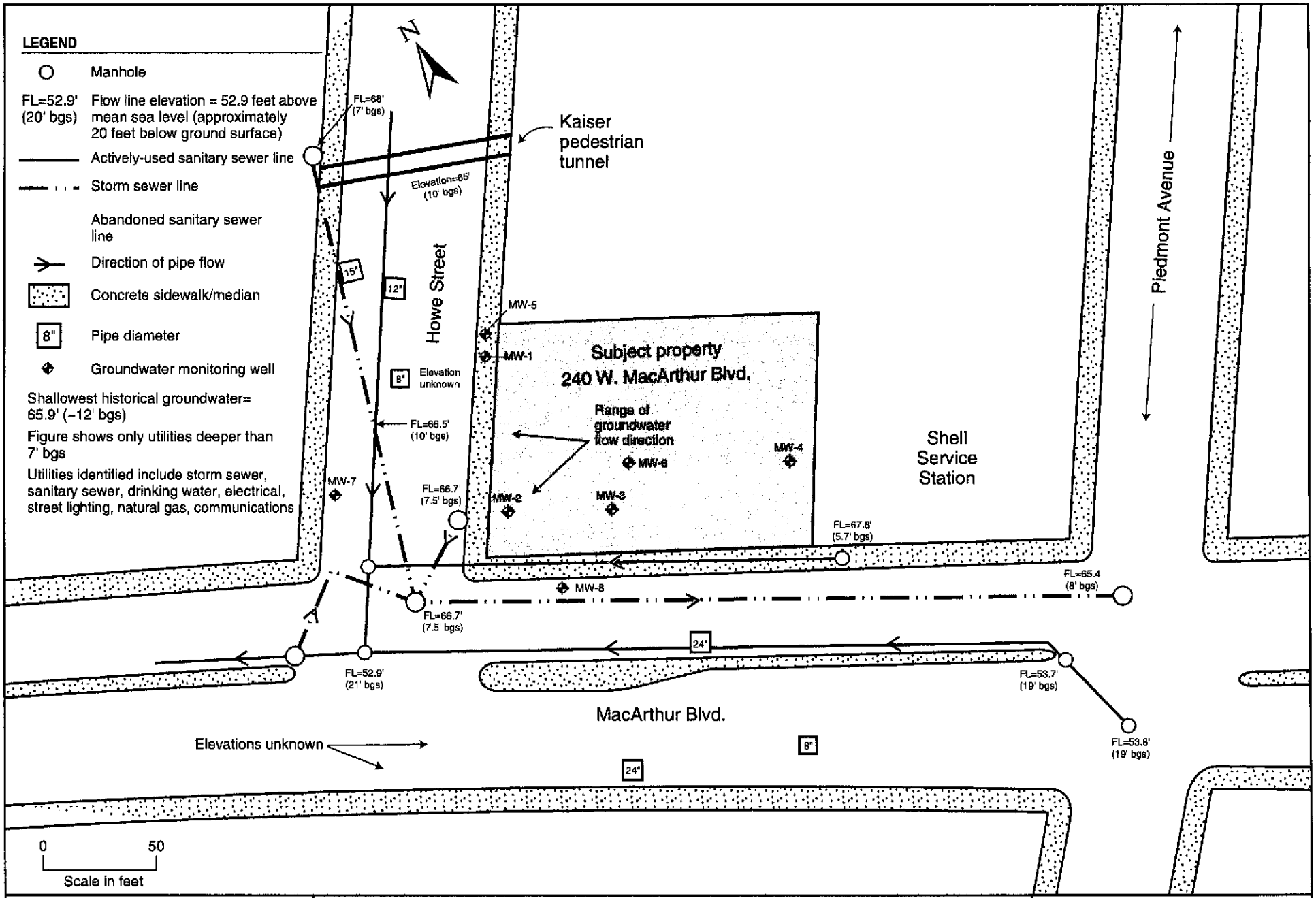
Well ID	Gas/BTEX/MTBE (8015/8021)	Diesel (8015)	EDB/EDC (EPA 8260)
MW-1	**X**	**X**	**X**
MW-2	**X**	**X**	
MW-3	**X**	**X**	
MW-4	**X**		
MW-5	**X**	**X**	**X**
MW-6	**X**	**X**	
MW-7	**X**		
MW-8	**X**	**X**	



SITE PLAN WITH HISTORICAL AND PROPOSED SAMPLING LOCATIONS

240 W. MacArthur Blvd. Oakland, CA	By: MJC	FEBRUARY 2004	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 2		

2003-43-27

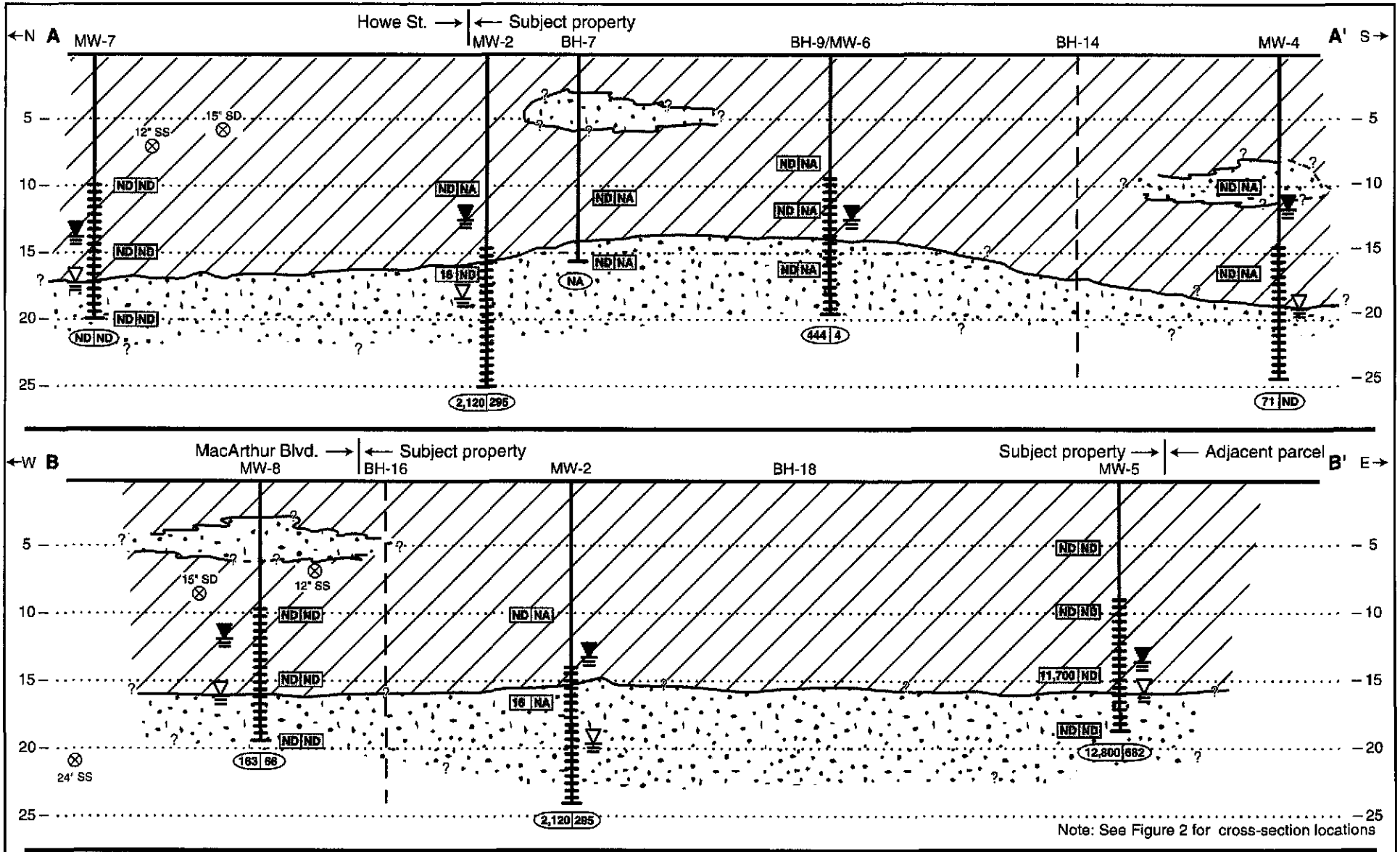


Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

POTENTIAL PREFERENTIAL PATHWAY/UTILITY LOCATION MAP
240 W. MacArthur Blvd., Oakland

Figure 2

by: MJC | FEBRUARY 2004



★ Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

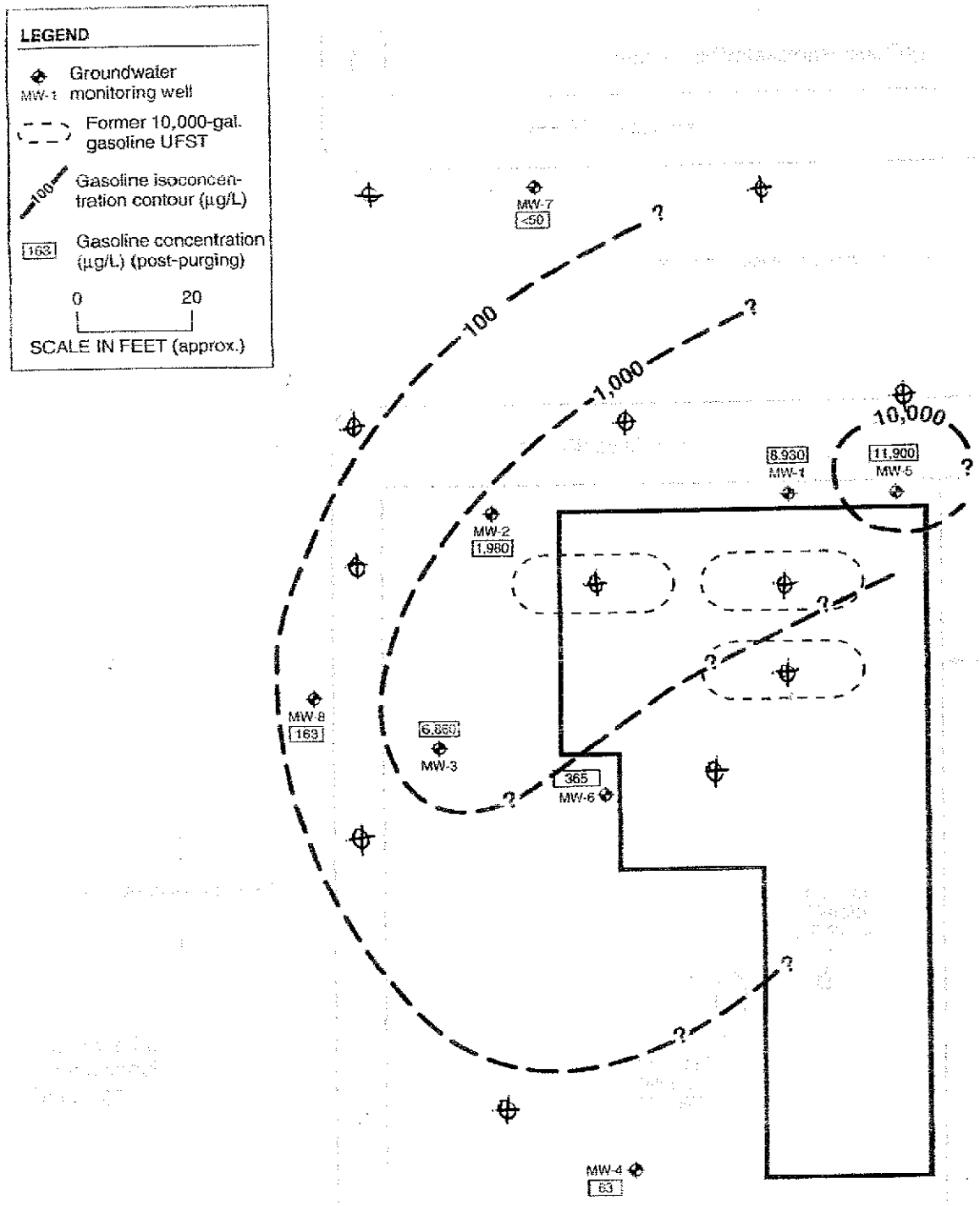
GEOLOGIC CROSS SECTIONS A–A' AND B–B'

240 W. MacArthur Blvd., Oakland, CA

Figure 3

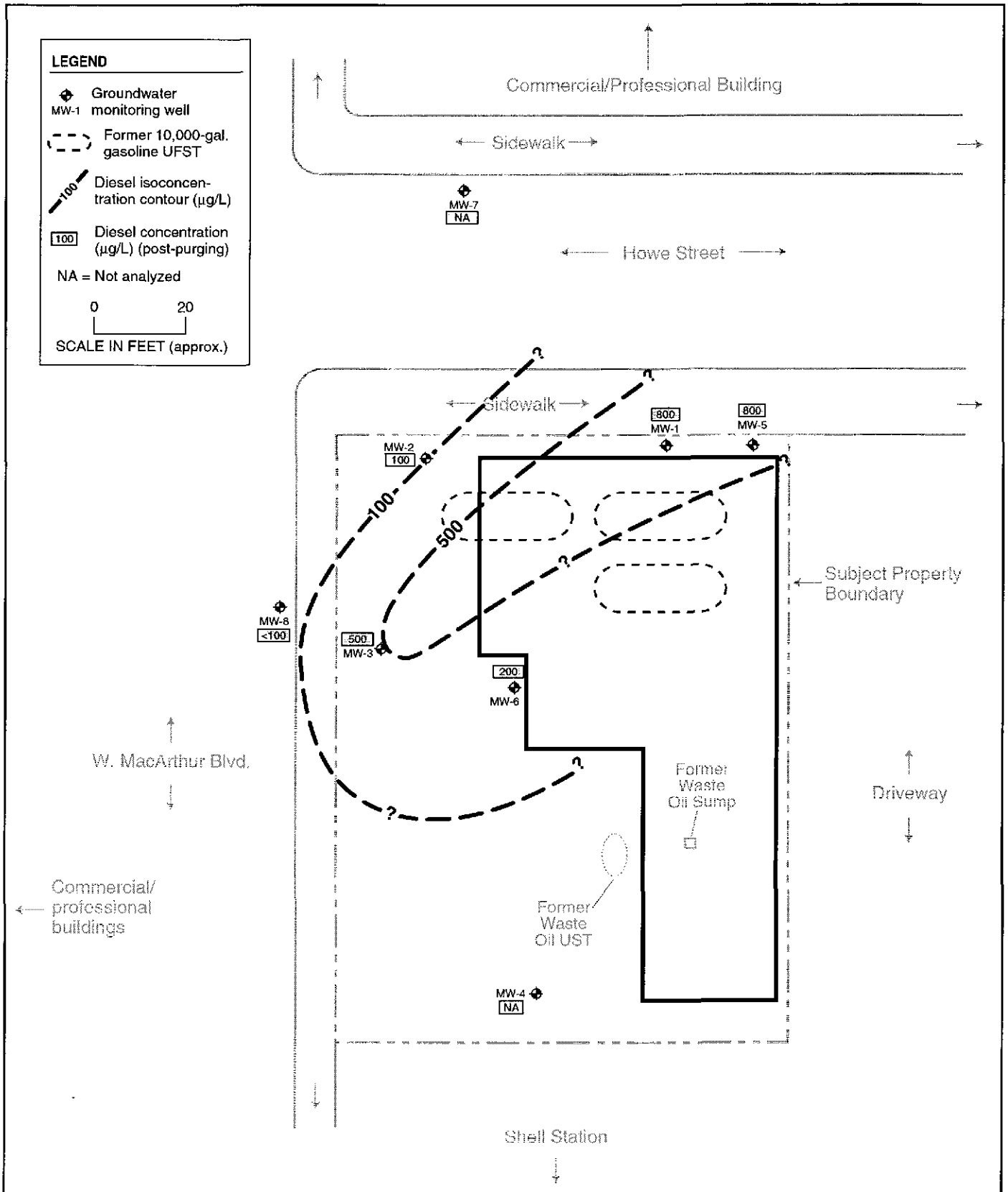
by: MJC

FEBRUARY 2004



GASOLINE ISOCONCENTRATION CONTOURS (DECEMBER 2003)			
240 W. MacArthur Blvd. Oakland, CA	By: MJC	JANUARY 2004	Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 6		

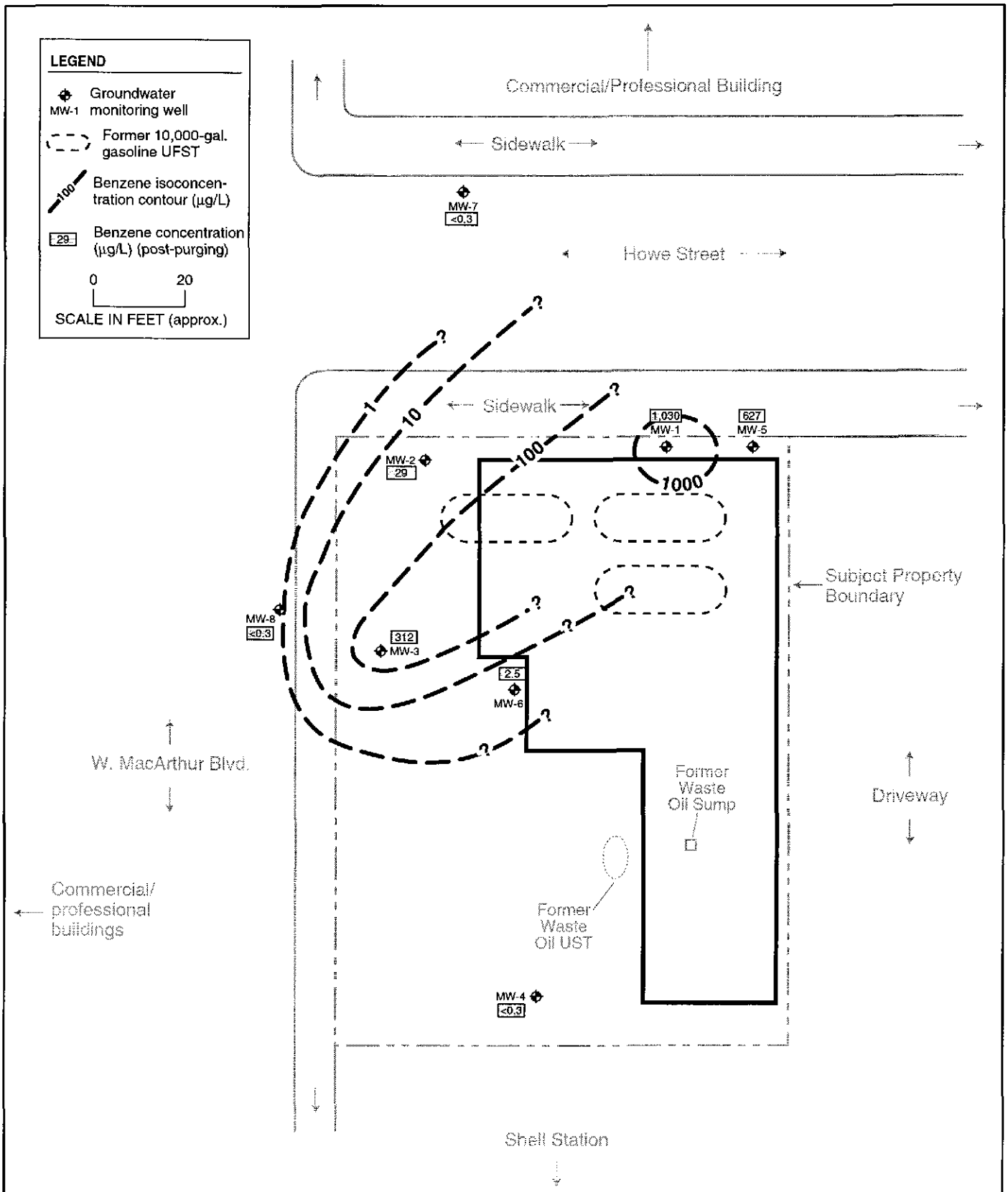
2003-03-19



DIESEL ISOCONCENTRATION CONTOURS (DECEMBER 2003)

240 W. MacArthur Blvd. Oakland, CA	By: MJC	JANUARY 2004	Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 7		

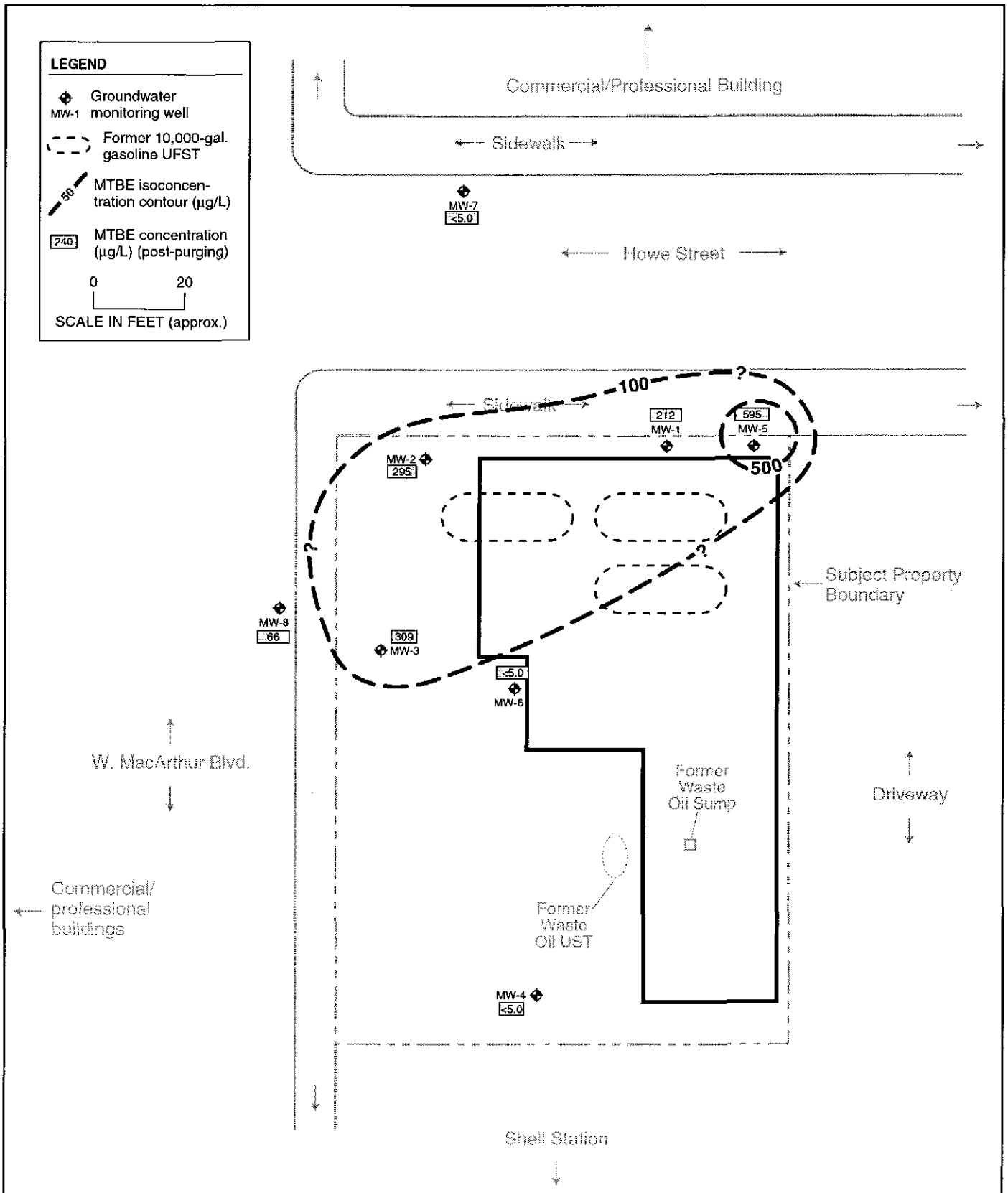
2003-43-21



BENZENE ISOCONCENTRATION CONTOURS (DECEMBER 2003)

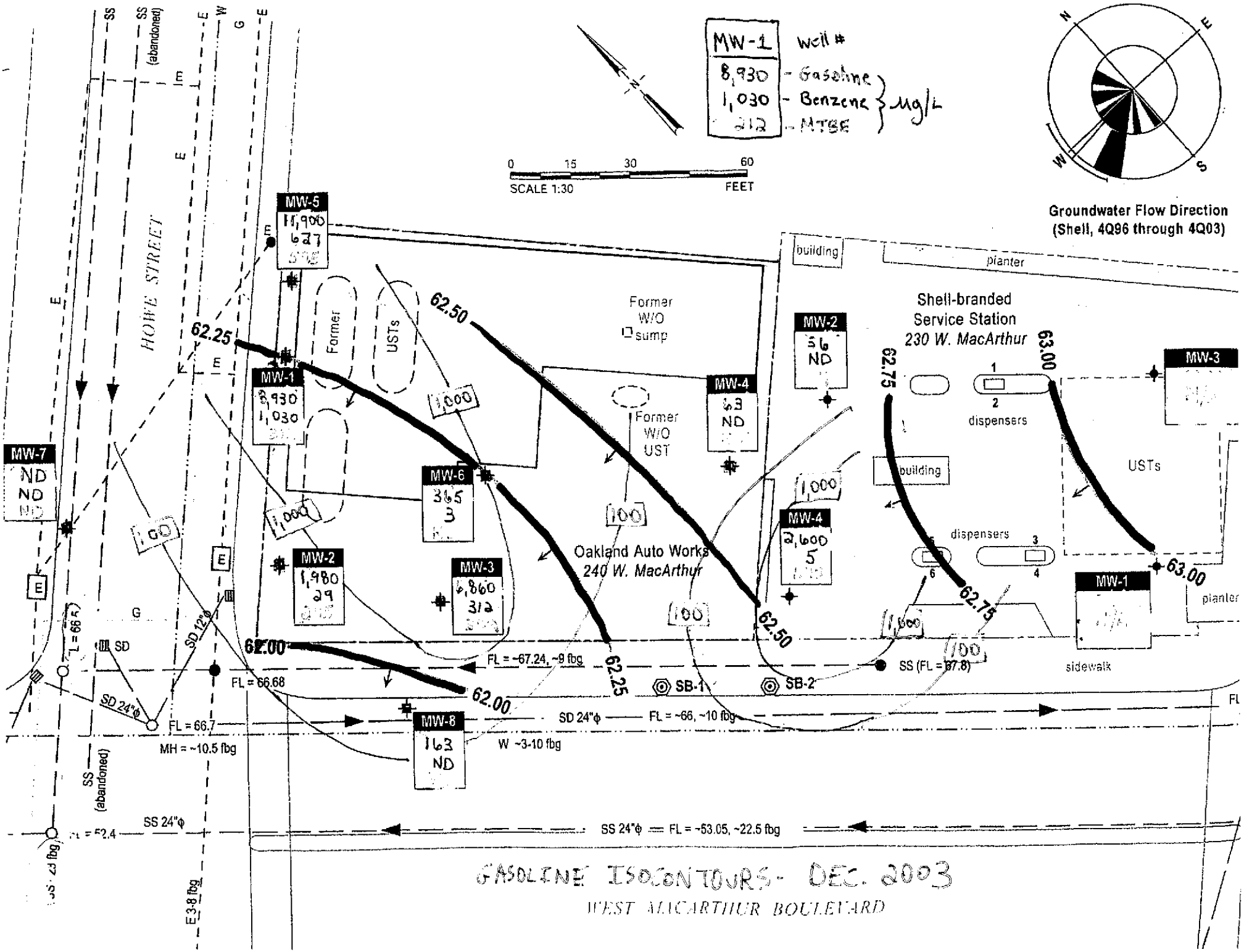
240 W. MacArthur Blvd. Oakland, CA	By: MJC	JANUARY 2004	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 8		

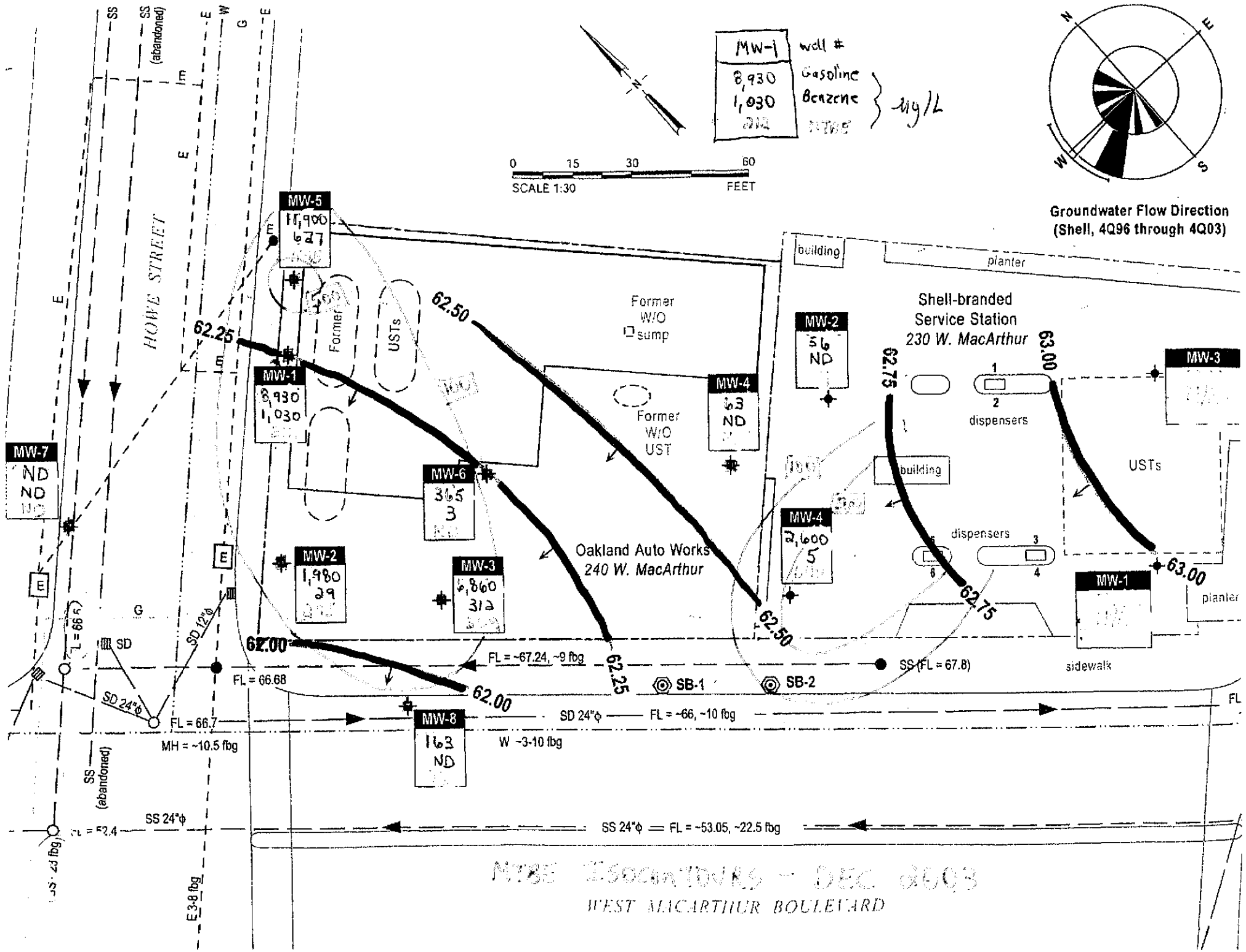
2003-43-20



	MTBE ISOCONCENTRATION CONTOURS (DECEMBER 2003)		
240 W. MacArthur Blvd. Oakland, CA	By: MJC	JANUARY 2004	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 9		

2003-43-23


MW-1
well #
8,930 - Gasoline
1,030 - Benzene
212 - MTBE
ug/L
0 15 30 60
SCALE 1:30
FEET
Groundwater Flow Direction
(Shell, 4Q96 through 4Q03)
HOWE STREET
MW-5
11,900
627
MW-1
8,930
1,030
MW-7
ND
ND
MW-6
365
3
MW-2
1,980
29
MW-3
6,860
312
MW-8
163
ND
MW-2
56
ND
MW-4
63
ND
MW-4
2,600
5
MW-3
ND
Former W/O sump
Former W/O UST
Former USTs
Shell-branded Service Station
230 W. MacArthur
Oakland Auto Works
240 W. MacArthur
building
planter
dispensers
USTs
sidewalk
62.50
62.25
62.00
62.75
63.00
1,000
100
1,000
100
100
1,000
100
SB-1
SB-2
SS (FL = 67.8)
FL = ~67.24, ~9 fbg
FL = 66.68
FL = 66.7
MH = ~10.5 fbg
SD 24"ϕ
SD 12"ϕ
SS 24"ϕ
SS (abandoned)
SD
FL = ~66, ~10 fbg
W ~3-10 fbg
SS 24"ϕ — FL = ~53.05, ~22.5 fbg
GASOLINE ISOCONTOURS - DEC. 2003
WEST MACARTHUR BOULEVARD


MW-1 well #
8,930 Gasoline
1,030 Benzene
ug/L
0 15 30 60
SCALE 1:30 FEET
Groundwater Flow Direction
(Shell, 4Q96 through 4Q03)
HOWE STREET
MW-5 11,900 627
MW-1 8,930 1,030
MW-7 ND ND
MW-6 365 3
MW-2 1,980 29
MW-3 6,860 312
MW-8 163 ND
MW-2 56 ND
MW-4 63 ND
MW-4 2,600 5
MW-3
MW-1
Former W/O sump
Former USTs
Former W/O UST
Shell-branded Service Station
230 W. MacArthur
Oakland Auto Works
240 W. MacArthur
dispensers
building
planter
sidewalk
USTs
62.25
62.50
62.00
62.75
63.00
SB-1
SB-2
FL = 66.68
FL = 66.7
MH = ~10.5 fbg
FL = ~67.24, ~9 fbg
SS (FL = 67.8)
SD 24"ϕ — FL = ~66, ~10 fbg
W ~3-10 fbg
SS 24"ϕ — FL = ~53.05, ~22.5 fbg
SD 12"ϕ
SD 24"ϕ
SS (abandoned)
E 3-8 fbg
MTBE Isocontours - Dec 2003
WEST MACARTHUR BOULEVARD

Historical Groundwater Monitoring Well Groundwater Analytical Results
Petroleum and Aromatic Hydrocarbons
240 W. MacArthur Boulevard, Oakland, Alameda, 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*
No Purge	20	Aug-03	4,900	5,000	740	45	85	250	14
Pre-Purge	21	Dec-03	5,060	400	654	11	79	92	129
Post-Purge	21	Dec-03	8,930	800	1,030	55	127	253	212
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
No Purge	20	Aug-03	2,200	730	58	9.2	*< 0.5*	28	240
Pre-Purge	21	Dec-03	2,120	100	45	9.4	9.5	20	289
Post-Purge	21	Dec-03	1,980	100	29	22.0	7.4	13	295

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

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
No Purge	20	Aug-03	3,800	2,400	170	28	31	31	170
Pre-Purge	21	Dec-03	5,550	400	311	20	41	48	357
Post-Purge	21	Dec-03	6,860	500	312	20	55	58	309
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
No Purge	20	Aug-03	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
Pre-Purge	21	Dec-03	71	*NA*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*< 5.0*
Post-Purge	21	Dec-03	63	*NA*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*< 5.0*

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

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*
No Purge	20	Aug-03	18,000	10,000	950	290	330	1,820	*< 2.0*
Pre-Purge	21	Dec-03	12,800	600	1,140	327	354	1,530	682
Post-Purge	21	Dec-03	11,900	800	627	263	288	1,230	595
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*
No Purge	20	Aug-03	1,600	2,800	37	4	23	58	*< 0.5*
Pre-Purge	21	Dec-03	444	100	4.7	4.9	1.8	5.9	4.4
Post-Purge	21	Dec-03	365	200	2.5	3.8	1.4	6.1	*< 5.0*
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*
No Purge	20	Aug-03	*< 50*	*NA*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
Pre-Purge	21	Dec-03	*< 50*	*NA*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*< 5.0*
Post-Purge	22	Dec-03	*< 50*	*NA*	*< 0.3*	*< 0.3*	*< 0.3*	*< 0.6*	*< 5.0*

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

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*
No Purge	20	Jul-03	190	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	1	*< 0.5*
Pre-Purge	21	Dec-03	144	*< 100*	*< 0.3*	*< 0.3*	*< 0.3*	< 0.6	7.6
Post-Purge	21	Dec-03	163	*< 100*	*< 0.3*	*< 0.3*	*< 0.3*	< 0.6	66
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	< 1.0	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	< 5.0	< 5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
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
	21	Dec-03	< 0.6	< 0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	20	Aug-03	NA	NA	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
	21	Dec-03	NA	NA	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
	21	Dec-03	NA	NA	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	< 2.0	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	< 5.0	< 5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
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
	21	Dec-03	< 5.0	11 / 17.1 [d]	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
	21	Dec-03	NA	NA	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
	21	Dec-03	NA	NA	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
EDB = Ethylene dibromide, aka 1,2-Dibromoethane (lead scavenger)
EDC = Ethylene dichloride, aka 1,2-Dichloroethane (lead scavenger)
PCE = Tetrachloroethylene DCE = Dichloroethylene TBA = Tertiary butyl alcohol
TCE = Trichloroethyene 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).
(d) Pre-purge / post-purge sampling, conducted in same event.
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