Wickham, Jerry, Env. Health

From: Peter Sims [psims@ninyoandmoore.com]
Sent: Monday, May 12, 2014 10:01 AM
To: Wickham, Jerry, Env. Health
Subject: RE: Ashland Soil Import

Thanks Jerry,

I've forwarded this on to the contractor. The schedule has changed so that they are not planning to import soil for a few weeks. This should give them time to gather the required information for approval of imported fill.

Peter D. Sims, LEED AP
Project Environmental Geologist
Ninyo & Moore
Geotechnical & Environmental Sciences Consultants
1956 Webster Street, Suite 400
Oakland, California 94612
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New San Jose office
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San Jose, CA 95131
(408) 435-9000
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Experience * Quality * Commitment

-----Original Message-----
From: Wickham, Jerry, Env. Health [mailto:jerry.wickham@acgov.org]
Sent: Monday, May 12, 2014 9:36 AM
To: Peter Sims
Subject: RE: Ashland Soil Import

Peter,

In general, the fill characterization will need to follow the DTSC imported fill guidance (attached) in order to get agency approval. Here is some specific information I would need to go with analytical results in order to review the fill for use at the Ashland Housing site:

1) Some background on environmental conditions at the site where the fill comes from. Some documentation such as a Phase I report or other information from a qualified professional indicating whether the site has any known or suspected environmental conditions. (I assume that the geotech report was intended to provide background but is not adequate)
2) The sample location and volume that each sample represents such as does the sample go with a stockpile of a certain volume.
3) The type of samples - composite or discrete and how they were

collected.
4) The type of fill and the heterogeneity.
5) Whether the fill contains any debris, construction material, baserock, or other non-native materials.
6) Whether any staining or odor was observed.
7) Where the soil is to be used at the site. In this case, will the soil be used in housing areas or under a street?
8) Whether this is a variance from the Work Plan.
9) Laboratory analytical results.

Regards,
Jerry Wickham
Alameda County Environmental Health

From: Peter Sims [psims@ninyoandmoore.com]
Sent: Friday, May 09, 2014 2:38 PM
To: Wickham, Jerry, Env. Health
Subject: RE: Ashland Soil Import

Geotech report is attached.

Peter D. Sims, LEED AP
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-----Original Message-----
From: Peter Sims
Sent: Friday, May 09, 2014 2:37 PM
To: 'Wickham, Jerry, Env. Health'
Subject: Ashland Soil Import

Hi Jerry,

Just heard from the contractor that they would like approval to import 1,500 cubic yards from a school site on Monday. Attached are the geotech report and environmental sample analysis. They would like approval today so that they can coordinate with the soil broker. I understand you are out of the office, but I'm sending this anyway just in case you check

your email.

Thank you,

Peter D. Sims, LEED AP
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(213) 745-5312 FAX (213) 745-6372

May 05, 2014

Mr. Patrick Morrison
Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Report No.: 1405019
Project Name: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Dear Mr. Patrick Morrison,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on May 02, 2014.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

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Certificate of Analysis

Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: PAD-1 Soil (1405019-01) Sampled:05/01/14 08:10 Received:05/02/14 10:26

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
C4 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	05/02/14	05/02/14	lk	BE40209
Surrogate: a,a,a-Trifluorotoluene	*112 %*			*82-118*		*EPA 5030B*	*EPA 8015B*	*05/02/14*	*05/02/14*	*lk*	*BE40209*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
C13 - C22	ND		1	mg/kg	2.50	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
C23 - C32	ND		1	mg/kg	100	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
C33 - C36	ND		1	mg/kg	100	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
Surrogate: n-Tetracosane	*86.8 %*			*64-148*		*EPA 3546*	*EPA 8015B*	*05/02/14*	*05/02/14*	*lk*	*BE40218*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Dichlorodifluoromethane (FC-12)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Vinyl chloride (Chloroethylene)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromomethane (Methyl bromide)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Trichlorofluoromethane (FC-11)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Acetone	ND		1	mg/kg	0.0800	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Carbon disulfide	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Methylene chloride (Dichloromethane)	ND		1	mg/kg	0.0200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
trans-1,2-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Methyl tert-butyl ether (MTBE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Vinyl acetate	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2,2-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
cis-1,2-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Butanone (MEK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromochloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloroform	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,1-Trichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Carbon tetrachloride	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Benzene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Trichloroethene (TCE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Dibromomethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,4-Dioxane	ND		1	mg/kg	0.0800	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromodichloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Chloroethyl vinyl ether	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
cis-1,3-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Methyl-2-pentanone (MIBK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Toluene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
trans-1,3-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,2-Trichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Tetrachloroethene (PCE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Xylenes (total)	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Hexanone (MBK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: PAD-1 Soil (1405019-01) Sampled:05/01/14 08:10 Received:05/02/14 10:26

Dibromochloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dibromoethane (EDB)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,1,2-Tetrachloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Ethylbenzene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
m,p-Xylene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
o-Xylene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Styrene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromoform (Tribromomethane)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Isopropylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,2,2-Tetrachloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,3-Trichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
n-Propylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Chlorotoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Chlorotoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3,5-Trimethylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
tert-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,4-Trimethylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
sec-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Isopropyltoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,4-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
n-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,4-Trichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Hexachlorobutadiene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Naphthalene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,3-Trichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Surrogate: Dibromofluoromethane	*91.4 %*			*72-121*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*
Surrogate: Toluene-d8	*101 %*			*80-120*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*
Surrogate: 4-Bromofluorobenzene	*95.5 %*			*75-123*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Naphthalene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
2-Methylnaphthalene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Acenaphthylene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Acenaphthene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Fluorene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Phenanthrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Anthracene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Fluoranthene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Pyrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (a) anthracene (1,2-Benzanthracene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Chrysene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: PAD-1 Soil (1405019-01) Sampled:05/01/14 08:10 Received:05/02/14 10:26

Benzo (a) pyrene (3,4-Benzopyrene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Indeno (1,2,3-cd) pyrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Surrogate: Nitrobenzene-d5	*77.7 %*			*46-127*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*
Surrogate: 2-Fluorobiphenyl	*76.5 %*			*48-120*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*
Surrogate: Terphenyl-dl4	*106 %*			*58-135*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
N-Nitrosodimethylamine (NDMA)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pyridine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Aniline	ND		1	mg/kg	0.500	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroethyl)ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Phenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Chlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,3-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,4-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzyl alcohol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroisopropyl)ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachloroethane	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
N-Nitrosodi-n-propylamine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Nitrobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Isophorone	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Nitrophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dimethylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroethoxy)methane	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzoic acid	ND		1	mg/kg	2.00	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2,4-Trichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Naphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chloroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorobutadiene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chloro-3-methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Methylnaphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,6-Dichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorocyclopentadiene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4,6-Trichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4,5-Trichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Chloronaphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Nitroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Acenaphthylene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dimethyl phthalate	ND		1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,6-Dinitrotoluene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Acenaphthene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
3-Nitroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dibenzofuran	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: PAD-1 Soil (1405019-01) Sampled:05/01/14 08:10 Received:05/02/14 10:26

2,4-Dichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dinitrophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dinitrotoluene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Nitrophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Fluorene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chlorophenyl phenyl ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Diethyl phthalate	ND		1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Nitroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4,6-Dinitro-2-methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
N-Nitrosodiphenylamine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2-Diphenylhydrazine as Azobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Bromophenyl phenyl ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pentachlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Phenanthrene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Anthracene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Di-n-butyl phthalate	ND		1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Fluoranthene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzidine	ND		1	mg/kg	1.00	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pyrene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Butyl benzyl phthalate	**3.67**		1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
3,3'-Dichlorobenzidine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (a) anthracene (1,2-Benzanthracene)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Chrysene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-ethylhexyl)phthalate	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Di-n-octyl phthalate	**0.166**		1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (a) pyrene (3,4-Benzopyrene)	ND		1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Indeno (1,2,3-cd) pyrene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Surrogate: 2-Fluorophenol	*72.2 %*			*48-117*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: Phenol-d5	*82.4 %*			*46-129*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: Nitrobenzene-d5	*75.6 %*			*46-127*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: 2-Fluorobiphenyl	*78.4 %*			*48-120*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: 2,4,6-Tribromophenol	*83.6 %*			*55-154*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: Terphenyl-dl4	*104 %*			*58-135*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
alpha-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
beta-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
delta-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
gamma-BHC (Lindane)	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
alpha-Chlordane	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: PAD-1 Soil (1405019-01) Sampled:05/01/14 08:10 Received:05/02/14 10:26

gamma-Chlordane	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
4,4'-DDD	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
4,4'-DDE	**0.00717**		1	mg/kg	0.00400	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
4,4'-DDT	**0.00891**		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/05/14	ai	BE40509
Dieldrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endosulfan I	ND		1	mg/kg	0.00400	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endosulfan II	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endosulfan sulfate	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Technical Chlordane	ND		1	mg/kg	0.0100	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin aldehyde	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin ketone	ND		1	mg/kg	0.00600	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Heptachlor	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Heptachlor epoxide	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Methoxychlor	ND		1	mg/kg	0.0100	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Toxaphene	ND		1	mg/kg	0.0300	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*71.7 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*05/02/14*	*05/02/14*	*ai*	*BE40509*
Surrogate: Decachlorobiphenyl	*68.3 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*05/02/14*	*05/02/14*	*ai*	*BE40509*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aroclor-1016	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1221	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1232	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1242	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1248	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1254	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1260	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*63.1 %*			*54-131*		*EPA 3546*	*EPA 8082*	*05/02/14*	*05/05/14*	*ai*	*BE40509*
Surrogate: Decachlorobiphenyl	*66.7 %*			*51-143*		*EPA 3546*	*EPA 8082*	*05/02/14*	*05/05/14*	*ai*	*BE40509*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.50	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Arsenic	**4.05**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Barium	**120**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Chromium	**83.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Cobalt	**20.4**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Copper	**50.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Lead	**7.47**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Nickel	**61.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Selenium	**2.70**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Thallium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Vanadium	**80.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Zinc	**53.6**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	05/05/14	05/05/14	cg	BE40502

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File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: PAD-1 Soil (1405019-01) Sampled:05/01/14 08:10 Received:05/02/14 10:26

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Chromium, Hexavalent	ND		1	mg/kg	1.00	EPA 3060A	EPA 7196A	05/02/14	05/02/14	tf	BE40507

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Asbestos	See Attachment										

Sample ID: FTG-2 Soil (1405019-02) Sampled:05/01/14 08:20 Received:05/02/14 10:26

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
C4 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	05/02/14	05/02/14	lk	BE40209
Surrogate: a,a,a-Trifluorotoluene	*104 %*			*82-118*		*EPA 5030B*	*EPA 8015B*	*05/02/14*	*05/02/14*	*lk*	*BE40209*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
C13 - C22	ND		1	mg/kg	2.50	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
C23 - C32	ND		1	mg/kg	100	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
C33 - C36	ND		1	mg/kg	100	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
Surrogate: n-Tetracosane	*83.8 %*			*64-148*		*EPA 3546*	*EPA 8015B*	*05/02/14*	*05/02/14*	*lk*	*BE40218*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Dichlorodifluoromethane (FC-12)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Vinyl chloride (Chloroethylene)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromomethane (Methyl bromide)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Trichlorofluoromethane (FC-11)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Acetone	ND		1	mg/kg	0.0800	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Carbon disulfide	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Methylene chloride (Dichloromethane)	ND		1	mg/kg	0.0200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
trans-1,2-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Methyl tert-butyl ether (MTBE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Vinyl acetate	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2,2-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
cis-1,2-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Butanone (MEK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromochloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloroform	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,1-Trichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Carbon tetrachloride	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Benzene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Trichloroethene (TCE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Dibromomethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,4-Dioxane	ND		1	mg/kg	0.0800	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromodichloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Chloroethyl vinyl ether	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
cis-1,3-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Methyl-2-pentanone (MIBK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: FTG-2 Soil (1405019-02) Sampled:05/01/14 08:20 Received:05/02/14 10:26

Toluene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
trans-1,3-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,2-Trichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Tetrachloroethene (PCE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Xylenes (total)	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Hexanone (MBK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Dibromochloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dibromoethane (EDB)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,1,2-Tetrachloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Ethylbenzene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
m,p-Xylene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
o-Xylene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Styrene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromoform (Tribromomethane)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Isopropylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,2,2-Tetrachloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,3-Trichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
n-Propylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Chlorotoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Chlorotoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3,5-Trimethylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
tert-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,4-Trimethylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
sec-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Isopropyltoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,4-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
n-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,4-Trichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Hexachlorobutadiene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Naphthalene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,3-Trichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Surrogate: Dibromofluoromethane	*89.8 %*			*72-121*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*
Surrogate: Toluene-d8	*98.6 %*			*80-120*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*
Surrogate: 4-Bromofluorobenzene	*97.2 %*			*75-123*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Naphthalene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
2-Methylnaphthalene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Acenaphthylene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Acenaphthene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Fluorene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Phenanthrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Anthracene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Fluoranthene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: FTG-2 Soil (1405019-02) Sampled:05/01/14 08:20 Received:05/02/14 10:26

Pyrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (a) anthracene (1,2-Benzanthracene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Chrysene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (a) pyrene (3,4-Benzopyrene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Indeno (1,2,3-cd) pyrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Surrogate: Nitrobenzene-d5	*76.7 %*			*46-127*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*
Surrogate: 2-Fluorobiphenyl	*75.9 %*			*48-120*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*
Surrogate: Terphenyl-dl4	*110 %*			*58-135*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
N-Nitrosodimethylamine (NDMA)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pyridine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Aniline	ND		1	mg/kg	0.500	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroethyl)ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Phenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Chlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,3-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,4-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzyl alcohol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroisopropyl)ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachloroethane	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
N-Nitrosodi-n-propylamine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Nitrobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Isophorone	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Nitrophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dimethylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroethoxy)methane	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzoic acid	ND		1	mg/kg	2.00	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2,4-Trichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Naphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chloroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorobutadiene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chloro-3-methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Methylnaphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,6-Dichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorocyclopentadiene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4,6-Trichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4,5-Trichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Chloronaphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508

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File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: FTG-2 Soil (1405019-02) Sampled:05/01/14 08:20 Received:05/02/14 10:26

2-Nitroaniline	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Acenaphthylene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dimethyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,6-Dinitrotoluene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Acenaphthene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
3-Nitroaniline	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dibenzofuran	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dichlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dinitrophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dinitrotoluene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Nitrophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Fluorene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chlorophenyl phenyl ether	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Diethyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Nitroaniline	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4,6-Dinitro-2-methylphenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
N-Nitrosodiphenylamine	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2-Diphenylhydrazine as Azobenzene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Bromophenyl phenyl ether	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorobenzene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pentachlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Phenanthrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Anthracene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Di-n-butyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Fluoranthene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzidine	ND	1	mg/kg	1.00	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pyrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Butyl benzyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
3,3´-Dichlorobenzidine	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (a) anthracene (1,2-Benzanthracene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Chrysene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-ethylhexyl)phthalate	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Di-n-octyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	al	BE40508
Benzo (a) pyrene (3,4-Benzopyrene)	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Indeno (1,2,3-cd) pyrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Surrogate: 2-Fluorophenol	*70.1 %*		*48-117*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: Phenol-d5	*80.3 %*		*46-129*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: Nitrobenzene-d5	*75.6 %*		*46-127*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: 2-Fluorobiphenyl	*78.7 %*		*48-120*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: 2,4,6-Tribromophenol	*85.7 %*		*55-154*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: Terphenyl-dl4	*106 %*		*58-135*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: FTG-2 Soil (1405019-02) Sampled:05/01/14 08:20 Received:05/02/14 10:26

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
alpha-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
beta-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
delta-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
gamma-BHC (Lindane)	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	al	BE40509
alpha-Chlordane	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
gamma-Chlordane	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
4,4´-DDD	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
4,4´-DDE	**0.241**		10	mg/kg	0.0400	EPA 3546	EPA 8081A	05/02/14	05/05/14	ai	BE40509
4,4´-DDT	**0.0369**		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Dieldrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endosulfan I	ND		1	mg/kg	0.00400	EPA 3546	EPA 8081A	05/02/14	05/02/14	al	BE40509
Endosulfan II	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endosulfan sulfate	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Technical Chlordane	ND		1	mg/kg	0.0100	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin aldehyde	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin ketone	ND		1	mg/kg	0.00600	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Heptachlor	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Heptachlor epoxide	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Methoxychlor	ND		1	mg/kg	0.0100	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Toxaphene	ND		1	mg/kg	0.0300	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*73.2 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*05/02/14*	*05/02/14*	*ai*	*BE40509*
Surrogate: Decachlorobiphenyl	*60.3 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*05/02/14*	*05/02/14*	*ai*	*BE40509*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aroclor-1016	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1221	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1232	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1242	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1248	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1254	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1260	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Surrogate: 2,4,5,6 Tetrachloro-m-xyler	*59.9 %*			*54-131*		*EPA 3546*	*EPA 8082*	*05/02/14*	*05/05/14*	*ai*	*BE40509*
Surrogate: Decachlorobiphenyl	*83.7 %*			*51-143*		*EPA 3546*	*EPA 8082*	*05/02/14*	*05/05/14*	*ai*	*BE40509*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.50	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Arsenic	**5.55**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Barium	**131**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Chromium	**56.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Cobalt	**14.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Copper	**35.7**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Lead	**12.4**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Nickel	**49.9**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Selenium	**2.53**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: FTG-2 Soil (1405019-02) Sampled:05/01/14 08:20 Received:05/02/14 10:26

Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Thallium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Vanadium	**58.8**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Zinc	**55.1**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	05/05/14	05/05/14	cg	BE40502
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Chromium, Hexavalent	ND		1	mg/kg	1.00	EPA 3060A	EPA 7196A	05/02/14	05/02/14	tf	BE40507
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Asbestos	See Attachment										

Sample ID: LIT-3 Soil (1405019-03) Sampled:05/01/14 08:40 Received:05/02/14 10:26

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
C4 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	05/02/14	05/02/14	lk	BE40209
Surrogate: a,a,a-Trifluorotoluene	*107 %*			*82-118*		*EPA 5030B*	*EPA 8015B*	*05/02/14*	*05/02/14*	*lk*	*BE40209*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
C13 - C22	ND		1	mg/kg	2.50	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
C23 - C32	ND		1	mg/kg	100	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
C33 - C36	ND		1	mg/kg	100	EPA 3546	EPA 8015B	05/02/14	05/02/14	lk	BE40218
Surrogate: n-Tetracosane	*75.3 %*			*64-148*		*EPA 3546*	*EPA 8015B*	*05/02/14*	*05/02/14*	*lk*	*BE40218*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Dichlorodifluoromethane (FC-12)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Vinyl chloride (Chloroethylene)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromomethane (Methyl bromide)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Trichlorofluoromethane (FC-11)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Acetone	ND		1	mg/kg	0.0800	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Carbon disulfide	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Methylene chloride (Dichloromethane)	ND		1	mg/kg	0.0200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
trans-1,2-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Methyl tert-butyl ether (MTBE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Vinyl acetate	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2,2-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
cis-1,2-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Butanone (MEK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromochloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chloroform	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,1-Trichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Carbon tetrachloride	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Benzene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Trichloroethene (TCE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505

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File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: LIT-3 Soil (1405019-03) Sampled:05/01/14 08:40 Received:05/02/14 10:26

Dibromomethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,4-Dioxane	ND		1	mg/kg	0.0800	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromodichloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Chloroethyl vinyl ether	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
cis-1,3-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Methyl-2-pentanone (MIBK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Toluene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
trans-1,3-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,2-Trichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Tetrachloroethene (PCE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Xylenes (total)	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Hexanone (MBK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Dibromochloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dibromoethane (EDB)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Chlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,1,2-Tetrachloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Ethylbenzene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
m,p-Xylene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
o-Xylene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Styrene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromoform (Tribromomethane)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Isopropylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Bromobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,1,2,2-Tetrachloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,3-Trichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
n-Propylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
2-Chlorotoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Chlorotoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3,5-Trimethylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
tert-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,4-Trimethylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
sec-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,3-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
4-Isopropyltoluene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,4-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
n-Butylbenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,4-Trichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Hexachlorobutadiene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Naphthalene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
1,2,3-Trichlorobenzene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/02/14	05/02/14	mb	BE40505
Surrogate: Dibromofluoromethane	*80.2 %*			*72-121*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*
Surrogate: Toluene-d8	*96.5 %*			*80-120*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*
Surrogate: 4-Bromofluorobenzene	*98.1 %*			*75-123*		*EPA 5030B*	*EPA 8260B*	*05/02/14*	*05/02/14*	*mb*	*BE40505*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Naphthalene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
2-Methylnaphthalene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506

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San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: LIT-3 Soil (1405019-03) Sampled:05/01/14 08:40 Received:05/02/14 10:26

Acenaphthylene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Acenaphthene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Fluorene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Phenanthrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Anthracene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Fluoranthene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Pyrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (a) anthracene (1,2-Benzanthracene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Chrysene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (a) pyrene (3,4-Benzopyrene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Indeno (1,2,3-cd) pyrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/02/14	05/05/14	ai	BE40506
Surrogate: Nitrobenzene-d5	*68.3 %*			*46-127*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*
Surrogate: 2-Fluorobiphenyl	*69.7 %*			*48-120*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*
Surrogate: Terphenyl-dl4	*106 %*			*58-135*		*EPA 3546*	*EPA 8270 SIM*	*05/02/14*	*05/05/14*	*ai*	*BE40506*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
N-Nitrosodimethylamine (NDMA)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pyridine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Aniline	ND		1	mg/kg	0.500	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroethyl)ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Phenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Chlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,3-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,4-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzyl alcohol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroisopropyl)ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachloroethane	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
N-Nitrosodi-n-propylamine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Nitrobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Isophorone	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Nitrophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dimethylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-chloroethoxy)methane	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzoic acid	ND		1	mg/kg	2.00	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2,4-Trichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Naphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chloroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorobutadiene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chloro-3-methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: LIT-3 Soil (1405019-03) Sampled:05/01/14 08:40 Received:05/02/14 10:26

2-Methylnaphthalene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,6-Dichlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorocyclopentadiene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4,6-Trichlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4,5-Trichlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Chloronaphthalene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2-Nitroaniline	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Acenaphthylene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dimethyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,6-Dinitrotoluene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Acenaphthene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
3-Nitroaniline	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dibenzofuran	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dichlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dinitrophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
2,4-Dinitrotoluene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Nitrophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Fluorene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Chlorophenyl phenyl ether	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Diethyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Nitroaniline	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4,6-Dinitro-2-methylphenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
N-Nitrosodiphenylamine	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
1,2-Diphenylhydrazine as Azobenzene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
4-Bromophenyl phenyl ether	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Hexachlorobenzene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pentachlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Phenanthrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Anthracene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Di-n-butyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Fluoranthene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzidine	ND	1	mg/kg	1.00	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Pyrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Butyl benzyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
3,3'-Dichlorobenzidine	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (a) anthracene (1,2-Benzanthracene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Chrysene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Bis(2-ethylhexyl)phthalate	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Di-n-octyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (a) pyrene (3,4-Benzopyrene)	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Indeno (1,2,3-cd) pyrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/02/14	05/02/14	ai	BE40508
Surrogate: 2-Fluorophenol	*62.0 %*		*48-117*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*

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File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: LIT-3 Soil (1405019-03) Sampled:05/01/14 08:40 Received:05/02/14 10:26

Surrogate: Phenol-d5	*73.2 %*			*46-129*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: Nitrobenzene-d5	*66.2 %*			*46-127*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: 2-Fluorobiphenyl	*71.1 %*			*48-120*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: 2,4,6-Tribromophenol	*84.8 %*			*55-154*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Surrogate: Terphenyl-dl4	*108 %*			*58-135*		*EPA 3546*	*EPA 8270C*	*05/02/14*	*05/02/14*	*ai*	*BE40508*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
alpha-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
beta-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
delta-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
gamma-BHC (Lindane)	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
alpha-Chlordane	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
gamma-Chlordane	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
4,4´-DDD	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
4,4´-DDE	ND		1	mg/kg	0.00400	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
4,4´-DDT	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Dieldrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endosulfan I	ND		1	mg/kg	0.00400	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endosulfan II	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endosulfan sulfate	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Technical Chlordane	ND		1	mg/kg	0.0100	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin aldehyde	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Endrin ketone	ND		1	mg/kg	0.00600	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Heptachlor	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Heptachlor epoxide	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Methoxychlor	ND		1	mg/kg	0.0100	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Toxaphene	ND		1	mg/kg	0.0300	EPA 3546	EPA 8081A	05/02/14	05/02/14	ai	BE40509
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*66.2 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*05/02/14*	*05/02/14*	*ai*	*BE40509*
Surrogate: Decachlorobiphenyl	*60.2 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*05/02/14*	*05/02/14*	*ai*	*BE40509*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aroclor-1016	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1221	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1232	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1242	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1248	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1254	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Aroclor-1260	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/02/14	05/05/14	ai	BE40509
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*75.9 %*			*54-131*		*EPA 3546*	*EPA 8082*	*05/02/14*	*05/05/14*	*ai*	*BE40509*
Surrogate: Decachlorobiphenyl	*90.5 %*			*51-143*		*EPA 3546*	*EPA 8082*	*05/02/14*	*05/05/14*	*ai*	*BE40509*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.50	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Arsenic	**4.99**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Barium	**160**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Chromium	**61.4**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501

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Certificate of Analysis

Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: LIT-3 Soil (1405019-03) Sampled:05/01/14 08:40 Received:05/02/14 10:26

Cobalt	**14.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Copper	**39.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Lead	**8.23**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Nickel	**60.7**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Selenium	**2.27**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Thallium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Vanadium	**50.5**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Zinc	**50.7**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	05/02/14	05/02/14	MP	BE40501
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	**0.128**		1	mg/kg	0.100	EPA 7471A	EPA 7471A	05/05/14	05/05/14	cg	BE40502
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Chromium, Hexavalent	ND		1	mg/kg	1.00	EPA 3060A	EPA 7196A	05/02/14	05/02/14	tf	BE40507
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Asbestos	See Attachment										

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File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40209 - EPA 5030B										
Blank Prepared & Analyzed: 05/02/14										
C4 - C12	ND	0.500	mg/kg							
Surrogate: a,a,a-Trifluorotoluene	*0.0316*		mg/kg	*0.03000*		*105*	*82-118*			
LCS Prepared & Analyzed: 05/02/14										
Gasoline	0.733	0.500	mg/kg	0.9096		80.6	71-116			
Matrix Spike Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Gasoline	1.62	0.500	mg/kg	1.819	ND	88.9	53-123			
Matrix Spike Dup Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Gasoline	1.64	0.500	mg/kg	1.819	ND	90.2	53-123	1.48	30	
Batch BE40218 - EPA 3546										
Blank Prepared & Analyzed: 05/02/14										
C13 - C22	ND	2.50	mg/kg							
C23 - C32	ND	100	mg/kg							
C33 - C36	ND	100	mg/kg							
Surrogate: n-Tetracosane	*19.3*		mg/kg	*20.83*		*92.6*	*64-148*			
LCS Prepared & Analyzed: 05/02/14										
Diesel	524	5.00	mg/kg	554.7		94.5	64-139			
Surrogate: n-Tetracosane	*18.6*		mg/kg	*20.83*		*89.1*	*74-139*			
LCS Dup Prepared & Analyzed: 05/02/14										
Diesel	519	5.00	mg/kg	554.7		93.6	64-139	0.893	30	
Surrogate: n-Tetracosane	*18.5*		mg/kg	*20.83*		*88.6*	*74-139*			
Batch BE40505 - EPA 5030B										
Blank Prepared & Analyzed: 05/02/14										
Dichlorodifluoromethane (FC-12)	ND	0.00400	mg/kg							
Chloromethane	ND	0.00400	mg/kg							
Vinyl chloride (Chloroethylene)	ND	0.00400	mg/kg							
Bromomethane (Methyl bromide)	ND	0.00400	mg/kg							
Chloroethane	ND	0.00400	mg/kg							
Trichlorofluoromethane (FC-11)	ND	0.00400	mg/kg							
Acetone	ND	0.0800	mg/kg							
Carbon disulfide	ND	0.0400	mg/kg							
1,1-Dichloroethene	ND	0.00400	mg/kg							
Methylene chloride (Dichloromethane)	ND	0.0200	mg/kg							
trans-1,2-Dichloroethene	ND	0.00400	mg/kg							
Methyl tert-butyl ether (MTBE)	ND	0.00400	mg/kg							
1,1-Dichloroethane	ND	0.00400	mg/kg							
Vinyl acetate	ND	0.0400	mg/kg							

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File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40505 - EPA 5030B										
2,2-Dichloropropane	ND	0.00400	mg/kg							
cis-1,2-Dichloroethene	ND	0.00400	mg/kg							
2-Butanone (MEK)	ND	0.0400	mg/kg							
Bromochloromethane	ND	0.00400	mg/kg							
Chloroform	ND	0.00400	mg/kg							
1,1,1-Trichloroethane	ND	0.00400	mg/kg							
Carbon tetrachloride	ND	0.00400	mg/kg							
1,1-Dichloropropene	ND	0.00400	mg/kg							
Benzene	ND	0.00200	mg/kg							
1,2-Dichloroethane	ND	0.00400	mg/kg							
Trichloroethene (TCE)	ND	0.00400	mg/kg							
1,2-Dichloropropane	ND	0.00400	mg/kg							
Dibromomethane	ND	0.00400	mg/kg							
1,4-Dioxane	ND	0.0800	mg/kg							
Bromodichloromethane	ND	0.00400	mg/kg							
2-Chloroethyl vinyl ether	ND	0.0400	mg/kg							
cis-1,3-Dichloropropene	ND	0.00400	mg/kg							
4-Methyl-2-pentanone (MIBK)	ND	0.0400	mg/kg							
Toluene	ND	0.00200	mg/kg							
trans-1,3-Dichloropropene	ND	0.00400	mg/kg							
1,1,2-Trichloroethane	ND	0.00400	mg/kg							
Tetrachloroethene (PCE)	ND	0.00400	mg/kg							
Xylenes (total)	ND	0.00200	mg/kg							
1,3-Dichloropropane	ND	0.00400	mg/kg							
2-Hexanone (MBK)	ND	0.0400	mg/kg							
Dibromochloromethane	ND	0.00400	mg/kg							
1,2-Dibromoethane (EDB)	ND	0.00400	mg/kg							
Chlorobenzene	ND	0.00400	mg/kg							
1,1,1,2-Tetrachloroethane	ND	0.00400	mg/kg							
Ethylbenzene	ND	0.00200	mg/kg							
m,p-Xylene	ND	0.00200	mg/kg							
o-Xylene	ND	0.00200	mg/kg							
Styrene	ND	0.00400	mg/kg							
Bromoform (Tribromomethane)	ND	0.00400	mg/kg							
Isopropylbenzene	ND	0.00400	mg/kg							
Bromobenzene	ND	0.00400	mg/kg							
1,1,2,2-Tetrachloroethane	ND	0.00400	mg/kg							
1,2,3-Trichloropropane	ND	0.00400	mg/kg							
n-Propylbenzene	ND	0.00400	mg/kg							
2-Chlorotoluene	ND	0.00400	mg/kg							
4-Chlorotoluene	ND	0.00400	mg/kg							

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40505 - EPA 5030B										
1,3,5-Trimethylbenzene	ND	0.00400	mg/kg							
tert-Butylbenzene	ND	0.00400	mg/kg							
1,2,4-Trimethylbenzene	ND	0.00400	mg/kg							
sec-Butylbenzene	ND	0.00400	mg/kg							
1,3-Dichlorobenzene	ND	0.00400	mg/kg							
4-Isopropyltoluene	ND	0.00400	mg/kg							
1,4-Dichlorobenzene	ND	0.00400	mg/kg							
1,2-Dichlorobenzene	ND	0.00400	mg/kg							
n-Butylbenzene	ND	0.00400	mg/kg							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.00400	mg/kg							
1,2,4-Trichlorobenzene	ND	0.00400	mg/kg							
Hexachlorobutadiene	ND	0.00400	mg/kg							
Naphthalene	ND	0.00400	mg/kg							
1,2,3-Trichlorobenzene	ND	0.00400	mg/kg							
Surrogate: Dibromofluoromethane	*0.00823*		mg/kg	*0.01000*		*82.3*	*72-121*			
Surrogate: Toluene-d8	*0.00975*		mg/kg	*0.01000*		*97.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.00958*		mg/kg	*0.01000*		*95.8*	*75-123*			
LCS Prepared & Analyzed: 05/02/14										
1,1-Dichloroethene	0.0211	0.00400	mg/kg	0.02000		106	63-135			
Methyl tert-butyl ether (MTBE)	0.0217	0.00400	mg/kg	0.02000		108	69-126			
Benzene	0.0210	0.00200	mg/kg	0.02000		105	74-124			
Trichloroethene (TCE)	0.0216	0.00400	mg/kg	0.02000		108	74-126			
Toluene	0.0218	0.00200	mg/kg	0.02000		109	77-122			
Chlorobenzene	0.0214	0.00400	mg/kg	0.02000		107	79-121			
Surrogate: Dibromofluoromethane	*0.00948*		mg/kg	*0.01000*		*94.8*	*73-129*			
Surrogate: Toluene-d8	*0.00990*		mg/kg	*0.01000*		*99.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.00956*		mg/kg	*0.01000*		*95.6*	*80-120*			
Matrix Spike Source: 1405019-03 Prepared & Analyzed: 05/03/14										
1,1-Dichloroethene	0.0158	0.00400	mg/kg	0.02000	ND	79.0	62-138			
Benzene	0.00874	0.00200	mg/kg	0.02000	ND	43.7	65-121			
Trichloroethene (TCE)	0.0178	0.00400	mg/kg	0.02000	ND	88.8	67-154			
Toluene	0.0114	0.00200	mg/kg	0.02000	ND	56.8	61-121			
Chlorobenzene	0.0148	0.00400	mg/kg	0.02000	ND	73.8	65-121			
Surrogate: Dibromofluoromethane	*0.00857*		mg/kg	*0.01000*		*85.7*	*72-121*			
Surrogate: Toluene-d8	*0.00951*		mg/kg	*0.01000*		*95.1*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.00954*		mg/kg	*0.01000*		*95.4*	*75-123*			
Matrix Spike Dup Source: 1405019-03 Prepared & Analyzed: 05/03/14										
1,1-Dichloroethene	0.0159	0.00400	mg/kg	0.02000	ND	79.4	62-138	0.505	30	
Benzene	0.00820	0.00200	mg/kg	0.02000	ND	41.0	65-121	6.38	30	
Trichloroethene (TCE)	0.0183	0.00400	mg/kg	0.02000	ND	91.4	67-154	2.83	30	

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Certificate of Analysis

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40505 - EPA 5030B										
Toluene	0.0113	0.00200	mg/kg	0.02000	ND	56.6	61-121	0.352	30	
Chlorobenzene	0.0153	0.00400	mg/kg	0.02000	ND	76.6	65-121	3.66	30	
Surrogate: Dibromofluoromethane	*0.00849*		mg/kg	*0.01000*		*84.9*	*72-121*			
Surrogate: Toluene-d8	*0.00944*		mg/kg	*0.01000*		*94.4*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.00983*		mg/kg	*0.01000*		*98.3*	*75-123*			
Batch BE40506 - EPA 3546										
Blank Prepared: 05/02/14 Analyzed: 05/05/14										
Naphthalene	ND	0.0150	mg/kg							
2-Methylnaphthalene	ND	0.0150	mg/kg							
Acenaphthylene	ND	0.0150	mg/kg							
Acenaphthene	ND	0.0150	mg/kg							
Fluorene	ND	0.0150	mg/kg							
Phenanthrene	ND	0.0150	mg/kg							
Anthracene	ND	0.0150	mg/kg							
Fluoranthene	ND	0.0150	mg/kg							
Pyrene	ND	0.0150	mg/kg							
Benzo (a) anthracene	ND	0.0150	mg/kg							
(1,2-Benzanthracene) Chrysene	ND	0.0150	mg/kg							
Benzo (b) fluoranthene	ND	0.0150	mg/kg							
(3,4-Benzofluoranthene) Benzo (k) fluoranthene	ND	0.0150	mg/kg							
(11,12-Benzofluoranthene) Benzo (a) pyrene (3,4-Benzopyrene)	ND	0.0150	mg/kg							
Indeno (1,2,3-cd) pyrene	ND	0.0150	mg/kg							
Dibenzo(a,h)anthracene	ND	0.0150	mg/kg							
(1,2,5,6-Dibenzanthracene) Benzo (g,h,l) perylene	ND	0.0150	mg/kg							
(1,12-Benzoperylene) *Surrogate: Nitrobenzene-d5*	*5.66*		mg/kg	*6.667*		*84.9*	*46-127*			
Surrogate: 2-Fluorobiphenyl	*5.30*		mg/kg	*6.667*		*79.5*	*48-120*			
Surrogate: Terphenyl-dl4	*7.04*		mg/kg	*6.667*		*106*	*58-135*			
LCS Prepared: 05/02/14 Analyzed: 05/05/14										
Acenaphthene	0.0371	0.0150	mg/kg	0.05000		74.3	57-112			
Pyrene	0.0328	0.0150	mg/kg	0.05000		65.7	57-131			
Surrogate: Nitrobenzene-d5	*5.51*		mg/kg	*6.667*		*82.7*	*46-129*			
Surrogate: 2-Fluorobiphenyl	*5.12*		mg/kg	*6.667*		*76.8*	*54-106*			
Surrogate: Terphenyl-dl4	*6.93*		mg/kg	*6.667*		*104*	*56-142*			
LCS Dup Prepared: 05/02/14 Analyzed: 05/05/14										
Acenaphthene	0.0364	0.0150	mg/kg	0.05000		72.9	57-112	1.85	30	
Pyrene	0.0342	0.0150	mg/kg	0.05000		68.4	57-131	4.03	30	

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Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40506 - EPA 3546										
Surrogate: Nitrobenzene-d5	*5.62*		mg/kg	*6.667*		*84.3*	*46-129*			
Surrogate: 2-Fluorobiphenyl	*5.17*		mg/kg	*6.667*		*77.6*	*54-106*			
Surrogate: Terphenyl-dl4	*7.57*		mg/kg	*6.667*		*114*	*56-142*			
Batch BE40508 - EPA 3546										
Blank Prepared & Analyzed: 05/02/14										
N-Nitrosodimethylamine (NDMA)	ND	0.200	mg/kg							
Pyridine	ND	0.200	mg/kg							
Aniline	ND	0.500	mg/kg							
Bis(2-chloroethyl)ether	ND	0.200	mg/kg							
Phenol	ND	0.200	mg/kg							
2-Chlorophenol	ND	0.200	mg/kg							
1,3-Dichlorobenzene	ND	0.200	mg/kg							
1,4-Dichlorobenzene	ND	0.200	mg/kg							
1,2-Dichlorobenzene	ND	0.200	mg/kg							
Benzyl alcohol	ND	0.200	mg/kg							
Bis(2-chloroisopropyl)ether	ND	0.200	mg/kg							
2-Methylphenol	ND	0.200	mg/kg							
Hexachloroethane	ND	0.200	mg/kg							
N-Nitrosodi-n-propylamine	ND	0.200	mg/kg							
4-Methylphenol	ND	0.200	mg/kg							
Nitrobenzene	ND	0.200	mg/kg							
Isophorone	ND	0.200	mg/kg							
2-Nitrophenol	ND	0.200	mg/kg							
2,4-Dimethylphenol	ND	0.200	mg/kg							
Bis(2-chloroethoxy)methane	ND	0.200	mg/kg							
Benzoic acid	ND	2.00	mg/kg							
1,2,4-Trichlorobenzene	ND	0.200	mg/kg							
Naphthalene	ND	0.200	mg/kg							
4-Chloroaniline	ND	0.200	mg/kg							
Hexachlorobutadiene	ND	0.200	mg/kg							
4-Chloro-3-methylphenol	ND	0.200	mg/kg							
2-Methylnaphthalene	ND	0.200	mg/kg							
2,6-Dichlorophenol	ND	0.200	mg/kg							
Hexachlorocyclopentadiene	ND	0.200	mg/kg							
2,4,6-Trichlorophenol	ND	0.200	mg/kg							
2,4,5-Trichlorophenol	ND	0.200	mg/kg							
2-Chloronaphthalene	ND	0.200	mg/kg							
2-Nitroaniline	ND	0.200	mg/kg							
Acenaphthylene	ND	0.200	mg/kg							

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Certificate of Analysis

Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40508 - EPA 3546										
Dimethyl phthalate	ND	0.100	mg/kg							
2,6-Dinitrotoluene	ND	0.200	mg/kg							
Acenaphthene	ND	0.200	mg/kg							
3-Nitroaniline	ND	0.200	mg/kg							
Dibenzofuran	ND	0.200	mg/kg							
2,4-Dichlorophenol	ND	0.200	mg/kg							
2,4-Dinitrophenol	ND	0.200	mg/kg							
2,4-Dinitrotoluene	ND	0.200	mg/kg							
4-Nitrophenol	ND	0.200	mg/kg							
Fluorene	ND	0.200	mg/kg							
4-Chlorophenyl phenyl ether	ND	0.200	mg/kg							
Diethyl phthalate	ND	0.100	mg/kg							
4-Nitroaniline	ND	0.200	mg/kg							
4,6-Dinitro-2-methylphenol	ND	0.200	mg/kg							
N-Nitrosodiphenylamine	ND	0.200	mg/kg							
1,2-Diphenylhydrazine as Azobenzene	ND	0.200	mg/kg							
4-Bromophenyl phenyl ether	ND	0.200	mg/kg							
Hexachlorobenzene	ND	0.200	mg/kg							
Pentachlorophenol	ND	0.200	mg/kg							
Phenanthrene	ND	0.200	mg/kg							
Anthracene	ND	0.200	mg/kg							
Di-n-butyl phthalate	ND	0.100	mg/kg							
Fluoranthene	ND	0.200	mg/kg							
Benzidine	ND	1.00	mg/kg							
Pyrene	ND	0.200	mg/kg							
Butyl benzyl phthalate	ND	0.100	mg/kg							
3,3'-Dichlorobenzidine	ND	0.200	mg/kg							
Benzo (a) anthracene (1,2-Benzanthracene)	ND	0.200	mg/kg							
Chrysene	ND	0.200	mg/kg							
Bis(2-ethylhexyl)phthalate	ND	0.200	mg/kg							
Di-n-octyl phthalate	ND	0.100	mg/kg							
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND	0.200	mg/kg							
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND	0.200	mg/kg							
Benzo (a) pyrene (3,4-Benzopyrene)	ND	0.100	mg/kg							
Indeno (1,2,3-cd) pyrene	ND	0.200	mg/kg							
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND	0.200	mg/kg							
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND	0.200	mg/kg							
Surrogate: 2-Fluorophenol	*10.8*		mg/kg	*13.33*		*81.0*	*48-117*			

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40508 - EPA 3546										
Surrogate: Phenol-d5	*11.8*		mg/kg	*13.33*		*88.7*	*46-129*			
Surrogate: Nitrobenzene-d5	*5.48*		mg/kg	*6.667*		*82.2*	*46-127*			
Surrogate: 2-Fluorobiphenyl	*5.39*		mg/kg	*6.667*		*80.8*	*48-120*			
Surrogate: 2,4,6-Tribromophenol	*12.3*		mg/kg	*13.33*		*92.1*	*55-154*			
Surrogate: Terphenyl-dl4	*7.36*		mg/kg	*6.667*		*110*	*58-135*			
LCS Prepared & Analyzed: 05/02/14										
Phenol	2.83	0.200	mg/kg	3.333		84.8	52-101			
1,4-Dichlorobenzene	2.30	0.200	mg/kg	3.333		68.9	44-96			
1,2,4-Trichlorobenzene	2.09	0.200	mg/kg	3.333		62.6	53-99			
Acenaphthene	2.63	0.200	mg/kg	3.333		78.8	57-112			
Di-n-butyl phthalate	2.70	0.100	mg/kg	3.333		81.0	62-118			
Pyrene	3.07	0.200	mg/kg	3.333		92.2	57-131			
Surrogate: 2-Fluorophenol	*10.5*		mg/kg	*13.33*		*78.7*	*56-113*			
Surrogate: Phenol-d5	*11.6*		mg/kg	*13.33*		*87.2*	*54-119*			
Surrogate: Nitrobenzene-d5	*4.82*		mg/kg	*6.667*		*72.4*	*46-129*			
Surrogate: 2-Fluorobiphenyl	*5.24*		mg/kg	*6.667*		*78.6*	*54-106*			
Surrogate: 2,4,6-Tribromophenol	*12.3*		mg/kg	*13.33*		*92.0*	*51-134*			
Surrogate: Terphenyl-dl4	*7.01*		mg/kg	*6.667*		*105*	*56-142*			
LCS Dup Prepared & Analyzed: 05/02/14										
Phenol	2.84	0.200	mg/kg	3.333		85.1	52-101	0.283	30	
1,4-Dichlorobenzene	2.37	0.200	mg/kg	3.333		71.0	44-96	3.00	30	
1,2,4-Trichlorobenzene	2.11	0.200	mg/kg	3.333		63.4	53-99	1.29	30	
Acenaphthene	2.70	0.200	mg/kg	3.333		81.0	57-112	2.70	30	
Di-n-butyl phthalate	2.69	0.100	mg/kg	3.333		80.6	62-118	0.408	30	
Pyrene	3.12	0.200	mg/kg	3.333		93.8	57-131	1.71	30	
Surrogate: 2-Fluorophenol	*10.6*		mg/kg	*13.33*		*79.2*	*56-113*			
Surrogate: Phenol-d5	*11.5*		mg/kg	*13.33*		*86.3*	*54-119*			
Surrogate: Nitrobenzene-d5	*4.89*		mg/kg	*6.667*		*73.3*	*46-129*			
Surrogate: 2-Fluorobiphenyl	*5.32*		mg/kg	*6.667*		*79.8*	*54-106*			
Surrogate: 2,4,6-Tribromophenol	*12.2*		mg/kg	*13.33*		*91.5*	*51-134*			
Surrogate: Terphenyl-dl4	*6.93*		mg/kg	*6.667*		*104*	*56-142*			
Batch BE40509 - EPA 3546										
Blank Prepared & Analyzed: 05/02/14										
Aldrin	ND	0.00200	mg/kg							
alpha-BHC	ND	0.00200	mg/kg							
beta-BHC	ND	0.00200	mg/kg							
delta-BHC	ND	0.00200	mg/kg							
gamma-BHC (Lindane)	ND	0.00200	mg/kg							
alpha-Chlordane	ND	0.00200	mg/kg							

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Certificate of Analysis

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San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40509 - EPA 3546										
gamma-Chlordane	ND	0.00200	mg/kg							
4,4´-DDD	ND	0.00200	mg/kg							
4,4´-DDE	ND	0.00400	mg/kg							
4,4´-DDT	ND	0.00200	mg/kg							
Dieldrin	ND	0.00200	mg/kg							
Endosulfan I	ND	0.00400	mg/kg							
Endosulfan II	ND	0.00200	mg/kg							
Endosulfan sulfate	ND	0.00200	mg/kg							
Endrin	ND	0.00200	mg/kg							
Technical Chlordane	ND	0.0100	mg/kg							
Endrin aldehyde	ND	0.00200	mg/kg							
Endrin ketone	ND	0.00600	mg/kg							
Heptachlor	ND	0.00200	mg/kg							
Heptachlor epoxide	ND	0.00200	mg/kg							
Methoxychlor	ND	0.0100	mg/kg							
Toxaphene	ND	0.0300	mg/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0115*		mg/kg	*0.01667*		*68.7*	*55-126*			
Surrogate: Decachlorobiphenyl	*0.0109*		mg/kg	*0.01667*		*65.2*	*49-133*			
LCS Prepared & Analyzed: 05/02/14										
Aldrin	0.00926	0.00200	mg/kg	0.01333		69.5	56-130			
gamma-BHC (Lindane)	0.00952	0.00200	mg/kg	0.01333		71.4	56-133			
4,4´-DDT	0.00981	0.00200	mg/kg	0.01333		73.6	56-133			
Dieldrin	0.0102	0.00200	mg/kg	0.01333		76.8	59-124			
Endrin	0.00987	0.00200	mg/kg	0.01333		74.1	59-127			
Heptachlor	0.00963	0.00200	mg/kg	0.01333		72.2	53-117			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0119*		mg/kg	*0.01667*		*71.7*	*54-108*			
Surrogate: Decachlorobiphenyl	*0.0108*		mg/kg	*0.01667*		*65.0*	*54-127*			
Matrix Spike Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Aldrin	0.0102	0.00200	mg/kg	0.01333	ND	76.4	39-124			
gamma-BHC (Lindane)	0.00761	0.00200	mg/kg	0.01333	ND	57.1	44-120			
4,4´-DDT	0.0259	0.00200	mg/kg	0.03333	ND	77.7	48-150			
Dieldrin	0.0232	0.00200	mg/kg	0.03333	ND	69.5	48-144			
Endrin	0.0233	0.00200	mg/kg	0.03333	ND	69.9	54-149			
Heptachlor	0.00940	0.00200	mg/kg	0.01333	ND	70.5	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0107*		mg/kg	*0.01667*		*64.3*	*57-126*			
Surrogate: Decachlorobiphenyl	*0.0104*		mg/kg	*0.01667*		*62.5*	*43-136*			
Matrix Spike Dup Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Aldrin	0.00943	0.00200	mg/kg	0.01333	ND	70.7	39-124	7.74	30	
gamma-BHC (Lindane)	0.00718	0.00200	mg/kg	0.01333	ND	53.9	44-120	5.77	30	
4,4´-DDT	0.0295	0.00200	mg/kg	0.03333	ND	88.5	48-150	13.0	30	

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Certificate of Analysis

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40509 - EPA 3546										
Dieldrin	0.0236	0.00200	mg/kg	0.03333	ND	70.7	48-144	1.80	30	
Endrin	0.0243	0.00200	mg/kg	0.03333	ND	72.9	54-149	4.18	30	
Heptachlor	0.00941	0.00200	mg/kg	0.01333	ND	70.6	46-135	0.0957	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00697*		mg/kg	*0.01667*		*41.8*	*57-126*			
Surrogate: Decachlorobiphenyl	*0.0111*		mg/kg	*0.01667*		*66.8*	*43-136*			
Batch BE40509 - EPA 3546										
Blank Prepared: 05/02/14 Analyzed: 05/05/14										
Aroclor-1016	ND	0.0500	mg/kg							
Aroclor-1221	ND	0.0500	mg/kg							
Aroclor-1232	ND	0.0500	mg/kg							
Aroclor-1242	ND	0.0500	mg/kg							
Aroclor-1248	ND	0.0500	mg/kg							
Aroclor-1254	ND	0.0500	mg/kg							
Aroclor-1260	ND	0.0500	mg/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0119*		mg/kg	*0.01667*		*71.4*	*54-131*			
Surrogate: Decachlorobiphenyl	*0.0162*		mg/kg	*0.01667*		*96.9*	*51-143*			
LCS Prepared: 05/02/14 Analyzed: 05/05/14										
Aroclor-1260	0.374	0.0500	mg/kg	0.4167		89.6	56-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0123*		mg/kg	*0.01667*		*73.9*	*65-113*			
Surrogate: Decachlorobiphenyl	*0.0140*		mg/kg	*0.01667*		*83.8*	*60-119*			
LCS Dup Prepared: 05/02/14 Analyzed: 05/05/14										
Aroclor-1260	0.364	0.0500	mg/kg	0.4167		87.3	56-135	2.63	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0110*		mg/kg	*0.01667*		*65.9*	*65-113*			
Surrogate: Decachlorobiphenyl	*0.0146*		mg/kg	*0.01667*		*87.6*	*60-119*			
Batch BE40501 - EPA 3050B										
Blank Prepared & Analyzed: 05/02/14										
Antimony	ND	2.50	mg/kg							
Arsenic	ND	1.00	mg/kg							
Barium	ND	1.00	mg/kg							
Beryllium	ND	1.00	mg/kg							
Cadmium	ND	1.00	mg/kg							
Chromium	ND	1.00	mg/kg							
Cobalt	ND	1.00	mg/kg							
Copper	ND	1.00	mg/kg							
Lead	ND	1.00	mg/kg							
Molybdenum	ND	1.00	mg/kg							
Nickel	ND	1.00	mg/kg							
Selenium	ND	1.00	mg/kg							

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File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40501 - EPA 3050B										
Silver	ND	1.00	mg/kg							
Thallium	ND	1.00	mg/kg							
Vanadium	ND	1.00	mg/kg							
Zinc	ND	5.00	mg/kg							
LCS Prepared & Analyzed: 05/02/14										
Antimony	49.9	2.50	mg/kg	49.67		100	60-140			
Arsenic	194	1.00	mg/kg	198.8		97.8	80-120			
Barium	209	1.00	mg/kg	199.8		105	80-120			
Beryllium	4.77	1.00	mg/kg	4.990		95.6	80-120			
Cadmium	5.39	1.00	mg/kg	5.010		108	80-120			
Chromium	20.5	1.00	mg/kg	19.96		103	80-120			
Cobalt	51.1	1.00	mg/kg	50.00		102	80-120			
Copper	25.7	1.00	mg/kg	25.13		102	80-120			
Lead	52.0	1.00	mg/kg	50.30		103	80-120			
Molybdenum	51.4	1.00	mg/kg	50.05		103	80-120			
Nickel	52.0	1.00	mg/kg	50.00		104	80-120			
Selenium	191	1.00	mg/kg	200.2		95.2	80-120			
Silver	5.01	1.00	mg/kg	5.000		100	80-120			
Thallium	208	1.00	mg/kg	199.9		104	80-120			
Vanadium	47.6	1.00	mg/kg	49.98		95.2	80-120			
Zinc	51.9	5.00	mg/kg	49.95		104	80-120			
Matrix Spike Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Antimony	42.1	2.50	mg/kg	49.67	1.65	81.5	60-140			
Arsenic	176	1.00	mg/kg	198.8	4.99	86.1	75-125			
Barium	334	1.00	mg/kg	199.8	160	87.2	75-125			
Beryllium	4.95	1.00	mg/kg	4.990	0.605	87.1	75-125			
Cadmium	4.71	1.00	mg/kg	5.010	0.104	91.9	75-125			
Chromium	78.5	1.00	mg/kg	19.96	61.4	85.6	75-125			
Cobalt	58.4	1.00	mg/kg	50.00	14.3	88.1	75-125			
Copper	57.3	1.00	mg/kg	25.13	39.2	72.2	75-125			
Lead	51.7	1.00	mg/kg	50.30	8.23	86.4	75-125			
Molybdenum	45.7	1.00	mg/kg	50.05	0.574	90.1	75-125			
Nickel	103	1.00	mg/kg	50.00	60.7	84.8	75-125			
Selenium	173	1.00	mg/kg	200.2	2.27	85.1	75-125			
Silver	4.49	1.00	mg/kg	5.000	ND	89.8	75-125			
Thallium	172	1.00	mg/kg	199.9	ND	86.2	75-125			
Vanadium	95.9	1.00	mg/kg	49.98	50.5	90.8	75-125			
Zinc	95.0	5.00	mg/kg	49.95	50.7	88.7	75-125			
Matrix Spike Dup Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Antimony	42.1	2.50	mg/kg	49.67	1.65	81.3	60-140	0.214	30	

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Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40501 - EPA 3050B										
Arsenic	176	1.00	mg/kg	198.8	4.99	86.1	75-125	0.0455	30	
Barium	335	1.00	mg/kg	199.8	160	87.9	75-125	0.801	30	
Beryllium	4.92	1.00	mg/kg	4.990	0.605	86.4	75-125	0.761	30	
Cadmium	4.69	1.00	mg/kg	5.010	0.104	91.4	75-125	0.528	30	
Chromium	81.0	1.00	mg/kg	19.96	61.4	97.9	75-125	13.4	30	
Cobalt	58.4	1.00	mg/kg	50.00	14.3	88.2	75-125	0.116	30	
Copper	57.6	1.00	mg/kg	25.13	39.2	73.4	75-125	1.52	30	
Lead	51.9	1.00	mg/kg	50.30	8.23	86.7	75-125	0.357	30	
Molybdenum	45.5	1.00	mg/kg	50.05	0.574	89.7	75-125	0.500	30	
Nickel	107	1.00	mg/kg	50.00	60.7	92.1	75-125	8.19	30	
Selenium	173	1.00	mg/kg	200.2	2.27	85.3	75-125	0.239	30	
Silver	4.57	1.00	mg/kg	5.000	ND	91.5	75-125	1.81	30	
Thallium	172	1.00	mg/kg	199.9	ND	85.9	75-125	0.422	30	
Vanadium	94.9	1.00	mg/kg	49.98	50.5	88.8	75-125	2.31	30	
Zinc	94.8	5.00	mg/kg	49.95	50.7	88.3	75-125	0.410	30	
Batch BE40502 - EPA 7471A										
Blank Prepared & Analyzed: 05/05/14										
Mercury	ND	0.100	mg/kg							
LCS Prepared & Analyzed: 05/05/14										
Mercury	0.786	0.100	mg/kg	0.8308		94.6	80-120			
Matrix Spike Source: 1405019-03 Prepared & Analyzed: 05/05/14										
Mercury	0.957	0.100	mg/kg	0.8308	0.128	99.8	75-125			
Matrix Spike Dup Source: 1405019-03 Prepared & Analyzed: 05/05/14										
Mercury	0.969	0.100	mg/kg	0.8308	0.128	101	75-125	1.44	25	
Batch BE40507 - EPA 3060A										
Blank Prepared & Analyzed: 05/02/14										
Chromium, Hexavalent	ND	1.00	mg/kg							
LCS Prepared & Analyzed: 05/02/14										
Chromium, Hexavalent	9.57	1.00	mg/kg	10.00		95.7	70-130			
Duplicate Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Chromium, Hexavalent	ND	1.00	mg/kg		ND				30	
Matrix Spike Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Chromium, Hexavalent	8.40	1.00	mg/kg	10.00	ND	84.0	70-130			
Matrix Spike Dup Source: 1405019-03 Prepared & Analyzed: 05/02/14										
Chromium, Hexavalent	8.24	1.00	mg/kg	10.00	ND	82.4	70-130	2.01	30	

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/05/14
Submitted: 05/02/14
PLS Report No.: 1405019

Project: FUHSD c/o Kitchell : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Notes and Definitions

E-01	The concentration for this analyte is an estimated value above the calibration range.
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

Forensic Analytical Laboratories, Inc. Analysis Request Form (COC)

Client No.: 5602

Positive Lab Services
781 E. Washington Blvd.
Los Angeles, CA 90021

P.O.# 13380 Date: 05/02/14

Turn Around Time: Same Day / 1Day / 2Day / 3 Day / 4Day / 5Day

☐ PCM: NIOSH 7400A ☐ PCM: NIOSH 7400B ☐ Rotometer

☑ PLM: ☒ Standard / ☐ Point Count 400 - 1000 ☐ CARB 435

Contact: Jeannette Gutierrez

Phone: 213-745-5312

E-Mail: jschmidt@positivelabservice.com
jgutierrez@positivelabservice.com

Client Name:

Project Name/No.: 1405019

☐ TEM Air: ☐ AHERA / ☐ Yamate2 / ☐ NIOSH 7402
☐ TEM Bulk: ☐ Quantitative / ☐ Qualitative / ☐ Chatfield
☐ TEM Water: ☐ Potable / ☐ Non-Potable / ☐ Wt %
☐ TEM Microvac

☐ IAQ Particle Identification (PLM LAB)
☐ Particle Identification (TEM LAB)

☐ Metals Analysis: Method AIR Paint Soil Wipe Drinking Water (Circle One)
☐ TTLC >50 mg/kg ☐ STLC >1000 mg/kg ☐ TCLP

Analytes:

Report Via: ☐ Fax ✓ E-Mail ☐ Verbal

Comments:

Sample ID	Date/ Time	Sample Location/Description	FOR AIR SAMPLES ONLY Type	Time On/Off	Avg. LPM	Total Time	Sample Area or Air Volume
PAD-1	5/1/14 8:10		A P C				
FTG-2	5/1/14 8:20		A P C				
LIT-3	5/1/14 8:40		A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled by: Date: / / Time: :

Shipped via: ☐ Fed Ex ☐ DHL ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished by:	Relinquished by:	Relinquished by:
Date / Time: 5/2/14 2:10	Date / Time:	Date / Time:
Received by:	Received by:	Received by:
Date / Time: 5-2-14 2:10	Date / Time:	Date / Time:
Condition Acceptable? ☐ Yes ☐ No	Condition Acceptable? ☐ Yes ☐ No	Condition Acceptable? ☐ Yes ☐ No

Forensic Analytical Laboratories

Final Report

Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Positive Lab Services
John Schmidt
Attn: Chemistry Dept
781 E Washington Blvd.
Los Angeles, CA 90021

Client ID: 5602
Report Number: B190654
Date Received: 05/02/14
Date Analyzed: 05/05/14
Date Printed: 05/05/14
First Reported: 05/05/14

Job ID/Site: 13380, 1405019

Date(s) Collected: 05/01/2014

FALI Job ID: 5602
Total Samples Submitted: 3
Total Samples Analyzed: 3

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
PAD-1	50862090						
Layer: Brown Soil			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
FTG-2	50862091						
Layer: Brown Soil			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
LIT-3	50862092						
Layer: Brown Soil			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

Steven Takahashi, Laboratory Supervisor, Rancho Dominguez Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

2959 Pacific Commerce Drive, Rancho Dominguez, CA 90221 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-8684

SEG SF

80032

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 5-1-14 PAGE 1 OF 1

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 1405019

CLIENT NAME: FUHSD c/o Kitchell

Project Name/No. Homestead HS/Café Kitchen Classroom / 66687-1

P.O. NO.

AIRBILL NO: _____

COOLER TEMP: 0.9°C

PRESERVED: _____

ADDRESS:

PROJECT MANAGER: Pat Morrison PHONE NO: FAX NO:

SAMPLER NAME: Andy Hawkshorst (Printed) (Signature)

TAT(Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other: S - Stainless Steel Tube

UST Project: Y N - Global ID# _____

ANALYSES REQUESTED:

REMARKS:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (EPA 8015 Extraction)	PCBs/Pesticides (EPA 8082/8081)	Total CAM 17 Metals	VOCs (EPA 8260)	SVOCs and PAHs by SIM (EPA 8270)	Asbestos (PLM)	Hexavalent Chromium	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1	PAD-1	5-1-14	8:10	Brn Silty Sandy Clay Grd		/			1	1	S	/	/	/	/	/	/	/	
2	FTG-2	5-1-14	8:20	Brn Silty Sandy Clay Grd		/			1	1	S	/	/	/	/	/	/	/	
3	UT-3	5-1-14	8:40	Brn Silty Sandy Clay Grd		/			1	1	S	/	/	/	/	/	/	/	
4																			
5																			
6																			
7																			
8																			
9																			
10																			

	Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
1	A. Hawkshorst	Christopher Lad	5/1/14	9.00 am
2	Christopher Ladwig		5/2/14	10:24
3				

SAMPLE DISPOSITION:

1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

SPECIAL INSTRUCTIONS: On Trac NO. B10297370385

LAB COPY

POSITIVE
LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

May 09, 2014

Mr. Patrick Morrison
Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Report No.: 1405062
Project Name: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Dear Mr. Patrick Morrison,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on May 08, 2014.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: HHS-STK-1 Soil (1405062-01) Sampled:05/07/14 12:20 Received:05/08/14 10:16

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
C4 - C12	ND		1	mg/kg	0.500	EPA 5030B	EPA 8015B	05/08/14	05/08/14	lk	BE40809
Surrogate: a,a,a-Trifluorotoluene	*96.2 %*			*82-118*		*EPA 5030B*	*EPA 8015B*	*05/08/14*	*05/08/14*	*lk*	*BE40809*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
C13 - C22	ND		1	mg/kg	2.50	EPA 3546	EPA 8015B	05/08/14	05/08/14	lk	BE40825
C23 - C32	ND		1	mg/kg	100	EPA 3546	EPA 8015B	05/08/14	05/08/14	lk	BE40825
C33 - C36	ND		1	mg/kg	100	EPA 3546	EPA 8015B	05/08/14	05/08/14	lk	BE40825
Surrogate: n-Tetracosane	*87.7 %*			*64-148*		*EPA 3546*	*EPA 8015B*	*05/08/14*	*05/08/14*	*lk*	*BE40825*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Dichlorodifluoromethane (FC-12)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Chloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Vinyl chloride (Chloroethylene)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Bromomethane (Methyl bromide)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Chloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Trichlorofluoromethane (FC-11)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Acetone	ND		1	mg/kg	0.0800	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Carbon disulfide	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,1-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Methylene chloride (Dichloromethane)	ND		1	mg/kg	0.0200	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
trans-1,2-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Methyl tert-butyl ether (MTBE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,1-Dichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Vinyl acetate	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
2,2-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
cis-1,2-Dichloroethene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
2-Butanone (MEK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Bromochloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Chloroform	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,1,1-Trichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Carbon tetrachloride	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,1-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Benzene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2-Dichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Trichloroethene (TCE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Dibromomethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,4-Dioxane	ND		1	mg/kg	0.0800	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Bromodichloromethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
2-Chloroethyl vinyl ether	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
cis-1,3-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
4-Methyl-2-pentanone (MIBK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Toluene	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
trans-1,3-Dichloropropene	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,1,2-Trichloroethane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Tetrachloroethene (PCE)	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Xylenes (total)	ND		1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,3-Dichloropropane	ND		1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
2-Hexanone (MBK)	ND		1	mg/kg	0.0400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812

POSITIVE LAB SERVICE

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Certificate of Analysis

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San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: HHS-STK-1 Soil (1405062-01) Sampled:05/07/14 12:20 Received:05/08/14 10:16

Dibromochloromethane	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2-Dibromoethane (EDB)	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Chlorobenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,1,1,2-Tetrachloroethane	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Ethylbenzene	ND	1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
m,p-Xylene	ND	1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
o-Xylene	ND	1	mg/kg	0.00200	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Styrene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Bromoform (Tribromomethane)	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Isopropylbenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Bromobenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,1,2,2-Tetrachloroethane	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2,3-Trichloropropane	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
n-Propylbenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
2-Chlorotoluene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
4-Chlorotoluene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,3,5-Trimethylbenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
tert-Butylbenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2,4-Trimethylbenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
sec-Butylbenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,3-Dichlorobenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
4-Isopropyltoluene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,4-Dichlorobenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2-Dichlorobenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
n-Butylbenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2-Dibromo-3-chloropropane (DBCP)	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2,4-Trichlorobenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Hexachlorobutadiene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Naphthalene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
1,2,3-Trichlorobenzene	ND	1	mg/kg	0.00400	EPA 5030B	EPA 8260B	05/08/14	05/08/14	ai	BE40812
Surrogate: Dibromofluoromethane	*94.0 %*		*72-121*		*EPA 5030B*	*EPA 8260B*	*05/08/14*	*05/08/14*	*ai*	*BE40812*
Surrogate: Toluene-d8	*97.9 %*		*80-120*		*EPA 5030B*	*EPA 8260B*	*05/08/14*	*05/08/14*	*ai*	*BE40812*
Surrogate: 4-Bromofluorobenzene	*99.6 %*		*75-123*		*EPA 5030B*	*EPA 8260B*	*05/08/14*	*05/08/14*	*ai*	*BE40812*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Naphthalene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
2-Methylnaphthalene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Acenaphthylene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Acenaphthene	**0.0197**		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Fluorene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Phenanthrene	**0.0412**		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Anthracene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Fluoranthene	**0.0243**		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Pyrene	**0.0163**		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Benzo (a) anthracene (1,2-Benzanthracene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Chrysene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904

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San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: HHS-STK-1 Soil (1405062-01) Sampled:05/07/14 12:20 Received:05/08/14 10:16

Benzo (a) pyrene (3,4-Benzopyrene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Indeno (1,2,3-cd) pyrene	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND		1	mg/kg	0.0150	EPA 3546	EPA 8270 SIM	05/08/14	05/08/14	ai	BE40904
Surrogate: Nitrobenzene-d5	*72.6 %*			*46-127*		*EPA 3546*	*EPA 8270 SIM*	*05/08/14*	*05/08/14*	*ai*	*BE40904*
Surrogate: 2-Fluorobiphenyl	*68.4 %*			*48-120*		*EPA 3546*	*EPA 8270 SIM*	*05/08/14*	*05/08/14*	*ai*	*BE40904*
Surrogate: Terphenyl-dl4	*93.8 %*			*58-135*		*EPA 3546*	*EPA 8270 SIM*	*05/08/14*	*05/08/14*	*ai*	*BE40904*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
N-Nitrosodimethylamine (NDMA)	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Pyridine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Aniline	ND		1	mg/kg	0.500	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Bis(2-chloroethyl)ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Phenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2-Chlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
1,3-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
1,4-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
1,2-Dichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Benzyl alcohol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Bis(2-chloroisopropyl)ether	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2-Methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Hexachloroethane	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
N-Nitrosodi-n-propylamine	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
4-Methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Nitrobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Isophorone	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2-Nitrophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2,4-Dimethylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Bis(2-chloroethoxy)methane	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Benzoic acid	ND		1	mg/kg	2.00	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
1,2,4-Trichlorobenzene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Naphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
4-Chloroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Hexachlorobutadiene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
4-Chloro-3-methylphenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2-Methylnaphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2,6-Dichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Hexachlorocyclopentadiene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2,4,6-Trichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2,4,5-Trichlorophenol	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2-Chloronaphthalene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2-Nitroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Acenaphthylene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Dimethyl phthalate	ND		1	mg/kg	0.100	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
2,6-Dinitrotoluene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Acenaphthene	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
3-Nitroaniline	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903
Dibenzofuran	ND		1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	ai	BE40903

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File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: HHS-STK-1 Soil (1405062-01) Sampled:05/07/14 12:20 Received:05/08/14 10:16

2,4-Dichlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
2,4-Dinitrophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
2,4-Dinitrotoluene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
4-Nitrophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Fluorene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
4-Chlorophenyl phenyl ether	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Diethyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
4-Nitroaniline	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
4,6-Dinitro-2-methylphenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
N-Nitrosodiphenylamine	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
1,2-Diphenylhydrazine as Azobenzene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
4-Bromophenyl phenyl ether	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Hexachlorobenzene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Pentachlorophenol	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Phenanthrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Anthracene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Di-n-butyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Fluoranthene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Benzidine	ND	1	mg/kg	1.00	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Pyrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Butyl benzyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
3,3'-Dichlorobenzidine	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Benzo (a) anthracene (1,2-Benzanthracene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Chrysene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Bis(2-ethylhexyl)phthalate	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Di-n-octyl phthalate	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Benzo (a) pyrene (3,4-Benzopyrene)	ND	1	mg/kg	0.100	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Indeno (1,2,3-cd) pyrene	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND	1	mg/kg	0.200	EPA 3546	EPA 8270C	05/08/14	05/08/14	al	BE40903
Surrogate: 2-Fluorophenol	*62.8 %*		*48-117*		*EPA 3546*	*EPA 8270C*	*05/08/14*	*05/08/14*	*al*	*BE40903*
Surrogate: Phenol-d5	*66.6 %*		*46-129*		*EPA 3546*	*EPA 8270C*	*05/08/14*	*05/08/14*	*al*	*BE40903*
Surrogate: Nitrobenzene-d5	*69.6 %*		*46-127*		*EPA 3546*	*EPA 8270C*	*05/08/14*	*05/08/14*	*al*	*BE40903*
Surrogate: 2-Fluorobiphenyl	*73.6 %*		*48-120*		*EPA 3546*	*EPA 8270C*	*05/08/14*	*05/08/14*	*al*	*BE40903*
Surrogate: 2,4,6-Tribromophenol	*72.8 %*		*55-154*		*EPA 3546*	*EPA 8270C*	*05/08/14*	*05/08/14*	*al*	*BE40903*
Surrogate: Terphenyl-dl4	*88.9 %*		*58-135*		*EPA 3546*	*EPA 8270C*	*05/08/14*	*05/08/14*	*al*	*BE40903*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	al	BE40901
alpha-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	al	BE40901
beta-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	al	BE40901
delta-BHC	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	al	BE40901
gamma-BHC (Lindane)	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	al	BE40901
alpha-Chlordane	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	al	BE40901

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File #:73101
Report Date: 05/09/14
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PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: HHS-STK-1 Soil (1405062-01) Sampled:05/07/14 12:20 Received:05/08/14 10:16

gamma-Chlordane	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
4,4'-DDD	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
4,4'-DDE	**0.0360**		1	mg/kg	0.00400	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
4,4'-DDT	**0.0358**		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Dieldrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Endosulfan I	ND		1	mg/kg	0.00400	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Endosulfan II	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Endosulfan sulfate	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Endrin	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Technical Chlordane	ND		1	mg/kg	0.0100	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Endrin aldehyde	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Endrin ketone	ND		1	mg/kg	0.00600	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Heptachlor	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Heptachlor epoxide	ND		1	mg/kg	0.00200	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Methoxychlor	ND		1	mg/kg	0.0100	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Toxaphene	ND		1	mg/kg	0.0300	EPA 3546	EPA 8081A	05/08/14	05/08/14	ai	BE40901
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*68.4 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*05/08/14*	*05/08/14*	*ai*	*BE40901*
Surrogate: Decachlorobiphenyl	*98.5 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*05/08/14*	*05/08/14*	*ai*	*BE40901*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aroclor-1016	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/08/14	05/08/14	ai	BE40902
Aroclor-1221	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/08/14	05/08/14	ai	BE40902
Aroclor-1232	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/08/14	05/08/14	ai	BE40902
Aroclor-1242	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/08/14	05/08/14	ai	BE40902
Aroclor-1248	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/08/14	05/08/14	ai	BE40902
Aroclor-1254	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/08/14	05/08/14	ai	BE40902
Aroclor-1260	ND		1	mg/kg	0.0500	EPA 3546	EPA 8082	05/08/14	05/08/14	ai	BE40902
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*73.5 %*			*54-131*		*EPA 3546*	*EPA 8082*	*05/08/14*	*05/08/14*	*ai*	*BE40902*
Surrogate: Decachlorobiphenyl	*92.1 %*			*51-143*		*EPA 3546*	*EPA 8082*	*05/08/14*	*05/08/14*	*ai*	*BE40902*
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Antimony	ND		1	mg/kg	2.50	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Arsenic	**6.30**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Barium	**138**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Beryllium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Cadmium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Chromium	**50.1**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Cobalt	**14.0**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Copper	**35.4**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Lead	**12.2**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Molybdenum	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Nickel	**48.6**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Selenium	**1.91**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Silver	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Thallium	ND		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Vanadium	**52.3**		1	mg/kg	1.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Zinc	**59.4**		1	mg/kg	5.00	EPA 3050B	EPA 6010B	05/08/14	05/08/14	MP	BE40820
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Mercury	ND		1	mg/kg	0.100	EPA 7471A	EPA 7471A	05/08/14	05/08/14	cg	BE40819

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Certificate of Analysis

Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Sample ID: HHS-STK-1 Soil (1405062-01) Sampled:05/07/14 12:20 Received:05/08/14 10:16

Analyte	Results	Flag	D.F.	Units	PQL		Prep/Test Method	Prepared	Analyzed	By	Batch
Chromium, Hexavalent	**3.76**		1	mg/kg	1.00	-	EPA 7196A	05/08/14	05/08/14	tf	BE40823

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method	Prepared	Analyzed	By	Batch
Asbestos	See Attachment									

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Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40809 - EPA 5030B										
Blank Prepared & Analyzed: 05/08/14										
C4 - C12	ND	0.500	mg/kg							
Surrogate: a,a,a-Trifluorotoluene	*0.0313*		mg/kg	*0.03000*		*104*	*82-118*			
LCS Prepared & Analyzed: 05/08/14										
Gasoline	0.696	0.500	mg/kg	0.9096		76.5	71-116			
Matrix Spike Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Gasoline	1.46	0.500	mg/kg	1.819	ND	80.1	53-123			
Matrix Spike Dup Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Gasoline	1.48	0.500	mg/kg	1.819	ND	81.5	53-123	1.75	30	
Batch BE40825 - EPA 3546										
Blank Prepared & Analyzed: 05/08/14										
C13 - C22	ND	2.50	mg/kg							
C23 - C32	ND	100	mg/kg							
C33 - C36	ND	100	mg/kg							
Surrogate: n-Tetracosane	*19.4*		mg/kg	*20.83*		*93.1*	*64-148*			
LCS Prepared & Analyzed: 05/08/14										
Diesel	544	5.00	mg/kg	554.7		98.2	64-139			
Surrogate: n-Tetracosane	*27.5*		mg/kg	*20.83*		*132*	*74-139*			
LCS Dup Prepared & Analyzed: 05/08/14										
Diesel	557	5.00	mg/kg	554.7		100	64-139	2.24	30	
Surrogate: n-Tetracosane	*25.9*		mg/kg	*20.83*		*124*	*74-139*			
Matrix Spike Source: 1405078-01 Prepared & Analyzed: 05/08/14										
Diesel	109	2.50	mg/kg	110.9	ND	98.3	57-141			
Surrogate: n-Tetracosane	*19.6*		mg/kg	*20.83*		*94.3*	*69-143*			
Matrix Spike Dup Source: 1405078-01 Prepared & Analyzed: 05/08/14										
Diesel	99.1	2.50	mg/kg	110.9	ND	89.3	57-141	9.55	30	
Surrogate: n-Tetracosane	*18.1*		mg/kg	*20.83*		*86.9*	*69-143*			
Batch BE40812 - EPA 5030B										
Blank Prepared & Analyzed: 05/08/14										
Dichlorodifluoromethane (FC-12)	ND	0.00400	mg/kg							
Chloromethane	ND	0.00400	mg/kg							
Vinyl chloride (Chloroethylene)	ND	0.00400	mg/kg							
Bromomethane (Methyl bromide)	ND	0.00400	mg/kg							
Chloroethane	ND	0.00400	mg/kg							
Trichlorofluoromethane (FC-11)	ND	0.00400	mg/kg							
Acetone	ND	0.0800	mg/kg							

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File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40812 - EPA 5030B										
Carbon disulfide	ND	0.0400	mg/kg							
1,1-Dichloroethene	ND	0.00400	mg/kg							
Methylene chloride (Dichloromethane)	ND	0.0200	mg/kg							
trans-1,2-Dichloroethene	ND	0.00400	mg/kg							
Methyl tert-butyl ether (MTBE)	ND	0.00400	mg/kg							
1,1-Dichloroethane	ND	0.00400	mg/kg							
Vinyl acetate	ND	0.0400	mg/kg							
2,2-Dichloropropane	ND	0.00400	mg/kg							
cis-1,2-Dichloroethene	ND	0.00400	mg/kg							
2-Butanone (MEK)	ND	0.0400	mg/kg							
Bromochloromethane	ND	0.00400	mg/kg							
Chloroform	ND	0.00400	mg/kg							
1,1,1-Trichloroethane	ND	0.00400	mg/kg							
Carbon tetrachloride	ND	0.00400	mg/kg							
1,1-Dichloropropene	ND	0.00400	mg/kg							
Benzene	ND	0.00200	mg/kg							
1,2-Dichloroethane	ND	0.00400	mg/kg							
Trichloroethene (TCE)	ND	0.00400	mg/kg							
1,2-Dichloropropane	ND	0.00400	mg/kg							
Dibromomethane	ND	0.00400	mg/kg							
1,4-Dioxane	ND	0.0800	mg/kg							
Bromodichloromethane	ND	0.00400	mg/kg							
2-Chloroethyl vinyl ether	ND	0.0400	mg/kg							
cis-1,3-Dichloropropene	ND	0.00400	mg/kg							
4-Methyl-2-pentanone (MIBK)	ND	0.0400	mg/kg							
Toluene	ND	0.00200	mg/kg							
trans-1,3-Dichloropropene	ND	0.00400	mg/kg							
1,1,2-Trichloroethane	ND	0.00400	mg/kg							
Tetrachloroethene (PCE)	ND	0.00400	mg/kg							
Xylenes (total)	ND	0.00200	mg/kg							
1,3-Dichloropropane	ND	0.00400	mg/kg							
2-Hexanone (MBK)	ND	0.0400	mg/kg							
Dibromochloromethane	ND	0.00400	mg/kg							
1,2-Dibromoethane (EDB)	ND	0.00400	mg/kg							
Chlorobenzene	ND	0.00400	mg/kg							
1,1,1,2-Tetrachloroethane	ND	0.00400	mg/kg							
Ethylbenzene	ND	0.00200	mg/kg							
m,p-Xylene	ND	0.00200	mg/kg							
o-Xylene	ND	0.00200	mg/kg							
Styrene	ND	0.00400	mg/kg							
Bromoform (Tribromomethane)	ND	0.00400	mg/kg							

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File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40812 - EPA 5030B										
Isopropylbenzene	ND	0.00400	mg/kg							
Bromobenzene	ND	0.00400	mg/kg							
1,1,2,2-Tetrachloroethane	ND	0.00400	mg/kg							
1,2,3-Trichloropropane	ND	0.00400	mg/kg							
n-Propylbenzene	ND	0.00400	mg/kg							
2-Chlorotoluene	ND	0.00400	mg/kg							
4-Chlorotoluene	ND	0.00400	mg/kg							
1,3,5-Trimethylbenzene	ND	0.00400	mg/kg							
tert-Butylbenzene	ND	0.00400	mg/kg							
1,2,4-Trimethylbenzene	ND	0.00400	mg/kg							
sec-Butylbenzene	ND	0.00400	mg/kg							
1,3-Dichlorobenzene	ND	0.00400	mg/kg							
4-Isopropyltoluene	ND	0.00400	mg/kg							
1,4-Dichlorobenzene	ND	0.00400	mg/kg							
1,2-Dichlorobenzene	ND	0.00400	mg/kg							
n-Butylbenzene	ND	0.00400	mg/kg							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.00400	mg/kg							
1,2,4-Trichlorobenzene	ND	0.00400	mg/kg							
Hexachlorobutadiene	ND	0.00400	mg/kg							
Naphthalene	ND	0.00400	mg/kg							
1,2,3-Trichlorobenzene	ND	0.00400	mg/kg							
Surrogate: Dibromofluoromethane	*0.00865*		mg/kg	*0.01000*		*86.5*	*72-121*			
Surrogate: Toluene-d8	*0.00979*		mg/kg	*0.01000*		*97.9*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.00958*		mg/kg	*0.01000*		*95.8*	*75-123*			
LCS Prepared & Analyzed: 05/08/14										
1,1-Dichloroethene	0.0175	0.00400	mg/kg	0.02000		87.6	63-135			
Methyl tert-butyl ether (MTBE)	0.0184	0.00400	mg/kg	0.02000		92.2	69-126			
Benzene	0.0204	0.00200	mg/kg	0.02000		102	74-124			
Trichloroethene (TCE)	0.0185	0.00400	mg/kg	0.02000		92.6	74-126			
Toluene	0.0190	0.00200	mg/kg	0.02000		94.8	77-122			
Chlorobenzene	0.0195	0.00400	mg/kg	0.02000		97.6	79-121			
Surrogate: Dibromofluoromethane	*0.00958*		mg/kg	*0.01000*		*95.8*	*73-129*			
Surrogate: Toluene-d8	*0.00992*		mg/kg	*0.01000*		*99.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.00962*		mg/kg	*0.01000*		*96.2*	*80-120*			
Matrix Spike Source: 1405062-01 Prepared & Analyzed: 05/08/14										
1,1-Dichloroethene	0.0163	0.00400	mg/kg	0.02000	ND	81.4	62-138			
Benzene	0.0192	0.00200	mg/kg	0.02000	ND	96.0	65-121			
Trichloroethene (TCE)	0.0179	0.00400	mg/kg	0.02000	ND	89.3	67-154			
Toluene	0.0189	0.00200	mg/kg	0.02000	ND	94.5	61-121			
Chlorobenzene	0.0184	0.00400	mg/kg	0.02000	ND	92.0	65-121			

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40812 - EPA 5030B										
Surrogate: Dibromofluoromethane	*0.00988*		mg/kg	*0.01000*		*98.8*	*72-121*			
Surrogate: Toluene-d8	*0.00980*		mg/kg	*0.01000*		*98.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.00998*		mg/kg	*0.01000*		*99.8*	*75-123*			
Matrix Spike Dup Source: 1405062-01 Prepared & Analyzed: 05/08/14										
1,1-Dichloroethene	0.0157	0.00400	mg/kg	0.02000	ND	78.6	62-138	3.50	30	
Benzene	0.0190	0.00200	mg/kg	0.02000	ND	94.8	65-121	1.21	30	
Trichloroethene (TCE)	0.0172	0.00400	mg/kg	0.02000	ND	85.8	67-154	4.00	30	
Toluene	0.0186	0.00200	mg/kg	0.02000	ND	93.1	61-121	1.55	30	
Chlorobenzene	0.0173	0.00400	mg/kg	0.02000	ND	86.6	65-121	6.05	30	
Surrogate: Dibromofluoromethane	*0.00993*		mg/kg	*0.01000*		*99.3*	*72-121*			
Surrogate: Toluene-d8	*0.00990*		mg/kg	*0.01000*		*99.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*0.00982*		mg/kg	*0.01000*		*98.2*	*75-123*			
Batch BE40904 - EPA 3546										
Blank Prepared & Analyzed: 05/08/14										
Naphthalene	ND	0.0150	mg/kg							
2-Methylnaphthalene	ND	0.0150	mg/kg							
Acenaphthylene	ND	0.0150	mg/kg							
Acenaphthene	ND	0.0150	mg/kg							
Fluorene	ND	0.0150	mg/kg							
Phenanthrene	ND	0.0150	mg/kg							
Anthracene	ND	0.0150	mg/kg							
Fluoranthene	ND	0.0150	mg/kg							
Pyrene	ND	0.0150	mg/kg							
Benzo (a) anthracene	ND	0.0150	mg/kg							
(1,2-Benzanthracene) Chrysene	ND	0.0150	mg/kg							
Benzo (b) fluoranthene	ND	0.0150	mg/kg							
(3,4-Benzofluoranthene) Benzo (k) fluoranthene	ND	0.0150	mg/kg							
(11,12-Benzofluoranthene) Benzo (a) pyrene (3,4-Benzopyrene)	ND	0.0150	mg/kg							
Indeno (1,2,3-cd) pyrene	ND	0.0150	mg/kg							
Dibenzo(a,h)anthracene	ND	0.0150	mg/kg							
(1,2,5,6-Dibenzanthracene) Benzo (g,h,i) perylene	ND	0.0150	mg/kg							
(1,12-Benzoperylene) *Surrogate: Nitrobenzene-d5*	*5.30*		mg/kg	*6.667*		*79.5*	*46-127*			
Surrogate: 2-Fluorobiphenyl	*4.79*		mg/kg	*6.667*		*71.8*	*48-120*			
Surrogate: Terphenyl-dl4	*7.26*		mg/kg	*6.667*		*109*	*58-135*			
LCS Prepared & Analyzed: 05/08/14										
Acenaphthene	0.0338	0.0150	mg/kg	0.05000		67.5	57-112			

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File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40904 - EPA 3546										
Pyrene	0.0321	0.0150	mg/kg	0.05000		64.1	57-131			
Surrogate: Nitrobenzene-d5	*4.99*		mg/kg	*6.667*		*74.9*	*46-129*			
Surrogate: 2-Fluorobiphenyl	*4.68*		mg/kg	*6.667*		*70.2*	*54-106*			
Surrogate: Terphenyl-dl4	*6.87*		mg/kg	*6.667*		*103*	*56-142*			
LCS Dup Prepared & Analyzed: 05/08/14										
Acenaphthene	0.0361	0.0150	mg/kg	0.05000		72.2	57-112	6.67	30	
Pyrene	0.0336	0.0150	mg/kg	0.05000		67.2	57-131	4.66	30	
Surrogate: Nitrobenzene-d5	*5.41*		mg/kg	*6.667*		*81.1*	*46-129*			
Surrogate: 2-Fluorobiphenyl	*4.91*		mg/kg	*6.667*		*73.7*	*54-106*			
Surrogate: Terphenyl-dl4	*6.98*		mg/kg	*6.667*		*105*	*56-142*			
Batch BE40903 - EPA 3546										
Blank Prepared & Analyzed: 05/08/14										
N-Nitrosodimethylamine (NDMA)	ND	0.200	mg/kg							
Pyridine	ND	0.200	mg/kg							
Aniline	ND	0.500	mg/kg							
Bis(2-chloroethyl)ether	ND	0.200	mg/kg							
Phenol	ND	0.200	mg/kg							
2-Chlorophenol	ND	0.200	mg/kg							
1,3-Dichlorobenzene	ND	0.200	mg/kg							
1,4-Dichlorobenzene	ND	0.200	mg/kg							
1,2-Dichlorobenzene	ND	0.200	mg/kg							
Benzyl alcohol	ND	0.200	mg/kg							
Bis(2-chloroisopropyl)ether	ND	0.200	mg/kg							
2-Methylphenol	ND	0.200	mg/kg							
Hexachloroethane	ND	0.200	mg/kg							
N-Nitrosodi-n-propylamine	ND	0.200	mg/kg							
4-Methylphenol	ND	0.200	mg/kg							
Nitrobenzene	ND	0.200	mg/kg							
Isophorone	ND	0.200	mg/kg							
2-Nitrophenol	ND	0.200	mg/kg							
2,4-Dimethylphenol	ND	0.200	mg/kg							
Bis(2-chloroethoxy)methane	ND	0.200	mg/kg							
Benzoic acid	ND	2.00	mg/kg							
1,2,4-Trichlorobenzene	ND	0.200	mg/kg							
Naphthalene	ND	0.200	mg/kg							
4-Chloroaniline	ND	0.200	mg/kg							
Hexachlorobutadiene	ND	0.200	mg/kg							
4-Chloro-3-methylphenol	ND	0.200	mg/kg							
2-Methylnaphthalene	ND	0.200	mg/kg							

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Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40903 - EPA 3546										
2,6-Dichlorophenol	ND	0.200	mg/kg							
Hexachlorocyclopentadiene	ND	0.200	mg/kg							
2,4,6-Trichlorophenol	ND	0.200	mg/kg							
2,4,5-Trichlorophenol	ND	0.200	mg/kg							
2-Chloronaphthalene	ND	0.200	mg/kg							
2-Nitroaniline	ND	0.200	mg/kg							
Acenaphthylene	ND	0.200	mg/kg							
Dimethyl phthalate	ND	0.100	mg/kg							
2,6-Dinitrotoluene	ND	0.200	mg/kg							
Acenaphthene	ND	0.200	mg/kg							
3-Nitroaniline	ND	0.200	mg/kg							
2,4-Dichlorophenol	ND	0.200	mg/kg							
Dibenzofuran	ND	0.200	mg/kg							
2,4-Dinitrophenol	ND	0.200	mg/kg							
2,4-Dinitrotoluene	ND	0.200	mg/kg							
4-Nitrophenol	ND	0.200	mg/kg							
Fluorene	ND	0.200	mg/kg							
4-Chlorophenyl phenyl ether	ND	0.200	mg/kg							
Diethyl phthalate	ND	0.100	mg/kg							
4-Nitroaniline	ND	0.200	mg/kg							
4,6-Dinitro-2-methylphenol	ND	0.200	mg/kg							
N-Nitrosodiphenylamine	ND	0.200	mg/kg							
1,2-Diphenylhydrazine as Azobenzene	ND	0.200	mg/kg							
4-Bromophenyl phenyl ether	ND	0.200	mg/kg							
Hexachlorobenzene	ND	0.200	mg/kg							
Pentachlorophenol	ND	0.200	mg/kg							
Phenanthrene	ND	0.200	mg/kg							
Anthracene	ND	0.200	mg/kg							
Di-n-butyl phthalate	ND	0.100	mg/kg							
Fluoranthene	ND	0.200	mg/kg							
Benzidine	ND	1.00	mg/kg							
Pyrene	ND	0.200	mg/kg							
Butyl benzyl phthalate	ND	0.100	mg/kg							
3,3'-Dichlorobenzidine	ND	0.200	mg/kg							
Benzo (a) anthracene (1,2-Benzanthracene)	ND	0.200	mg/kg							
Chrysene	ND	0.200	mg/kg							
Bis(2-ethylhexyl)phthalate	ND	0.200	mg/kg							
Di-n-octyl phthalate	ND	0.100	mg/kg							
Benzo (b) fluoranthene (3,4-Benzofluoranthene)	ND	0.200	mg/kg							

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File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40903 - EPA 3546										
Benzo (k) fluoranthene (11,12-Benzofluoranthene)	ND	0.200	mg/kg							
Benzo (a) pyrene (3,4-Benzopyrene)	ND	0.100	mg/kg							
Indeno (1,2,3-cd) pyrene	ND	0.200	mg/kg							
Dibenzo(a,h)anthracene (1,2,5,6-Dibenzanthracene)	ND	0.200	mg/kg							
Benzo (g,h,i) perylene (1,12-Benzoperylene)	ND	0.200	mg/kg							
Surrogate: 2-Fluorophenol	*9.68*		mg/kg	*13.33*		*72.6*	*48-117*			
Surrogate: Phenol-d5	*10.1*		mg/kg	*13.33*		*76.1*	*46-129*			
Surrogate: Nitrobenzene-d5	*5.09*		mg/kg	*6.667*		*76.4*	*46-127*			
Surrogate: 2-Fluorobiphenyl	*5.12*		mg/kg	*6.667*		*76.8*	*48-120*			
Surrogate: 2,4,6-Tribromophenol	*10.5*		mg/kg	*13.33*		*78.9*	*55-154*			
Surrogate: Terphenyl-dl4	*6.87*		mg/kg	*6.667*		*103*	*58-135*			
LCS Prepared & Analyzed: 05/08/14										
Phenol	2.47	0.200	mg/kg	3.333		74.0	52-101			
1,4-Dichlorobenzene	2.31	0.200	mg/kg	3.333		69.2	44-96			
1,2,4-Trichlorobenzene	2.12	0.200	mg/kg	3.333		63.5	53-99			
Acenaphthene	2.58	0.200	mg/kg	3.333		77.5	57-112			
Di-n-butyl phthalate	2.71	0.100	mg/kg	3.333		81.2	62-118			
Pyrene	2.88	0.200	mg/kg	3.333		86.6	57-131			
Surrogate: 2-Fluorophenol	*9.44*		mg/kg	*13.33*		*70.8*	*56-113*			
Surrogate: Phenol-d5	*9.94*		mg/kg	*13.33*		*74.5*	*54-119*			
Surrogate: Nitrobenzene-d5	*4.63*		mg/kg	*6.667*		*69.4*	*46-129*			
Surrogate: 2-Fluorobiphenyl	*5.22*		mg/kg	*6.667*		*78.3*	*54-106*			
Surrogate: 2,4,6-Tribromophenol	*11.3*		mg/kg	*13.33*		*84.6*	*51-134*			
Surrogate: Terphenyl-dl4	*6.54*		mg/kg	*6.667*		*98.1*	*56-142*			
Matrix Spike Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Phenol	4.47	0.200	mg/kg	6.667	ND	67.0	47-107			
1,4-Dichlorobenzene	2.09	0.200	mg/kg	3.333	ND	62.8	55-102			
1,2,4-Trichlorobenzene	2.17	0.200	mg/kg	3.333	ND	65.1	54-108			
Acenaphthene	2.33	0.200	mg/kg	3.333	ND	69.8	64-112			
Di-n-butyl phthalate	2.60	0.100	mg/kg	3.333	ND	78.1	67-133			
Pyrene	2.68	0.200	mg/kg	3.333	ND	80.5	55-132			
Surrogate: 2-Fluorophenol	*8.03*		mg/kg	*13.33*		*60.2*	*55-97*			
Surrogate: Phenol-d5	*8.59*		mg/kg	*13.33*		*64.4*	*49-106*			
Surrogate: Nitrobenzene-d5	*4.28*		mg/kg	*6.667*		*64.2*	*56-105*			
Surrogate: 2-Fluorobiphenyl	*4.57*		mg/kg	*6.667*		*68.6*	*54-109*			
Surrogate: 2,4,6-Tribromophenol	*9.79*		mg/kg	*13.33*		*73.4*	*52-133*			
Surrogate: Terphenyl-dl4	*5.88*		mg/kg	*6.667*		*88.2*	*62-141*			
Matrix Spike Dup Source: 1405062-01 Prepared & Analyzed: 05/08/14										

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Certificate of Analysis

Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40903 - EPA 3546										
Phenol	3.95	0.200	mg/kg	6.667	ND	59.3	47-107	12.2	30	
1,4-Dichlorobenzene	1.74	0.200	mg/kg	3.333	ND	52.4	55-102	18.1	30	
1,2,4-Trichlorobenzene	1.88	0.200	mg/kg	3.333	ND	56.3	54-108	14.5	30	
Acenaphthene	2.17	0.200	mg/kg	3.333	ND	65.2	64-112	6.80	30	
Di-n-butyl phthalate	2.48	0.100	mg/kg	3.333	ND	74.5	67-133	4.72	30	
Pyrene	2.60	0.200	mg/kg	3.333	ND	78.2	55-132	2.99	30	
Surrogate: 2-Fluorophenol	*7.01*		mg/kg	*13.33*		*52.6*	*55-97*			
Surrogate: Phenol-d5	*7.71*		mg/kg	*13.33*		*57.9*	*49-106*			
Surrogate: Nitrobenzene-d5	*3.80*		mg/kg	*6.667*		*57.0*	*56-105*			
Surrogate: 2-Fluorobiphenyl	*4.22*		mg/kg	*6.667*		*63.4*	*54-109*			
Surrogate: 2,4,6-Tribromophenol	*9.50*		mg/kg	*13.33*		*71.2*	*52-133*			
Surrogate: Terphenyl-dl4	*5.84*		mg/kg	*6.667*		*87.6*	*62-141*			
Batch BE40901 - EPA 3546										
Blank Prepared & Analyzed: 05/08/14										
Aldrin	ND	0.00200	mg/kg							
alpha-BHC	ND	0.00200	mg/kg							
beta-BHC	ND	0.00200	mg/kg							
delta-BHC	ND	0.00200	mg/kg							
gamma-BHC (Lindane)	ND	0.00200	mg/kg							
alpha-Chlordane	ND	0.00200	mg/kg							
gamma-Chlordane	ND	0.00200	mg/kg							
4,4'-DDD	ND	0.00200	mg/kg							
4,4'-DDE	ND	0.00400	mg/kg							
4,4'-DDT	ND	0.00200	mg/kg							
Dieldrin	ND	0.00200	mg/kg							
Endosulfan I	ND	0.00400	mg/kg							
Endosulfan II	ND	0.00200	mg/kg							
Endosulfan sulfate	ND	0.00200	mg/kg							
Endrin	ND	0.00200	mg/kg							
Technical Chlordane	ND	0.0100	mg/kg							
Endrin aldehyde	ND	0.00200	mg/kg							
Endrin ketone	ND	0.00600	mg/kg							
Heptachlor	ND	0.00200	mg/kg							
Heptachlor epoxide	ND	0.00200	mg/kg							
Methoxychlor	ND	0.0100	mg/kg							
Toxaphene	ND	0.0300	mg/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0133*		mg/kg	*0.01667*		*79.7*	*55-126*			
Surrogate: Decachlorobiphenyl	*0.0190*		mg/kg	*0.01667*		*114*	*49-133*			
LCS Prepared & Analyzed: 05/08/14										

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40901 - EPA 3546										
Aldrin	0.0108	0.00200	mg/kg	0.01333		80.7	56-130			
gamma-BHC (Lindane)	0.0107	0.00200	mg/kg	0.01333		80.5	56-133			
4,4´-DDT	0.0150	0.00200	mg/kg	0.01333		112	56-133			
Dieldrin	0.0126	0.00200	mg/kg	0.01333		94.4	59-124			
Endrin	0.0135	0.00200	mg/kg	0.01333		102	59-127			
Heptachlor	0.0111	0.00200	mg/kg	0.01333		83.0	53-117			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0128*		mg/kg	*0.01667*		*76.9*	*54-108*			
Surrogate: Decachlorobiphenyl	*0.0167*		mg/kg	*0.01667*		*100*	*54-127*			
LCS Dup Prepared & Analyzed: 05/08/14										
Aldrin	0.00946	0.00200	mg/kg	0.01333		70.9	56-130	12.9	30	
gamma-BHC (Lindane)	0.00906	0.00200	mg/kg	0.01333		68.0	56-133	16.8	30	
4,4´-DDT	0.0111	0.00200	mg/kg	0.01333		83.5	56-133	29.3	30	
Dieldrin	0.0113	0.00200	mg/kg	0.01333		84.4	59-124	11.2	30	
Endrin	0.0112	0.00200	mg/kg	0.01333		84.3	59-127	18.6	30	
Heptachlor	0.00862	0.00200	mg/kg	0.01333		64.7	53-117	24.9	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00947*		mg/kg	*0.01667*		*56.8*	*54-108*			
Surrogate: Decachlorobiphenyl	*0.0143*		mg/kg	*0.01667*		*85.6*	*54-127*			
Matrix Spike Source: 1405050-06 Prepared & Analyzed: 05/08/14										
Aldrin	ND	0.00200	mg/kg	0.01333	ND		39-124			
gamma-BHC (Lindane)	ND	0.00200	mg/kg	0.01333	ND		44-120			
4,4´-DDT	ND	0.00200	mg/kg	0.03333	ND		48-150			
Dieldrin	ND	0.00200	mg/kg	0.03333	ND		48-144			
Endrin	ND	0.00200	mg/kg	0.03333	ND		54-149			
Heptachlor	ND	0.00200	mg/kg	0.01333	ND		46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00*		mg/kg	*0.01667*			*57-126*			
Surrogate: Decachlorobiphenyl	*0.00*		mg/kg	*0.01667*			*43-136*			
Matrix Spike Dup Source: 1405050-06 Prepared & Analyzed: 05/08/14										
Aldrin	ND	0.00200	mg/kg	0.01333	ND		39-124		30	
gamma-BHC (Lindane)	ND	0.00200	mg/kg	0.01333	ND		44-120		30	
4,4´-DDT	ND	0.00200	mg/kg	0.03333	ND		48-150		30	
Dieldrin	ND	0.00200	mg/kg	0.03333	ND		48-144		30	
Endrin	ND	0.00200	mg/kg	0.03333	ND		54-149		30	
Heptachlor	ND	0.00200	mg/kg	0.01333	ND		46-135		30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00*		mg/kg	*0.01667*			*57-126*			
Surrogate: Decachlorobiphenyl	*0.00*		mg/kg	*0.01667*			*43-136*			
Batch BE40902 - EPA 3546										
Blank Prepared & Analyzed: 05/08/14										
Aroclor-1016	ND	0.0500	mg/kg							
Aroclor-1221	ND	0.0500	mg/kg							

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40902 - EPA 3546										
Aroclor-1232	ND	0.0500	mg/kg							
Aroclor-1242	ND	0.0500	mg/kg							
Aroclor-1248	ND	0.0500	mg/kg							
Aroclor-1254	ND	0.0500	mg/kg							
Aroclor-1260	ND	0.0500	mg/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0149*		mg/kg	*0.01667*		*89.6*	*54-131*			
Surrogate: Decachlorobiphenyl	*0.0146*		mg/kg	*0.01667*		*87.4*	*51-143*			
LCS Prepared & Analyzed: 05/08/14										
Aroclor-1260	0.501	0.0500	mg/kg	0.4167		120	56-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0159*		mg/kg	*0.01667*		*95.5*	*65-113*			
Surrogate: Decachlorobiphenyl	*0.0185*		mg/kg	*0.01667*		*111*	*60-119*			
LCS Dup Prepared & Analyzed: 05/08/14										
Aroclor-1260	0.487	0.0500	mg/kg	0.4167		117	56-135	2.86	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.0159*		mg/kg	*0.01667*		*95.6*	*65-113*			
Surrogate: Decachlorobiphenyl	*0.0174*		mg/kg	*0.01667*		*104*	*60-119*			
Matrix Spike Source: 1405050-11 Prepared & Analyzed: 05/08/14										
Aroclor-1260	ND	0.0500	mg/kg	0.3333	ND		56-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00*		mg/kg	*0.01667*			*57-129*			
Surrogate: Decachlorobiphenyl	*0.00*		mg/kg	*0.01667*			*55-143*			
Matrix Spike Dup Source: 1405050-11 Prepared & Analyzed: 05/08/14										
Aroclor-1260	ND	0.0500	mg/kg	0.3333	ND		56-135		30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.00*		mg/kg	*0.01667*			*57-129*			
Surrogate: Decachlorobiphenyl	*0.00*		mg/kg	*0.01667*			*55-143*			
Batch BE40820 - EPA 3050B										
Blank Prepared & Analyzed: 05/08/14										
Antimony	ND	2.50	mg/kg							
Arsenic	ND	1.00	mg/kg							
Barium	ND	1.00	mg/kg							
Beryllium	ND	1.00	mg/kg							
Cadmium	ND	1.00	mg/kg							
Chromium	ND	1.00	mg/kg							
Cobalt	ND	1.00	mg/kg							
Copper	ND	1.00	mg/kg							
Lead	ND	1.00	mg/kg							
Molybdenum	ND	1.00	mg/kg							
Nickel	ND	1.00	mg/kg							
Selenium	ND	1.00	mg/kg							
Silver	ND	1.00	mg/kg							
Thallium	ND	1.00	mg/kg							

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Smith Emery Company GeoService [San Francisco]
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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40820 - EPA 3050B										
Vanadium	ND	1.00	mg/kg							
Zinc	ND	5.00	mg/kg							
LCS Prepared & Analyzed: 05/08/14										
Antimony	49.0	2.50	mg/kg	49.67		98.6	60-140			
Arsenic	191	1.00	mg/kg	198.8		96.1	80-120			
Barium	211	1.00	mg/kg	199.8		106	80-120			
Beryllium	4.85	1.00	mg/kg	4.990		97.2	80-120			
Cadmium	5.32	1.00	mg/kg	5.010		106	80-120			
Chromium	20.6	1.00	mg/kg	19.96		103	80-120			
Cobalt	51.6	1.00	mg/kg	50.00		103	80-120			
Copper	26.1	1.00	mg/kg	25.13		104	80-120			
Lead	50.5	1.00	mg/kg	50.30		100	80-120			
Molybdenum	50.0	1.00	mg/kg	50.05		100	80-120			
Nickel	52.0	1.00	mg/kg	50.00		104	80-120			
Selenium	188	1.00	mg/kg	200.2		94.0	80-120			
Silver	4.97	1.00	mg/kg	5.000		99.5	80-120			
Thallium	201	1.00	mg/kg	199.9		101	80-120			
Vanadium	48.3	1.00	mg/kg	49.98		96.7	80-120			
Zinc	52.1	5.00	mg/kg	49.95		104	80-120			
Matrix Spike Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Antimony	44.8	2.50	mg/kg	49.67	ND	90.2	60-140			
Arsenic	182	1.00	mg/kg	198.8	6.30	88.6	75-125			
Barium	330	1.00	mg/kg	199.8	138	96.0	75-125			
Beryllium	5.06	1.00	mg/kg	4.990	0.548	90.4	75-125			
Cadmium	4.74	1.00	mg/kg	5.010	0.132	92.0	75-125			
Chromium	70.9	1.00	mg/kg	19.96	50.1	104	75-125			
Cobalt	58.3	1.00	mg/kg	50.00	14.0	88.6	75-125			
Copper	60.5	1.00	mg/kg	25.13	35.4	100	75-125			
Lead	55.8	1.00	mg/kg	50.30	12.2	86.7	75-125			
Molybdenum	46.5	1.00	mg/kg	50.05	0.780	91.3	75-125			
Nickel	96.2	1.00	mg/kg	50.00	48.6	95.2	75-125			
Selenium	178	1.00	mg/kg	200.2	1.91	87.9	75-125			
Silver	4.71	1.00	mg/kg	5.000	ND	94.2	75-125			
Thallium	172	1.00	mg/kg	199.9	ND	86.3	75-125			
Vanadium	97.4	1.00	mg/kg	49.98	52.3	90.3	75-125			
Zinc	109	5.00	mg/kg	49.95	59.4	100	75-125			
Matrix Spike Dup Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Antimony	44.0	2.50	mg/kg	49.67	ND	88.5	60-140	1.87	30	
Arsenic	181	1.00	mg/kg	198.8	6.30	87.7	75-125	1.04	30	
Barium	331	1.00	mg/kg	199.8	138	96.5	75-125	0.513	30	

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Certificate of Analysis

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Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40820 - EPA 3050B										
Beryllium	5.02	1.00	mg/kg	4.990	0.548	89.6	75-125	0.887	30	
Cadmium	4.76	1.00	mg/kg	5.010	0.132	92.3	75-125	0.379	30	
Chromium	70.6	1.00	mg/kg	19.96	50.1	103	75-125	1.27	30	
Cobalt	58.3	1.00	mg/kg	50.00	14.0	88.7	75-125	0.128	30	
Copper	64.9	1.00	mg/kg	25.13	35.4	117	75-125	15.8	30	
Lead	55.9	1.00	mg/kg	50.30	12.2	86.8	75-125	0.147	30	
Molybdenum	46.6	1.00	mg/kg	50.05	0.780	91.6	75-125	0.396	30	
Nickel	94.4	1.00	mg/kg	50.00	48.6	91.5	75-125	3.89	30	
Selenium	177	1.00	mg/kg	200.2	1.91	87.4	75-125	0.608	30	
Silver	4.63	1.00	mg/kg	5.000	ND	92.7	75-125	1.65	30	
Thallium	171	1.00	mg/kg	199.9	ND	85.6	75-125	0.728	30	
Vanadium	96.7	1.00	mg/kg	49.98	52.3	88.9	75-125	1.58	30	
Zinc	109	5.00	mg/kg	49.95	59.4	98.6	75-125	1.34	30	
Batch BE40819 - EPA 7471A										
Blank Prepared & Analyzed: 05/08/14										
Mercury	ND	0.100	mg/kg							
LCS Prepared & Analyzed: 05/08/14										
Mercury	0.816	0.100	mg/kg	0.8308		98.2	80-120			
Matrix Spike Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Mercury	0.941	0.100	mg/kg	0.8308	0.0900	102	75-125			
Matrix Spike Dup Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Mercury	0.966	0.100	mg/kg	0.8308	0.0900	105	75-125	2.90	25	
Batch BE40823 - -										
Blank Prepared & Analyzed: 05/08/14										
Chromium, Hexavalent	ND	1.00	mg/kg							
LCS Prepared & Analyzed: 05/08/14										
Chromium, Hexavalent	9.82	1.00	mg/kg	10.00		98.2	70-130			
LCS Dup Prepared & Analyzed: 05/08/14										
Chromium, Hexavalent	9.78	1.00	mg/kg	10.00		97.8	70-130	0.427	20	
Duplicate Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Chromium, Hexavalent	3.68	1.00	mg/kg		3.76			2.20	30	
Matrix Spike Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Chromium, Hexavalent	4.51	1.00	mg/kg	10.00	3.76	7.55	70-130			M
Matrix Spike Dup Source: 1405062-01 Prepared & Analyzed: 05/08/14										
Chromium, Hexavalent	4.51	1.00	mg/kg	10.00	3.76	7.55	70-130	0.00	30	M
Post Spike Source: 1405062-01 Prepared & Analyzed: 05/08/14										

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(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

Smith Emery Company GeoService [San Francisco]
1940 Oakdale Avenue
San Francisco, CA 94124

Attn: Mr. Patrick Morrison Phone: (800) 675-8886 FAX:(415) 642-7055

File #:73101
Report Date: 05/09/14
Submitted: 05/08/14
PLS Report No.: 1405062

Project: FUHSD : Homestead HS/ Cafe Kitchen Classroom/ No. 68687-1

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BE40823 - -										
Chromium, Hexavalent	5.18		mg/kg	10.00	3.76	14.2	70-130			M

Notes and Definitions

M	Matrix interference
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

80191

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 5-7-14 PAGE 1 OF 1

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 140506

CLIENT NAME: FUHSD

Project Name/No.: Homestead HS/Cafe Kitchen Classroom/68687-1

P.O. NO.:

ADDRESS:

PROJECT MANAGER: Pat Morrison PHONE NO: FAX NO:

SAMPLER NAME: Robert Escobar (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y N - Global ID# _____

AIRBILL NO: _____

COOLER TEMP: 3.1 (3.3)

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED:

	SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (EPA 8015) Full Scan	PCB's/Pesticides EPA 8082 8081	Toth / CAM 17 Metals	VOCs (EPA 8260)	SVOCs and PAH's by SIM (EPA 8270)	Asbestos by PLM	Hexavalent Chromium	SAMPLE CONDITION/ CONTAINER /COMMENTS:
1	HHS-STK-1	5-7-14	1100 PW	4" N Brown Silty Sand w/ GRAVEL		✓			1	1	G	✓	✓	✓	✓	✓	✓	✓	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished By: (Signature and Printed Name) Robert Escobar — Received By: (Signature and Printed Name) 3646288753 — Date: — Time: 11

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: 5/8/14 — Time: @ 10:10

Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: — Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

Bulk Asbestos Analysis

(EPA Method 600/R-93-116, Visual Area Estimation)

Positive Lab Services
John Schmidt
Attn: Chemistry Dept
781 E Washington Blvd.
Los Angeles, CA 90021

Client ID: 5602
Report Number: B190877
Date Received: 05/08/14
Date Analyzed: 05/09/14
Date Printed: 05/09/14
First Reported: 05/09/14

Job ID/Site: 13381, 1405062

Date(s) Collected: 05/07/2014

FALI Job ID: 5602
Total Samples Submitted: 1
Total Samples Analyzed: 1

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
HHS-STK-1	50863083						
Layer: Brown Soil			**ND**				
Total Composite Values of Fibrous Components:		**Asbestos (ND)**					
Cellulose (Trace)							

Steven Takahashi, Laboratory Supervisor, Rancho Dominguez Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

2959 Pacific Commerce Drive, Rancho Dominguez, CA 90221 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-8684

Forensic Analytical Laboratories, Inc. Analysis Request Form (COC)

Client No.: 5602

Positive Lab Services
781 E. Washington Blvd.
Los Angeles, CA 90021

P.O. # 13381 Date: / /

Turn Around Time: Same Day / 1Day / 2Day / 3 Day / 4Day / 5Day

☐ PCM: NIOSH 7400A ☐ PCM: NIOSH 7400B ☐ Rotometer

☒ PLM: ☐ Standard / ☐ Point Count 400 - 1000 ☐ CARB 435

Contact: Jeannette Gutierrez

Phone: 213-745-5312

E-Mail: jschmidt@positivelabservice.com
jgutierrez@positivelabservice.com

☐ TEM Air: ☐ AHERA / ☐ Yamate2 / ☐ NIOSH 7402
☐ TEM Bulk: ☐ Quantitative / ☐ Qualitative / ☐ Chatfield
☐ TEM Water: ☐ Potable / ☐ Non-Potable / ☐ Wt %
☐ TEM Microvac

☐ IAQ Particle Identification (PLM LAB)
☐ Particle Identification (TEM LAB)

Client Name:

Project Name/No.: 1405062

☐ Metals Analysis: Method AIR Paint Soil Wipe Drinking Water (Circle One)
☐ TTLC >50 mg/kg ☐ STLC >1000 mg/kg ☐ TCLP

Analytes:

Report Via: ☐ Fax ✓ E-Mail ☐ Verbal

Comments: ASBESTOS by PLM

Sample ID	Date/ Time	Sample Location/Description	FOR AIR SAMPLES ONLY Type	Time On/Off	Avg. LPM	Total Time	Sample Area or Air Volume
HHS-STK-1	5/1/14 @ 12:20		A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled by: Date: / / Time: :

Shipped via: ☐ Fed Ex ☐ DHL ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished by:	Relinquished by:	Relinquished by:
Date / Time: 1425 5-8-14	Date / Time:	Date / Time:
Received by: D/O	Received by:	Received by:
Date / Time: 5-8-14 2:25 pm	Date / Time:	Date / Time:
Condition Acceptable? ☐ Yes ☐ No	Condition Acceptable? ☐ Yes ☐ No	Condition Acceptable? ☐ Yes ☐ No

80191

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 5-7-14 PAGE 1 OF 1

LOG BOOK NO. _____ FILE NO. _____ LAB NO. 140506

CLIENT NAME: FUHSD

Project Name/No. Homestead HS / Lab Kitchen Classroom / 68687-1

P.O. NO.

ADDRESS:

PROJECT MANAGER: Pat Morrison PHONE NO: FAX NO:

SAMPLER NAME: Robert Escobar (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same day; 1 = 24 Hour; 2 = 48 Hour; (Etc.) N = NORMAL

CONTAINER TYPES: B = Brass, E = Encore, G = Glass, P = Plastic, V = VOA Vial, O = Other:

UST Project: Y N - Global ID# ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

AIRBILL NO: _____

COOLER TEMP: 3.1 (3.3)

PRESERVED: _____

REMARKS:

ANALYSES REQUESTED:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	TPH (EPA 8015) Full Scan	PCB's/Pesticides EPA 8082/608	Total CAM 17 Metals	VOCs (EPA 8260)	SVOCs and PAHs by SIM (EPA 8270)	Asbestos by PLM	Hexavalent Chromium
1 HHS-STK-1	5-7-14	~~1220~~ 1100	Light brown silty sandy GRAVEL		/			1	1	G	/	/	/	/	/	/	/
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

SAMPLE CONDITION/ CONTAINER /COMMENTS:

Relinquished By: (Signature and Printed Name) Robert Escobar	Received By: (Signature and Printed Name) 8646285853	Date:	Time: 11
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date: 5/8/14	Time: @ 10:10
Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:

1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

LAB COPY

REPORT

GEOLOGIC AND SEISMIC HAZARDS ASSESSMENT UPDATE
AND GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA

For
FREMONT UNION HIGH SCHOOL DISTRICT
April 2013

BAGG ENGINEERS

April 12, 2013
BAGG Job No. FUHSD-09-01G

Fremont Union High School District
589 West Fremont Avenue
Sunnyvale, California 94087

Attention: Ms. Christine Mallery, Associate Superintendent/CBO

REPORT
Geologic and Seismic Hazards Assessment Update and Geotechnical Engineering Investigation
Proposed Cafeteria and Classroom Building
Homestead High School
21370 West Homestead Road
Cupertino, California

Dear Ms. Mallery:

Transmitted herewith is our geologic and seismic hazards assessment update and geotechnical engineering investigation report for the proposed cafeteria and classroom building at Homestead High School in Cupertino, California. This report is intended to assess the potential geologic and seismic hazards that could potentially impact the currently proposed development and presents the results of our concurrent subsurface exploration and laboratory testing, which formed the basis of our conclusions. In addition this report provides recommendations related to the geologic and geotechnical engineering aspects of the proposed project.

We thank you for the opportunity to perform these services. Please do not hesitate to contact us, should you have any questions or comments.

Very truly yours,
BAGG Engineers

Bruce Gaviglio
Sr. Geotechnical Engineer

Sadek M. Derrega
Certified Engineering Geologist

BEG/SD/sd
Distribution: 6 copies, addressee

REPORT

GEOLOGIC AND SEISMIC HAZARDS ASSESSMENT UPDATE
AND GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA

For Fremont Union High School District

TABLE OF CONTENTS

BAGG ENGINEERS

The following references and plates are attached and complete this report:

Plate 1	Vicinity Map
Plate 2	Site Plan
Plate 3	Area Geologic Map
Plate 4	Regional Fault Map
Plate 5	Idealized Subsurface Cross Section
Plate 6-A and 6-B	Historical Earthquakes
Plate 7	Unified Soil Classification System
Plate 8	Soil Terminology
Plate 9	Boring Log Notes and Key to Symbols
Plates 10 through 13	Boring Logs
Plate 14	Atterberg Limits Test Results
Plate 15	Corrosion Test Results
Plate 16	R-Value Test Results

ASFE document titled “Important Information about Your Geotechnical Engineering Report”

REPORT

**GEOLOGIC AND SESIMIC HAZARDS ASSESSMENT UPDATE
AND GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA**

For Fremont Union High School District

1.0 INTRODUCTION

This report presents the results of our geologic and seismic hazards assessment update and geotechnical engineering investigation performed for the currently proposed cafeteria and classroom building at Homestead High School in Cupertino, California. Our engineering geologist recently visited the school site and reviewed available published pertinent geologic and seismic literature to update the geologic and seismic hazards assessment portion of our report titled *Geotechnical Engineering Investigation and Geologic and Seismic Hazards Evaluation Update, Proposed Field House, Homestead High School, 21370 West Homestead Road, Cupertino, California* dated September 12, 2011. The attached Plate 1, Vicinity Map, shows the general location of the site. Plate 2, Site Plan, shows the general location of the currently proposed cafeteria and classroom building in relation to the school campus, as well as the approximate location of the exploratory borings drilled on the site by BAGG as part of this study. This report was prepared in accordance with the scope of services outlined in our Proposal Number 13-184, dated March 8, 2013.

2.0 PROJECT DESCRIPTION

The subject school site is located at 21370 West Homestead Road in Cupertino, California. The school campus is bordered along its south side by a sound wall and Highway 280 and by residential buildings on the north, east and west. The proposed cafeteria and classroom building is proposed in the same area as the existing cafeteria. The proposed single story building will

have an approximate area of 16,000 square feet. The site area is relatively flat and was readily accessible for a truck mounted drilling rig. The new cafeteria and classroom building is proposed to be constructed in the same area as the existing cafeteria.

3.0 SITE CONDITIONS

The coordinates at the central portion of the proposed cafeteria and classroom building project area are latitude of 37.3359^0 North and -122.0490^0 West. The new cafeteria and classroom building is proposed along the southern portion of the campus classrooms, immediately to the north of the existing football field. The entire school campus is fenced, including the tennis courts. The study area where the building is proposed is relatively level, with an approximate elevation of 248 feet above MSL.

4.0 SITE HISTORY

An aerial photograph from 1948 shows the site area as an orchard. An aerial photograph from 1991 shows the school buildings, tennis courts, and playfields. A later aerial photograph from 2000 shows multiple modular buildings aligned in the north-south direction along the edge of the playfield and within in the study area. Some of these modular buildings were not observed on an aerial photograph dated July 2003 and it appeared that the study area from where these modular buildings had been removed was then covered with asphaltic concrete. An aerial photograph dated November 2005 shows the athletic track surrounding the grass-covered playfield to the south had been covered with a synthetic surface.

In August 1999, Geotechnical Engineering Inc. completed a geotechnical engineering investigation including a geologic and seismic hazards assessment for the planned additions to Homestead High School. Their investigation included the drilling of 6 exploratory borings and laboratory testing of samples collected from the site.

In December 2008, Kleinfelder, Inc. performed a geotechnical site characterization at the Homestead High School site to develop foundation design parameters for solar panels. The

December 2008 report prepared by Kleinfelder includes sections on the geologic setting, seismic setting, and potential geologic hazards zones.

In 2009, Cleary Consultants, Inc. (Cleary) performed a geotechnical investigation for the athletic field improvements. As a part of their investigation, they drilled 16 exploratory borings within the athletic field complex and performed laboratory tests on samples collected from the site. None of the soil borings drilled by Cleary Consultants, Inc. extended to depths greater than 15 feet below ground surface. The results of their geotechnical engineering investigation were summarized in a report, dated July 7, 2009.

In March 2011, BAGG prepared a geotechnical engineering consultation report for the proposed chiller enclosure. The recommendations included in that report were based on a review of the subsurface conditions revealed in the borings drilled by the other consultants' reports as referenced above.

In September 2011, BAGG prepared a geotechnical engineering report and a seismic hazards assessment for the proposed field house. Three (3) soil borings averaging 25 feet in depth were drilled by BAGG as part of the September 2011 study for the field house project.

5.0 PURPOSE AND SCOPE OF SERVICES

5.1 PURPOSE

The purpose of our investigation was to assess the potential geologic and seismic hazards at the currently proposed cafeteria and classroom building project site to meet the current code standards and to generate geotechnical conclusions and recommendations pertaining to grading, drainage, and foundation design and construction including current 2010 CBC seismic design parameters. Subsurface data collected from our soil borings drilled for this investigation, from borings previously drilled by Kleinfelder, Inc. (2008), Cleary Consultants, Inc. (2009), and by BAGG

(2011) was utilized, where deemed applicable, to develop geotechnical recommendations for the design and construction of the proposed cafeteria and classroom building.

As part of the scope of our investigation, we drilled four (4) soil borings to approximate depths ranging between 12 and 23½ feet the below ground surface (bgs) at the approximate locations shown on Plate 2. The borings were advanced on March 30, 2013 (a Saturday). Soil samples collected from the borings were tested in our laboratory to evaluate their physical properties and geotechnical engineering characteristics. Data collected from the subsurface exploration and laboratory testing was used to perform engineering analysis and develop geotechnical design recommendations for the proposed building. In addition, a Certified Engineering Geologist visited the site on April 18, 2013 to assess the potential geologic and seismic hazards that could potentially impact the currently planned cafeteria and classroom building project.

5.2 SCOPE OF SERVICES:

The scope of our services consisted of the following specific tasks.

1. Review the regional and local geologic and seismic maps and literature and the existing geology and geotechnical reports by others.

2. Drill four soil borings to maximum depths of about 25 feet bgs with a truck-mounted drilling rig equipped with continuous flight augers. The soil borings were drilled under the direction of one of our engineers, who obtained Standard Penetration Test, and relatively undisturbed ring samples of site soils for visual classification and laboratory testing. When completed, the boreholes were sealed with neat cement grout. Soil cuttings generated from the borings were left near the boring locations.

3. Perform geotechnical laboratory testing of selected samples of soil. Tests included direct shear tests, and moisture/density measurements. We also submitted one near-surface soil sample collected from the site to a certified laboratory to measure soil resistivity, pH, Chloride ion concentration, and Sulfate ion concentration, to evaluate the corrosion potential of near surface soils at the site.

4. Perform engineering analyses based on the results obtained from the above tasks and oriented towards the above-described purpose of the investigation.

5. Assess the geologic and seismic hazards that could impact the currently proposed project. This task included a site visit by a Certified Engineering Geologist, a brief review of the published literature, and a brief update of previously evaluated geologic hazards.

6. Generate four paper and one electronic copy of the report summarizing our findings and including a vicinity map, a site plan showing the approximate locations of the borings, an idealized subsurface cross section, an area geologic map, a regional fault map, the logs of soil borings, the results of our laboratory testing, and our conclusions opinions, and recommendations.

6.0 FIELD EXPLORATION AND LABORATORY TESTING

Subsurface conditions at the site were explored by drilling a total of four soil borings within the area proposed for the new cafeteria and classroom building. The approximate locations of the exploratory borings are shown on the attached Plate 2, Site Plan. The borings were advanced using a truck-mounted drilling rig using continuous flight augers and were technically directed by an engineer who maintained a continuous log of the soil conditions encountered in the boreholes, and obtained disturbed and relatively undisturbed samples and Standard Penetration Test samples for laboratory testing and visual examination.

The graphical representation of the materials encountered in the borings drilled by BAGG, and the results of laboratory tests performed by us as well as explanatory/illustrative data are attached, as follows:

- Plate 7, Unified Soil Classification System, illustrates the general features of the soil classification system used on the boring logs.

- Plate 8 Soil Terminology, lists and describes the soil engineering terms used on the boring logs.

- Plate 9, Key to Symbols describes general and specific conditions that apply to the boring logs, and define the symbols used on the boring logs.

- Plates 10 through 13, Boring Logs, describe the subsurface materials encountered, show the depths and blow counts for the samples, and summarize results of the strength tests, and moisture-density data.

- Plate 14, Atterberg Limits, presents the results of the Atterberg Limits testing performed on a selected sample of the subsurface soils to classify the material as well as obtain an indication of its expansive potential.

- Plate 15, Corrosion Test Results, presents the results of corrosion testing on a composite sample of the near-surface soils obtained from several borings.

- Plate 16, R-Value Test Results; presents the results of R-Value tests performed on a selected bulk sample of the near surface soils for pavement design purposes.

Direct shear testing was performed on selected undisturbed samples to evaluate the strength characteristics of the subsurface materials. Direct shear tests were performed at field (natural) and at artificially increased moisture contents and under various surcharge pressures. The results of our laboratory strength tests and moisture-density data are summarized on the boring logs and the results of the other laboratory tests are presented on the indicated plates.

7.0 GEOLOGY AND SEISMICITY

7.1 Regional Geology

The site is located along the western portion of the Santa Clara Valley, which is a relatively broad and level alluvial basin that is filled with Quaternary Age (1.8 million years old or younger) unconsolidated sediments derived from the nearby mountain ranges. The Santa Clara Valley is bordered by the San Francisco Bay to the north, by the Santa Cruz Mountains to the west and southwest, and by the Diablo Mountain range to the east and southeast.

The site and the San Francisco Bay Area lie within the Coast Ranges geomorphic province, a series of discontinuous northwest trending mountain ranges, ridges, and intervening valleys

characterized by complex folding and faulting. The general geologic framework of the San Francisco Bay Area was illustrated in studies by Schlocker (1970), Helley et al. (1972 and 1979), Wagner et al. (1991), Chin et al. (1993), Helley et al. (1994), and Wentworth et al. (1995).

The Santa Clara Valley, as is the entire San Francisco Bay Area, is considered to be an active seismic region due to the presence of several active earthquake faults. Three, northwest-trending major earthquake faults that comprise the San Andreas fault system extend through the Bay Area. They include the San Andreas fault, the Hayward fault, and the Calaveras fault and are respectively located about 8.8 kilometers to the southwest, approximately 19.1 kilometers northeast of the site, and 24.2 kilometers to the northeast.

7.2 Site Geology

The site area has been mapped by several authors including Helley et al. (1994) and Brabb et al. (1998) to be underlain by Pleistocene age (between 1.8 million and 11,000 years old) sediments that are comprised mostly of alluvial fan deposits which they described as *brown dense gravelly and clayey sand or clayey gravel that fines upward to sandy clay*.

Recent geologic mapping by the California Geological Survey (CGS, 2002), which differentiates the Quaternary into Holocene and Pleistocene ages, in addition to type of alluvial deposit also shows the site area to be occupied by late Pleistocene age alluvial fan and fluvial deposits (geologic map unit Qpf). Such relatively older geologic surficial deposits are generally more cemented and consolidated than younger Holocene age (11,000 years old and younger) alluvial sediments. The Seismic Hazard Zone Report 068 (SHZR 068) prepared by the CGS (2002) notes that based on the logging of nearly 1,597 feet of boring length penetrating this geologic unit (Qpf) which underlies the site area, that these deposits are composed of about 24 percent Lean Clay (CL), 22 percent Silty Sand (SM), 9 percent Silt (ML), 9 percent Well-Graded Grvavel (GW), 9 percent Clayey Sand (SC), 7 percent Poorly-Graded Sand (SP), and 20 percent other sediment. In the immediate area of the school campus, the SHZR 068 Quaternary geologic map (Plate 1.1) shows the northeastward-flowing Stevens Creek channel along the base of the hills to the west of the

campus but the channel does not encroach on the school campus. A portion of that map that includes the site area is presented herein as the Area Geologic Map, Plate 3.

A consulting Certified Engineering Geologist (CEG) performed a reconnaissance of the school campus and surrounding areas on April 18, 2013. The majority of the campus was observed to be relatively level lacking significant topographic relief and localized sloping ground. The southern half of the campus is occupied by sports fields while the northern half is occupied by school buildings. The eastern portion of the campus is occupied by parking areas and tennis courts while the western side is occupied by staff parking. The campus is bounded to the south by Highway 280 and on all remaining sides with city streets and residential development. No open creeks channels or open slopes were observed within the limits of the campus.

A review of the Official Map of the Seismic Hazard Zones map for Cupertino 7.5-Minute Quadrangle published by the CGS (2002) indicates that the site area is not located within the delineated liquefaction and earthquake-induced landslide zones. Plate 1.2 of the above noted CGS (2002) reference indicates that the depth to historical high water table in the site area is greater than 50 feet bgs.

7.3 Faulting

The Santa Clara Valley as is the entire San Francisco Bay Area is considered to be an active seismic region due to the presence of several active earthquake faults along the tectonic boundary of the North American and Pacific Plates. Three, northwest-trending major earthquake faults that comprise the San Andreas fault system extend through the Bay Area. They include the San Andreas fault, the Hayward fault, and the Calaveras fault, respectively located about 8.8 kilometers to the southwest, 19.1 kilometers to the northeast, and 24.2 kilometers to the northeast. Other active faults located near the site are: Monte Vista-Shannon fault located 3.1 km southwest of the site and San Gregorio fault located 30.5 km to the southwest.

The following table lists the major seismic sources in the vicinity, their distance from the site, and maximum magnitude as included in the 2008 USGS fault model for California.

TABLE 1

Seismic Sources

USGS 2008 California Model

Source	Closest Distance (km)	Maximum Magnitude
Monte Vista-Shannon	3.1	6.50
San Andreas	8.8	8.05
San Gregorio Connected	30.5	7.50
Hayward – Rogers Creek	19.1	7.3
Calaveras	24.2	7.03

7.4 Historical Earthquakes

Plate 6-A, Map of Historical Earthquakes, shows earthquakes of magnitude 3 or larger that have been recorded by the USGS/National Earthquake Information Center since 1973. Plate 6-B, Table of Historical Earthquakes, lists significant earthquakes since 1898 that were within 500 kilometers and of magnitude 5 or higher and included in the ANSS Worldwide Earthquake Catalog as obtained from the Northern California Earthquake Data Center website and from the CGS Regional Geologic Hazard Mapping Program for earthquake prior to 1910. The closest of these earthquakes was a magnitude 7.4 earthquake located 10 km west, which was an aftershock of the Loma Prieta Earthquake of 1989. The Loma Prieta earthquake was located about 37 km SW of the site. The entire database included 6 earthquakes between magnitude 4.0 and 3.7 within 15 km of the site, and 12 earthquakes between 3.0 and 3.7 located within 10 kilometers of the site. These earthquakes were generally south and west of the site in the vicinity of the San Andreas and Monte Vista – Shannon faults.

7.5 Liquefaction Potential

Soil liquefaction is a condition where saturated granular soils near the ground surface undergo a substantial loss of strength due to increased pore water pressure resulting from cyclic stress applications induced by earthquakes or other vibrations. In the process, the soil acquires mobility sufficient to permit both vertical and horizontal movements, if not confined. Soils most

susceptible to liquefaction are loose, uniformly graded, fine-grained, sands, and loose silts with very low cohesion. In general, liquefaction hazards are most severe in the upper 50 feet of the soil profile. In the deeper deposits the greater overburden soils tend to isolate the ground surface from any liquefaction and the overburden pressures tends to limit shear strains that occur during liquefaction.

According to the State of California Seismic Hazard Zones Map for Cupertino Quadrangle, the site is not located in an area considered susceptible to earthquake induced landsliding or liquefaction. Plate 1.2 of the Seismic Hazard Zone Report 068 for Cupertino Quadrangle indicates the depth to historical high groundwater at the site has been greater than 50 feet below ground surface. Free groundwater was not encountered in borings drilled at the site of the cafeteria and classroom building project. There is no history of liquefaction at the site and the closest location of historic ground failures associated with earthquakes (Youd and Hoose, 1978) is located to the southwest of the intersection of Highways 280 and 85 along the base of the hills. The CGS (2002) report indicates that the potential for liquefaction for the mapped Pleistocene alluvial fan geologic unit (Qpf) is considered very low when historic groundwater levels are deeper than 50 feet.

Based on the above discussion, lack of saturation, and the relative density of granular deposits, it is our opinion that the potential for liquefaction related settlement at the site is low to very low.

7.6 Seismic Compaction

The unsaturated granular deposits present at the site may undergo some settlement resulting from the rearrangement of soil particles during a seismic event. Using the subsurface data collected from the site, and methodology suggested by Idriss and Boulanger, 2008, the seismic compaction at the site was estimated to be less than 0.25 inches.

7.7 Other Geologic Hazards

7.7.1 Potential for Fault-Related Ground Surface Rupture

The Homestead High School campus is not situated within an Alquist-Priolo Earthquake Fault Zone established by the CGS around faults that are considered as active (CGS, 2000). The closest

active and zoned fault to the site is the Monte Vista – Shannon fault, which is located about 3.1 kilometers to the southwest. Therefore, it is our opinion that the potential for fault-related ground surface rupture at the school campus is minimal.

7.7.2 Potential for Lateral Spreading

The site is not within the limits of a Seismic Hazards Zone for areas where historic occurrence of liquefaction, or local, geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693© would be required.

There are no creek channels crossing the school campus or bordering it. Furthermore, there are no open slopes within the immediate campus vicinity. Based on this information, the potential for lateral spreading to occur within the campus limits is considered minimal.

7.7.3 Potential for Slope Instability

The site area is essentially level, with little or no topographic relief. Therefore, the potential for slope instabilities to occur is non-existent.

7.7.4 Potential for Flooding

Flood Insurance Rate Maps prepared by FEMA (2009) place the campus area within a Zone X, which they define as Areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depth of less than 1 foot or with drainage areas less than I square mile, and areas protected by levees from 1% annual chance flood.

In addition, the campus is situated within the potential inundation wave/zone resulting from catastrophic failure of Stevens Creek Reservoir dam (ABAG, 1995).

7.7.5 Potential for Tsunami and Seiches

Tsunamis are seismic sea waves that are typically an open ocean phenomena caused by underwater landslides, volcanic eruptions, or seismic evens. They primarily impact low-lying coastal areas.

Seiches are earthquake-generated waves or oscillations (sloshing) of the water surface in restricted bodies of water, such as the San Francisco Bay. The 1868 earthquake on the Hayward fault is reported to have generated seiche activity in the Bay. Seiches are extremely rare in the Bay, which generally attenuates such activity due to its irregular shape and shallow shoreline.

Ritter and Dupre (1972) indicate that the coastal lowland areas, immediately adjacent to San Francisco Bay and the Pacific Ocean coastline, are subject to possible inundation from a tsunami with a run up height of 20 feet at the Golden Gate Bridge. Ritter and Dupre's 1972 map does not show the site area to be within an area that could become inundated by tsunami waves. The closest area to the site that could be inundated by flooding resulting from a tsunami is located along the coastline. Based on this information and the noted elevation of the site above mean sea level, we judge the potential for tsunami and seische-related flooding to occur at the site to be very low.

7.7.6 Naturally-Occurring Asbestos

CGS Open File Report 2000-19 (2000) indicates the most proximal ultramafic bedrock likely to contain naturally occurring asbestos (NOA) is located approximately 5 kilometers southwest of the site along Highway 280. The proposed building site is underlain by alluvial deposits derived mostly from sedimentary bedrock, which typically do not contain NOA. As such, NOA will not likely be encountered during construction of the building.

7.7.7 Radon Gas

Radon gas is a naturally-occurring colorless, tasteless, and odorless radioactive gas that forms in soils from the decay of trace amounts of uranium that are naturally present in soils. Radon enters buildings from the surrounding soil through cracks or other openings in foundations and walls.

Long-term exposure to elevated levels of radon increases one's risk of developing lung cancer (Churchill, 2007).

The U.S. Environmental Protection Agency (EPA) recommends that all homes (or structures intended for human occupancy) be tested for radon whatever their geographic location. The U.S. EPA recommends that action be taken to reduce radon in structures with an average annual level higher than four picocuries per liter (4.0pCi/L).

The California Department of Health services (2010) performed 47 tests within Zip Code 95014 (last updated on May 4, 2010) where the school campus is located. Of the 47 tests, none of the tests reported a maximum of four (4) picocuries per liter.

If additional information is needed, consideration should be given to consulting a radon specialist to provide appropriate tests and recommendations to review this concern.

7.8 Code-Based Earthquake Ground Motions

A seismic hazard analysis was performed for the proposed cafeteria and classroom building at Homestead High School using the USGS "Seismic Hazard Curves, Response Parameters and Design parameters", (v5.1.0, 2011). The "mapped" values generally represent firm bedrock shaking with a 2 percent probability of being exceeded in a 50-year period. The values are then modified for a given site based on a broad classification of the soil profile at the site.

Based on the soil information obtained from the exploratory borings drilled on the site, the soil profile at the site is classified as a Class "D", defined as a "stiff soil" profile with an average shear wave velocity in the range of 600 to 1200 feet per second (180 to 360 m/s), average Standard Penetration Test (N) values in the range of 15 to 50, and/or average undrained shear strength in the range of 1,000 to 2,000 psf in the top 100 feet of the soil profile.

Using the site coordinates of 37.3359 degrees North Latitude and 122.0490 degrees West Longitude, and the USGS Java program (2011), the earthquake ground motion parameters were computed in accordance with 2010 California Building Code as listed in the following table.

TABLE 2

Parameters for Seismic Design

2010 CBC Site Parameter	Value
Site Latitude	37.3359°
Site Longitude	122.0490° W
Site Class, Table 1613.5.2	Stiff Soil, Class D
Mapped Spectral Acceleration for Short Periods S_s	2.04g
Mapped Spectral Acceleration for a 1-second Period S_1	0.74g
Site Coefficient F_a	1.0
Site Coefficient F_v	1.5
Site-Modified Spectral Acceleration for short Periods S_{Ms}	2.04g
Site-Modified Spectral Acceleration for a 1-second Period S_M	1.11g
Design Spectral Acceleration for short Periods S_{Ds}	1.36g
Design Spectral Acceleration for short Periods S_{D1}	0.74g

8.0 SITE CONDITIONS

8.1 Surface Conditions

The building site is relatively flat and at the time of our site visit, a large portion of the building site was covered with the existing cafeteria, trees, asphalt concrete and concrete walkways and asphalt concrete driveway to the dumpsters.

8.2 Subsurface Conditions

The borings were drilled at the approximate locations shown on Plate 2, Site Plan. The subsurface soil conditions are illustrated on Plate 5, Idealized Subsurface Cross-section. The borings indicate the presence of sand- and gravel-rich layers overlain by clayey sand to sandy

clay. The thickness of the upper very stiff and dense sandy clay to clayey sand layer varied from 3 to 8 feet in the borings. A dense, poorly graded, sand and gravel layer extended to depths of 13½ to 19 feet in Borings B-1, B-3, and B-4. In Boring B-2 the gravel layer was interbedded with sand-rich layers to the maximum depths explored.

The results of Atterberg Limits tests performed on a near surface soil sample indicate a Liquid Limit (LL) of 26, and Plasticity Index (PI) of 12 indicating that near surface soils has low shrinkage/swelling potential. The results of the Atterberg Limits test are shown on Plate 14.

For more information regarding the subsurface materials encountered at the site, we refer you to Plates 10 through 14, Boring Logs.

8.3 Groundwater

Free groundwater was not encountered in any of the soil borings drilled by BAGG Engineers. Plate 1.2 of the Seismic Hazard Zone Report 068 for Cupertino Quadrangle indicates the depth to historically high groundwater at the site has been greater than 50 feet below ground surface.

While the groundwater table may be at considerable depth, it should be noted that groundwater levels can fluctuate and temporary zones of seepage can develop as a result of seasonal storms, irrigation, etc.

9.0 DISCUSSION AND RECOMMENDATIONS

9.1 General

Based on the subsurface exploration conducted at the subject site and the results obtained from our laboratory testing program, it is our opinion that the proposed project is feasible from a geotechnical engineering standpoint, provided the recommendations presented in this report are incorporated into the project design and construction. When the final development plans are available, they should be reviewed by this office prior to construction to verify that the intent of

our recommendations is reflected in the plans and to confirm that our recommendations properly address the proposed project in its final form.

Our site exploration revealed the presence of very stiff sandy clay underlain by dense granular soil layers to the maximum depths explored; therefore, the proposed buildings may be supported on shallow spread/strip footings with a concrete floor slab-on-grade. The foundation recommendations are included in the following sections of the report.

The site could experience very strong ground shaking from future earthquakes during the anticipated lifetime of the project. The intensity of the ground shaking will depend on the magnitude of the earthquake, distance to the epicenter, and the response characteristics of the on-site soils. While it is not possible to totally preclude damage to structures during major earthquakes, strict adherence to good engineering design and construction practices will help reduce the risk of damage.

9.2 Site Grading

Detailed site grading plans were not available when this report was prepared, but it is our understanding that the site grading will consist of minor (less than 2 feet) of cuts to remove the existing cafeteria foundations and fills to develop a level pad for the proposed building.

Within areas proposed to receive pavements or concrete slabs, the upper 12 inches of native soil should be uniformly moisture conditioned to above optimum moisture content and compacted to a minimum of 95 percent of maximum dry density as determined by ASTM Test Method D1557.

The following grading procedures should be followed for the building pad and in areas to receive pavements, concrete slabs, or flatwork:

- Strip organic, remove concrete foundations, remove the existing AC but the underlying baserock layer could be left in place provided it is moisture conditioned to near optimum and meets the recommended relative compaction requirements. If the proposed site grades necessitate the removal of a portion or the baserock layer, then it could be stockpiled and later used as an engineered fill.

- Scarify, moisture condition, and compact the surface material.

- Place fill on the over-excavated surfaces and in holes/depressions created by stripping/clearing the site, in uniformly moisture conditioned and compacted lifts not exceeding 8 inches in loose thickness. Each lift should be thoroughly moisture conditioned and compacted before successive fill layers are placed.

Imported fill soils, if required, should be predominantly granular in nature, and should be free of organics, debris, or rocks over 3 inches in size, and should be approved by the Geotechnical Engineer before importing to the site. As a general guide to acceptance, imported non-expansive soils should have a Plasticity Index less than 15, and R-value of at least 25, and fines content between 15 and 65 percent.

All aspects of site grading including placement of fills or backfills should be performed under the observation of BAGG's field representatives. It must be the Contractor's responsibility to select equipment and procedures that will accomplish the grading as described above. The Contractor must also organize his work in such a manner that one of our field representatives can observe and test the grading operations, including clearing, excavation, compaction of fill and backfill, and compaction of subgrades.

9.3 Foundations

Provided site grading has been performed as recommended above, the proposed buildings at the site can be satisfactorily supported on conventional spread/strip footings with a concrete slab-on-grade floor. The shallow footings should be designed with a minimum depth of 18-inches below the lowest adjacent final grade, a minimum width of 12 inches, and designed for an allowable bearing pressure of 2,500 psf for dead plus live loads. This value may be increased by one-third

for short-term loads such as wind or seismic loads. All footings located adjacent and parallel to utility trenches should be founded below a 1:1 plane extending upward from the bottom edge of the utility trench.

The bottom of the foundation excavations should be firm, clean, and free of any loose or yielding soils. BAGG should be contacted to inspect the footings prior to placement of steel and concrete to verify that suitable bearing soils are exposed.

The lateral loads acting on the spread footings may be resisted by a combination of passive soil resistance and friction between the bottom of the footings and firm soil. Passive resistance may be calculated by using an equivalent fluid pressure of 300 pcf. The friction coefficient between the concrete and native soil or engineered fill is estimated to be 0.35. Both base friction and lateral passive resistance may be used in combination without reduction.

9.4 Settlements

We have estimated that the total post construction, static settlements of the proposed building supported on property constructed shallow foundations will be less than ½-inch with differential settlement over a 30-foot span being less than ¼-inch.

9.5 Slabs-on-Grade and Exterior Flatwork

Concrete floor slabs or exterior flatwork should be supported on a subgrade that has been prepared as recommended under "Site Grading". The subgrade soils should be maintained at a moisture content that is above optimum, and should be approved by the Geotechnical Engineer immediately before the slab is poured.

In areas where moisture on the slab surface would be undesirable, 4 inches of approved, clean, free draining angular gravel should be placed beneath the concrete slab. The base course is intended to serve as a capillary break; however, moisture may accumulate in the base course zone. Therefore, a vapor barrier with a thickness of at least 15 mil (such as StegoWrap® or an

approved equivalent) should be placed on the gravel base if moisture protection is desired and a damp slab is not desirable. The concrete slab could be placed directly over the vapor barrier.

9.6 Drainage

Site drainage should be considered an integral part of the proposed construction. Drainage swales and contouring of building pads should be incorporated into all grading plans, and designed to provide sufficient slope from structures (5% minimum for at least 5 feet from foundations in unpaved areas) toward appropriate discharge points. Drainage swales should be cut into the graded pads and sloped to drain (1% minimum) to approved outfalls. Any area where surface run-off becomes concentrated should be provided with a catch basin that discharges the collected runoff in a manner that will not cause erosion.

The run-off from building roofs and intercepted water from surface drainage should be collected and discharged to suitable outfall locations in a manner that will not allow ponding adjacent to foundations. Surface and subsurface drainage facilities and catchment areas should be checked frequently and cleaned or maintained throughout the project life, as necessary.

9.7 Utility Trench Backfill

The utility trenches may be backfilled with on-site soils, provided they are free of debris, roots and other organic matter, and rocks or lumps exceeding 3 inches in greatest dimension. The fill material should be uniformly moisture conditioned to the proper moisture content and compacted as per the recommendations included in the "Site Grading" section of this report. The utility lines should be properly bedded and shaded with granular material, such as, sand or pea gravel. As a general rule, the bedding layer should be about 4 inches thick. The utility lines should be shaded with the granular materials to a minimum of 4 inches above the utility line. The bedding and shading layers should be compacted using a vibratory compactor; however, the contractor should use extreme caution with the vibratory compactor on the shading layer because excessive vibrations and/or imbalanced shading materials could result in loosening of the pipe joints.

In order to avoid accumulation of surface water runoff in the utility trenches, the top 12 inches of the utility trench backfill should consist of uniformly moisture conditioned, and compacted, native clayey soil with low permeability. Beneath buildings, concrete slabs, and pavements, the backfill must contain non-expansive soils similar to the surrounding prepared subgrades. BAGG Engineers should be allowed an opportunity to observe the trench backfill operations and perform field compaction tests to evaluate the moisture content and relative compaction of the backfill materials.

Alternatively, the utility trenches may be backfilled with flowable fill (a cementitious slurry consisting of a mixture of fine aggregate or filler, water, and cementitious material(s)) capable of filling all voids in irregular excavations and hard to reach places. The flowable fill is self-leveling material that hardens in a matter of few hours without the need for compaction in layers. Flowable fill is sometimes referred to as controlled density fill (CDF), controlled low strength material (CLSM), and lean concrete slurry. A 1- to 2-sack flowable fill material is considered to be acceptable for the subject project.

Vertical trenches deeper than 5 feet will require temporary shoring. Where shoring is not used, the sides should be sloped or benched, with a maximum slope of 1:1 (horizontal: vertical). The trench spoils should not be placed closer than 3 feet or one-half of the trench depth (whichever is greater) from the trench sidewalls. All work associated with trenching must conform to the State of California, Division of Industrial Safety requirements.

The utility trenches located adjacent to footings should not extend below an imaginary 1H:1V plane projected downward from the base of the footing. If deeper utility trenches are located adjacent to the footings, the footing depths should be increased so that the utility trench excavation is above this imaginary plane.

As requested by the project architect, BAGG Engineers have prepared the following pavement design recommendations for flexible and rigid pavements at Homestead High School in Cupertino, California.

9.9 Flexible Pavements

BAGG Engineers performed R-Value testing of the subsurface materials collected from the site; the test results indicated an R-value of 27. Using the R-value of 27, we performed engineering analyses to calculate the flexible pavement sections for various Traffic Index values, which are presented in the table below.

Summary of Asphalt Pavement Sections
(Subgrade R-value =27)

Pavement Component	TI=4.5		TI=5.0		TI=6.0	
Asphaltic Concrete (AC) in Inches	2½	5½	3	6	3½	8
Class II Aggregate Base (R_{Min}=78) in Inches	6	0	6	0	8	0
Total Thickness in Inches	8½	5½	9	6	11½	8

The Traffic Index is a measure of the frequency and magnitude of loading the flexible pavement is expected to experience during its life time. A Traffic Index (TI) of 4.5 is frequently used for areas subject to light automobile parking only. Traffic Index of 5.0 would be appropriate for heavily-used automobile driveways and roadways subject to only rare heavy trucks, such as a fire truck. We therefore recommend areas for emergency vehicle access, including fire trucks, should be designed for a TI of 5.0 or greater. A TI of 6.0 is usually appropriate where the pavement will be subject to frequent use by vans or light delivery trucks with only occasional heavy truck traffic, such as from weekly garbage trucks.

Where new driveway pavements will be constructed adjacent to irrigated landscape areas, or where natural runoff will drain toward the pavement area, a vertical curb extending at least 2 to

3 inches below the subgrade surface (bottom of base rock) would minimize water intrusion into the subgrade soils and maximize the serviceable life of the pavement.

The subgrade soil should be compacted as per the recommendations included in the "Site Grading" section of this report. All pavement components should conform to and be placed in accordance with the latest edition of Caltrans Standard Specifications, except that compaction should be measured by ASTM Test Method D1557. The above pavement sections were calculated in accordance with the latest edition of the Caltrans Highway Design Manual.

Where there is no vehicular traffic anticipated, a minimum of 2½-inches thick AC pavement can be directly placed over graded and compacted soil subgrade. Drainage measures should be installed in the hardcourt areas to collect and drain surface water runoff away from the paved areas.

9.11 Rigid Pavement

Where Portland Cement Concrete (rigid) Pavements are to be used (recommended in trash dump box storage areas), they should be supported on a subgrade that has been prepared as recommended under "Site Grading" in our this report. The life of the pavement can be extended by placing concrete slab within and around the trash enclosure where a dumpster is housed. Where only occasional heavy trucks are expected (once a week, or TI = 6), the concrete pavement thickness should be 5½ inches over 6 inches of Caltrans Aggregate Base Material.

These slab thicknesses and traffic conditions for conventional Portland cement concrete would require structural concrete with a minimum compressive strength of 3,000 psi, plus nominal reinforcing steel for temperature.

9.12 Corrosion Potential

One bulk sample of the subgrade soils from the project site was tested for corrosion potential at Cooper Testing Labs. The results of chemical analyses, pH, and resistivity at 100% saturation are summarized below:

TABLE 4

Corrosion Test Results

Chemical Analyses	Results B-3 bulk (2' to 5')	Corrosivity Classification	AWWA C-105 points
Resistivity @ 100% saturation	4,234 Ohm-cm	corrosive [1]	0
pH	7.3	negligible	0
ORP (Redox)	505 mV	neglibible[2]	0
Chloride	6 mg/kg	negligible[3]	NA
Sulfate	26 mg/kg	negligible[4]	0
Moisture	7.3%	NA	0
AWWA points			0

[1] National Association of Corrosion Engineers (NACE) Corrosion Basics, page 191
[2] Standard Method 2580B
[3] For metals encased in concrete, extrapolated from CTM 372
[4]For metals encased in concrete, ACI-318, Building Code Requirements for Reinforced Concrete

Based on the corrosion test results, and the AWWA C-105 points, the soils at the site are classified as "corrosive" with respect to steel reinforced concrete, and cement mortar coated steel. While the results for pH, ORP (redox), and chloride and sulfate content were essentially reported as negligible amounts in terms of corrosion, the resistivity in the samples were reported as "corrosive" with respect to resistivity. Corrosive effects to concrete and masonry materials will be low to moderate, while the effects would be noticeable with metals in direct contact with the soil subgrade. As the depth of the samples were approximately 2 to 5 feet below the existing ground surface, with minor cuts and fills anticipated for the project, these samples would be most representative of the soil type to be encountered during trenching and installation of underground utilities and foundation excavations.

To minimize the corrosive degradation of any steel, ductile iron, or copper pipes over time, we recommend that these types of pipes be coated or polyethylene sleeved, or provided other forms of cathodic protection. The soils can severely degrade copper pipes over a short period of time, so copper pipes should not be in contact with soil.

General recommendations for safeguarding the utility pipes and the below grade improvements are listed below:

1. Steel reinforcement (without epoxy coating) for concrete should be protected by providing at least 2-inches minimum cover of good quality concrete, mixed with Type II modified with a maximum water/cement ratio of 0.50, or Type V cement with a maximum water/cement ratio of 0.45, and the use of a vapor proofing membrane for any slabs-on-grade where moisture intrusion is undesirable should avoid degradation of concrete and reinforcing steel at this site. When epoxy-coated reinforcement is used, the minimum concrete cover should be a minimum of 2 inches.

2. Cast iron or ductile iron pressure pipe and fittings, copper pipes, and steel pipes may be coated or polyethylene encased in accordance with ANSI A21.5, or should be encased in a polyethylene sleeve, in accordance with ASTM A674, as a cost-effective method to achieve cathodic protection.

3. Electrical isolation should be provided between different materials or materials in different environs (concrete-soil, soil-air, near neutral pH native soil-high pH sand, etc.) both above and below grade. Most importantly, there should be an insulating union or flange between above and below grade metal (including copper) piping with the insulator located just **above grade**. Do not ground the underground piping to power neutral in buildings.

4. It is important to note that copper pipe should not be installed without sleeving or coatings. Overhead plumbing is the most effective method of corrosion control for copper.

Soil conditions are not the only factors that may cause corrosion; design and construction practice may also be primary causes for failure. A review of plans and specifications for

underground structures should be conducted by a qualified corrosion engineer prior to installation.

9.13 Plan Review

It is recommended that the Geotechnical Engineer (BAGG Engineers) be retained to review the final grading, foundation, and drainage plans. This review is to assess general suitability of the earthwork, foundation, and drainage recommendations contained in this report and to verify the appropriate implementation of our recommendations into the project plans and specifications.

9.14 Observation and Testing

It is recommended that the BAGG Engineers be retained to provide observation and testing services during the grading, excavation, backfilling, and foundation construction phases of work. This is intended to verify that the work in the field is performed as recommended and in accordance with the approved plans and specifications; and more importantly, to verify that subsurface conditions encountered during construction are similar to those anticipated during the design phase. Changed or unanticipated conditions may warrant revised recommendations. Therefore, BAGG Engineers cannot assume responsibility or liability for the recommendations contained in this report if we do not provide observations and testing services during construction.

10.0 CLOSURE

This report has been prepared in accordance with generally accepted engineering practices for the strict use of Fremont Union High School District and other professionals associated with the specific project described in this report. The recommendations presented in this report are based on our understanding of the proposed construction as described herein, and upon the subsurface conditions encountered in several exploratory borings drilled by BAGG for this project, and by others for adjacent projects.

The conclusions and recommendations contained in this report are based on subsurface conditions revealed by widely spaced borings. It is not uncommon for unanticipated conditions to be encountered during site grading and/or foundation installation and it is not possible for all such variations to be found by a field exploration program appropriate for this type of project. The recommendations contained in this report are therefore contingent upon the review of the final grading, drainage, and foundation plans by this office, and upon geotechnical observation and testing by BAGG of all pertinent aspects of site grading including placement of fills and backfills, and foundation construction.

Soil and bedrock conditions and standards of practice change with time. Therefore, we should be consulted to update this report, if the construction does not commence within 18 months from the date this report is submitted. Additionally, the recommendations of this report are only valid for the proposed development as described herein. If the proposed project is modified, our recommendations should be reviewed and approved or modified by this office in writing.

The following references and plates are attached and complete this report:

Plate 1	Vicinity Map
Plate 2	Site Plan
Plate 3	Area Geologic Map
Plate 4	Regional Fault Map
Plate 5	Idealized Subsurface Cross Section
Plate 6-A and 6-B	Historical Earthquakes
Plate 7	Unified Soil Classification System
Plate 8	Soil Terminology
Plate 9	Boring Log Notes and Key to Symbols
Plates 10 through 13	Boring Logs
Plate 14	Atterberg Limits Test Results
Plate 15	Corrosion Test Results
Plate 16	R-Value Test Results

ASFE document titled “Important Information About Your Geotechnical Engineering Report”

11.0 REFERENCES

References - Geotechnical Report for Homestead High School

1. BAGG Engineers, 2011, *Addendum to the September 2011 Report, New Field House, Homestead High Scholl, 21370 West Homestead Road, Cupertino, California*, October 27, 2011.

2. BAGG Engineers, 2011, *Geotechnical Engineering Investigations and Geologic Hazards Evaluation, New Field House, Homestead High Scholl, 21370 West Homestead Road, Cupertino, California*, September 12, 2011.

3. BAGG Engineers, 2011, *Geotechnical Consultations, Proposed Chiller Enclosure, Homestead High School, 21370 Homestead Road, Cupertino, California*, March 4, 2011.

4. BAGG Engineers, 2011, *Geotechnical Consultations, Proposed Chiller Enclosure, Homestead High School, 21370 Homestead Road, Cupertino, California*, March 4, 2011.

5. Cleary Consultants, Inc., 2009, *Geotechnical Investigation, Athletic Field Improvements, Homestead High School, 21370 West homestead Road, Cupertino, California*, July 7, 2009.

6. *Geotechnical Engineering Inc., 1999, Report – Soil Investigation Including Geologic Hazard Assessment, Planned Additions, Existing Homestead High School, 21370 Homestead Road, Cupertino, California*, August 5, 1999.

7. *Geotechnical Site Characterization and Foundation Design Parameters, Solar Panel Project for Five High Schools, Fremont Union High School District, Santa Clara County, California*, December 22, 2008

General References

Angell, M., Hanson, K., and Crampton, T., 1997, Characterization of Quaternary Contractional Deformation adjacent to the San Andreas Fault, Palo Alto, California: Unpublished Consultant's Report prepared for the U.S. geological Survey, National Earthquake Hazards Reduction Program, Award No. 1434-95-G-2586, 70p.

Association of Bay Area Governments, *The San Francisco Bay Area - On Shaky Ground*, April 2003.

Association of Bay Area Governments (ABAG), 2003, *Modeled Shaking Intensity Maps*: 1906 earthquake scenario.

Association of Bay Area Governments (ABAG), 1995 and 2003, Dam Failure Hazard Map for Palo Alto, Maps Showing Bay Area Dam Failure Inundation Zones.

Boore, David, M., and Atkinson, Gail M., *Ground-Motion Prediction Equations for the Average Horizontal Component of PGA, and 5%-Damped PSA at Spectral Periods Between 0.01 s and 10.0 s*, EERI, Earthquake Spectra, Vol 24, No 1, February, 2008.

Brabb, E.E., Jones, D.L., and Graymer, R.W., Geologic Map of the 30'x60' Palo Alto Quadrangle, U.S. Geological Survey, Miscellaneous Field Studies MF-2332.

Brabb, E.E., Graymer, R.W. and Jones, D.L., 1998, *Geology of the Onshore Part of San Mateo County*, *California*, U.S. Geological Survey Open File Map 98-137.

Brabb, E.E. and Olsen, J.A., 1986, *Map Showing Faults and Earthquake Epicenters in San Mateo County,* California, U.S. Geological Survey Map I-1257-F.

Bryant, W.A., 1996, *Letter to colleagues regarding preliminary correlations between geology and attenuation relations categories*, California Division of Mines and Geology.

Bullard, T.F., Hanson, K.L., and Abramson-Ward, H., 2004, Quaternary Investigations to Evaluate Seismic Source Characteristics of the Frontal Thrust Belt, Palo Alto Region, California. Collaborative Research with Desert Research Institute and Geomatrix Conultants: Unpublished Consultant's Report for the U.S. Geological Survey, National Earthquake Hazards Reduction Program, Award Nos. 01HQGR0015 and 01HQGR0016, unpaged.

California Building Standard Commission, *2010 California Building Code*, California Code of Regulations, Title 24, Part 2, Volume 2 of 2.

California Department of Conservation, Division of Mines and Geology, 2000, Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California, Central Coast Region.

California Division of the State Architect (DSA), *DSA Bulletin 09-01: Use of the Next Generation (NGA) Attenuation Relations,* Issued January 28, 2009, effective March 1, 2009.

California Department of Health Services, Last Updated May 4, 2010, California Indoor Radon Levels by Zip Code, Santa Clara County.

California Division of Mines and Geology (2000), Digital Images of Official Maps and Alquist-Priolo Earthquake Fault Zones of California, Central Coast Region: California Division of Mines and Geology, CD 2000-03.

California Geologic Survey, 2002, Seismic Hazard Zone Report 068 for the Cupertino 7.5-Minute Quadrangle, Santa Clara County, California.

Campbell, Kenneth W. and Borzorgnia, Yousef, *NGA Ground Motion Model for the Geometric Mean Horizontal Component of PGA, PGV, PGD, and 5% Damped Linear Elastic Response Spectra for Periods Ranging from 0.01 s to 10.0 s*, EERI, Earthquake Spectra, Vol 24, No 1, February, 2008.

Cao, T., Bryant, W.A., Rowshandel, B., Branun, D., and Wills, C., 2003, *The Revised 2002 California Probabilistic Seismic Hazard Maps: Appendix A California Fault Parameters.*

Chin, L.J., Morrow, J.R., Ross, R., and Clifton, E.H., 1993, Geologic Maps of Upper Cenozoic Deposits in Central California: USGS Miscellaneous Investigations Series Map I-1943.

Churchill, R.K. and Hill, R.L., 2000, A General Location Guide for Ultramafic Rocks in California: Areas More Likely to Contain Naturally Occurring Asbestos, Division of Mines and Geology, DMG Open-File Report 2000-19.

Chiou, Brian S.-J. and Youngs, Robert R., *An NGA Model for the Average Horizontal Component of Peak Ground Motion and Response Spectra*, EERI, Earthquake Spectra, Vol 24, No 1, February, 2008.

Federal Emergency Management Agency (FEMA), 1981, *Flood Insurance Rate Map, City of South San Francisco, California*, Community Panel Number 065062 0002 B.

Federal Emergency Management Agency (FEMA), April 21, 1999, Flood Insurance Rate Map, City of Menlo Park, Santa Clara County, California, Community Panel 0603210011D.

Federal Emergency Management Agency (May 18, 2009), Flood Insurance Rate Map, Santa Clara County, California and Incorporated Areas, Panel 208 of 830, Map Number 06085C0208H.

Geotechnical Engineering Inc., 1999, Report – Soil Investigation Including Geologic Hazard Assessment, Planned Additions, Existing Homestead High School, 21370 Homestead Road, Cupertino, California, August 5, 1999.

Helley, E.J., and Brabb, E.E., 1972, Geologic Map of Late Cenozoic Deposits, Santa Clara County; California: U.S. Geological Survey Miscellaneous Field Studies Map MF-335.

Helley, E.J., Graymer, R.W., Phelps, G.A., Showalter, P.K., and Wentworth, C.M., 1994, Preliminary Quaternary Geologic Maps of Santa Clara Valley, Santa Clara, Alameda, and San Mateo Counties, California, a digital database: U.S. Geological Survey Open-File Report 94-231.

Helley, E. J., Lajoie, K. R., Spangle, W. E., and Blair, M. L. (1979), Flatland Deposits of San Francisco Bay Region, California - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning: USGS Professional Paper 943.

Huang, Y., Whittaker, A.S., and Luco, N., 2008, *Maximum Spectral Demands in the Near-Fault Region,* Earthquake Spectra, Volume 24, No. 1, pages 319-341, February 2008.

Kovach, R.L., and Page, B.M., 1995, Seismotectonics near Stanford University, California: California Geology, v. 48, no. 4, pp. 91-98.

Olsen, J.A. and Zoback, M.L. 1998, *Source Character of Microseismicity in the San Francisco Bay Block, California, and Implications for Seismic Hazard*, Bulletin of the Seismological Society of America, vol. 88.

Pampeyan, E.H., 1993, Geologic Map of the Palo Alto and Part of the Redwood Point 7.5-Minute Quadrangles, San Mateo and Santa Clara Counties, California: U.S. Geological Survey Map I-2371.

Risk Engineering, Inc., 2009, *EZ-FRISK: Software for Earthquake Ground Motion Estimation, Version 7.34.*

Ritter, J.R., and Dupre, W.R. (1972), Map showing areas of Potential Inundation by Tsunamis in the San Francisco Bay Region, California, Misc. Field Studies Map MF-480, Basic Data Contribution 52, S.F. Bay Region Environment and Resources Planning Study, U.S. Geological Survey and U.S. Department of Housing and Urban Development.

Schlocker, J. (1970), Generalized Geologic Map of the San Francisco Bay Region, California: United States Geological Survey Open-File Report 71-246, Scale

Southern California Earthquake Center, *Recommended Procedures of Implementation of DMG Special Publication 117 Guidelines for Analyzing and Mitigating Landslides in California*, Southern California Earthquake Center, ASCE Los Angeles Section Geotechnical Group, June 2002.

U.S. Geological Survey (USGS), 1995, *Geologic Structures Beneath San Francisco Bay – A Geologic Hazard?*, final report of the CONCERT workshop.

United States Geological Survey (USGS, 2006), Division of Geologic Time, US Geological Survey Geologic Names Committee.

United States Geological Survey (USGS, 1961), Topographic Map of the Cupertino 7½-Minute Quadrangle, Scale 1:24,000

U.S. Geological Survey (USGS), 2009, *Java Ground Motion Parameter Calculator: Version 5.0.9,* USGS Earthquake Hazards Program.

U.S. Geological Survey (USGS), 2008, *Documentation for the 2008 Update of the United States National Seismic Hazards Maps,* Open-File Report 2008-1128.

Wagner, D.L., Bortugno, E. J. and Mc Junkin, R. D. (1991), Geologic Map of the San Francisco-San Jose Quadrangle: California Division of Mines and Geology Regional Geologic Map Series 5A, scale 1:250,000.

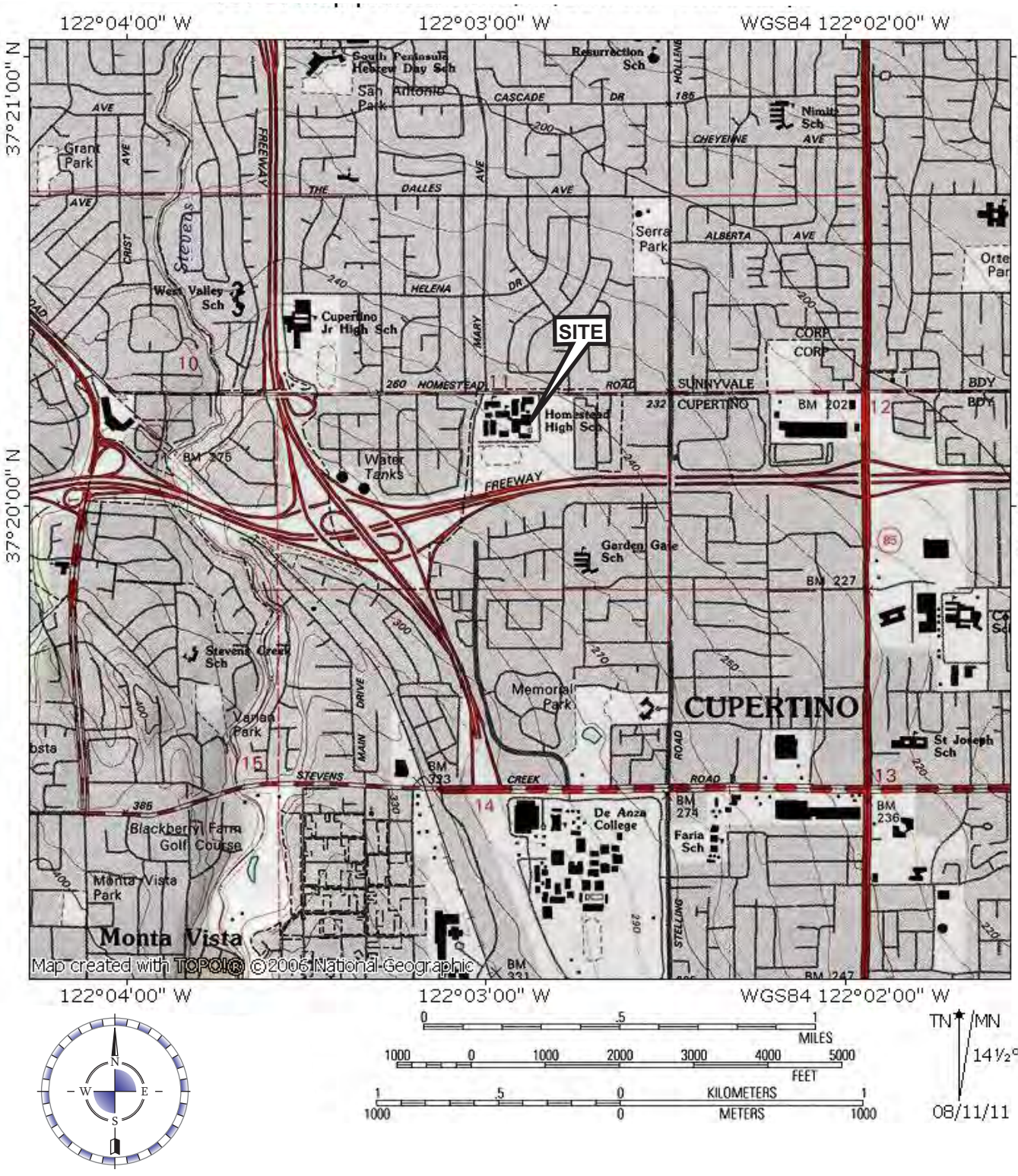
Wentworth, C.M., and Ellen, D.S. (1995), Hillside Materials and Slopes of the San Francisco Bay Region, California: U.S. Geological Survey Professional Paper 1357.

Witter, R.C., Knudsen, K.L., Sowers, J.M., Wentworth, C.M., Koehler, R.D., Randolph, C.E., Brooks, S.K., and Gans, K.D. (2006), Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California: U.S. Geological Survey Open-File Report 06-1037 (http://pubs.usgs.gov/of/2006/1037).

Weber, G.E. and Nolan, J.M., 1995, *Determination of late Pleistocene-Holocene slip rates along the San Gregorio fault zone, San Mateo County, California*, U.S. Geological Survey Open-File Report 95-210.

Working Group on California Earthquake Probabilities, 2008, *The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF2)*, U. S. Geological Survey Open File Report 2007-1437.

Youd, T.L. and Hoose, S.N. (1978), Historic Ground Failures in Northern California Triggered by Earthquakes: United States Geological Survey Professional Paper 993.

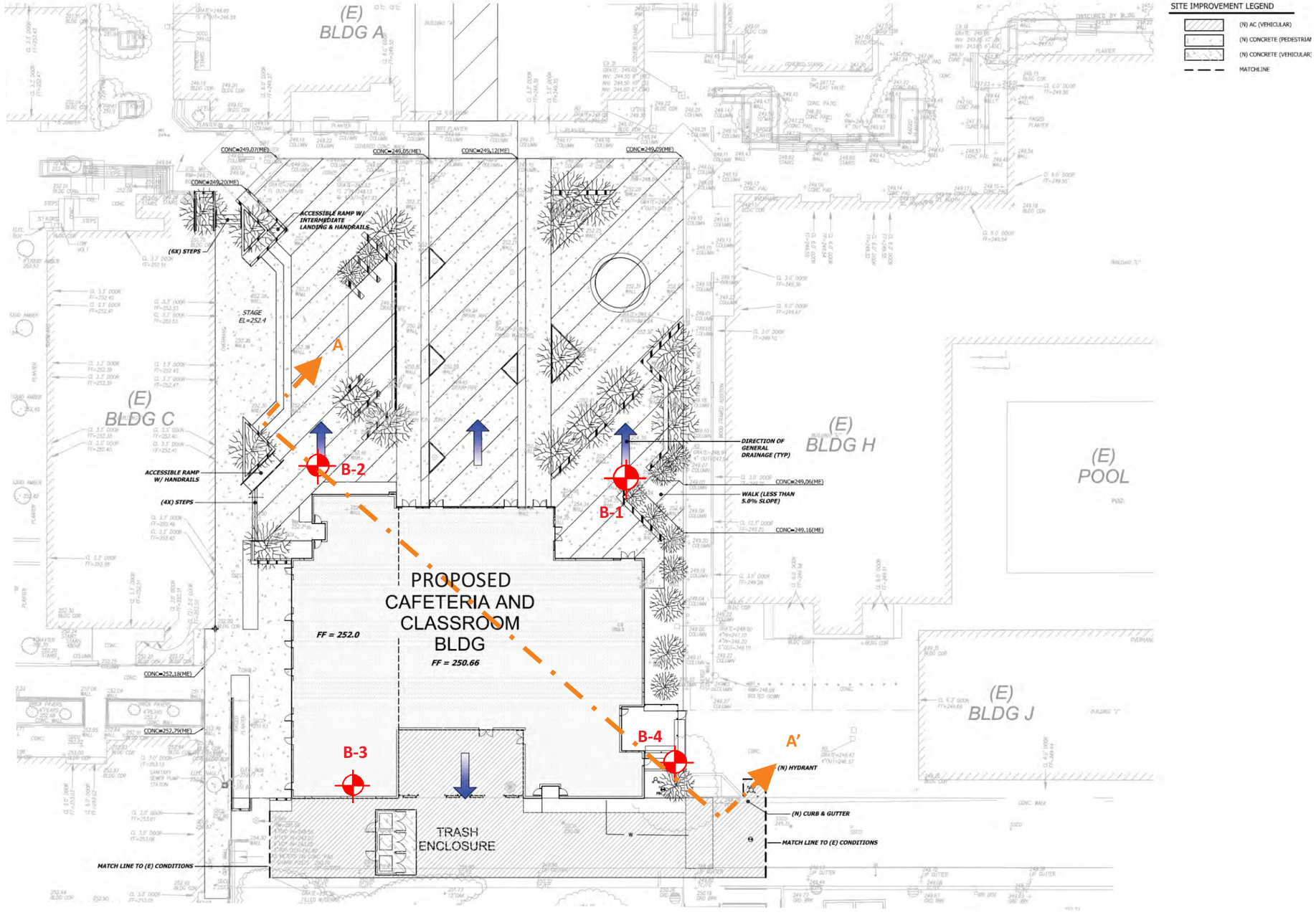


PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA

VICINITY MAP

DATE:	JOB NUMBER:	PLATE
April 2013	FUHSD-09-01G	1

BVGG ENGINEERS



SITE IMPROVEMENT LEGEND

- (N) AC (VEHICULAR)
- (N) CONCRETE (PEDESTRIAN)
- (N) CONCRETE (VEHICULAR)
- MATCHLINE

N W E S

LEGEND:

Approximate Boring Location, Typ.

Base Map: *Site Improvements Layout,* Homestead High School Cafeteria and Classroom Building, prepared by Quatirocchi Kwoh Architects, and dated January 15, 2013.

PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA

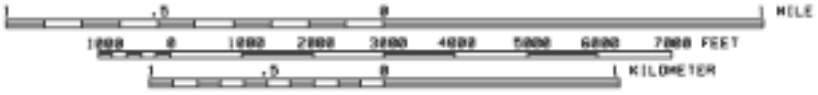
BAGG ENGINEERS

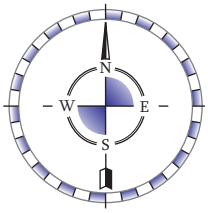
SITE PLAN

DATE:	SCALE:	JOB NO:	PLATE:
April 2013	1” = 50’	FUHSD-09-01G	2

CUPERTINO QUADRANGLE

SCALE



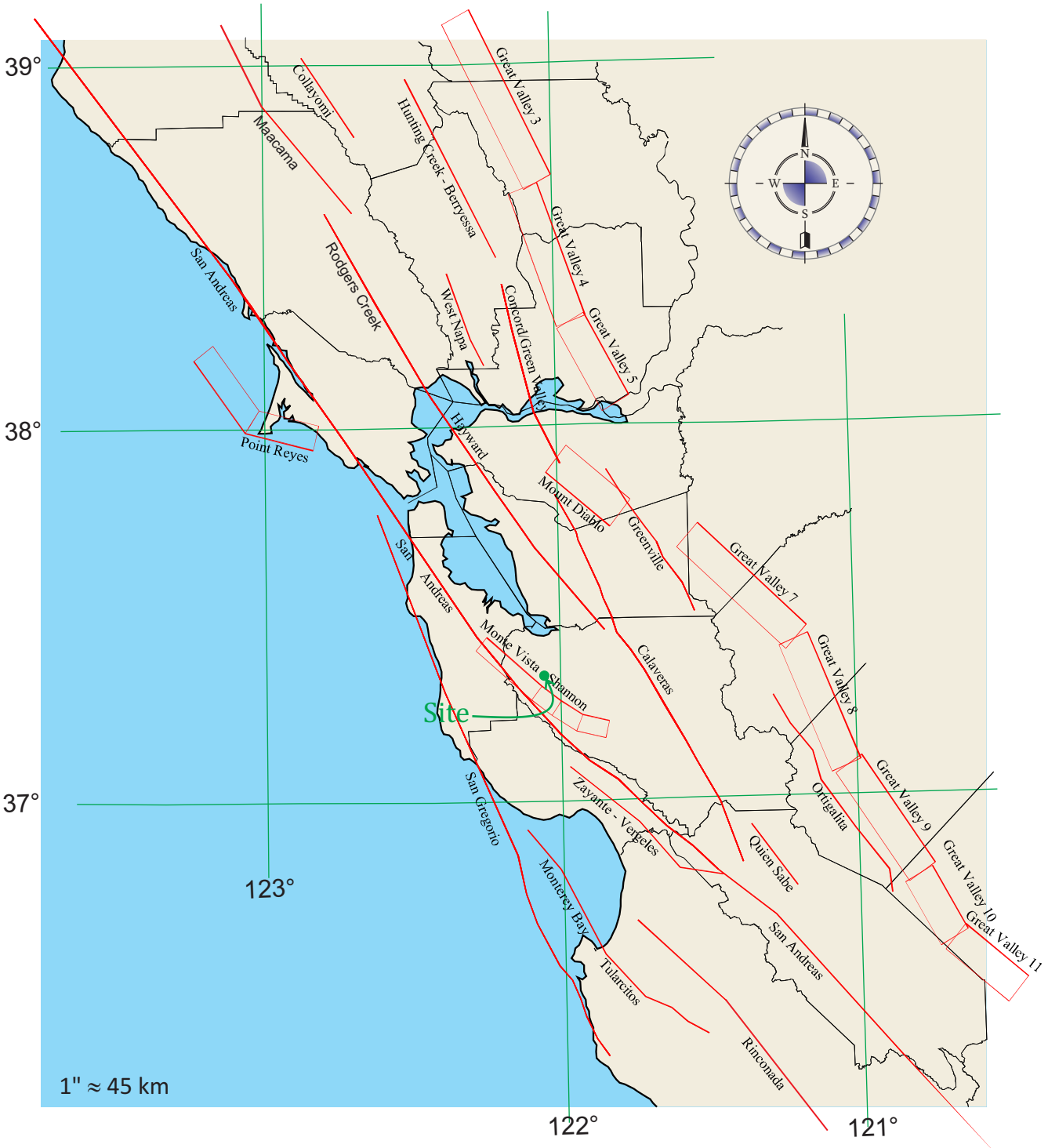


Source: Seismic Hazard Zone Report 068, Seismic Hazard Zone Report for Cupertino 7.5 Minute Quadrangle, Santa Clara County, California 2002

Qpf - Late Pleistocene Alluvial Fan Deposits
Qhf - Holocene Alluvial Fan Deposits
Qhl - Holocene Alluvial Fan Levee Deposits
Qhc - Modern Stream Channel Deposits
af - Artificial Fill
Qht - Holocene Stream Deposits

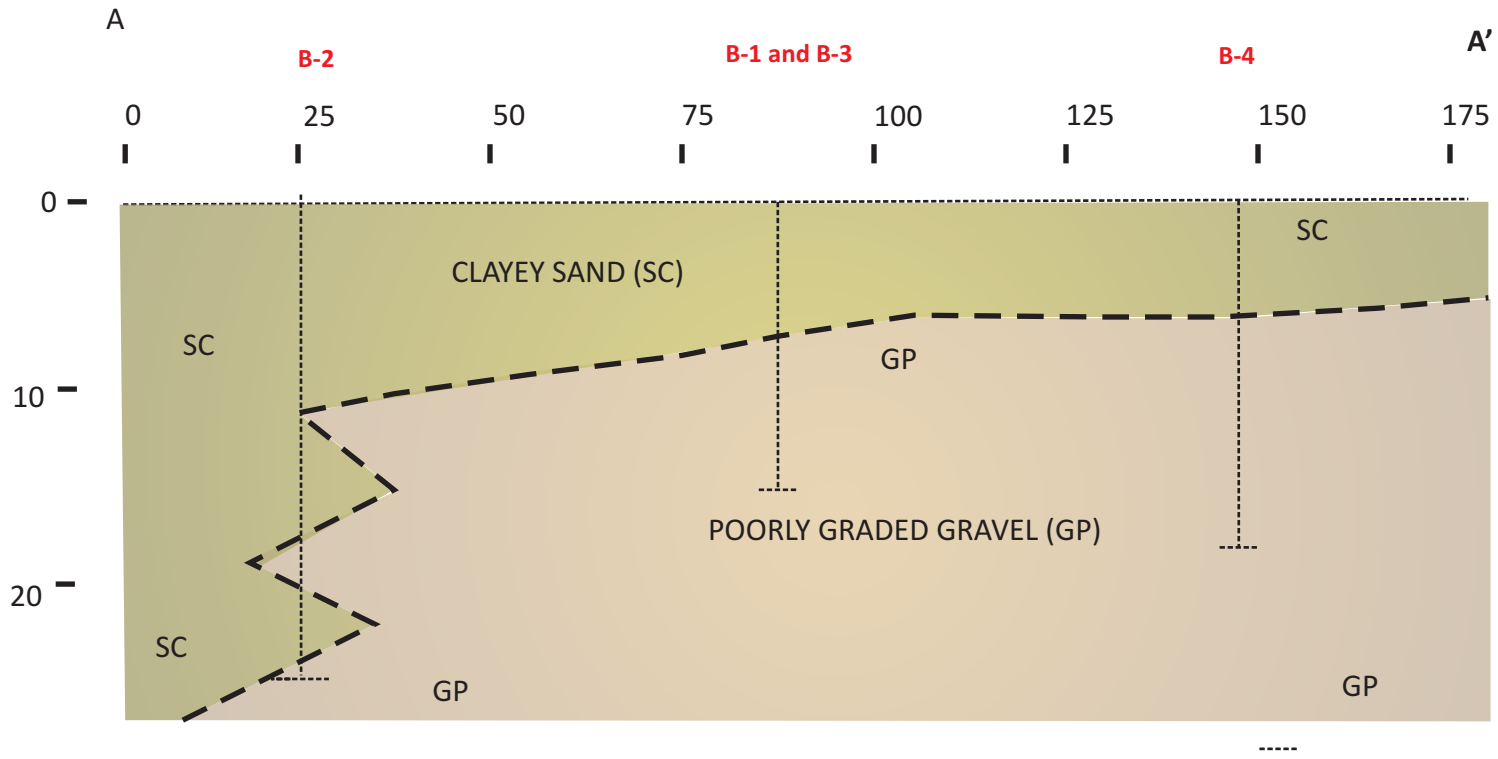
PROPOSED CAFETERIA AND CLASSROOM BUILDING HOMESTEAD HIGH SCHOOL 21370 WEST HOMESTEAD ROAD CUPERTINO, CALIFORNIA	**AREA GEOLOGIC MAP**		
	DATE: April 2011	JOB NUMBER: FUHSD-09-01G	PLATE 3

BAGG ENGINEERS



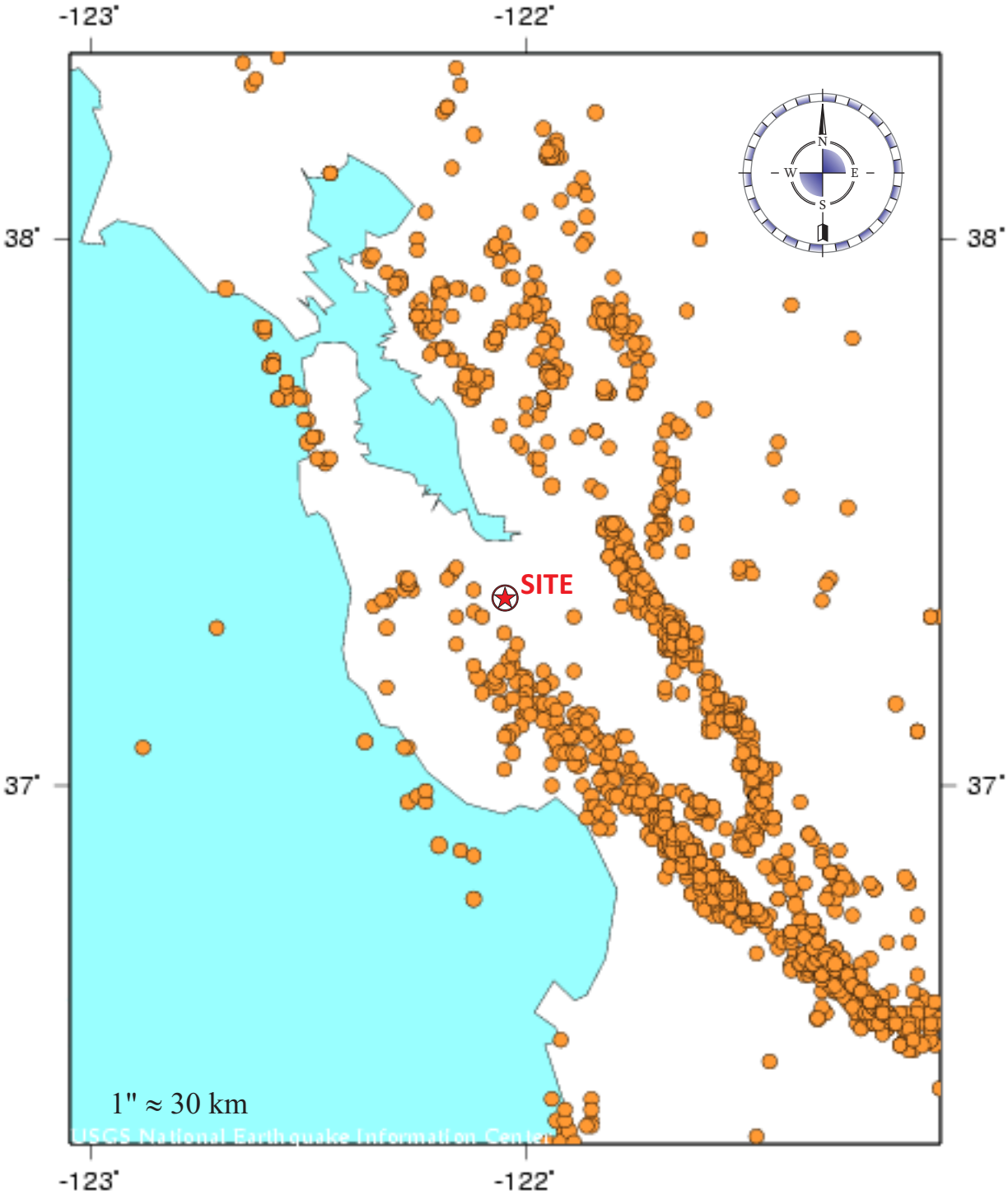
PROPOSED CAFETERIA AND CLASSROOM BUILDING HOMESTEAD HIGH SCHOOL 21370 WEST HOMESTEAD ROAD CUPERTINO, CALIFORNIA	**REGIONAL FAULT MAP**		
	DATE: April 2013	JOB NUMBER: FUHSD-09-01G	PLATE 4

BAGG ENGINEERS



Note: Groundwater was not encountered in the borings drilled at the site on March 30, 2013
For location of Cross Section A-A', see Plate 2.
Borings B-1 and B-3 projected laterally.

PROPOSED CAFETERIA AND CLASSROOM BUILDING HOMESTEAD HIGH SCHOOL 21370 WEST HOMESTEAD ROAD CUPERTINO, CALIFORNIA	BYGG ENGINEERS	**IDEALIZED SUBSURFACE CROSS-SECTION**		
		DATE: APRIL 2013	JOB NUMBER: FUHSD-09-01G	PLATE 5



Reference: USGS/NEIC (PDE) database, 1973 - present, M ≥ 3
(http://earthquake.usgs.gov/earthquakes/eqarchives/epic)

PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA

MAP of HISTORICAL EARTHQUAKES

DATE:	JOB NUMBER:	PLATE
April 2013	FUHSD-09-01G	6-A

BAGG ENGINEERS

Historical Earthquakes in Vicinity of Project Site Since 1910

(Distance $\leq$ 50 km AND $M_w \geq 5.0$)

	Epicenter		Distance	Depth		
Date	Latitude	Longitude	to site (km)	(km)	Magnitude & Type	
06/00/1838	37.3	-122.15	10		7.4	
10/09/1781	37.2	-122	16		5.5	
10/18/1989	37.1902	-122.052	16	15.75	5.1	ML
10/08/1865	37.2	-121.9	20		6.5	
8/3/1903	37.3	-121.8	22		6.2	
01/02/1891	37.3	-121.8	22		5.8	
8/8/1989	37.1482	-121.9268	24	13.98	5.4	ML
9/5/1955	37.37	-121.78	24		5.5	ML
10/31/2007	37.4335	-121.7743	27	10.11	5.45	Mw
02/17/1870	37.1	-122	27		5.9	
6/11/1903	37.2	-121.8	27		6.1	
6/27/1988	37.1283	-121.895	27	13.15	5.3	ML
6/13/1988	37.3927	-121.7415	28	9.54	5.3	ML
7/1/1911	37.25	-121.75	28		6.6	Unk
11/26/1858	37.5	-121.8	29		6.2	
02/15/1856	37.5	-122.3	29		5.9	
06/27/1882	37.1	-121.9	29		5.8	
03/05/1864	37.5528	-121.855	30		6	
05/21/1864	37.6	-121.9	32		5.8	
4/24/1984	37.3097	-121.6788	33	8.53	6.2	ML
05/24/1865	37.1	-121.8	34		5.9	
09/00/1825	37.1	-122.3	34		5.5	
3/31/1986	37.4792	-121.6867	36	9.01	5.7	ML
10/18/1989	37.0362	-121.8798	37	17.43	7	ML
01/02/1856	37.3	-122.5	40		5.7	
10/21/1868	37.7	-122.1	41		7	
03/26/1884	37	-122.25	41		5.9	
02/26/1864	37.2	-121.6	43		6.1	
11/16/1964	37.06	-121.69	44		5	ML
07/04/1861	37.75	-121.95	47		5.8	
03/26/1866	37	-121.7	48		5.8	

1.) Data from the Northern California Earthquake Data Center website, with the ANSS Worldwide Earthquake Catalog since 1910, and CGS Regional Geologic Hazard Mapping Program prior to 1910.
2.) ML = Local Magnitude; Mw = Moment Magnitude; Unk = Unknown.

PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA

TABLE of HISTORICAL EARTHQUAKES

DATE:	JOB NUMBER:	PLATE
April 2013	FUHSD-09-01G	6-B

BYGG ENGINEERS

COARSE-GRAINED SOILS

LESS THAN 50% FINES*

GROUP SYMBOLS	ILLUSTRATIVE GROUP NAMES	MAJOR DIVISIONS
GW	Well graded gravel Well graded gravel with sand	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size
GP	Poorly graded gravel Poorly graded gravel with sand	
GM	Silty gravel Silty gravel with sand	
GC	Clayey gravel Clayey gravel with sand	
SW	Well graded sand Well graded sand with gravel	SANDS More than half of coarse fraction is smaller than No. 4 sieve size
SP	Poorly graded sand Poorly graded sand with gravel	
SM	Silty sand Silty sand with gravel	
SC	Clayey sand Clayey sand with gravel	

NOTE: Coarse-grained soils receive dual symbols if:
(1) their fines are CL-ML (e.g. SC-SM or GC-GM) or
(2) they contain 5-12% fines (e.g. SW-SM, GP-GC, etc.)

FINE-GRAINED SOILS

MORE THAN 50% FINES*

GROUP SYMBOLS	ILLUSTRATIVE GROUP NAMES	MAJOR DIVISIONS
CL	Lean clay Sandy lean clay with gravel	SILTS AND CLAYS liquid limit less than 50
ML	Silt Sandy silt with gravel	
OL	Organic clay Sandy organic clay with gravel	
CH	Fat clay Sandy fat clay with gravel	SILTS AND CLAYS liquid limit more than 50
MH	Elastic silt Sandy elastic silt with gravel	
OH	Organic clay Sandy organic clay with gravel	
PT	Peat Highly organic silt	HIGHLY ORGANIC SOIL

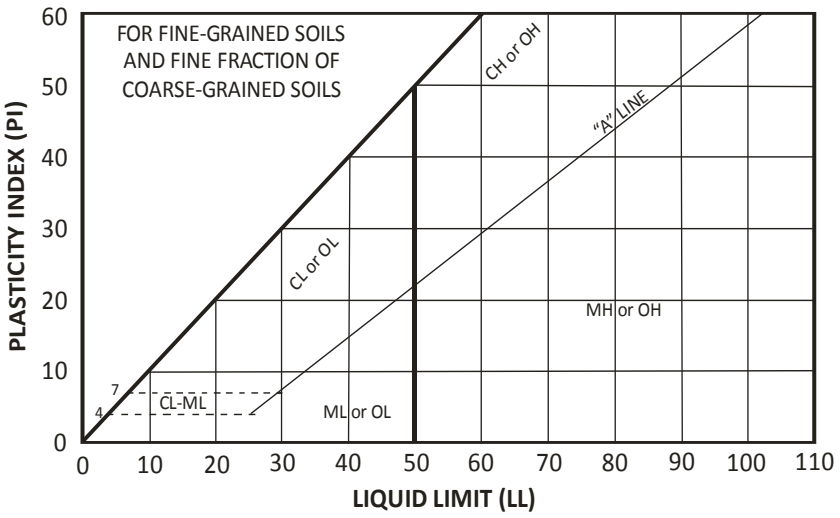
NOTE: Fine-grained soils receive dual symbols if their limits in the hatched zone on the Plasticity Chart(L-M)

SOIL SIZES

COMPONENT	SIZE RANGE
BOULDERS	ABOVE 12 in.
COBBLES	3 in. to 12 in.
GRAVEL	No. 4 to 3 in.
Coarse	¾ in to 3 in.
Fine	No. 4 to ¾ in.
SAND	No. 200 to No.4
Coarse	No. 10 to No. 4
Medium	No. 40 to No. 10
Fine	No. 200 to No. 40
*FINES:	BELOW No. 200

NOTE: Classification is based on the portion of a sample that passes the 3-inch sieve.

PLASTICITY CHART



Reference: ASTM D 2487-06, Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).

GENERAL NOTES: The tables list 30 out of a possible 110 Group Names, all of which are assigned to unique proportions of constituent soils. Flow charts in ASTM D 2487-06 aid assignment of the Group Names. Some general rules for fine grained soils are: less than 15% sand or gravel is not mentioned; 15% to 25% sand or gravel is termed "with sand" or "with gravel", and 30% to 49% sand or gravel is termed "sandy" or "gravelly". Some general rules for coarse-grained soils are: uniformly-graded or gap-graded soils are "Poorly" graded (SP or GP); 15% or more sand or gravel is termed "with sand" or "with gravel", 15% to 25% clay and silt is termed clayey and silty and any cobbles or boulders are termed "with cobbles" or "with boulders".

UNIFIED SOIL CLASSIFICATION SYSTEM

BvGG ENGINEERS

SOIL TYPES (Ref 1)

Boulders: particles of rock that will not pass a 12-inch screen.
Cobbles: particles of rock that will pass a 12-inch screen, but not a 3-inch sieve.
Gravel: particles of rock that will pass a 3-inch sieve, but not a #4 sieve.
Sand: particles of rock that will pass a #4 sieve, but not a #200 sieve.
Silt: soil that will pass a #200 sieve, that is non-plastic or very slightly plastic, and that exhibits little or no strength when dry.
Clay: soil that will pass a #200 sieve, that can be made to exhibit plasticity (putty-like properties) within a range of water contents, and that exhibits considerable strength when dry.

MOISTURE AND DENSITY

Moisture Condition: an observational term; dry, moist, wet, or saturated.
Moisture Content: the weight of water in a sample divided by the weight of dry soil in the soil sample, expressed as a percentage.
Dry Density: the pounds of dry soil in a cubic foot of soil.

DESCRIPTORS OF CONSISTENCY (Ref 3)

Liquid Limit: the water content at which a soil that will pass a #40 sieve is on the boundary between exhibiting liquid and plastic characteristics. The consistency feels like soft butter.
Plastic Limit: the water content at which a soil that will pass a #40 sieve is on the boundary between exhibiting plastic and semi-solid characteristics. The consistency feels like stiff putty.
Plasticity Index: the difference between the liquid limit and the plastic limit, i.e. the range in water contents over which the soil is in a plastic state.

MEASURES OF CONSISTENCY OF COHESIVE SOILS (CLAYS) (Ref's 2 & 3)

Very Soft	N=0-1*	C=0-250 psf	Squeezes between fingers
Soft	N=2-4	C=250-500 psf	Easily molded by finger pressure
Medium Stiff	N=5-8	C=500-1000 psf	Molded by strong finger pressure
Stiff	N=9-15	C=1000-2000 psf	Dented by strong finger pressure
Very stiff	N=16-30	C=2000-4000 psf	Dented slightly by finger pressure
Hard	N>30	C>4000 psf	Dented slightly by a pencil point

***N**=blows per foot in the Standard Penetration Test. In cohesive soils, with the 3-inch-diameter ring sampler, 140-pound weight, divide the blow count by 1.2 to get N (Ref 4).

MEASURES OF RELATIVE DENSITY OF GRANULAR SOILS (GRAVELS, SANDS, AND SILTS) (Ref's 2 & 3)

Very Loose	N=0-4**	RD=0-30	Easily push a ½-inch reinforcing rod by hand
Loose	N=5-10	RD=30-50	Push a ½-inch reinforcing rod by hand
Medium Dense	N=11-30	RD=50-70	Easily drive a ½-inch reinforcing rod
Dense	N=31-50	RD=70-90	Drive a ½-inch reinforcing rod 1 foot
Very Dense	N>50	RD=90-100	Drive a ½-inch reinforcing rod a few inches

****N**=Blows per foot in the Standard Penetration Test. In granular soils, with the 3-inch-diameter ring sampler, 140-pound weight, divide the blow count by 2 to get N (Ref 4).

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Ref 1: ASTM Designation: D 2487-06, **Standard Classification of Soils for Engineering Purposes** (Unified Soil Classification System).

Ref 2: Terzaghi, Karl, and Peck, Ralph B., **Soil Mechanics in Engineering Practice,** John Wiley & Sons, New York, 2nd Ed., 1967, pp. 30, 341, and 347.

Ref 3: Sowers, George F., **Introductory Soil Mechanics and Foundations: Geotechnical Engineering,** Macmillan Publishing Company, New York, 4th Ed., 1979, pp. 80, 81, and 312.

Ref 4: Lowe, John III, and Zaccheo, Phillip F., **Subsurface Explorations and Sampling,** Chapter 1 in "Foundation Engineering Handbook," Hsai-Yang Fang, Editor, Van Nostrand Reinhold Company, New York, 2nd Ed, 1991, p. 39.

SOIL TERMINOLOGY

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Lean clay with fine sand
	Poorly graded sand and gravel
	Borderline silty sand to sandy silt
	Poorly graded sand with clay& gravel
	Borderline sandy lean clay to clayey sand
Soil Samplers	
	Modified California Sampler: 2.375" ID by 3" OD, split-barrel sampler driven w/ 140-pound hammer falling 30 inches

Symbol	Description
	Standard Penetration Test: 1 3/8" ID by 2" OD, split-spoon sampler driven with 140-pound hammer falling 30" (ASTM D 1586-99)
Line Types	
_____	Denotes a sudden, or well identified strata change
- - - - - - -	Denotes a gradual, or poorly identified strata change
Laboratory Data	
DSX	Dirct Shear test performed on a sample submerged in water until volume changes ceased. (ASTM D2166)

Notes:

1. The borings were drilled on March 30, 2013 with a truck-mounted drill rig using 3-inch O.D. continuous flight augers.

2. The borings were located by pacing distanced from landmarks shown on the Site Plan. The indicated boring locations are therefore only approximate.

3. Groundwater was not encountered in any of the borings.

4. The "Blow Count" column on the logs indicates the number of blows required to drive the sampler below the bottom of the boring, with the blow count given for each six inches of penetration, or portion thereof.

5. The soils' Group Names (e.g. SANDY LEAN CLAY) and Group Symbols (e.g. CL) were determined or estimated per ASTM D2487, Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System, Plate 3). Other soil engineering terms used on the boring logs are defined on Plate 4, Soil Terminology.

6. In addition to interpretations of sample classification, there are interpretations of where stratum changes occur between samples, where gradational changes substantially occur, and where minor changes within a stratum are significant enough to log.

7. The boring logs are intended for use with this report only, and for the purposes outlined in the text. The logs depict interpretations of subsurface conditions at the locations shown on the Site Plan and on the dates noted on the logs.

BORING LOG

Boring No. B-1

JOB NAME: Proposed Cafeteria Kitchen Classroom Building
CLIENT: Fremont Union High School
LOCATION: 21370 West Homestead Road
DRILLER: West Coast Exploration
DRILL METHOD: 4-inch Diameter Continuous Flight Augers

JOB NO.: FUHSD-09-01G
DATE DRILLED: 03/30/13
ELEVATION:
LOGGED BY: AS
CHECKED BY:

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DSX	320	13.0	180	9.2	121	0	14	CL/SC	SANDY LEAN CLAY to CLAYEY FINE SAND: yellow brown, trace gravel, hard to dense, damp	
DSX	1500	12.5	1200	6.8	123		28			
							35			
DS	500	Nat.	2400	12.8	124	4	12			
DS	1600	Nat.	3400	12.7	123		27			
							40			
						8	17	SP/GP	SANDY GRAVEL to GRAVELLY SAND: grayish brown, angular gravel, 1/4" to 1/2" sized gravel, fine to coarse sand, damp, dense	
				2.5	--		24		---1/2" to 1" sized gravel, hard drilling	
						12	31			
									Boring was terminated at 13.5 feet. Groundwater was not encountered. Boring was backfilled with cement grout.	
						16				
						20				
						24				

BORING LOG

Boring No. B-2

JOB NAME: Proposed Cafeteria Kitchen Classroom Building
CLIENT: Fremont Union High School
LOCATION: 21370 West Homestead Road
DRILLER: West Coast Exploration
DRILL METHOD: 4-inch Diameter Continuous Flight Augers

JOB NO.: FUHSD-09-01G
DATE DRILLED: 03/30/13
ELEVATION:
LOGGED BY: AS
CHECKED BY:

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DS DS	320 1500	Nat. Nat.	365 1600	11.2 12.0	124 124	0	12 13 16	CL/SC	SANDY LEAN CLAY to CLAYEY SAND: yellow brown, damp, hard to dense	
DS DS	500 1600	Nat. Nat.	750 1300	15.3 14.8	117 118	4	12 12 15			
				7.9	106	8	17 17 21	SM/ML	SILTY FINE SAND to SANDY SILT: olive brown, dense to hard, damp	
				4.5	--	12	26 25 24	SP/GP	GRAVELLY SAND to SANDY GRAVEL: gray brown, damp, dense ---1/2" to 1½" sized gravel	
						16		SP-SC	GRAVELLY SAND: with little clay, yellow brown, moist, dense	
				8.6	--	20	15 15 19	SP/GP	GRAVELLY SAND to SANDY GRAVEL:¼" to½" sized gravel, fine to coarse sand, moist, dense ---Boreholekept on caving in around 21 feet.	Groundwater was not encountered and the borehole was backfilled with cement grout.
						24			Boring was terminated at 23.5 feet bgs.	

BORING LOG

Boring No. B-3

JOB NAME: Proposed Cafeteria Kitchen Classroom Building
CLIENT: Fremont Union High School
LOCATION: 21370 West Homestead Road
DRILLER: West Coast Exploration
DRILL METHOD: 4-inch Diameter Continuous Flight Augers

JOB NO.: FUHSD-09-01G
DATE DRILLED: 03/30/13
ELEVATION:
LOGGED BY: AS
CHECKED BY:

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DSX DSX	320 1500	15.3 12.0	185 1650	6.9 6.9	116 126	0	34 53	CL/SC	SANDY LEAN CLAY to CLAYEY SAND with trace gravel, yellow brown, damp, hard	LL = 26 PI = 12
				1.5	--	4	23 24 24	SP/GP	SANDY GRAVEL to GRAVELLY SAND: gray brown, dense, damp ---2"sized gravel	
						8			---hole sloughed in around 9 feet	
				1.4	--		10 14 16		---hard drilling. Up to 1-inch sized gravel	
						12			Boring was terminated at 12 feet bgs. Groundwater was not encountered. Borehole was backfilled with cement grout.	
						16				
						20				
						24				

BORING LOG

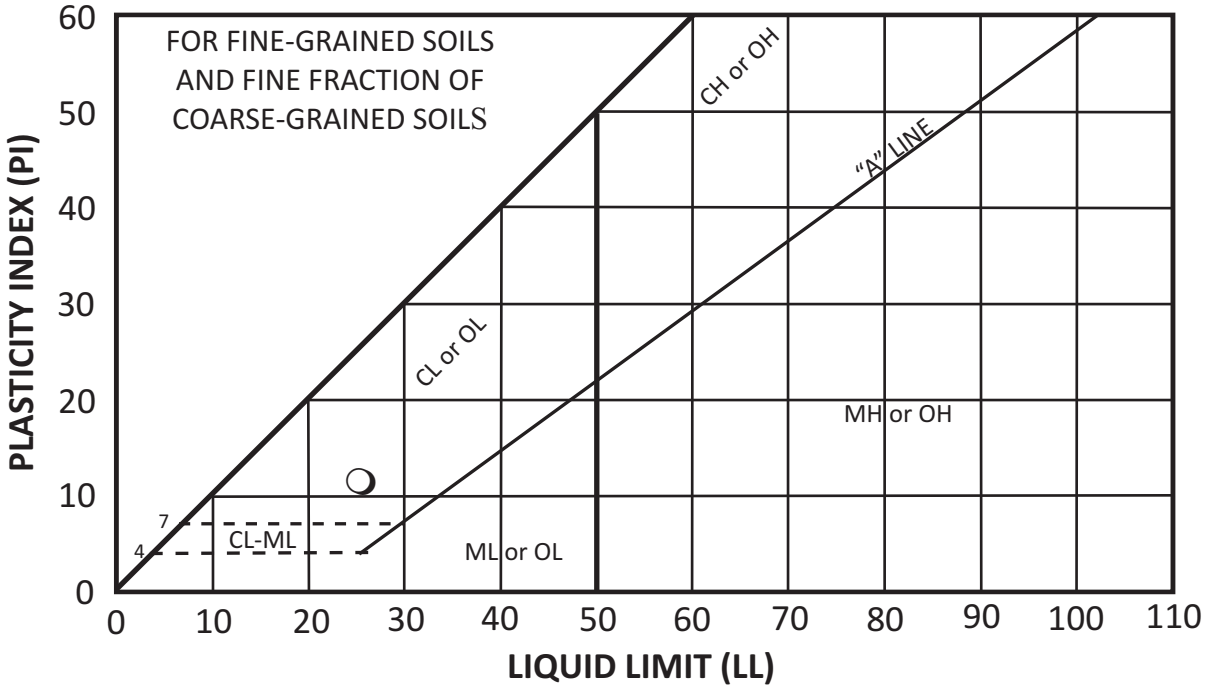
Boring No. B-4

JOB NAME: Proposed Cafeteria Kitchen Classroom Building
CLIENT: Fremont Union High School
LOCATION: 21370 West Homestead Road
DRILLER: West Coast Exploration
DRILL METHOD: 4-inch Diameter Continuous Flight Augers

JOB NO.: FUHSD-09-01G
DATE DRILLED: 03/30/13
ELEVATION:
LOGGED BY: AS
CHECKED BY:

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DS	320	Nat.	1650	11.6	117	0	11	CL/SC	SANDY LEAN CLAY to CLAYEY SAND: yellow brown, damp. hard to dense	
DS	1500	Nat.	3400	11.5	119		20			
							17			
DS	600	Nat.	630	14.1	115	4	5		---stiff to very stiff	
DS	1600	Nat.	1050	14.3	113		7			
							11			
								SP/GP	SANDY GRAVEL to GRAVELLY SAND: gray brown, dense, up to 2" sized gravel, moist	
				4.4	--	8	24			
							20			
							20			
						12			¼" to ½" sized angular gravel, gray brown	
				13.5	121		55			
						16			---borehole kept caving in around 16 feet	
						20			Boring was terminated at 19 feet because the hole kept on caving in. Groundwater was not encountered. Borehole was backfilled with cement grout.	
						24				

PLASTICITY CHART



SYMBOL	SAMPLE SOURCE	DEPTH (FEET)	NATURAL WATER CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION
❍	Boring B-3	1	6.9	26	14	12	Yellow brown, Sandy Lean Clay (CL)

PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA

ATTERBERG LIMITS

DATE:	JOB NUMBER:	PLATE
APRIL 2013	FUHSD-09-01G	14

BAGG ENGINEERS

Corrosivity Tests Summary

CTL # 011-540 Date: 4/9/2013 Tested By: PJ Checked: PJ
Client: BAGG Project: Kitchen Homestead HS Proj. No: FUHSD-09-01G
Remarks:

Sample Location or ID			Resistivity @ 15.5 °C (Ohm-cm)			Chloride	Sulfate		pH	ORP (Redox)		Sulfide	Moisture	Soil Visual Description
			As Rec.	Min	Sat.	mg/kg	mg/kg	%		E_H (mv)	At Test	Qualitative by Lead	At Test %	
						Dry Wt.	Dry Wt.	Dry Wt.						
Boring	Sample, No.	Depth, ft.	ASTM G57	Cal 643	ASTM G57	Cal 422-mod.	Cal 417-mod.	Cal 417-mod.	ASTM G51	ASTM G200	Temp °C	Acetate Paper	ASTM D2216	
B-3	Bag1	-	-	-	4,234	6	26	0.0026	8.1	505	22	-	7.3	Brown Clayey SAND w/ Gravel

PROPOSED CAFETERIA AND CLASSROOM BUILDING
HOMESTEAD HIGH SCHOOL
21370 WEST HOMESTEAD ROAD
CUPERTINO, CALIFORNIA

BAGG ENGINEERS

CORROSION TEST RESULTS

DATE: APRIL 2013

JOB NUMBER: FUHSD-09-01G

PLATE: 15

Important Information about Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely, on Your ASFE-Member Geotechncial Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

ASFE
THE BEST PEOPLE ON EARTH

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