Detterman, Mark, Env. Health

From: Detterman, Mark, Env. Health
Sent: Friday, November 08, 2013 1:29 PM
To: 'Chris Baldassari'
Cc: JTREINEN@GRIFFINCAPTIAL.COM; Robert S. Creps; Roe, Dilan, Env. Health
Subject: RE: Draft memo for 1650 65th Street, Emeryville (Emery Bay Plaza; RO0440)

Chris,
Thank you for submitting the draft memo for our review. ACEH has a number of comments relative to the draft response and these are numbered according to the numbering system in your memo. Our comments are intended as discussion points that can be addressed in your document to provide more support for your rationale or to require further analysis and data.

1) Criteria; Removal of Free Product to Extent Practicable – ACEH is in agreement with your assessment.

2) Vapor Intrusion Criteria –
   a. Methane Collection System – Has the methane alarm system been triggered which would suggest vapor intrusion (methane or other) into the building? Please provide documentation of the events, if any. Additionally, please provide documentation that the system has been tested regularly, and that adequate maintenance is provided to the alarm system to ensure that system sensors have not fouled.

   b. Soil Concentrations Representative of a Bioattenuation Zone – Presently ACEH is not in agreement with this portion of the vapor intrusion (VI) argument. The site does not appear to fit scenarios 3 or 4 under the VI section of the LTCP. In regards to scenario 3, due to the presence of over 100 ug/l benzene in groundwater (most recently 310 ug/l in well MW-2) the site does not meet the portion of scenario 3 that allows a 5 foot bioattenuation zone, and a 10 foot zone would be required. The second part of scenario 3 requires the upper 10 feet to be below 100 mg/kg TPH. However, soil concentrations in the upper 10 feet at the site are over 100 mg/kg (up to 13,000 mg/kg TPH as gasoline); thus the site does not meet the 10 foot portion of scenario 3 of the VI portion of the LTCP. The next portion of scenario 3 requires groundwater concentrations to be less than 1,000 benzene, and requires a soil vapor content of greater than 4% oxygen at a depth 5 feet below the foundation. At present we have not established the depth of the foundation (perhaps 2 feet?; if so 2 & 5 = 7 ft bgs). Also, while at present we appear to have a soil vapor oxygen content greater than 4% at a depth of 4 feet (not 5 or 7 ft); however, the vapor collection protocols do not appear to follow DTSC guidance (shroud, tracer gas, sampling methodology, etc.) and this could affect the recorded oxygen concentrations. While the data appears to be acceptable for the original intended purpose (methane mitigation), it is uncertain if the oxygen content was due to valid sample results or a potential sampling problem.

3) Direct Contact and Outdoor Air Criteria – The site specific risk assessment appears to support a limited health risk to site occupants (1.5×10^{-5} risk, within the USEPA allowable 1×10^{-6} to 1×10^{-4} health risk) despite soil in the upper 10 feet containing up to 160 mg/kg benzene.

4) Groundwater Media Specific Criteria - Upgradient Well MW-8 – The analysis provided appears to support the statement that the spike in benzene concentrations in well MW-8 is from a different source than the UST release. We are both in agreement that the source is unknown and may be associated with the upgradient storage space, or a parking lot spill in the vicinity of the well. However, due to the lack of documentation about the source of the release, and to document and support a limited release, it appears appropriate to continue to monitor site wells (MW-8, MW-2, EW-1) for stability and / or continued decreasing concentrations; especially in November of a year, coincident with historic benzene spikes.

5) Intrusive Earthwork Guidance Plan – It has been stated that the IEGP was developed due to various chemicals being detected in historic fill beneath the site, that are unrelated to the UST case and do not present a material risk to users of the site. Please understand that while ACEH may be able to close the UST case with further analysis or

data, ACEH cannot ignore apparently unreported fill contaminants at the site. It will be necessary to disclose the contaminants and associated concentrations in order for ACEH to assess this statement. Alternatively, if it can be demonstrated that the contamination has been investigated to the satisfaction of other regulatory agencies under an existing case number, ACEH will not seek further information relative to the contaminants.

We hope this moves the site forward towards closure a step; however, we recognize that this site may require further discussions. Please contact me if you have questions or comments. Please contact me if another conference call is appropriate.

Mark Detterman
Senior Hazardous Materials Specialist, PG, CEG
Alameda County Environmental Health
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PDF copies of case files can be downloaded at:

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

From: Chris Baldassari [mailto:cbaldassari@pesenv.com]
Sent: Friday, September 27, 2013 4:45 PM
To: Detterman, Mark, Env. Health; Roe, Dilan, Env. Health
Cc: JTREINEN@GRIFFINCAPTIAL.COM; Robert S. Creps
Subject: Draft memo for 1650 65th Street, Emeryville (Emery Bay Plaza; RO0440)

Mark and Dilan,

Hope you are well. As you recall from our August 22 meeting at your offices, we had constructive dialogue about outstanding issues for case closure identified in the July 11 letter from ACEH to Griffin. An outcome of the meeting was that we would document and send you information provided in our meeting in further support of low-threat closure. As such, please see the attached draft memorandum for your review. We look forward to hearing from you.

Thanks,
Chris

Christopher J. Baldassari, P.G.
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From: dehloptoxic, Env. Health [mailto:deh.loptoxic@acgov.org]
Sent: Thursday, July 11, 2013 2:45 PM
To: JTREINEN@GRIFFINCAPTIAL.COM; DPINGSTON@TMGPARTNERS.COM

Cc: Chris Baldassari; Robert S. Creps; ROBERT.HANSEN@SYBASE.COM; BRAD@SYBASE.COM; PAUL.MAHONEY@SYBASE.COM; TMAIDEN@REEDSMITH.COM; Drogos, Donna, Env. Health; Roe, Dilan, Env. Health; Detterman, Mark, Env. Health
Subject: ACEH Correspondence for RO440

Dear Interested Parties,

Attached is Alameda County Environmental Health's (ACEH) correspondence for your case, RO0000440.

Please add our email address to your book to prevent future e-mails from being filtered as spam.

Sincerely,

ACEH

PES Environmental, Inc.
Engineering & Environmental Services

D R A F T **For Discussion Purposes Only**

MEMORANDUM

TO: Mr. Mark E. Detterman – Alameda County Environmental Health
Ms. Dilan Roe – Alameda County Environmental Health

FROM: Christopher J. Baldassari – PES Environmental, Inc.
Robert S. Creps – PES Environmental, Inc.

CC: Ms. Julie Treinen – Griffin Capital Corporation, LLC

DATE: September 27, 2013

SUBJECT: Additional Information in Support of LTCP Evaluation
1650 65th Street
Emeryville, California
Fuel Leak Case No. RO0000440
Geotracker ID T0600100511

PROJECT NO.: 1211.001.03.002

This memorandum has been prepared by PES Environmental, Inc. (PES), on behalf of Griffin Capital Corporation (Griffin) as agent for the fee owners of 1650 65th Street, in Emeryville, California (site). This memorandum provides additional information requested by Alameda County Environmental Health (ACEH) through technical comments contained in a July 11, 2013 letter to Griffin (ACEH 2013 Letter)[1]. The technical comments were based on ACEH's review of documents submitted on behalf of Griffin for the subject fuel leak case, including a *Low Threat Case Closure Evaluation* (LTCP Evaluation)[2]. As discussed during a meeting between ACEH, PES, and Griffin at ACEH offices on August 22, 2013, this memorandum provides additional clarifying information to further support ACEH review of the site for case closure under the Low-Threat Closure Policy (LTCP, Policy).

[1] Alameda County Environmental Health, 2013. *Additional Information Request, Fuel Leak Case No. RO0000440 and Geotracker Global ID T0600100511, Emery Bay Plaza, 1650 65th Street, Emeryville, CA 94608.* July 11.

[2] PES Environmental, Inc., 2013. *Low-Threat Case Closure Evaluation, 1650 65th Street, Emeryville, California, Fuel Leak Case No. RO0000440, Geotracker Global ID T0600100511.* May 22.

1. General Criteria d; Removal of Free Product to the Maximum Extent Practicable

As noted in Technical Comment No. 1 of the ACEH 2013 Letter, petroleum hydrocarbon constituents were detected in soil above concentrations cited in a technical LTCP guidance document[3] that indicate the possible presence of free product. However, as we discussed and as outlined below, free product is not present and, furthermore, the site meets the criteria for removal of free product to the maximum extent practicable within the site source area. As noted in the LTCP Evaluation, free-phase petroleum product (i.e., light non-aqueous phase liquids [LNAPL]) was not identified during removal of the former underground storage tank (UST) and subsequent soil excavation, nor indicated as present based on groundwater monitoring results and field observations. Additional indications that the site does not have free-phase mobile or migrating product include:

- LNAPL was not observed in soil samples, nor on sampling and drill tooling retrieved from the soil borings placed in direct proximity of the former tank excavation area during the March 2012 investigation;

- Free product has not been observed in groundwater monitored by wells MW-2 and EW-2, located within the source area, over a 20-year monitoring period; and

- The conclusion that mobile or migrating LNAPL is not present at the site is consistent with LNAPL screening-level criteria described in both the *Technical Justification for Groundwater Media*-Specific *Criteria*[4] (a supporting document prepared by SWRCB for LTCP evaluations) and the SWRCB's *Leaking Underground Fuel Tanks Guidance Manual* (LUFT Manual)[5].

2. Vapor Intrusion into Indoor Air Media Specific Criteria

During the August 22, 2013 meeting we discussed topics raised in Technical Comment No. 2 of the ACEH 2013 Letter in regards to the methane collection, control, and monitoring system (methane control system). The purpose of the control system is to provide a safe pathway for methane gas and lessens the potential for methane intrusion and accumulation within and beneath the building. As we further discussed, the control system is not intended to function as a fuel-related vapor intrusion mitigation system. Nevertheless, the presence of the control

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[3] California State Water Resources Control Board, 2012. *Technical Justification for Vapor Intrusion Media-Specific Criteria*. March 21.

[4] California State Water Resources Control Board, 2012. *Technical Justification for Groundwater Media-Specific Criteria*. April 24. The document further states that "…'free product' is primarily equivalent to migrating LNAPL… and secondarily equivalent to mobile LNAPL."

[5] California State Water Resources Control Board, 2012. *Leaking Underground Fuel Tank Guidance Manual*. September.

system does provide an added benefit in lessening the overall potential for vapor intrusion for the building.

Methane Collection, Control, and Monitoring System - Construction Details

As requested during the meeting with ACEH, the following provides a brief summary of the major components and operation of the methane control system:

- The methane control system was constructed under permit from and oversight by the Emeryville Fire Department;
- The methane control system is passive and has no mechanically or electrically operated components;
- The methane control system includes 24 individual vertical subgrade gas ventilation wells that passively vent to the atmosphere through piping extending to the roof; and
- The building interior is monitored continuously by 23 indoor methane sensors.

Representative Soil Vapor Samples

Noted in the ACEH 2013 Letter, and as discussed at the August 22, 2013 meeting, was the potential issue of sub-slab vapor samples that could have been influenced by the methane control system. However, the methane control system is a passive system (not active, as presumed in the ACEH 2013 Letter). In addition, and in accordance with the approved investigation work plan[6], the sub-slab vapor probes were installed in the southeast corner of the building and were installed away from the building edges and the nearest methane ventilation wells, thus further assuring the representativeness of the sub-slab vapor samples.

Soil Concentrations Representative of a Bioattenuation Zone Beneath the Building

As clarified in the August 22, 2013 meeting, with regards to the last sentence in Technical Comment No. 2, concentrations of petroleum hydrocarbons quantified as gasoline (TPHg) and diesel (TPHd) in soil samples[7] collected beneath the building (from within the bioattenuation zone depth interval) sum to less than 100 milligrams per kilogram (mg/kg). As such, the inclusion of a bioattenuation scenario in the LTCP Evaluation is warranted.

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[6] PES Environmental, Inc., 2011. *Work Plan for Additional Investigation, 1650 65th Street, Emeryville, California, Fuel Leak Case No. RO0000440, Geotracker Global ID T0600100511*. July 22.

[7] Soil samples SB-1-4.5 and SB-2-4.5.

In summary, the sub-slab sample results, oxygen data (sub-slab, 1 foot below ground surface [bgs], and 4 feet bgs), and soil and groundwater data are representative of the subsurface environment, and collectively indicate the presence of an effective bioattenuation zone beneath the building. Thus, the media-specific LTCP criteria for vapor intrusion into indoor air are satisfied.

3. Direct Contact and Outdoor Air Media Specific Criteria

The ACEH 2013 Letter indicated concern regarding petroleum hydrocarbon residual concentrations in soil. However, as discussed in the LTCP Evaluation and expanded below, although site soil concentrations exceed concentration thresholds listed in Table 1 of the LTCP, based on risk-based criteria the site does not present significant risk via either direct outdoor contact, or outdoor air inhalation. This reasoning, as we discussed, is supported as follows:

- As stated in the SWRCB's Technical Justification for Soil Screening Levels for Direct Contact and Outdoor Air Exposure Pathway, and in accordance with United States Environmental Protection Agency (USEPA)[8], the target range for acceptable site-specific lifetime excess cancer risk (LECR) is 1 x 10–6 to 1 x 10–4;

- For potential risks associated with volatilization from soil to outdoor air (for commercial/industrial site use), direct comparison between maximum soil concentrations versus concentrations presented in Table 19 of the Policy indicates an estimated LECR of approximately 1.5 x 10-5. The actual risk is likely less due to the absence of consistent outdoor receptors in the parking lot (i.e., the location of the affected area at the site); and

- For utility worker direct contact criteria, the estimated LECR is approximately 1.1 x 10-5 (versus Table 1 concentrations), also well within the range considered protective of human health for commercial site use.

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[8] U.S. Environmental Protection Agency (U.S. EPA), 1989. *Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A), Interim Final*. Office of Emergency and Remedial Response, Washington D.C., EPA/540/1-89/002. July.

[9] The methodology for development of the conservative screening levels presented in Table 1 is provided in the SWRCB document entitled *Technical Justification for Soil Screening Levels for Direct Contact and Outdoor Air Exposure Pathways* (SWRCB, 2012a). For the target chemicals listed in Table 1, the final screening criteria was based on modeling concentrations that resulted in an estimated additional carcinogenic risk of 1 x 10^{-6}.

Site Management Control

As discussed during the meeting, the Intrusive Earthwork Guidance Plan (IEGP)[10] functions in a similar manner as a Site Management Plan. Potential risks from direct exposure to workers through temporary subsurface excavation or trenching is mitigated through implementation of the IEGP, which requires: (1) notification of potential hazards associated with planned subsurface site work; and (2) planning and implementation of appropriate health and safety procedures prior to and during subsurface excavations and/or construction activities.

We further clarified that, rather than prescribing Level D as the appropriate personal protective equipment (PPE) for site work, the IEGP established that the minimum allowable PPE for subsurface work at the site is Modified Level D. The IEGP states that the actual PPE required will be determined based on evaluation of potential risks to subsurface workers and stipulated in a work-scope specific health and safety plan prepared by a qualified environmental professional.

4. Groundwater Media Specific Criteria

Overall Attainment of Groundwater Media Specific Criteria

The site satisfies the groundwater media-specific criteria. As described in the LTCP Evaluation, groundwater concentrations in the source area (monitored by wells MW-2, MW-4, MW-6, and EW-1) are below concentration criteria, are stable or declining, and the plume has been defined and is limited to a restricted onsite area.

Additional Considerations Regarding Upgradient Well MW-8

As noted in the ACEH 2013 Letter and as we discussed on August 22, staff commented on the presence of benzene concentrations in well MW-8, and in particular, the potential for vapor intrusion. However, as noted in the Site Conceptual Model (SCM) [11], petroleum hydrocarbon constituents were generally not detected at or above laboratory reporting limits during monitoring events conducted from 1994 through 2000 and, as such, the recent detections are likely from an upgradient off-site source. Comparisons of the average benzene-to-TPHg ratios for groundwater in well MW-2 (0.11) and well EW-1 (0.08) versus well MW-8 (4.96) also strongly suggest the presence of a less-aged fuel not related to the subject tank release.

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[10] PES Environmental, Inc. 2005. *Intrusive Earthwork Guidance Plan , The Atrium at Emery Bay Plaza, 1650 65th Street, Emeryville, California.* May 5.

[11] PES Environmental, Inc. 2013. *Site Conceptual Model, 1650 65th Street, Emeryville, California, Fuel Leak Case No. RO0000440, Geotracker Global ID T0600100511.* May 22.

Furthermore, there does not appear to be any potential vapor intrusion exposure scenarios for commercial workers or residents in the vicinity of MW-8. Well MW-8 is located in the site parking lot; as such (and consistent with the evaluation presented in the SCM), there are no potentially exposed receptors under current and future anticipated use of the site. Additionally, the nearby adjacent property building is utilized as an unoccupied self-storage warehouse and the office administration building is separately located in the southeast corner of that property.

Stable Groundwater Depths and Flow Direction at Well MW-8

Based on our discussion, PES reviewed historical groundwater monitoring data to assess the potential for the presence of the petroleum hydrocarbons in well MW-8 due to variance in groundwater depth or flow direction. As shown on Attachment 1, depth-to-water measurements have been stable over time. Based on the monitoring network wells, groundwater flow direction has also been consistently to the southwest. This indicates that changes in groundwater direction or elevations are not anticipated to have contributed to the source of petroleum hydrocarbons in well MW-8.

Indications of Limited Extent of Affected Groundwater in the Vicinity of MW-8

As indicated in the SCM, concentrations of benzene and TPHg in wells MW-2 and EW-1 are stable or declining and, as such, indicate: (1) these wells have not been significantly influenced by the concentrations detected in upgradient well MW-8 (located upgradient, and approximately 80 feet away from the nearest source-area well [EW-1]); and (2) concentrations at these wells indicate that natural attenuation processes are likely restricting the areal extent of affected groundwater downgradient from the vicinity of MW-8.

5. Intrusive Earthwork Guidance Plan

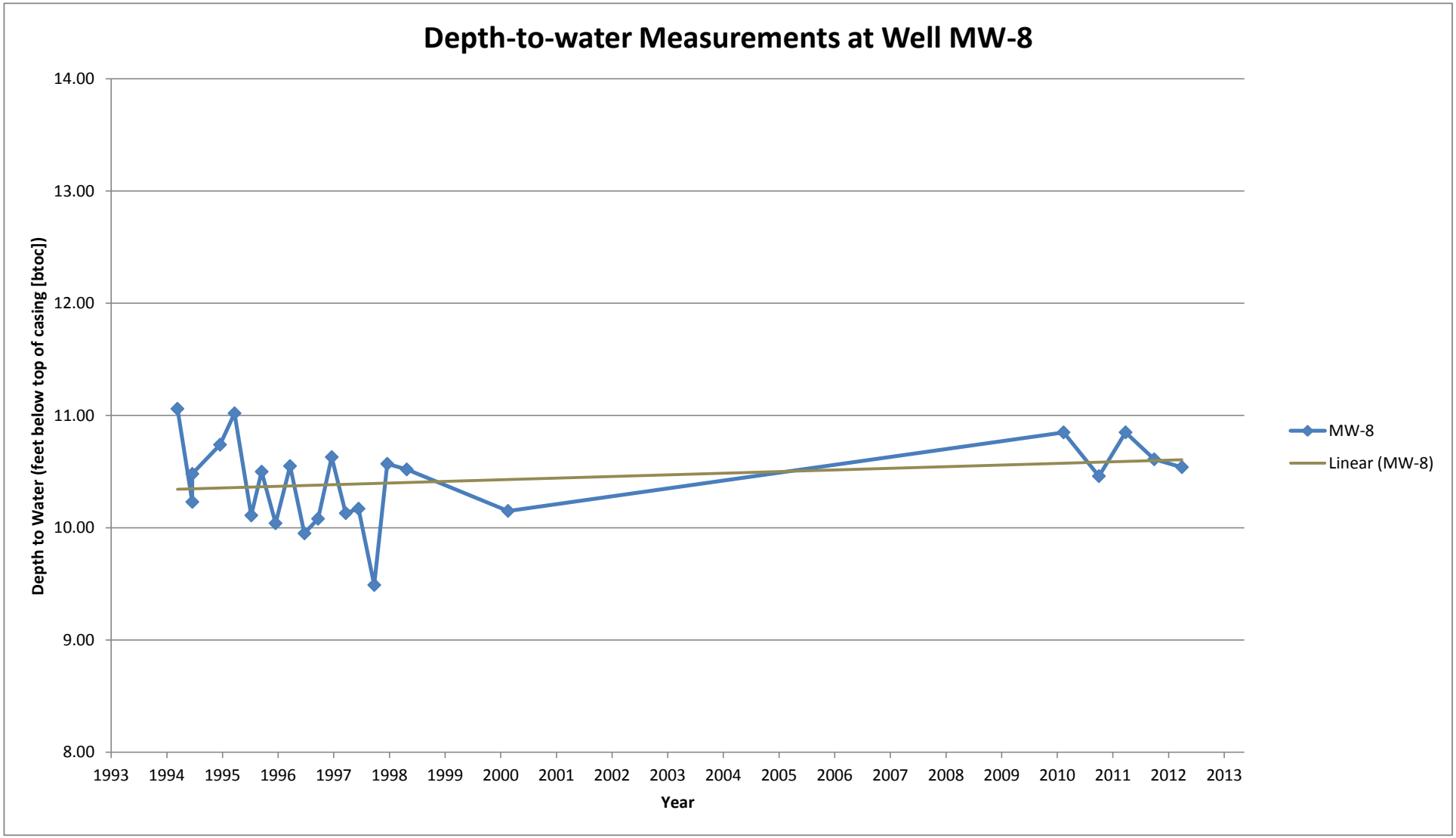
As noted in the ACEH 2013 Letter, prior testing at the site was conducted by others that detected low levels of various chemical parameters, unrelated to the subject LUST case. As discussed, these detections are associated with historic filling at the site that is typical of Bay margin properties, and do not present a material risk to users of the site.

6. Electronic Submittal of Information (ESI) Compliance

As discussed in the August 22, 2013 meeting with ACEH, all pertinent and relevant information for the subject LUST case has been previously uploaded to ACEH and Geotracker websites.

Attachment: Depth-to-water Measurements at Well MW-8

ATTACHMENT


Depth-to-water Measurements at Well MW-8
Depth to Water (feet below top of casing [btoc])
14.00
13.00
12.00
11.00
10.00
9.00
8.00
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
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2006
2007
2008
2009
2010
2011
2012
2013
Year
MW-8
Linear (MW-8)