July 7, 2014

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Mark Detterman

Subject: Workplan Addendum
3800 San Pablo Avenue, Emeryville, California
ACDEH Fuel Leak Case: RO00002520; Global ID: T06019788682

Ladies and Gentlemen:

Attached please find a copy of the *Workplan Addendum* prepared by Gribi Associates. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Very truly yours,

William H Banker

William H. Banker, Jr.
San Pablo Avenue Venture
c/o Banker, Marks & Kirk
1720 Broadway, Suite 202
Oakland, CA 94612

GRIBI
ASSOCIATES

July 7, 2014

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Mark Detterman

Subject: Workplan Addendum
3800 San Pablo Avenue, Emeryville, California
ACDEH Fuel Leak Case: RO00002520; Global ID: T06019788682

Ladies and Gentlemen:

Gribi Associates is pleased to submit this workplan addendum on behalf of the site owners for the underground storage tank (UST) site located at 3800 San Pablo Avenue in Emeryville, California. This workplan addendum is being submitted in response to the June 27, 2014 letter from Alameda County Department of Environmental Health (ACEH) and addresses specific technical comments and requirements in the letter. The ACEH letter is included herein as Attachment A. The Site Conceptual Model (SCM) for the site, upon which most of the technical comments are based, is included in Attachment B. The following responses are enumerated in the same sequential order as those in the ACEH letter.

1. Workplan Modifications

a. Soil Vapor Characterization

- **Soil Vapor Well Construction –** Each temporary soil vapor well will consist of a single well to be set at a depth of 5.67 feet, with the inlet diffuser 5.0 feet below the base of the building foundation (i.e. below the building slab flooring, which is approximately six to eight inches thick). The temporary wells will be set in well boxes.

- **Request for Additional Vapor Well Location –** An additional vapor well will be installed in the southwest corner of the east parking lot.

  As discussed in our meetings with ACEH, both visual inspections and historical records (primarily Sanborn Maps) have indicated no evidence of below ground structures (i.e. hydraulic lifts, USTs, hoists, sumps, etc.) on the site other than those depicted on site diagrams. We believe the data are adequate and that there is no evidence of actual or potential sources on the site beyond those specified in the SCM.

- **Vapor Well Sampling Analytical Suite -** All vapor well samples will be analyzed for Carbon Dioxide, Nitrogen, and Methane. All vapor well samples will be analyzed for Naphthalene using method TO-17.

b. Shallow Soil Characterization – No change or additions requested by ACEH.

c. Groundwater Plume Delineation – During our April 18, 2014 meeting with ACEH staff, we discussed our conclusion that, based on the large amount of groundwater data from borings and wells, groundwater samples showing nondetectable concentrations of gasoline constituents have been collected in all directions from the known source area, except to the west (see Figure 8 in the SCM).

- **Additional Boring Locations –** A rose diagram was presented at the April 18 meeting and was included in the SCM as Figure 9. During the April 18 meeting, we discussed our conclusion that, while the groundwater potentiometric gradient fluctuates (probably due to both vertical and lateral confining pressures), the well-defined delineation of the groundwater hydrocarbon plume clearly identifies a southwesterly groundwater flow direction from the known source area.

  Based on review of the data set, the hydrocarbon plume surrounding the known source area has been defined, except to the west across San Pablo Avenue. Thus, the data gaps workplan proposed two additional borings (borings B-29 and B-30) west across San Pablo Avenue. This is really the only direction that has not been investigated to non-detect.

  Relative to the former 1,000-gallon UST in the Apgar Street sidewalk, this tank was not identified as a heating oil tank, but was of unknown age and use. Subsequent soil samples following tank removal showed only 0.52 mg/kg of TPHg, with no detectable BTEX, diesel, or motor oil constituents. The laboratory chromatograms for the B-28 soil and water samples (included herein as Attachment C) indicate only gasoline-range hydrocarbons. While it is true that the TPHg groundwater plume associated with this former UST has not been fully delineated to the southwest beyond B-28, we do not recommend additional delineation, given the lack of BTEX associated with this release and the permitting and logistical difficulties (and safety concerns) associated with drilling further southwest (Apgar Street is singe lane, and the below-grade MacArthur Boulevard is located approximately 20 feet southwest from B-28).

- **Full Analytical Suite –** As summarized in the SCM (in both tables and on figures), there have been no significant detections of diesel- or motor oil- range hydrocarbons in borings and wells where these constituents were analyzed. Thus, we would not expect soil or groundwater beneath the site to contain significant concentrations of SVOCs. However, during the next groundwater monitoring event, groundwater samples from all site monitoring wells will be additionally analyzed for TPH-D, TPH-MO, SVOCs. VOCs.

- **Preferential Pathway Study –** Underground utilities were mapped by a utility location subcontractor and both location and depths of identified utilities were included on the SCM on Figure 3. No utilities were found that extend below groundwater. In accordance with your letter, a more thorough well survey will be conducted as part of site closure activities.

2. **Groundwater Monitoring –** During the next groundwater monitoring event, groundwater samples from all site monitoring wells will additionally be analyzed for TPH-D, TPH-HO, SVOCs, VOCs, EDB, and EDC.

3. **Site Investigation Report –** A site investigation report will be submitted which addresses the requirements in the ACEH letter.

   The letter states that the Low-Threat Closure Policy (LTCP) evaluation cannot be conducted for the site without the following:

   a. **Submittal of All Environmental Reports –** To our knowledge, all available reports prepared by for the site have been uploaded to the ACEH upload site. Also, we have not prepared a Phase I report for this site (though we have completed essentially all Phase I tasks and have included results in previous site reports and the Sanborn maps in the SCM).

   b. **Site Vicinity Uses –**Figure 2 in the SCM shows site vicinity uses, particularly immediately downgradient (southwest) from the site.

   c. **Soil and Well Bore Details –** Soil and well boring logs previously submitted include only the data collected in the field at the time of drilling. Thus, missing ancillary field data (PID readings or initial/final groundwater depths, for instance) that were not collected cannot be added later. Ancillary data, such as PID readings and initial/final groundwater depths, are collected if possible, but not always, depending on exigent field conditions. Certainly and as always, we will attempt to obtain this ancillary data in the future.

   d. **Submittal of Chromatograms –** The requested soil and water sample chromatograms from boring B-28 are included in Attachment C. These chromatograms indicate only gasoline-range hydrocarbons in the soil and groundwater samples from B-28. Note that the Apgar Street sidewalk UST was not identified as a heating oil tank, but rather of unknown origin and use. Also, a full suite of laboratory analysis of soil samples from the tank removal showed only 0.52 mg/kg of TPHg, with no detectable concentrations of diesel- or motor oil-range hydrocarbons.

We appreciate the opportunity to provide this workplan for your review. Please contact us if there are questions or if additional information is required.

Very truly yours,

James E. Gribi
Professional Geologist
California No. 5843

Enclosure

ATTACHMENT A

JUNE 27, 2014 LETTER FROM ACEH

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

June 27, 2014

Ms. Elaine Kirk
Marks Management Co.
c/o Banker, Marks, & Kirk
1721 Broadway, Suite 202
Oakland, CA 94612
(sent via electronic mail to: EKirk.marks@earthlink.net)

Mr. William H. Banker, Jr.
San Pablo Avenue Venture
c/o Banker, Marks, & Kirk
1721 Broadway, Suite 202
Oakland, CA 94612
(sent via electronic mail to: BillBanker@comcast.net)

Subject: Partial Work Plan Approval and Request for Work Plan Addendum; Fuel Leak Case No. RO00002520 (Global ID #T06019788682), Maz Glass; 3800 San Pablo Avenue, Emeryville, CA 94608

Dear Ms. Kirk and Mr. Banker:

Alameda County Environmental Health (ACEH) has reviewed the case file, including the *Data Gaps Work Plan,* dated April 29, 2014, the *Site Conceptual Model,* dated April 1, 2014, and the *Second Quarter 2014 Groundwater Monitoring Report,* dated June 12, 2014. The reports were prepared and submitted on your behalf by Gribi Associates (Gribi). Thank you for submitting the reports.

Based on ACEH staff review of the referenced work plan, the proposed scope of work is conditionally approved for implementation **provided a work plan addendum is submitted** for review and approval prior to implementation of the field work. In order to expedite final approval and review of the work plan addendum, please submit a draft version of the Addendum by email for review prior to uploading to Geotracker and the ACEH ftp website. Please address the following technical comments, perform the approved work, and send us the reports requested below.

TECHNICAL COMMENTS

1. **Work Plan Modifications –** The referenced work plan proposes a series of actions and ACEH is in general agreement; however, ACEH requests several modifications to the approach, as discussed below.

   a. **Soil Vapor Characterization** – ACEH is in general agreement with portions of the proposed scope of work for soil vapor characterization and requests the following modifications:

      - **Soil Vapor Well Construction** – The referenced work plan proposes the installation of four temporary soil vapor wells, and has a contingency of two additional vapor wells, depending on the results of the initial four vapor wells. While the wells are described as temporary, the wells are intended to remain onsite should additional vapor samples be required from these vapor wells, and will not be destroyed until that has been determined; thus ACEH considers them to be semi-permanent vapor wells. Except for the nature of the surface completion of the vapor well, the work plan provided well construction details. Because these are intended to be semi-permanent, ACEH requests that the wells be installed in well boxes.

        The wells are proposed to be installed at two depths, 6.5 to 7.5 and 14 to 15 feet below surface grade (bgs); however, the work plan did not justify the two depths. Because the Low-Threat Closure Policy requires the installation of vapor wells five feet below the depth of the foundation

of an existing building, ACEH presumes, but requests confirmation (in the requested Work Plan Addendum), that existing foundations indicate that the installation of vapor wells between 6.5 to 7.5 feet in depth is appropriate. If existing building foundations have not been determined, ACEH requests that a building foundation survey be undertaken prior to vapor well installation and that the vapor wells be installed at a depth five feet below the building foundation. Please provide this information and justification in the resulting site investigation report. Please also be aware that this includes the depth of the foundation footings.

Also, at the present time, ACEH is not aware of a need for the installation of vapor wells at a depth of 14 to 15 feet. However, provided the data is presented to support the need for a deeper installation prior to the initiation of field work, ACEH is amenable to construction of deeper vapor wells.

- **Request for Additional Vapor Well Location** – In general the proposed locations of the wells appear appropriate; however, ACEH requests the addition of a vapor well in the southwestern corner of the eastern parking lot. Older site diagrams have depicted at least one underground storage tank (UST) at this location, and it is appropriate to investigate the potential for residual contamination to be present at the location.

  Additionally, an assessment of the location of other potential sources identified in meetings including a likely former waste oil UST, hoists, and repair facility sumps at this former truck repair facility was not presented in the SCM as requested. Therefore please conduct this review and present justification for additional soil bores and vapor wells to address identified data gaps in the requested Work Plan Addendum.

- **Vapor Well Sampling Analytical Suite** – In addition to the identified chemicals of concern (Total Petroleum Hydrocarbons as gasoline [TPHg], and volatile organic compounds [VOCs]), the work plan proposes the collection of helium and oxygen in soil vapor. ACEH also requests the inclusion of standard atmospheric gases (carbon dioxide and nitrogen) as well as methane in the analytical suite in order to help validate the sampling results and determine if biodegradation is occurring in the subsurface.

  ACEH additionally requests the inclusion of naphthalene in the soil vapor analytical suite (TO-15) as TPH as diesel (TPHd) is also a chemical of concern (COC) at the site, and the LTCP petroleum vapor intrusion to indoor air media-specific criterion includes a naphthalene evaluation (naphthalene is a standard component of diesel fuel). Please be aware, that the Department of Toxic Substances Control (DTSC) recommends confirmation of the sampling result of naphthalene by TO-15, with secondary analysis by TO-17, due to sorption of naphthalene by sampling equipment (especially Nylaflow tubing). ACEH requests that the DTSC recommendations be followed.

b. **Shallow Soil Characterization** - ACEH is in general agreement with the proposed scope of work for shallow soil characterization.

   - **Four Shallow Soil Bores** - The referenced work plan proposed the installation of four shallow soil bores SS-1 to SS-4 at an approximate depth of 1 foot below grade surface (bgs) to pre-characterize soil in an area of the site that will require excavation to an approximate depth of 2 feet bgs for the proposed site redevelopment. These bores and the proposed analytical suite appear appropriate, and ACEH has no further comments relative to these bores.

c. **Groundwater Plume Delineation** – ACEH does not concur with the conclusions contained in the SCM that additional groundwater plume delineation is not necessary.

   - **Additional Boring Locations** - The January 23, 2014 directive letter requested an assessment of the direction of groundwater flow as multiple flow directions have been documented by relatively few groundwater monitoring events at the site. As discussed in the meetings, the documented flow directions do not correlate with the apparent groundwater plume location. The use of a rose diagram to document groundwater flow directions was requested with a discussion of causes of groundwater direction changes.

The work plan proposed the installation of two soil bores across San Pablo Avenue from the subject site in order to help define the extent of the soil and groundwater plume in this direction; however, due to the lack of submitted data and analysis as previous requested, ACEH is uncertain that this is the only groundwater plume direction that requires delineation.

Additionally, as discussed above, a 1,000-gallon UST was removed from the sidewalk adjacent to the subject site in August 2012. At present the delineation of the groundwater plume downgradient of the UST is incomplete based on the previously submitted incomplete analytical set.

Please evaluate groundwater flow direction and existing data as discussed above, and provide a revised figure (as a Work Plan Addendum) showing the locations of additional proposed borings to address these data gaps and support the locations with a rose diagram of groundwater flow directions.

- **Full Analytical Suite** - Submittal of a full suite of Chemicals of Concern (COC) at the site, including TPH as diesel (TPHd), TPH as heating oil (TPHho), EDB, and EDC concentrations in soil and groundwater analyses at the site has been requested multiple times, inclusive of the January 23, 2014, and the November 16, 2012 directive letters. A full suite analysis of semi-volatile organic compounds (SVOC) and volatile organic compounds (VOC) in groundwater was also requested due to the likely presence of sumps and a waste oil UST. Please include the full suite of COCs in the Work Plan Addendum.
- **Preferential Pathway Study** - Submittal of a preferential pathway study (location and depth of utilities, and of vicinity water supply wells using Department of Water Resources (DWR) and the Alameda County Public Works Agency (ACPWA) resources) has been requested multiple times (November 16, 2012 and January 23, 2014) in directive letters. Utility information has been summarized, but not depicted in site figures which are useful in understanding potential bore location limitations or other considerations. The Geotracker Groundwater Ambient Watering and Assessment (GAMA) website has also been reviewed for water supply wells; however, as previously requested, DWR and ACPWA databases have not been. Because the databases of each agency and website are separate and different, it is appropriate to review each of these resources. Review of Figure 5 from the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA,* San Francisco Regional Water Quality Control Board, dated June 1999, indicates that this region of Emeryville has a high incidence of early, potentially unregistered, water supply wells (see copy attached). Please depict utilities on figures with the proposed locations of the borings. Please also depict water supply well locations on a figure and tabulate identified wells. ACEH recognizes that well construction details are confidential; however, well locations are not.

2. **Groundwater Monitoring** – Due to the rapid schedule proposed for site redevelopment, it appears appropriate to continue quarterly groundwater monitoring at the subject site. The collection of quarterly data will help assess contaminant concentrations in groundwater and contaminant rebound. An evaluation of the rebound appears appropriate prior to authorization of additional remedial actions.

   As previously requested, please include TPHd, TPHho, EDB, EDC full suite VOC and SVOC a minimum of one time into the analytical suite for groundwater. ACEH requests the analytical suite be evaluated thereafter. Additionally, please submit reports by the dates identified below.

3. **Site Investigation Report** – After review and approval of the Work Plan Addendum by ACEH, please present the results of the investigation in a report by the date identified below. Please update the SCM with the new data and include items previously requested by ACEH and not yet addressed as discussed below. As discussed in our meetings, ACEH is committed to expediting review of submitted reports to help facilitate the site redevelopment schedule. However, due to the lack of inclusion or lack of discussion of data gaps previously identified in the January 23, 2014 letter, ACEH cannot complete the review of the site to determine whether the LTCP criteria have been satisfied until the following information is provided:

a. **Submittal of All Environmental Reports** – As previously requested, ACEH requests the submittal of all environmental reports generated for the project (inclusive of Phase 1 reports).

b. **Site Vicinity Uses** - An aerial photographic figure to allow a determination of vicinity site uses.

c. **Soil and Well Bore Details** - Submittal of all soil and well bores with PID and initial and static groundwater depths as discussed in meetings and as previously requested.

d. **Submittal of Chromatograms** - ACEH also requested the submittal in the SCM of chromatograms of the TPHg analysis for soil and groundwater collected at soil bore SB-28 in an effort to determine the presence and magnitude of diesel or heating oil compounds this location. As ACEH has previously noted, soil analytical data from soil bore B-28, installed adjacent to a former heating oil UST near the intersection of Apgar Street and San Pablo Avenue, was analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg). The groundwater analytical data detected 910 micrograms per liter (ug/l) TPHg, a concentration that can imply much higher diesel or heating oil concentrations, and indicates that plume delineation in this area of the site has not been achieved.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the specified file naming convention below, according to the following schedule:

- **July 25, 2014** – Quarterly Groundwater Monitoring Report
  File to be named: RO2520_GWM_R_yyyy-mm-dd
- **August 1, 2014** – Work Plan Addendum
  File to be named: RO2520_WP_ADEND_R_yyyy-mm-dd
- **60 Days After Work Plan Addendum Approval** – Site Investigation Report
  File to be named: RO2520_SWI_R_yyyy-mm-dd
- **October 17, 2014** – Quarterly Groundwater Monitoring Report
  File to be named: RO2520_GWM_R_yyyy-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: http://www.acgov.org/aceh/index.htm.

Thank you for your cooperation. If you have any questions, please call me at (510) 567-6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,

Digitally signed by Mark E. Detterman
DN: cn=Mark E. Detterman, o, ou, email, c=US
Date: 2014.06.27 15:26:12 -07'00'

Mark E. Detterman, PG, CEG
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations
Electronic Report Upload (ftp) Instructions

Figure 5, *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA,* San Francisco Regional Water Quality Control Board, dated June 1999,

cc: James Gribi, Gribi Associates, 1090 Adams Street, Suite K, Benicia, CA 94510, (sent via electronic mail to: JGribi@gribiassociates.com)

Tom Graf, GrafCon, P.O. Box 1105, Tiburon, CA 94920, (sent via electronic mail to Tom@grafcon.us)

Dilan Roe, ACEH, (sent via electronic mail to dilan.roe@acgov.org)
Mark Detterman, ACEH, (sent via electronic mail to mark.detterman@acgov.org)
Electronic File, GeoTracker

ATTACHMENT B

SITE CONCEPTUAL MODEL

GRIBI
ASSOCIATES

April 1, 2014

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Mark Detterman

Subject: Site Conceptual Model, 3800 San Pablo Avenue, Emeryville, California
ACDEH Fuel Leak Case: RO00002520; Global ID: T06019788682

Ladies and Gentlemen:

Gribi Associates is pleased to submit this *Site Conceptual Model* on behalf San Pablo Avenue Venture for the property located at 3800 San Pablo Avenue in Emeryville, California. The following Site Conceptual Model (SCM) has been developed to assist in risk-based decision making. In developing the SCM, we have evaluated actual and potential contaminant sources, migratory pathways, and environmental receptors. This SCM is based on our understanding of currently-available data; where data is not available or is not representative, a data gap is noted. As part of this SCM, we have included tabulated data summaries in Attachment 1 and narrative figures in Attachment 2.

In preparing the SCM, we have identified two investigative data gaps: (1) The nature and extent of possible groundwater hydrocarbon impacts west of the site across San Pablo Avenue; and (2) The nature and extent of vapor hydrocarbon impacts beneath the site building.

We appreciate this opportunity to provide this report for your review. Please contact us if there are questions or if additional information is required.

Very truly yours,

James E. Gribi
Professional Geologist
California No. 5843

Enclosure

INITIAL SITE CONCEPTUAL MODEL
Maz Glass UST Site
3800 San Pablo Avenue
Emeryville, California

SCM Element	SCM Sub-Element	Description	Figures & Tables Reference	Data Gap	How to Address
Geology and Hydrogeology	Regional	The Site is located along the southwestern margin of the Berkeley Alluvial Plain, which is a subarea of the East Bay Plain area (*East Bay Plain Groundwater Basin Beneficial Use Evaluation Report*, SFBRWQCB, June 1999). Alluvial deposits that generally consist of silts and clays containing thin sandy and gravelly lenses underlie the area. Estuarian mud, known as "Bay Mud," extends east of the San Francisco Bay where it interfingers with the surficial fluvial deposits. Important regional sands, such as the Merritt Sand, appear to exist intermittently beneath the Site. The depth to bedrock in the Berkeley Alluvial Plain varies from near zero on the north to 500 feet on the south end of the Plain. The Hayward fault defines the eastern boundary of the Berkeley Alluvial Plain and forms a geologic discontinuity. Bedrock in the East Bay Area is mostly Franciscan Complex melange, which includes marine sandstone and shale, chert, metavolcanics, serpentinized ultramafic rocks, and limestone.	Figure 1	None	n/a
	Site	**Geology:** Soils encountered in the borings generally consisted of clays, with relatively thin discontinuous silts and occasional clayey gravels and sands present in some of the borings below 20 feet in depth. **Hydrology:** Water-saturated soils were generally encountered in silt- and clay-dominated soils under confining pressure below 15 feet in depth, and stabilize in site wells at about 10 feet in depth. Hydraulic gradient is variable, apparently due to the confined conditions beneath the Site. Note that site monitoring wells are screened below the apparent water table (the screened interval in site wells is 13 to 23 feet; stabilized water depths range from 8 to 10 feet bgs). However, groundwater is held under confining pressure below 15 feet in depth, hence wells are not screened below the true (confined) water table. The West MacArther Boulevard underpass, located approximately 50 feet south from the site, extends approximately 12 to 15 feet below surface grade. This underpass includes a groundwater dewatering system, which could affect groundwater flow direction at the site. Based on the hydrocarbon plume delineation, showing a clear southwesterly alignment from the former UST/dispenser source areas out towards Adeline Street, it appears that groundwater flow direction beneath the Adeline Street parking lot portion of the site is to the southwest.	Figure 3, Figure 4, and Figure 9	None	n/a
Surface Water Bodies		The closest surface water bodies are cuvertized creeks. Temescal Creek, the main drainage for the Site area, is located approximately one-half mile north from the Site at 53rd Street.	Figure 1	None	n/a
Nearby Wells		The State Water Resources Control Board Geotracker GAMA website includes approximate locations of water supply wells in California. No water supply wells are shown within the immediate Oakland, Emeryville, or Berkeley areas. The soil and groundwater hydrocarbon plumes extend west-southwest beneath the intersection of Adeline Street and San Pablo Avenue. A visual reconnaissance of these streets and of the multi-tenant commercial properties to the west/southwest indicates no water supply wells within at least 500 feet of the site.	Figure 1 and Figure 2	None	n/a

INITIAL SITE CONCEPTUAL MODEL
Maz Glass UST Site
3800 San Pablo Avenue
Emeryville, California

SCM Element	SCM Sub-Element	Description	Figures & Tables Reference	Data Gap	How to Address
Potential Sources	Onsite	**Former Gasoline USTs (Northeast side of site):** Two 1,000-gasoline USTs located in parking lot on northeast side of site. Previous reports by others indicate that these USTs were removed in about 1981. No record of removal or sampling. Electromagnetic survey in 2011/2012 indicated no below ground structures present. Gribi boring B-23 in former UST cavity showed no significant hydrocarbon impacts in native soils at 11 ft, just below clean backfill sands. Soil and groundwater samples from Gribi borings B9, B-10, and B-11, located southwest (expected downgradient) direction from former USTs, showed no significant hydrocarbon impacts. **Former USTs (West side of site):** One 1,000-gallon heating oil UST and one 550-gallon heating oil UST were removed from the Adeline Street sidewalk in May 2002. One soil sample was collected beneath each of the removed USTs at a depth of approximately seven feet in depth. These soil samples showed up to 440 mg/kg of TPH-G and 280 mg/kg of TPH-D, with very low to nondetectable levels of VOCs. The UST excavation cavities were subsequently overexcavated, and subsequent soil samples collected at approximately ten feet in depth showed relatively low levels of hydrocarbons. Soil results from surrounding ESTC and Gribi borings showed up to 58 mg/kg of TPH-G and 0.36 mg/kg of Benzene. **Former UST (Southwest side of site):** One 1,000-gallon UST of unknown use located in the Apgar Street sidewalk was removed in August 2012. Four excavation pit soil samples were collected. The only hydrocarbon detection in any of the samples was 0.520(mg/kg (detection level = 0.500 mg/kg) of TPH-G in the north sidewall soil sample, T-1-N. All of the metals results were relatively low and appear to represent background metals concentrations. Gribi 2013 boring B-28, located immediately southwest in an expected downgradient direction from the former UST, showed 16 mg/kg of TPH-G in a soil sample at 15.5 feet bgs, and 910 ug/L of TPH-D, with no detectable TPH-G or BTEX, in a grab groundwater sample from the boring. **Former Fuel Dispenser Kiosk (Northwest side of site building):** 1951 and 1967 Sanborn fire insurance maps show a former gasoline dispenser kiosk, labeled as "Gas & Oil"to have been present in the small Adeline Street parking lot directly adjacent to the site building (where the current front door to the building is located). The "Gas & Oil" label is the standard designation on Sanborn Maps for a gas station or gasoline fueling facility. Note that it is possible that the fuel dispenser island extended inside the Site building, immediately adjacent to the outside kiosk. Soil results from surrounding ESTC and Gribi borings showed up to 69 mg/kg of TPH-G and 0.22 mg/kg of Benzene.	Figure 5 and Figure 6; Table 1 and Table 2.	None	n/a
Potential Sources	Offsite	**James Auto Repair (Immediately northeast, 1047 39th Street):** Soil sample at 14 ft bgs in Gribi boring B-8 showed 22 mg/kg of TPH-D. Grab groundwater sample from B-8 showed 22 ug/L of TPH-G with no BTEX (TPH-D not analyzed). **Former Laundry (150 ft northeast; 1033 39th Street):** Historical directories and Sanborn Maps indicate a possible dry cleaners (National French Laundry, Industrial Coat & Apron Supply, and Red Star Industrial Service Laundry) was apparently present at 1033 39th Street, approximately 150 feet northeast from the Site, from the 1920s to the 1960s. Grab groundwater samples from Gribi borings B-15 and B-16, located in the yard on the east side of the site, showed no significant detections of VOCs.	Figure 2, Figure 7, and Figure 6. Table 1 and Table 2.	None	n/a

INITIAL SITE CONCEPTUAL MODEL
Maz Glass UST Site
3800 San Pablo Avenue
Emeryville, California

SCM Element	SCM Sub-Element	Description	Figures & Tables Reference	Data Gap	How to Address
Release Occurrence		**Former Gasoline USTs (Northeast side of site):** Soil and groundwater sampling at and adjacent to these former USTs do not indicate significant releases either in soil or water. **Former USTs (West side of site):** Although the UST removal permit lists these USTs as waste oil/heating oil, it is our understanding that these USTs were discovered as part of sidewalk and parking lot redevelopment and that these tanks were of unknown origin or use. The laboratory chromatograms for soil samples collected following removal indicates gasoline-range hydrocarbons only. The cause and nature of the release(s) is not known. **Former UST (Southwest side of site):** This UST was discovered in 2012, and its origin and use are unknown (stamped concrete sidewalk overlaying the UST showed a date of 1931 for the sidewalk). Although soils beneath the removed UST exhibited slight to occasionally moderate hydrocarbon odors, the tank itself showed no evidence of leakage and soil and groundwater sampling results showed no significant hydrocarbon detections. These results indicate that, while some releases may have occurred relative to the UST (perhaps from overfilling or spilling while filling), these releases have degraded over the many decades since they occurred. **Former Fuel Dispenser Kiosk (Northwest side of site building):** The configuration of the groundwater hydrocarbon plume, with gasoline-range impacts in Gribi borings B-12 and B-13, just inside the site building, but not in further inside Gribi borings B-14 and B-17, indicates that the release occurred adjacent to the former fuel dispenser kiost and island, which was apparently located just inside the site building. The cause and nature of the release(s) is not known.	Figure 7 and Figure 8. Table 1 and Table 2.	None	n/a
Constituents of Concern		The primary constituents of concern are gasoline and gasoline constituents (TPH-G and BTEX; no significant detections of oxygenates or other VOCs). These COCs appear to have been released from the former west USTs and/or dispenser island/kiosk area. Heavier hydrocarbons (TPH-D and TPH-MO) have not been detected at significant concentrations. Few samples have been analyzed for metals; Soil samples from the 2002 west UST tank removal were analyzed for five LUFT metals (Cd, Cr, Pb, Ni, Zn) and showed apparent background detections of these metals. Grab groundwater samples from Gribi borings B-15 and B-16 on the east side of the site showed no significant detections of VOCs, indicating that the possible upgradient laundry source has not impacted the site.	Figure 7 and Figure 8. Table 1 and Table 2.	None	n/a
Nature & Extent of Impacts	Impacts in Soil	Relatively low soil TPH-G/BTEX detections were encountered in borings throughout the site. In the northeast yard area, the highest TPH-G detection was 22 mg/kg, with no detectable benzene. In the north building wing and Adeline Street parking lot area, the highest respective TPH-G and benzene detections were 69 mg/kg and 0.36 mg/kg. Soil samples on the south side of the site showed low to nondetectable concentrations of gasoline-range hydrocarbons. Low to nondetectable concentrations of TPH-D/MO and metals were encountered in soil samples throughout the site.	Figure 3, Figure 4, and Figure 7; Table 1.	None	n/a

INITIAL SITE CONCEPTUAL MODEL
Maz Glass UST Site
3800 San Pablo Avenue
Emeryville, California

SCM Element	SCM Sub-Element	Description	Figures & Tables Reference	Data Gap	How to Address
	Impacts in Groundwater	Groundwater hydrocarbon impacts are limited primarily to the west side of the site, encompassing an area including the west Adeline Street parking lot and extending a short distance northeast into the site building. TPH-G and benzene concentrations in this area are high (TPH-G>10,000 ug/L and benene>1,000 ug/L). These groundwater hydrocarbon impacts appear to extend southwest beneath Adeline Street/San Pablo Avenue; it is also possible that these impact extend in a more westerly direction beneath Adeline Street/San Pablo Avenue. TPH-D was reported in B-8, in the northeast corner of the site, and in B-28, just south of the former south UST on the southeast corner of the site. Since B-8 is located within three feet of the northeast (upgradient) property line, this detection is believed to be from an offsite source, the adjacent James Auto Repair facility. B-28 is located immediately southwest from the former south UST; hence, this TPH-D detection is believed to be from the former UST. These TPH-D detections are relatively low and do not warrant additional investigation.	Figure 3, Figure 4, and Figure 8; Table 2 and Table 3.	Extent of groundwater hydrocarbon impacts west across San Pablo Avenue.	Approx. 2 borings on west side of San Pablo Avenue, approx. 50 and 80 ft north of Gribi boring B-20.
	Impacts in Vapor	Shallow soils beneath the site are clay-dominated, and no significant shallow soil hydrocarbon impacts have been identified beneath the site. Hence, we would not expect vapor impacts to be significant; however, no vapor sampling has been conducted.	None	Nature and extent of vapor hydrocarbon impacts beneath site building.	Sample soil vapor at approx. six locations inside site building.
Migration Pathways		A conduit study was conducted in March 2014. Underground utilities include (1) natural gas, telephone, and water along 39th Street, on the north side of the site; (2) Storm water, sewer, and electrical along Adeline Street on the west side of the site; and (3) Storm water and sewer along San Pablo Avenue on the southwest side of the site. The maximum invert depths of any of these underground utility pipes is approximately 11.0 feet, the invert depth of the storm water pipes beneath Adeline Street and San Pablo Avenue. Groundwater beneath the site is held under confining pressure below 15 feet in depth; hence; underground utilities both on and surrounding the site do not preferential pathways for contaminant migration.	Figure 3	None	n/a
Potential Receptors & Risks	Onsite	Potential receptors include (1) future construction workers, who could come into contact with gasoline-impacted soil and, perhaps, gasoline-impacted groundwater; and (2) human exposure to indoor and outdoor hydrocarbon vapors. Risks associated with these potential exposures are expected to be low given the low soil impacts, confined groundwater conditions, and relatively limited non-paved areas in the site vicinity. Potable water is and will be supplied by municipal sources for the foreseeable future. Hence, groundwater ingestion is not considered to be a potential receptor.	Figure 10	Vapor sampling required	See above
	Offsite	Potential receptors include (1) future construction workers, who could come into contact with gasoline-impacted gasoline-impacted groundwater; and (2) human exposure to outdoor hydrocarbon vapors. Risks associated with these potential exposures are expected to be low given the low soil impacts, confined groundwater conditions, and relatively limited non-paved areas in the site vicinity.	Figure 10	None	n/a

ATTACHMENT 1

TABLES

Table 1
CUMULATIVE SOIL LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Sample Depth	Soil Concentration, in milligrams per kilogram (mg/kg)							
		TPH-D	TPH-G	B	T	E	X	OXY	OTHER VOCs
UST Removal, Enviro Soil Tech Consultants, May 2002									
T-1-7-1	7.0 feet	**280L**	**440**	<0.130	<0.130	<0.130	<0.130	MTBE <0.130	**0.910** Propylbenzene **0.260** Isopropylbenzene **0.490** n-Butylbenzene
T-1-10-2	10.0 feet	**97L**	**26**	<0.023	<0.023	<0.023	<0.023	MTBE <0.023	**0.140** Propylbenzene **0.037** Isopropylbenzene **0.067** n-Butylbenzene
T-2-6.5-1	6.5 feet	**29L**	**46**	<0.025	<0.025	**0.057**	<0.025	MTBE <0.025	**0.640** Propylbenzene **0.130** Isopropylbenzene **0.150** sec-Butylbenzene **0.130** Isopropyl Toluene **0.670** n-Butylbenzene
T-2-8.5-2	8.5 feet	**24L**	**370**	<0.130	<0.130	**3.2**	**0.480**	MTBE <0.130	**2.8** Propylbenzene **0.650** Isopropylbenzene **0.380** sec-Butylbenzene **0.510** Isopropyl Toluene **1.9** n-Butylbenzene **0.370** 1,3,5-Trimethylbenzene **0.250** Naphthalene
T-2-11-3	11.0 feet	**18L**	**59**	<0.013	<0.013	**0.069**	<0.013	MTBE <0.013	**0.059** Acetone **0.036** 2-Butanone **0.039** Propylbenzene **0.019** n-Butylbenzene
Soil Boring Investigation, Enviro Soil Tech Consultants, May 2007									
B-1-5	5.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-1-10	10.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-1-15	15.0 feet	<5	<0.5	**0.030**	<0.005	**0.022**	<0.010	NA	**0.010** n-Propylbenzene **0.0062** Naphthalene
B-1-20	20.0 feet	**7.7**	**7.7**	**0.085**	<0.005	**0.026**	**0.015**	NA	**0.019** 1,2,4-Trimethylbenzene **0.0071** 1,3,5-Trimethylbenzene **0.0055** n-Propylbenzene **0.014** Naphthalene
B-2-5	5.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-2-10	10.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-2-15	15.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-2-20	20.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-3-5	5.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-3-10	10.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-3-15	15.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-3-20	20.0 feet	<5	**7.5**	<0.005	<0.005	<0.005	<0.010	NA	**0.110** Acetone
B-4-5	5.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-4-10	10.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-4-15	15.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-4-20	20.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND

Table 1
CUMULATIVE SOIL LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Sample Depth	Soil Concentration, in milligrams per kilogram (mg/kg)							
		TPH-D	TPH-G	B	T	E	X	OXY	OTHER VOCs
B-5-5	5.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-5-10	10.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-5-15	15.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-5-20	20.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-6-5	5.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-6-10	10.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-6-15	15.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	**0.0086** n-Propylbenzene
B-6-20	20.0 feet	<5	**1.1**	**0.0071**	<0.005	**0.068**	<0.010	NA	**0.0082** 1,2,4-Trimethylbenzene **0.006** 1,3,5-Trimethyl benzene **0.0083** Isopropylbenzene **0.013** n-Propyl benzene **0.0055** Naphthalene
B-7-5	5.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-7-10	10.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-7-15	15.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
B-7-20	20.0 feet	<5	<0.5	<0.005	<0.005	<0.005	<0.010	NA	ND
Soil Boring Investigation, Gribi Associates, December 2011									
B-8-6.0	6.0 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-8-9.0	9.0 feet	NA	**4.0**	<0.005	<0.005	<0.005	<0.010	NA	NA
B-8-14.0	14.0 feet	**22**	**22**	<0.005	<0.005	<0.005	<0.010	NA	NA
B-9-7.5	7.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-9-11.0	11.0 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-9-16.0	16.0 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-10-7.5	7.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-10-13.5	13.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-10-20.5	20.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-11-10.5	10.5 feet	**26**	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-11-15.0	15.0 feet	<10	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-11-20.0	20.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-12-7.5	7.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-12-10.5	10.5 feet	NA	**1.2**	<0.005	<0.005	<0.005	<0.010	NA	NA
B-12-17.5	17.5 feet	NA	**2.9**	<0.005	<0.005	<0.005	<0.010	NA	NA
B-12-22.0	22.0 feet	<10	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-13-7.5	7.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-13-12.5	12.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-13-14.5	14.5 feet	NA	**2.0**	<0.005	<0.005	<0.005	<0.010	NA	NA
B-13-20.0	20.0 feet	NA	**3.9**	<0.005	<0.005	**0.070**	<0.010	NA	NA

Table 1
CUMULATIVE SOIL LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Sample Depth	Soil Concentration, in milligrams per kilogram (mg/kg)							
		TPH-D	TPH-G	B	T	E	X	OXY	OTHER VOCs
B-14-8.0	8.0 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-14-12.0	12.0 feet	NA	**1.6**	<0.005	<0.005	<0.005	<0.010	NA	NA
B-14-15.5	15.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-14-20.5	20.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
Remedial Investigation, Gribi Associates, May 2012									
B-15-12.0	12.0 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
B-16-13.5	13.5 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
B-17-11.5	11.5	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
B-18-13.0	13.0 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
B-18-19.0	19.0 feet	NA	**1.4**	<0.005	**0.013**	<0.005	<0.010	NA	NA
B-18-23.0	23.0 feet	NA	**0.63**	<0.005	<0.005	<0.005	<0.010	NA	NA
B-19-17.5	17.5 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
B-20-20.0	20.0 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
B-21-14.5	14.5 feet	NA	**0.52**	<0.005	<0.005	<0.005	<0.010	NA	NA
B-21-16.0	16.0 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
B-22-17.0	17.0 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
B-23-11.0	11.0 feet	NA	**0.70**	<0.005	<0.005	<0.005	<0.010	NA	NA
MW-1-10.5	10.5 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
MW-1-15.5	15.5 feet	NA	**3.1**	<0.005	**0.017**	**0.013**	**0.0291**	NA	NA
MW-1-20.0	20.0 feet	NA	**4.7**	**0.032**	**0.013**	**0.120**	<0.010	NA	NA
MW-1-23.0	23.0 feet	NA	**2.8**	**0.025**	**0.0077**	**0.073**	<0.010	NA	NA
MW-2-4.5	4.5 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
MW-2-8.0	8.0 feet	NA	**35**	<0.005	**0.130**	**0.038**	**0.086**	NA	NA
MW-2-17.5	17.5 feet	NA	**69**	**0.140**	**0.140**	**0.220**	**0.148**	NA	NA
MW-2-24.0	24.0 feet	NA	**54**	**0.220**	**0.140**	**0.570**	**0.121**	NA	NA
MW-3-8.0	8.0 feet	NA	**25**	<0.005	**0.100**	<0.005	**0.101**	NA	NA
MW-3-17.5	17.5 feet	NA	**1.3**	<0.005	**0.0076**	**0.011**	<0.010	NA	NA
MW-3-23.0	23.0 feet	NA	**28**	**0.360**	**0.052**	**0.350**	**0.236**	NA	NA
MW-4-7.0	7.0 feet	NA	<0.50	<0.005	<0.005	<0.005	<0.010	NA	NA
MW-4-12.0	12.0 feet	NA	**1.3**	<0.005	**0.0055**	**0.0081**	<0.010	NA	NA
MW-4-16.0	16.0 feet	NA	**7.3**	**0.0069**	**0.028**	**0.034**	**0.0215**	NA	NA
MW-4-23.0	23.0 feet	NA	**22**	**0.026**	**0.064**	**0.062**	**0.085**	NA	NA

Table 1
CUMULATIVE SOIL LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Sample Depth	Soil Concentration, in milligrams per kilogram (mg/kg)							
		TPH-D	TPH-G	B	T	E	X	OXY	OTHER VOCs
South UST Removal, Gribi Associates, August 2012									
T-1-W	10.0 feet	<10	<0.50	<0.005	<0.005	<0.005	<0.005	All ND	All ND
T-1-E	10.0 feet	<10	<0.50	<0.005	<0.005	<0.005	<0.005	All ND	All ND
T-1-N	7.0 feet	<10	**0.52**	<0.005	<0.005	<0.005	<0.005	All ND	All ND
T-1-S	7.0 feet	<10	<0.50	<0.005	<0.005	<0.005	<0.005	All ND	All ND
Remediation Pilot Test, Gribi Associates, February 2013									
B-24-9.0	9.0 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	All ND	NA
B-24-15.0	15.0 feet	NA	**1.3**	<0.005	<0.005	<0.005	<0.010	All ND	NA
B-27-7.0	7.0 feet	NA	**25**	<0.005	<0.005	<0.005	<0.010	All ND	NA
B-27-15.5	15.5 feet	NA	**4.4**	**0.0056**	<0.005	**0.120**	**0.008**	All ND	NA
B-28-7.5	7.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	All ND	NA
B-28-15.5	15.5 feet	NA	**16**	<0.005	<0.005	<0.005	<0.010	All ND	NA
OW-1-7.5	7.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	All ND	NA
OW-1-15.0	15.0 feet	NA	**7.4**	**0.039**	<0.005	**0.190**	**0.013**	All ND	NA
OW-1-17.0	17.0 feet	NA	**18**	**0.013**	<0.005	**0.120**	**0.0074**	All ND	NA
OW-1-25.0	25.0 feet	NA	**6.5**	**0.014**	<0.005	**0.047**	**0.011**	All ND	NA
OW-2-7.5	7.5 feet	NA	**7.7**	<0.005	<0.005	<0.005	<0.010	NA	NA
OW-2-15.5	15.5 feet	NA	**2.5**	<0.005	<0.005	**0.0084**	<0.010	NA	NA
OW-3-7.5	7.5 feet	NA	**1.1**	<0.005	<0.005	<0.005	<0.010	NA	NA
OW-3-15.5	15.5 feet	NA	<0.5	<0.005	<0.005	<0.005	<0.010	NA	NA
ESL		**100**	**100**	**0.044**	**2.9**	**3.3**	**2.3**	**8.4** MTBE	**NL** 1,2,4-Trimethyl benzene **NL** 1,3,5-Trimethyl benzene **NL** Isopropyl benzenee **NL** n-Butylbenzene **NL** sec-Butylbenzene **NL** Isopropyl Toluene **NL** n-Propylbenzene **3.1** Naphthalene

Table Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
B = Benzene,
T = Toluene
E = Ethylbenzene
X = Xylenes
OXY = Oxygenates, including Ter-Butanol (TBA), Di-isopropyl Ether (DIPE), Methyl Tertiary Butyl Ether (MTBE), Ethyl-t-butyl Ether (ETBE), and Tert-amyl Methyl Ether (TAME)

L = Lighter hydrocarbons contributed to the quantitation.
NA = Not analyzed for this analyte.
<0.5 = Not detected above the expressed detection level.ND = Not detected above laboratory detection limits
All ND = No detectable concentrations of full list of constituents ESL = Environmental Screening Levels, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, May 2013.

Table 2
CUMULATIVE GRAB GROUNDWATER LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Sample Depth	Groundwater Concentration, in micrograms per liter (ug/L)							
		TPH-D	TPH-G	B	T	E	X	OXY	OTHER VOCs
Soil Boring Investigation, Enviro Soil Tech Consultants, May 2007									
B-1-W	20 feet	NA	**54,000**	**6,700**	**120**	**3,000**	**2,300**	NA	**2.8** 1,2,4-Trimethyl benzene **0.91** 1,3,5-Trimethyl benzene **0.11** Isopropyl benzene
B-2-W	20 feet	<96	<50	*<0.5*	*<0.5*	*<0.5*	*0.5*	NA	ND
B-3-W	20 feet	<54	**4,500**	***7.5***	*<2.5*	***2.7***	*<2.5*	NA	**0.0026** 1,2-Dichloroethane **0.055** Isopropylbenzene **0.031** n-Butylbenzene **0.071** n-Propylbenzene
B-4-W	20 feet	<120	<100	<0.5	<0.5	**0.55**	<0.5	NA	ND
B-5-W	20 feet	<590	**780,000**	**240**	<50	**1,400**	**640**	NA	**1.10** 1,2,4-Trimethylbenzene **0.15** Isopropylbenzene **0.61** n-Propylbenzene
B-6-W	20 feet	<490	**44,000**	**3,000**	**120**	**2,200**	**1,200**	NA	**2.2** 1,2,4-Trimethylbenzene **0.72** 1,3,5-Trimethylbenzene **0.11** Isopropylbenzene **0.52** n-Propylbenzene
B-7-W	20 feet	<56	<50	<0.50	<0.50	<0.50	<0.50	NA	**0.0032** 1,2-Dichloroethane
Soil Boring Investigation, Gribi Associates, December 2011									
B-8-W	(15-20')	NA	**68**	<0.50	<0.50	<0.50	<1.0	All ND	NA
B-9-W	(16-21')	NA	<50	<0.50	<0.50	<0.50	<1.0	All ND	NA
B-10-W	(16-21')	<50	<50	<0.50	<0.50	<0.50	<1.0	All ND	NA
B-11-W	(17-22')	NA	<50	<0.50	<0.50	<0.50	<1.0	All ND	NA
B-12-W	(18-23')	NA	**3,200**	**46**	**0.96**	**12**	<1.0	All ND	NA
B-13-W	(18-23')	**1,400**	**9,100**	**270**	**4.0**	**390**	**52.4**	All ND	NA
B-14-W	(18-23')	<50	**0.094**	<0.50	<1.0	<1.0	<1.0	All ND	NA
Remedial Investigation, Gribi Associates, May 2012									
B-15-W	(21-24 ft)	NA	<50	<0.50	<0.50	<0.50	<1.0	All ND	**1.4** 1,2-Dichloroethane
B-16-W	(24 ft)	NA	<50	<0.50	<0.50	<0.50	<1.0	All ND	**1.0** 1,2-Dichloroethane
B-17-W	(12 ft)	NA	<50	<0.50	<0.50	<0.50	<1.0	All ND	All ND
B-18-W	(13-24')	NA	**560**	<0.50	<0.50	<0.50	<1.0	All ND	**1.6** Sec-Butylbenzene **2.5** Naphthalene **1.3** 1,2,4-Trimethylbenzene
B-19-W	(13-24')	NA	<50	<0.50	<0.50	<0.50	<1.0	All ND	All ND
B-20-W	(17-23')	NA	<50	<0.50	<0.50	<0.50	<1.0	NA	NA
B-21-W	(15-23')	NA	<50	<0.50	<0.50	<0.50	<1.0	NA	NA
B-22-W	(24-31')	NA	<50	<0.50	<0.50	<0.50	<1.0	NA	NA
Remediation Pilot Test, Gribi Associates, February 2013									
B-24-W	(24')	NA	<50	<0.50	<0.50	<0.50	<1.0	All ND	NA
B-27-W	(24')	NA	**7,900**	**1,100**	**99**	**1,500**	**1,169**	All ND	NA
B-28-W	(20')	NA	**910**	<0.50	<0.50	<0.50	<1.0	All ND	NA

Table 2
CUMULATIVE GRAB GROUNDWATER LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Sample Depth	Groundwater Concentration, in micrograms per liter (ug/L)							
		TPH-D	TPH-G	B	T	E	X	OXY	OTHER VOCs
ESL		**100**	**100**	**27**	**9.5E+04**	**310**	**3.7E+04**	Various	**NL** 1,2,4-Trimethyl benzene **NL** 1,3,5-Trimethyl benzene **NL** Isopropyl benzene **100** 1,2-Dichloroethane **NL** Sec-Butylbenzene **NL** n-Butylbenzene **NL** n-Propylbenzene **160** Naphthalene

Table Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
B = Benzene,
T = Toluene
E = Ethylbenzene
X = Xylenes
OXY = Oxygenates, including Ter-Butanol (TBA), Di-isopropyl Ether (DIPE), Methyl Tertiary Butyl Ether (MTBE), Ethyl-t-butyl Ether (ETBE), and Tert-amyl Methyl Ether (TAME)

NA = Not analyzed for this analyte.
<0.5 = Not detected above the expressed detection level.
ND = Not detected above laboratory detection limits
All ND = No detectable concentrations of full list of constituents ESL = Environmental Screening Levels, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, May 2013; Table E-1, Potential Vapor Intrusion Concerns..

Table 3
CUMULATIVE GROUNDWATER LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Well ID	Sample Date	GW Depth	GW Elev.	Groundwater Concentration, in micrograms per liter (ug/L)								
				TPH-G	B	T	E	X	OXY	Cr6	Br	N
MW-1	05/18/12	8.42	30.54	**17,000**	**1,300**	**29**	**770**	**260**	All ND	–	–	–
<38.96>	09/13/12	10.55	28.41	**13,000**	**630**	**10**	**780**	**86.7**	All ND	–	–	–
	11/09/12	9.72	29.24	**15,000**	**1,200**	**21**	**1,100**	**283**	All ND	–	–	–
	02/20/13	8.34	30.62	**9,800**	**970**	**15**	**860**	**171.5**	All ND	–	–	**75**
	06/04/13	9.39	29.57	**8,600**	**880**	**15**	**770**	**121.2**	All ND	–	–	**74**
	Ozone Injection Started on September 9, 2013											
	09/26/13	10.38	28.58	**16,000**	**220**	**8.9**	**610**	**152.4**	All ND	<0.20	**0.091**	**120**
	12/30/13	9.92	29.04	**4,700**	**62**	**1.5**	**110**	**62.75**	All ND	–	–	**23**
	Ozone Injection Stopped on January 17, 2014											
	03/07/14	6.56	32.40	**5,600**	**320**	**8.4**	**370**	**89.7**	All ND	<0.020	**0.047**	**68**
MW-2	05/18/12	8.78	30.18	**10,000**	**610**	**26**	**340**	**69**	All ND	–	–	–
<38.96>	09/13/12	10.64	28.32	**11,000**	**990**	**27**	**460**	**42.9**	All ND	–	–	–
	11/09/12	9.57	29.39	**17,000**	**750**	**19**	**280**	**64.9**	All ND	–	–	–
	02/20/13	8.86	30.10	**8,200**	**860**	**29**	**410**	**70**	All ND	–	–	**29**
	06/04/13	9.86	29.10	**12,000**	**870**	**23**	**410**	**43.8**	All ND	–	–	**46**
	Ozone Injection Started on September 9, 2013											
	09/26/13	13.32	25.64	**930**	**39**	**5.6**	**26**	**20**	All ND	**1.10**	**0.090**	**13**
	12/30/13	10.33	28.63	**270**	**7.9**	<0.50	**2.9**	<1.0	TBA=20	–	–	<1.0
	Ozone Injection Stopped on January 17, 2014											
	03/07/14	6.95	32.01	**440**	**41**	0.91	**4.2**	2.9	All ND	<0.020	**0.13**	**4.2**
MW-3	05/18/12	8.61	30.23	**13,000**	**1,400**	**36**	**350**	**378**	All ND	–	–	–
<38.84>	09/13/12	10.30	28.54	**12,000**	**1,800**	**25**	**680**	**565.5**	All ND	–	–	–
	11/09/12	9.25	29.59	**17,000**	**2,000**	**32**	**540**	**318.6**	All ND	–	–	–
	02/20/13	8.80	30.04	**12,000**	**1,400**	**15**	**330**	**43.9**	All ND	–	–	**8.4**
	06/04/13	9.49	29.35	**12,000**	**1,400**	**11**	**89**	**32.4**	All ND	–	–	**13**
	Ozone Injection Started on September 9, 2013											
	09/26/13	10.89	27.95	**5,500**	**190**	**2.8**	**42**	**27**	All ND	<0.20	**0.096**	**18**
	12/30/13	14.59	24.25	**380**	**8.3**	<0.50	**2.3**	**1.6**	All ND	–	–	<1.0
	Ozone Injection Stopped on January 17, 2014											
	03/07/14	6.99	31.85	**400**	**31**	0.75	**2.6**	**2.9**	All ND	<0.020	**0.083**	**1.9**

Table 3
CUMULATIVE GROUNDWATER LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

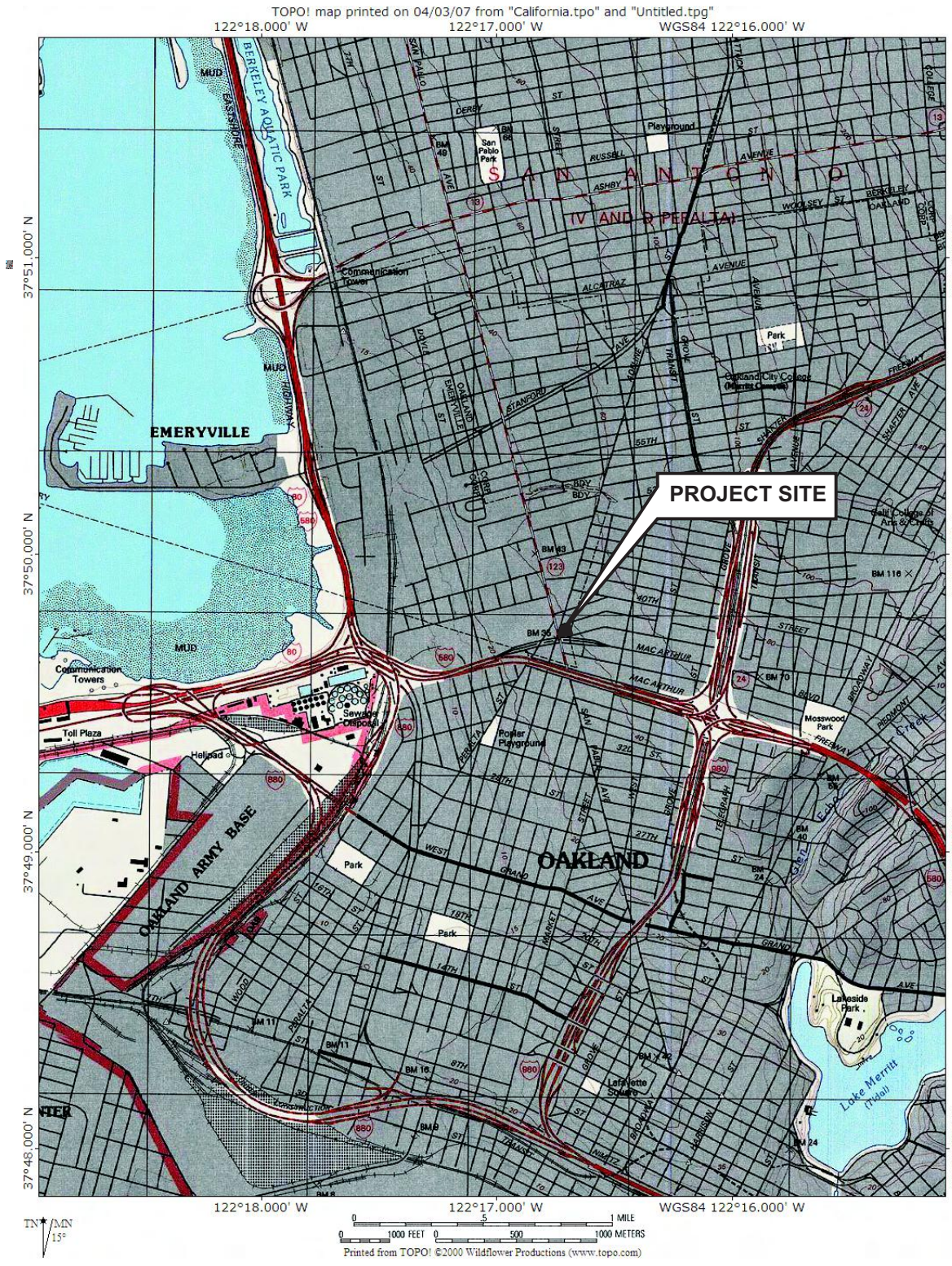
Well ID	Sample Date	GW Depth	GW Elev.	Groundwater Concentration, in micrograms per liter (ug/L)								
				TPH-G	B	T	E	X	OXY	Cr6	Br	N
MW-4	05/18/12	8.28	30.20	**10,000**	**82**	**32**	**330**	**278**	All ND	–	–	–
<38.48>	09/13/12	8.80	29.68	**10,000**	**110**	**24**	**270**	**178.1**	All ND	–	–	–
	11/09/12	8.06	30.42	**11,000**	**110**	**13**	**170**	**124.4**	All ND	–	–	–
	02/20/13	8.16	30.32	**4,500**	**100**	**9.5**	**190**	**65.3**	All ND	–	–	**7.1**
	06/04/13	8.73	29.75	**6,300**	**72**	**6.2**	**61**	**48.4**	All ND	–	–	**12**
	Ozone Injection Started on September 9, 2013											
	09/26/13	9.76	28.72	**12,000**	**48**	**3.7**	**70**	**18.2**	All ND	<0.20	**0.056**	**13**
	12/30/13	9.81	28.67	**7,600**	**50**	**6.6**	**68**	**104.3**	All ND	–	–	**37**
	Ozone Injection Stopped on January 17, 2014											
	03/07/14	6.76	31.72	**3,100**	**38**	**4.3**	**51**	**76.5**	All ND	<0.020	**0.016**	**20**
	ESL			**100**	**27**	**9.5E+04**	**310**	**3.7E+04**	**110** TBA	**21**	**NL**	**160**

TABLE NOTES

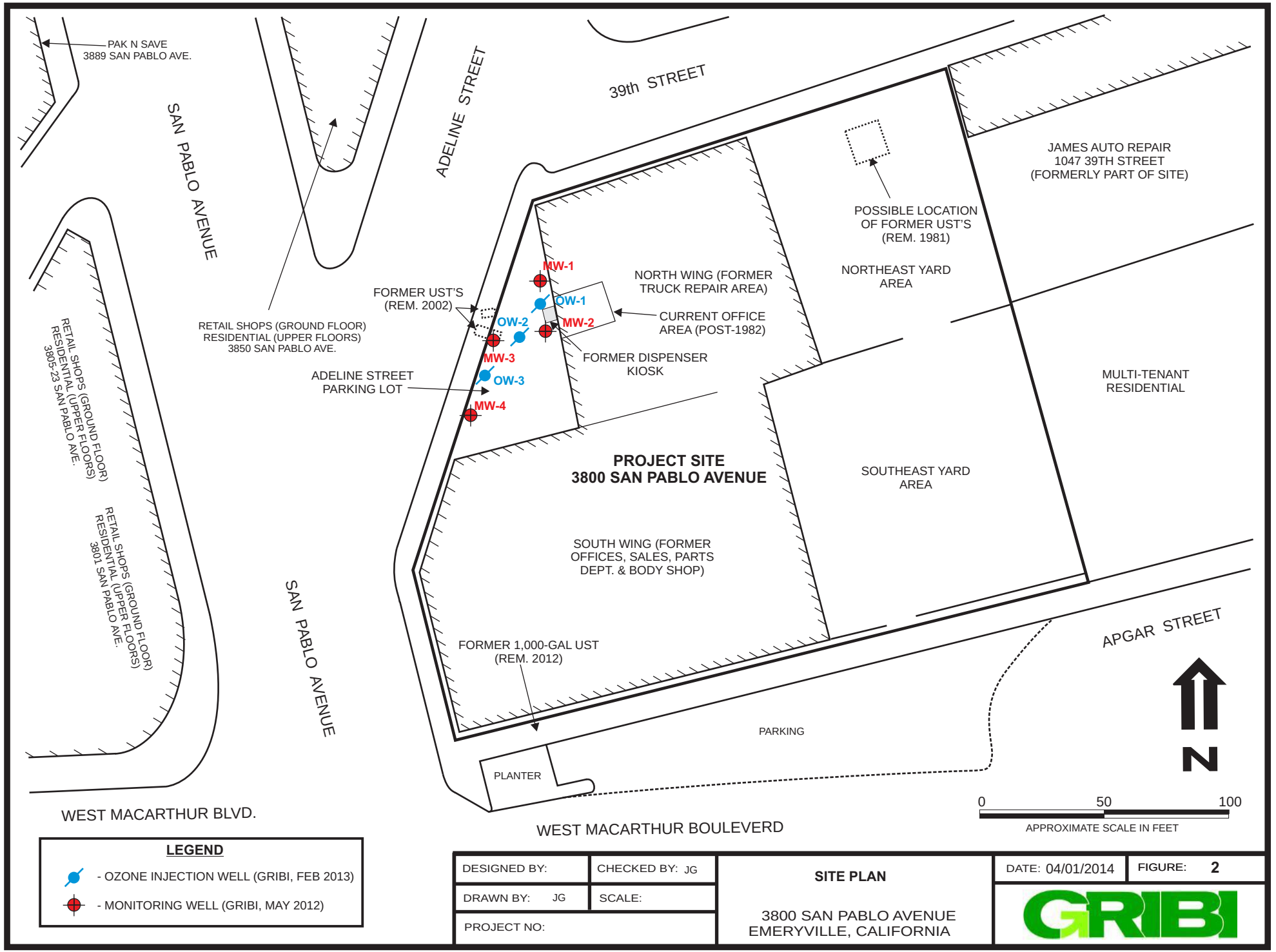
GW Elev = Groundwater mean sea level elevation
TPH-G = Total Petroleum Hydrocarbons as gasoline
B = Benzene,
T = Toluene
E = Ethylbenzene
X = Xylenes
OXY = Oxygenates, including MTBE = Methyl-t-Butyl Ether, ter-Butanol (TBA), Di-isopropyl Ether (DIPE), Ethyl-t-butyl Ether (ETBE), and Tert-amyl Methyl Ether (TAME).
Cr6 = Hexavalent Chromium
Br = Bromate
N = Naphthalene.
<38.96> = Top of casing mean sea level elevation (Virgil Chavez Land Survey).
All ND = No detectable concentrations of all analytes.
– = Not analyzed for this analyte.
<1.0 = Not detected above the expressed value.
ESL = Environmental Screening Levels, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, May 2013.

ATTACHMENT 2

FIGURES



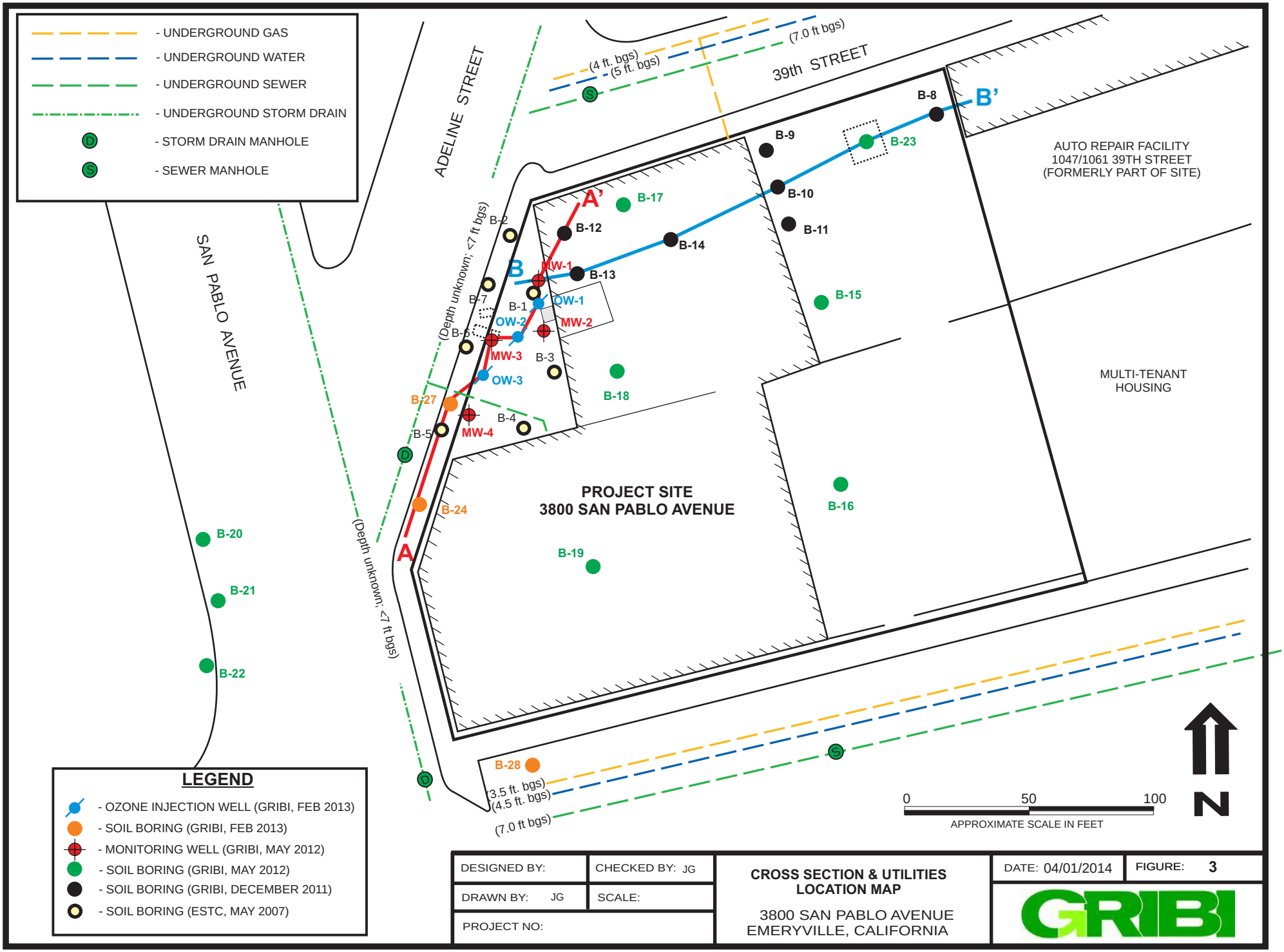
DESIGNED BY:	CHECKED BY: JG	**SITE VICINITY MAP**	DATE: 04/01/2014	FIGURE: 1
DRAWN BY: MR	SCALE:			
PROJECT NO:		3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA		



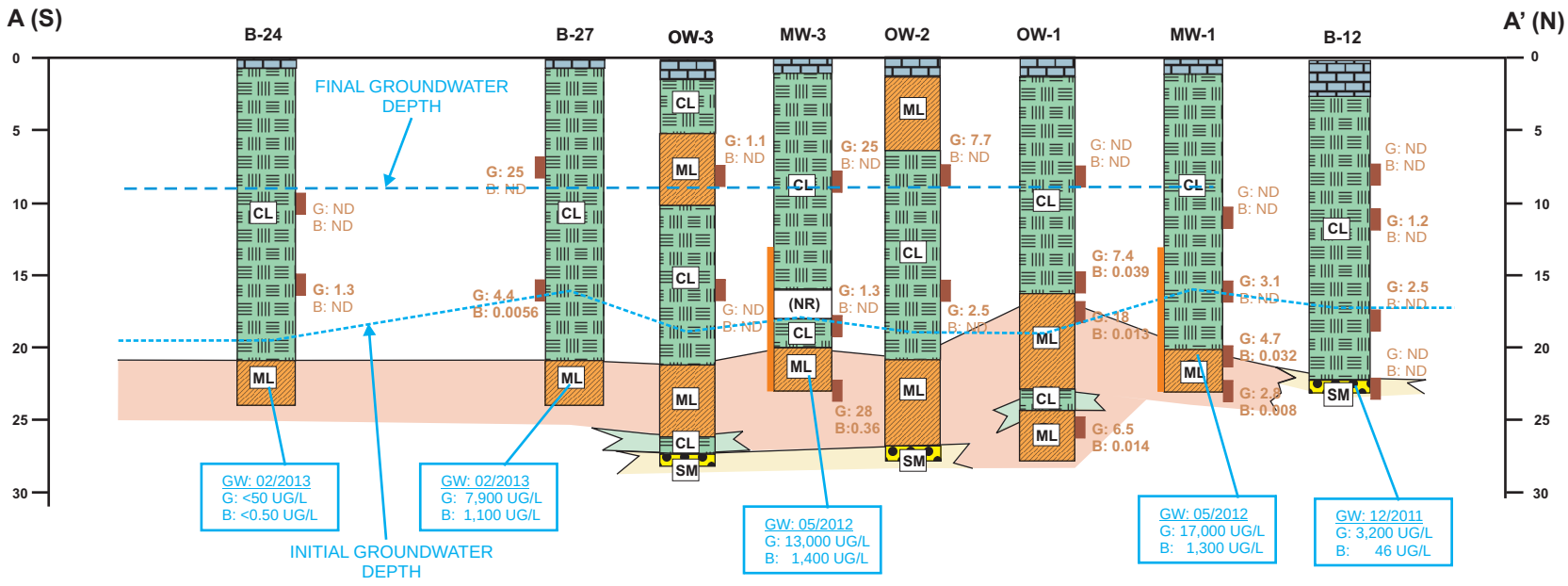
LEGEND

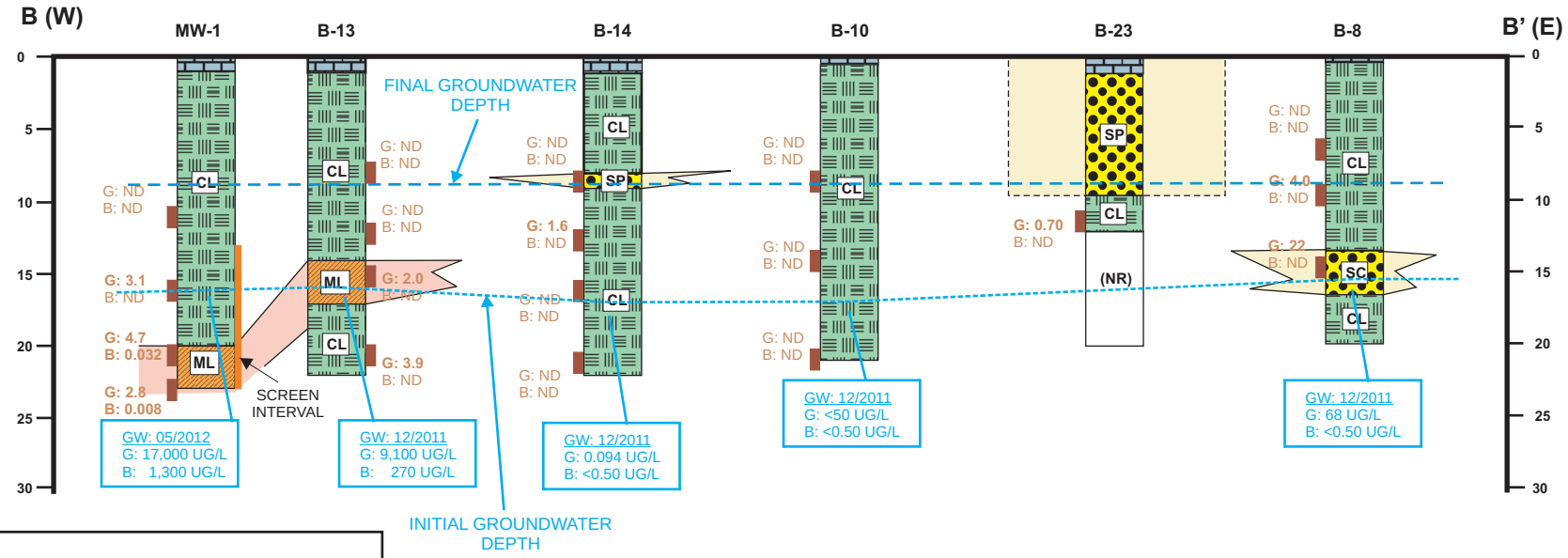
- OZONE INJECTION WELL (GRIBI, FEB 2013)
- MONITORING WELL (GRIBI, MAY 2012)

DESIGNED BY:	CHECKED BY: JG	**SITE PLAN**	DATE: 04/01/2014 FIGURE: 2
DRAWN BY: JG	SCALE:	3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA	GRIBI
PROJECT NO:			



DESIGNED BY:	CHECKED BY: JG	CROSS SECTION & UTILITIES LOCATION MAP 3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA	DATE: 04/01/2014 FIGURE: 3
DRAWN BY: JG	SCALE:		GRIBI
PROJECT NO:			





- SAND-DOMINATED SOILS
- SILT-DOMINATED SOILS

SOIL SAMPLE INTERVAL → G: 110 B: 2.6 ← TPH-G & BENZENE RESULTS, MG/KG (PPM)

DESIGNED BY:	CHECKED BY: JG
DRAWN BY:	SCALE:
PROJECT NO:	

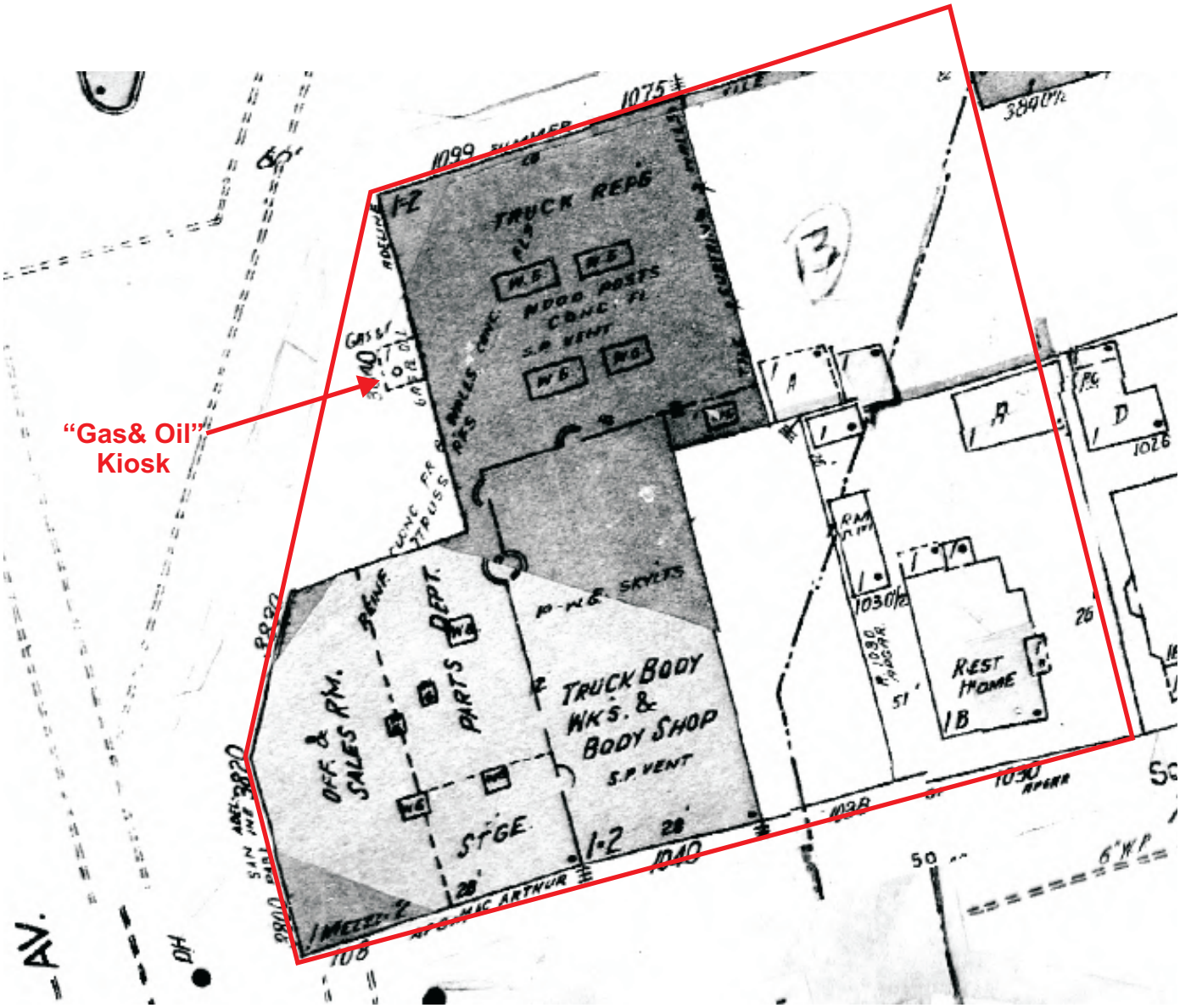
LITHOLOGIC CROSS SECTIONS

3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

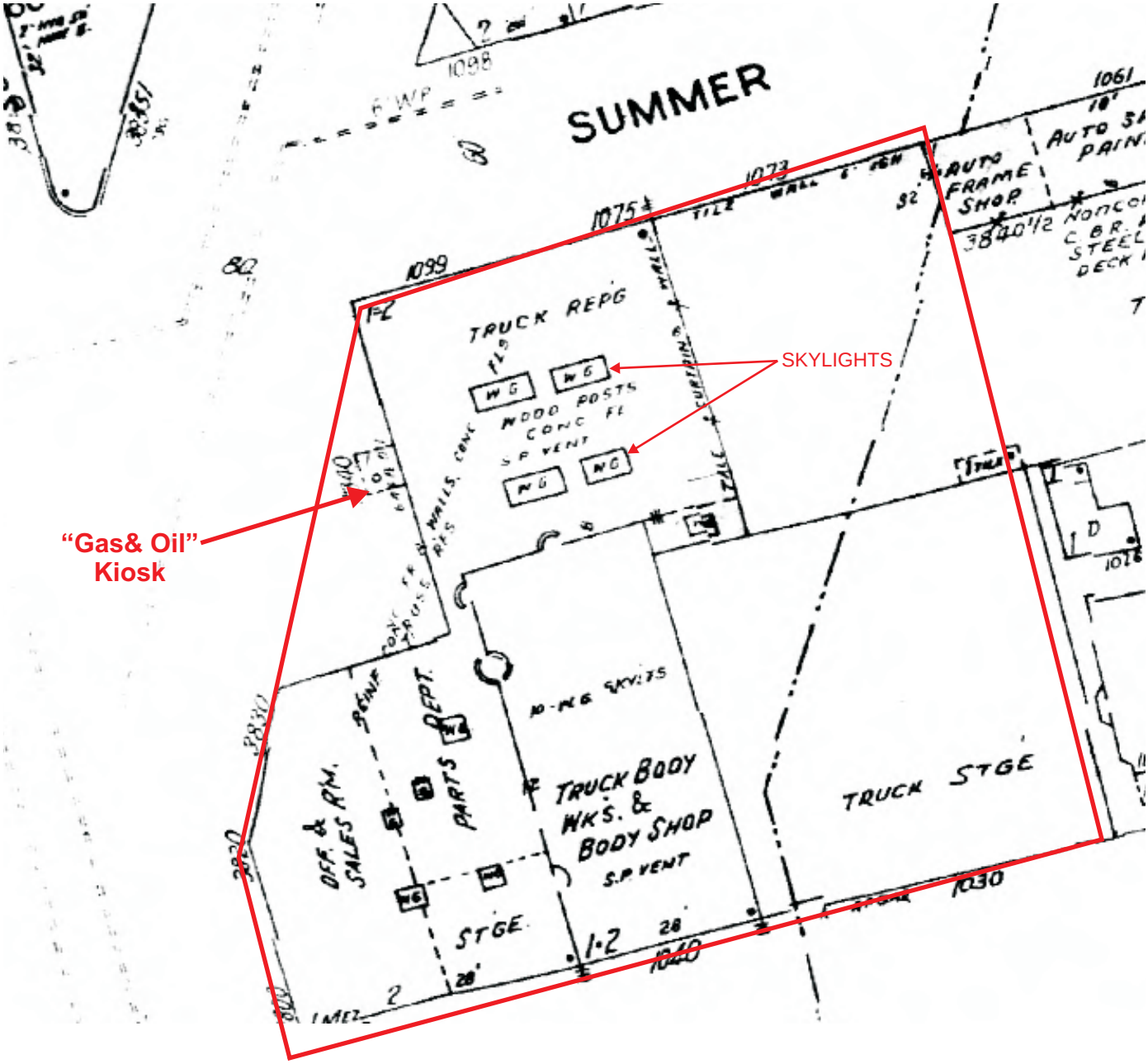
DATE: 03/24/2014

FIGURE: 4

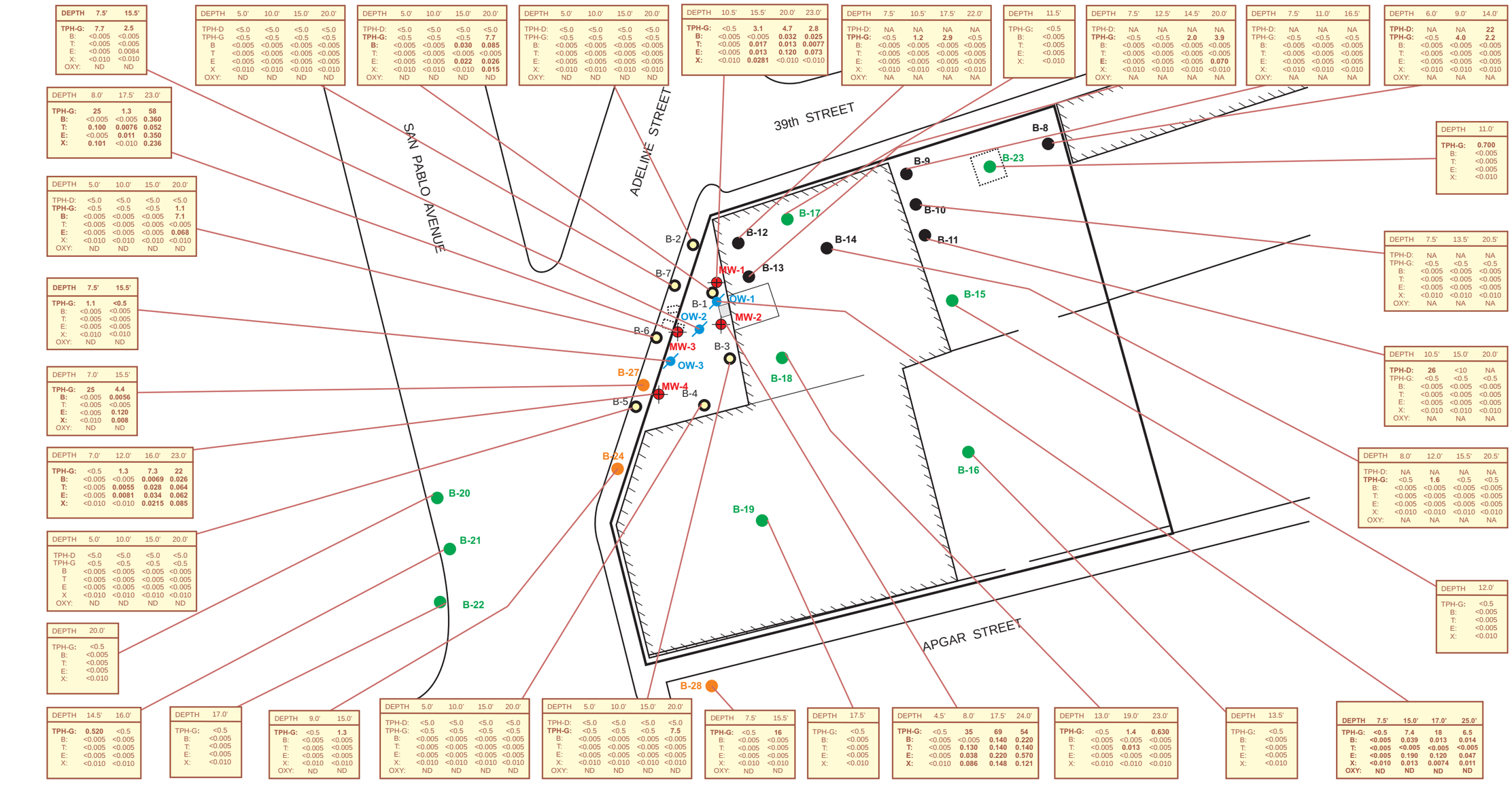
GRIBI



DESIGNED BY:	CHECKED BY: JG	**1951 SANBORN FIRE INSURANCE MAP**	DATE: 04/01/2014	FIGURE: **5**
DRAWN BY: MR	SCALE:			
PROJECT NO:		3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA		



DESIGNED BY:	CHECKED BY: JG	**1967 SANBORN FIRE INSURANCE MAP**	DATE: 04/01/2014	FIGURE: **6**
DRAWN BY: MR	SCALE:			
PROJECT NO:		3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA		



DEPTH	7.5'	15.5'
TPH-G:	7.7	2.5
B:	<0.005	<0.005
T:	<0.005	<0.005
E:	<0.005	0.0084
X:	<0.010	<0.010
OXY:	ND	ND

DEPTH	5.0'	10.0'	15.0'	20.0'
TPH-D	<5.0	<5.0	<5.0	<5.0
TPH-G	<0.5	<0.5	<0.5	<0.5
B	<0.005	<0.005	<0.005	<0.005
T	<0.005	<0.005	<0.005	<0.005
E	<0.005	<0.005	<0.005	<0.005
X	<0.010	<0.010	<0.010	<0.010
OXY:	ND	ND	ND	ND

DEPTH	5.0'	10.0'	15.0'	20.0'
TPH-D:	<5.0	<5.0	<5.0	<5.0
TPH-G:	<0.5	<0.5	<0.5	7.7
B:	<0.005	<0.005	0.030	0.085
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	<0.005	0.022	0.026
X:	<0.010	<0.010	<0.010	0.015
OXY:	ND	ND	ND	ND

DEPTH	5.0'	10.0'	15.0'	20.0'
TPH-D:	<5.0	<5.0	<5.0	<5.0
TPH-G:	<0.5	<0.5	<0.5	<0.5
B:	<0.005	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010	<0.010
OXY:	ND	ND	ND	ND

DEPTH	10.5'	15.5'	20.0'	23.0'
TPH-G:	<0.5	3.1	4.7	2.8
B:	<0.005	<0.005	0.032	0.025
T:	<0.005	0.017	0.013	0.0077
E:	<0.005	0.013	0.120	0.073
X:	<0.010	0.0281	<0.010	<0.010

DEPTH	7.5'	10.5'	17.5'	22.0'
TPH-D:	NA	NA	NA	NA
TPH-G:	<0.5	1.2	2.9	<0.5
B:	<0.005	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010	<0.010
OXY:	NA	NA	NA	NA

DEPTH	11.5'
TPH-G:	<0.5
B:	<0.005
T:	<0.005
E:	<0.005
X:	<0.010

DEPTH	7.5'	12.5'	14.5'	20.0'
TPH-D:	NA	NA	NA	NA
TPH-G:	<0.5	<0.5	2.0	3.9
B:	<0.005	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005	0.070
X:	<0.010	<0.010	<0.010	<0.010
OXY:	NA	NA	NA	NA

DEPTH	7.5'	11.0'	16.5'
TPH-D:	NA	NA	NA
TPH-G:	<0.5	<0.5	<0.5
B:	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010
OXY:	NA	NA	NA

DEPTH	6.0'	9.0'	14.0'
TPH-D:	NA	NA	22
TPH-G:	<0.5	4.0	2.2
B:	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010
OXY:	NA	NA	NA

DEPTH	8.0'	17.5'	23.0'
TPH-G:	25	1.3	58
B:	<0.005	<0.005	0.360
T:	0.100	0.0076	0.052
E:	<0.005	0.011	0.350
X:	0.101	<0.010	0.236

DEPTH	5.0'	10.0'	15.0'	20.0'
TPH-D:	<5.0	<5.0	<5.0	<5.0
TPH-G:	<0.5	<0.5	<0.5	1.1
B:	<0.005	<0.005	<0.005	7.1
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005	0.068
X:	<0.010	<0.010	<0.010	<0.010
OXY:	ND	ND	ND	ND

DEPTH	7.5'	15.5'
TPH-G:	1.1	<0.5
B:	<0.005	<0.005
T:	<0.005	<0.005
E:	<0.005	<0.005
X:	<0.010	<0.010
OXY:	ND	ND

DEPTH	7.0'	15.5'
TPH-G:	25	4.4
B:	<0.005	0.0056
T:	<0.005	<0.005
E:	<0.005	0.120
X:	<0.010	0.008
OXY:	ND	ND

DEPTH	7.0'	12.0'	16.0'	23.0'
TPH-G:	<0.5	1.3	7.3	22
B:	<0.005	<0.005	0.0069	0.026
T:	<0.005	0.0055	0.028	0.064
E:	<0.005	0.0081	0.034	0.062
X:	<0.010	<0.010	0.0215	0.085

DEPTH	5.0'	10.0'	15.0'	20.0'
TPH-D	<5.0	<5.0	<5.0	<5.0
TPH-G	<0.5	<0.5	<0.5	<0.5
B	<0.005	<0.005	<0.005	<0.005
T	<0.005	<0.005	<0.005	<0.005
E	<0.005	<0.005	<0.005	<0.005
X	<0.010	<0.010	<0.010	<0.010
OXY:	ND	ND	ND	ND

DEPTH	20.0'
TPH-G:	<0.5
B:	<0.005
T:	<0.005
E:	<0.005
X:	<0.010

DEPTH	14.5'	16.0'
TPH-G:	0.520	<0.5
B:	<0.005	<0.005
T:	<0.005	<0.005
E:	<0.005	<0.005
X:	<0.010	<0.010

DEPTH	17.0'
TPH-G:	<0.5
B:	<0.005
T:	<0.005
E:	<0.005
X:	<0.010

DEPTH	9.0'	15.0'
TPH-G:	<0.5	1.3
B:	<0.005	<0.005
T:	<0.005	<0.005
E:	<0.005	<0.005
X:	<0.010	<0.010
OXY:	ND	ND

DEPTH	5.0'	10.0'	15.0'	20.0'
TPH-D:	<5.0	<5.0	<5.0	<5.0
TPH-G:	<0.5	<0.5	<0.5	<0.5
B:	<0.005	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010	<0.010
OXY:	ND	ND	ND	ND

DEPTH	5.0'	10.0'	15.0'	20.0'
TPH-D:	<5.0	<5.0	<5.0	<5.0
TPH-G:	<0.5	<0.5	<0.5	7.5
B:	<0.005	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010	<0.010
OXY:	ND	ND	ND	ND

DEPTH	7.5'	15.5'
TPH-G:	<0.5	16
B:	<0.005	<0.005
T:	<0.005	<0.005
E:	<0.005	<0.005
X:	<0.010	<0.010
OXY:	ND	ND

DEPTH	17.5'
TPH-G:	<0.5
B:	<0.005
T:	<0.005
E:	<0.005
X:	<0.010

DEPTH	4.5'	8.0'	17.5'	24.0'
TPH-G:	<0.5	35	69	54
B:	<0.005	<0.005	0.140	0.220
T:	<0.005	0.130	0.140	0.140
E:	<0.005	0.038	0.220	0.570
X:	<0.010	0.086	0.148	0.121

DEPTH	13.0'	19.0'	23.0'
TPH-G:	<0.5	1.4	0.630
B:	<0.005	<0.005	<0.005
T:	<0.005	0.013	<0.005
E:	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010

DEPTH	13.5'
TPH-G:	<0.5
B:	<0.005
T:	<0.005
E:	<0.005
X:	<0.010

DEPTH	11.0'
TPH-G:	0.700
B:	<0.005
T:	<0.005
E:	<0.005
X:	<0.010

DEPTH	7.5'	13.5'	20.5'
TPH-D:	NA	NA	NA
TPH-G:	<0.5	<0.5	<0.5
B:	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010
OXY:	NA	NA	NA

DEPTH	10.5'	15.0'	20.0'
TPH-D:	26	<10	NA
TPH-G:	<0.5	<0.5	<0.5
B:	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010
OXY:	NA	NA	NA

DEPTH	8.0'	12.0'	15.5'	20.5'
TPH-D:	NA	NA	NA	NA
TPH-G:	<0.5	1.6	<0.5	<0.5
B:	<0.005	<0.005	<0.005	<0.005
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010	<0.010
OXY:	NA	NA	NA	NA

DEPTH	12.0'
TPH-G:	<0.5
B:	<0.005
T:	<0.005
E:	<0.005
X:	<0.010

DEPTH	7.5'	15.0'	17.0'	25.0'
TPH-G:	<0.5	7.4	18	6.5
B:	<0.005	0.039	0.013	0.014
T:	<0.005	<0.005	<0.005	<0.005
E:	<0.005	0.190	0.120	0.047
X:	<0.010	0.013	0.0074	0.011
OXY:	ND	ND	ND	ND

LEGEND

- OZONE INJECTION WELL (GRIBI, FEB 2013)
- SOIL BORING (GRIBI, FEB 2013)
- MONITORING WELL (GRIBI, MAY 2012)
- SOIL BORING (GRIBI, MAY 2012)
- SOIL BORING (GRIBI, DECEMBER 2011)
- SOIL BORING (ESTC, MAY 2007)

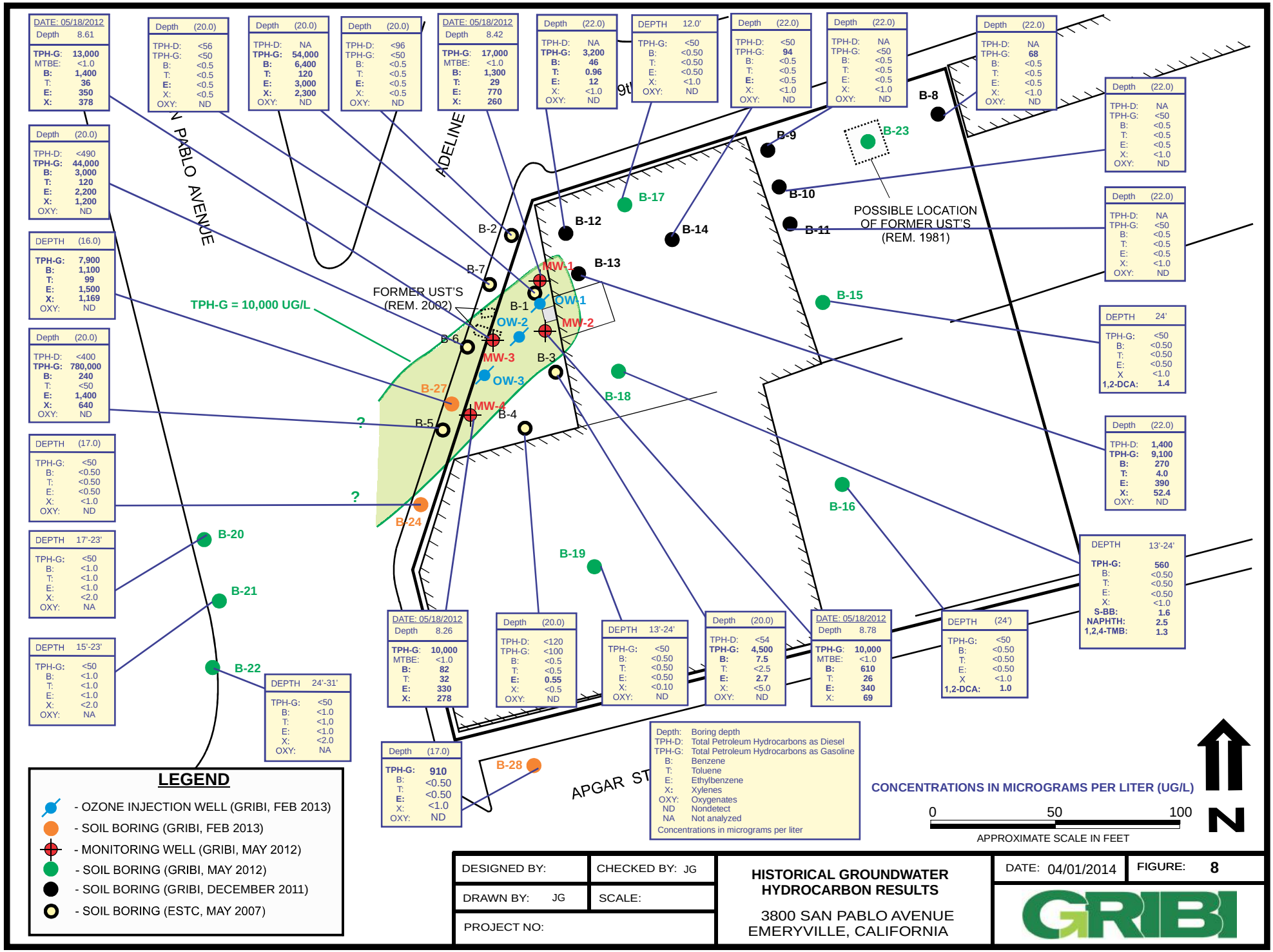
0 50 100

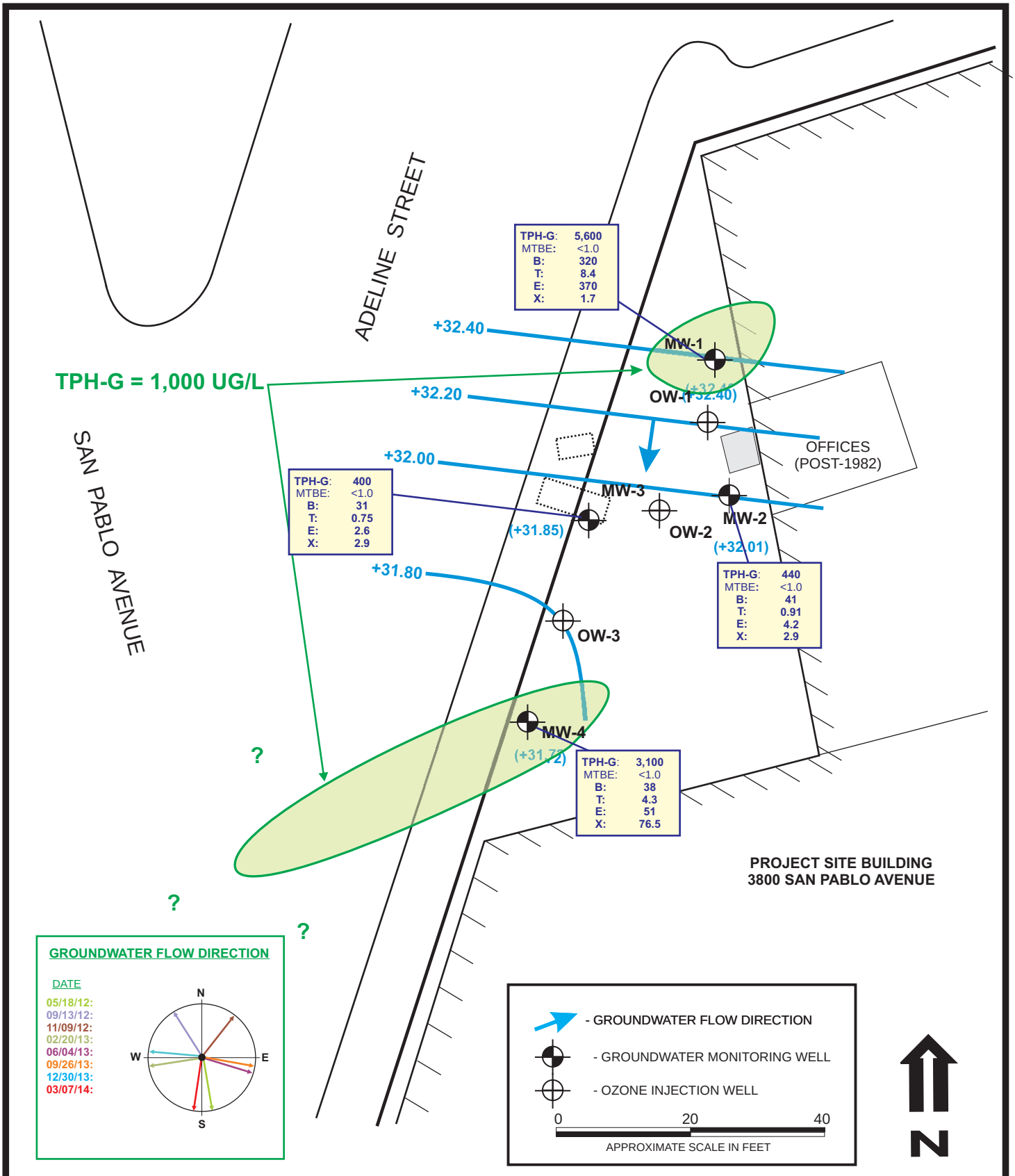
APPROXIMATE SCALE IN FEET

N

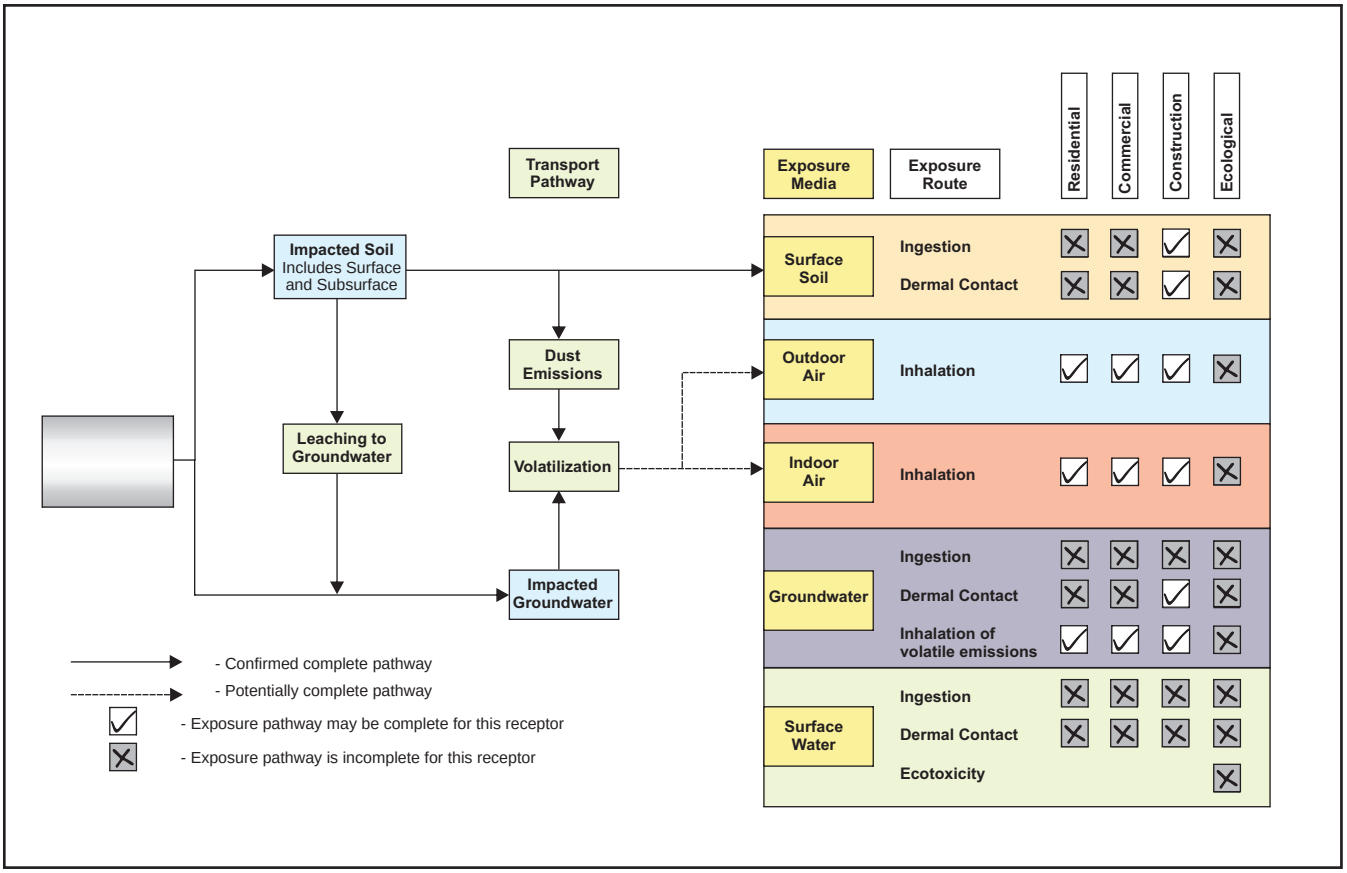
Depth: Boring depth
TPH-D: Total Petroleum Hydrocarbons as Diesel
TPH-G: Total Petroleum Hydrocarbons as Gasoline
B: Benzene
T: Toluene
E: Ethylbenzene
X: Xylenes
OXY: Oxygenates
ND Nondetect
NA Not analyzed
Concentrations in milligrams per kilogram

DESIGNED BY:	CHECKED BY: JG	HISTORICAL SOIL HYDROCARBON RESULTS	DATE: 04/01/2014
DRAWN BY: JG	SCALE:	3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA	FIGURE: 7
PROJECT NO:			GRIBI


DATE: 05/18/2012
Depth 8.61
TPH-G: 13,000
MTBE: <1.0
B: 1,400
T: 36
E: 350
X: 378
Depth (20.0)
TPH-D: <56
TPH-G: <50
B: <0.5
T: <0.5
E: <0.5
X: <0.5
OXY: ND
Depth (20.0)
TPH-D: NA
TPH-G: 54,000
B: 6,400
T: 120
E: 3,000
X: 2,300
OXY: ND
Depth (20.0)
TPH-D: <96
TPH-G: <50
B: <0.5
T: <0.5
E: <0.5
X: <0.5
OXY: ND
DATE: 05/18/2012
Depth 8.42
TPH-G: 17,000
MTBE: <1.0
B: 1,300
T: 29
E: 770
X: 260
Depth (22.0)
TPH-D: NA
TPH-G: 3,200
B: 46
T: 0.96
E: 12
X: <1.0
OXY: ND
DEPTH 12.0'
TPH-G: <50
B: <0.50
T: <0.50
E: <0.50
X: <1.0
OXY: ND
Depth (22.0)
TPH-D: <50
TPH-G: 94
B: <0.5
T: <0.5
E: <0.5
X: <1.0
OXY: ND
Depth (22.0)
TPH-D: NA
TPH-G: <50
B: <0.5
T: <0.5
E: <0.5
X: <1.0
OXY: ND
Depth (22.0)
TPH-D: NA
TPH-G: 68
B: <0.5
T: <0.5
E: <0.5
X: <1.0
OXY: ND
Depth (22.0)
TPH-D: NA
TPH-G: <50
B: <0.5
T: <0.5
E: <0.5
X: <1.0
OXY: ND
Depth (22.0)
TPH-D: NA
TPH-G: <50
B: <0.5
T: <0.5
E: <0.5
X: <1.0
OXY: ND
Depth (20.0)
TPH-D: <490
TPH-G: 44,000
B: 3,000
T: 120
E: 2,200
X: 1,200
OXY: ND
DEPTH (16.0)
TPH-G: 7,900
B: 1,100
T: 99
E: 1,500
X: 1,169
OXY: ND
Depth (20.0)
TPH-D: <400
TPH-G: 780,000
B: 240
T: <50
E: 1,400
X: 640
OXY: ND
DEPTH (17.0)
TPH-G: <50
B: <0.50
T: <0.50
E: <0.50
X: <1.0
OXY: ND
DEPTH 17'-23'
TPH-G: <50
B: <1.0
T: <1.0
E: <1.0
X: <2.0
OXY: NA
DEPTH 15'-23'
TPH-G: <50
B: <1.0
T: <1.0
E: <1.0
X: <2.0
OXY: NA
DEPTH 24'-31'
TPH-G: <50
B: <1.0
T: <1,0
E: <1.0
X: <2.0
OXY: NA
DEPTH 24'
TPH-G: <50
B: <0.50
T: <0.50
E: <0.50
X <1.0
1,2-DCA: 1.4
Depth (22.0)
TPH-D: 1,400
TPH-G: 9,100
B: 270
T: 4.0
E: 390
X: 52.4
OXY: ND
DEPTH 13'-24'
TPH-G: 560
B: <0.50
T: <0.50
E: <0.50
X: <1.0
S-BB: 1.6
NAPHTH: 2.5
1,2,4-TMB: 1.3
DEPTH (24')
TPH-G: <50
B: <0.50
T: <0.50
E: <0.50
X <1.0
1,2-DCA: 1.0
DATE: 05/18/2012
Depth 8.78
TPH-G: 10,000
MTBE: <1.0
B: 610
T: 26
E: 340
X: 69
Depth (20.0)
TPH-D: <54
TPH-G: 4,500
B: 7.5
T: <2.5
E: 2.7
X: <5.0
OXY: ND
DEPTH 13'-24'
TPH-G: <50
B: <0.50
T: <0.50
E: <0.50
X: <0.10
OXY: ND
Depth (20.0)
TPH-D: <120
TPH-G: <100
B: <0.5
T: <0.5
E: 0.55
X: <0.5
OXY: ND
DATE: 05/18/2012
Depth 8.26
TPH-G: 10,000
MTBE: <1.0
B: 82
T: 32
E: 330
X: 278
Depth (17.0)
TPH-G: 910
B: <0.50
T: <0.50
E: <1.0
X:
OXY: ND
SAN PABLO AVENUE
ADELINE
APGAR ST
FORMER UST'S
(REM. 2002)
POSSIBLE LOCATION
OF FORMER UST'S
(REM. 1981)
TPH-G = 10,000 UG/L
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
B-11
B-12
B-13
B-14
B-15
B-16
B-17
B-18
B-19
B-20
B-21
B-22
B-23
B-24
B-27
B-28
MW-1
MW-2
MW-3
MW-4
OW-1
OW-2
OW-3
?
?
LEGEND
- OZONE INJECTION WELL (GRIBI, FEB 2013)
- SOIL BORING (GRIBI, FEB 2013)
- MONITORING WELL (GRIBI, MAY 2012)
- SOIL BORING (GRIBI, MAY 2012)
- SOIL BORING (GRIBI, DECEMBER 2011)
- SOIL BORING (ESTC, MAY 2007)
Depth: Boring depth
TPH-D: Total Petroleum Hydrocarbons as Diesel
TPH-G: Total Petroleum Hydrocarbons as Gasoline
B: Benzene
T: Toluene
E: Ethylbenzene
X: Xylenes
OXY: Oxygenates
ND Nondetect
NA Not analyzed
Concentrations in micrograms per liter
CONCENTRATIONS IN MICROGRAMS PER LITER (UG/L)
0
50
100
APPROXIMATE SCALE IN FEET
N
DESIGNED BY:
CHECKED BY: JG
DRAWN BY: JG
SCALE:
PROJECT NO:
HISTORICAL GROUNDWATER HYDROCARBON RESULTS
3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA
DATE: 04/01/2014
FIGURE: 8
GRIBI



DESIGNED BY:	CHECKED BY: JG	**GROUNDWATER ELEVATIONS & HYDROCARBON RESULTS - 03/07/2014**	DATE: 04/01/2014	FIGURE: **9**
DRAWN BY: MR	SCALE:			
PROJECT NO:		3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA		GRIBI



Notes

1) Soil exposure pathway is complete; however, both surface and subsurface soil concentrations are below ESLs. Thus, risk associated with soil exposure pathway expected to be low.

2) Soil impacted areas are completely paved with concrete or asphalt. Thus, soil exposure via ingestion or direct contact would only be expected in the event of construction-related activities on the site.

DESIGNED BY:	CHECKED BY: JG	**SITE CONCEPTUAL MODEL**	DATE: 04/01/2014	FIGURE: **10**
DRAWN BY: MR	SCALE:			
PROJECT NO:		3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA		

ATTACHMENT C

LABORATORY CHROMATOGRAMS FOR BORING B-28 SOIL AND WATER SAMPLES

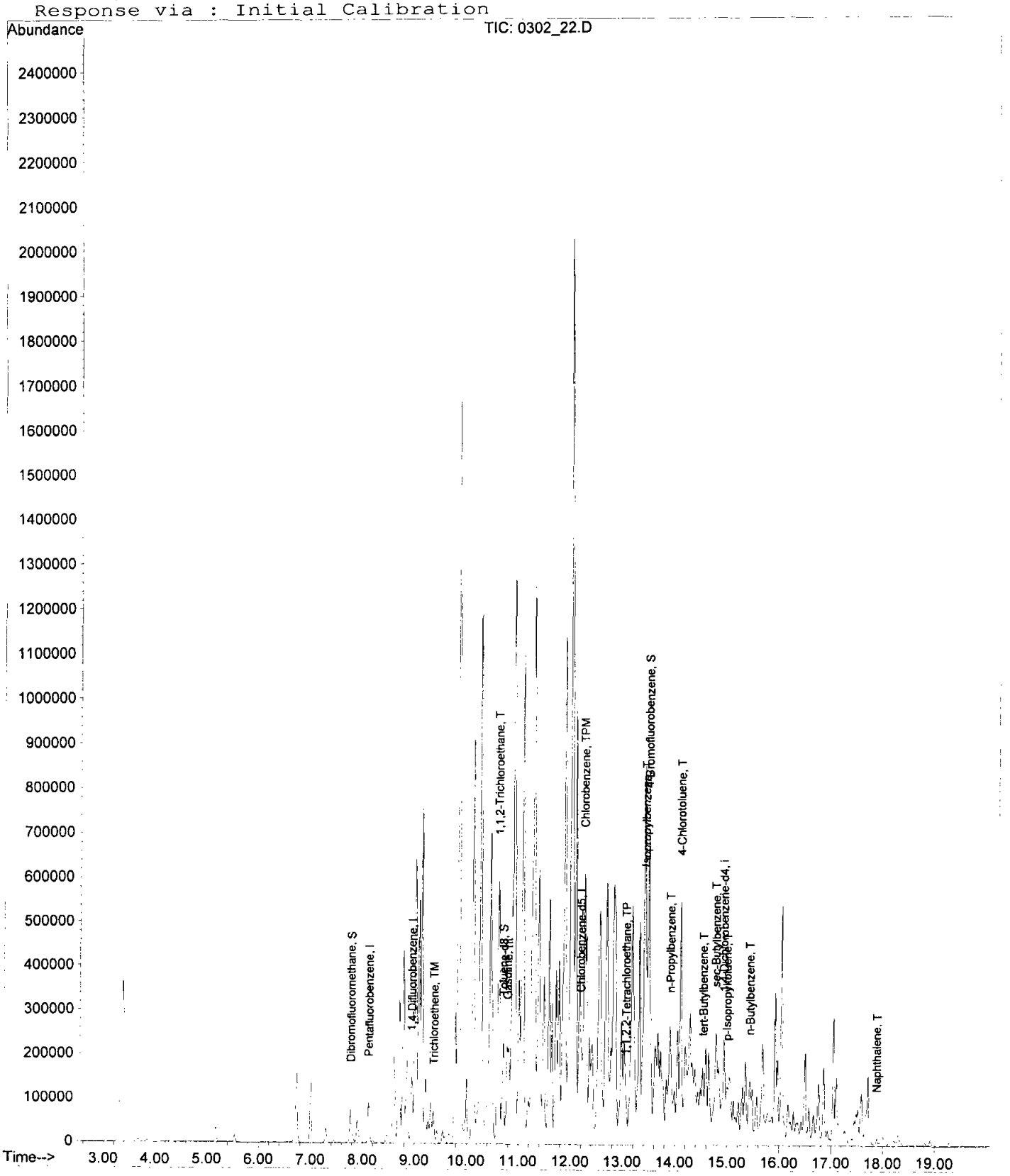
Quantitation Report

Data File : I:\GCMS-3\DATA\030213\0302_22.D
Acq On : 2 Mar 2013 7:06 pm
Sample : T130428-07
Misc :
MS Integration Params: rteint.p
Quant Time: Mar 4 9:46 19113

Vial: 22
Operator: jjs
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 3_030113.RES

Method : I:\GCMS-3\METHODS\3_030113.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Mon Feb 25 13:29:31 2013
Response via : Initial Calibration



Quantitation Report

Data File : I:\GCMS-9\DATA\022813\0228_13.D
Acq On : 28 Feb 2013 9:05 pm
Sample : t130428-08
Misc :
MS Integration Params: rteint.p
Quant Time: Mar 1 10:13 19113

Vial: 13
Operator: jjs
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 9_022613.RES

Method : I:\GCMS-9\METHODS\9_022613.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Mar 01 10:00:00 2013
Response via : Initial Calibration