Carryl MacLeod
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6506
cmacleod@chevron.com

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Former Union Oil Company of California
Service Station (CEMC) No. 371572
3645 San Pablo Avenue
Emeryville, CA

I have reviewed the attached *Conceptual Site Model and Work Plan Addendum*.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Conestoga-Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Carryl MacLeod
Project Manager

Attachment: Letter

SITE CONCEPTUAL MODEL AND WORK PLAN ADDENDUM

Former Union Oil Company of California Service Station (CEMC 371572)
3645 San Pablo Road
Emeryville, California
Fuel Leak Case RO0003068

Prepared For:

Mr. Mark Detterman
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Prepared by:
Conestoga-Rovers & Associates

10969 Trade Center Drive,
Suite 107
Rancho Cordova, California
U.S.A. 95670

Office: (916) 889-8900
Fax: (916) 889-8999

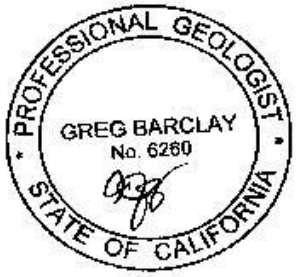
web: http:\\www.CRAworld.com

MARCH 31, 2013
REF. NO. 062056 (3)

SITE CONCEPTUAL MODEL AND WORK PLAN ADDENDUM

Former Union Oil Company of California Service Station (CEMC 371572)
3645 San Pablo Road
Emeryville, California
Fuel Leak Case RO0003068

Brian Silva



Greg Barclay, PG 6260

Prepared by:
Conestoga-Rovers & Associates

10969 Trade Center Drive,
Suite 107
Rancho Cordova, California
U.S.A. 95670

Office: (916) 889-8900
Fax: (916) 889-8999

web: http:\\www.CRAworld.com

MARCH 31, 2013
REF. NO. 062056 (3)

TABLE OF CONTENTS

LIST OF FIGURES
(Following Text)

LIST OF TABLES
(Following Text)

LIST OF APPENDICES

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is submitting this *Site Conceptual Model and Work Plan Addendum (work plan)* for Former Union Oil Company of California (Union Oil) service station (also referred to as CEMC 371572) located at 3645 San Pablo Avenue in Emeryville, California on behalf of Chevron Environmental Management Company (CEMC), which is managing this project for Union Oil. This work plan has been prepared to address Alameda County Environmental Health's (ACEH) February 8, 2013 technical comments (Appendix A) regarding their review of CRA's November 28, 2012 *Work Plan for Subsurface Investigation*. A revised date for submittal of the requested site conceptual model and work plan is documented in ACEH's e-mail correspondence dated February 27, 2013. An initial site conceptual model and work plan addendum are presented below.

2.0 SITE DESCRIPTION AND BACKGROUND

The site is occupied by a restaurant, Lane Splitters Pizza, located at 3645 San Pablo Avenue, on the corner of Adeline Street and San Pablo Avenue in a primarily commercial area of Emeryville, California (Figure 1). A service station formerly occupied the site. In 1966, the service station ceased operation and the station building was demolished[1]. It is unknown if the underground storage tanks (USTs) and piping were removed during or after site demolition. Also in 1966, a building was constructed and utilized as a convenience/liquor store[1]. In the early 2000s, the building was demolished and in 2010 a new building, which currently occupies the site, was constructed.

A total of 21 soil samples have been collected since 2004 (Figure 2) and approximately 153 tons (95 cubic yards) of soil was excavated in 2009[2] during site redevelopment activities A summary of previous environmental investigation is included as Attachment B.

[1] Ninyo & Moore, 2002, *Phase I Environmental Site Assessment*, 3645 San Pablo Avenue, Emeryville, California, February 6, 2002.

[2] Northgate Environmental Management, Inc. (Northgate), 2009. *Remedial Action Report*, November 9, 2009

3.0 SITE CHARACTERISTICS

3.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

Alameda County is located within the Coast Ranges Geomorphic Province. The Coast Ranges are a series of northwest-trending mountain ranges and valleys, subparallel to the San Andreas Fault (California Geographic Survey, 2002). They are comprised of northwest trending folds and faults created by the collision of tectonic plate boundaries in conjunction with movement along the San Andreas Fault Zone. The Coast Ranges are a series of discontinuous north-west trending mountain ranges composed of sedimentary bedrock with layers of recent alluvium filling the intervening valleys (City of Oakland, Community and Economic Development Agency, 2008).

According to the U.S. Geological Survey Open-File Report 97-97, the site is underlain by alluvial fan and fluvial deposits of the Holocene. The alluvial fan deposits consist of "medium dense to dense, gravely sand or sandy gravel that generally grades upward, to sandy or silty clay." The fluvial deposits are "medium dense sand that fines upward to sandy or silty clay" (Helley, E.J., and Graymer, R.W., 1997).

3.2 SITE GEOLOGY

Sediments in the vicinity consist of Holocene-age alluvial deposits comprised of unconsolidated, fine sand, silt, and clayey silt with occasional thin beds of coarse sand[1]. Based on existing soil boring data, soil encountered beneath the site generally consists of clay to approximately 10 feet below grade (fbg), the total depth explored[3]. Groundwater was not encountered in any of the soil borings advanced at the site to date.

3.3 SITE HYDROGEOLOGY

The site is located within the East Bay Plain groundwater basin[4]. Groundwater in the basin typically flows towards San Francisco Bay to the west. Site topography is relatively flat at an elevation of approximately 35 feet above mean sea level, with the surrounding topography sloping slightly towards the west. Groundwater has not been encountered to date during site investigation and redevelopment. Review of

[3] Ninyo & Moore, 2004. *Limited Phase II Environmental Site Assessment*, 3645 San Pablo Avenue, Emeryville, California, March 30, 2004.

[4] California Department of Water Resources, 2004. *California's Groundwater*, *Bulletin 118*, San Francisco Bay Hydrologic Region, Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin, February 27, 2004.

environmental reports for an adjacent site indicates depth to groundwater is typically below 10 fbg with a flow direction to the west[5].

4.0 CONSTITUENTS OF CONCERN

Based on the historical soil data (Tables 1 and 2), the primary constituents of concern (COCs) remaining in soil (not excavated) are total petroleum hydrocarbons as motor oil (TPHmo), total petroleum hydrocarbons as diesel (TPHd), total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX). Although methyl tertiary butyl ether (MTBE) was reported in four soil samples collected at the site at 2.5 to 17 mg/kg, these are likely anomalous given operations at the site ended in the mid to late 1960s or maybe the result of an offsite source. Distribution of hydrocarbons in soil is shown on Figure 3. No known groundwater or soil vapor data exists at the site.

5.0 PETROLEUM HYDROCARBON SOURCES AND DISTRIBUTION

5.1 RELEASE SOURCE AND VOLUME

To date, there is no known record of volume or source of release. The site was occupied by a gasoline service station until 1966. The only known UST location is near the southwest corner of the site, where a small UST was discovered during installation of a fire line main. Since the UST was under the corner of a newly constructed building, the UST was abandoned in-place (cleaned and backfilled) under permit from Alameda County Department of Environmental Health. There are no known records of other USTs, product piping locations or records related to their removal. During site grading for the new building construction, indications of hydrocarbons were noted in two small areas (Excavation #1 and Excavation #2); one towards the southeast corner of the site and one towards the northern corner of the site (Figure 2). Both areas were excavated and removed fill and soil, potentially indicative of former UST excavations, were disposed of offsite[6].

5.2 POTENTIAL OFFSITE SOURCES

According to the GeoTracker website there have been four environmental cases within 500 feet of the site:

---

[5] GRIBI Associates, 2012. *Report of Remedial Investigation and Workplan to Conduct Interim Remedial Measures*, 3800 San Pablo Avenue, Emeryville, California, July 13, 2012.

[6] Northgate Environmental Management, Inc. (Northgate), 2009. *Remedial Action Report*, November 9, 2009

- Maz Glass, 3800 San Pablo Avenue, located 350 feet northeast – open case
- Ambassador Laundry, 3623 Adeline Street, located 350 feet southwest – open case
- Scott Property, 1043 West MacArthur Boulevard, located 200 feet northeast – closed case
- Owens Mortgage Investment, 3623 Adeline Street, located 350 feet southwest – closed case

5.3 PETROLEUM HYDROCARBON COCS IN SOIL

Based on existing site analytical data, soil containing residual COCs is located in the area of the abandoned in-place UST (sample UST 1) and the 2004 soil samples (B-1 through B-4) collected near Excavation #2 in the northern portion of the site (Figure 3). Benzene, toluene and ethylbenzene concentrations near the abandoned UST were below the California Regional Water Quality Control Board San Francisco Bay Region's Interim Final – November 2007 (Revised May 2008) Environmental Screening Levels (ESLs) for soil leaching (non-drinking water resource), and xylenes were essentially at the ESL; TPHd and TPHg exceeded the ESLs. Detections of BTEX exceeding ESLs were generally limited to soil samples collected in 2004 from soil borings B1 through B4.

A summary of the maximum detected COC concentrations remaining in soil is presented in Table A below.

TABLE A: MAXIMUM DETECTED COC CONCENTRATIONS REMAINING IN SOIL

COC	*Highest Detected Concentration (Sample/boring, depth, date) mg/kg*
TPHmo	3,300 (UST 1, 5.5 fbg, 12/23/09)
TPHd	870 (UST 1, 5.5 fbg, 12/23/09)
TPHg	980 (UST 1, 5.5 fbg, 12/23/09)
Benzene	77 (B2, 10 fbg, 02/06/04)
Toluene	390 (B3, 10 fbg, 02/06/04)
Ethylbenzene	690 (B3, 10 fbg, 02/06/04)
Xylenes	440 (B3, 10 fbg, 02/06/04)
MTBE	17 (B2, 10 fbg 02/06/04)
mg/kg	Milligrams per kilogram

6.0 RISK EVALUATION

6.1 POTENTIAL EXPOSURE ROUTES

CRA evaluated the potential exposure routes to residual petroleum hydrocarbons by potential receptors on and adjacent to the site. Since the site is currently developed as a commercial property and as such is capped with concrete (building occupies the entire site), potential exposure to any residual hydrocarbon-bearing soil beneath the site by the general public is precluded. Therefore, the only identified potential exposure route to residual impacted soil under the current land use scenario is direct exposure by construction workers during trenching or excavating activities. Regarding potential construction workers onsite, the detected concentrations were at least one order of magnitude below the ESLs for construction/trench worker.

As previously stated in Section 4.0, no known groundwater or soil vapor data exists and therefore is not evaluated.

7.0 DATA GAPS

The following data gaps were identified that warrant further investigation:

- The offsite, upgradient and downgradient extent of total petroleum hydrocarbons in soil and shallow groundwater has not been evaluated near the areas of the presumed sources.

8.0 WORK PLAN ADDENDUM

In addition to the scope of work outlined in our November 28, 2012 *Work Plan for Subsurface Investigation*, CRA proposes the following:

- In addition to the previously proposed boring locations, two additional soil borings (Figure 2) will be advanced along the transect west of the property boundary (total five borings no more than approximately 25 feet apart).
- Soil cuttings generated during hand-clearing activities will be logged and screened in the field with a photo-ionization detector and the readings noted on the boring log.
- Soil and groundwater samples collected for chemical analysis will be analyzed for TPHmo in addition to the analytical suite listed in the November 28, 2012 work plan.

- All seven proposed soil borings will be advanced to first encountered groundwater. Since the exact depth to water is not known at the site, continuous cores will be collected in 4-foot acetate sleeves so that the following can be observed and noted on the boring logs:
    - Changes in moisture content
    - Attenuation of discolored soil (if present) with depth
    - Changes in PID reading with depth
- As part of the well survey, Alameda County Public Works Agency (ACPWA) well data will be reviewed.

FIGURES

Figure 1

SITE VICINITY MAP
FORMER UNION OIL SERVICE STATION (CEMC 371572)
3645 SAN PABLO AVENUE
Emeryville, California

062056-2012(003)GN-EM001 APR 1/2013

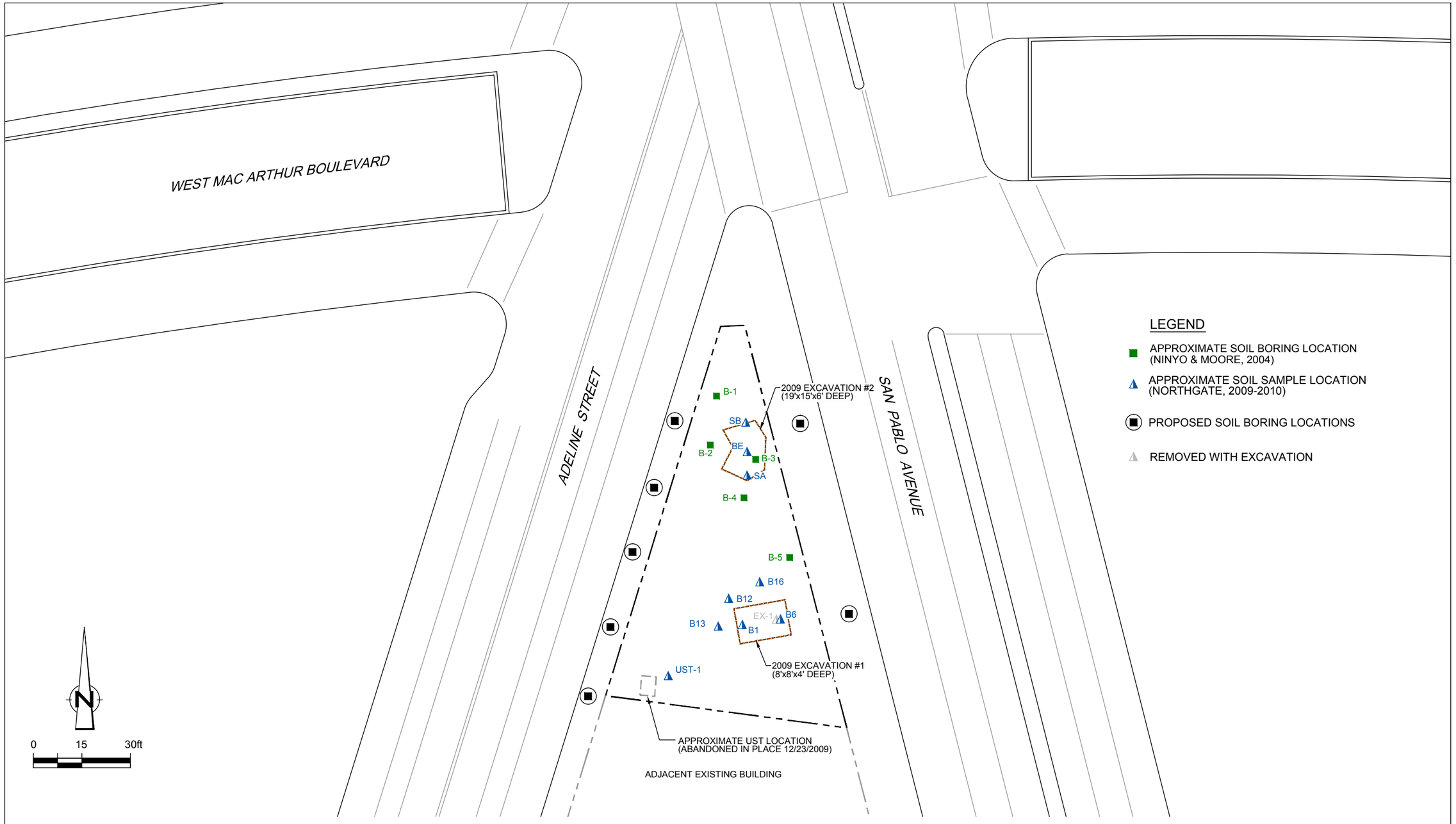
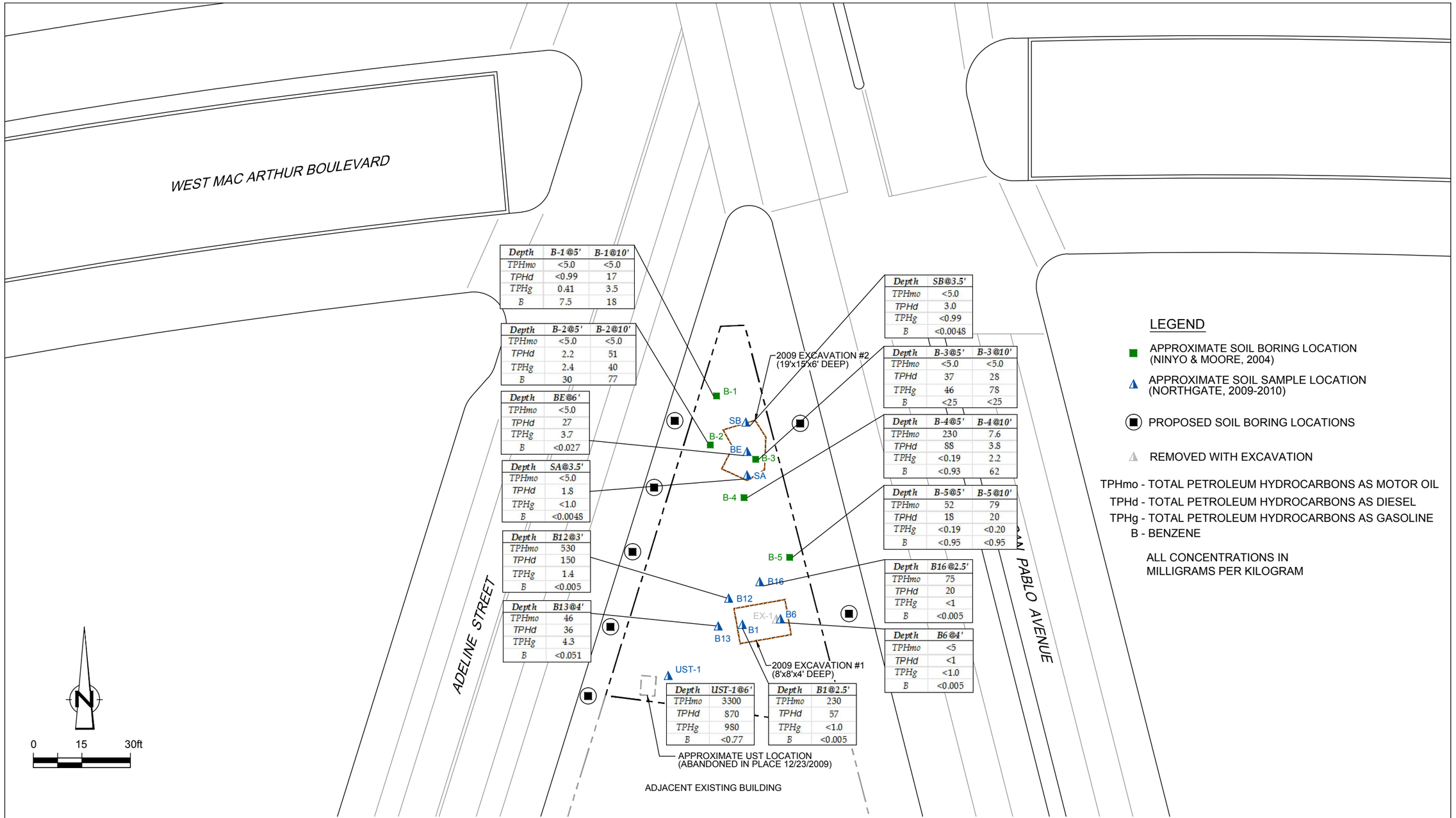


Figure 2

SITE PLAN WITH PROPOSED SOIL BORING LOCATIONS
FORMER UNION OIL SERVICE STATION (CEMC 371572)
3645 SAN PABLO AVENUE
Emeryville, California

BASE MAP IS MODIFIED BY FIGURE PROVIDED BY NORTH GATE ENVIRONMENTAL

062056-2012(003)GN-EM002 APR 1/2013



Depth	B-1@5'	B-1@10'
TPHmo	<5.0	<5.0
TPHd	<0.99	17
TPHg	0.41	3.5
B	7.5	18

Depth	B-2@5'	B-2@10'
TPHmo	<5.0	<5.0
TPHd	2.2	51
TPHg	2.4	40
B	30	77

Depth	BE@6'
TPHmo	<5.0
TPHd	27
TPHg	3.7
B	<0.027

Depth	SA@3.5'
TPHmo	<5.0
TPHd	1.8
TPHg	<1.0
B	<0.0048

Depth	B12@3'
TPHmo	530
TPHd	150
TPHg	1.4
B	<0.005

Depth	B13@4'
TPHmo	46
TPHd	36
TPHg	4.3
B	<0.051

Depth	UST-1@6'
TPHmo	3300
TPHd	870
TPHg	980
B	<0.77

Depth	B1@2.5'
TPHmo	230
TPHd	57
TPHg	<1.0
B	<0.005

Depth	SB@3.5'
TPHmo	<5.0
TPHd	3.0
TPHg	<0.99
B	<0.0048

Depth	B-3@5'	B-3@10'
TPHmo	<5.0	<5.0
TPHd	37	28
TPHg	46	78
B	<25	<25

Depth	B-4@5'	B-4@10'
TPHmo	230	7.6
TPHd	88	3.8
TPHg	<0.19	2.2
B	<0.93	62

Depth	B-5@5'	B-5@10'
TPHmo	52	79
TPHd	18	20
TPHg	<0.19	<0.20
B	<0.95	<0.95

Depth	B16@2.5'
TPHmo	75
TPHd	20
TPHg	<1
B	<0.005

Depth	B6@4'
TPHmo	<5
TPHd	<1
TPHg	<1.0
B	<0.005

LEGEND

- APPROXIMATE SOIL BORING LOCATION (NINYO & MOORE, 2004)
- APPROXIMATE SOIL SAMPLE LOCATION (NORTHGATE, 2009-2010)
- PROPOSED SOIL BORING LOCATIONS
- REMOVED WITH EXCAVATION

TPHmo - TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
TPHd - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPHg - TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B - BENZENE

ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM

Figure 3

HYDROCARBON CONCENTRATION IN SOIL
FORMER UNION OIL SERVICE STATION (CEMC 371572)
3645 SAN PABLO AVENUE
Emeryville, California

BASE MAP IS MODIFIED BY FIGURE PROVIDED BY NORTH GATE ENVIRONMENTAL

TABLES

TABLE 1

CUMULATIVE SOIL ANALYTICAL DATA - PETROLEUM HYDROCARBONS
FORMER CHEVRON SERVICE STATION 371572
3645 SAN PABLO ROAD
EMERYVILLE, CALIFORNIA

Location	*Date*	*Depth (fbg)*	*TPHmo*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*SVOCs*	*VOCs*	*Napthalene*
			Concentrations in milligrams per kilogram (mg/kg)										
ESL Table G	***Soil Leaching (Non-Drinking Water Resource)***		***NE***	***180***	***180***	***2.0***	***9.3***	***4.7***	***11***	***8.4***	***Varies***	***Varies***	***4.8***
ESL Table K-2	***Commerical/Industrial Worker Direct Exposure (<5 fbg)***		***3,700***	***450***	***450***	***0.27***	***210***	***5***	***100***	***650***	***Varies***	***Varies***	***100***
ESL Table K-3	***Construction / Trench Worker Direct Exposure***		***12,000***	***4,200***	***4,200***	***12***	***6,500***	***210***	***420***	***2,800***	***Varies***	***Varies***	***1,200***
B1	02/06/04	5.0	<5.0	<0.99	0.41 L Y	**7.5 C**	<0.83	3.4 C	<0.83	<3.3	--	--	--
		10.0	<5.0	17 L Y	3.5 Y	**18 C**	**18 C**	**37 C**	**22 C**	7.4 C	--	--	--
B2	02/06/04	5.0	<5.0	2.2 L Y	2.4 L Y	**30 C**	**14 C**	**20 C**	7.0 C	**11 C**	--	--	--
		10.0	<5.0	51 L Y	40 Y	**77 C**	**52 C**	**120**	**66 C**	**17**	--	--	--
B3	02/06/04	5.0	<5.0	37 L Y	46 Y	**<25**	**110 C**	**420 C**	**350 C**	<100	--	--	--
		10.0	<5.0	28 L Y	78 Y	**<25**	**390 C**	**690**	**440 C**	<100	--	--	--
B4	02/06/04	5.0	230	88 H L Y	<0.19	<0.93	<0.93	<0.93	<0.93	<3.7	--	--	--
		10.0	7.6	3.8 H L Y	2.2 L Y	**62**	**62**	**14 C**	6.6 C	<3.8	--	--	--
B5	02/06/04	5.0	52	18 H L Y	<0.19	<0.95	<0.95	<0.95	<0.95	<3.8	--	--	--
		10.0	79	20 H L Y	<0.20	<0.95	<0.99	<0.99	<0.99	<3.9	--	--	--
EX1*	05/22/09	--	1,700	**620 Y**	**310 Y**	<0.005	<0.005	1.0	5.3	<0.005	--	ND[1]	9
B1	05/22/09	2.5	230	57 Y	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	ND[2]	<0.005
B6	05/22/09	4.0	<5	<1	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	ND[3]	<0.005
B12	05/22/09	3.0	530	150 Y	1.4 Y	<0.005	<0.005	<0.005	<0.005	<0.005	--	ND[4]	0.014
B13	05/22/09	4.0	46	36 Y	4.3 Y	<0.051	<0.051	<0.051	<0.051	<0.051	--	ND[5]	1.3
B16	05/22/09	2.5	75	20 Y	<1	<0.005	<0.005	<0.005	<0.005	<0.005	--	ND[6]	<0.005
SP2-A*	8/10/2009	--	--	--	--	<0.0025	<0.0025	3.7	2.6	2.5	--	ND[7]	4.4
SP2-A,B,C,D*	8/10/2009	--	78	**420**	**260**	--	--	--	--	--	--	ND	--
SA	8/10/2009	3.5	<5.0	1.8 Y	<1.0	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	--	ND	<0.0048
SB	8/10/2009	3.5	<5.0	3.0 Y	<0.99	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	--	ND	<0.0048
BE	8/10/2009	6.0	<5.0	27 Y	3.7 Y	<0.027	<0.024	<0.024	<0.024	<0.024	--	ND	<0.024
UST 1	12/23/09	5.5	3,300	**870 Y**	**980**	<0.77	2.3	1.5	**11.4**	<0.77	ND[9]	ND[8]	**6.3**

TABLE 1

CUMULATIVE SOIL ANALYTICAL DATA - PETROLEUM HYDROCARBONS
FORMER CHEVRON SERVICE STATION 371572
3645 SAN PABLO ROAD
EMERYVILLE, CALIFORNIA

Abbreviations and Notes:

Bold = Concentration exceeds ESL

Feet below grade (fbg)

Total petroleum hydrocarbons as diesel (TPHd) and TPH as gasoline (TPHg) analyzed by EPA Method 8015B

Benzene, toluene, ethylbenzene and xylenes (BTEX) and Methyl tertiary butyl ether (MTBE) analyzed by EPA Method 8020 (2004 samples) and by EPA Method 8260B (2009 samples)

Volatile Organic Compounds (VOCs) analyzed by EPA Method 8260B

Semi-Volatile Organic Compounds (SVOCs) analyzed by EPA Method 8270C

Milligrams per kilogram (mg/kg)

C = Presence confirmed, but RPD between colums excceds 40%

L = Lighter hydrocarbons contributed to quanitifcation

Y = Sample exhitbits chromatographic pattern which does not resemble standard

Not analyzed (--)

NE = Not established

<x.xx or ND = Not detected above the method detection limit x

ESL = Environmental Screening Level from California Regional Water Quality Control Board San Francisco Bay Region's Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final - November 2007 (Revised May 2008)

* = Soil sample location has been overexcavated

All EPA 8260B and 8270C constituents were non-detectable except for the following compounds.

[1] Propylbenzene, 1.8 mg/kg; 1,3,5-Trimethylbenzene, 1.6 mg/kg; 1,2,4-Trimethylbenzene, 18 mg/kg; sec-Butylbenzene, 0.590 mg/kg; para-Isopropyl Toluene, 0.510 mg/kg; n-Butylbenzene, 2.1 mg/kg;

[2] Acetone 0.040 mg/kg

[3] Acetone 0.0097 mg/kg

[4] Acetone 0.06 mg/kg; sec-Butylbenzene, 0.0052 mg/kg; n-Butylbenzene, 0.015; 2-Butanone, 0.011 mg/kg

[5] Propylbenzene, 0.083 mg/kg; 1,2,4-Trimethylbenzene, 0.0180 mg/kg; n-Butylbenzene, 0.230 mg/kg

[6] Acetone 0.063 mg/kg

[7] Propylbenzene, 3.9 mg/kg; 1,2,4-Trimethylbenzene, 7.3 mg/kg; n-Butylbenzene, 2.7 mg/kg

[8] Propylbenzene, 1.8 mg/kg; 1,3,5-Trimethylbenzene, 5.1 mg/kg; 1,2,4-Trimethylbenzene, 16 mg/kg

[9] 2-Methylnapthalene, 6.1 mg/kg; Napthalene, 3.3 mg/kg

TABLE 2

CUMULATIVE SOIL ANALYTICAL DATA - METALS
FORMER CHEVRON SERVICE STATION 371572
3645 SAN PABLO ROAD
EMERYVILLE, CALIFORNIA

Location	*Date*	*Depth (fbg)*	*Mercury*	*Thallium*	*Arsenic*	*Selenium*	*Antimony*	*Barium*	*Beryllium*	*Cadmium*	*Chromium total*	*Cobalt*	*Copper*	*Lead*	*Molyb-denum*	*Nickel*	*Silver*	*Vanadium*	*Zinc*
			Concentrations in milligrams per kilogram (mg/kg)																
ESL Table G	*Soil Leaching (Non-Drinking Water Resource)*		*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*
ESL Table K-2	*Commercial/Industrial Worker Direct Exposure (<5 fbg)*		*18*	*16*	*1.6*	*1,000*	*82*	*34,000*	*390*	*7.4*	*NE*	*1,900*	*82,000*	*750*	*1,000*	*3,400*	*1,000*	*200*	*61,000*
ESL Table K-3	*Construction/Trench Worker Direct Exposure*		*58*	*62*	*15*	*3,900*	*310*	*2,600*	*98*	*390*	*NE*	*1,900*	*82,000*	*750*	*3,900*	*260*	*3,900*	*770*	*230,000*
B1	02/06/04	5.0	--	--	--	--	--	--	--	<0.23	22	--	--	6.4	--	17	--	--	28
		10.0	--	--	--	--	--	--	--	<0.26	31	--	--	4.9	--	55	--	--	35
B2	02/06/04	5.0	--	--	--	--	--	--	--	<0.25	21	--	--	5.0	--	9.1	--	--	15
		10.0	--	--	--	--	--	--	--	<0.22	31	--	--	5.5	--	60	--	--	34
B3	02/06/04	5.0	--	--	--	--	--	--	--	<0.26	27	--	--	4.4	--	44	--	--	31
		10.0	--	--	--	--	--	--	--	<0.22	28	--	--	4.8	--	60	--	--	33
B4	02/06/04	5.0	--	--	--	--	--	--	--	0.41	29	--	--	59	--	37	--	--	460
		10.0	--	--	--	--	--	--	--	<0.27	32	--	--	5.2	--	50	--	--	39
B5	02/06/04	5.0	--	--	--	--	--	--	--	0.74	28	--	--	95	--	40	--	--	180
		10.0	--	--	--	--	--	--	--	<0.26	20	--	--	60	--	31	--	--	64
EX1*	05/22/09	--	0.0050	<0.50	**5.6**	<0.50	1.1	280	0.43	0.52	30	9.0	15	**900**	1.2	40	<0.25	28	94
B1	05/22/09	2.5	--	--	--	--	--	--	--	0.49	34	--	--	92	--	35	--	--	50
B6	05/22/09	4.0	--	--	--	--	--	--	--	<0.25	40	--	--	5.9	--	59	--	--	32
B12	05/22/09	3.0	--	--	--	--	--	--	--	<0.25	27	--	--	21	--	25	--	--	47
B13	05/22/09	4.0	--	--	--	--	--	--	--	0.31	30	--	--	56	--	32	--	--	120
B16	05/22/09	2.5	--	--	--	--	--	--	--	<0.25	22	--	--	30	--	23	--	--	88
SP2-A*	8/10/2009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SP2-A,B,C,D*	8/10/2019	--	--	--	--	--	--	--	--	1.0	32	--	--	17	--	36	--	--	190
SA	8/10/2029	3.5	--	--	--	--	--	--	--	<0.25	22	--	--	3.1	--	15	--	--	17
SB	8/10/2039	3.5	--	--	--	--	--	--	--	<0.25	27	--	--	3.3	--	21	--	--	18
BE	8/10/2049	6.0	--	--	--	--	--	--	--	<0.25	33	--	--	5.1	--	52	--	--	35

Abbreviations and Notes:

Feet below grade (fbg)

Milligrams per kilogram (mg/kg)

NE = Not established

All metals anaylzed by EPA method 6010B

ESL = Environmental Screening Level from California Regional Water Quality Control Board San Francisco Bay Region's Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final - November 2007 (Revised May 2008)

Not analyzed (--)

Bold = Concentration exceeds ESL

<x.xx = Not detected above the method detection limit x

* = Sample location overexcavated

APPENDIX A

ACEHS LETTER DATED FEBRUARY 8, 2013

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

February 8, 2013

Ms. Carryl MacLeod
Chevron Environmental Management Co.
6101 Bollinger Canyon Road
San Ramon, CA 94583
(sent via electronic mail to:
CMacLeod@chevron.com)

Mr. Stuart Rickard
Placeworks, LLC
1501 Pacific Avenue
Alameda, CA 94501
(sent via electronic mail to:
Stuart@placeworks.com)

Mr. Markus Niebanck
City of Emeryville Redevelop. Agency
1333 Park Avenue
Emeryville, CA 94608
(sent via electronic mail to:
mniebanck@ci.emeryville.ca.us)

Mr. Vic Gumper
Dan and Vic Diversified, LLC
2033 San Pablo Avenue
Berkeley, CA 94702
(sent via electronic mail to:
Vic@lanesplitterpizza.com)

Subject: Request for Work Plan Addendum With Modified Work Plan Approval; Fuel Leak Case No. RO0003068 and GeoTracker Global ID T1000002518, Lane Splitters Pizza, 3645 San Pablo Avenue, Emeryville, CA 94608

Dear Ms. MacLeod, and Messrs. Rickard, Niebanck, and Gumper:

Alameda County Environmental Health (ACEH) has reviewed the case file, including the *Work Plan for Subsurface Investigation,* dated November 28, 2012, generated by Conestoga-Rovers & Associates (CSA). Thank you for submitting the work plan. Thank you also for claiming the site in Geotracker.

A 2002 Phase I Environmental Assessment found that the site had been a gasoline service station between approximately 1947 and 1969. A 2004 subsurface investigation conducted a geophysical survey and found a generalized disturbed signature beneath the site. Five soil bores (B-1 to B-5) were also installed and found concentrations of TPH, BTEX, and MTBE, generally below regulatory thresholds. Two petroleum hydrocarbon hotspots were encountered during site grading, up to 20 eight-foot deep soil bores are reported to have been installed around Hotspot #1 (**although this data has never been submitted**), soil samples collected, and ultimately approximately 25.5 tons of impacted soil was excavated off hauled. Hotspot #2 is described as a fill pit presumed to be a location of a former UST, soil samples were collected, and ultimately approximately 127.1 tons of soil was excavated and off-hauled. Concentrations up to 310 mg/kg TPHg, 629 mg/kg TPHd, 1,700 mg/kg TPHmo, <2.5 mg/kg benzene, <2.5 mg/kg toluene, 3.7 mg/kg ethylbenzene, 5.3 mg/kg total xylenes, and <2.5 mg/kg MTBE were encountered in the two hotspot locations. The chromatographic pattern for the TPHg and TPHd analysis are reported not to match standard patterns.

A 2010 tank removal report indicates that on December 23, 2009 one underground storage tank (UST) of unknown size was abandoned in-place at the site during installation of the fire service as the site continued construction. The UST was cleaned and backfilled. One soil sample was collected at a depth of approximately 5.5 ft bgs at a location approximately 2 feet east of the UST. Analysis of the soil sample indicated that 980 mg/kg TPHg, 870 mg/kg TPHd, 3,300 mg/kg TPHmo, <0.77 mg/kg benzene, 2.3 mg/kg toluene, 1.5 mg/kg ethylbenzene, 11.4 mg/kg total xylenes, and <0.77 mg/kg MTBE were present; additional analytes were also detected.

Based on ACEH staff review of the work plan, the proposed scope of work may be appropriate; however, the lack of a Site Conceptual Model (SCM) appears to be hindering the site, and technical justification for the proposed actions does not appear to be present. As a consequence, ACEH requests a brief work plan addendum to address this deficiency. Provided that the technical comments below are incorporated prior to conducting the proposed work, and the SCM can technically justify them and is approved by ACEH, the work would be considered conditionally approved for implementation.

.

TECHNICAL COMMENTS

1. **Electronic Report and Data Upload Compliance –** ACEH appreciates that the site has been claimed in Geotracker; however, a review of the case file and the State's Geotracker database indicates that the site is not in yet compliance with previous directive letters. Compliance is a State requirement. Pursuant to California Code of Regulations, Title 23, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1, beginning September 1, 2001, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the UST or LUST program, must be transmitted electronically to the SWRCB GeoTracker system via the internet. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs, including SLIC programs. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites was required in GeoTracker. **At present missing data and documents include, but may not be limited to older reports, GEO_MAPS, and all bore logs**. **Compliance is required by the State and is tied to reimbursement funding by the UST Cleanup Fund**. Please see Attachment 1 for limited additional details, and the state GeoTracker website for full details. ACEH requests notification of, and a list of, the documents uploaded to Geotracker. Please upload all submittals to GeoTracker as well as to ACEH's ftp website by the date specified below.

2. **Work Plan Modifications –** The referenced work plan proposes a series of actions with which ACEH is in general agreement of undertaking; however, ACEH requests several modifications to the approach. With the proviso that the requested two-part Work Plan Addendum is approved, please submit a report by the date specified below.

    a. **Addition of Soil Bores –** The referenced work plan proposes the installation of five soil bores, three in downgradient and two in upgradient locations. At present the soil bores are approximately 50 to 60 feet apart. This may be appropriate for upgradient soil bores; however, because the goal of the investigation is to quickly delineate the extent of any groundwater contamination (in addition to soil contamination), and because other sites in the vicinity indicate a west southwest to southwesterly flow direction, ACEH requests a soil bore transect along the western property boundary, with soil bores no further apart than approximately 25 feet. This would require the installation of a minimum of two additional soil bores along that property perimeter. Provided all protocols described in the work plan, or as otherwise modified in this letter are followed, ACEH requires only the submittal of a Work Plan Addendum, (submittal of a revised Figure 2), by the date identified below, to reflect the soil bore location adjustments.

    b. **Comment of Bore Clearing Techniques –** The work plan states that soil bores will be cleared with a hand auger to a depth of eight feet below grade surface (bgs). ACEH recognizes that Chevron safety preferences must be observed by CRA; however, ACEH also recognizes that soil contamination may be present within this depth interval. Consequently, ACEH requests the collection of soil for standard soil classifications and descriptions within that depth interval, including collection of undisturbed soil for photoionization detector (PID) readings in each soil bore.

    c. **Soil and Groundwater Analysis –** The work plan appears to indicate that soil samples will be collected per the September 2012 *Leaking Underground Fuel Tank Guidance Manual* (LUFT Manual) to characterize soil for gasoline, diesel, and motor oil; however, does not thereafter include TPH as motor oil in the list of analytes (but does include a number of waste oil analytes). Because this site has an in-place abandoned UST, and existing analytical data appears to indicate that the UST may have been a waste oil UST, it is appropriate to include

TPH as motor oil in the analytical suite for the site. While this is presumed to have been an unintentional oversight, ACEH did want to clarify the need for this, and to request inclusion of TPH as motor oil in the standard list of analytes for the site.

d. **Site Conceptual Model –** The previous directive letter issued by ACEH requested that a SCM be generated in conjunction with a data gap work plan. This request was consistent with the development of a SCM as described in the LUFT Manual referenced above (and revised to support the Low Threat Closure Policy), and was intended to help move the site through the investigation phase more quickly, and allow sufficient early review time to allow a fuller understanding of the site and vicinity prior to conducting work (see next Technical Comment). This is also consistent with Resolution No. 2012-0062, adopted on November 6, 2012, which requires all agencies to identify ways to increase the efficiency of implement of UST program implementation. This deliverable is now overdue. In order to provide technical justification for the proposed work, ACEH requests that a brief SCM be generated by the date identified below and included in the requested Work Plan Addendum. This version of the SCM is intended to be brief, and consistent with standard SCM practices, is intended to be updated and expanded as site data is generated.

e. **Anticipated Depth to Groundwater –** The work plan anticipates installing soil bores to an approximate depth of 24 feet bgs. ACEH is in concurrence with this depth under the assumption that the depth is related to obtaining vertical delineation of contamination in soil. However, because the depth estimate was contained in the section that also discussed obtaining a grab groundwater sample, this also suggests that groundwater is not anticipated to be encountered at shallow depths. This is contrary to site vicinity investigations as mapped out in Geotracker that appear to indicate that groundwater may be on the order of approximately 10 feet bgs, slightly below the total depth of a number of disclosed existing site bores. This could have been recognized in an SCM, and is requested to be addressed in the requested SCM. Regardless of the technical justification in the SCM, ACEH requests that very close attention be paid to shallow indications of saturation in soil bores (changes in moisture content, attenuation of discolored soil with depth, and discontinuation of PID readings with depth, etc.) in order to obtain representative samples of shallow, first encountered groundwater, in addition to vertical delineation of contamination in soil.

f. **Well Survey –** ACEH appreciates that a well survey (and a utility survey) have been proposed to be conducted. The work plan proposes the review of well data obtained from DWR. ACEH also requests that ACPWA well data also be reviewed due to the likelihood of differing sources and data; there is a sufficient difference in the data sets to make the effort worthwhile. While technically overdue, ACEH is in agreement with the revised proposed schedule.

3. **Request for Information -** ACEH's case file for the subject site contains only the electronic files listed on our website (please see attachments for a link). Please submit an electric copy of all missing reports, data, and correspondence related to environmental investigations for this property by the date identified below. **Missing reports and data include those identified in the second paragraph on page one**.

TECHNICAL REPORT REQUEST

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

- **February 25, 2013 –** Geotracker and ftp Uploads (and documentation of)
  File to be named: RO3068_CORRES_L_yyyy-mm-dd

- **March 1, 2013 –** Work Plan Addendum (SCM and Revised Figure 2)
  File to be named: RO3068_SCM_WP_ADEND_R_yyyy-mm-dd

- **April 12, 2013 –** Soil and Groundwater Investigation Report (with Conduit Survey)
  File to be named: RO3068_SWI_R_yyyy-mm-dd

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

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

Should you have any questions, please contact me at (510) 567--6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,

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

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

cc: Ms. Celina Hernandez, 5900 Hollis Street, Suite A, Emeryville, CA 94608
(sent via electronic mail to: (CHernandez@craworld.com)

Donna Drogos, ACEH, (sent via electronic mail to donna.drogos@acgov.org)
Mark Detterman, ACEH, (sent via electronic mail to mark.detterman@acgov.org)
Geotracker, Electronic File

Attachment 1
Responsible Party(ies) Legal Requirements/Obligations

REPORT/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. Please visit the SWRCB website for more information on these requirements. (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "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." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 7835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)	**REVISION DATE:** July 25, 2012
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (petroleum UST and SCP) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single Portable Document Format (PDF) with no password protection**.
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted**.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

1) Obtain User Name and Password
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to deh.loptoxic@acgov.org
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
   b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

APPENDIX B

SUMMARY OF ENVIRONMENTAL INVESTIGATION AND REMEDIATION

PREVIOUS ENVIRONMENTAL INVESTIGATION AND REMEDIATION

February 2002 Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) was conducted on the site on behalf of the City of Emeryville, California Redevelopment Agency in February of 2002. The purpose of the site assessment was to evaluate specific existing, potential, or suspect conditions that may impose an environmental liability. Based on review of historic aerial photographs and sanborn maps, the site was occupied by a fueling station from 1947 to sometime before 1969 when the site appears to be void of dispenser islands and structures. Sometime before 1975, the site was re-developed as a convenience/liquor store and no significant changes had been made to the site since. Additional information is available in Ninyo & Moore Geotechnical and Environmental Sciences Consultant's (Ninyo & Moore) February 6, 2002 *Phase I ESA.*

February 2004 Phase II Environmental Site Assessment

A Phase II ESA was completed on behalf of the City of Emeryville, California Redevelopment Agency that included a subsurface evaluation of the site parking lot and consisted of a geophysical survey and the advancement of soil borings (B-1 through B-5). No underground storage tanks (USTs) were located during the geophysical survey; however, an area of possible past excavation was identified. Analytical data from soil samples did not contain concentrations above regulatory guidelines. Borings were not advanced to groundwater. Additional information is available in Ninyo & Moore's March 30, 2004 *Phase II ESA.*

July and August 2009 Subsurface Investigation and Remedial Activities

During grading activities for a new building onsite, stained and odorous soil was encountered at two locations onsite (excavation #1 and #2). At this time, the convenience/liquor store had been demolished and the site was vacant. Documentation or dates of the store demolition are not available. The nature and extent of contamination was investigated, and approximately 153 tons (95 cubic yards) of soil was excavated and removed from the site. Borings were not advanced to groundwater. Additional information is available in Northgate's November 9, 2009 *Remedial Action Report* which was prepared for Placeworks LLC.

December 2009 UST abandonment and soil sampling

During the installation of the fire line main, an abandoned UST was encountered in the southwest corner of the site. The UST was cleaned and properly abandoned in place by Cornerstone Environmental Contractors, Inc. One soil sample (UST-1-6.0) was collected from approximately 2 feet below the bottom of the abandoned UST (approximately 5.5 – 6 feet below grade [fbg]). Additional information is available in Northgate's January 7, 2010 *UST Soil Sampling Test Results,* which was prepared for Placeworks LLC.

APPENDIX C

HISTORICAL BORING LOGS

DATE DRILLED 2/6/04 BORING NO. B-1

GROUND ELEVATION _____ SHEET 1 OF 1

METHOD OF DRILLING Geoprobe

DRIVE WEIGHT _____ DROP _____

SAMPLED BY KML LOGGED BY KML REVIEWED BY JDH

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								CONCRETE: Approximately 4" thick.
					0.0		CL	FILL: Dark gray and black, moist, silty CLAY; small (1/4") gravel; no odor.
					0.0		CL	ALLUVIUM: Green gray, moist, silty CLAY; small (1/4") gravel; no odor.
5								
					0.0			
10								Total Depth = 10 feet bgs. No groundwater encountered. Boring backfilled with Portland cement grout on 2/6/04.
15								
20								

Ninyo & Moore

BORING LOG

3645 San Pablo Avenue
Emeryville, California

PROJECT NO.	DATE	FIGURE
400596002	03/04	A-1

DATE DRILLED 2/6/04 BORING NO. B-2

GROUND ELEVATION _____ SHEET 1 OF 1

METHOD OF DRILLING Geoprobe

DRIVE WEIGHT _____ DROP _____

SAMPLED BY KML LOGGED BY KML REVIEWED BY JDH

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								CONCRETE: Approximately 4" thick.
					0.0		CL	FILL: Dark gray and black, moist, silty CLAY; gravel; no odor.
					0.0		CL	ALLUVIUM: Greenish gray, moist, silty CLAY; gravel; no odor.
5								
					0.0			Gray.
10								Total Depth = 10 feet bgs. No groundwater encountered. Boring backfilled with Portland cement grout on 2/6/04.
15								
20								

Ninyo & Moore

BORING LOG

3645 San Pablo Avenue
Emeryville, California

PROJECT NO.	DATE	FIGURE
400596002	03/04	A-2

DATE DRILLED 2/6/04 BORING NO. B-3

GROUND ELEVATION _____ SHEET 1 OF 1

METHOD OF DRILLING Geoprobe

DRIVE WEIGHT _____ DROP _____

SAMPLED BY KML LOGGED BY KML REVIEWED BY JDH

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								CONCRETE: Approximately 4" thick.
							CL	FILL:
								Black, moist, silty CLAY; gravel; no odor.
								Broken concrete approximately 6" thick.
							CL	Black, moist, silty CLAY; gravel; no odor.
					0.0			
					0.0		CL	ALLUVIUM:
5								Gray green, moist, silty CLAY; no odor.
					0.0			
10								Gray.
								Total Depth = 10 feet bgs.
								No groundwater encountered.
								Boring backfilled with Portland cement grout on 2/6/04.
15								
20								

Ninyo & Moore

BORING LOG

3645 San Pablo Avenue
Emeryville, California

PROJECT NO.	DATE	FIGURE
400596002	03/04	A-3

DATE DRILLED 2/6/04 BORING NO. B-4

GROUND ELEVATION _____ SHEET 1 OF 1

METHOD OF DRILLING Geoprobe

DRIVE WEIGHT _____ DROP _____

SAMPLED BY KML LOGGED BY KML REVIEWED BY JDH

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								CL	CONCRETE: Approximately 4" thick.
						0.0			FILL: Black, moist, silty CLAY; gravel; no odor.
									Concrete encountered, approximately 18" thick.
5						0.5		CL	Black, moist, silty CLAY; moderate petroleum odor.
								CL	ALLUVIUM: Greenish gray, moist, silty CLAY; no odor.
						0.0			Gray.
10									Total Depth = 10 feet bgs. No groundwater encountered. Boring backfilled with Portland cement grout on 2/6/04.
15									
20									

Ninyo & Moore

BORING LOG

3645 San Pablo Avenue
Emeryville, California

PROJECT NO.	DATE	FIGURE
400596002	03/04	A-4

DATE DRILLED 2/6/04 BORING NO. B-5

GROUND ELEVATION _____ SHEET 1 OF 1

METHOD OF DRILLING Geoprobe

DRIVE WEIGHT _____ DROP _____

SAMPLED BY KML LOGGED BY KML REVIEWED BY JDH

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0								CONCRETE: Approximately 4" thick.
					0.0		CL	FILL: Black and brown, moist, silty CLAY; gravel; no odor.
					0.0		CL	ALLUVIUM: Gray green, moist, silty CLAY; no odor.
5								
					0.0			Gray.
10								Total Depth = 10 feet bgs. No groundwater encountered. Boring backfilled with Portland cement grout on 2/6/04.
15								
20								

Ninyo & Moore

BORING LOG

3645 San Pablo Avenue
Emeryville, California

PROJECT NO.	DATE	FIGURE
400596002	03/04	A-5