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By Alameda County Environmental Health at 3:51 pm, Jul 08, 2014

July 3, 2014

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

Subject: **Additional Soil Investigation**
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. OD13164970

Dear Ms. Detterman:

AMEC Environment & Infrastructure (AMEC) is providing the *Additional Soil Investigation* Report for your review. The additional investigation activities described in this report were conditionally approved by the Alameda County Environmental Health Department (County) in your May 14, 2014 e-mail letter provided the technical comments in the letter were incorporated into the Site figure in the final report.

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

July 3, 2014

Project OD13164970.04

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Hazardous Materials Specialist
Alameda County Environmental Health
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1616 Fortmann Way
Alameda, California

Dear Ms. Detterman:

On behalf of the City of Alameda Public Works Department (the City), AMEC Environment & Infrastructure, Inc. (AMEC) has prepared this letter describing additional investigation activities conducted for the City of Alameda Maintenance Services facility located at 1616 Fortmann Way in Alameda, California (the Site; Figure 1). The additional investigation activities were requested by the Alameda County Environmental Health Department (County) during the March 24, 2014 meeting between the City, AMEC, and the County. During our meeting, the County requested further investigation be conducted in the shallow soil to define the extent of benzo[a]pyrene (BaP) which was detected above the environmental screening level (ESL) for BaP in soil collected from boring SB-7. The BaP is suspected to be associated with a spill of diesel that occurred from an above ground storage tank at the Site (Figure 2).

The additional investigation activities were conducted in accordance with AMEC's April 3, 2014 Workplan which was conditionally approved by the County provided that the technical comments in their May 14, 2014 e-mail letter were incorporated into the Site figure in the final report.

BACKGROUND

On March 5, 2009, the City experienced an overfill of an onsite diesel tank. It was estimated that approximately 200 gallons of diesel spilled to the asphalt and cement surface from an overfill 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 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

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of the 2009 surface spill. Based on the results of the investigation conducted to date, it appears that residual low concentrations of total petroleum hydrocarbons-diesel (TPHd) and polynuclear aromatic hydrocarbons (PAHs) are present in the shallow soil at the Site and that methyl tert-butyl ether is present in the shallow groundwater at the one location sampled.

TPH and PAH concentrations in soil appear to be confined to the shallow soils between the surface and approximately 5 feet below ground surface (bgs) and are considered unlikely 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 are not considered site related. The reported concentration of 45 micrograms per kilogram (µg/kg) for benzo[a]pyrene for the soil sample collected at a depth of 5.0 feet bgs in SB-7 is significantly less (by a factor of 10) than the 4,900 µg/kg reported concentration for the sample collected at 3 foot bgs at the same location. Based on the stratigraphy of the soils in this location and the quick decrease in reported concentrations, the, elevated concentrations of BaP at this location are considered unlikely to migrate to groundwater.

SCOPE OF WORK

Our scope of included the following:

- Completion of a geophysical survey to identify subsurface utilities in the vicinity of the proposed borings
- Installation of five additional soil borings and collection of soil samples from each of the borings
- Evaluation of the results of the investigation activities and preparation of this report

INVESTIGATION ACTIVITES

Soil Boring Installation

On April 16, 2014, AMEC oversaw the installation of five additional direct-push soil borings (SB-13 through SB-17) in the parking lot, driveway, and other asphalt areas of the Alameda Maintenance Services Facility, in the areas surrounding boring SB-7.

Prior to conducting field activities, AMEC obtained a soil boring permit from the Alameda County Public Works Agency. A Copy of the permit is included in Attachment A. AMEC also contacted Underground Service Alert and a private utility locator to identify subsurface utilities in the Site vicinity, prior to initiating intrusive work. The utility survey was conducted using a combination of electromagnetic metal detection and Radio Frequency pipe location.

The borings were advanced using a combination of a Geoprobe 6600 truck-mounted rig operated by Cascade Drilling, L.P. of Richmond, California and hand augering. The Geoprobe drill rig uses a combination of hydraulic and vibratory down-force to advance a 1.5-inch diameter steel drive rod into the subsurface. Within the drill rod is a 48-inch sampling tube lined with clear butyrate tubing that is used for continuous sample collection. These tubes are then removed

and cut to allow for lithologic logging, screening with a photoionization detector (PID), and sample collection. Selected soil sections were sampled using laboratory-supplied containers and labeled with unique sample designations to record the location and depth sampled.

The borings were advanced to approximately 5 feet bgs continuously sampled to allow for detailed characterization of the sub-surface and screened for the presence of volatile organic compounds (VOCs) using a PID. Soil samples were selected from each boring for laboratory analysis based on depth and the geologist's professional judgment. Soil lithology and sample recovery, were recorded in the field logs which are included in Attachment B. All drive rods were washed in an alconox and water solution between boreholes to avoid any potential cross contamination issues.

No elevated VOC readings were obtained during PID monitoring and no staining or odors were noted in the soil removed from the borings and AMEC submitted the soil samples from the first encountered native/fill materials beneath the road base (or at 2 feet bgs if no native/fill materials encountered) and 5 feet bgs.

Samples were analyzed by TestAmerica of Pleasanton, California. TestAmerica is a state certified hazardous materials testing laboratory for the analyses requested and certified by the California Department of Health Services through the Environmental Laboratory Accreditation Program. The soil samples from each boring location were analyzed for PAHs using Environmental Protection Agency Test Method 8270-SIM

Upon completion of the drilling and sampling, soil cuttings were placed in a Department of Transportation approved drum for temporary storage pending analysis and proper disposal at a licensed California Landfill. The boreholes were filled with portland cement slurry to the surface and capped with concrete dyed to match the surrounding asphaltic concrete.

RESULTS DISCUSSION

Site Lithology and hydrogeology

Observations during the drilling were similar to previous conditions and indicated the presence of road base to between 1 and 4 feet bgs, underlain by silty and clayey sands, sandy clays, sandy silts, and lean clay. Bay Mud was typically encountered between approximately 3 and 5 feet bgs.

As previously discussed, elevated VOC readings were not detected during PID monitoring of the soils and no staining or odors were noted in the soil during this additional investigation. Boring logs are included in Attachment B.

Soil Analysis

Tables 1 and 2 present the current soil analytical results along with the results from the initial investigation in September 2013 and the laboratory analytical reports are included in Attachment C. The reported concentrations were compared against the San Francisco Bay

Regional Water Quality Control Board (Water Board) 2013 Tier 1 ESLs. In cases where the soil analytical results exceeded the Tier 1 ESLS, the results were also compared to the 2013 Non-drinking water source, commercial land use ESLs which are more representative of current site conditions.

Results of the soil sampling indicated that PAH compounds were detected in samples collected from all borings at concentrations between 5.2 and 15,000 µg/kg (phenathrene in boring SB-14 at 3.5 feet bgs). The ESL for several PAH compounds were exceeded in the shallow soil samples collected from borings SB-13, SB-14, SB-15, and SB-17. With the exception of BaP in borings SB-14 and SB-15, PAHs were not reported above their respective Tier 1 ESL in the deeper soil samples.

CONCLUSIONS AND RECOMMENDATIONS

AMEC completed the additional investigation activities at the City of Alameda Maintenance Services Facility on April 16, 2014 as a follow up to our September 4, 2013. The additional activities included the installation of 5 soil borings and the collection of soil samples for laboratory analysis. The sample analytical results for the drilling investigation indicated that PAH concentrations were reported above the Tier 1 ESLs in four of the 12 shallow soil samples and two of the deeper soil samples.

Based on the results of the investigation conducted to date, it appears that residual low concentrations of TPHd and PAHs are present in the shallow soil at the Site. These TPH and PAH concentrations in soil appear to be confined to the shallow soils between the surface and approximately 5 feet bgs and located in the vicinity of the office building east of the spill origin and are considered unlikely to impact groundwater or migrate offsite based on the presence of “Bay Mud” which minimizes the mobilization of these compounds to groundwater. The reported concentration of 110 µg/kg for BaP for the soil sample collected at a depth of 5.0 feet bgs in SB-14 is significantly less (by a factor of over 10) than the 6,600 µg/kg reported concentration for the sample collected at 3 foot bgs at the same location. In addition, the surrounding borings installed to define extent of the BaP had only low concentrations of BaP and the extent of the BaP did not extend into Fortmann Way. Based on the stratigraphy of the soils in this location and the quick decrease both laterally and vertically in reported concentrations of BaP in the vicinity of SB-7 and SB-14, the elevated concentrations of BaP at these locations are considered unlikely to migrate to groundwater and are not considered a threat to groundwater or onsite personnel. In addition, as detailed in the Conceptual Site Model (AMEC, 2013) prepared for the Site, there are no complete exposure pathways.

Based on analysis of the results of investigations conducted to date, it is AMEC’s opinion that no further work is warranted to characterize soil and groundwater at the Site. Although elevated levels of TPHd and PAHs were reported in the shallow soil, it is unlikely, based on the soil type (Bay Mud) and sample results for the deeper soil samples, that the chemicals will migrate to groundwater or offsite.

AMEC and the City acknowledge the presence of elevated concentrations of PAHs in soil; however, these elevated concentrations are capped by existing asphalt surface and do pose a environmental risk or are considered a risk to onsite personnel. In addition, there are no complete exposure pathways for the Site. Therefore, we are requesting closure of the case with Site Management Requirements (SMRs) to prevent onsite workers from excavating the PAH impacted soils. As 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 would only need to be implented for the Site.

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

Sincerely yours,
AMEC Environment & Infrastructure, Inc.

Gary A. Lieberman
Project Manager

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

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Attachments:
Table 1 Soil Sample Analytical Results
Table 2 Soil Sample Analytical Results - Polynuclear Aromatic Hydrocarbons

Figure 1 Site Location Map
Figure 2 Site Map Showing Previous Release and Soil Boring Locations

Attachment A Soil Boring Permit
Attachment B Boring Logs
Attachment C Laboratory Analytical Reports

References:

AMEC Environment & Infrastructure Inc. (AMEC), 2013. *Site Conceptual Model and Data Gap Work Plan, City of Alameda Maintenance Services Facility – Fuel Leak Case No. RO0003011 and Geo Tracker Global ID T010000001614, 1616 Fortmann Way, Alameda, California*. June 3.

TABLES

TABLE 1

SOIL SAMPLE ANALYTICAL RESULTS
City of Alameda Maintenance Facility
Alameda, California

Sample Location	Sample ID	Sample Depth	Date Collected	Reported Concentrations						
				TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Napthalene
		(feet bgs)		(mg/kg)	µg/kg					
SB-1	S-SB1-2	1.5-2	9/4/2013	13	ND(4.5)	ND(4.5)	ND(4.5)	ND(8.9)	ND(4.5)	ND(8.9)
SB-1	S-SB1-5	4.5-5	9/4/2013	51	ND(4.2)	ND(4.2)	ND(4.2)	ND(8.5)	ND(4.2)	ND(8.5)
SB-2	S-SB2-3.5	3-3.5	9/4/2013	6.2	ND(3.8)	ND(3.8)	ND(3.8)	ND(7.6)	4.3	ND(7.6)
SB-2	S-SB2-5	4.5-5	9/4/2013	4.0	ND(3.9)	ND(3.9)	ND(3.9)	ND(7.6)	ND(3.9)	ND(7.6)
SB-3	S-SB3-3	2.5-3	9/4/2013	**150**	ND(4.3)	ND(4.3)	ND(4.3)	ND(8.5)	ND(4.3)	ND(8.5)
SB-3	S-SB3-5.5	5-5.5	9/4/2013	2.3	ND(3.9)	ND(3.9)	ND(3.9)	ND(7.7)	ND(3.9)	ND(7.7)
SB-4	S-SB4-3	2.5-3	9/4/2013	**180**	ND(4.2)	ND(4.2)	ND(4.2)	ND(8.4)	ND(4.2)	ND(4.2)
SB-4	S-SB4-5	4.5-5	9/4/2013	ND(0.99)	ND(3.8)	ND(3.8)	ND(3.8)	ND(7.6)	9.7	ND(7.6)
SB-5	S-SB5-2	1.5-2	9/4/2013	**110**	ND(3.5)	ND(3.5)	ND(3.5)	ND(7.0)	ND(3.5)	ND(7.0)
SB-5	S-SB5-5	4.5-5	9/4/2013	ND(0.99)	ND(3.4)	ND(3.4)	ND(3.4)	ND(6.7)	ND(3.4)	ND(6.7)
SB-6	S-SB6-3	2.5-3	9/4/2013	ND(1.0)	ND(3.4)	ND(3.4)	ND(3.4)	ND(6.8)	ND(3.4)	ND(6.8)
SB-6	S-SB6-5.5	5-5.5	9/4/2013	2.1	ND(4.3)	ND(4.3)	ND(4.3)	ND(8.6)	ND(4.3)	ND(8.6)
SB-7	S-SB7-3.5	3-3.5	9/4/2013	**1,100**	ND(3.9)	ND(3.9)	ND(3.9)	ND(7.8)	ND(3.9)	180
SB-7	S-SB7-5	4.5-5	9/4/2013	ND(0.99)	ND(3.6)	ND(3.6)	ND(3.6)	ND(7.2)	ND(3.6)	ND(7.2)
SB-8	S-SB8-3	2.5-3	9/4/2013	5.0	ND(4.0)	ND(4.0)	ND(4.0)	ND(7.9)	ND(4.0)	ND(7.9)
SB-8	S-SB8-5	4.5-5	9/4/2013	ND(0.99)	ND(4.5)	ND(4.5)	ND(4.5)	ND(8.9)	8.7	ND(8.9)
SB-9	S-SB9-2	1.5-2	9/4/2013	1.1	ND(3.8)	ND(3.8)	ND(3.8)	ND(7.7)	ND(3.8)	ND(7.7)
SB-9	S-SB9-5	4.5-5	9/4/2013	1.7	ND(5.1)	ND(5.1)	ND(5.1)	ND(10)	ND(5.1)	ND(10)
SB-10	S-SB10-2.5	2-2.5	9/4/2013	28	ND(3.6)	ND(3.6)	ND(3.6)	ND(7.2)	ND(3.6)	ND(7.2)
SB-10	S-SB10-5	4.5-5	9/4/2013	1.1	ND(4.2)	ND(4.2)	ND(4.2)	ND(8.5)	ND(4.2)	ND(8.5)
SB-11	S-SB11-2	1.5-2	9/4/2013	**450**	ND(3.7)	ND(3.7)	ND(3.7)	ND(7.4)	ND(3.7)	ND(7.4)
SB-11	S-SB11-5	4.5-5	9/4/2013	ND(0.99)	ND(4.5)	ND(4.5)	ND(4.5)	ND(9.1)	ND(4.5)	ND(9.1)
SB-12	S-SB12-2	1.5-2	9/4/2013	4.2	ND(3.6)	ND(3.6)	ND(3.6)	ND(7.1)	ND(3.6)	ND(7.1)
SB-12	S-SB12-5	4.5-5	9/4/2013	ND(0.99)	ND(4.8)	ND(4.8)	ND(4.8)	ND(9.6)	ND(4.8)	ND(9.6)
ESL Residential / Drinking Water				100	44	40,000	3,300	2,300	23	1,200
Commercial / Non Drinking Water[1]				500	1,200	2,900	4,700	11,000	1,800	4,800

Notes:

1 = San Francisco Bay Regional Water Quality Control Board 2013 Tier 1 2013 Non-drinking Water Source, Commercial Land Use Environmental Screening Levels

Napthalene analyzed using EPA method 8260B.

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed using EPA method 8260B.

bgs = below ground surface

ESL = San Francisco Bay Regional Water Quality Control Board 2013 Tier 1 Environmental Screening Levels

mg/kg = milligrams per kilogram

MTBE = methyl tertiary-butyl ether analyzed using EPA method 8260B.

µg/kg = micrograms per kilogram

ND( ) = Not detected above the laboratory reporting limits (reporting limit in paranthesis).

PAHs = Polynuclear aromatic hydrocarbons analyzed using EPA method 8270-SIM.

TPHd = Total Petroleum Hydrocarbons, diesel range (C10-C28), analyzed using EPA method 8015M, with silica gel strip (EPA method 3630C).

TABLE 2

SOIL SAMPLE ANALYTICAL RESULTS - POLYNUCLEAR AROMATIC COMPOUNDS

City of Alameda Maintenance Facility
Alameda, California

Sample Location	Sample ID	Sample Depth	Date Collected	Reported Concentrations - PAHs															
				Acenaph-thene	Acenaph-thylene	Anthra-cene	Benzo[a]-anthracene	Benzo[a]-pyrene	Benzo[b]-fluoranthene	Benzo[g,h,i]-perylene	Benzo[k]-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluor-anthene	Fluorene	Indeno-[1,2,3-cd]-pyrene	Napthalene	Phenan-threne	Pyrene
		(feet bgs)		µg/kg															
SB-1	S-SB1-2	1.5-2	9/4/2013	ND(5.0)	13	10	39	**52**	98	32	27	52	7.1	77	ND(5.0)	28	ND(5.0)	26	82
SB-1	S-SB1-5	4.5-5	9/4/2013	ND(10)	12	35	54	**45**	70	17	25	68	ND(10)	110	ND(10)	16	45	130	97
SB-2	S-SB2-3.5	3-3.5	9/4/2013	ND(4.9)	ND(4.9)	ND(4.9)	8.5	7.8	21	7.1	ND(4.9)	21	ND(4.9)	5.9	ND(4.9)	5.5	8.8	20	5.8
SB-2	S-SB2-5	4.5-5	9/4/2013	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	5.6	ND(4.9)
SB-3	S-SB3-3	2.5-3	9/4/2013	ND(10)	ND(10)	ND(10)	24	**41**	60	18	17	43	ND(10)	39	ND(10)	18	ND(10)	16	47
SB-3	S-SB3-5.5	5-5.5	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.5	ND(5.0)	6.7
SB-4	S-SB4-3	2.5-3	9/4/2013	ND(25)	110	160	340	**360**	**540**	340	130	510	**120**	670	57	290	380	900	690
SB-4	S-SB4-5	4.5-5	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	5.5	8.5	9.4	10	ND(5.0)	7.0	ND(5.0)	10	ND(5.0)	6.7	ND(5.0)	ND(5.0)	11
SB-5	S-SB5-2	1.5-2	9/4/2013	ND(9.9)	10	ND(9.9)	35	**51**	73	58	23	45	12	64	ND(9.9)	38	ND(9.9)	31	70
SB-5	S-SB5-5	4.5-5	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
SB-6	S-SB6-3	2.5-3	9/4/2013	ND(5.0)	ND(5.0)	8.3	23	24	22	23	19	29	6.2	54	ND(5.0)	18	8.7	43	93
SB-6	S-SB6-5.5	5-5.5	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.5	ND(5.0)	8.1	ND(5.0)	ND(5.0)	7.2	7.9	11
SB-7	S-SB7-3.5	3-3.5	9/4/2013	910	ND(250)	1,400	**5,300**	**4,900**	**8,200**	2,900	**2,100**	**5,500**	**1,000**	15,000	970	**2,900**	1,100	9,400	12,000
SB-7	S-SB7-5	4.5-5	9/4/2013	5.6	ND(5.0)	11	44	**47**	52	37	16	50	6.5	100	5.8	27	8.4	70	100
SB-8	S-SB8-3	2.5-3	9/4/2013	ND(5.0)	ND(5.0)	6.6	13	17	24	21	7.8	18	ND(5.0)	55	ND(5.0)	14	14	26	50
SB-8	S-SB8-5	4.5-5	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
SB-9	S-SB9-2	1.5-2	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
SB-9	S-SB9-5	4.5-5	9/4/2013	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	11	ND(4.9)	ND(4.9)	ND(4.9)	9.4	6.7
SB-10	S-SB10-2.5	2-2.5	9/4/2013	ND(4.9)	ND(4.9)	ND(4.9)	8.2	11	18	15	5.8	12	ND(4.9)	21	ND(4.9)	10	6.6	10	18
SB-10	S-SB10-5	4.5-5	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	5.0	6.3	8.1	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	8.1	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.4
SB-11	S-SB11-2	1.5-2	9/4/2013	ND(5.0)	5.6	ND(5.0)	8.5	14	21	18	ND(5.0)	22	ND(5.0)	23	ND(5.0)	12	15	21	26
SB-11	S-SB11-5	4.5-5	9/4/2013	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)	ND(4.9)
SB-12	S-SB12-2	1.5-2	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
SB-12	S-SB12-5	4.5-5	9/4/2013	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.1	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	6.8	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	5.2
SB-13	S-SB13-3.5	3-3.5	4/16/2014	26	51	78	300	**340**	**490**	220	200	390	72	610	31	190	77	380	600
SB-13	S-SB13-5	4.5-5	4/16/2014	ND(4.9)	ND(4.9)	ND(4.9)	14	21	29	17	9.4	19	ND(4.9)	23	ND(4.9)	13	5.2	15	26
SB-14	S-SB14-4	3.5-4	4/16/2014	1,600	ND(49)	**3,200**	**7,400**	**6,600**	**8,900**	**2,900**	**2,800**	**7,800**	**920**	18,000	1,700	**2,800**	**1,900**	**15,000**	15,000
SB-14	S-SB14-5	4.5-5	4/16/2014	23	ND(5.0)	45	110	**110**	140	50	58	120	17	250	26	47	43	200	220
SB-15	S-SB15-3	2.5-3	4/16/2014	94	49	130	**500**	**600**	**800**	250	320	610	78	1,000	100	240	140	600	1,100
SB-15	S-SB15-5	4.5-5	4/16/2014	8.1	10	20	62	**72**	120	35	37	82	11	120	11	32	29	78	120
SB-16	S-SB16-3.5	3-3.5	4/16/2014	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)
SB-16	S-SB16-5	4.5-5	4/16/2014	ND(9.9)	ND(9.9)	ND(9.9)	ND(9.9)	10	17	ND(9.9)	ND(9.9)	13	ND(9.9)	20	ND(9.9)	ND(9.9)	ND(9.9)	ND(5.0)	ND(5.0)
SB-17	S-SB17-2.5	2-2.5	4/16/2014	ND(49)	ND(49)	ND(49)	60	**78**	110	72	ND(49)	81	ND(49)	84	ND(49)	50	ND(49)	12	22
SB-17	S-SB17-5	4.5-5	4/16/2014	ND(9.9)	ND(9.9)	ND(9.9)	19	23	39	11	13	29	ND(9.9)	39	ND(9.9)	ND(9.9)	ND(9.9)	25	46
ESL Residential / Drinking Water				16,000	13,000	2,800	380	38	380	27,000	380	3,800	110	40,000	8,900	380	1,200	11,000	85,000
Commercial / Non Drinking Water[1]				19,000	13,000	2,800	450	45	450	27,000	450	4,500	130	40,000	8,900	450	4,800	11,000	85,000

Notes:

1 = San Francisco Bay Regional Water Quality Control Board 2013 Tier 1 2013 Non-drinking Water Source, Commercial Land Use Environmental Screening Levels

bgs = below ground surface

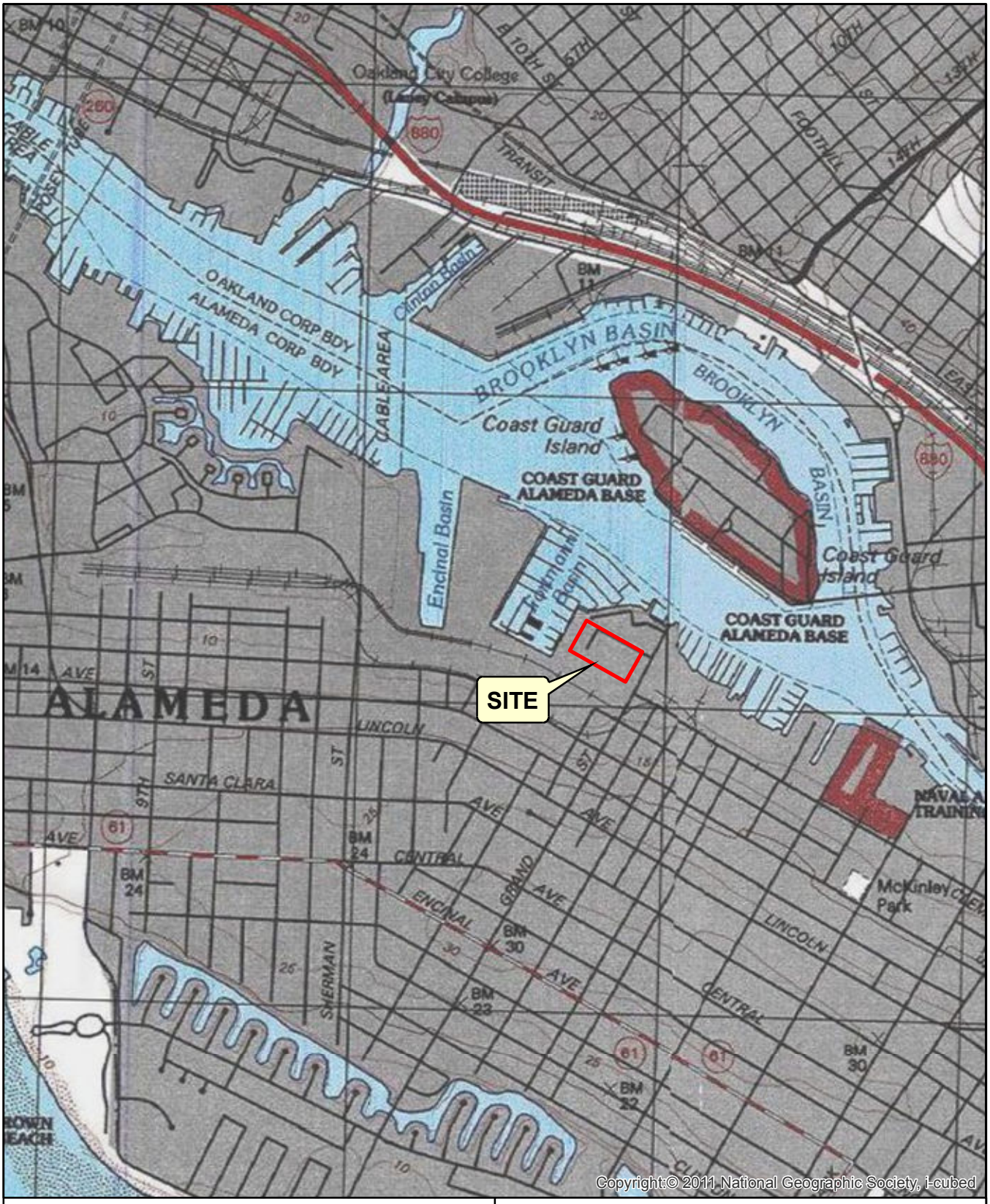
ESL = San Francisco Bay Regional Water Quality Control Board 2013 Tier 1 Environmental Screening Levels

µg/kg = micrograms per kilogram

ND( ) = Not detected above the laboratory reporting limits (reporting limit in paranthesis).

PAHs = Polynuclear aromatic hydrocarbons analyzed using EPA method 8270-SIM.

FIGURES



N

1,500 0 1,500

Feet

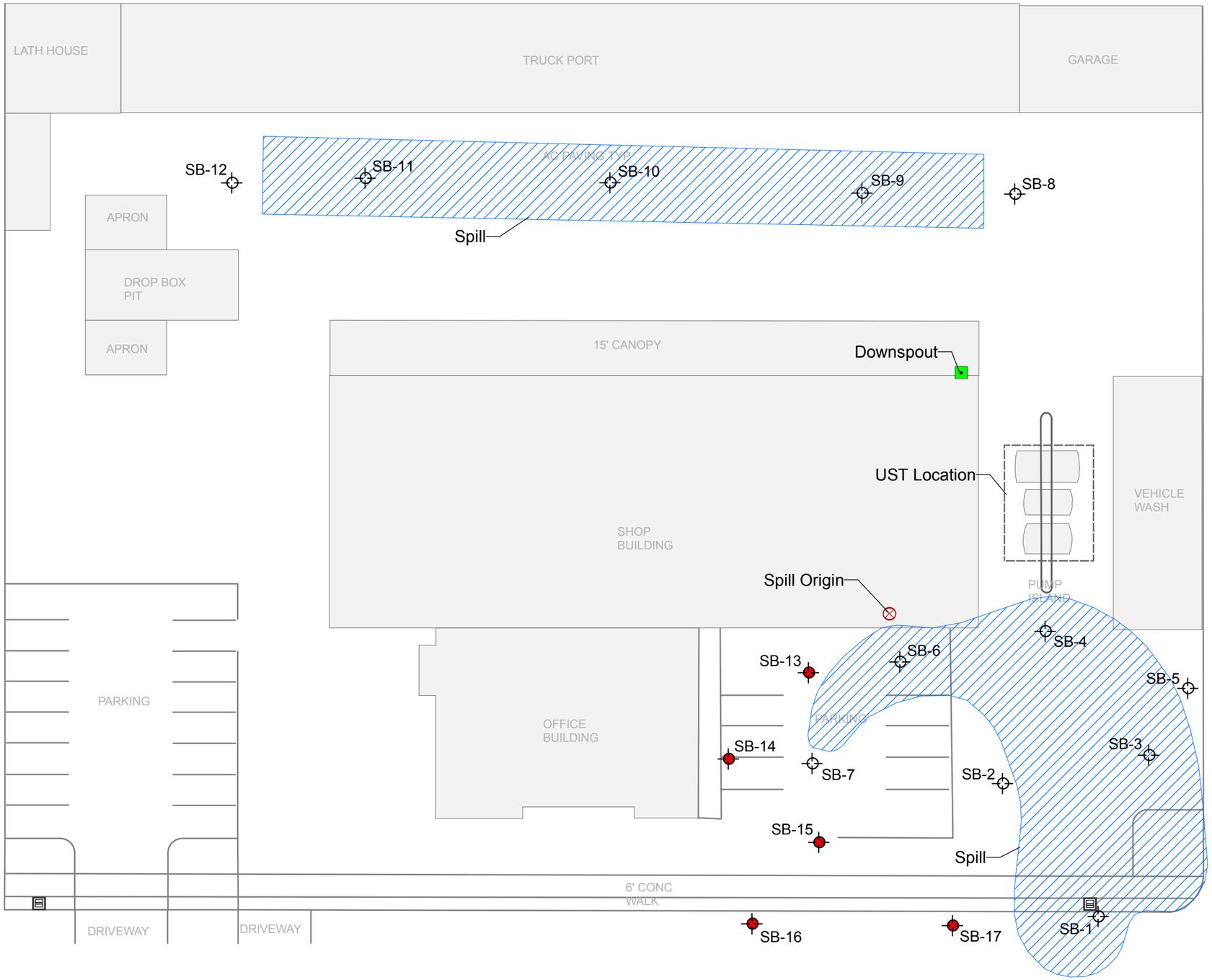
Source: Oakland West and Oakland East Quadrangles (USGS 1:24,000 Sheets)

SITE AND SURROUNDING AREA MAP

City of Alameda Maintenance Services Facility
1616 Fortmann Way
Alameda, California

By: TJH	Date: 05/30/2013	Project No. OD13164610
amec		Figure 1

Thursday, May 30, 2013 3:56:56 PM
P:\OD13164610-City of Alameda\GIS\Figure1-AreaMap.mxd



EXPLANATION

- Soil Boring Location April 16, 2014
- Soil Boring Location Installed September 4, 2013
- Spill Area
- Storm Drain Inlet

0 30 60

Approximate Scale in Feet

SITE MAP - SOIL
BORING LOCATIONS
City of Alameda Maintenance Services Facility
1616 Fortmann Way
Alameda, California

By: TJH	Date: 07/03/2014	Project No. OD13164970
amec		Figure 2

Thursday, July 03, 2014 9:51:01 AM
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ATTACHMENT A

Soil Boring Permit

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/16/2013 By jamesy

Permit Numbers: W2013-0599
Permits Valid from 08/26/2013 to 09/06/2013

Application Id: 1376072147960 **City of Project Site:** Alameda
Site Location: 1616 Fortmann Way
Alameda, CA-City of Alameda Maintenance Services
Fuel Leak Case No. RO0003011 And Geotracker ID T010000001614
Project Start Date: 08/26/2013 **Completion Date:** 09/06/2013
Assigned Inspector: Contact Gilberto Ambriz at (510) 362-9040 or gil_510@yahoo.com

Applicant: AMEC Environment & Infrastructure - Scott Graham **Phone:** 707-793-3800
1465 North McDowell Boulevard, Suite 200, Petaluma, CA 94954
Property Owner: Maintenance Service Center City of Alameda **Phone:** --
Public Works Dept.
1616 Fortman Way, Alameda, CA 94501
Client: ** same as Property Owner **
Contact: Scott Graham **Phone:** 707-793-3810
Cell: 707-483-7611

Total Due: $265.00
Receipt Number: WR2013-0304 **Total Amount Paid:** $265.00
Payer Name : AMEC Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 12 Boreholes
Driller: Cascade Drilling, LP - Lic #: 938110 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2013-0599	08/16/2013	11/24/2013	12	2.00 in.	15.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits

and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

7. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

ATTACHMENT B

Boring Logs

PROJECT: City of Alameda Maintance Yard

Log of Boring No. SB-13

BORING LOCATION: 0D13164970.03

ELEVATION AND DATUM:

DRILLING CONTRACTOR: Cascade

DATE STARTED: 4/16/14 DATE FINISHED: 4/16/14

DRILLING METHOD: ~~Direct Push~~ Hand Auger

TOTAL DEPTH: 5' MEASURING POINT: ground Surface

DRILLING EQUIPMENT: Geoprobe 6600

DEPTH TO WATER: FIRST — COMPL

SAMPLING METHOD: Cuttings

LOGGED BY: Scott Graham

HAMMER WEIGHT: — DROP: —

RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight, plast., consistency; structure, cementation, react. W/HCl, geo. Inter.	REMARKS
					Surface Elevation:	
					3" asphalt	Hand augered to 5'
1				GM	Brown (7.5YR 4/2) Silty Gravel with Sand (roadbase) 40% subang to subround gravel to 2" dense	
			43	SM	30% fines, 30% fine-coarse sand moist	
2					Very dark gray (5YR 3/1) Silty Sand with gravel (base) 50% fine-coarse sand, 30% subangular gravel to 2", 20% fines, dense, moist	OVM = MinRAE 2000 PID calibrated with 100 ppm isobutylene standard.
3		X				
	S-B13-3 855		20.1	SM	Black (7.5YR 2.5/1) Silty Sand with gravel 60% fine-coarse sand, 20% fines, 10% subround gravel to 1/2" moist, med dense	
4						OVM = MinRAE 2000 PID calibrated with 100 ppm isobutylene standard.
	S-B13-5 900	X				
5			1.2	CL	Dark greenish gray (10Y 4/1) Sandy Lean clay 70% fines, 30% fine sand, soft moist to wet	
					Boring ended @ 5' bgs	

Project No.	AMEC Environment & Infrastructure	Figure

PROJECT: City of Alameda Maintenance Yard

Log of Boring No. B-14

BORING LOCATION: 001316 4970.03

ELEVATION AND DATUM:

DRILLING CONTRACTOR: Cascade

DATE STARTED: 4/16/14 DATE FINISHED: 4/16/14

DRILLING METHOD: Hand auger

TOTAL DEPTH: 5 MEASURING POINT: ground surface

DRILLING EQUIPMENT: Geoprobe 6600

DEPTH TO WATER: FIRST — COMPL

SAMPLING METHOD: Cuttings

LOGGED BY: Scott Cockburn

HAMMER WEIGHT: — DROP: —

RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
1			6	0.1 GW/GM	3" asphalt Brown (7.5YR 4/3) Well graded gravel with silt (roadbase) 75% sub angular gravel to 2", 15% fine - coarse sand, 10% fines, dense	Hand augered to 5'
2						
3				0.3 SC	greenish black (5GY 2.5/1) Clayey ~~Gravel~~ with ~~sand~~ 50% fine-Coarse Sand, 30% Sand fines, 20% Gravel sub round gravel to ½", med dense, moist ~~(fill)~~	OVM = MinRAE 2000 PID calibrated with 100 ppm Isobutylene standard.
4	S-B14-4 920	X		0.4 SC	Greenish black (10Y 2.5/1) Clayey Sand, moist to wet Loose, 60% fine sand, 40% fines, ~~SOFT, moist~~	OVM = MinRAE 2000 PID calibrated with 100 ppm Isobutylene standard.
5	S-B14-5 925	X		0.2 CL	Very dark gray (N 3/) Lean Clay, SOFT, moist 95% fines, 5% fine sand Boring ended @ 5' bgs	

Project No.	AMEC Environment & Infrastructure	Figure

PROJECT: City of Alameda Maintenance Yard	Log of Boring No. B-15
BORING LOCATION: 0013164970.03	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Cascade	DATE STARTED: 4/16/14 — DATE FINISHED: 4/16/14
DRILLING METHOD: Hand Auger	TOTAL DEPTH: 5 — MEASURING POINT: ground surface
DRILLING EQUIPMENT: Geoprobe 6600	DEPTH TO WATER: FIRST — COMPL
SAMPLING METHOD: cuttings	LOGGED BY: Scott Graham
HAMMER WEIGHT: — DROP: —	RESPONSIBLE PROFESSIONAL: REG. NO.

Sample ID (margin)	DEPTH (feet)	Sample No.	Sample	Blows/Foot	OVM Reading (ppm)	USCS	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter. Surface Elevation:	REMARKS
	0–2				0.2	GW/GC	3" Asphalt. Brown (7.5YR 4/3) Well Graded gravel with clay + sand, 60% subround gravel to 2", 30% fine-coarse sand, 10% fines, dense, moist (road base)	Hand augered to 5'
S-B15-3 950	3		X		0.4	CL	Greenish Black (10Y 2.5/1) Sandy Lean Clay, soft, moist, 50% fines, 45% fine sand, 5% med-coarse sand	OVM = MiniRAE 2000 PID calibrated with 100 ppm Isobutylene standard.
S-B15-5 955	5		X		0.8	CL	Greenish gray (10Y 2.5/1) Sandy Lean clay, soft, moist, 75% fines, 25% fine sand, rootlets throughout. Boring ended @ 5' bgs	OVM = MiniRAE 2000 PID calibrated with 100 ppm Isobutylene standard.

PROJECT: City of Alameda Maintenance Yard

Log of Boring No. B-16

BORING LOCATION: 001.3164970.03

ELEVATION AND DATUM:

DRILLING CONTRACTOR: Cascade

DATE STARTED: 4/16/14 DATE FINISHED: 4/16/14

DRILLING METHOD: Hand auger

TOTAL DEPTH: 5 MEASURING POINT: Ground Surface

DRILLING EQUIPMENT: Geoprobe 6600

DEPTH TO WATER: FIRST 0 — COMPL

SAMPLING METHOD: Cuttings

LOGGED BY: Scott Graham

HAMMER WEIGHT: — DROP: —

RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. Inter.	REMARKS
					Surface Elevation:	
1			0.2	GM	4" asphalt Dark Brown (10YR 3/3) Silty Gravel with sand, moist, dense, 60% subround to sub angular gravel to 1", 25% fine-coarse sand, 15% fines (road base)	Hand augered to 5' OVM = MinRAE 2000 PID calibrated with 100 ppm Isobutylene standard.
2						
3	S-B16-3 1030	X	0.4	SM	Brown (10YR 4/3) Silty Sand, moist, dense, 75% fine sand, 20% fines, 5% subround gravel to ½"	OVM = MinRAE 2000 PID calibrated with 100 ppm Isobutylene standard.
4						
5	S-B16-5 1040	X	0.1	CL	Very dark greenish gray (10Y 3/1) Lean clay with sand, 85% fines, 15% fine sand, soft, moist Boring ended @ 5'	

Project No. | AMEC Environment & Infrastructure | Figure

PROJECT: City of Alameda Maintenance Yard

Log of Boring No. B-17

BORING LOCATION: 001316 4970.03

ELEVATION AND DATUM:

DRILLING CONTRACTOR: Cascade

DATE STARTED: 4/16/14 DATE FINISHED: 4/16/14

DRILLING METHOD: Hand auger

TOTAL DEPTH: 5 MEASURING POINT: ground surface

DRILLING EQUIPMENT: Geoprobe 6600

DEPTH TO WATER: FIRST — COMPL

SAMPLING METHOD:

LOGGED BY: Scott Graham

HAMMER WEIGHT: — DROP: —

RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
1			0.1	GM	4" Asphalt Dark Brown (10YR 3/3) Silty gravel with Sand moist, dense, 60% subround gravel to 1", 25% fine-coarse sand, 15% fines, (road base)	Hand augered to 5
2	S-B17-2.5 1010					
3						OVM = MinRAE 2000 PID calibrated with 100 ppm isobutylene standard.
4			0.0	SC	Very Dark grayish brown (10YR3/2) Clayey Sand with gravel, moist, dense (fill) 60% fine to coarse sand, 30% subround gravel to 1", 20% fines	OVM = MinRAE 2000 PID calibrated with 100 ppm isobutylene standard.
5	S-B17-5 1020		0.0	CL	Very dark gray (N3/) Sandy Lean clay; soft moist, 80% fines; 20% fine sand boring ended @ 5'	

Project No.	AMEC Environment & Infrastructure	Figure

ATTACHMENT C

Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

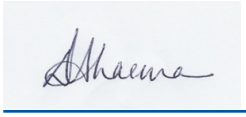
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-56839-1
Client Project/Site: City of Alameda Maintenance Sevices Fac

For:
AMEC Environment & Infrastructure, Inc.
1465 North McDowell Blvd
Suite 200
Petaluma, California 94954

Attn: Mr. Gary Lieberman



Authorized for release by:
4/25/2014 4:55:45 PM
Dimple Sharma, Senior Project Manager
dimple.sharma@testamericainc.com

Designee for

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-56839-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-56839-1

Comments
No additional comments.

Receipt
The samples were received on 4/17/2014 4:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6º C.

GC/MS Semi VOA
Method 8270C SIM: The following sample was diluted due to the abundance of non-target analytes: S-B16-3.5 (720-56839-9), S-B17-2.5 (720-56839-7). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B13-3.5 — Lab Sample ID: 720-56839-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	26		20		ug/Kg	2		8270C SIM	Total/NA
Acenaphthylene	51		20		ug/Kg	2		8270C SIM	Total/NA
Anthracene	78		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[a]anthracene	300		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[a]pyrene	340		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[b]fluoranthene	490		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[g,h,i]perylene	220		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[k]fluoranthene	200		20		ug/Kg	2		8270C SIM	Total/NA
Chrysene	390		20		ug/Kg	2		8270C SIM	Total/NA
Dibenz(a,h)anthracene	72		20		ug/Kg	2		8270C SIM	Total/NA
Fluoranthene	610		20		ug/Kg	2		8270C SIM	Total/NA
Fluorene	31		20		ug/Kg	2		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	190		20		ug/Kg	2		8270C SIM	Total/NA
Naphthalene	77		20		ug/Kg	2		8270C SIM	Total/NA
Phenanthrene	380		20		ug/Kg	2		8270C SIM	Total/NA
Pyrene	600		20		ug/Kg	2		8270C SIM	Total/NA

Client Sample ID: S-B13-5 — Lab Sample ID: 720-56839-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	14		4.9		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]pyrene	21		4.9		ug/Kg	1		8270C SIM	Total/NA
Benzo[b]fluoranthene	29		4.9		ug/Kg	1		8270C SIM	Total/NA
Benzo[g,h,i]perylene	17		4.9		ug/Kg	1		8270C SIM	Total/NA
Benzo[k]fluoranthene	9.4		4.9		ug/Kg	1		8270C SIM	Total/NA
Chrysene	19		4.9		ug/Kg	1		8270C SIM	Total/NA
Fluoranthene	23		4.9		ug/Kg	1		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	13		4.9		ug/Kg	1		8270C SIM	Total/NA
Naphthalene	5.2		4.9		ug/Kg	1		8270C SIM	Total/NA
Phenanthrene	15		4.9		ug/Kg	1		8270C SIM	Total/NA
Pyrene	26		4.9		ug/Kg	1		8270C SIM	Total/NA

Client Sample ID: S-B14-4 — Lab Sample ID: 720-56839-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	1600		49		ug/Kg	10		8270C SIM	Total/NA
Anthracene	3200		49		ug/Kg	10		8270C SIM	Total/NA
Benzo[a]anthracene	7400		250		ug/Kg	50		8270C SIM	Total/NA
Benzo[a]pyrene	6600		250		ug/Kg	50		8270C SIM	Total/NA
Benzo[b]fluoranthene	8900		250		ug/Kg	50		8270C SIM	Total/NA
Benzo[g,h,i]perylene	2900		49		ug/Kg	10		8270C SIM	Total/NA
Benzo[k]fluoranthene	2800		49		ug/Kg	10		8270C SIM	Total/NA
Chrysene	7800		250		ug/Kg	50		8270C SIM	Total/NA
Dibenz(a,h)anthracene	920		49		ug/Kg	10		8270C SIM	Total/NA
Fluoranthene	18000		250		ug/Kg	50		8270C SIM	Total/NA
Fluorene	1700		49		ug/Kg	10		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	2800		49		ug/Kg	10		8270C SIM	Total/NA
Naphthalene	1900		49		ug/Kg	10		8270C SIM	Total/NA
Phenanthrene	15000		250		ug/Kg	50		8270C SIM	Total/NA
Pyrene	15000		250		ug/Kg	50		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B14-5 — Lab Sample ID: 720-56839-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	23		5.0		ug/Kg	1		8270C SIM	Total/NA
Anthracene	45		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]anthracene	110		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]pyrene	110		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[b]fluoranthene	140		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[g,h,i]perylene	50		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[k]fluoranthene	58		5.0		ug/Kg	1		8270C SIM	Total/NA
Chrysene	120		5.0		ug/Kg	1		8270C SIM	Total/NA
Dibenz(a,h)anthracene	17		5.0		ug/Kg	1		8270C SIM	Total/NA
Fluoranthene	250		5.0		ug/Kg	1		8270C SIM	Total/NA
Fluorene	26		5.0		ug/Kg	1		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	47		5.0		ug/Kg	1		8270C SIM	Total/NA
Naphthalene	43		5.0		ug/Kg	1		8270C SIM	Total/NA
Phenanthrene	200		5.0		ug/Kg	1		8270C SIM	Total/NA
Pyrene	220		5.0		ug/Kg	1		8270C SIM	Total/NA

Client Sample ID: S-B15-3 — Lab Sample ID: 720-56839-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	94		20		ug/Kg	2		8270C SIM	Total/NA
Acenaphthylene	49		20		ug/Kg	2		8270C SIM	Total/NA
Anthracene	130		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[a]anthracene	500		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[a]pyrene	600		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[b]fluoranthene	880		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[g,h,i]perylene	250		20		ug/Kg	2		8270C SIM	Total/NA
Benzo[k]fluoranthene	320		20		ug/Kg	2		8270C SIM	Total/NA
Chrysene	610		20		ug/Kg	2		8270C SIM	Total/NA
Dibenz(a,h)anthracene	78		20		ug/Kg	2		8270C SIM	Total/NA
Fluoranthene	1000		20		ug/Kg	2		8270C SIM	Total/NA
Fluorene	100		20		ug/Kg	2		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	240		20		ug/Kg	2		8270C SIM	Total/NA
Naphthalene	140		20		ug/Kg	2		8270C SIM	Total/NA
Phenanthrene	600		20		ug/Kg	2		8270C SIM	Total/NA
Pyrene	1100		20		ug/Kg	2		8270C SIM	Total/NA

Client Sample ID: S-B15-5 — Lab Sample ID: 720-56839-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	8.1		5.0		ug/Kg	1		8270C SIM	Total/NA
Acenaphthylene	10		5.0		ug/Kg	1		8270C SIM	Total/NA
Anthracene	20		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]anthracene	62		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]pyrene	72		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[b]fluoranthene	120		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[g,h,i]perylene	35		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[k]fluoranthene	37		5.0		ug/Kg	1		8270C SIM	Total/NA
Chrysene	82		5.0		ug/Kg	1		8270C SIM	Total/NA
Dibenz(a,h)anthracene	11		5.0		ug/Kg	1		8270C SIM	Total/NA
Fluoranthene	120		5.0		ug/Kg	1		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: S-B15-5 (Continued) — Lab Sample ID: 720-56839-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluorene	11		5.0		ug/Kg	1		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	32		5.0		ug/Kg	1		8270C SIM	Total/NA
Naphthalene	29		5.0		ug/Kg	1		8270C SIM	Total/NA
Phenanthrene	78		5.0		ug/Kg	1		8270C SIM	Total/NA
Pyrene	120		5.0		ug/Kg	1		8270C SIM	Total/NA

Client Sample ID: S-B17-2.5 — Lab Sample ID: 720-56839-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	60		49		ug/Kg	5		8270C SIM	Total/NA
Benzo[a]pyrene	78		49		ug/Kg	5		8270C SIM	Total/NA
Benzo[b]fluoranthene	110		49		ug/Kg	5		8270C SIM	Total/NA
Benzo[g,h,i]perylene	72		49		ug/Kg	5		8270C SIM	Total/NA
Chrysene	81		49		ug/Kg	5		8270C SIM	Total/NA
Fluoranthene	84		49		ug/Kg	5		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	50		49		ug/Kg	5		8270C SIM	Total/NA
Phenanthrene	49		49		ug/Kg	5		8270C SIM	Total/NA
Pyrene	110		49		ug/Kg	5		8270C SIM	Total/NA

Client Sample ID: S-B17-5 — Lab Sample ID: 720-56839-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	19		9.9		ug/Kg	2		8270C SIM	Total/NA
Benzo[a]pyrene	23		9.9		ug/Kg	2		8270C SIM	Total/NA
Benzo[b]fluoranthene	39		9.9		ug/Kg	2		8270C SIM	Total/NA
Benzo[g,h,i]perylene	11		9.9		ug/Kg	2		8270C SIM	Total/NA
Benzo[k]fluoranthene	13		9.9		ug/Kg	2		8270C SIM	Total/NA
Chrysene	29		9.9		ug/Kg	2		8270C SIM	Total/NA
Fluoranthene	39		9.9		ug/Kg	2		8270C SIM	Total/NA
Phenanthrene	25		9.9		ug/Kg	2		8270C SIM	Total/NA
Pyrene	46		9.9		ug/Kg	2		8270C SIM	Total/NA

Client Sample ID: S-B16-3.5 — Lab Sample ID: 720-56839-9

No Detections.

Client Sample ID: S-B16-5 — Lab Sample ID: 720-56839-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene	10		9.9		ug/Kg	2		8270C SIM	Total/NA
Benzo[b]fluoranthene	17		9.9		ug/Kg	2		8270C SIM	Total/NA
Chrysene	13		9.9		ug/Kg	2		8270C SIM	Total/NA
Fluoranthene	20		9.9		ug/Kg	2		8270C SIM	Total/NA
Phenanthrene	12		9.9		ug/Kg	2		8270C SIM	Total/NA
Pyrene	22		9.9		ug/Kg	2		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B13-3.5
Date Collected: 04/16/14 08:55
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-1
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	26		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Acenaphthylene	51		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Anthracene	78		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Benzo[a]anthracene	300		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Benzo[a]pyrene	340		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Benzo[b]fluoranthene	490		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Benzo[g,h,i]perylene	220		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Benzo[k]fluoranthene	200		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Chrysene	390		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Dibenz(a,h)anthracene	72		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Fluoranthene	610		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Fluorene	31		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Indeno[1,2,3-cd]pyrene	190		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Naphthalene	77		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Phenanthrene	380		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2
Pyrene	600		20		ug/Kg		04/24/14 14:41	04/24/14 23:17	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*33 - 120*	*04/24/14 14:41*	*04/24/14 23:17*	*2*
Terphenyl-d14	*90*		*35 - 146*	*04/24/14 14:41*	*04/24/14 23:17*	*2*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B13-5
Date Collected: 04/16/14 09:00
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-2
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Acenaphthylene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Anthracene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Benzo[a]anthracene	**14**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Benzo[a]pyrene	**21**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Benzo[b]fluoranthene	**29**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Benzo[g,h,i]perylene	**17**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Benzo[k]fluoranthene	**9.4**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Chrysene	**19**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Dibenz(a,h)anthracene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Fluoranthene	**23**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Fluorene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Indeno[1,2,3-cd]pyrene	**13**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Naphthalene	**5.2**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Phenanthrene	**15**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1
Pyrene	**26**		4.9		ug/Kg		04/24/14 14:41	04/24/14 23:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*33 - 120*	*04/24/14 14:41*	*04/24/14 23:40*	*1*
Terphenyl-d14	*81*		*35 - 146*	*04/24/14 14:41*	*04/24/14 23:40*	*1*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B14-4
Date Collected: 04/16/14 09:20
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-3
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1600**		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Acenaphthylene	ND		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Anthracene	**3200**		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Benzo[a]anthracene	**7400**		250		ug/Kg		04/24/14 14:41	04/25/14 12:51	50
Benzo[a]pyrene	**6600**		250		ug/Kg		04/24/14 14:41	04/25/14 12:51	50
Benzo[b]fluoranthene	**8900**		250		ug/Kg		04/24/14 14:41	04/25/14 12:51	50
Benzo[g,h,i]perylene	**2900**		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Benzo[k]fluoranthene	**2800**		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Chrysene	**7800**		250		ug/Kg		04/24/14 14:41	04/25/14 12:51	50
Dibenz(a,h)anthracene	**920**		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Fluoranthene	**18000**		250		ug/Kg		04/24/14 14:41	04/25/14 12:51	50
Fluorene	**1700**		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Indeno[1,2,3-cd]pyrene	**2800**		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Naphthalene	**1900**		49		ug/Kg		04/24/14 14:41	04/25/14 00:03	10
Phenanthrene	**15000**		250		ug/Kg		04/24/14 14:41	04/25/14 12:51	50
Pyrene	**15000**		250		ug/Kg		04/24/14 14:41	04/25/14 12:51	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*33 - 120*	*04/24/14 14:41*	*04/25/14 00:03*	*10*
2-Fluorobiphenyl	*86*		*33 - 120*	*04/24/14 14:41*	*04/25/14 12:51*	*50*
Terphenyl-d14	*97*		*35 - 146*	*04/24/14 14:41*	*04/25/14 00:03*	*10*
Terphenyl-d14	*96*		*35 - 146*	*04/24/14 14:41*	*04/25/14 12:51*	*50*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B14-5
Date Collected: 04/16/14 09:25
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-4
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**23**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Acenaphthylene	ND		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Anthracene	**45**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Benzo[a]anthracene	**110**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Benzo[a]pyrene	**110**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Benzo[b]fluoranthene	**140**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Benzo[g,h,i]perylene	**50**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Benzo[k]fluoranthene	**58**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Chrysene	**120**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Dibenz(a,h)anthracene	**17**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Fluoranthene	**250**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Fluorene	**26**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Indeno[1,2,3-cd]pyrene	**47**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Naphthalene	**43**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Phenanthrene	**200**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1
Pyrene	**220**		5.0		ug/Kg		04/24/14 14:41	04/25/14 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*33 - 120*	*04/24/14 14:41*	*04/25/14 00:26*	*1*
Terphenyl-d14	*77*		*35 - 146*	*04/24/14 14:41*	*04/25/14 00:26*	*1*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B15-3
Date Collected: 04/16/14 09:50
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-5
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	94		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Acenaphthylene	49		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Anthracene	130		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Benzo[a]anthracene	500		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Benzo[a]pyrene	600		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Benzo[b]fluoranthene	880		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Benzo[g,h,i]perylene	250		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Benzo[k]fluoranthene	320		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Chrysene	610		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Dibenz(a,h)anthracene	78		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Fluoranthene	1000		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Fluorene	100		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Indeno[1,2,3-cd]pyrene	240		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Naphthalene	140		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Phenanthrene	600		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2
Pyrene	1100		20		ug/Kg		04/24/14 14:41	04/25/14 00:50	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*33 - 120*	*04/24/14 14:41*	*04/25/14 00:50*	*2*
Terphenyl-d14	*92*		*35 - 146*	*04/24/14 14:41*	*04/25/14 00:50*	*2*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B15-5
Date Collected: 04/16/14 09:55
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-6
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	8.1		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Acenaphthylene	10		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Anthracene	20		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Benzo[a]anthracene	62		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Benzo[a]pyrene	72		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Benzo[b]fluoranthene	120		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Benzo[g,h,i]perylene	35		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Benzo[k]fluoranthene	37		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Chrysene	82		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Dibenz(a,h)anthracene	11		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Fluoranthene	120		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Fluorene	11		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Indeno[1,2,3-cd]pyrene	32		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Naphthalene	29		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Phenanthrene	78		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1
Pyrene	120		5.0		ug/Kg		04/24/14 14:41	04/25/14 01:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*33 - 120*	*04/24/14 14:41*	*04/25/14 01:13*	*1*
Terphenyl-d14	*80*		*35 - 146*	*04/24/14 14:41*	*04/25/14 01:13*	*1*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B17-2.5
Date Collected: 04/16/14 10:10
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-7
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Acenaphthylene	ND		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Anthracene	ND		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Benzo[a]anthracene	**60**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Benzo[a]pyrene	**78**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Benzo[b]fluoranthene	**110**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Benzo[g,h,i]perylene	**72**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Benzo[k]fluoranthene	ND		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Chrysene	**81**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Dibenz(a,h)anthracene	ND		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Fluoranthene	**84**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Fluorene	ND		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Indeno[1,2,3-cd]pyrene	**50**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Naphthalene	ND		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Phenanthrene	**49**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5
Pyrene	**110**		49		ug/Kg		04/24/14 14:41	04/25/14 13:15	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*33 - 120*	*04/24/14 14:41*	*04/25/14 13:15*	*5*
Terphenyl-d14	*87*		*35 - 146*	*04/24/14 14:41*	*04/25/14 13:15*	*5*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B17-5
Date Collected: 04/16/14 10:20
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-8
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Acenaphthylene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Anthracene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Benzo[a]anthracene	**19**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Benzo[a]pyrene	**23**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Benzo[b]fluoranthene	**39**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Benzo[g,h,i]perylene	**11**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Benzo[k]fluoranthene	**13**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Chrysene	**29**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Dibenz(a,h)anthracene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Fluoranthene	**39**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Fluorene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Indeno[1,2,3-cd]pyrene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Naphthalene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Phenanthrene	**25**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2
Pyrene	**46**		9.9		ug/Kg		04/24/14 14:41	04/25/14 01:59	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*33 - 120*	*04/24/14 14:41*	*04/25/14 01:59*	*2*
Terphenyl-d14	*84*		*35 - 146*	*04/24/14 14:41*	*04/25/14 01:59*	*2*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B16-3.5
Date Collected: 04/16/14 10:30
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-9
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Acenaphthylene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Anthracene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Benzo[a]anthracene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Benzo[a]pyrene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Benzo[b]fluoranthene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Benzo[g,h,i]perylene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Benzo[k]fluoranthene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Chrysene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Dibenz(a,h)anthracene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Fluoranthene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Fluorene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Indeno[1,2,3-cd]pyrene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Naphthalene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Phenanthrene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5
Pyrene	ND		50		ug/Kg		04/24/14 14:41	04/25/14 15:23	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*33 - 120*	*04/24/14 14:41*	*04/25/14 15:23*	*5*
Terphenyl-d14	*100*		*35 - 146*	*04/24/14 14:41*	*04/25/14 15:23*	*5*

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B16-5
Date Collected: 04/16/14 10:40
Date Received: 04/17/14 16:00

Lab Sample ID: 720-56839-10
Matrix: Solid

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Acenaphthylene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Anthracene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Benzo[a]anthracene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Benzo[a]pyrene	**10**		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Benzo[b]fluoranthene	**17**		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Benzo[g,h,i]perylene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Benzo[k]fluoranthene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Chrysene	**13**		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Dibenz(a,h)anthracene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Fluoranthene	**20**		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Fluorene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Indeno[1,2,3-cd]pyrene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Naphthalene	ND		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Phenanthrene	**12**		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2
Pyrene	**22**		9.9		ug/Kg		04/24/14 14:41	04/25/14 02:46	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*33 - 120*	*04/24/14 14:41*	*04/25/14 02:46*	*2*
Terphenyl-d14	*89*		*35 - 146*	*04/24/14 14:41*	*04/25/14 02:46*	*2*

Method: 8270C SIM - PAHs by GCMS (SIM)

Lab Sample ID: MB 720-158056/1-A
Matrix: Solid
Analysis Batch: 158078

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 158056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Acenaphthylene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Anthracene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Benzo[a]anthracene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Benzo[a]pyrene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Benzo[b]fluoranthene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Benzo[g,h,i]perylene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Benzo[k]fluoranthene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Chrysene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Dibenz(a,h)anthracene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Fluoranthene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Fluorene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Indeno[1,2,3-cd]pyrene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Naphthalene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Phenanthrene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1
Pyrene	ND		4.9		ug/Kg		04/24/14 14:41	04/24/14 21:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*33 - 120*	*04/24/14 14:41*	*04/24/14 21:21*	*1*
Terphenyl-d14	*89*		*35 - 146*	*04/24/14 14:41*	*04/24/14 21:21*	*1*

Lab Sample ID: LCS 720-158056/2-A
Matrix: Solid
Analysis Batch: 158078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	331	264		ug/Kg		80	49 - 120
Acenaphthylene	331	256		ug/Kg		77	52 - 120
Anthracene	331	274		ug/Kg		83	52 - 120
Benzo[a]anthracene	331	282		ug/Kg		85	52 - 120
Benzo[a]pyrene	331	292		ug/Kg		88	54 - 120
Benzo[b]fluoranthene	331	285		ug/Kg		86	51 - 120
Benzo[g,h,i]perylene	331	312		ug/Kg		94	48 - 120
Benzo[k]fluoranthene	331	285		ug/Kg		86	56 - 120
Chrysene	331	279		ug/Kg		84	40 - 120
Dibenz(a,h)anthracene	331	325		ug/Kg		98	50 - 120
Fluoranthene	331	283		ug/Kg		85	57 - 120
Fluorene	331	268		ug/Kg		81	52 - 120
Indeno[1,2,3-cd]pyrene	331	315		ug/Kg		95	48 - 120
Naphthalene	331	252		ug/Kg		76	46 - 120
Phenanthrene	331	264		ug/Kg		80	48 - 120
Pyrene	331	291		ug/Kg		88	53 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*33 - 120*
Terphenyl-d14	*93*		*35 - 146*

Method: 8270C SIM - PAHs by GCMS (SIM) (Continued)

Lab Sample ID: LCSD 720-158056/3-A
Matrix: Solid
Analysis Batch: 158078

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 158056

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			329	255		ug/Kg		77	49 - 120	4	20
Acenaphthylene			329	251		ug/Kg		76	52 - 120	2	20
Anthracene			329	266		ug/Kg		81	52 - 120	3	20
Benzo[a]anthracene			329	265		ug/Kg		80	52 - 120	6	20
Benzo[a]pyrene			329	277		ug/Kg		84	54 - 120	5	20
Benzo[b]fluoranthene			329	288		ug/Kg		87	51 - 120	1	20
Benzo[g,h,i]perylene			329	295		ug/Kg		90	48 - 120	5	20
Benzo[k]fluoranthene			329	258		ug/Kg		78	56 - 120	10	20
Chrysene			329	261		ug/Kg		79	40 - 120	7	20
Dibenz(a,h)anthracene			329	308		ug/Kg		94	50 - 120	5	20
Fluoranthene			329	270		ug/Kg		82	57 - 120	4	20
Fluorene			329	259		ug/Kg		79	52 - 120	3	20
Indeno[1,2,3-cd]pyrene			329	297		ug/Kg		90	48 - 120	6	20
Naphthalene			329	249		ug/Kg		76	46 - 120	2	20
Phenanthrene			329	254		ug/Kg		77	48 - 120	4	20
Pyrene			329	269		ug/Kg		82	53 - 120	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*33 - 120*
Terphenyl-d14	*88*		*35 - 146*

Lab Sample ID: 720-56839-1 MS
Matrix: Solid
Analysis Batch: 158119

Client Sample ID: S-B13-3.5
Prep Type: Total/NA
Prep Batch: 158056

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	26		329	279		ug/Kg		77	33 - 120
Acenaphthylene	51		329	303		ug/Kg		76	28 - 120
Anthracene	78		329	346		ug/Kg		81	36 - 120
Benzo[a]anthracene	300		329	513		ug/Kg		65	29 - 120
Benzo[a]pyrene	340		329	550		ug/Kg		62	24 - 120
Benzo[b]fluoranthene	490		329	664		ug/Kg		53	17 - 132
Benzo[g,h,i]perylene	220		329	479		ug/Kg		79	21 - 120
Benzo[k]fluoranthene	200		329	450		ug/Kg		77	35 - 120
Chrysene	390		329	612		ug/Kg		67	29 - 120
Dibenz(a,h)anthracene	72		329	321		ug/Kg		76	36 - 120
Fluoranthene	610		329	808		ug/Kg		61	24 - 120
Fluorene	31		329	292		ug/Kg		79	35 - 120
Indeno[1,2,3-cd]pyrene	190		329	435		ug/Kg		73	20 - 126
Naphthalene	77		329	314		ug/Kg		72	32 - 120
Phenanthrene	380		329	590		ug/Kg		64	28 - 120
Pyrene	600		329	866		ug/Kg		82	24 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*33 - 120*
Terphenyl-d14	*100*		*35 - 146*

Method: 8270C SIM - PAHs by GCMS (SIM) (Continued)

Lab Sample ID: 720-56839-1 MSD
Matrix: Solid
Analysis Batch: 158119

Client Sample ID: S-B13-3.5
Prep Type: Total/NA
Prep Batch: 158056

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	26		329	283		ug/Kg		78	33 - 120	1	20
Acenaphthylene	51		329	308		ug/Kg		78	28 - 120	2	20
Anthracene	78		329	322		ug/Kg		74	36 - 120	7	20
Benzo[a]anthracene	300		329	438		ug/Kg		42	29 - 120	16	20
Benzo[a]pyrene	340		329	465		ug/Kg		37	24 - 120	17	20
Benzo[b]fluoranthene	490		329	557		ug/Kg		21	17 - 132	18	20
Benzo[g,h,i]perylene	220		329	411		ug/Kg		59	21 - 120	15	20
Benzo[k]fluoranthene	200		329	393		ug/Kg		59	35 - 120	13	20
Chrysene	390		329	471	F1 F2	ug/Kg		25	29 - 120	26	20
Dibenz(a,h)anthracene	72		329	304		ug/Kg		70	36 - 120	6	20
Fluoranthene	610		329	620	F1 F2	ug/Kg		4	24 - 120	26	20
Fluorene	31		329	287		ug/Kg		78	35 - 120	2	20
Indeno[1,2,3-cd]pyrene	190		329	391		ug/Kg		60	20 - 126	11	20
Naphthalene	77		329	287		ug/Kg		64	32 - 120	9	20
Phenanthrene	380		329	501		ug/Kg		38	28 - 120	16	20
Pyrene	600		329	666	F1 F2	ug/Kg		21	24 - 123	26	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*33 - 120*
Terphenyl-d14	*99*		*35 - 146*

GC/MS Semi VOA

Prep Batch: 158056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-56839-1	S-B13-3.5	Total/NA	Solid	3546	
720-56839-1 MS	S-B13-3.5	Total/NA	Solid	3546	
720-56839-1 MSD	S-B13-3.5	Total/NA	Solid	3546	
720-56839-2	S-B13-5	Total/NA	Solid	3546	
720-56839-3	S-B14-4	Total/NA	Solid	3546	
720-56839-4	S-B14-5	Total/NA	Solid	3546	
720-56839-5	S-B15-3	Total/NA	Solid	3546	
720-56839-6	S-B15-5	Total/NA	Solid	3546	
720-56839-7	S-B17-2.5	Total/NA	Solid	3546	
720-56839-8	S-B17-5	Total/NA	Solid	3546	
720-56839-9	S-B16-3.5	Total/NA	Solid	3546	
720-56839-10	S-B16-5	Total/NA	Solid	3546	
LCS 720-158056/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 720-158056/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
MB 720-158056/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 158078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-56839-1	S-B13-3.5	Total/NA	Solid	8270C SIM	158056
720-56839-2	S-B13-5	Total/NA	Solid	8270C SIM	158056
720-56839-3	S-B14-4	Total/NA	Solid	8270C SIM	158056
720-56839-4	S-B14-5	Total/NA	Solid	8270C SIM	158056
720-56839-5	S-B15-3	Total/NA	Solid	8270C SIM	158056
720-56839-6	S-B15-5	Total/NA	Solid	8270C SIM	158056
720-56839-8	S-B17-5	Total/NA	Solid	8270C SIM	158056
720-56839-10	S-B16-5	Total/NA	Solid	8270C SIM	158056
LCS 720-158056/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	158056
LCSD 720-158056/3-A	Lab Control Sample Dup	Total/NA	Solid	8270C SIM	158056
MB 720-158056/1-A	Method Blank	Total/NA	Solid	8270C SIM	158056

Analysis Batch: 158119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-56839-1 MS	S-B13-3.5	Total/NA	Solid	8270C SIM	158056
720-56839-1 MSD	S-B13-3.5	Total/NA	Solid	8270C SIM	158056
720-56839-3	S-B14-4	Total/NA	Solid	8270C SIM	158056
720-56839-7	S-B17-2.5	Total/NA	Solid	8270C SIM	158056
720-56839-9	S-B16-3.5	Total/NA	Solid	8270C SIM	158056

Lab Chronicle

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B13-3.5

Lab Sample ID: 720-56839-1

Date Collected: 04/16/14 08:55

Matrix: Solid

Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		2	158078	04/24/14 23:17	MQL	TAL PLS

Client Sample ID: S-B13-5

Lab Sample ID: 720-56839-2

Date Collected: 04/16/14 09:00

Matrix: Solid

Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		1	158078	04/24/14 23:40	MQL	TAL PLS

Client Sample ID: S-B14-4

Lab Sample ID: 720-56839-3

Date Collected: 04/16/14 09:20

Matrix: Solid

Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		10	158078	04/25/14 00:03	MQL	TAL PLS
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		50	158119	04/25/14 12:51	MQL	TAL PLS

Client Sample ID: S-B14-5

Lab Sample ID: 720-56839-4

Date Collected: 04/16/14 09:25

Matrix: Solid

Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		1	158078	04/25/14 00:26	MQL	TAL PLS

Client Sample ID: S-B15-3

Lab Sample ID: 720-56839-5

Date Collected: 04/16/14 09:50

Matrix: Solid

Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		2	158078	04/25/14 00:50	MQL	TAL PLS

Lab Chronicle

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Client Sample ID: S-B15-5

Lab Sample ID: 720-56839-6

Date Collected: 04/16/14 09:55
Matrix: Solid
Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		1	158078	04/25/14 01:13	MQL	TAL PLS

Client Sample ID: S-B17-2.5

Lab Sample ID: 720-56839-7

Date Collected: 04/16/14 10:10
Matrix: Solid
Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		5	158119	04/25/14 13:15	MQL	TAL PLS

Client Sample ID: S-B17-5

Lab Sample ID: 720-56839-8

Date Collected: 04/16/14 10:20
Matrix: Solid
Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		2	158078	04/25/14 01:59	MQL	TAL PLS

Client Sample ID: S-B16-3.5

Lab Sample ID: 720-56839-9

Date Collected: 04/16/14 10:30
Matrix: Solid
Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		5	158119	04/25/14 15:23	MQL	TAL PLS

Client Sample ID: S-B16-5

Lab Sample ID: 720-56839-10

Date Collected: 04/16/14 10:40
Matrix: Solid
Date Received: 04/17/14 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			158056	04/24/14 14:41	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		2	158078	04/25/14 02:46	MQL	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Laboratory: TestAmerica Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-16

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Method	Method Description	Protocol	Laboratory
8270C SIM	PAHs by GCMS (SIM)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Alameda Maintenance Sevices Fac

TestAmerica Job ID: 720-56839-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-56839-1	S-B13-3.5	Solid	04/16/14 08:55	04/17/14 16:00
720-56839-2	S-B13-5	Solid	04/16/14 09:00	04/17/14 16:00
720-56839-3	S-B14-4	Solid	04/16/14 09:20	04/17/14 16:00
720-56839-4	S-B14-5	Solid	04/16/14 09:25	04/17/14 16:00
720-56839-5	S-B15-3	Solid	04/16/14 09:50	04/17/14 16:00
720-56839-6	S-B15-5	Solid	04/16/14 09:55	04/17/14 16:00
720-56839-7	S-B17-2.5	Solid	04/16/14 10:10	04/17/14 16:00
720-56839-8	S-B17-5	Solid	04/16/14 10:20	04/17/14 16:00
720-56839-9	S-B16-3.5	Solid	04/16/14 10:30	04/17/14 16:00
720-56839-10	S-B16-5	Solid	04/16/14 10:40	04/17/14 16:00

CHAIN OF CUSTODY FORM

Seq. No. 2633

Lab: TestAmerica

1465 North McDowell Blvd.
Suite 200
Petaluma, CA 94954
(707) 793-3800

Samplers: Scott Graham

720-56839

Job Number: 0D1316 4970.03

153165

Name/Location: City of Alameda Maintenance Services Facility

Project Manager: Gary Lieberman

Recorder: (Signature Required)

4/25/2014

MATRIX			# CONTAINERS						SAMPLE NUMBER	DATE				STATION DESCRIPTION		ANALYSIS REQUESTED			
Water	Soil	Air	Unpres.	H2SO4	HNO3	HCL				YR	MO	DAY	TIME		DEPTH	8260	8270	TITLE 22 METALS	PAHs 8270-SIM
	X		1						S-SB13-3.5	14	04	16	0855	SB-13	3-3.5				X
	X		1						S-B13-5	14	04	16	0900	B-13	4.5-5				X
	X		1						S-B14-4	14	04	16	0920	B-14	3.5-4				X
	X		1						S-B14-5	14	04	16	0925	B-14	4.5-5				X
	X		1						S-B15-3	14	04	16	0950	B-15	2.5-3				X
	X		1						S-B15-5	14	04	16	0955	B-15	4.5-5				X
	X		1						S-B17-2.5	14	04	16	1010	B-17	2-2.5			X	
	X		1						S-B17-5	14	04	16	1020	B-17	4.5-5			X	
	X		1						S-B16-3.5	14	04	16	1030	B-16	3-3.5			X	
	X		1						S-B16-5	14	04	16	1040	B-16	4.5-5			X	

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ADDITIONAL INFORMATION

REPORT TO: Gary.Lieberman@amec.com

PO#: C0122046 77

TAT: Standard

Comments: Field Filtered Y/N

720-56839 Chain of Custody

3.6°C

CHAIN OF CUSTODY RECORD

4/16/2014

	(Print Name)	(Company)	(Date/Time)
Relinquished By (Signature)	Scott Graham	AMEC	1400
Received By (Signature):	T. Stitt	TA	4/17/14 1030
Relinquished By (Signature)	T. Stitt	TA	4/17/14 @ 1600
Received By (Signature):	Justinn Gonzales	TAP	4/17/14 1600
Relinquished By (Signature)	(Print Name)	(Company)	(Date/Time)
Received By (Signature):	(Print Name)	(Company)	(Date/Time)

Method of Shipment:

White - Laboratory Copy Yellow - Project Office Copy Pink - Field or Office Copy F1008-E

Login Sample Receipt Checklist

Client: AMEC Environment & Infrastructure, Inc.

Job Number: 720-56839-1

Login Number: 56839

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Gonzales, Justinn

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	