

RECEIVED

By Alameda County Environmental Health at 2:20 pm, Apr 30, 2014

April 29, 2014

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

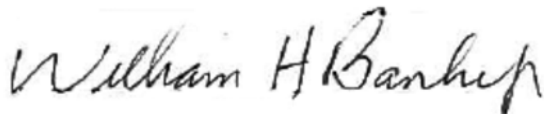
Attention: Mark Detterman

Subject: Data Gaps Work Plan
3800 San Pablo Avenue, Emeryville, California
ACDEH Fuel Leak Case: RO00002520; Global ID: T06019788682

Ladies and Gentlemen:

Attached please find a copy of the *Data Gaps Work Plan* 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, Jr.
San Pablo Avenue Venture
c/o Banker, Marks & Kirk
1720 Broadway, Suite 202
Oakland, CA 94612



April 29, 2014

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

Attention: Mark Detterman

Subject: Data Gaps Work Plan
3800 San Pablo Avenue, Emeryville, California
ACDEH Fuel Leak Case: RO00002520; Global ID: T06019788682

Ladies and Gentlemen:

Gribi Associates is pleased to submit this *Data Gaps Work Plan* on behalf San Pablo Avenue Venture for the property located at 3800 San Pablo Avenue (“Site”) in Emeryville, California (see Figure 1 and Figure 2). This work plan includes: (1) A Site Conceptual Model (SCM); (2) An evaluation of the ozone injection pilot test; and (3) A work plan to address data gaps summarized in the SCM. The goal of this work plan is to address Alameda County Department of Environmental Health (ACDEH) requirements relative to site characterization and cleanup.

1.0 SITE BACKGROUND

1.1 General Site Description

The Site is located in a mixed commercial, light industrial, and residential area of southeast Emeryville near the Oakland/Emeryville city border. The Site is bordered to the south by Apgar Street, followed by the West MacArthur Boulevard underpass. East from the Site is an auto repair facility, followed by residential properties. The Site is bordered on the west by the Adeline Street and San Pablo Avenue intersection, which extends approximately 100 feet west from the Site. North from the Site are commercial and residential properties. The Site is currently used for storage.

1.2 General Site Topography and Geologic Setting

According to the USGS Oakland, West, California 7.5-Minute Quadrangle Map, the Site lies on a gently southwest-sloping plain approximately one mile east from San Francisco Bay. The elevation at the Site is approximately 40 feet above mean sea level. Based on site topography

and location, we would expect groundwater flow in the site area to generally be to the west towards San Francisco Bay.

Subsurface soils at the site and in the site area generally consist of clays, with occasional thin, discontinuous silts, sands, and gravels. Groundwater at the site is generally encountered at depths below 10 feet below surface grade.

1.3 Brief Site History

Preliminary Phase I ESA activities were conducted which included a review of historical Sanborn Maps, a city directories abstract, historical aerial photos, and City of Emeryville records for the Site and site vicinity. Results of the historical records review indicate the following relative to Site history and environmental conditions.

- The current Site building was constructed between 1911 and 1939, and was occupied by a GMC truck sales and repair facility from at least 1950 to 1980.
- A former gasoline dispenser kiosk, labeled as “Gas & Oil” was 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.
- The south wing of the GMC truck facility was apparently not used for truck repair activities, but rather was used for offices, parts department, and body shop.
- While the GMC truck facility was present, the southeast yard, adjacent to Apgar Street, was either not part of the facility (residences) or was used for truck parking. The northeast yard area, adjacent to 39th Street, extended further east to include the current adjacent auto repair facility and was apparently used for storage and auto painting.

1.4 Summary of Previous Environmental Investigation Activities

The following sections describe previous underground storage tank (UST) removal and environmental investigation activities conducted at the Site.

1.4.1 UST Removal Activities

According to previous reports and records, there were previously two separate UST fueling systems on the Site. One system included two 1,000-gallon gasoline USTs and, while the exact location of these USTs is not known, these USTs were most likely located in the parking lot on the northeast side of the Site. The second system included one 1,000-gallon heating oil UST and

one 550-gallon heating oil UST, both located in, and adjacent to, the Adeline Street sidewalk on the northwest property boundary.

The gasoline UST system was apparently removed in 1981, and there is no record of environmental sampling during the removal. The two heating oil USTs were removed 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 milligrams per kilogram (mg/kg) of Total Petroleum Hydrocarbons as Gasoline (TPH-G). The UST excavation cavities were subsequently overexcavated, and subsequent soil samples collected at approximately ten feet in depth showed relatively low levels of hydrocarbons.

1.4.2 Site Investigation Activities

In May 2007, Enviro Soil Tech Consultants (ESTC) drilled and sampled seven soil borings, B-1 through B-7, in the small parking lot on the northwest (Adeline Street) side of the Site (see Figures 2, 3, and 4) (*Preliminary Investigation and Evaluation Report for 3800 San Pablo Avenue, Emeryville, California*, Enviro Soil Tech Consultants, August 28, 2007). Soil samples collected at five-foot intervals down to 20 feet in depth showed no significant hydrocarbon detections. Grab groundwater samples from borings B-2, B-4, and B-7, located on the extreme north and south sides of the parking lot, showed no significant hydrocarbon detections. Grab groundwater samples from borings B-1, B-3, B-5, and B-6, located on the middle of the parking lot from the extreme east (building) edge to the southwest (Adeline Street) edge of the lot, showed TPH-G concentrations ranging from 4,500 micrograms per liter (ug/L) to 780,000 ug/L, and Benzene concentrations ranging from 7.5 ug/L to 6,400 ug/L. The configuration of these groundwater hydrocarbon detections seemed to point to a southwest aligned groundwater hydrocarbon plume that originated northeast of the small Adeline Street parking lot itself. This conclusion of a northeasterly source was bolstered by the lack of soil hydrocarbon detections or field evidence of shallow soil impacts in the seven soil borings.

In December 2011, Gribi Associates drilled and sampled seven investigative borings, B-8 through B-14, on the site (*Report of Soil and Groundwater Investigation and Workplan to Conduct Additional Investigation Activities, 3800 San Pablo Avenue, Emeryville, California*, Gribi Associates, January 26, 2012). Soils encountered in the borings generally consisted of clays, with relatively thin discontinuous silty and clayey gravels and sands present in some of the borings. Soil and grab groundwater samples from the seven borings were analyzed for both gasoline- and diesel-range hydrocarbons. Very low concentrations (below 50 milligrams per kilogram, mg/kg) of diesel-range hydrocarbons were encountered in soil samples below ten feet in depth in borings B-8 and B-11. Very low concentrations (below 5 mg/kg) of gasoline-range hydrocarbons were encountered in soil samples below ten feet in depth in borings B-8, B-12, B-13, and B-14. Low concentrations of gasoline-range hydrocarbons, with no BTEX constituents, were encountered in grab groundwater samples from B-8 and B-14. Moderate levels of gasoline-range hydrocarbons were encountered in grab groundwater samples from borings B-12 and B-13. Results of this investigation indicated that the previously-identified groundwater hydrocarbon

plume beneath the Adeline Street parking lot is localized and did not originate from elsewhere on the Site. Further, it appeared that the source, or sources, of the groundwater hydrocarbon impacts in the Adeline Street parking lot are either the former USTs in the Adeline Street sidewalk (removed in 2002) or perhaps fuel dispensers associated with these former USTs. The report for this investigation included a work plan to: (1) The installation and monitoring of four groundwater monitoring wells in the Adeline Street parking lot; (2) The drilling and sampling of three soil borings on the west side of San Pablo Avenue, approximately 120 feet southwest from the Adeline Street parking lot.

In May 2012, nine investigative borings (B-15 through B-23) were drilled and four groundwater monitoring wells (MW-1 through MW-4) were installed at the Site (*Report of Remedial Investigation and Workplan to Conduct Interim Remedial Measures, 3800 San Pablo Avenue, Emeryville, California*, Gribi Associates, July 13, 2012). Both field and laboratory analytical results from this investigation indicate a relatively small, concentrated, predominately groundwater only, gasoline-range hydrocarbon plume present beneath the Adeline Street parking lot. The report for this investigation included a Conceptual Site Model and a work plan to conduct interim remedial measures (IRMs) for the Site. The IRM work plan proposed the drilling and sampling of additional borings and the implementation of an ozone injection pilot test on the Site. This work plan was conditionally approved on November 16, 2012.

In February 2013, three soil borings (B-24, B-27, and B-28) and three ozone injection wells (OW-1, OW-2, and OW-3) were installed and sampled. Soil samples from the three investigative borings and three well borings showed relatively low levels of gasoline-range hydrocarbons, with TPH-G concentrations ranging from nondetect to 25 mg/kg, and Benzene concentrations ranging from nondetect to 0.039 mg/kg. Groundwater samples from the three investigative borings showed low to moderate levels of gasoline-range hydrocarbons, with TPH-G concentrations ranging from nondetect to 7,900 ug/L and Benzene concentrations ranging from nondetect to 1,100 ug/L.

Gribi Associates installed an ozone remediation system at the site during the week of September 2, 2013. The ozone system was started on September 9, 2013 and operated continuously until the mid-October 2013. The system required repairs and was re-started on November 7, 2013 and operated continuously until the system was turned off on January 17, 2014.

2.0 SITE CONCEPTUAL MODEL

Gribi Associates prepared a Site Conceptual Model (SCM) for the Site which generally included an evaluation of contaminant sources, contaminant impacts, potential environmental and human

health receptors, and investigative data gaps. This SCM is included as Attachment A. Some of the key elements of the SCM include the following:

- The contaminants of concern are primarily TPH-G and BTEX.
- The contaminant source, or sources, appears to be the former dispenser kiosk located in the Adeline Street parking lot near the west edge of the Site building.
- Contaminant impacts in soil appear to be fairly low, with maximum TPH-G and Benzene concentrations of 69 mg/kg and 0.36 mg/kg, respectively.
- Contaminant impacts in groundwater 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 elevated (TPH-G > 10,000 ug/L and benzene > 1,000 ug/L).
- Contaminant impacts in vapor have not been assessed.
- Potential human health receptors include (1) future construction workers, and (2) human exposure to outdoor and indoor volatile contaminant vapors.
- Investigative data gaps include (1) the extent of groundwater contaminant impacts west across San Pablo Avenue, and (2) the nature and extent of vapor contaminant impacts beneath the Site building.

The work plan included herein attempts to address the investigative data gaps revealed in the SCM.

3.0 EVALUATION OF OZONE INJECTION PILOT TEST

3.1 Description of Pilot Test

The three ¾-inch diameter ozone injection wells (OW-1, OW-2, and OW-3) were installed to approximately 28 feet in depth, with a one foot long microporous diffuser from 28 to 27 feet in depth, filter sand to approximately 21 feet in depth, bentonite pellets to approximately 18 feet in depth, and the remaining annulus grouted with neat cement.

Ozone delivery tubing, consisting of 3/8-inch inside diameter synthetic flexible tubing, was installed from each injection well to the equipment compound on the southeast corner of the Adeline Street parking lot. The tubing was run above ground, inside PVC pipe, and protected within rubber speed bumps.

Remediation equipment start up commenced on Monday, September 9, 2013. The ozone injection system was programmed to sequentially cycle through 5-minute per well injection intervals, resulting in sequential cycles of 15 minutes of ozone injection. During the system startup phase, GriBI personnel visited the site weekly or semi-weekly to ensure that the system was operating optimally. Each visit included a general check of system integrity, as well as monitoring for volatile organic compounds (VOCs) and ozone vapors in surrounding monitoring wells using field instruments.

After startup on September 9, 2013, the system operated continuously until October 11, 2013, when an equipment malfunction required taking the equipment offline in order to repair. After repairs, the ozone injection system was restarted on Wednesday, October 23, 2013. The system was turned off on January 17, 2014 in order to assess potential concentration rebound. The ozone injection system is not currently operating.

3.2 Results of Ozone Injection Pilot Test

Post-ozone injection groundwater hydrocarbon results in Site wells show significant reductions in hydrocarbon concentrations, clearly indicating that ozone injection is an effective remediation technology for this site. TPH-G concentration reductions of approximately 70 percent were noted in wells MW-1 and MW-4, and TPH-G concentration reductions of over 90 percent were noted in wells MW-2 and MW-3.

Slight hydrocarbon concentration rebounds were noted in wells MW-1 and MW-2 during the most recent March 2014 monitoring event. Also, groundwater samples from the four wells showed no significant detections of hexavalent chromium or bromate during recent sampling events.

3.3 Request to Continue Ozone Injections

We believe that additional ozone injection (one to two months) is needed to fully evaluate system effectiveness. Also, it is possible that with minimal additional ozone injection, hydrocarbon mass can be sufficiently reduced at the Site. This is vitally important because the Site is slated for redevelopment as a combined commercial/residential development, with construction scheduled to begin in August 2014. Thus, we request concurrence to continue the pilot test for approximately two months.

4.0 WORK PLAN TO CONDUCT ADDITIONAL INVESTIGATIVE ACTIVITIES

In order to address investigative data gaps, this work plan proposes: (1) The drilling and sampling of approximately two soil borings on the west side of San Pablo Avenue, west of the Site groundwater hydrocarbon plume; and (2) The drilling and sampling of approximately four temporary soil gas well pairs inside the Site building. In order to characterize shallow soils planned for excavation, this work plan also proposes the collection of approximately four shallow soil samples in a small area on the east side of the Site. All activities will be conducted in accordance with all applicable regulatory guidelines and statutes.

4.1 Prefield Activities

Prior to beginning field activities, drilling permits will be obtained from the Alameda County Department of Public Works, and an encroachment permit will be obtained from the City of Emeryville for borings on the public right-of-way.

Prior to implementing field activities, all drilling locations will be marked with white paint, and Underground Services Alert (USA) will be notified at least 48 hours prior to drilling. Also, a private underground utility locator will be retained to conduct an independent clearance of the proposed drilling locations.

Prior to initiating drilling activities, a Site Safety Plan will be prepared, and a tailgate safety meeting will be conducted with all site workers.

4.2 Sampling Location

The proposed location of borings, soil gas wells and shallow soil samples are shown on Figure 5. The two investigative borings, B-29 and B-30, will be located on the west side of San Pablo Avenue, due west from the UST/dispenser source areas on in the Adeline Street parking lot.

Temporary soil gas wells pairs SG-1, SG-2, SG-3, and SG-4 will be sited along the west to southwest sides of the Site building, as close as possible to known hydrocarbon impact areas. Two possible additional locations, SG-5 and SG-6, will be located in the approximate center of the Site building; these two temporary soil gas wells will only be installed and sampled if results from the first four soil gas wells, SG-1 through SG-4, show significant hydrocarbon impacts.

The four shallow soil samples, SS-1, SS-2, SS-3, and SS-4, will be collected in a grid pattern in the area to be excavated, on the east side of the Site.

4.3 Drilling and Sampling of Investigative Borings

Boring activities will be conducted by a State-licensed drilling contractor using direct-push coring equipment. The two investigative borings, B-29 and B-30, will be drilled to approximately 20 feet in depth (first encountered groundwater is expected at about 15 feet in depth) using direct-push hydraulically-driven soil coring equipment. Continuous soil cores will be collected to total depth in a clear plastic acetate tube, nested inside a stainless steel core barrel. After each four-foot core barrel is brought to the surface and exposed, the core will be sliced lengthwise to expose the soil core, examined, logged, and field screened for hydrocarbons by a qualified geologist using sight, smell, and an organic vapor monitor (OVM). Following completion, the investigative borings will be grouted to match existing grade using a cement/sand slurry. Soil cuttings generated during this investigation will be stored onsite in sealed DOT-approved containers.

Each soil core will first be sliced open lengthwise along the length of the acetate tube, allowing full examination and logging of the soil core prior to sampling. Soil samples will then be collected from specific zones of interest in an acetate liner, which will be cut to the desired length (typically four to six inches), capped with Teflon tape and plastic end caps, labeled and placed in cold storage pending transport to a laboratory under formal chain-of-custody. All coring and sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water. Cleaning rinseate will be contained onsite in a sealed drum pending laboratory results.

One grab groundwater sample will be collected from each boring at first encountered groundwater (expected at approximately 15 feet in depth). Grab groundwater samples will be collected from the open boring after placing 1-1/4-inch diameter well casing in the boring. Groundwater will then be sampled using a clean small diameter bailer, and poured directly into laboratory-supplied containers. Each sample container will then be tightly sealed, labeled, and placed in cold storage for transport to the laboratory under formal chain-of-custody.

4.4 Drilling and Sampling of Temporary Soil Gas Wells

All soil gas sampling activities will be conducted in accordance with *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (DTSC, Final, October 2011) and *Advisory - Active Soil Gas Investigations* (DTSC, April 2012). Four temporary soil gas sampling well pairs, SG-1 through SG-4, will be installed by Gregg Drilling using direct-push coring equipment. Each well pair will include one sampling point at approximately seven feet in depth and another sampling point at approximately 15 feet in depth.

Gregg Drilling will core a 2-1/2 inch diameter boring to 15 feet and then place the deeper sampling tip (with 1/4-inch diameter Teflon tubing to surface) in one foot of sand, to approximately 14 feet below ground surface (bgs). Dry granular bentonite will then be placed to approximate 13 feet bgs, and wet, pourable bentonite will be tremied from 13 feet to 8.5 feet bgs. Approximately one foot of dry granular bentonite will then be placed from 8.5 to 7.5 feet bgs. The shallow sample tip (with 1/4-inch diameter Teflon tubing to surface) will be set in one foot of sand, to approximately 6.5 feet bgs. Dry granular bentonite will then be placed to approximately 5.5 feet bgs., and the remaining annulus will be filled with wet, pourable bentonite.

Each of the temporary soil gas wells will be sampled using the following procedures:

- Soil vapor samples will not be collected within 72 hours following a significant (>0.5 inches rain) precipitation event.
- A “T” valve will be placed in line at the ground surface to allow for system purging and for pressure testing of the above ground portion of the sampling train. The sampling

tubing will be attached to a 200-milliliter per minute maximum flow controller, then a one liter laboratory-supplied Summa Canister™ (evacuated to 29 inches mercury vacuum) with vacuum pressure valve.

- After allowing the vapor wells to equilibrate for at least two hours, the wells will be purged and sampled. A laboratory supplied purge/pressure test Summa Canister™ (evacuated to 29 inches mercury) will then be used to test vacuum pressure in the above ground portion of the sampling train. Sampling train vacuum pressure will be maintained for at least 10 minutes; if pressure drops occur, the system connections will be tightened and the pressure testing continued.
- The vapor well will then be purged of approximately three purge volumes using a dedicated Summa Canister.
- The entire probe and sampling train will be placed under a shroud and a leak test will be conducted. Helium from a compressed gas cylinder will be pumped into the shroud, and the helium concentration inside the shroud will be maintained at approximately 10,000 ppmV (the detection level for the ASTM Method D-1946 is 100 ppmV). Helium monitoring will be conducted using a Mark Radiodetection MGD-2002 helium detector with internal pump (or equivalent). For the sampling train leak test, the helium monitor will be attached to the purge tube and the T-valve opened. A positive reading of helium by the detector will indicate the presence of helium inside the sample train and, therefore, a leak in the sample train. If helium is detected, all connections in the sample train will be tightened and the leak test repeated until no helium was detected.
- The vapor sample will then be collected by opening the Summa canister and allowing the vapor to fill the canister until the vacuum pressure in the canister reaches approximately 20 percent of initial (approximately 5 to 6 inches mercury). The flow controller will be used so that the Summa Canister will fill slowly (200 ml per minute or less) to insure a representative soil vapor sample. Prior to, at start time, and during sampling, periodic vacuum measurements will be recorded on a field data sheet, and initial and final vacuum pressures will be noted on chain-of-custody records.
- After completion of all sampling activities at each temporary soil gas well pair will be temporary secured so that the wells can be re-sampled if desired. After all sampling is completed, the tubing will be removed, and the borings will be grouted and re-surfaced to match existing surface grade.

The vapor samples (filled Summa canisters) will be secured and transported to SunStar Laboratories, a certified analytical laboratory, under formal chain-of-custody.

Note that, at each of the soil gas boring locations, a soil sample will be collected at approximately seven feet in depth for soil properties analysis. This soil sample will be collected using standard direct push soil sampling methods.

4.5 Collection of Shallow Soil Samples

Four shallow soil samples, SS-1 through SS-4, will be collected using hand auger equipment after coring through the concrete slab. Soil samples will be collected at approximately 1.0 foot bgs in 4-ounce Teflon-lined jars. Each soil sample will be collected by completely filling the jar, tightly capping and labeling the jar, and placing the jar in an ice-chilled cooler for transport to a certified analytical laboratory under formal chain-of-custody. All coring and sampling equipment will be thoroughly cleaned and decontaminated between each sample collection as described previously in this work plan. After completion, the borings will be backfilled and resurfaced to match existing grade.

4.6 Laboratory Analysis of Soil, Water, and Vapor Samples

Approximately one soil sample and one grab groundwater sample from the two offsite borings, B-29 and B-30, will be analyzed for the following parameters.

- USEPA 8260B Total Petroleum Hydrocarbons as Gasoline (TPH-G)
- USEPA 8260B Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
- USEPA 8260B Oxygenates (DIPE, ETBE, MTBE, TAME, TBA)
- USEPA 8260B Naphthalene

In addition, approximately eight soil gas samples (two per well pair) from the four well pairs, SG-1 through SG-4, will be analyzed for the following parameters with appropriate detection levels which are below regulatory screening levels.

- USEPA TO-15 TPH-G and Volatile Organic Compounds (VOCs)
- ASTM Method D-1946 Helium and Oxygen

Also, the four shallow soil samples, SS-1 through SS-4, will be analyzed for the following parameters.

- USEPA 8015B Total Petroleum Hydrocarbons-Carbon Chain
- USEPA 8260B Volatile Organic Compounds (VOCs)
- USEPA 6010 CAM 17 Metals

In addition, the three soil samples collected from the soil gas borings will be analyzed for the following soil properties, to be used for modeling in the event that risk modeling is required in the future.

- Bulk Density
- Grain Density
- Soil Moisture Content
- Fractional Organic Carbon

All analyses will be conducted by California-certified analytical laboratories, with standard turnaround on results.

4.7 Preparation of Summary Report

A report summarizing investigative activities and results will be prepared for submittal to ACEH and to Geotracker. This report will describe all investigative methods and results, and will include tabulated laboratory results and graphical depictions of result.

5.0 PROJECT SCHEDULE

Subject to ACEH approval, we request approval to immediately restart the ozone injection system at the Site. Also subject to ACEH approval, completion of proposed investigative field activities can be completed within approximately four weeks.

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

Very truly yours,



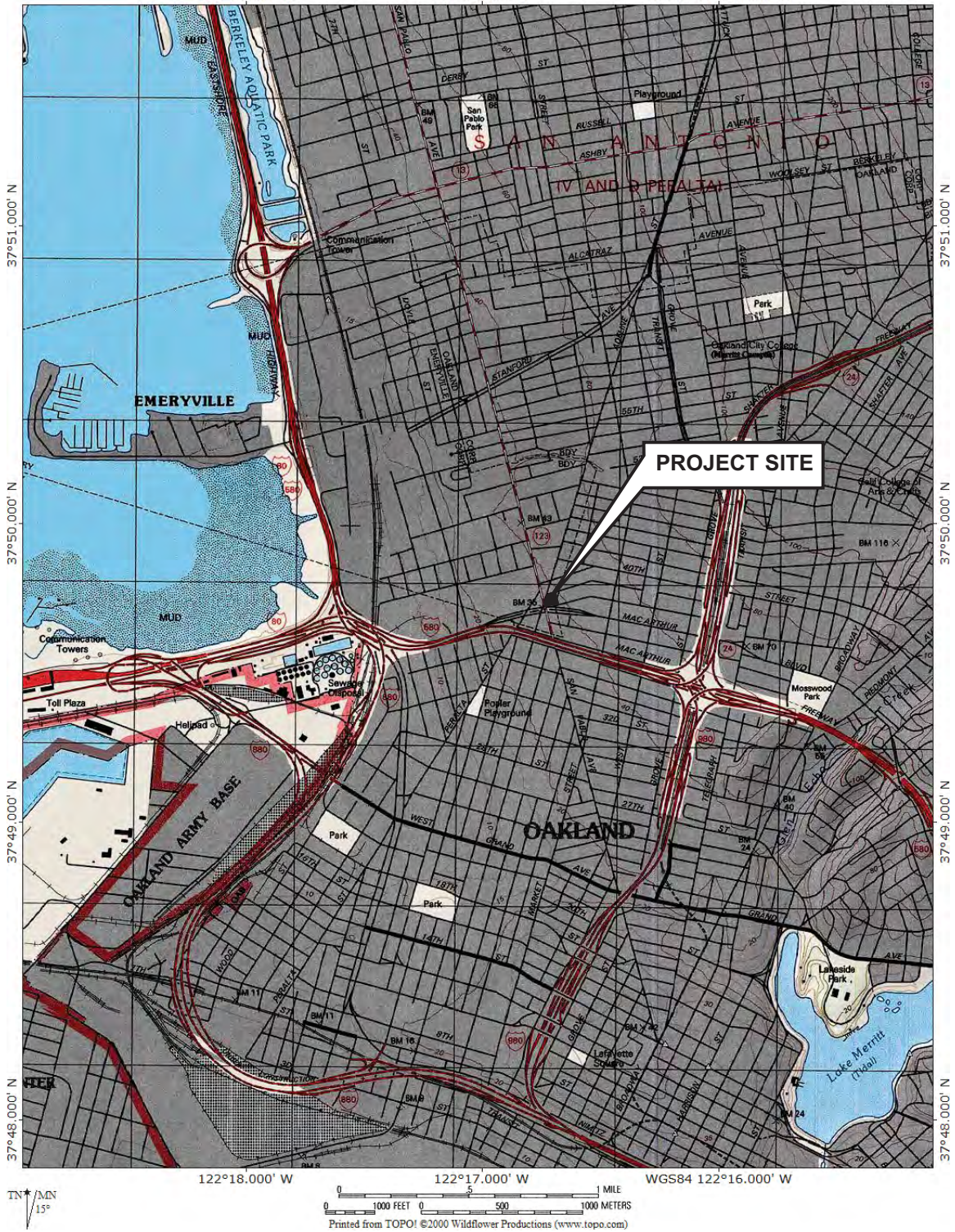
James E. Gribi
Professional Geologist
California No. 5843



Enclosure

FIGURES

TOPO! map printed on 04/03/07 from "California.tpo" and "Untitled.tpg"
 122°18.000' W 122°17.000' W WGS84 122°16.000' W



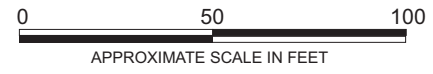
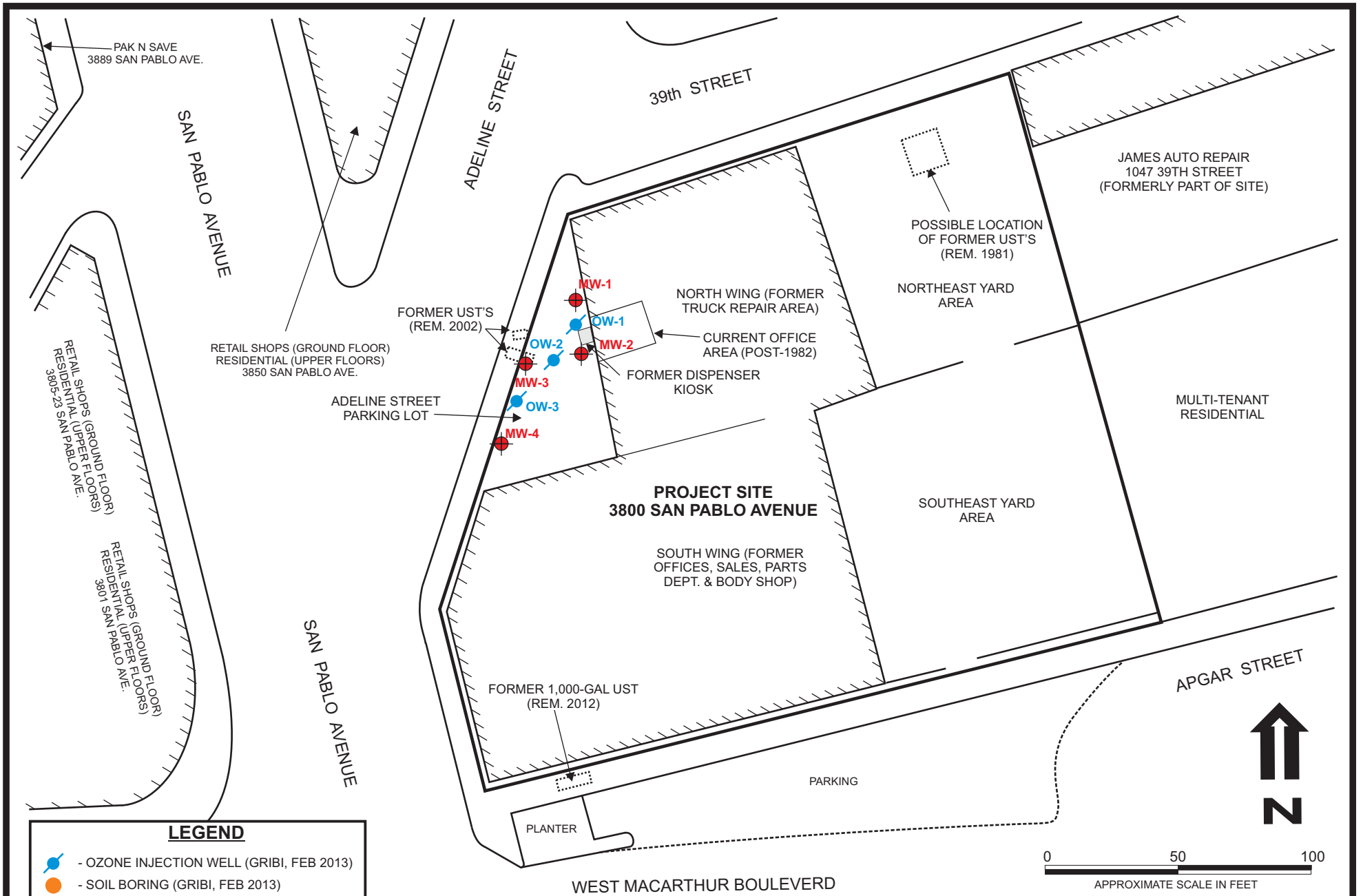
DESIGNED BY:	CHECKED BY: JG
DRAWN BY: MR	SCALE:
PROJECT NO:	

SITE VICINITY MAP






3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

DATE: 04/28/2014 FIGURE: 1





LEGEND

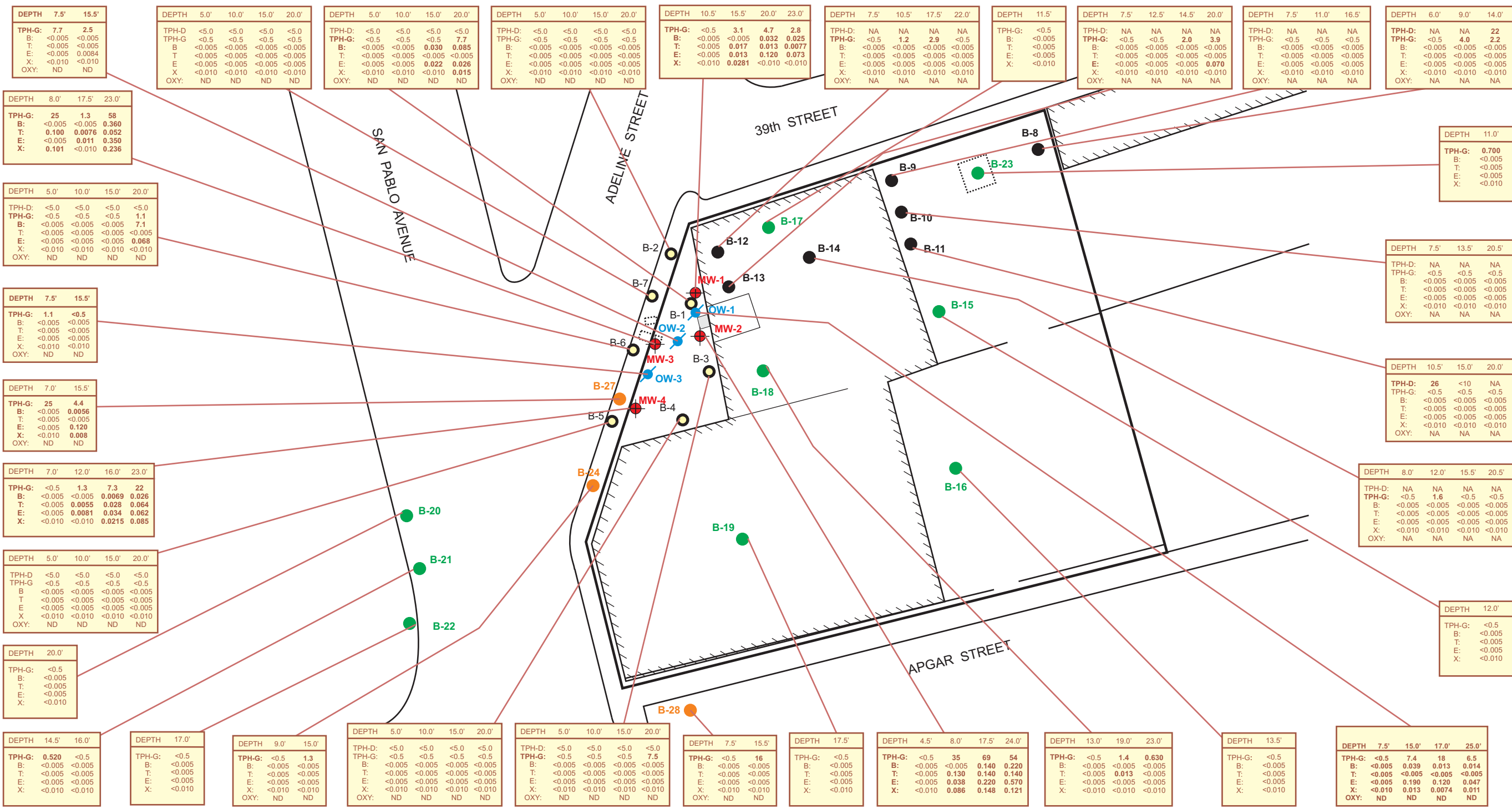
-  - OZONE INJECTION WELL (GRIBI, FEB 2013)
-  - SOIL BORING (GRIBI, FEB 2013)
-  - MONITORING WELL (GRIBI, MAY 2012)
-  - SOIL BORING (GRIBI, MAY 2012)
-  - SOIL BORING (GRIBI, DECEMBER 2011)
-  - SOIL BORING (ESTC, MAY 2007)

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

SITE PLAN

3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

DATE: 04/28/2014	FIGURE: 2
	



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	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

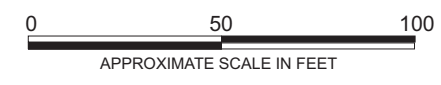
DEPTH	13.0'	19.0'	23.0'
TPH-G:	<0.5	1.4	0.630
B:	<0.005	<0.005	<0.005
T:	<0.005	0.013	<0.005
E:	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010

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

DEPTH	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

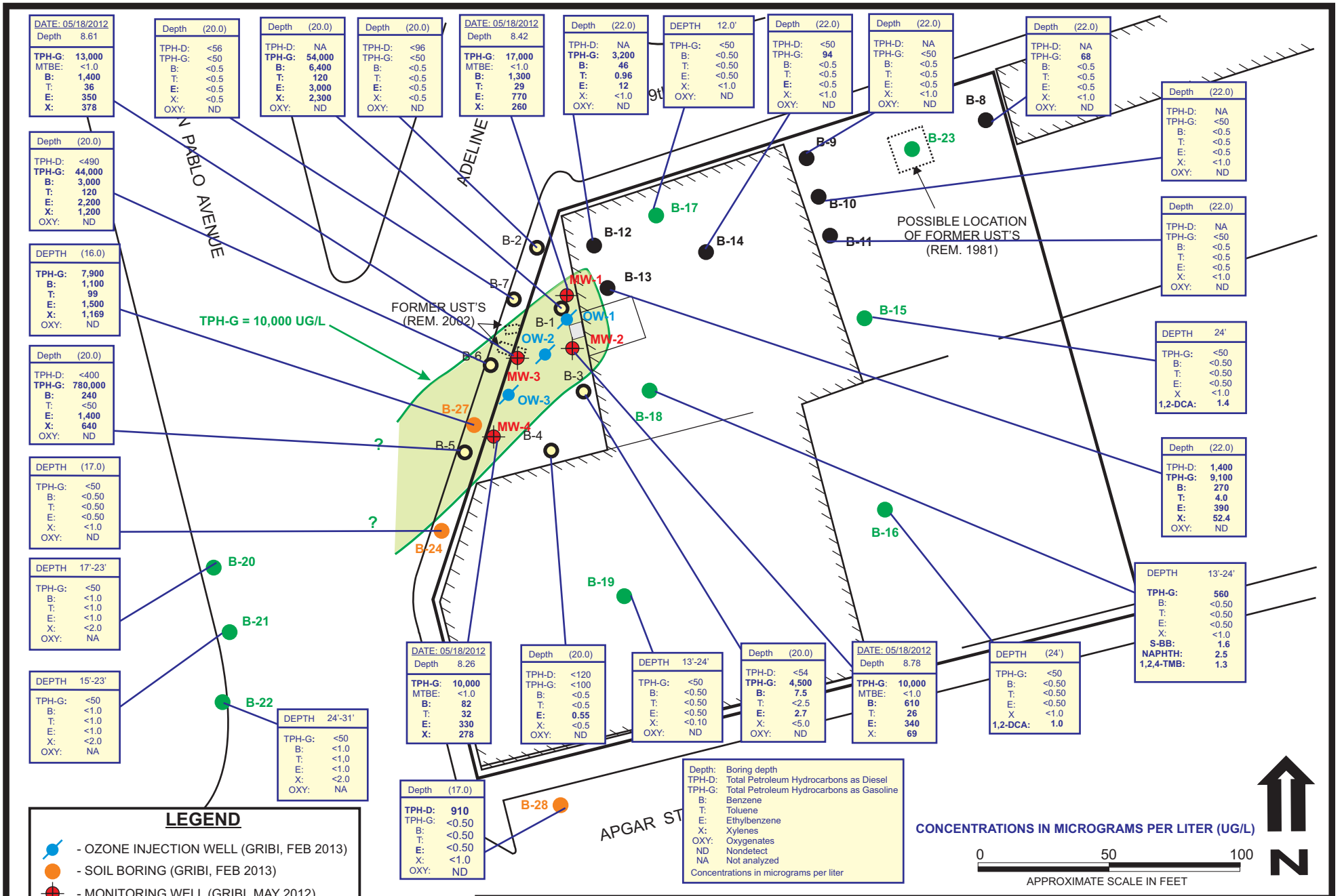
LEGEND

- 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)



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 3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA	DATE: 04/28/2014	FIGURE: 3
DRAWN BY: JG	SCALE:			
PROJECT NO:				



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)

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




HISTORICAL GROUNDWATER HYDROCARBON RESULTS

3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

DATE: 04/28/2014	FIGURE: 4



LEGEND

-  - PROPOSED SOIL SAMPLE LOCATION
-  - PROPOSED VAPOR WELL PAIR LOCATION
-  - PROPOSED SOIL BORING LOCATION

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

**PROPOSED SAMPLE
LOCATIONS**
3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

DATE: 04/28/2014 FIGURE: 5



ATTACHMENT A
SITE CONCEPTUAL MODEL



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 (<i>East Bay Plain Groundwater Basin Beneficial Use Evaluation Report</i> , SFBRWQCB, June 1999). Alluvial deposits that generally consist of silts and clays containing thin sandy and gravelly lenses underlie the area. Estuarine 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	<p>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.</p> <p>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.</p> <p>The West MacArthur 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.</p> <p>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.</p>	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 53 rd Street.	Figure 1	None	n/a
Nearby Wells		<p>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.</p> <p>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.</p>	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	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>	Figure 5 and Figure 6; Table 1 and Table 2.	None	n/a
Potential Sources	Offsite	<p>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).</p> <p>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.</p>	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		<p>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.</p> <p>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.</p> <p>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.</p> <p>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 kiosk and island, which was apparently located just inside the site building. The cause and nature of the release(s) is not known.</p>	Figure 7 and Figure 8. Table 1 and Table 2.	None	n/a
Constituents of Concern		<p>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.</p> <p>Heavier hydrocarbons (TPH-D and TPH-MO) have not been detected at significant concentrations.</p> <p>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.</p> <p>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.</p>	Figure 7 and Figure 8. Table 1 and Table 2.	None	n/a
Nature & Extent of Impacts	Impacts in Soil	<p>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.</p> <p>Low to nondetectable concentrations of TPH-D/MO and metals were encountered in soil samples throughout the site.</p>	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	<p>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 benzene>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.</p> <p>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.</p>	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 39 th 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	<p>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.</p> <p>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.</p>	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 benzene 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	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

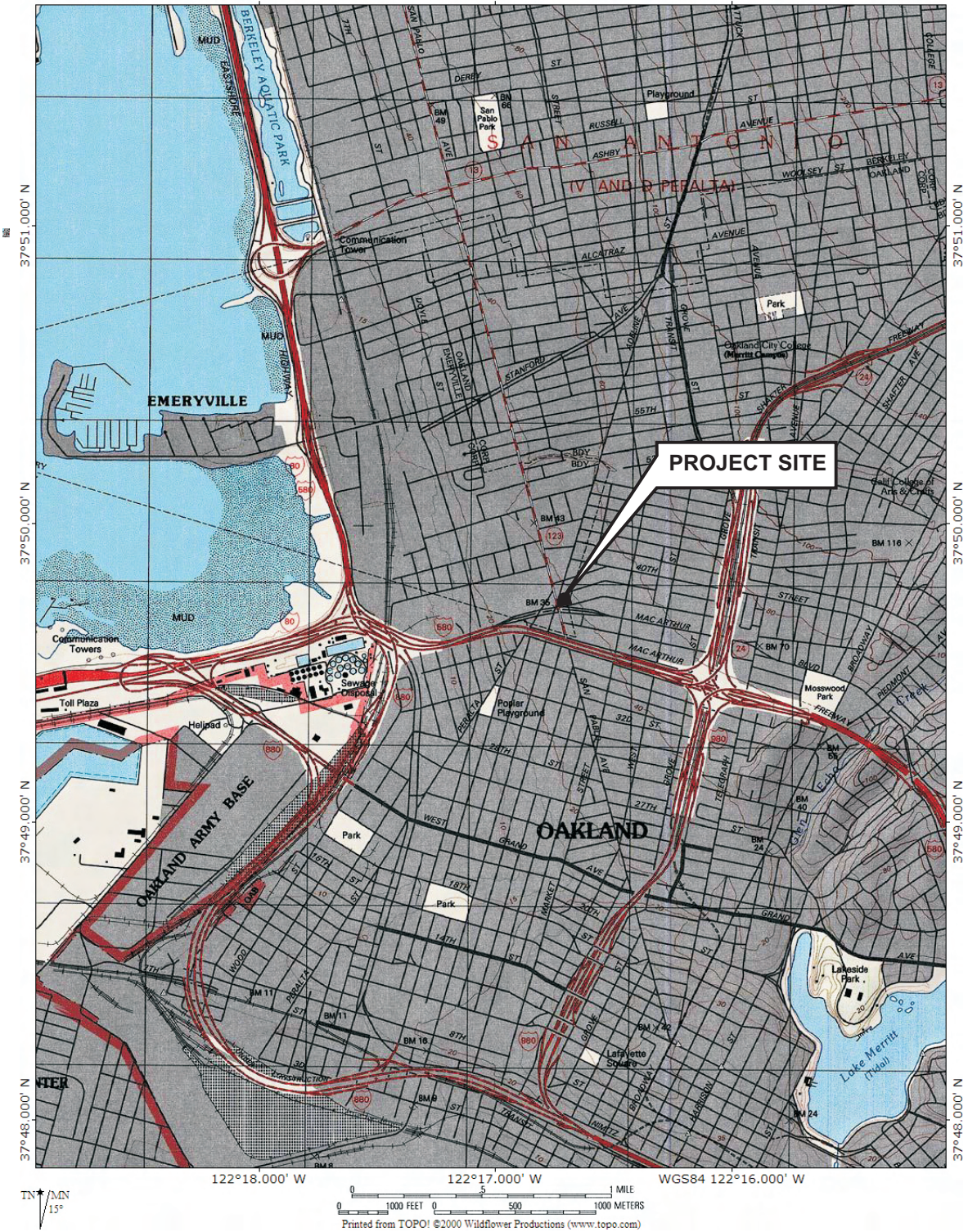
Br = Bromate
N = Naphthalene.
<38.96> = Top of casing mean sea level elevation (Virgil Chavez Land Survey).
All ND = No detectable concentrations of all analytes.
- = Not analyzed for this analyte.
<1.0 = Not detected above the expressed value.
ESL = Environmental Screening Levels, as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, May 2013.



ATTACHMENT 2

FIGURES

TOPO! map printed on 04/03/07 from "California.tpo" and "Untitled.tpg"
 122°18.000' W 122°17.000' W WGS84 122°16.000' W



DESIGNED BY:

CHECKED BY: JG

DRAWN BY: MR

SCALE:

PROJECT NO:

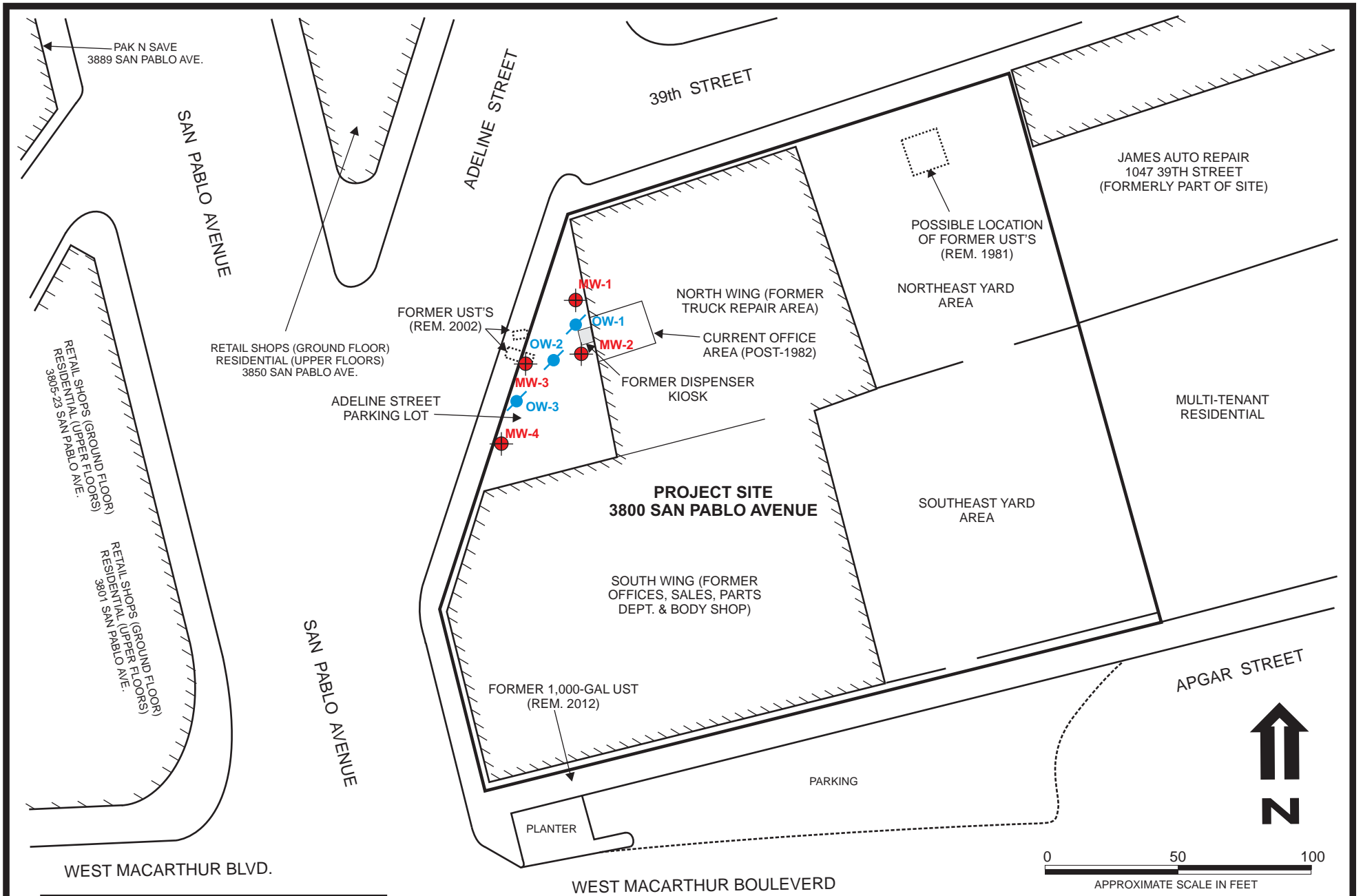
SITE VICINITY MAP

3800 SAN PABLO AVENUE
 EMERYVILLE, CALIFORNIA

DATE: 04/01/2014

FIGURE: 1











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

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

SITE PLAN

3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

DATE: 04/01/2014	FIGURE: 2

-  - UNDERGROUND GAS
-  - UNDERGROUND WATER
-  - UNDERGROUND SEWER
-  - UNDERGROUND STORM DRAIN
-  - STORM DRAIN MANHOLE
-  - SEWER MANHOLE

SAN PABLO AVENUE

ADELINE STREET







39th STREET

AUTO REPAIR FACILITY
1047/1061 39TH STREET
(FORMERLY PART OF SITE)

MULTI-TENANT
HOUSING

PROJECT SITE
3800 SAN PABLO AVENUE

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)

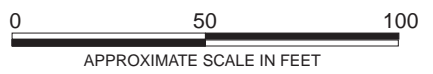
(Depth unknown; >7 ft bgs)

(Depth unknown; <7 ft bgs)

(3.5 ft. bgs)
(4.5 ft. bgs)
(7.0 ft bgs)

(4 ft. bgs)
(5 ft. bgs)

(7.0 ft bgs)

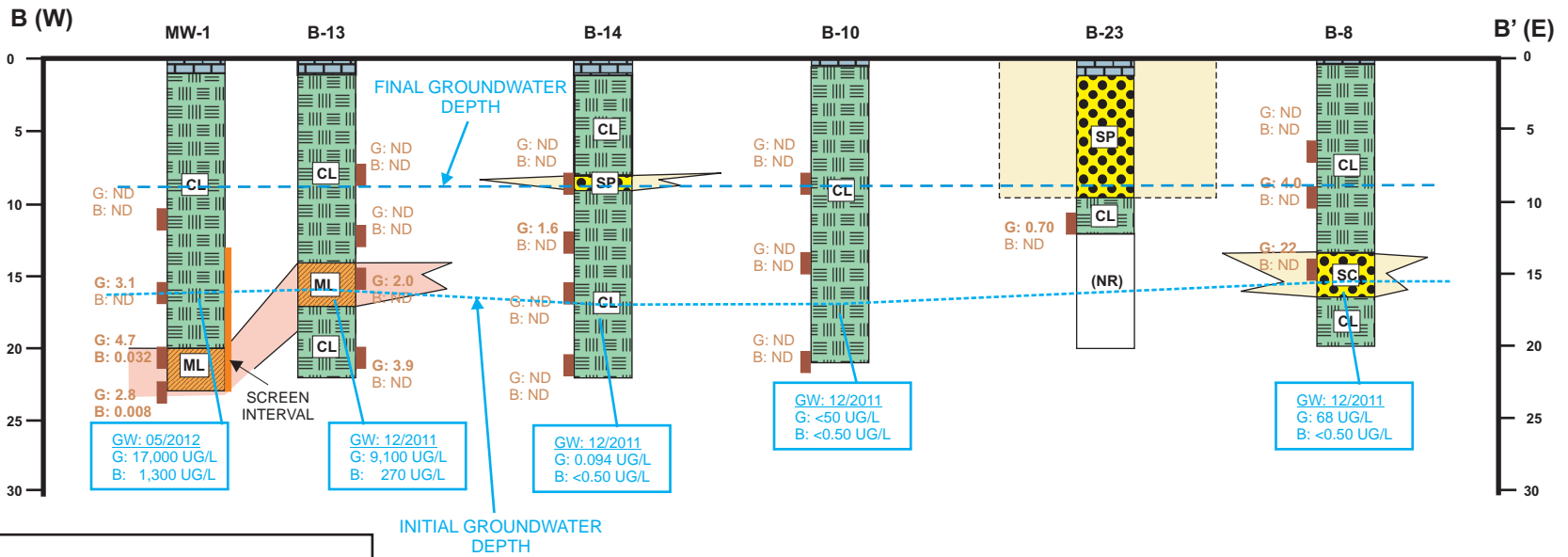
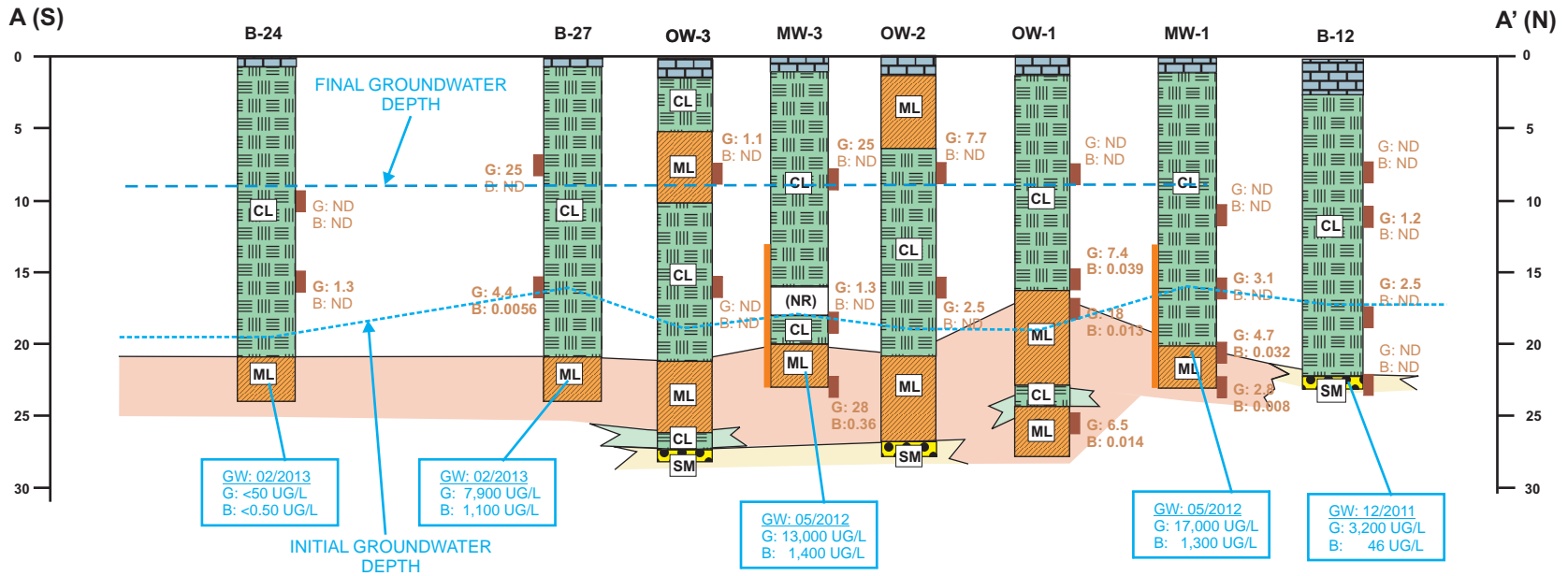


DESIGNED BY:	CHECKED BY: JG
DRAWN BY: JG	SCALE:
PROJECT NO:	

**CROSS SECTION & UTILITIES
LOCATION MAP**
3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

DATE: 04/01/2014 FIGURE: 3





Legend:

- SAND-DOMINATED SOILS
- SILT-DOMINATED SOILS

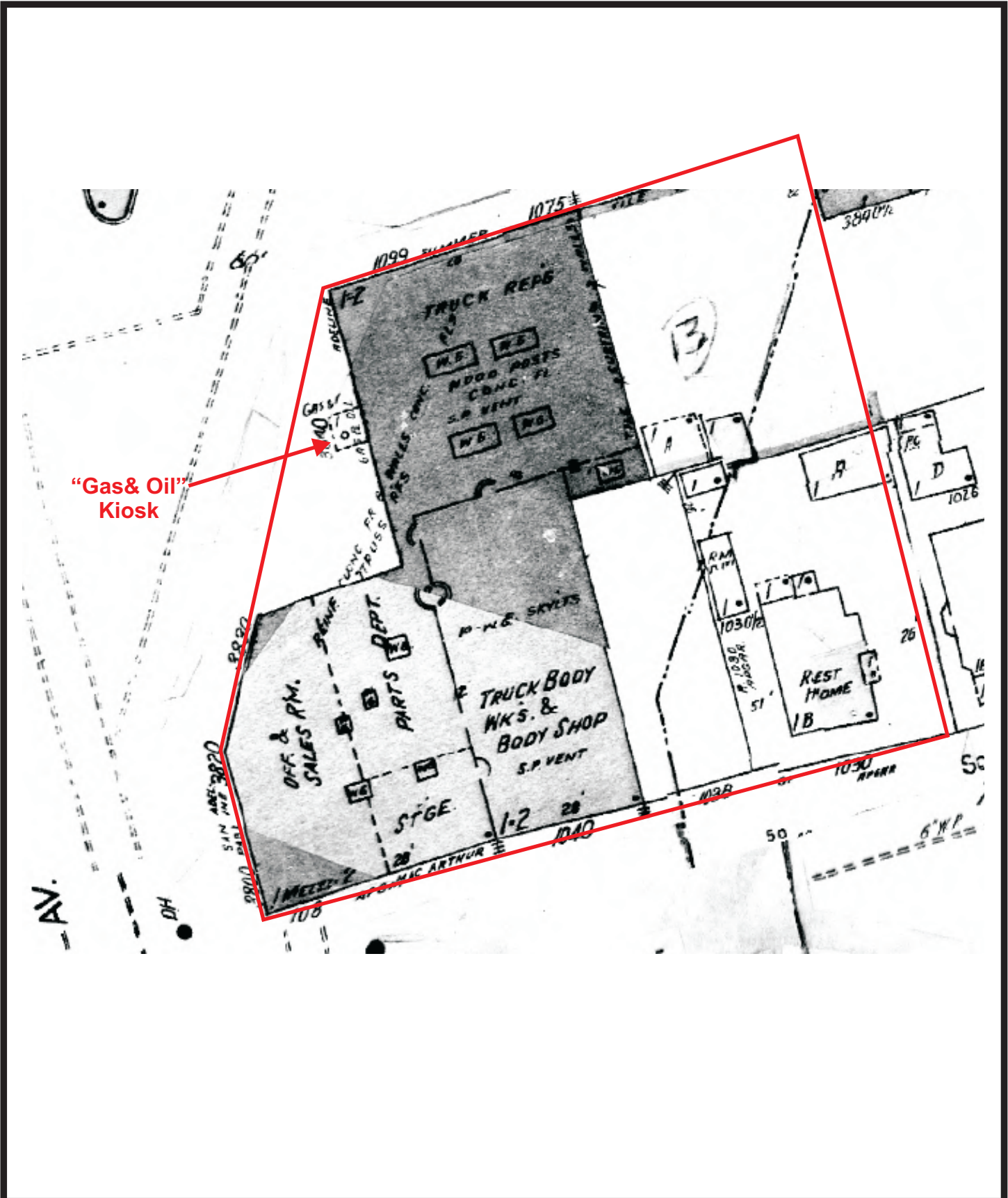
Soil Sample Interval: G: 110, B: 2.6 TPH-G & BENZENE RESULTS, MG/KG (PPM)

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


LITHOLOGIC CROSS SECTIONS

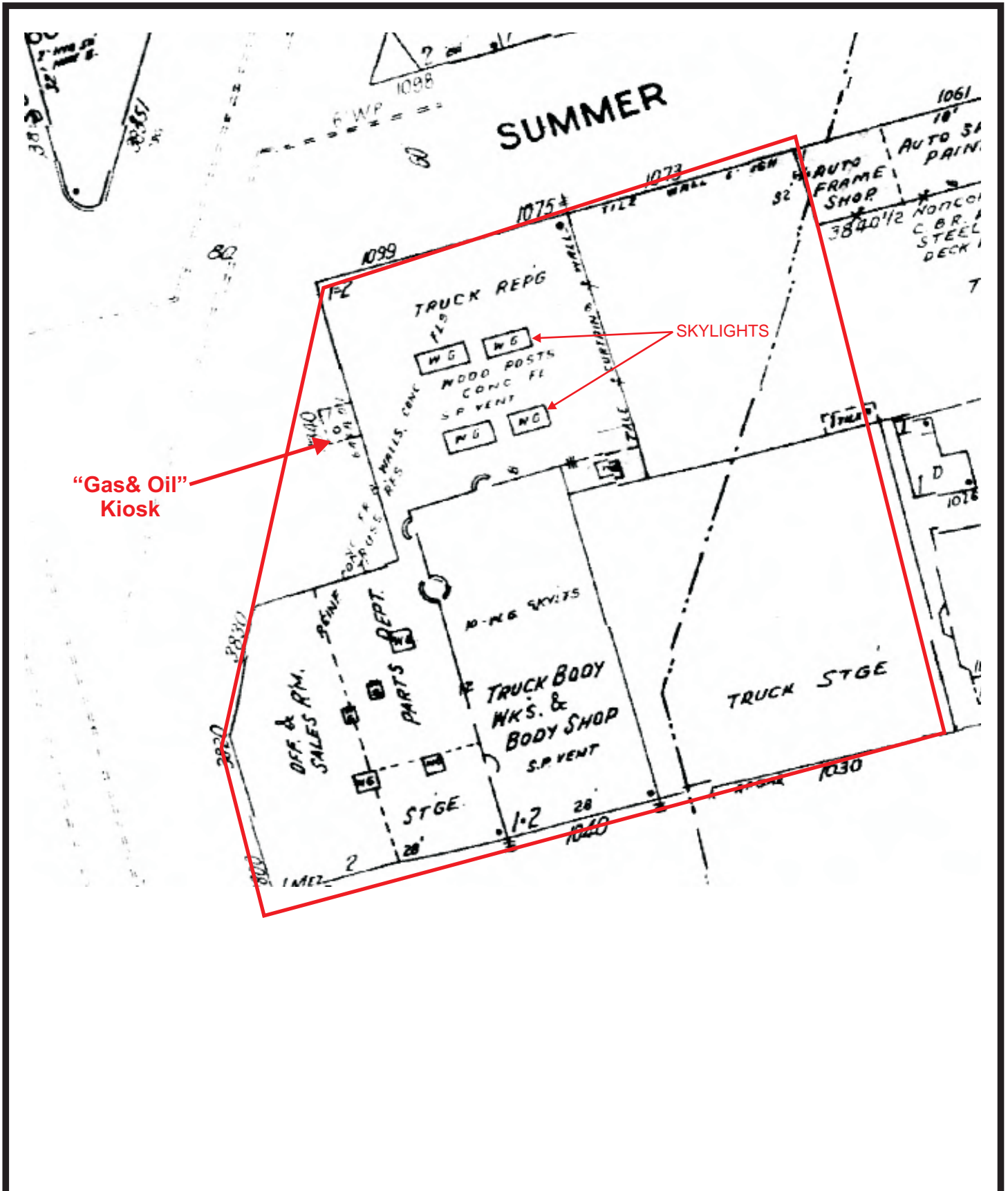
3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA


DATE: 03/24/2014 FIGURE: 4

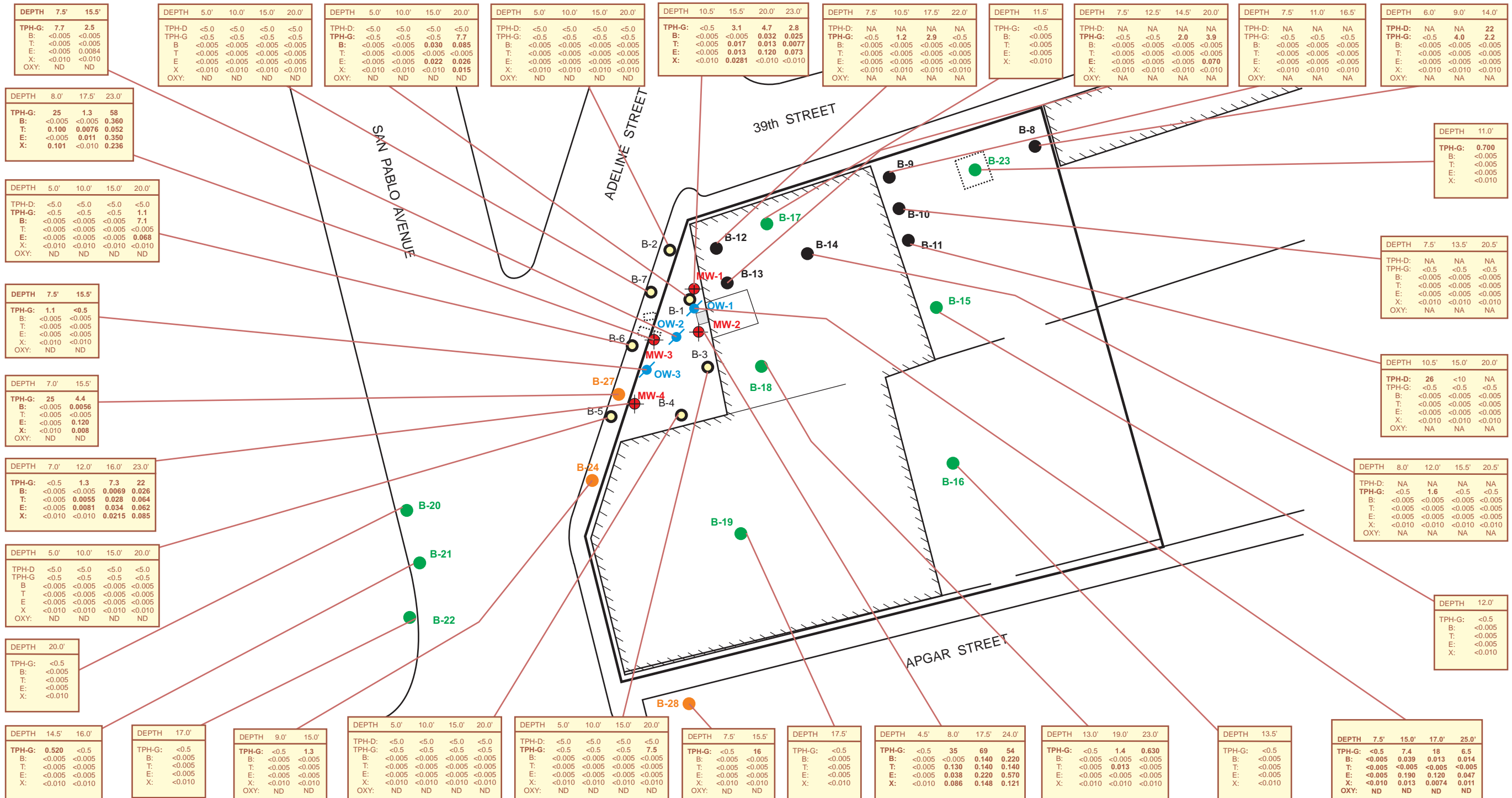


"Gas & Oil"
Kiosk

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



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	0.030	0.085
B:	<0.005	<0.005	<0.005	<0.005
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

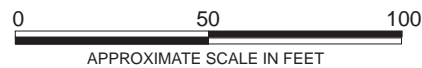
DEPTH	13.0'	19.0'	23.0'
TPH-G:	<0.5	1.4	0.630
B:	<0.005	<0.005	<0.005
T:	<0.005	0.013	<0.005
E:	<0.005	<0.005	<0.005
X:	<0.010	<0.010	<0.010

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

DEPTH	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)



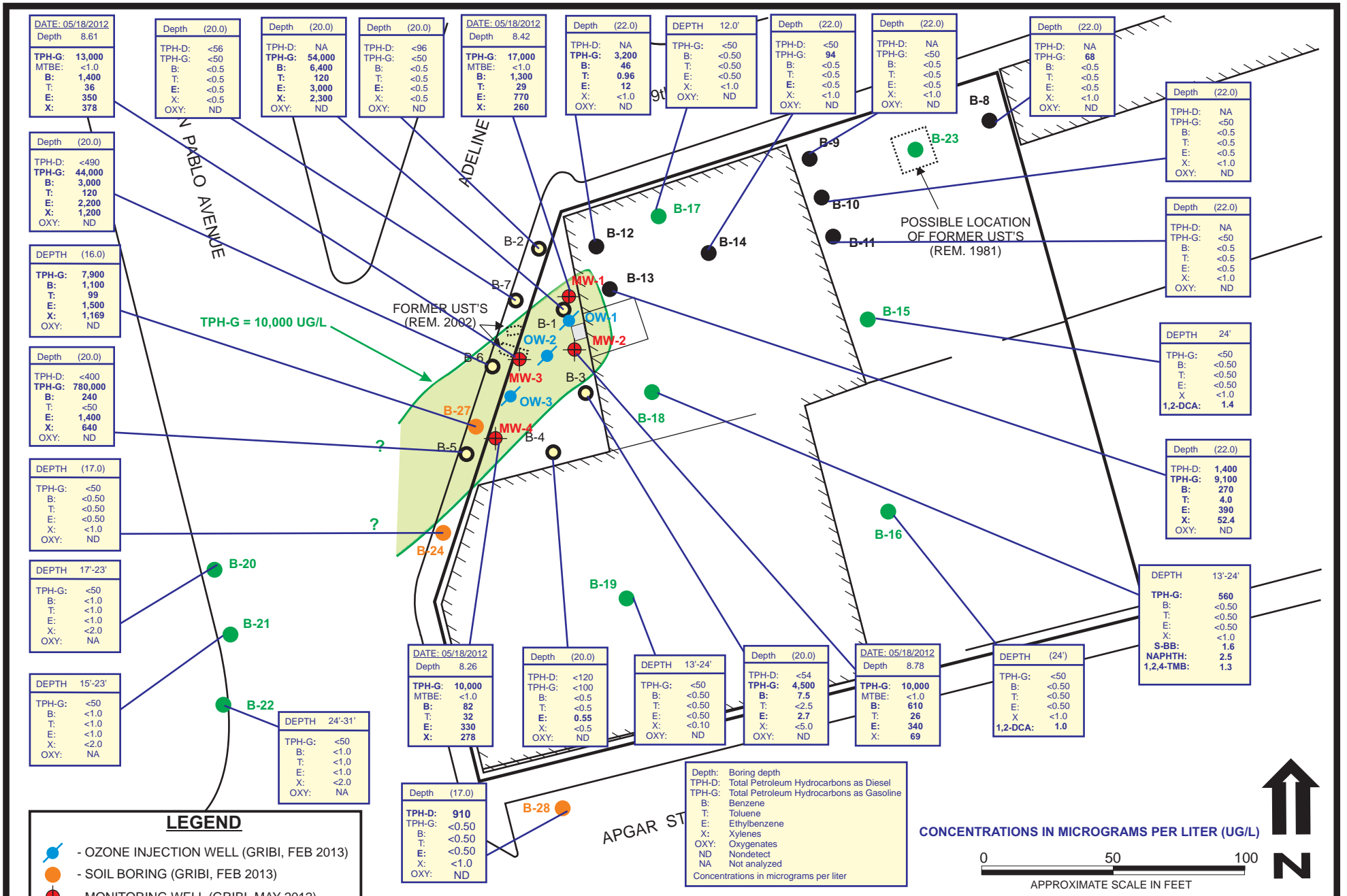
Depth:	Boring depth
TPH-D:	Total Petroleum Hydrocarbons as Diesel
TPH-G:	Total Petroleum Hydrocarbons as Gasoline
B:	Benzene
T:	Toluene
E:	Ethylbenzene
X:	Xylenes
OXY:	Oxygenates
ND:	Nondetect
NA:	Not analyzed
Concentrations in milligrams per kilogram	

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

**HISTORICAL SOIL
HYDROCARBON RESULTS**
3800 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA

DATE: 04/01/2014 FIGURE: 7

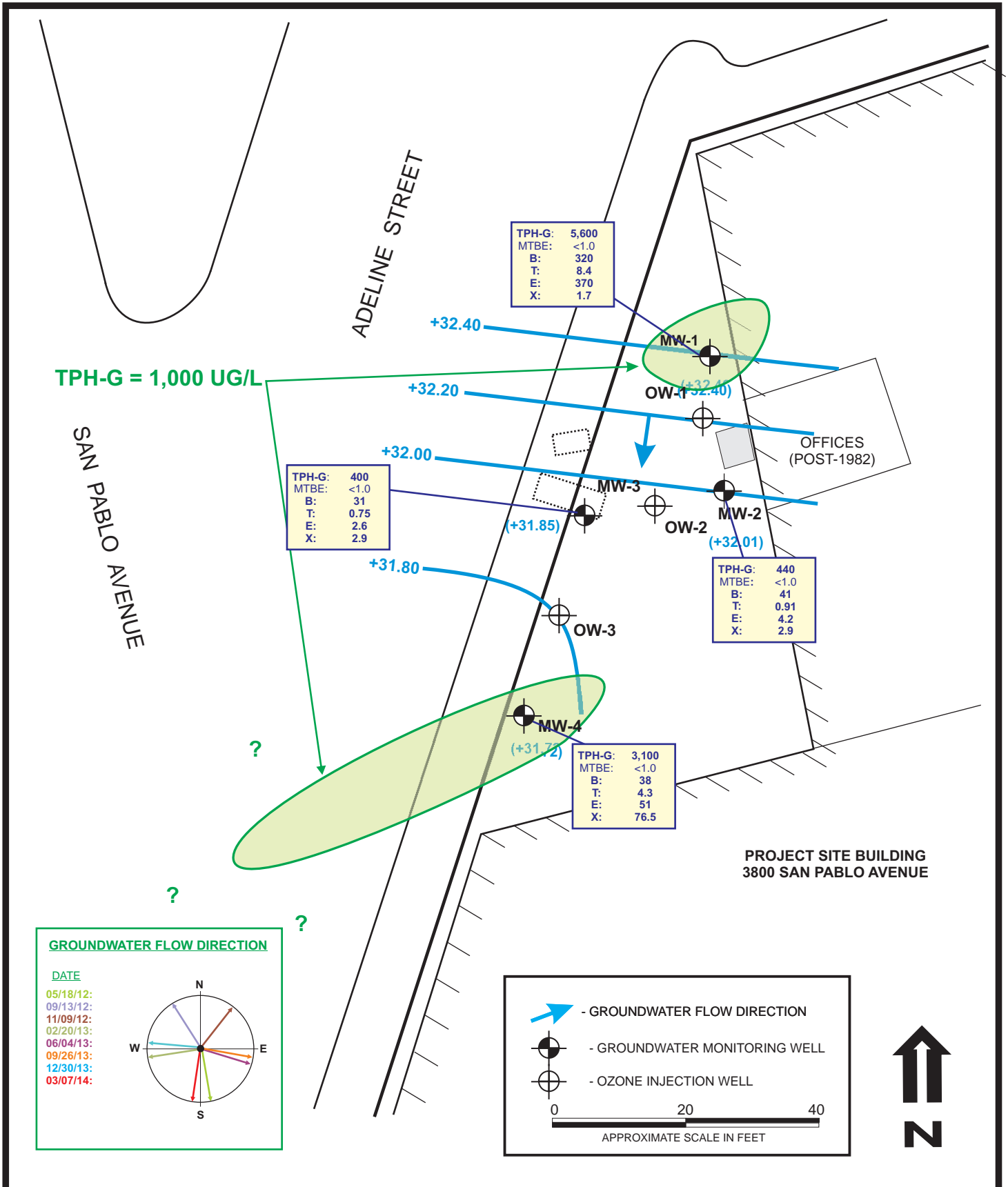




DESIGNED BY:	CHECKED BY: JG
DRAWN BY: JG	SCALE:
PROJECT NO:	

HISTORICAL GROUNDWATER HYDROCARBON RESULTS
 3800 SAN PABLO AVENUE
 EMERYVILLE, CALIFORNIA

DATE: 04/01/2014 FIGURE: 8



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

