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May 4, 2012

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

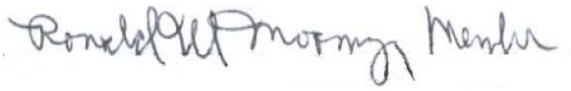
Attention: Mark Detterman

Subject: Workplan to Conduct Soil and Groundwater Investigation
1355 55th Street Emeryville, Ca
ACDEH Site No. RO0000046, Geotracker Global ID No. T0600101623

Ladies and Gentlemen:

Attached please find a copy of the *Workplan to Conduct Soil and Groundwater Investigation* 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,



Ronald W. Mooney, Member
California Syrup & Extract Co. LLC
PO Box 8305
Emeryville, CA 94608

GRIBI
ASSOCIATES

May 4, 2012

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

Attention: Mark Detterman

Subject: Workplan to Conduct Soil and Groundwater Investigation
Former California Syrup & Extract UST Site
1355 55th Street, Emeryville, Ca
ACDEH Site No. RO0000046, Geotracker Global ID No. T0600101623

Ladies and Gentlemen:

Gribi Associates is pleased to submit this workplan on behalf of California Syrup & Extract for the underground storage tank (UST) site located at 1355 55th Street in Emeryville, California (Site) (see Figure 1 and Figure 2). In order to address specific data requirements summarized in the June 3, 2011 letter from your office, this workplan proposes the drilling and sampling of one soil boring and the drilling, installation, and sampling of two additional groundwater monitoring wells at the Site. The goal of these activities will be to provide additional site characterization as necessary to achieve regulatory closure of this Site.

1.0 SITE DESCRIPTION AND BACKGROUND

1.1 General Site Description

The Site is located in a mixed commercial and residential area of Emeryville, with primarily residential land use to the north, east, and south, and by primarily commercial/industrial land use to the west. The Site is located on a gently west-sloping plain approximately one-half mile southeast from the San Francisco Bay. Based on proximity to the bay, we would expect groundwater flow direction to be to the west-northwest.

The former California Syrup and Extract Company facility comprises a large brick and mortar building which faces the 55th Street sidewalk. The Site is currently occupied by a portion of the original California Syrup & Extract building, which was completely remodeled as a professional office building in the late 1990s. The building contains the original brick and mortar facade, and a new building and surroundings were constructed behind the facade.

1.2 General Site History

California Syrup and Extract Company began operations in the Site building in about 1910, producing and bottling syrup and vinegar for commercial sales. Syrup and vinegar were produced and bottled at the facility up until the mid-1980s, and in the 1960s, bulk ammonia was also bottled at the facility. The east portion of the facility was rented out in the 1970s, and the west portion was used for storage from the mid-1980s until site redevelopment in the late 1990s.

The former California Syrup and Extract Company site apparently included a water supply well on the southwest side of the Site. During previous Site investigations, it was determined that this well was constructed with approximately six-inch diameter steel casing and was at least 45 feet deep. This well is not currently visible on the Site, having apparently been covered over during redevelopment of the Site in the late 1990s.

Eight underground storage tanks (USTs) are located beneath the sidewalk adjacent to the California Syrup and Extract facility (see Figure 2 for location of USTs). These USTs were installed at various times throughout the life of the facility, and were used to store vehicle fuels, such as gasoline and diesel, and for bulk storage of aqueous ammonia and food grade denatured alcohol for use in California Syrup and Extract's business. UST construction and usage details for the eight USTs are summarized in Table 1.

Table 1
UST CONSTRUCTION & USE
California Syrup & Extract Site

Tank ID	*Capacity (gal)*	*Product Stored*	*Construction Material*	*Depth to Bottom of Tank*	*Installation Date*	*Last Used*
1 (east)	10,000	Diesel	Single wall steel	12.0 ft	1953	1981
2	550-1,000	Fuel oil/Waste oil	Single wall steel	6.25 ft	1930	1981
3	1,000	Diesel	Single wall steel	7.25 ft	1948	1981
4	1,000	Aqueous ammonia	Single wall steel	9.5 ft	1960	1965
5	1,000	Gasoline	Single wall steel	7.5 ft	1930	1965
6	6,000-10,300	Denatured alcohol	Single wall black iron	11.0 ft	1955	1985
7	10,000	Denatured alcohol	Single wall fiberglass	10.5 ft	1965	1985
8 (west)	10,000	Denatured alcohol	Single wall fiberglass	10.5 ft	1965	1985

1.3 Environmental Investigation and Remediation Activities

In July 1993, Century West Engineering conducted a soil boring investigation at the project site as a requirement for closure-in-place of the eight USTs located beneath the 55th Street sidewalk

(see *Report of Soil Boring Investigation For UST Closure-In Place*, Century West Engineering, November 10, 1993). This investigation, which included the drilling and sampling of 13 soil borings adjacent to the USTs, revealed that three of the eight USTs (Tank No. 2 waste oil, Tank No. 3 diesel, and Tank No. 4 ammonia) showed evidence of product leakage. However, soil analytical results from the 13 soil borings indicated that releases from these three USTs had not had a significant impact on soils in the expected downgradient (westerly) direction from the USTs.

In accordance with the approved UST closure plan, the eight USTs were closed in-place by Allpro Environmental Corporation during the week of August 15, 1994. Closure-in-place consisted of filling each of the USTs with a cement/sand slurry.

In September 1994, two groundwater monitoring wells, MW-1 and MW-2, were installed at the Site. MW-1 was sited approximately ten feet in the expected downgradient (southwest) groundwater flow direction from Tank No. 3, and MW-2 was sited approximately ten feet southwest from Tank No. 2 and Tank No. 3. Although concentrations of TPH-G at monitoring well MW-2 are elevated, the relative concentrations of BTEX constituents are low, suggesting significant natural degradation of the gasoline constituents over time.

On June 3, 2011, the Alameda County Environmental Health (ACEH) issued a letter providing technical comments relative to past site investigation results and requesting submittal of a Workplan for Subsurface Investigation. Some of the key issues to be addressed in the workplan include: (1) Groundwater flow gradient; (2) Possible groundwater impacts from alcohol additives (principally MEK and MIBK); and (3) Possible groundwater impacts from ammonia and ammonia degradation products.

2.0 PROJECT APPROACH

In order to address ACEH concerns, this workplan proposes the installation and sampling of two additional groundwater monitoring wells on the downgradient side of the Site and the drilling and sampling of one soil boring on the north side of 55th Street, northwest from the former Site USTs. After installation and well development, the wells will be surveyed, and groundwater samples from the wells and boring will be analyzed for both hydrocarbons and non-hydrocarbon constituents (alcohol additives and ammonia and ammonia degradation products.

3.0 WORKPLAN ELEMENTS

The proposed investigation will include the following workplan elements. All activities will be conducted in accordance with the approved workplan and with applicable State and Federal guidelines and statutes.

3.1 Prefield Activities

Prior to implementing this workplan, written approval will be obtained from the ACEH. Also, drilling permits for the two wells and one boring will be obtained from the Alameda County Public Works, and an encroachment permit will be obtained from the City of Emeryville for the boring and well in the 55th Street right-of-way. In addition, prior to initiating drilling activities, proposed boring and well locations will be marked with white paint and Underground Services Alert (USA) will be notified at least 48 hours prior to drilling. In addition, a private underground utility locator will be contracted to clear proposed boring locations. Prior to drilling, a Site Safety Plan will be prepared, and a tailgate safety meeting will be conducted with all site workers.

3.2 Location of Boring and Wells

The proposed boring, B-1, and wells, MW-3 and MW-4, are shown on Figure 2. Boring B-1 will be sited in the north parking lane of 55th Street, northwest from the former Site USTs. New well MW-3 will be sited in the 55th Street parking lane, immediately west from the former Site USTs. New well MW-4 will be sited on the southwest side of the Site, southwest from the Site USTs. The configuration of the four site wells (existing wells MW-1 and MW-2, and newly-installed wells MW-3 and MW-4) will, we believe, provide sufficient lateral coverage for groundwater gradient determination.

3.3 Installation of Groundwater Monitoring Wells

Well installation activities will be conducted by a State-licensed drilling contractor using hollow stem auger equipment. The well borings will be drilled to a total depth of approximately 15 feet below surface grade (groundwater is expected to be encountered at approximately eight feet in depth). Soils from the well borings will be placed in closed DOT-approved 55-gallon drums pending laboratory results.

Soil samples will be collected from the well borings at approximately five-foot intervals starting at approximately five feet below surface grade and extending down to total depth. Undisturbed soils will be sampled in advance of the auger as follows: (1) A two-inch inside diameter California-style split spoon sampler will be driven into undisturbed soil ahead of the drill bit; (2) The sampler will be raised quickly to the surface and the brass liners exposed; (3) The brass liner containing the most undisturbed soil will be quickly sealed with aluminum foil and plastic end caps, labeled, and wrapped tightly with tape; and (4) The sealed soil sample will be placed immediately in a cooler with crushed ice for transport to the analytical laboratory under formal chain-of-custody. All 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. All downhole drilling equipment, including auger and drill bit, will be steam cleaned before and after drilling the well boring. Steam cleaning rinseate will be contained in sealed drums pending laboratory results.

The groundwater monitoring wells will be constructed using 2-inch diameter Schedule 40 threaded PVC casing according to the following specifications: (1) 0.020-inch slotted well casing will be placed from approximately 15 feet to 5 feet in depth (exact screen depths will be determined in the field based on occurrence of first groundwater); (2) No. 3 Lonestar (or equivalent) filter sand will be placed around the casing to a depth of approximately 4 feet below grade; (3) A one foot bentonite seal will be placed above the filter sand to approximately 3 feet below grade; and (4) The remaining annulus will be grouted using a cement/sand slurry (bentonite less than five percent) to approximate grade. The top of the well will be enclosed in a traffic-rated locking well box set in concrete slightly above surface grade.

3.4 Well Development and Sampling

After allowing the cement seal to cure for at least 48 hours, newly-installed wells will be developed by surging and pumping groundwater from the well until pumped groundwater is clear and free of fines. During well development, groundwater will be monitored periodically for pH, specific conductance, temperature, visible clarity, and odor. If possible, at least 10 gallons will be pumped from each well during well development.

At least 48 hours after well development, the newly-installed groundwater monitoring wells, along with the two existing wells, will be purged and sampled using either a clean disposable PVC bailer or a clean purge pump. Wells will be purged of at least three well volumes before sampling. During well purging, groundwater will be monitored periodically for pH, specific conductance, temperature, odor, and visible clarity. After these parameters have stabilized, groundwater will be sampled in the following manner: (1) Laboratory supplied containers will be completely filled directly from the bailer or effluent hose with a minimum of agitation; (2) After making sure that no air bubbles are present (when applicable), each container will be tightly sealed; and (3) Each container will be labeled and placed in cold storage for transport to the analytical laboratory under formal chain-of-custody.

All purged groundwater generated during well development and sampling will be stored on site in a sealed container pending groundwater analytical results. All sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing as described above.

3.5 Determination of Groundwater Potentiometric Gradient

Following well installation, the wellhead elevations will be surveyed by a State-licensed land surveyor in accordance with State Geotracker requirements. Prior to purging and sampling, groundwater depths in all Site wells will be measured to the nearest 0.01 foot using an electronic probe. These data will then be used to calculate groundwater potentiometric gradient.

3.6 Drilling and Sampling of Investigative Boring

Boring activities will be conducted by a State-licensed drilling contractor using direct-push coring equipment. The investigative boring, B-1, will be drilled to approximately 12 to 15 feet in depth (first encountered groundwater is expected at about eight feet in depth) using direct-push hydraulically-driven soil coring equipment. Continuos 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 boring 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 the boring at first encountered groundwater (expected at approximately eight feet in depth). This 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.

3.7 Laboratory Analysis of Soil and Water Samples

Approximately six soil samples (two per boring) and five water samples (one per Site well and one from the boring) will be analyzed for the following parameters.

USEPA 8015M Total Petroleum Hydrocarbons as Diesel/Motor Oil (TPH-D/MO)
USEPA 8260B Total Petroleum Hydrocarbons as Gasoline (TPH-G)
USEPA 8260B Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)
USEPA 8260B Methyl-tert-butyl Ether (MTBE
USEPA 8260B Ammonia as N
USEPA 8260B Methyl Ethyl Ketone and Methyl Isobutyl Ketone (MEK and MIBK)

All samples will be analyzed by a state-certified laboratory with standard turn around on laboratory results.

3.8 Preparation of Summary Report

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

3.9 Management of Investigative Spoils

It is estimated that well drilling, installation, and sampling activities will generate approximately four 55-gallon drums of soil and one 55-gallon drums of purge and rinseate water. If found to be contaminated, these spoils will be disposed of offsite in accordance with all applicable State and Federal guidelines and statutes.

4.0 PROJECT SCHEDULE

Subject to ACEH approval, completion of proposed activities can be completed within approximately six to eight weeks.

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,

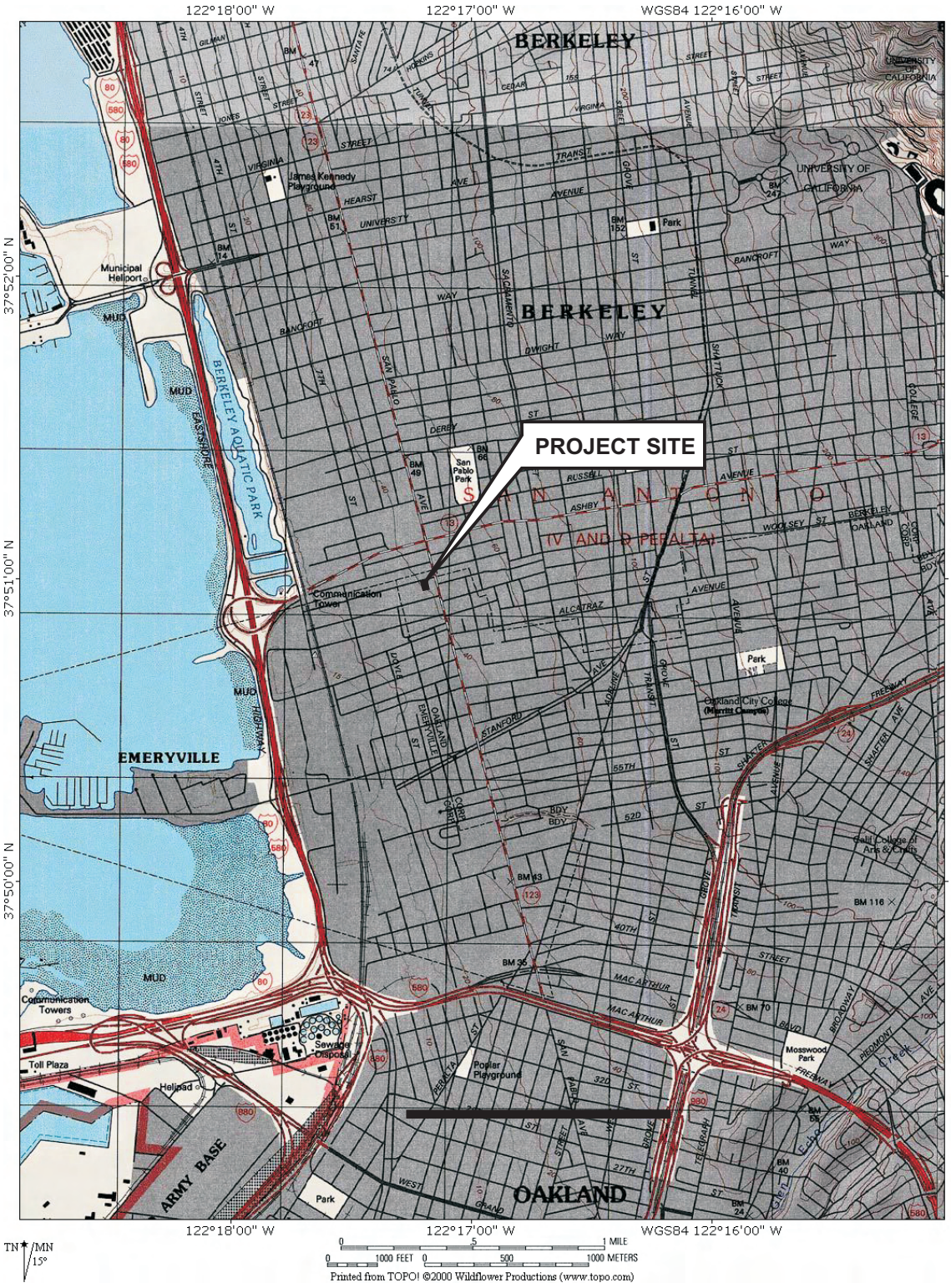
Matthew A. Rosman
Project Engineer

James E. Gribi
Registered Geologist
California No. 5843

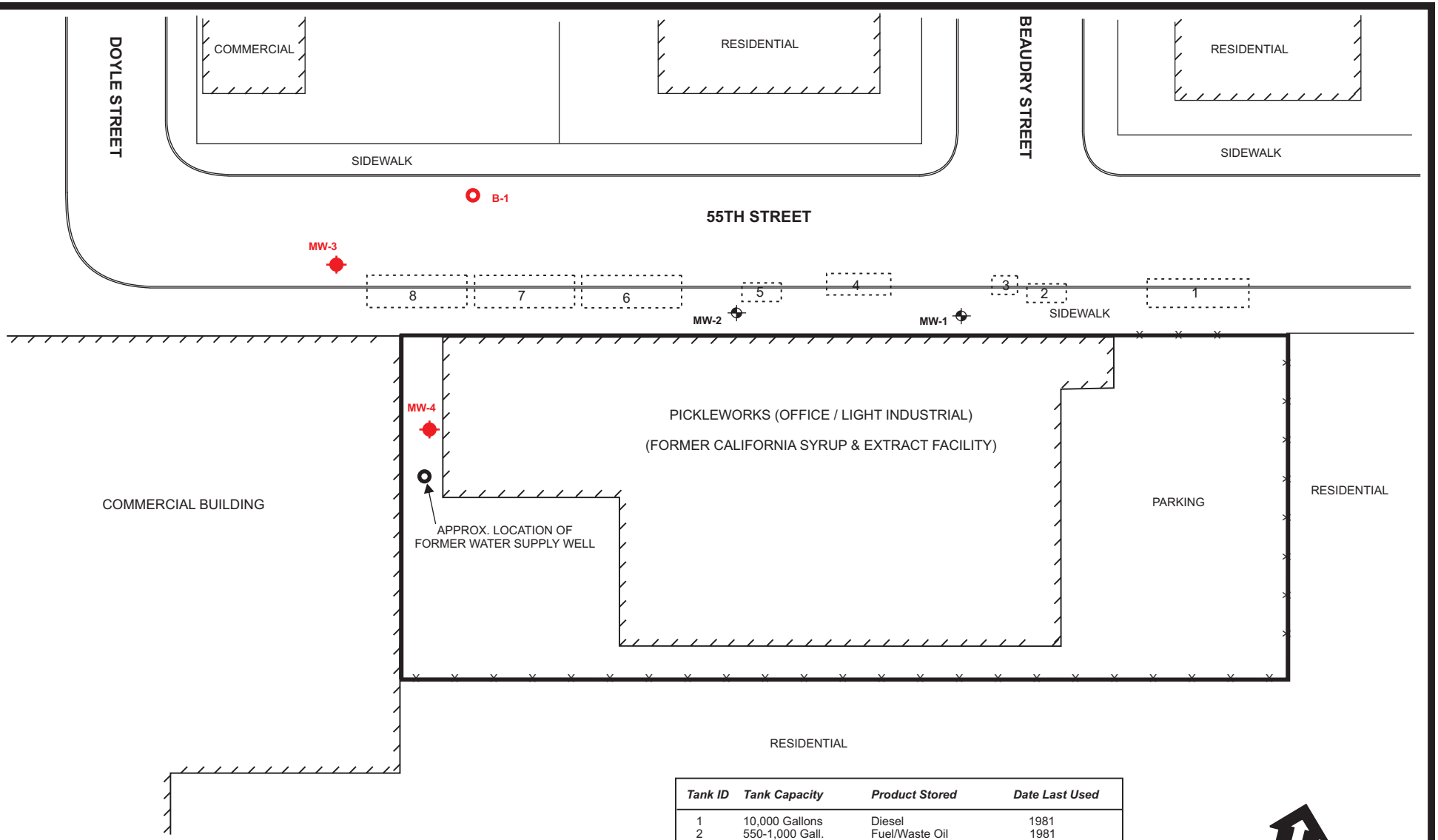
c Ron Mooney

Enclosures: Figure 1: Site Vicinity Map
Figure 2: Proposed Boring & Well Locations

FIGURES



DESIGNED BY:	CHECKED BY:	**SITE VICINITY MAP**	DATE: 05/01/12	FIGURE: **1**
DRAWN BY: JG	SCALE:	ST. FRANCIS PIE SHOP 1125 67th STREET OAKLAND, CALIFORNIA	GRIBI	
PROJECT NO: 320-01-01				



Tank ID	*Tank Capacity*	*Product Stored*	*Date Last Used*
1	10,000 Gallons	Diesel	1981
2	550-1,000 Gall.	Fuel/Waste Oil	1981
3	1,000 Gallons	Diesel	1981
4	1,000 Gallons	Aqueous Ammonia	1965
5	1,000 Gallons	Gasoline	1965
6	6,000-10,300 Gall.	Denatured Alcohol	1985
7	10,000 Gallons	Denatured Alcohol	1985
8	10,000 Gallons	Denatured Alcohol	1985

NOTE: ALL PRODUCT REMOVED & TANKS CLOSED IN-PLACE IN 1994.

N

- PROPOSED SOIL BORING LOCATION
- PROPOSED GROUNDWATER MONITORING WELL LOCATION
- GROUNDWATER MONITORING WELL

0 40 80

APPROXIMATE SCALE IN FEET

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

PROPOSED BORING & WELL LOCATIONS

1375 55TH STREET
EMERYVILLE, CALIFORNIA

DATE: 05/04/2012 FIGURE: **2**

GRIBI