Detterman, Mark, Env. Health

From: Sami Malaeb [s.malaeb@comcast.net]
Sent: Tuesday, October 20, 2015 1:24 PM
To: Detterman, Mark, Env. Health
Subject: RE: Update Report (2145 35th Ave, Oakland; Chevron 9-8861; RO2945)
Attachments: Figure 2 Future Site Plan and Location of Soil Gas Sampling (01.02.15).pdf; Figure 4 Locations of Drilled Soil and Soil Gas Sampling Locations.pdf; Figure 5 Approximate location where soil gas levels would be above the LTCP limits.pdf; Photos (nearby Apartment Building Crawl Space).pdf; TABLE 1 TPH-G, TPH-D and BTEX Soil.pdf; Table 2 - Summary of Soil Gas Sampling Results.pdf

Categories: Red Category

Hi Mark:

As we discussed, I am emailing you the findings from the latest soil gas and soil sampling and analyses at 2145 35th Avenue site in Oakland (the subject property). The attached figure 2 shows the location of the future building onsite. The attached Figure 4 shows the locations of the borings and soil gas sampling locations. Figure 5 shows the approximate location where soil gas levels may exceed the LTCP limits. The attached photos show the crawl space and utility lines in the driveway between the subject property and neighboring apartment building. Table 1 summarizes the analytical results for TPH-G, TPH-D, and BTEX from soil borings drilled to 5 feet below surface grade (bsg) to confirm or deny the existence of combined TPH-G and TPH-D below or above 100 mg/kg. Table 2 summarizes the soil gas analytical results. Please note that with the help of a utility locator, we were able to drill the soil gas borings SG4 and SG5 in their original planned locations (Figure 4). The job was completed on September 29, 2015. All borings and temporary soil gas wells were grouted in place, the same day, after sampling in presence of Alameda County Public Works Agency representative.

The findings to date and recommendations are as follows:

- All the soil analytical results from the soil sampling to 5 feet bsg show well below 100 mg/kg combined TPH-G and TPH-D concentrations (See Table 1 and Figure 4). Therefore, soil excavation or cleanup is not warranted at the subject property or neighboring property.
- Confirmatory soil gas borings SG6 and SG6R (replicate), drilled near previous SG-1, did not show any level of soil gas impact above the LTCP levels or combined TPH-G and TPH-D above 100 mg/kg. Therefore, soil excavation or cleanup is not warranted at the location of SG-1 and SG6. Also, soil gas levels are confirmed to be below the LTCP limits for residential scenario.
- Soil gas boring SG4,drilled between BH17 and BH16 did not show any level of soil gas impact above the LTCP levels or combined TPH-G and TPH-D above 100 mg/kg (Table 2).
- Soil gas boring SG5 levels of Benzene, ethylbenzene, and Naphthalene exceeded the LTCP respective levels when oxygen level is below 4% (Table 2).

At this point we offer the following conclusions and recommendations:

- Soil excavation or cleanup is not warranted at the subject property or the neighboring property.
- The only locations to date showing soil gas concentrations above the LTCP limits are in SG-3 and SG5. Figure 5 shows the approximate location where soil gas concentrations may exceed the LTCP levels.
- The future building at the subject property will be built on a soil gas shielding, concrete slab. Also, there is a 6-inch concrete slab on the floor of the neighboring apartment building, covering the area that may be impacted with soil gas above the LTCP levels. Soil vapor intrusion into the future building onsite or the existing neighboring building is highly unlikely.

- There is at least five feet of mostly clayey soil, not impacted with petroleum hydrocarbons, covering the entire area where higher than LTCP soil gas levels are suspected. SG4 Oxygen level is 16% and SG5 oxygen level is 3.1 %. Therefore, it is likely the oxygen level in the soil gas impacted area averages more than 4%. Therefore, bio-attenuation of the soil gas in the five feet of depth and laterally is likely.
- The attached photos show the concrete slab, the venting of the crawl space, and the utilities on the side of the neighboring apartment building. The gas and water lines are less than 3-inches in diameter and less than 3 feet bsg. The sewer line is a 4-inch line starting at a depth of 4 feet bsg in the back of the apartment building and sloped by gravity to the main sewer line on 35th Avenue. It is expected that the depth of the sewer line in the area of the soil gas impact to be more than five feet of depth. The utility lines are not located under the apartment building and at a depth of either too shallow or too deep to form a gas pathway to the surface. Therefore, the utility lines are not an issue with regards to soil gas intrusion.

- Page 7 of the LTCP policy states the following:

  Petroleum release sites shall satisfy the media-specific criteria for petroleum vapor intrusion to indoor air and be considered low threat for the vapor-intrusion-to-indoor-air pathway if:

  - Site-specific conditions at the release site satisfy all of the characteristics and criteria of scenarios 1 through 3 as applicable, or all of the characteristics and criteria of scenario 4 as applicable

  Clearly the subject property satisfies all of the characteristics and criteria of scenarios 1 through 3 as applicable (Appendix 3, Scenario 3, page 1 of 2 is applicable in our case). Also, as a second line of defense, the future concrete slab under the building onsite, and the existing concrete slab on the floor of the crawl space at the neighboring apartment building make it highly unlikely vapor intrusion would be a risk (enough engineering control is in place to remedy any possible vapor intrusion).

  Based on the information presented above, we recommend no further action and closure of the UST case at the subject property.

Please call me or email me back with any comment or question.

Thanks,

Sami Malaeb, P.E., QSP/QSD
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From: Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]
Sent: Thursday, September 24, 2015 9:43 AM
To: 'Sami Malaeb'
Subject: RE: Do You Have a Preferred Report Submittal Date? (2145 35th Ave, Oakland; Chevron 9-8861; RO2945)

Hi Sami,
Thanks for the updated figure; the alternate locations look reasonable. I'll look forward to the report!

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: Thursday, September 24, 2015 7:24 AM
To: Detterman, Mark, Env. Health
Subject: RE: Do You Have a Preferred Report Submittal Date? (2145 35th Ave, Oakland; Chevron 9-8861; RO2945)

Hi Mark:

As we discussed earlier this month, the alternate locations of soil gas borings SG-4 and SG-5 are shown on the attached figure. As you suggested, the location of SG-4 was moved to be near BH-17.

Let me know if you have any questions.

Have a good day.

Sami Malaeb, P.E., QSP/QSD
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Email: s.malaeb@comcast.net

From: Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]
Sent: Wednesday, September 02, 2015 9:32 AM
To: 'Sami Malaeb'
Subject: RE: Do You Have a Preferred Report Submittal Date? (2145 35th Ave, Oakland; Chevron 9-8861; RO2945)

Now that I have a date, you should get it today!

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From: Sami Malaeb [mailto:s.malaeb@comcast.net]
Sent: Tuesday, September 01, 2015 6:15 PM

To: Detterman, Mark, Env. Health
Subject: RE: Do You Have a Preferred Report Submittal Date? (2145 35th Ave, Oakland; Chevron 9-8861; RO2945)

Hi Mark:

I fact I scheduled the next phase of work at 2145 35th Avenue on the 29h of September. November 6th date for the report will be fine. When do you think I expect your regulatory letter in response to the last report? I will call you later for more coordination.

Thanks for your help and support.

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From: Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]
Sent: Tuesday, September 01, 2015 2:58 PM
To: 'Sami Malaeb'
Subject: Do You Have a Preferred Report Submittal Date? (2145 35th Ave, Oakland; Chevron 9-8861; RO2945)

Sami,
I had a chance to review your report, and just had one question – are you targeting a submittal date? Say perhaps November 6th? I could push out further, but I recall Peter wanted to move this as quickly as possible. Either way, you could still submit sooner. Let me know and I'll respond to memorialize it.
Thanks,

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TABLE 1
SUMMARY OF CHEMICAL ANALYSES FOR PETROLEUM HYDROCARBONS AS DIESEL, GASOLINE, AND BTEX
SOIL SAMPLES COLLECTED ON 09/29/2015
2145 35TH AVENUE, OAKLAND, CA

Sample ID	Date Sampled	TPH-G (mg/kg)	TPH-D (mg/kg)	Combined TPH-D and TPH-G	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl -benzene (mg/kg)	Total Xylenes (mg/kg)
SG4-2	09/29/15	ND<1.1	ND<0.99	ND<2.09	<0.0056	<0.0056	<0.0056	<0.0112
SG4-5	09/29/15	ND<0.97	ND<0.99	ND<1.96	<0.0049	<0.0049	<0.0049	<0.0098
SG5-2	09/29/15	ND<1.0	ND<1.0	ND<2.0	<0.0050	<0.0050	<0.0050	<0.0100
SG5-5	09/29/15	ND<0.93	ND<1.0	ND<1.93	<0.0047	<0.0047	<0.0047	<0.0094
SG6-2	09/29/15	ND<0.91	ND<1.0	ND<1.91	<0.0045	<0.0045	<0.0045	<0.0090
SG6-5	09/29/15	ND<0.98	ND<0.99	ND< 1.97	<0.0049	<0.0049	<0.0049	<0.0098
SB1-2	09/29/15	ND<1.1	2.0Y	ND<3.1	<0.0055	<0.0055	<0.0055	<0.0110
SB1-5	09/29/15	ND<1.1	1.2Y	ND<2.3	<0.0054	<0.0054	<0.0054	<0.0108
SB2-2	09/29/15	ND<1.0	ND<1.0	ND<2.0	<0.0052	<0.0052	<0.0052	<0.0104
SB2-5	09/29/15	ND<0.97	2.7Y	ND<3.67	<0.0049	<0.0049	<0.0049	<0.0098
SB3-2	09/29/15	ND<1.0	1.3Y	ND<2.3	<0.0051	<0.0051	<0.0051	<0.0102
SB3-5	09/29/15	ND<1.0	2.4Y	ND<3.4	<0.0052	<0.0052	<0.0052	<0.0104
SB4-2	09/29/15	ND<1.0	13Y	ND<14	<0.0052	<0.0052	<0.0052	<0.0104
SB4-5	09/29/15	ND<0.99	ND<1.0	ND<1.99	<0.0050	<0.0050	<0.0050	<0.0100
SB5-2	09/29/15	ND<1.1	ND<1.0	ND<2.1	<0.0054	<0.0054	<0.0054	<0.0108
SB5-5	09/29/15	ND<1.0	4.8Y	ND<5.8	<0.0052	<0.0052	<0.0052	<0.0104

TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons as Diesel
mg/kg = Milligram per kilogram or part per million

Y Sample exhibits chromatographic pattern which does not resemble standard

Table 1: Summary of Soil Gas Sampling Results

Sample ID	Sampling Date	Benzene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)	TPH-G ($\mu g/m^3$)	Oxygen %	Methane %
SG-1	01/02/2015	120J[a]	ND<520	ND<5.0 [b]	690,000	1.8	0.028
SG-1R[c]	01/02/2015	140J[a]	ND<520	ND<5.0 [b]	810,000	1.6	0.032
SG-2	01/02/2015	ND<3.9	ND<5.2	ND<5.0 [b]	3,800	12	< 0.00024
SG-3	01/02/2015	5,700	11,000	ND<5.0 [b]	32,000,000	1.9	0.43
SG4	09/29/2015	1.4J	26	120 [b]	2,700	16	<0.00030
SG5	09/29/2015	4,000J	170,000	2,000E[b]	42,000,000	3.1	0.20
SG6	09/29/2015	3.4J	6.4	69	470	13	<0.00024
SG6R[c]	09/29/2015	3.1J	5.5	59	420	13	<0.00024
Low Threat UST Closure Risk Levels[d] (when Oxygen is <4%		<85	<1,100	<93	300,000[f]	<4%	Between 5% and 15%[g]
Low Threat UST Closure Risk Levels[e] (when Oxygen is > 4%)		<85,000	<1,100,000	<93,000		>4%	

[a] J Estimated Value

[b] Confirmed by TO-17

[c] Replicate Sample

[d] Appendix 4 , Scenario 4, Page 1 of 2

[e] Appendix 4 , Scenario 4, Page 2 of 2

[f] Table E, ESLs, SFCRWQCB, 2013

[g] www.mathesonrigas.com

E = Exceeds instrument calibration range

RESIDENTIAL HOUSES

SALISBURY STREET

SIDEWALK

FORMER EXCAVATION OF A WASTE OIL UST (1999)

LOCATION OF FORMER TWO 500-GALLON GASOLINE USTS

0 FEET 10
APPROXIMATE SCALE

SUBJECT SITE

RESIDENTIAL HOUSE

Former Building Boundary

BH13
BH13-5' <2.1 PPM
BH13-8 <2.0 PPM

MW-4
MW4-5.5' <2.0 PPM

BH6-8' 5.4 ppm
BH6

B2@8' 1.3 ppm
B2
B3@8.5' <2.0 ppm
B3
BH7
BH7-8' 3.4 ppm

P1-5.0' <2.0 ppm
P1

BH12
BH12-5' <2.0 PPM

BH11
BH11-8' <2.0 PPM

BH14
BH14-8' <2.0 PPM

MW-1
MW1-5.5' <2.0 PPM

S-2-7' <2.0 PPM

MW-3
MW3-6.5' 12.0 PPM
B1

B1@9' 2460 ppm

B4@7.5' 177 ppm
B4

S-6-5' 4.8 PPM

SG6

SG-1

BH5
BH5-5' 145 ppm
BH5-8' 930 ppm

PIPING

FORMER GASOLINE DISPENSER ISLAND

S-5-5' <2.0 PPM

BH8
BH8-8' 2.8 ppm

BH15
BH15-4 <2.0 PPM
BH15-8 <2.8 PPM

S-4-3' 17.7 PPM

SG-2

BH9
BH9-8' 1560 ppm

DECK

BH10-9' <2.1 ppm

S-1-5.5' 47PPM
BH10

FORMER HYDRAULIC LIFT

FORMER CAR MAINTENANCE PIT

DECK

P4
P4-8' <2.0 PPM

P3
P3-8' <2.0 PPM

SG-3

P2
P2-8' 18.1 PPM

MW-2
MW2-6.0' <95.1 PPM

BH16-3 <2.1 ppm
BH16-7 <2.1
BH16

BH17-2.5' 4.4 ppm
BH-17-6 3.4 ppm
BH17

SG4

SG5

APARTMENT BUILDING

FENCE PROPERTY BORDER

1-STORY
2-STORY
3-STORY
UNIT 5
UNIT 4
UNIT 3
UNIT 2
UNIT 1

35TH AVENUE

FUTURE BUILDING FOUNDATIONS ARE ON THE DOUBLE LINES ALONG THE WALLS OF THE BUILDING

P3-8' <2.0 PPM — Denotes TPHG+TPH-D in Soil Bold where TPHG + TPHD exceeds 100 ppm

SG-1 — Soil Gas Sampling Locations

EAGLE ENVIRONMENTAL CONSTRUCTION
"Your Environmental Specialists"
1485 BAYSHORE BOULEVARD, SUITE 374
SAN FRANCISCO, CA 94124

FUTURE SITE PLAN AND LOCATIONS OF SOIL GAS SAMPLING
2145 35TH AVENUE, OAKLAND, CALIFORNIA

FIGURE 2

OCTOBER 2015

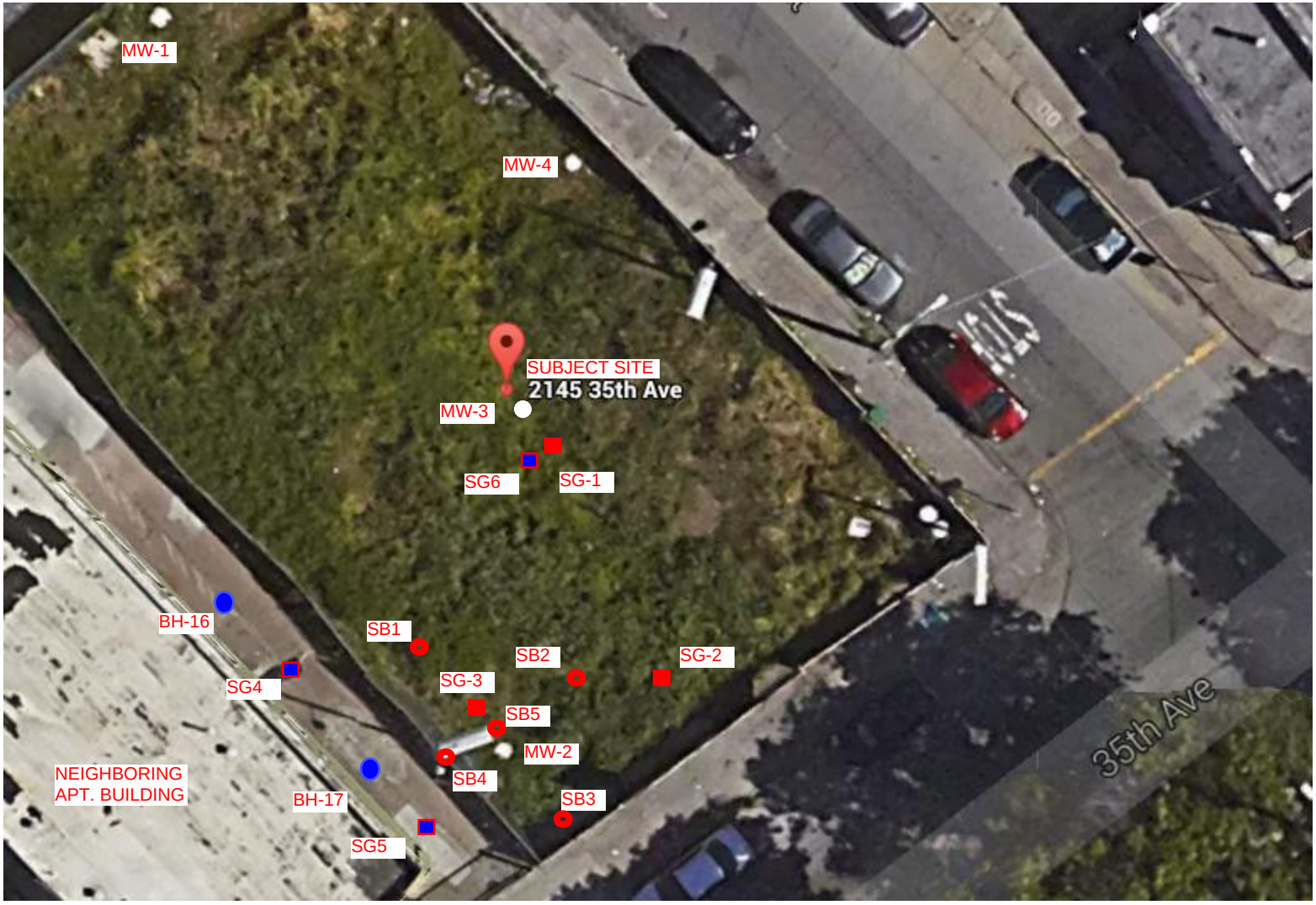

Figure 4- Locations of Drilled Soil and Soil Gas Borings

Approximate Scale :
1 inch = 20 feet

N

Sampled Soil Gas Locations (Jan. 2015)

Sampled Soil Gas Locations (SEP. 2015)

Drilled soil borings Drilled in 2012

Drilled Soil Borings in Sept 2015

Figure 5- Approximate area where soil gas concentrations are expected to be above the LTCP levels