Detterman, Mark, Env. Health

From: Detterman, Mark, Env. Health
Sent: Wednesday, June 06, 2012 9:05 AM
To: 'Sami Malaeb'
Cc: rbatiste@eec-corp.com; colisa@me.com; britpete@aol.com
Subject: RE: 2145 35th Avenue, Oakland, CA - Petroleum Hydrocarbons in Water - Calculated Groundwater Flow Direction - Proposed Well Locations - Well Diagram -

Hi Sami,
ACEH is in general agreement with the scope of site investigation work you have proposed; however, as always the devil's in the details. ACEH will withhold concurrence on the proposed bore locations (or exact number) pending availability of the results of the four wells planned for installation in the near future. Please plan for a work plan to formally propose locations for the bores and wells and other appropriate future actions (this can be combined with the results of the site investigation). Thanks for keeping me (and ACEH) up to date on actions at the site.
Best,

Mark Detterman
Senior Hazardous Materials Specialist, PG, CEG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6876
Fax: 510.337.9335
Email: mark.detterman@acgov.org

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: Tuesday, June 05, 2012 5:06 PM
To: Detterman, Mark, Env. Health
Cc: rbatiste@eec-corp.com; colisa@me.com; britpete@aol.com
Subject: RE: 2145 35th Avenue, Oakland, CA - Petroleum Hydrocarbons in Water - Calculated Groundwater Flow Direction - Proposed Well Locations - Well Diagram -

Hi Mark:

As we discussed on the phone, the State Water Resources Control Board (SWRCB), Orphan Fund, wants to have an estimated budget for the next fiscal year as soon as possible. The first phase of subsurface investigation at the subject site (2145 35th Avenue, Oakland) identified significant concentrations of Petroleum Hydrocarbons in soil and in particular shallow groundwater. Due to existence of an Apartment Building, School, and Residences in the vicinity of this site, further plume delineation and future remedial action are needed.

For the next Phase, after installing the four monitoring wells, I recommend drilling an additional Twelve (12) borings BH16 through BH27 and up to six (6) additional monitoring wells (onsite and offsite). In the meanwhile, if floating product is encountered in the monitoring wells, interim remediation or skimming will be in order. The attached Figure 4 contains the concentrations of Petroleum Hydrocarbons in groundwater. Figure 6 depicts the estimated extent of the plume and the proposed additional boring locations. The borings and wells will be installed according to the already approved workplan. Also, fuel oxygenates, lead scavengers, and volatile organics will be eliminated from future analysis (except TPH-G; BTEX; TPHss; MTBE; TPH-D; TPH-Mo, Five Metals, and Naphthalene will stay in the analysis). As you

advised, the well screens will be shortened as much as possible. Please note that the additional well locations will be determined after drilling the four approved monitoring wells and the proposed 12 borings. Of course, your approval will be obtained before any further work.

Should you agree with the next step concept above, I will prepare a budget for the next phase and have the site owner, Mr. Peterson, apply for pre-approval from the SWRCB Orphan Fund.

Thank you for your cooperation and input in this project.

Regards,

Sami Malaeb, P.E., R.E.A.
TEL: (925) 858-9608
Email: s.malaeb@comcast.net

From: Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]
Sent: Friday, June 01, 2012 9:34 AM
To: 'Sami Malaeb'
Cc: rbatiste@eec-corp.com; colisa@me.com; britpete@aol.com
Subject: RE: 2145 35th Avenue, Oakland, CA - Petroleum Hydrocarbons in Water - Calculated Groundwater Flow Direction - Proposed Well Locations - Well Diagram -

Sami,
Thanks for the data clarification. The data do support removal of all fuel oxygenates, lead scavengers, and a full scan 8260. I would request that MTBE continue to be included in the analytical suite as it can be captured without additional cost and can provide some data on the vicinity groundwater quality. The changes in well diameter appear to be an appropriate modification based on potential future uses. In regards to the well length, I do believe that field calls are the appropriate place to make the final well length selection; however, in reviewing the soil bores, it does appear the screens can be shortened slightly without sacrificing future usefulness of the wells. In the end, I will leave that call to your professional judgment.
Let me know if you have questions; otherwise let me know a couple days before the work will begins.
Best,

Mark Detterman
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From: Sami Malaeb [mailto:s.malaeb@comcast.net]
Sent: Friday, June 01, 2012 8:52 AM
To: Detterman, Mark, Env. Health
Cc: rbatiste@eec-corp.com; colisa@me.com; britpete@aol.com

Subject: RE: 2145 35th Avenue, Oakland, CA - Petroleum Hydrocarbons in Water - Calculated Groundwater Flow Direction - Proposed Well Locations - Well Diagram -

Hi Mark:

Thank you for your speedy reply after our conversation yesterday. In your email you mentioned that presenting the data for volatile organics, lead scavengers, and fuel oxygenates in less than "<" rather than "ND" is needed to judge the appropriateness of eliminating these compounds from future analysis. For ease of review, please see the attached tables, where the data for groundwater are presented in less than "<" rather than "ND".

Regarding the well diagram, I revised the diagram to shorten the screen to 10 feet. That is, the screen extends from 8 feet below surface grade to 18 feet below surface grade (Figure 8). Such a screen is needed to capture seasonal groundwater elevation fluctuation and floating product, if it exists. The field condition during drilling may dictate minor adjustment of the well construction. Also, as discussed, we will have monitoring wells MW-2 and MW-3, located in the highly impacted areas, constructed as 4" inch wells rather than 2" wells. Such construction of 4" wells will allow the extraction of additional product (if it exists) and contaminated water from these wells during sampling events. Monitoring wells MW-1 and MW-4 will be 2" wells.

Please let me know in an email if you have any additional comments or concern.

Thank you for your help and insight in executing this project.

Regards,

Sami Malaeb, P.E., R.E.A.
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Email: s.malaeb@comcast.net

From: Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]
Sent: Thursday, May 31, 2012 5:15 PM
To: 'Sami Malaeb'
Cc: 'rbatiste@eec-corp.com'; 'colisa@me.com'; 'britpete@aol.com'
Subject: RE: 2145 35th Avenue, Oakland, CA - Petroleum Hydrocarbons in Water - Calculated Groundwater Flow Direction - Proposed Well Locations - Well Diagram -

Hi all,

A complete email this time…sorry for the email recall.

I've had a chance to review the data packages that Sami sent and wanted to provide a response. My review included the following items:

Figure 3 Groundwater Elevation and Flow Directions
Figure 4 Depiction of Petroleum Hydrocarbons in Groundwater
Figure 5 Proposed Well Locations
Figure 6 Proposed Well Diagram Rev 05.28.12
Bore logs for P1 to P4, and BH-5 to BH-15

Table 1 Soil, Dispenser and Piping, TPH, TEPH, PCBS, BTEX
Table 2 Soil, Dispenser and Piping, Fuel Oxygenates and Lead Scavengers
Table 3 Soil, Dispenser and Piping VOCs 8260

Table 4 Soil, Dispenser and Piping, Five Metals
Table 5 Soil, Borings, TPH, TEPH, BTEX, PCBs

Please use this email to document that ACEH is in **general concurrence with the revised proposed well locations** as proposed in Figure 5.

In regards to well screens Figure 6 specified a static **well screen interval** with a 12 foot screen interval. ACEH requires shorter screen intervals in order to collect more representative groundwater samples, generally with no more than a 5 foot sand interval; however, ACEH also recognizes that fully screened water-bearing zones are appropriate in thinner permeable zones. ACEH requests an effort to minimize the screen length at each well location to the extent possible, with well screens minimally longer than the water-bearing zone, including the capillary fringe. If longer screen intervals are judged appropriate well clusters or CMT multilevel wells may be appropriate.

ACEH may also be in general agreement with our conversations that full scan VOC by EPA8260, and with the exception of MTBE all fuel oxygenates can be eliminated from future groundwater; however, currently only has generalized "ND" concentration data, and not "less than" (<) data to judge the appropriateness of the detection limit achieved by the laboratory. This was partly a short hand way to express the data on figures. **If this data can be provided ACEH may be able to make this determination to eliminate these analytes.** Our discussion also mentioned naphthalene and we are in agreement that it should continue to be included in the analytical suite. All other analytes should continue to be included in the analytical suite.

Should you have any questions, please let me know.

Mark Detterman
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From: Sami Malaeb [mailto:s.malaeb@comcast.net]
Sent: Monday, May 28, 2012 3:28 PM
To: Detterman, Mark, Env. Health
Cc: rbatiste@eec-corp.com; colisa@me.com; britpete@aol.com
Subject: 2145 35th Avenue, Oakland, CA - Petroleum Hydrocarbons in Water - Calculated Groundwater Flow Direction - Proposed Well Locations - Well Diagram -

Hi Mark:

I think you are correct. There is more than one groundwater flow direction calculated from the temporary piezometers (see the attached Figure 3). The calculated flow direction ranges from southeast to northeast. However, the topographic slope is towards southwest. I believe the calculated groundwater flow direction from these temporary piezometers is inconclusive. There is a possibility that there was no full recovery of water in one or more of these temporary piezometeres. It is likely that the groundwater flow will follow the topography of the area, towards the southwest.

I proposed the locations of the four wells in the attached Figure 5. Additional wells are needed in the future. Please note the locations of the well are slightly different from what I proposed in a previous email. I placed a well near the

center of the main plume. Also, I placed a well upgradient for better triangulation and calculation of the groundwater flow direction.

Also, I proposed the well diagram in the attached Figure 6.

For your reference, Figure 4 depicts petroleum hydrocarbons in groundwater.

Let us discuss at your convenience.

Regards,

Sami Malaeb, P.E., R.E.A.
TEL: (925) 858-9608
Email: s.malaeb@comcast.net

RESIDENTIAL HOUSES

SALISBURY STREET

SIDEWALK

Estimated Petroleum Hydrocarbon Plumes

GROUNDWATER FLOW

RESIDENTIAL HOUSES

0 FEET 10
APPROXIMATE SCALE

SUBJECT SITE

35TH AVENUE

RESIDENTIAL HOUSE

BH13

FORMER EXCAVATION OF A WASTE OIL UST (1999)

BH19

BH12

BH14

GARAGE DOOR

S-2-7'

S-3-7'

FORMER CAR MAINTENANCE PIT

BH20

BH21

P4

BH11

DOOR

BH6

DOOR

B2

B3

BH7

B1

B4

LOCATION OF FORMER TWO 500-GALLON GASOLINE USTS

PIPING

S-6-5'

S-5-5'

FORMER GASOLINE DISPENSER ISLAND

P1

BH16

DOOR

DOOR

BH5

VACANT ROOM

BH8

BH15

BH22

S-4-3'

DOOR

FLOOR DRAIN 15"

S-1-5.5'

HYDRAULIC LIFT

BH10

DOOR

REST ROOM

BH9

BH23

BH26

FENCE PROPERTY BORDER

P3

BH18

BH17

P2

APPARTMENT BUILDING

BH25

BH24

BH27

BORINGS BH26 AND BH27 WILL BE PLACED FRONT OF THE APPARTMENT BUILDING OR SCHOOL OR PROPERLY LOCATED BASED ON THE ANALYTICAL RESULTS OF OTHER UPGRADIENT BORINGS

SHALLOW SOIL SAMPLING LOCATONS 2012

BORINGS DRILLED IN 2012

BORINGS DRILLED IN 2007

PROPOSED ADDITIONAL BORINGS

EEC

EAGLE ENVIRONMENTAL COMPANY
4909 THIRD STREET
SAN FRANCISCO, CA 94124

PETROLEUM HYDROCARBONS IN GROUNDWATER AND PROPOSED ADDITIONAL BORINGS
2145 35TH AVENUE, OAKLAND, CALIFORNIA

FIGURE 6

JUNE 2012

RESIDENTIAL HOUSES

SALISBURY STREET

SIDEWALK

0 FEET 10
APPROXIMATE SCALE

SUBJECT SITE

BH13-W (Water 02/08/2012)
TEP-G <50 ug/l
TPHss <50 ug/l
TPH-D 210 ug/l
TPH-Mo ND < 380 ug/l
Benzene <0.5 ug/l
Toluene <0.5 ug/l
Ethyl benzene <0.5 ug/l
Total Xylenes 1.0 ug/l
Naphthalene <1.0 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

B1-W (Water 02/23/2007)
TEP-G 87,000 ug/l
TPHss 71,000 ug/l
TPH-D 69,000 ug/l (Y)
TPH-Mo 1,800 ug/l
Benzene 250 ug/l
Toluene <5 ug/l
Ethyl benzene <5 ug/l
Total Xylenes <10 ug/l

B7-W (Water 01/25/2012)
TEP-G 51 ug/l (Y)
TPHss ND <50 ug/l
TPH-D ND <300 ug/l
TPH-Mo ND <300 ug/l
Benzene ND <0.5 ug/l
Ethyl benzene ND <0.5 ug/l
Toluene ND <0.5 ug/l
Total Xylenes ND <1.0 ug/l
Naphthalene ND < 2.0 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

B8-W (Water 01/25/2012)
TEP-G 74,000 ug/l
TPHss 48,000 ug/l
TPH-D 3,800 ug/l (Y)
TPH-Mo ND < 300 ug/l
Benzene 36 ug/l
Toluene 21 ug/l
Ethyl benzene 130 ug/l
Total Xylenes 44 ug/l
Naphthalene 1,200 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

P1-W (Water 01/25/2012)
TEP-G ND <50 ug/l
TPHss ND<50 ug/l
TPH-D ND <50 ug/l
TPH-Mo ND <300 ug/l
Benzene ND <0.5 ug/l
Toluene ND <0.5 ug/l
Ethyl benzene ND <0.5 ug/l
Total Xylenes ND <1.0 ug/l
Naphthalene ND < 2.0 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

BH12-W (Water 02/06/2012)
TEP-G 560 ug/l (Y)
TPHss 460 ug/l (Y)
TPH-D 1,400 ug/l (Y)
TPH-Mo ND < 300 ug/l
Benzene <1.3 ug/l
Toluene <1.3 ug/l
Ethyl benzene 1.3 ug/l
Total Xylenes <2.6 ug/l
Naphthalene < 5 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

FORMER EXCAVATION OF A WASTE OIL UST (1999)

BH13

BH12

BH6-W (Water 01/25/2012)
TEP-G 2,000 ug/l
TPHss 1,300 ug/l
TPH-D 700 ug/l (Y)
TPH-Mo ND < 300 ug/l
Benzene 8.6 ug/l
Toluene ND < 0.5 ug/l
Ethyl benzene 1.3 ug/l
Total Xylenes ND <1.0 ug/l
Naphthalene 17 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

BH6

BH11

DOOR

B2

BH7

B3

B1

B4

LOCATION OF FORMER TWO 500-GALLON GASOLINE USTS

PIPING

S-6-5'

S-5-5'

FORMER GASOLINE DISPENSER ISLAND

P1

BH15-W (Water 02/08/2012)
TEP-G 1,800 ug/l
TPHss 1,200 ug/l
TPH-D 1,600 ug/l (Y)
TPH-Mo ND < 300 ug/l
Benzene 1.0 ug/l
Toluene <0.7 ug/l
Ethyl benzene 1.7 ug/l
Total Xylenes 1.0 ug/l
Naphthalene 100 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

BH15

BH14-W (Water 02/08/2012)
TEP-G 1,300 ug/l (Y)
TPHss 910 ug/l (Y)
TPH-D 4,000 ug/l (Y)
TPH-Mo ND < 300 ug/l
Benzene <0.5 ug/l
Toluene <0.5 ug/l
Ethyl benzene <0.5 ug/l
Total Xylenes <1.0 ug/l
Naphthalene <5 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

BH14

GARAGE DOOR

BH11-W (Water 02/08/2012)
TEP-G <50 ug/l
TPHss <50 ug/l
TPH-D <50 ug/l
TPH-Mo ND < 300 ug/l
Benzene <0.5 ug/l
Toluene <0.5 ug/l
Ethyl benzene <0.5 ug/l
Total Xylenes 1.0 ug/l
Naphthalene <1.0 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

BH5-W (@ 15' bgs, Water 02/06/2012)
TEP-G 14,000 ug/l
TPHss 11,000 ug/l
TPH-D 350 ug/l
TPH-Mo ND < 300 ug/l
Benzene 570 ug/l
Toluene 130 ug/l
Ethyl benzene 1,600 ug/l
Total Xylenes 787 ug/l
Naphthalene 400 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

BH5

VACANT ROOM

BH8

DOOR

DOOR

DOOR

S-2-7'

FORMER CAR MAINTENANCE PIT

S-3-7'

P4-W (Water 01/25/2012)
TEP-G ND <50 ug/l
TPHss ND<50 ug/l
TPH-D 76 ug/l (Y)
TPH-Mo ND < 300 ug/l
Benzene ND <0.5 ug/l
Toluene ND <0.5 ug/l
Ethyl benzene ND <0.5 ug/l
Total Xylenes ND <1.0 ug/l
Naphthalene ND < 2.0 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

BH5-W1 (@ 25' bgs, Water 02/06/2012)
TEP-G 900 ug/l
TPHss 730 ug/l (Y)
TPH-D 350 ug/l
TPH-Mo ND < 300 ug/l
Benzene 2.9 ug/l
Toluene 1.1 ug/l
Ethyl benzene 43 ug/l
Total Xylenes 18.7 ug/l
Naphthalene 4.7 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

S-4-3'

BH9-W (Water 02/06/2012)
TEP-G 7,500 ug/l
TPHss 6,100 ug/l (Y)
TPH-D 840 ug/l (Y)
TPH-Mo ND < 300 ug/l
Benzene 27 ug/l
Toluene 11 ug/l
Ethyl benzene 340 ug/l
Total Xylenes 164.4 ug/l
Naphthalene 69 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

BH9

S-1-5.5'

HYDRAULIC LIFT

FLOOR DRAIN 15"

BH10

DOOR

REST ROOM

P4

P3-W (Water 01/25/2012)
TEP-G ND <50 ug/l
TPHss ND<50 ug/l
TPH-D ND <50 ug/l
TPH-Mo ND <300 ug/l
Benzene ND <0.5 ug/l
Toluene ND <0.5 ug/l
Ethyl benzene ND <0.5 ug/l
Total Xylenes ND <1.0 ug/l
Naphthalene ND < 2.0 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

P3

BH10-W (Water 02/06/2012)
TEP-G <50 ug/l
TPHss <50 ug/l
TPH-D <50 ug/l
TPH-Mo ND < 300 ug/l
TPH-Hydraulic Oil ND <300 ug/l
Benzene <0.5 ug/l
Toluene <0.5 ug/l
Ethyl benzene <0.5 ug/l
Total Xylenes 1.0 ug/l
Naphthalene <1.0 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND
PCBs ND

FENCE PROPERTY BORDER

P2

P2-W (Water 01/25/2012)
TEP-G 49,000 ug/l
TPHss 32,000 ug/l (Y)
TPH-D 3,100 ug/l (Y)
TPH-Mo ND < 300 ug/l
Benzene 78 ug/l
Toluene 19 ug/l
Ethyl benzene 89 ug/l
Total Xylenes 80 ug/l
Naphthalene 680 ug/l
Fuel Oxygenates ND
Lead Scavengers (EDB, EDC) ND

35TH AVENUE

RESIDENTIAL HOUSE

SHALLOW SOIL SAMPLING LOCATONS 2012

BORINGS DRILLED IN 2012

BORINGS DRILLED IN 2007

GROUNDWATER FLOW (INCONCLUSIVE)

APPARTMENT BUILDING

RESIDENTIAL HOUSES

EAGLE ENVIRONMENTAL CONSTRUCTION
"Your Environmental Specialists"

1485 BAYSHORE BOULEVARD, SUITE 374
SAN FRANCISCO, CA 94124

DEPICTION OF THE HYDROCARBONS IN GROUNDWATER
2145 35TH AVENUE, OAKLAND, CALIFORNIA

FIGURE 4

APRIL 2012