Detterman, Mark, Env. Health

From: Sami Malaeb [s.malaeb@comcast.net]
Sent: Thursday, July 18, 2013 8:28 PM
To: Detterman, Mark, Env. Health
Subject: RE: Fuel Leak Case No. RO0002945 and Geotracker Global ID T0619778840, Chevron# 9-8861 (Independent), 2145 35th Avenue, Oakland, CA 94601- Summary of Data
Attachments: Boring Logs from drillling on 07.02 and 07.03 2013.pdf; TABLE 1 (Soil Analytical Results 07.02 and 07.03, 2013)).pdf; TABLE 2 (Groundwater Analytical Results 07.02 and 07.03, 2013)).pdf; Older Tables Cumulative for soil results.pdf; TABLE 2 (Groundwater, Wells, TPH, TEPH, BTEX AND Ni , 07.21.13).pdf; TABLE 3 (Groundwater, Wells, PAHs , 06.21.13).pdf; Figure 21 Locations of Borings (amendedev07.18.131).pdf; Figure 9 Approximate Extent of .pdf

Categories: Red Category

Hi Mark:

I hope all is well with you. EEC completed the latest drilling, sampling, and soil and groundwater analysis. Borings BH-16 through BH-22 were completed.

Attached are the following:

- Boring logs
- Table 1 summarizing the soil analytical results (latest phase)
- Table 2 summarizing the groundwater analytical results (latest phase)
- Cumulative tables (copies for the past sampling and analysis of soil). Please note that I did not update the ESLs to 2013 version on the old tables. These are just copies from the old report.
- Table summarizing the groundwater analytical results from the four wells for four quarters
- A figure showing the estimated extent of the plume
- A figure showing the location of possible shallow soil impact (0 to 10 feet bgs)

In light of the latest Low-Threat UST Case Closure Policy we conclude the following:

GROUNDWATER:

1. From the groundwater data we have to date, the petroleum hydrocarbon plume did not extend more than 100 feet (worst case scenario less than 250 feet). Please see the attached figure 21. It is with good confidence, we can conclude that the plume has been defined. Additional borings and wells offsite are not necessary. Maximum benzene level detected to date in the wells is 92 ppb. The plume is stable or decreasing (plume did not go beyond 100 feet in more than 27 years; since the gasoline UST removal). No floating product has ever been encountered at this site. It looks this site falls under the following category:

"(1) a. The contaminant plume that exceeds water quality objectives is less than 100 feet in length.
b. There is no free product.
c. The nearest existing water supply well or surface water body is greater than 250 feet from the defined plume boundary."

2. Also, the vertical extent of the plume has been defined. No second water bearing zone was encountered below 30 feet bgs. A secondary water-bearing zone was encountered in boring BH5 at a depth of 25 to 27 feet bgs. No deeper groundwater than 20 feet bgs was encountered in the other two borings, BH9 and BH12, drilled to maximum depths of 37.5 feet and 30 feet bgs respectively in 2012. Therefore, no groundwater remediation is needed at this site. Plume attenuation is happening.

PETROLEUM VAPOR INTRUSION TO INDOOR AIR:

This site falls under Appendix 3. It is very rare and random to find TPH above 100 ppm from 0 to 7 feet at this site (planned foundation depth is 2 feet + 5 feet of soil depth; for a total of 7 feet). There is at least 5 feet of clay from 0 to 5 feet (black clay (CH). However, it is possible to encounter TPH above 100 ppm in the source area (former gas UST location, piping, and Dispenser Island). Therefore we recommend limited soil excavation up to 7 feet bgs and careful soil segregation by using PID and verification lab analysis. Soil with TPH> 100 ppm will be disposed of; and clean soil remaining will be backfilled in place.

DIRECT CONTACT AND OUTDOOR AIR EXPOSURE:

Part (a) of the Policy apply, that is:

a. "Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 in the Policy for the specified depth below ground surface (bgs). The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, and inhalation of volatile soil emissions and inhalation of particulate emissions. The 5 to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. Both the 0 to 5 feet bgs concentration limits and the 5 to 10 feet bgs concentration limits for the appropriate site classification (Residential or Commercial/Industrial) shall be satisfied. In addition, if exposure to construction workers or utility trench workers are reasonably anticipated, the concentration limits for Utility Worker shall also be satisfied"

We conclude that in order to close the fuel leak case at this site, limited soil excavation is recommended in the source area to a depth of 7 feet bgs to clean up the soil to below 100 ppm TPH.

Please let me know if you agree with my assessment. The next step is to prepare a full report documenting the latest drilling and sampling and preparing a feasibility study and remedial action plan for soil excavation to a depth of 7 feet bgs.

Thanks,

Regards,

EEC
Sami Malaeb, PE, QSP/QSD
Cell: (925) 858-9608

From: Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]
Sent: Thursday, June 27, 2013 10:10 AM
To: 'Sami Malaeb'
Subject: RE: Fuel Leak Case No. RO0002945 and Geotracker Global ID T0619778840, Chevron# 9-8861 (Independent), 2145 35th Avenue, Oakland, CA 94601- Request for Extension

Sami,
The recommendations sound fine; however, please remember that the concentrations should be at least compared to the new ESL concentrations for soil and groundwater as a quick way to judge health risks. The definition of remedial goals at an appropriate time, if required, are not tied to the ESLs but can consider them as a starting point for assessing health

risks. Please also remember that the LTCP evaluates soil concentrations in the 0 to 5 and 5 to 10 foot zones, but these should be in the source zones. I don't recall if these have been collected, but you probably should evaluate the need to collect shallow soil samples in the source areas.

Mark Detterman
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PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

From: Sami Malaeb [mailto:s.malaeb@comcast.net]
Sent: Wednesday, June 26, 2013 9:48 PM
To: Detterman, Mark, Env. Health
Subject: RE: Fuel Leak Case No. RO0002945 and Geotracker Global ID T0619778840, Chevron# 9-8861 (Independent), 2145 35th Avenue, Oakland, CA 94601- Request for Extension

Hi Mark:

Of the PAHs only Naphthalene was detected above the laboratory reporting limit in the groundwater wells onsite.
We recommend discontinuing the analysis for the full suite PAHs by 8270sim and continuing the analysis for Naphthalene by EPA Method 8260B during the subsurface investigation next week. That is, in all the soil and groundwater samples to be collected offsite from the borings.

Lead was not detected in any of the wells. Maximum Nickel concentration to date was detected below the drinking water MCL of 100 µg/l. Nickel was detected in the three sampling events at 6.6 µg/l, 9.7 µg/l, and 8.7 µg/l, in Monitoring well MW-4. No other contaminant was detected in monitoring well MW-4. It appears that Nickel at this site is not related to the fuel leak and may be naturally occurring. Therefore, we recommend discontinuing the analysis for metals in the soil and groundwater samples to be collected from all borings to be drilled offsite next week.

Since it is unlikely that shallow soil offsite is impacted by petroleum hydrocarbons from onsite, we will use PID and visual and olfactory senses to screen soil from the offsite borings to be drilled next week. We still collect shallow soil samples for lab analysis when signs of contamination are encountered. Also, we will collect shallow and deep soil samples for lab analysis from all borings close to the site. Also, we will collect soil samples for lab analysis near the soil/groundwater interface from all borings (10 to 11 feet bgs). Groundwater samples will be collected from all borings for lab analysis.

Please let me know if you concur with my recommendations above.

Thanks,

Regards,

EEC
Sami Malaeb, PE, QSP/QSD

TABLE 1
SUMMARY OF CHEMICAL ANALYSES
SOIL SAMPLES COLLECTED FROM THE BORINGS
DRILLED ON 07/02/2103 AND 07/03/2013
PETROLEUM HYDROCARBONS, BTEX, MTBE, AND NAPHTHALENE
2145 35th Avenue, Oakland, California

Sample ID	Date Sampled	TPH-G[1] (mg/kg)[2]	TPH-ss[3] (mg/kg)	TPH-D[4] (mgkg)	TPH as Motor Oil (mgkg)	TPH as Hydraulic Oil (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE[5] (mg/kg)	Naphthalene (mg/kg)
BH16-3	07/03/2013	<1.1	<1.1	<1.0	<5.0	<5.0	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	<0.0049
BH16-7	07/03/2013	<1.1	<1.1	<1.0	<5.0	<5.0	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	<0.0049
BH16-10.5	07/03/2013	<0.97	<0.97	<1.0	<5.0	<5.0	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047
BH16-16	07/03/2013	<0.99	<0.99	<1.0	<5.0	<5.0	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047
BH16-20	07/03/2013	<1.1	<1.1	<1.0	<5.0	<5.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050
BH17-2.5	07/03/2013	<1.1	<1.1	3.4(Y)[6]	5.1	8.5	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047
BH17-6	07/03/2013	1.4(Y)[6]	<1.0	<1.0	<5.0	<5.0	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	0.0093
BH17-9	07/03/2013	**590(Y)[6]**	**410(Y)[6]**	21(Y)[6]	6.7	16	<1.0	<1.0	2.8	<2.0	<1.0	4.4
BH17-11	07/03/2013	130(Y)[6]	88	2.4(Y)[6]	<5.0	<5.0	<0.024	<0.024	0.066	0.070	<0.024	0.61
BH17-15.5	07/03/2013	<1.1	<1.1	<1.0	<5.0	<5.0	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048
BH18-2.5	07/03/2013	<1.0	<1.0	<1.0	<5.0	<5.0	<0.0044	<0.0044	<0.0044	<0.0088	<0.0044	<0.0044
BH18-7.5	07/03/2013	<0.96	<0.96	<1.0	<5.0	<5.0	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047
BH18-10.5	07/03/2013	<1.0	<1.0	<1.0	<5.0	<5.0	<0.0044	<0.0044	<0.0044	<0.0088	<0.0044	<0.0044
BH18-16	07/03/2013	<1.0	<1.0	<1.0	<5.0	<5.0	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	<0.0049
BH19-7.5	07/02/2013	<0.97	<0.97	<1.0	<5.0	<5.0	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048
BH19-11.5	07/02/2013	<1.0	<1.0	<1.0	<5.0	<5.0	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047
BH19-16	07/02/2013	<0.93	<0.93	<1.0	<5.0	<5.0	<0.0046	<0.0046	<0.0046	<0.0092	<0.0046	<0.0046
BH20-11	07/02/2013	<0.94	<0.94	2.5(Y)[6]	18	17(Y)[6]	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	0.0093
BH20-21	07/02/2013	<1.1	<1.1	<1.0	<5.0	<5.0	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047
BH21-11	07/02/2013	<1.1	<1.1	1.6(Y)[6]	<5.0	<5.0	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048
BH21-21.5	07/02/2013	<0.98	<0.98	<0.99	<5.0	<5.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050
BH22-11.5	07/02/2013	<1.1	<1.1	<1.0	<5.0	<5.0	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048
BH22-22	07/02/2013	<1.0	<1.0	<0.99	<5.0	<5.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050

TPH-G [1] = Total petroleum hydrocarbons as gasoline by EPA Method 8015B
(mgkg) [2] = Milligram per kilogram or part per million
TPH-ss [3] = Total petroleum hydrocarbons as Stoddard solvent by EPA Method 8015B
TPH-D [4] = Total petroleum hydrocarbons as diesel by EPA Method 8015B
MTBE [5] = Methyl Tertiary Butyl Ether
(Y) [6] = Sample exhibits chromatographic pattern which does not resemble standard
Bold = Concentration presented in bold where such a value is at or exceeds one of the environmental screening levels (ESLs)

TABLE 2
SUMMARY OF CHEMICAL ANALYSES
GROUNDWATER SAMPLES COLLECTED FROM THE BORINGS
DRILLED ON 07/02/2103 AND 07/03/2013
PETROLEUM HYDROCARBONS, BTEX, MTBE, AND NAPHTHALENE
2145 35th Avenue, Oakland, California

Sample ID	Date Sampled	TPH-G[1] (µg/l)[2]	TPH-ss[3] (µg/l)	TPH-D[4] (µg/l)	TPH as Motor Oil (µg/l)	TPH as Hydraulic Oil (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl benzene (µg/l)	Total Xylenes (µg/l)	MTBE[5] (µg/l)	Naphthalene (µg/l)
BH16-W	07/03/2013	**190 (Y)[6]**	**130 (Y)[6]**	<49	<290	<290	<0.5	<0.5	**0.8**	**1.2**	<0.5	<2.0
BH17-W	07/03/2013	**7,100 (Y)[6]**	**5,000(Y)[6]**	**2,100(Y)[6]**	<290	**610 (Y)**	**8.0**	**3.0**	**140**	**340**	<1.0	**110**
BH18-W	07/03/2013	**1,800 (Y)[6]**	**1,300(Y)[6]**	**650 (Y)**	<290	<290	**1.6**	<0.5	<0.5	**1.0**	<0.5	<2.0
BH19-W	07/022013	<50	<50	<49	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0
BH20-W	07/02/2013	<50	<50	<49	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0
BH21-W	07/022013	<50	<50	<49	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0
BH22-W	07/02/2013	<50	<50	<49	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5	<2.0

TPH-G [1] = Total petroleum hydrocarbons as gasoline by EPA Method 8015B
(µg/l) [2] = microgram per liter or part per million
TPH-ss [3] = Total petroleum hydrocarbons as Stoddard solvent by EPA Method 8015B
TPH-D [4] = Total petroleum hydrocarbons as diesel by EPA Method 8015B
MTBE [5] = Methyl Tertiary Butyl Ether
(Y) [6] = Sample exhibits chromatographic pattern which does not resemble standard

Bold = Concentration presented in bold where such a value is at or exceeds the reporting laboratory reporting limit.

TABLE 2
SUMMARY OF CHEMICAL ANALYSES
GROUNWATER SAMPLES COLLECTED FROM THE MONITORING WELLS
PETROLEUM HYDROCARBONS, BTEX, and MTBE
2145 35th Avenue
Oakland, California

Sample ID	Date Sampled	TPH-G[1] (µg/l) [2]	TPH-ss [3] (µg/l)	TPH-D[4] (µg/l)	TPH as Motor Oil (µg/l)	TPH as Hydraulic Oil (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl benzene (µg/l)	Total Xylenes (µg/l)	MTBE [5] (µg/l)
MW-1	07/09/2012	<50	<50	<50	<300	<300	<0.5	<0.5	<0.5	<1.0	<0.5
	12/06/2012	<50	<50	<50	<300	<300	<0.5	<0.5	<0.5	<1.0	<0.5
	03/21/2013	<50	<50	<49	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5
	06/21/2013	<50	<50	100 (Y) [6]	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5
MW-2	07/09/2012	**3,800**	**3,900 (Y)**	**1,200 (Y)**	<300	**660 (Y)**	**82**	42	**350**	**189.4**	<0.5
	12/06/2012	**5,000**	**3,300 (Y)**	**2,300**	<300	**1,500 (Y)**	**92**	42	**460**	**179.6**	<0.5
	03/21/2013	**4,500**	**3,000**	**1,800 Y**	<290	**1,000V**	**77**	31	**230**	**115.4**	<1.7
	06/21/2013	**4,300**	**2,900**	**1,700 (Y)**	<290	**1,100 (Y)**	**50**	24	**210**	96	<1.7
MW-3	07/09/2012	85Y	86Y	**180 (Y)**	<300	<300	0.8	<0.5	<0.5	<1.0	<0.5
	12/06/2012	**1,200**	**800Y**	**2,000**	<300	**1,600 (Y)**	**36**	0.8	9.2	1.1	<0.5
	03/21/2013	**130 (Y)**	91Y	**140 (Y)**	<290	<290	**1.8**	<0.5	<0.5	<1.0	<0.5
	06/21/2013	<50	<50	**210Y**	<290	**340Y**	<0.5	<0.5	<0.5	<1.0	<0.5
MW-4	07/09/2012	<50	<50	<50	<300	<300	<0.5	<0.5	<0.5	<1.0	<0.5
	12/06/2012	<50	<50	<50	<300	<300	<0.5	<0.5	<0.5	<1.0	<0.5
	03/21/2013	<50	<50	<49	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5
	06/21/2013	<50	<50	76Y	<290	<290	<0.5	<0.5	<0.5	<1.0	<0.5
Groundwater Screening Levels, drinking water resource (Final Groundwater Screening Levels) [7]		100	100	100	100	100	1.0	150	300	1,800	13.0
Groundwater Screening Levels, non-drinking water resource (Final Groundwater Screening Levels) [8]		500	640	640	640	640	27	130	43	100	18,000
Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Concerns (Volatile Chemicals Only)[9]		Use Soil Gas	Use Soil Gas	Use Soil Gas	Use Soil Gas	Use Soil Gas	27	95,000	310	37,000	No Value

TPH-G [1] = Total petroleum hydrocarbons as gasoline by EPA Method 8015B
(µg/l) [2] = Microgram per liter
TPH-ss [3] = Total petroleum hydrocarbons as Stoddard solvent by EPA Method 8015B
TPH-D [4] = Total petroleum hydrocarbons as diesel by EPA Method 8015B
MTBE [5] = Methyl Tertiary Butyl Ether
(Y) [6] = Sample exhibits chromatographic pattern which does not resemble standard

[7] = Tier 1 Environmental Screening Levels (ESLs), Groundwater Screening Levels, Groundwater is Current or Potential Source of Drinking Water (Table F1-a), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final (Revised May 2013).

[8] = Tier 1 Environmental Screening Levels (ESLs), Groundwater Screening Levels, Groundwater is not Current or Potential Source of Drinking Water (Table F-1b), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final (Revised May 2013).

[9] = Tier 1 Environmental Screening Levels (ESLs), Groundwater Screening Levels, Groundwater is not Current or Potential Source of Drinking Water (Table E-1), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final (Revised May 2013).

Bold = Concentration presented in bold where such a value is at or exceeds one of the environmental screening levels (ESLs) listed

TABLE 3
SUMMARY OF CHEMICAL ANALYSES
GROUNWATER SAMPLES COLLECTED FROM THE MONITORING WELLS
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)
2145 35th Avenue
Oakland, California

Sample ID	Date Sampled	Naphtha-lene (µg/l) [1]	Acena-phthylene (µg/l)	Acena-phtene (µg/l)	Fluo-rene (µg/l)	Phenan-threne (µg/l)	Anth-racene (µg/l)	Fluo-ranthene (µg/l)	Pyrene (µg/l)	Benzo (a) Anth-racene (µg/l)	Chry-sene (µg/l)	Benzo (b) Fluo-ranthene (µg/l)	Benzo (k) Fluo-ranthene (µg/l)	Benzo (a) pyrene (µg/l)	Indeno (1,2,3-cd) pyrene (µg/l)	Dibenz (a,h) Anthracene (µg/l)	Benzo (g,h,i) Perylene (µg/l)
MW-1	07/09/2012	<2.0	N/A [2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/06/2012	<2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/21/2013	<2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/21/2013	<2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-2	07/09/2012	**44**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/06/2012	**62**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/21/2013	**27**	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	06/21/2013	**21**	N/A*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-3	07/09/2012	<2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/06/2012	**120**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/21/2013	0.6	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
	06/21/2013	<2.0	N/A*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-4	07/09/2012	<2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/06/2012	<2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/21/2013	<2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/21/2013	<2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Groundwater Screening Levels, drinking water resource (Final Groundwater Screening Level)[3]		6.2	2,000	20	950	4.6	410	22	130	68	560	0.56	0.56	0.20	0.56	0.016	0.13
Groundwater Screening Levels, non-drinking water resource (Final Groundwater Screening Level) [4]		8.2	30	23	3.9	4.6	0.73	8.0	2.0	0.027	0.35	0.056	0.40	0.014	0.056	0.25	0.10

*Stopped analyzing for full suite PAHs due to the fact only Naphthalene was detected in previous sampling and analysis.

(µg/l) [1] = Microgram per liter

N/A [2] = Not applicable or not analyzed for.

[3] = Tier 1 Environmental Screening Levels (ESLs), Groundwater Screening Levels, Groundwater is Current or Potential Source of Drinking Water (Table F-3), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final (Revised May 2013).

[4] = Tier 1 Environmental Screening Levels (ESLs), Groundwater Screening Levels, Groundwater is not Current or Potential Source of Drinking Water (Table F-1b), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final (Revised May 2013).

Bold = Concentration presented in bold where such a value is at or exceeds one of the environmental screening levels (ESLs) listed

DRILLING DATE: 07/03/2013
DRILLING METHOD: Direct Push
DRILLING RIG TYPE: Geoprobe Limited Access
DRILLING LOCATION: 2145 35th Avenue, Oakland, CA
LOGGED BY: Sami Malaeb, PE, QSP/QSD
CHECKED BY: David Hoexter, PG, CEG, REA

LOG OF BORING BH-17

DEPTH (FEET)	SAMPLE DEPTH	SAMPLE NAME	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	LITHOLOGY DESCRIPTION DEPTH	PID READING	COMMENTS
1				0.0' to 1.0' Concrete slab and gravel	0.0 ' to 1.0'		
2				Black Silty Clay (CH), medium stiff, moist (No odor of petroleum hydrocarbons or stain)	1.0 ' to 5.0'		
3		BH17-2.5					
4							
5							
6		BH17-6		Brown Sandy Clay (CL), medium stiff, moist (slight odor of petroleum hydrocarbons)	5.0' to 7.0 '		
7							
8				Dark Gray Sand (SW), medium dense, moist (odor of petroleum hydrocarbons)	7.0' to 12.0 '		
9		BH17-9					
10							
11		BH17-11					
12							
13				Dark Gray Sand (SW), medium dense (~30% 1/8" gravel), moist 12.0' to 14.0' and wet 14.0' to 16.0'. Increased gravel presence @ 14.0' to 16.0'. (odor of petroleum hydrocarbons)	12.0 ' to 16.0'		First Encountered Groundwater
14							
15		BH17-15.5					
16							
17				BOTTOM OF BORING at 16.0'			
18							
19							
20							
21							
22							
23							
24							
25							

PROJECT NAME: Salisbury Avenue Associates, LLC

DRILLING DATE: 07/03/2013
DRILLING METHOD: Direct Push
DRILLING RIG TYPE: Geoprobe Limited Access
DRILLING LOCATION: 2145 35th Avenue, Oakland, CA
LOGGED BY: Sami Malaeb, PE, QSP/QSD
CHECKED BY: David Hoexter, PG, CEG, REA

LOG OF BORING BH-16

DEPTH (FEET)	SAMPLE DEPTH	SAMPLE NAME	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	LITHOLOGY DESCRIPTION DEPTH	PID READING	COMMENTS
1				0.0' to 1.0' Concrete slab and gravel	0.0 ' to 1.0'		
2				Black Silty Clay (CH), medium stiff, moist (No odor of petroleum hydrocarbons or stain)	1.0 ' to 5.0'	4.5 ppm	
3	■	BH16-3					
4							
5							
6				Brown Sandy Clay (CL), medium stiff, moist (No odor of petroleum hydrocarbons or stain)	5.0' to 11.0 '	1.1 ppm	
7	■	BH16-7					
8							
9							
10							
11	■	BH16-10.5				1.2 ppm	
12				Brown Sand (SW), medium dense, moist to wet (No odor of petroleum hydrocarbons or stain)	11.0' to 14.0 '		
13							
14							
15				Brown Silty Clay (CL), medium stiff, moist (No odor of petroleum hydrocarbons or stain)	14.0 ' to 16.0'	1.2 ppm	First Encountered Groundwater ▼
16	■	BH16-16					
17				Brown Silty Clay (CL), medium stiff, moist 16.0' to 18.0' and wet 18.0' to 20.0' (No odor of petroleum hydrocarbons or stain)	16.0 ' to 20.0'		
18							
19							
20							
21				BOTTOM OF BORING at 20'			
22							
23							
24							
25							

PROJECT NAME: Salisbury Avenue Associates, LLC

SHEET 1 OF 1

DRILLING DATE: 07/03/2013
DRILLING METHOD: Direct Push
DRILLING RIG TYPE: Geoprobe Limited Access

DRILLING LOCATION: 2145 35th Avenue, Oakland, CA
LOGGED BY: Sami Malaeb, PE, QSP/QSD
CHECKED BY: David Hoexter, PG, CEG, REA

LOG OF BORING BH-18

DEPTH (FEET)	SAMPLE DEPTH	SAMPLE NAME	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	LITHOLOGY DESCRIPTION DEPTH	PID READING	COMMENTS
1				0.0' to 1.0' Concrete slab and gravel	0.0 ' to 1.0'		
2				Black Silty Clay (CH), medium stiff, moist (No odor of petroleum hydrocarbons or stain)	1.0 ' to 5.0'	0.9 ppm	
3	■	BH18-2.5					
4							
5							
6				Black Silty Sand (SM), medium dense, moist (no odor of petroleum hydrocarbons)	5.0' to 8.0 '	0.6 ppm	
7	■	BH18-7.5					
8							
9				Dark gray to black Sand (SW), (with ~20% gravel) medium dense moist, (No odor of petroleum hydrocarbons or stain)	8.0' to 11.0 '	1.1 ppm	
10	■	BH18-10.5					
11							First Encountered Groundwater ▼
12				Dark Gray Sandy/ Silty Clay (CL), medium stiff, moist (no odor of petroleum hydrocarbons or stain)	11.0' to 12.0 '		
13				Dark Gray to Black Sand (SW), (with ~20% fine gravel), medium dense moist (no odor of petroleum hydrocarbons or stain)	12.0 ' to 16.0'	2.3 ppm	
14							
15							
16	■	BH18-15.5					
17				BOTTOM OF BORING at 16.0'			
18							
19							
20							
21							
22							
23							
24							
25							

PROJECT NAME: Salisbury Avenue Associates, LLC

DRILLING DATE: 07/02/2013
DRILLING METHOD: Direct Push
DRILLING RIG TYPE: Geoprobe Limited Access

DRILLING LOCATION: 2145 35th Avenue, Oakland, CA
LOGGED BY: David Hoexter, PG, CEG, REA
CHECKED BY: Sami Malaeb, PE, QSP/QSD

LOG OF BORING
BH-19

DEPTH (FEET)	SAMPLE DEPTH	SAMPLE NAME	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	LITHOLOGY DESCRIPTION DEPTH	PID READING	COMMENTS
1				0.0' to 1.0' Concrete slab and gravel	0.0 ' to 1.0'		
2 3 4 5				Black Clay (CH), firm, moist (10% medium-coarse sand, naturally-occuring residual soil, grades down to alluvium, increasing sand, light brown organics) (No odor of petroleum hydrocarbons or stain)	1.0 ' to 5.0'	5.2 ppm	Possible Fill to ~ 1.5'
6 7		BH19-7.5		Black Silty Sand (SM), dense, moist, (Abundant orange-brown organics, sand medium to coarse w/ fine. Coarse sand lens between 6.5' and 7.5') (No odor of petroleum hydrocarbons or stain),	5.0' to 7.5 '		
8 9 10				Brown Silty Sand (SM) (fine to medium), dense, moist, (Abundant red-brown organics) (No odor of petroleum hydrocarbons or stain),	7.5' to 10.0 '		
11 12 13		BH19-11.5		Black Sand (SW), sub-angular, Medium to Coarse, dense, wet. 3" to 6" lenses varying grain size. Fine gravel 10.2'-10.8' and 12.5'-12.8'. (13.0' to 13.2' - wood (redwood?) (No odor of petroleum hydrocarbons or stain),	10.0' to 13.2 '		First Encountered Groundwater
14 15 16		BH19-16		Black Silty Sand (SM), loose, wet. (Sand fine-medium, Silt 10-30%) (No odor of petroleum hydrocarbons or stain),	13.2 ' to 16.0'	8.0 ppm	
17 18 19 20 21 22 23 24 25				BOTTOM OF BORING at 16.0'			

PROJECT NAME: Salisbury Avenue Associates, LLC

DRILLING DATE: 07/02/2013
DRILLING METHOD: Direct Push
DRILLING RIG TYPE: Geoprobe Limited Access

DRILLING LOCATION: 2145 35th Avenue, Oakland, CA
LOGGED BY: David Hoexter, PG, CEG, REA
CHECKED BY: Sami Malaeb, PE, QSP/QSD

LOG OF BORING BH-20

DEPTH (FEET)	SAMPLE DEPTH	SAMPLE NAME	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	LITHOLOGY DESCRIPTION DEPTH	PID READING	COMMENTS
1				0.0' to 1.0' Concrete slab and gravel	0.0 ' to 1.0'	8.4 ppm	
2				Fill Sand to 3' (SW) (not logged)			Fill to ~ 3.0'
3						6.4 ppm	
4				Blue gray and brown mottled Sandy Silty Clay (CL), stiff, moist. Sand fine to angular/sub-angular coarse; color blue-gray overall. (No odor of petroleum hydrocarbons or stain)	3.0' to 8.0 '		
5							
6						6.3 ppm	
7							
8						4.5 ppm	
9				Brown, mottled gray Silty Sand (SM), dense, slightly moist (3-6" lenses sand, silty sand, silt. Sand fine to coarse, distinctive lenses throughout, trace fine gravel commonly sub-rounded. (No odor of petroleum hydrocarbons or stain)	8.0' to 13.50 '		
10							
11		BH20-11					
12							
13							
14							
15				Orange-brown, mottled gray clayey silt (ML) with 5-10% fine sand very stiff, moist (trace black organics-1-2" fine to medium grained sand lenses) (No odor of petroleum hydrocarbons or stain)	13.5' to 16.5.0	2.0 ppm	
16							
17				Brown, slightly mottled gray Silty/ Sandy Clay (CL) very stiff, moist (1 to 2" fine to med-sandy lenses and disseminated fine to med sand) (No odor of petroleum hydrocarbons or stain)	16.5' to 18.50 '		First Encountered Groundwater
18							
19				Brown fine Sand (SP), dense, wet (No odor of petroleum hydrocarbons or stain)	18.5' to 21.0 '		
20							
21		BH20-21					
22				BOTTOM OF BORING at 21.0'			
23							
24							
25							

PROJECT NAME: Salisbury Avenue Associates, LLC

EEC	DRILLING DATE: 07/02/2013 DRILLING METHOD: Direct Push DRILLING RIG TYPE: Geoprobe Limited Access	DRILLING LOCATION: 2145 35th Avenue, Oakland, CA LOGGED BY: David Hoexter, PG, CEG, REA CHECKED BY: Sami Malaeb, PE, QSP/QSD

LOG OF BORING

BH-21

DEPTH (FEET)	SAMPLE DEPTH	SAMPLE NAME	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	LITHOLOGY DESCRIPTION DEPTH	PID READING	COMMENTS
1				0.0' to 1.0' Concrete slab and gravel	0.0 ' to 1.0'	6.9 ppm	
2				Fill Sand to 3' (SW) (not logged) (No odor of petroleum hydrocarbons or stain)			Fill to ~ 3.0'
3							
4				Brown/ tan mottled Clayey Silt (ML), with ~10% fine sand, firm to stiff, moist (scattered dark black organics roots) (No odor of petroleum hydrocarbons or stain)	3.0' to 8.0 '	1.0 ppm	
5							
6							
7							
8						1.1 ppm	
9				No Recovery	8.0' to 12.0 '		
10							
11		BH21-11					
12						1.1 ppm	
13				Brown, mottled gray Silty Clay (CL) (with 5 to 10% fine sand) very stiff to hard, moist; medium to coarse sub-angular sand lens at ~12.5' to 12,8'; 14.5 to 15.5' fine grading down to coarse clayey, silty sand lens. (No odor of petroleum hydrocarbons or stain).	12.0 ' to 18.5'	0.1 ppm	
14							
15							
16							
17							
18							
19				Brown, slightly mottled gray Clayey Silt (ML) (5-10% fine sand), very stiff, moist. 2" medium coarse sand lens at 20' (very moist to wet). (No odor of petroleum hydrocarbons or stain)	18.5 ' to 21.0'	1.1 ppm	First Encountered Groundwater
20							
21		BH21-21.5					
22				Brown fine, medium sub angular sand (SW) (5-10% silt), medium dense, wet (No odor of petroleum hydrocarbons or stain).	21.0' to 23.5'		
23							
24				Brown fine Sand (SP), (10% silt), dense, very moist (No odor or stain)	23.5' to 24.5'	1.1 ppm	
25				Brown fine Sandy Silt (ML), 10 to 15% fine sand, dense, very moist (No odor or stain)	24.5' to 25.0'		
				BOTTOM OF BORING at 25.0'			

PROJECT NAME: Salisbury Avenue Associates, LLC

SHEET 1 OF 1

DRILLING DATE: 07/02/2013
DRILLING METHOD: Direct Push
DRILLING RIG TYPE: Geoprobe Limited Access

DRILLING LOCATION: 2145 35th Avenue, Oakland, CA
LOGGED BY: David Hoexter, PG, CEG, REA
CHECKED BY: Sami Malaeb, PE, QSP/QSD

LOG OF BORING BH-22

DEPTH (FEET)	SAMPLE DEPTH	SAMPLE NAME	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	LITHOLOGY DESCRIPTION DEPTH	PID READING	COMMENTS
1–2				Brown Sand (SW) (with 5-10% silt, 5% gravel fine to coarse, dense, dry No odor of petroleum hydrocarbons or stain)	0.0 ' to 2.8'		Fill to ~ 2.8'
3–5				Brown/ tan Sandy Silt (ML) (fine sand 20%), stiff, moist (finely laminated) (No odor of petroleum hydrocarbons or stain)	2.8' to 5.0 '	0.0 ppm	
6–12	11–12	BH22-11.5		Orange-brown, mottled blue-gray, Silty Clay (CL), very stiff to hard, moist. Abundant black organics, evenly disseminated, not laminated (grades to 5% fine sand at 8'. No sand lenses) (No odor of petroleum hydrocarbons or stain)	8.0' to 12.5 '		
13–17				Brown Clayey Silt (ML), 5-10% fine sand, continued orange-brown, mottled blue-gray, stiff, moist (minor black organics) (No odor of petroleum hydrocarbons or stain)	12.5 ' to 17.5'		
18–20				Brown mottled gray Silt (ML), 5-10% fine sand, stiff, moist. Minor Black organics. Trace localized cream colored caliche (?) (No odor of petroleum hydrocarbons or stain)	18.5 ' to 20.5'		First Encountered Groundwater ▼
21–23	21–22	BH22-22		Brown with decreased gray mottling, interbeded silty fine sand and fine sandy silt (SM/SL), firm, moist, burried soil horizon 20-20.5' ; minor black orgnics. abundant roots/grass, wet. (No odor of petroleum hydrocarbons or stain)	20.5' to 22.0'		
24–25				BOTTOM OF BORING at 23.0'			

PROJECT NAME: Salisbury Avenue Associates, LLC

SHEET 1 OF 1

TABLE 1
SUMMARY OF CHEMICAL ANALYSES FOR TPH AND BTEX
SOIL CONFIRMATION SAMPLES (02/23/07)
2145 35th Avenue
Oakland, California

Sample ID	Location	Date Sampled	TEPH as Diesel (mg/kg)	TEPH as Motor Oil (mg/kg)	TPH as Stoddard Solvent (mg/kg)	TPH as Gasoline (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)
B1@9'	Boring 1 at 9 feet bgs	02/23/07	**360**	27	**1,200**	**2,100**	**<0.25**	<0.25	**28**	<0.50
B2@8'	Boring 2 at 8 feet bgs	02/23/07	1.3	<5.0	<1.0	<1.0	<0.0051	<0.0051	<0.0051	<0.0102
B3@8.5'	Boring 3 at 8.5 feet bgs	02/23/07	<1.0	<5.0	<1.0	<1.0	<0.0051	<0.0051	<0.0051	<0.0102
B4@7.5'	Boring 4 at 7.5 feet bgs	02/23/07	**160**	40	9.7	17	<0.0048	<0.0048	<0.0048	<0.0096
***Tier 1 Environmental Screening Levels (ESLs), Shallow Soils (<3m bgs) Groundwater is Current or Potential Source of Drinking Water (mg/kg) (Table A)**										
Residential Land Use			83	370	83	83	0.044	2.9	2.3	2.3
***Tier 1 Environmental Screening Levels (ESLs), Shallow Soils (<3 m bgs) Groundwater is not a Current or Potential Source of Drinking Water (mg/kg) (Table B)**										
Residential Land Use			100	370	100	100	0.12	9.3	2.3	11

TEPH = Total extractable petroleum hydrocarbons by EPA Method 8015M
TPH = Total volatile petroleum hydrocarbons by EPA Method 8021B
mg/kg = milligrams per kilogram
bgs = Below ground surface
Bold = Concentration presented in bold where such a value is at or exceeds one of the environmental screening levels (ESLs) listed

* Screening for Environmental Concerns at Sites
with Contaminated Soil and Groundwater
Prepared by:
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612
INTERIM FINAL - November 2007
(Revised May 2008)

TABLE 6
SUMMARY OF CHEMICAL ANALYSES FOR TPH, TEPH, PCBs, NAPHTHALENE, AND BTEX
SOIL SAMPLES COLLECTED FROM THE LOCATIONS OF FORMER HYDRAULIC LIFT,
CAR MAINTENANCE PIT, DISPENSER ISLAND, AND PIPING
2145 35th Avenue
Oakland, California

Sample ID	Description	Date Sampled	TPH [1] as Gasoline (mg/kg) [2]	TPH as Stoddard Solvent (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	TEPH [3] as Diesel (mg/kg)	TEPH as Motor Oil (mg/kg)	TEPH as Hydraulic Fluid (mg/kg)	Naphthalene (mg/kg)	PCBs (mg/kg)
S-1-5.5'	Soil sample collected at 5.5 feet bgs [4] from the hydraulic lift excavation	01/11/12	NA	NA [5]	<0.0047	<0.0047	<0.0047	<0.0094	47 (Y) [6]	260	330	<0.0047	0.027 [7]
S-2-7.0	Soil sample collected at 7.0 feet bgs from under the former maintenance pit (east side)	01/13/12	<1.0	<1.0	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<5.0	NA	<0.0048	NA
S-3-7.0	Soil sample collected at 7.0 feet bgs from under the former maintenance pit (west side)	01/13/12	<1.0	<1.0	<0.0047	<0.0047	<0.0047	<0.0094	<1.0	<5.0	NA	<0.0047	NA
S-4-3.0	Soil sample collected at 3.0 feet bgs from under the former dispenser island and piping	01/13/12	5.7 (Y)	2.5 (Y)	<0.25 [8]	<25 [8]	<0.25 [8]	<0.5 [8]	12 (Y)	<5.0	NA	0.630	NA
S-5-5.0	Soil sample collected at 5.0 feet bgs from under the former dispenser island and piping	01/13/12	<1.1	<1.1	<0.0047	<0.0047	<0.0047	<0.0094	<0.99	<5.0	NA	<0.0047	NA
S-6-5.0	Soil sample collected at 5.0 feet bgs from under the former dispenser island and piping	01/13/12	<1.1	<1.1	<0.01	<0.01	<0.01	<0.02	3.7 (Y)	8.2	NA	<0.010	NA
Residential land use shallow soil, drinking water [9]			83	83	0.044	2.9	2.3	2.3	83	370	370	1.3	0.22
Residential land use shallow soil, non-drinking water [10]			100	100	0.12	9.3	2.3	11	100	370	370	1.3	0.22

TPH [1] = Total volatile petroleum hydrocarbons by EPA Method 8015B
mg/kg [2] = milligrams per kilogram
TEPH [3] = Total extractable petroleum hydrocarbons by EPA Method 8015B
bgs [4] = Below ground surface
NA [5] = Not applicable or sample not analyzed for the specific indicated compound
(Y) [6] = Sample exhibits chromatographic pattern which does not resemble standard

ND [7] = Non-detected or below the laboratory respective detection limit for all the Aroclors; except Aroclor-1268 was detected at 0.027 mg/kg (below ESL)
[8] = Reporting limit is above ESL

[9] = Tier 1 Environmental Screening Levels (ESLs), Shallow Soils (<3m bgs), Groundwater is Current or Potential Source of Drinking Water (mg/kg) (Table A), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final - November 2007, (Revised May 2008).

[10] = Tier 1 Environmental Screening Levels (ESLs), Shallow Soils (<3m bgs), Groundwater is not Current or Potential Source of Drinking Water (mg/kg) (Table B), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final - November 2007, (Revised May 2008).

TABLE 10
SUMMARY OF CHEMICAL ANALYSES FOR TPH-G, TPH-ss, TEPH, PCBs, BTEX, AND NAPHTHALENE
SOIL SAMPLES COLLECTED FROM BOREHOLES
2145 35th Avenue
Oakland, California

Sample ID	Description	Date Sampled	TPH [1] as Gasoline (mg/kg) [2]	TPH as Stoddard Solvent (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	TEPH [3] as Diesel (mg/kg)	TEPH as Motor Oil (mg/kg)	TEPH as Hydraulic Oil (mg/kg)	Naphthalene (mg/kg)
P1-5	Soil at 5' from boring P1	01/25/2012	<0.93	<0.93	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<5.0	NA [4]	<0.0048
P1-14	Soil at 14' from boring P1	01/25/2012	<1.0	<1.0	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<5.0	NA	<0.0048
P2-8	Soil at 8' from boring P2	01/25/2012	1.1 (Y)	<1.0	<0.0049	<0.0049	<0.0049	<0.0098	17 (Y) [5]	<5.0	NA	0.047
P2-12	Soil at 12' from boring P2	01/25/2012	NA	**630**	<1.0	<1.0	<1.0	<2.0	**140 (Y)**	26	NA	**6.50**
P2-16	Soil at 16'from boring P2	01/25/2012	<1.0	<1.0	<0.005	<0.005	<0.005	<0.010	<1.0	<5.0	NA	<0.0005
P2-20	Soil at 20' from boring P2	01/25/2012	<1.0	<1.0	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<5.0	NA	<0.0048
P3-8	Soil at 8' from boring P3	01/25/2012	<1.0	<1.0	<0.0048	<0.0048	<0.0048	<0.0096	<0.99	<5.0	NA	<0.0048
P3-12	Soil at 12' from boring P3	01/25/2012	<0.98	<0.98	<0.0047	<0.0047	<0.0047	<0.0094	<1.0	<5.0	NA	<0.0047
P4-8	Soil at 8' from boring P4	01/25/2012	<0.93	<0.93	<0.0048	<0.0048	<0.0048	<0.0096	<0.99	<5.0	NA	<0.0048
P4-12	Soil at 12' from boring P4	01/25/2012	<1.0	<1.0	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<5.0	NA	<0.0048
BH5-5	Soil at 5' from boring BH5	02/06/2012	**120**	82	<0.049	<0.049	0.360	0.280	25	<5.0	NA	0.630
BH5-8	Soil at 8' from boring BH5	02/06/2012	**720**	**480**	<0.25	<0.25	**6.4**	**6.15**	**210**	<5.0	NA	**5.0**
BH5-12	Soil at 12' from boring BH5	02/06/2012	**310**	**210**	<0.0048	<0.0048	1.3	0.198	**240**	<5.0	NA	**1.8**
BH5-30	Soil at 30' from boring BH5	02/06/2012	<1.0	<1.0	<0.0049	<0.0049	<0.0049	<0.0098	<1.0	<5.0	NA	<0.0049
BH6-8	Soil at 8' from boring BH6	01/25/2012	<1.0	<1.0	<0.0049	<0.0049	<0.0049	<0.0098	4.4 (Y)	<5.0	NA	<0.0049
BH6-12	Soil at 12' from boring BH6	01/25/2012	**530 (Y)**	**480**	<0.050	<0.050	<0.050	<0.010	**240 (Y)**	9.2	NA	0.840
BH6-16	Soil at 16' from boring BH6	01/25/2012	<1.0	<1.0	<0.0049	<0.0049	<0.0049	<0.0098	2.1 (Y)	<5.0	NA	<0.0049
BH7-8	Soil at 8' from boring BH7	01/25/2012	<1.0	<1.0	<0.0049	<0.0049	<0.0049	<0.0098	2.4 (Y)	<5.0	NA	<0.0049
BH7-12	Soil at 12' from boring BH7	01/25/2012	<1.0	<1.0	<0.0048	<0.0048	<0.0048	<0.0096	2.3 (Y)	<5.0	NA	<0.0048
BH8-8	Soil at 8' from boring BH8	01/25/2012	1.0 (Y)	<0.92	<0.0048	<0.0048	<0.0048	<0.0096	1.8 (Y)	<5.0	NA	0.014
BH8-12	Soil at 12' from boring BH8	01/25/2012	33 (Y)	63	<0.025	<0.025	<0.025	<0.050	62 (Y)	7.3	NA	0.710
BH8-16	Soil at 16' from boring BH8	01/25/2012	<1.1	<1.1	<0.0049	<0.0049	<0.0049	<0.0098	3.2 (Y)	<5.0	NA	<0.0049
BH9-8	Soil at 8' from boring BH9	02/06/2012	**710**	**480 (Y)**	<0.250	<0.250	2.000	1.950	**870**	<25	NA	**5.8**
BH9-16	Soil at 16' from boring BH9	02/06/2012	<0.96	<0.96	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<5.0	NA	0.0057
BH9-30	Soil at 30' from boring BH9	02/06/2012	<0.93	<0.93	<0.0049	<0.0049	<0.0049	<0.0098	1.3 (Y)	<5.0	NA	<0.0049
BH10-9*	Soil at 9' from boring BH10	02/06/2012	<1.1	<1.1	<0.0049	<0.0049	<0.0049	<0.0098	<1.0	<5.0	<5.0	<0.0049
BH10-12*	Soil at 12' from boring BH10	02/06/2012	8.8 (Y)	5.9	<0.0048	<0.0048	<0.0048	<0.0096	**160 (Y)**	**570**	**790**	<0.0048
BH11-8	Soil at 8' from boring BH11	02/08/2012	<1.0	<1.0	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<5.0	NA	<0.0048

Sample ID	Description	Date Sampled	TPH [1] as Gasoline (mg/kg) [2]	TPH as Stoddard Solvent (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	TEPH [3] as Diesel (mg/kg)	TEPH as Motor Oil (mg/kg)	TEPH as Hydraulic Oil (mg/kg)	Naphthalene (mg/kg)
BH11-12	Soil at 12' from boring BH11	02/08/2012	<0.94	<0.94	<0.0044	<0.0044	<0.0044	<0.0088	1.6 (Y)	<5.0	NA	<0.0044
BH12-5	Soil at 5' from boring BH12	02/06/2012	<0.99	<0.99	<0.0049	<0.0049	<0.0049	<0.0098	<1.0	<5.0	NA	<0.0049
BH12-12	Soil at 12' from boring BH12	02/06/2012	<0.98	<0.98	<0.0047	<0.0047	<0.0047	<0.0094	<1.0	<5.0	NA	<0.0047
BH12-30	Soil at 30' from boring BH12	02/06/2012	<0.92	<0.92	<0.0049	<0.0049	<0.0049	<0.0098	<1.0	<5.0	NA	<0.0049
BH13-5	Soil at 5' from boring BH13	02/08/2012	<1.1	<1.1	<0.0049	<0.0049	<0.0049	<0.0098	<1.0	<5.0	NA	<0.0049
BH13-8	Soil at 8' from boring BH13	02/08/2012	<1.0	<1.0	<0.0049	<0.0049	<0.0049	<0.0098	<1.0	<5.0	NA	<0.0049
BH14-8	Soil at 8' from boring BH14	02/08/2012	<0.93	<0.93	<0.0047	<0.0047	<0.0047	<0.0094	9.3 (Y)	38	NA	<0.0047
BH15-4	Soil at 4' from boring BH15	02/08/2012	<0.95	<0.95	<0.005	<0.005	<0.005	<0.010	<0.99	<5.0	NA	<0.005
BH15-8	Soil at 8' from boring BH15	02/08/2012	<1.1	<1.1	<0.0049	<0.0049	<0.0049	<0.0098	1.7 (Y)	<5.0	NA	0.016
BH15-12	Soil at 12' from boring BH15	02/08/2012	**960 (Y)**	**810 (Y)**	<0.250	<0.250	<0.250	<0.500	**130**	22	NA	**7.5**
BH15-16	Soil at 16' from boring BH15	02/08/2012	<1.1	<1.1	<0.005	<0.005	<0.005	<0.010	<1.0	<5.0	NA	<0.005
Residential land use shallow soil, drinking water [6]			83	83	0.044	2.9	2.3	2.3	83	370	370	1.3
Residential land use shallow soil, non-drinking water [7]			100	100	0.12	9.3	2.3	11	100	370	370	1.3

TPH [1] = Total volatile petroleum hydrocarbons by EPA Method 8015B
mg/kg [2] = milligrams per kilogram
TEPH [3] = Total extractable petroleum hydrocarbons by EPA Method 8015B
NA [4] = Not applicable or sample not analyzed for the specific indicated compound
(Y) [5] = Sample exhibits chromatographic pattern which does not resemble standard

[6] = Tier 1 Environmental Screening Levels (ESLs), Shallow Soils (<3m bgs), Groundwater is Current or Potential Source of Drinking Water (mg/kg) (Table A), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final - November 2007, (Revised May 2008).

[7] = Tier 1 Environmental Screening Levels (ESLs), Shallow Soils (<3m bgs), Groundwater is not Current or Potential Source of Drinking Water (mg/kg) (Table B), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final - November 2007, (Revised May 2008).

Bold = Concentration presented in bold where such a value is at or exceeds one of the environmental screening levels (ESLs).

*Samples BH10-9 and BH10-12 were additionally analyzed for PCBs. PCBs were not detected in these samples (see laboratory report in Appendix E).

TABLE 18
SUMMARY OF CHEMICAL ANALYSES FOR TPH-G, TPH-ss, TEPH, BTEX, MTBE, AND NAPHTHALENE
SOIL SAMPLES COLLECTED FROM THE WELL BOREHOLES
2145 35th Avenue
Oakland, California

Sample ID	Description	Date Sampled	TPH [1] as Gasoline (mg/kg) [2]	TPH as Stoddard Solvent (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	TEPH [3] as Diesel (mg/kg)	MTBE (mg/kg)	TEPH as Motor Oil (mg/kg)	TEPH as Hydraulic Oil (mg/kg)	Naphthalene (mg/kg)
MW1-5.5	Soil at 5.5' from well boring MW-1	07/03/2012	<1.0	<1.0	<0.0049	<0.0049	<0.0049	<0.0098	<1.0	<0.0049	<5.0	<5.0	<0.0049
MW1-15.0	Soil at 15' from well boring MW-1	07/03/2012	<1.0	<1.0	<0.0047	<0.0047	<0.0047	<0.0094	<1.0	<0.0047	<5.0	<5.0	<0.0047
MW2-6.0	Soil at 6' from well boring MW-2	07/03/2012	1.1 (Y) [4]	<1.0	<0.0047	<0.0047	0.0058	<0.0094	**94.0Y[4]**	<0.0047	15	63.0Y[4]	<0.0047
MW2-11.0	Soil at 11' from well boring MW-2	07/03/2012	**1,400**	**1,000Y[4]**	**<2.5**	**<2.5**	**54.0**	**27.5**	**630Y[4]**	<2.5	63	240Y[4]	**7.2**
MW2-16.0	Soil at 16' from well boring MW-2	07/03/2012	<0.96	<0.96	<0.0046	<0.0046	<0.0046	<0.0092	<0.99	<0.0046	<5.0	<5.0	<0.0046
MW3-6.5	Soil at 6.5' from well boring MW-3	07/03/2012	<1.0	<1.0	<0.005	<0.005	<0.005	<0.01	11.0Y[4]	<0.005	<5.0	12.0Y[4]	<0.005
MW3-11.0	Soil at 11' from well boring MW-3	07/03/2012	<60Y[4]	44	<0.046	<0.046	<0.046	<0.092	37.0Y[4]	<0.046	<5.0	17.0Y[4]	**1.9**
MW4-5.5	Soil at 5.5' from well boring MW-4	07/03/2012	<1.0	<1.0	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<0.0048	<5.0	<5.0	<0.0048
MW4-10.0	Soil at 10' from well boring MW-4	07/03/2012	<0.93	<0.93	<0.0048	<0.0048	<0.0048	<0.0096	<1.0	<0.0048	<5.0	<5.0	<0.0048
Residential land use shallow soil, drinking water [5]			83	83	0.044	2.9	2.3	2.3	83	0.023	370	370	1.3
Residential land use shallow soil, non-drinking water [6]			100	100	0.12	9.3	2.3	11	100	8.4	370	370	1.3

TPH [1] = Total volatile petroleum hydrocarbons by EPA Method 8015B
mg/kg [2] = milligrams per kilogram
TEPH [3] = Total extractable petroleum hydrocarbons by EPA Method 8015B
(Y) [4] = Sample exhibits chromatographic pattern which does not resemble standard

[5] = Tier 1 Environmental Screening Levels (ESLs), Shallow Soils (<3m bgs), Groundwater is Current or Potential Source of Drinking Water (mg/kg) (Table A), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final - November 2007, (Revised May 2008).

[6] = Tier 1 Environmental Screening Levels (ESLs), Shallow Soils (<3m bgs), Groundwater is not Current or Potential Source of Drinking Water (mg/kg) (Table B), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Prepared by: California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, Interim Final - November 2007, (Revised May 2008).

Bold = Concentration presented in bold where such a value is at or exceeds one of the environmental screening levels (ESLs).