

February 11, 2015

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By Alameda County Environmental Health at 3:45 pm, Feb 13, 2015

Ms. Karel Detterman
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

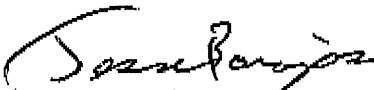
Subject: Soil Investigation Report Addendum
City of Alameda Maintenance Services Facility - Fuel Leak
Case No. RO0003011 and Geo Tracker Global ID T010000001614
1616 Fortmann Way
Alameda, California
AMEC Project No. 8415180100 01

Dear Ms. Detterman:

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) is providing the *Soil Investigation Report Addendum* for your review. The addendum was requested by the Alameda County Environmental Health Department (County) in an e-mail dated January 16, 2015. In this e-mail, the County requested an addendum to our July 3, 2014 Additional Investigation Report that clarifies what drilling and sampling methods were used for collection of samples from the additional investigation activities and potential effects of hand auguring on the quality of laboratory analytical results.

I declare, under penalty of perjury, that the information and/or recommendations contained in the work plan are true and correct to the best of my knowledge.

Yours very truly,



Jesse Barajas
City of Alameda
Public Works Department



amec
foster
wheeler

February 11, 2015

Project 8415180100 01

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Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Soil Investigation Report Addendum
City of Alameda Maintenance Services– Fuel Leak Case No. RO0003011 and
Geotracker Global ID T010000001614
1616 Fortmann Way
Alameda, California

Dear Ms. Detterman:

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) has prepared this Soil Investigation Report Addendum for the above referenced Site. The report addendum was requested by the Alameda County Environmental Health Department (County) in an e-mail dated January 16, 2015. In this e-mail, the County requested an addendum to our July 3, 2014 Additional Investigation Report that clarifies what drilling and sampling methods were used for collection of samples from the five additional borings and potential effects of hand auguring on the quality of laboratory analytical results.

BACKGROUND

On March 5, 2009, the City experienced an overflow of an onsite diesel tank. It was estimated that approximately 200 gallons of diesel spilled to the asphalt and cement surface from an overflow pipe that emanated from the Maintenance Building Roof. The City subsequently contacted NRC Environmental Services (NRC) to respond to the incident and under the direction of the City; NRC staff decontaminated the building roof, gutters, and sides and cleaned out sumps, street sidewalks, gutters, and the City's fueling distribution area and equipment parking lot. Based on inspections completed by NRC during the cleanup, no diesel made it to the storm drains and based on the volume of fluids collected during the cleanup process, it was determined that entire quantity of the released diesel fuel was captured.

In September 2013, Amec Foster Wheeler installed 12 borings (SB-1 through SB-12) in the parking lot, driveway, and other asphalt areas of the Alameda Maintenance Services Facility, in the estimated footprint of the 2009 surface spill. Based on the results of the investigation conducted, it appeared that residual low concentrations of total petroleum hydrocarbons as diesel (TPHd) and polynuclear aromatic hydrocarbons (PAHs) were present in the shallow soil at the Site above environmental screening levels (ESLs) and that methyl tert-butyl ether was present in the shallow groundwater at the one location sampled.

The TPHd and PAH concentrations in soil appeared to be confined to the shallow soils between the surface and approximately 5 feet below ground surface (bgs) and were considered unlikely

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to impact groundwater or migrate offsite based on the presence of "Bay Mud" which minimizes the mobilization of these compounds to groundwater. The samples collected from boring SB-1 were collected in fill materials related to the nearby stormwater trench and were not considered site related. The reported concentration of 45 micrograms per kilogram ($\mu\text{g}/\text{kg}$) for benzo[a]pyrene (BaP) for the soil sample collected at a depth of 5.0 feet bgs in boring SB-7 was significantly less (by a factor of 10) than the 4,900 $\mu\text{g}/\text{kg}$ reported concentration for the sample collected at 3 feet bgs at the same location. Based on the stratigraphy of the soils in this location and the quick decrease in reported concentrations with increasing depth, the elevated concentrations of BaP at this location were considered unlikely to migrate to groundwater.

In April 2014, Amec Foster Wheeler oversaw the installation of five additional direct-push soil borings (in the areas surrounding boring SB-7 including two in the Fortmann Way right-of-way) to assess the extent of the elevated concentrations of BaP in this area. Results of the sampling indicated that PAH compounds were detected in samples collected from all borings and the ESLs for several PAH compounds were exceeded in the shallow soil samples except in samples from of BaP in borings SB-14 and SB-15, PAHs were not reported above their respective Tier 1 ESL in the deeper soil samples.

Drilling and Sampling Method Clarification

As detailed in Amec Foster Wheeler's July 3, 2014 additional investigation report soil borings were advanced using a combination of hand auguring and direct push using a Geoprobe 6600 truck-mounted rig operated by Cascade Drilling, L.P. of Richmond, California. As detailed on the field boring logs, hand auguring was utilized to advance the borings to 5 feet to minimize the potential to encounter undocumented utilities; however, the geoprobe rig was utilized to collect the soil samples by advancing a sampling tube lined with clear butyrate to the desired depth to collect the samples.

Hand auguring is an approved procedure for advancing borings and is necessary when advancing borings in the top five feet to minimize the potential to encounter unknown utilities. Because samples were collected at each sampling interval using a sampling tube which was capped and sealed after sample collection, hand auguring of borings would have no adverse effects on the quality of laboratory analytical results. In addition, the chemicals of concern are PAHs (specifically BaP) which are considered to have a low volatility and low potential to volatilize, during borehole advancement.

As detailed in the July 3, 2014 Additional Investigation Report, Amec Foster Wheeler and the City acknowledge the presence of elevated concentrations of PAHs in onsite soil; however, because these elevated concentrations are capped by existing asphalt surface and do not extend beyond the Site boundaries, they are not considered to pose an environmental risk or a risk to onsite personnel. In addition, there are no complete exposure pathways for the Site. Therefore, Amec Foster Wheeler and the City continue to request closure of the case with Site Management Requirements (SMRs) to prevent onsite workers from excavating the PAH impacted soils. Because the extent of the PAHs is limited to the immediate vicinity of the parking area adjacent to the office building, there is no potential risk to utility workers that may excavate soil in Fortmann Way and the SMRs only need to be implemented for the Site.

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If you have any questions or concerns, please contact Gary Lieberman at (707) 793-3858.

Sincerely yours,
Amec Foster Wheeler Environment & Infrastructure, Inc.



Gary A. Lieberman
Associate Geology Professional



Bethany P. Flynn, P.G 5710
Senior Associate Geologist



GAL/BAF:sac

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