

**California Title 22 Metals**

Lab #:	250732	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB15-7.5	Basis:	as received
Lab ID:	250732-005	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg		

Analyte	Result	RL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	3.8	0.50	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	4.6	0.25	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Barium	250	0.25	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.27	0.099	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	13	0.25	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	43	0.25	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	6.6	0.25	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Copper	450	0.26	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Lead	870	2.5	10.00		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.14	0.015	1.000		205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	0.43	0.25	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	48	0.25	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.50	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.25	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.50	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	40	2.5	10.00		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	1,700	9.9	10.00		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit  
 Page 1 of 1

**California Title 22 Metals**

Lab #:	250732	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB16-10.5	Basis:	as received
Lab ID:	250732-007	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/09/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.4	0.52	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	11	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Barium	180	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.34	0.10	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	0.89	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	53	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	6.7	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Copper	51	0.27	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Lead	210	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.24	0.018	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	ND	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	34	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	3.4	0.52	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.52	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	41	0.26	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	510	1.0	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

**California Title 22 Metals**

Lab #:	250732	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB17-2.0	Basis:	as received
Lab ID:	250732-012	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/09/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.47	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	7.8	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Barium	150	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.46	0.094	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	0.61	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	41	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	12	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Copper	32	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Lead	54	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.12	0.015	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	ND	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	43	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.47	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.47	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	53	0.24	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	87	0.94	205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

**California Title 22 Metals**

Lab #:	250732	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB18-10.0	Basis:	as received
Lab ID:	250732-013	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg		

Analyte	Result	RL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.48	1.000		205158	11/16/13	11/20/13	EPA 3050B	EPA 6010B
Arsenic	49	0.24	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Barium	640	24	100.0		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.47	0.096	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	5.5	0.24	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	43	0.24	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	13	0.24	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Copper	450	24	100.0		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Lead	650	24	100.0		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.41	0.015	1.000		205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	5.1	0.24	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	190	0.24	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	2.8	0.48	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.24	1.000		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.48	1.000		205158	11/16/13	11/20/13	EPA 3050B	EPA 6010B
Vanadium	11,000	24	100.0		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	2,500	96	100.0		205158	11/16/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected

RL= Reporting Limit



Batch QC Report

**California Title 22 Metals**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716520	Batch#:	205158
Matrix:	Soil	Prepared:	11/16/13
Units:	mg/Kg	Analyzed:	11/18/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected  
RL= Reporting Limit

Batch QC Report

**Lead**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	SB14-11.5	Batch#:	205158
MSS Lab ID:	250732-001	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/16/13
Basis:	as received	Analyzed:	11/18/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC716521		100.0	98.58	99	80-120		
BSD	QC716522		100.0	99.71	100	80-120	1	22
MS	QC716523	248.3	96.15	387.3	145 *	52-120		
MSD	QC716524		101.0	391.1	141 *	52-120	0	51

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

**California Title 22 Metals**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	205158
Units:	mg/Kg	Prepared:	11/16/13
Diln Fac:	1.000	Analyzed:	11/18/13

Type: BS

Lab ID: QC716521

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	98.81	99	80-120
Arsenic	50.00	49.95	100	80-120
Barium	100.0	99.76	100	80-120
Beryllium	2.500	2.365	95	80-120
Cadmium	10.00	10.21	102	80-120
Chromium	100.0	98.54	99	80-120
Cobalt	25.00	24.83	99	80-120
Copper	12.50	12.41	99	80-120
Lead	100.0	98.58	99	80-120
Molybdenum	20.00	19.97	100	80-120
Nickel	25.00	25.16	101	80-120
Selenium	50.00	49.54	99	80-120
Silver	10.00	9.609	96	80-120
Thallium	50.00	49.15	98	80-120
Vanadium	25.00	24.52	98	80-120
Zinc	25.00	25.11	100	80-120

Type: BSD

Lab ID: QC716522

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	100.3	100	80-120	1	20
Arsenic	50.00	50.63	101	80-120	1	20
Barium	100.0	101.0	101	80-120	1	20
Beryllium	2.500	2.408	96	80-120	2	20
Cadmium	10.00	10.32	103	80-120	1	20
Chromium	100.0	99.41	99	80-120	1	20
Cobalt	25.00	24.94	100	80-120	0	20
Copper	12.50	12.55	100	80-120	1	20
Lead	100.0	99.71	100	80-120	1	22
Molybdenum	20.00	20.22	101	80-120	1	20
Nickel	25.00	25.35	101	80-120	1	20
Selenium	50.00	50.15	100	80-120	1	20
Silver	10.00	9.637	96	80-120	0	20
Thallium	50.00	49.63	99	80-120	1	20
Vanadium	25.00	24.70	99	80-120	1	20
Zinc	25.00	25.40	102	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Field ID:	SB14-11.5	Batch#:	205158
MSS Lab ID:	250732-001	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/16/13
Basis:	as received	Analyzed:	11/18/13
Diln Fac:	1.000		

Type: MS Lab ID: QC716523

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	1.324	96.15	52.48	53	8-120
Arsenic	48.71	48.08	105.3	118	71-121
Barium	215.4	96.15	255.3	41 *	48-133
Beryllium	0.2371	2.404	2.327	87	78-120
Cadmium	1.702	9.615	10.12	88	69-120
Chromium	60.76	96.15	162.6	106	60-122
Cobalt	8.581	24.04	28.11	81	61-120
Copper	881.1	12.02	1,272 >LR	3249 NM	44-151
Lead	248.3	96.15	387.3	145 *	52-120
Molybdenum	2.395	19.23	19.29	88	67-120
Nickel	45.56	24.04	65.84	84	45-134
Selenium	<0.1492	48.08	44.75	93	67-120
Silver	<0.07628	9.615	7.427	77	66-120
Thallium	<0.1664	48.08	37.40	78	62-120
Vanadium	32.29	24.04	47.24	62	55-137
Zinc	724.8	24.04	708.6 >LR	-67 NM	38-146

Type: MSD Lab ID: QC716524

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	101.0	56.99	55	8-120	3	29
Arsenic	50.51	103.5	108	71-121	4	34
Barium	101.0	264.1	48	48-133	2	45
Beryllium	2.525	2.494	89	78-120	2	20
Cadmium	10.10	10.68	89	69-120	1	23
Chromium	101.0	154.7	93	60-122	8	34
Cobalt	25.25	29.95	85	61-120	3	37
Copper	12.63	1,065 >LR	1453 NM	44-151	NC	35
Lead	101.0	391.1	141 *	52-120	0	51
Molybdenum	20.20	20.18	88	67-120	0	20
Nickel	25.25	65.95	81	45-134	2	38
Selenium	50.51	49.04	97	67-120	4	27
Silver	10.10	8.217	81	66-120	5	30
Thallium	50.51	40.79	81	62-120	4	20
Vanadium	25.25	50.94	74	55-137	5	30
Zinc	25.25	676.8 >LR	-190 NM	38-146	NC	36

\*= Value outside of QC limits; see narrative  
 NC= Not Calculated  
 NM= Not Meaningful: Sample concentration > 4X spike concentration  
 >LR= Response exceeds instrument's linear range  
 RPD= Relative Percent Difference



Batch QC Report

**California Title 22 Metals**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	205271
Lab ID:	QC716952	Prepared:	11/20/13
Matrix:	Soil	Analyzed:	11/20/13
Units:	mg/Kg		

Result	RL
ND	0.017

## Batch QC Report

**California Title 22 Metals**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	205271
Matrix:	Soil	Prepared:	11/20/13
Units:	mg/Kg	Analyzed:	11/20/13
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC716953	0.2083	0.2012	97	80-120		
BSD	QC716954	0.2083	0.2047	98	80-120	2	20

RPD= Relative Percent Difference

Batch QC Report

**California Title 22 Metals**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	SB14-3.5	Batch#:	205271
MSS Lab ID:	250732-003	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/20/13
Basis:	as received	Analyzed:	11/20/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC716955	0.06011	0.2016	0.2371	88	72-135		
MSD	QC716956		0.2049	0.3893	161 *	72-135	47 *	42

\*= Value outside of QC limits; see narrative  
 RPD= Relative Percent Difference

**Lead**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3010A
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	205380
Field ID:	SB16-7.5	Sampled:	11/09/13
Matrix:	TCLP Leachate	Received:	11/12/13
Units:	ug/L	Prepared:	11/21/13
Diln Fac:	10.00	Analyzed:	11/22/13

Type	Lab ID	Result	RL
SAMPLE	250732-008	1,800	50
BLANK	QC717362	ND	50

ND= Not Detected  
 RL= Reporting Limit

Batch QC Report

**Lead**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3010A
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	205380
Field ID:	SB16-7.5	Sampled:	11/09/13
MSS Lab ID:	250732-008	Received:	11/12/13
Matrix:	TCLP Leachate	Prepared:	11/21/13
Units:	ug/L	Analyzed:	11/22/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
BS	QC717363		2,000	2,062	103	78-120				1.000
BSD	QC717364		2,000	2,056	103	78-120	0	20		1.000
MS	QC717365	1,840	2,000	4,024	109	68-120				10.00
MSD	QC717366		2,000	4,042	110	68-120	0	24		10.00

RPD= Relative Percent Difference

**Lead**

Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	WET
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	205421
Field ID:	SB16-7.5	Sampled:	11/09/13
Matrix:	WET Leachate	Received:	11/12/13
Units:	ug/L	Prepared:	11/22/13
Diln Fac:	10.00	Analyzed:	11/22/13

Type	Lab ID	Result	RL
SAMPLE	250732-008	14,000	250
BLANK	QC717527	ND	250

ND= Not Detected  
 RL= Reporting Limit

Batch QC Report

Lead			
Lab #:	250732	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	WET
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	205421
Field ID:	ZZZZZZZZZZ	Sampled:	11/07/13
MSS Lab ID:	250978-001	Received:	11/07/13
Matrix:	WET Leachate	Prepared:	11/22/13
Units:	ug/L	Analyzed:	11/22/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
BS	QC717528		2,000	1,930	97	78-120				1.000
BSD	QC717529		2,000	1,961	98	78-120	2	20		1.000
MS	QC717530	13,640	10,000	23,020	94	68-120				10.00
MSD	QC717531		10,000	22,360	87	68-120	3	24		10.00

RPD= Relative Percent Difference



**ct** Curtis & Tompkins, Ltd.  
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 250733  
ANALYTICAL REPORT**

PES Environmental, Inc. 1682 Novato Boulevard Novato, CA 94947	Project : 1386.001.01.003 Location : 6701 Shellmound, Emeryville Level : II
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<u>Sample ID</u>	<u>Lab ID</u>
SB1-11.75	250733-001
SB1-1.0	250733-002
SB1-5.5	250733-003
SB2-10.75	250733-004
SB2-7.5	250733-005
SB2-4.0	250733-006
SB3-11.0	250733-007
SB3-7.5	250733-008
SB3-1.5	250733-009
SB4-10.0	250733-010
SB4-5.0	250733-011
SB4-1.5	250733-012
SB5-11.5	250733-013
SB5-8.0	250733-014
SB5-3.0	250733-015
SB6-10.0	250733-016
SB6-8.0	250733-017
SB6-4.0	250733-018

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

*Will Rice*

Signature: \_\_\_\_\_

Date: 11/25/2013

Will S Rice  
Project Manager  
will.rice@ctberk.com

NELAP # 01107CA

### CASE NARRATIVE

Laboratory number: 250733  
Client: PES Environmental, Inc.  
Project: 1386.001.01.003  
Location: 6701 Shellmound, Emeryville  
Request Date: 11/15/13  
Samples Received: 11/12/13

This data package contains sample and QC results for eighteen soil samples, requested for the above referenced project on 11/15/13. The samples were received cold and intact.

#### Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

#### Semivolatile Organics by GC/MS (EPA 8270C):

Low recoveries were observed for pyrene in the MS/MSD of SB2-7.5 (lab # 250733-005); the LCS was within limits, and the associated RPD was within limits. SB2-7.5 (lab # 250733-005) and SB6-4.0 (lab # 250733-018) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

#### PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. High response was observed for Aroclor-1016 in the CCV analyzed 11/20/13 03:45; affected data was qualified with "b". Low surrogate recoveries were observed for decachlorobiphenyl in a number of samples; the corresponding TCMX surrogate recoveries were within limits. No other analytical problems were encountered.

#### Metals (EPA 6010B and EPA 7471A) Soil:

Low recoveries were observed for barium and beryllium in the MS/MSD of SB4-1.5 (lab # 250733-012); the BS/BSD were within limits, and the associated RPDs were within limits. High recovery was observed for copper in the MS of SB4-1.5 (lab # 250733-012); the BS/BSD were within limits, and the associated RPD was within limits. High recovery was observed for mercury in the MSD of SB14-3.5 (lab # 250732-003); the BS/BSD were within limits. High RPD was also observed for mercury in the MS/MSD of SB14-3.5 (lab # 250732-003); the RPD was acceptable in the BS/BSD. No other analytical problems were encountered.

#### Metals (EPA 6010B) TCLP Leachate:

No analytical problems were encountered.

#### Metals (EPA 6010B) WET Leachate:

No analytical problems were encountered.



**PES Environmental, Inc.**  
Engineering & Environmental Services

# CHAIN OF CUSTODY RECORD

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C + T      SAMPLERS: M. Buttross  
JOB NUMBER: 138600101003  
NAME / LOCATION: 6701 Shellmound Emeryville  
PROJECT MANAGER: K. Flory      RECORDER: MB

ANALYSIS REQUESTED										
EPA 5035/8010	EPA 5035/8021	EPA 5035/8260B	TPHg by 5035/8015M	TPHd by 8015M	TPHmo by 8015M	EPA 8270C	MNA Parameters (see notes)			
							HOLD			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			

	DATE				SAMPLE NUMBER / DESIGNATION
	YR	MO	DY	TIME	
1	13	11	07	0930	SB1-11.75
2				0945	SB1-1.0
3				0750	SB1-5.5
4				1130	SB2-10.75
5				1140	SB2-7.5
6				1150	SB2-4.0
7				1315	SB3-11.0
8				1320	SB3-7.5
9				1330	SB3-1.5
10				1430	SB4-10.0
11				1445	SB4-5.0
12				1500	SB4-1.5

MATRIX	# of Containers & Preservatives						DEPTH IN FEET
	Vapor	Water	Soil	Sediment	Unpres.	EnCore	
		X			1		
		X			1		
		X			1		
		X			1		
		X			1		
		X			1		
		X			1		
		X			1		
		X			1		
		X			1		
		X			1		

NOTES	CHAIN OF CUSTODY RECORD			
Turn Around Time:	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
	<i>[Signature]</i>	<i>[Signature]</i>	11/27/13	930
	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
	<i>[Signature]</i>	<i>[Signature]</i>	11/28/13	1245
	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
	DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
	METHOD OF SHIPMENT:			

Page 1 of 2

WHITE-Laboratory COPY    YELLOW-Project Office Copy    PINK-Field or Office Copy

wait on re cold RC

3 of 51



**PES Environmental, Inc.**  
Engineering & Environmental Services

# CHAIN OF CUSTODY RECORD

250432

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C+T

SAMPLERS: M. Buttress

JOB NUMBER: 1386.001.01.003

NAME / LOCATION: 6701 Shellmound Emeryville

PROJECT MANAGER: K. Flory

RECORDER: MB

ANALYSIS REQUESTED											
EPA 5035/8010	EPA 5035/8021	EPA 5035/8260B	TPHg by 5035/8015M	TPHd by 8015M	TPHmo by 8015M	EPA 8270C	MNA Parameters (see notes)				
							<u>HOLD</u>				
							X				
							X				
							X				
							X				
							X				

DATE				SAMPLE NUMBER / DESIGNATION
YR	MO	DY	TIME	
13	11	07	1600	SB5-11.5
14			1610	SB5-8.0
15			1615	SB5-3.0
16			1630	SB6-10.0
17			1645	SB6-8.0
18			1700	SB6-4.0

MATRIX				# of Containers & Preservatives						DEPTH IN FEET
Vapor	Water	Soil	Sedim't	Unpres.	EnCore	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl		
		X		1						
		X		1						
		X		1						
		X		1						
		X		1						

**NOTES**

Turn Around Time:

Page 2 of 2

CHAIN OF CUSTODY RECORD			
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		11/13/13	9:30
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		11/12/13	4:45
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
METHOD OF SHIPMENT:			

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start on ice cold PC

4 of 51



**PES Environmental, Inc.**  
Engineering & Environmental Services

250733

## CHAIN OF CUSTODY RECORD

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C + T

SAMPLERS: M Burtner

JOB NUMBER: 138506101.003

NAME / LOCATION: 6701 Siltwood Emeryville

PROJECT MANAGER: K. Flory

RECORDER: [Signature]

YR	MO	DY	TIME	SAMPLE NUMBER / DESIGNATION	
1	11	27	0930	SB7	-11.75
2			0945	SB7	-1.0
3			0950	SB1	-5.5
4			1130	SB2	-10.75
5			1140	SB2	-7.5
6			1150	SB2	-4.0
7			1315	SB3	-11.0
8			1320	SB3	-7.5
9			1330	SB3	-1.5
10			1430	SB4	-10.0
11			1445	SB4	-5.0
12			1500	SB4	-1.5

Vapor	Water	Soil	Sediment	# of Containers & Preservatives					DEPTH IN FEET	
				Uppers	EnCore	H2SO4	HNO3	HCl		
		X								
		X								
		X								
		X								
		X								
		X								
		X								
		X								
		X								
		X								
		X								

ANALYSIS REQUESTED	
EPA 5035/8010	<input type="checkbox"/>
EPA 5035/8021	<input type="checkbox"/>
EPA 5035/8260B	<input type="checkbox"/>
TPHg by 5035/8015M	<input type="checkbox"/>
TPHd by 8015M	<input type="checkbox"/>
TPHmo by 8015M	<input type="checkbox"/>
EPA 8270C	<input type="checkbox"/>
MNA Parameters (see notes)	<input type="checkbox"/>
HCLD	<input checked="" type="checkbox"/>
VOCS by 8260B**	<input checked="" type="checkbox"/>
SVOCs by 8270C**	<input checked="" type="checkbox"/>
PCBs by 8082**	<input checked="" type="checkbox"/>
Lead by 5010R**	<input checked="" type="checkbox"/>
T-Hg by 2.2 metals**	<input checked="" type="checkbox"/>
by 6010B/7471A	<input checked="" type="checkbox"/>

request received 11/15/13

NOTES		CHAIN OF CUSTODY RECORD			
Turn Around Time: <b>* 24-Hour TAT for Lead analysis</b> <b>** 72-Hour TAT for remaining analyses</b>		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
		METHOD OF SHIPMENT:		DATE	TIME

WHITE-Laboratory COPY YELLOW-Project Office Copy PINK-Field or Office Copy

not on record



**PES Environmental, Inc.**  
Engineering & Environmental Services

250432

## CHAIN OF CUSTODY RECORD

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: CIT

SAMPLERS: M. Butler

JOB NUMBER: 1386.001.01.003

NAME / LOCATION: 6701 Shellmound Engle

PROJECT MANAGER: K. Flory

RECORDER: MB

YR	MO	DY	TIME	SAMPLE NUMBER / DESIGNATION
13	11	07	1600	SB5-11.5
14			1610	SB5-8.0
15			1615	SB5-3.0
16			1630	SB6-10.0
17			1645	SB6-8.0
18			1700	SB6-4.0

MATRIX	# of Containers & Preservatives					DEPTH IN FEET
	Vapor	Water	Soil	Sedim't		
					Unpres. EnCys H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl	
	X					
	X					
	X					
	X					
	X					

ANALYSIS REQUESTED	
EPA 5035/8010	
EPA 5035/8021	
EPA 5035/8260B	
TPHg by 5035/8015M	
TPHd by 8015M	
TPHmo by 8015M	
EPA 8270C	
MNA Parameters (see notes)	
Volat D	X
VOCs by 8260B**	X
SVOCs by 8270C**	X
PCBs by 8082**	X
Lead by 6010B**	X
T-7.1e 22 Metals by 6010B/7471A	X

**NOTES**

Turn Around Time \*\*24-Hour TAT for Lead analysis

\*\* 72-Hour TAT for remaining analyses

Page 2 of 2

CHAIN OF CUSTODY RECORD			
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
<i>[Signature]</i>	<i>[Signature]</i>	11/21/13	1330
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
<i>[Signature]</i>	<i>[Signature]</i>	11/22/13	1245
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
METHOD OF SHIPMENT:			

WHITE-Laboratory COPY YELLOW-Project Office Copy PINK-Field or Office Copy

start on ice cold PC

8775545



**PES Environmental, Inc.**  
Engineering & Environmental Services

250730

# CHAIN OF CUSTODY RECORD

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C + T

SAMPLERS: M. Soutter

JOB NUMBER: 13860101003

NAME / LOCATION: 6701 Greenwood Encinitas

PROJECT MANAGER: K. Flory

RECORDER: MB

ANALYSIS REQUESTED *	
<input type="checkbox"/>	EPA 5035/8010
<input type="checkbox"/>	EPA 5035/8021
<input type="checkbox"/>	EPA 5035/8260B
<input type="checkbox"/>	TPHg by 5035/8015M
<input type="checkbox"/>	TPHm by 8015M
<input type="checkbox"/>	EPA 8270C
<input type="checkbox"/>	MNA Parameters (see notes)
<input checked="" type="checkbox"/>	HOLD
<input checked="" type="checkbox"/>	VOCs by 8260B**
<input checked="" type="checkbox"/>	SVOCs by 8270C**
<input checked="" type="checkbox"/>	PCBs by 8082**
<input checked="" type="checkbox"/>	Lead by 6010B**
<input checked="" type="checkbox"/>	Title 22 Metals**
<input checked="" type="checkbox"/>	by 6010B/7471A
<input checked="" type="checkbox"/>	STLC Lead
<input checked="" type="checkbox"/>	TCLP Lead

DATE				SAMPLE NUMBER / DESIGNATION
YR	MO	DY	TIME	
1	3	1	070930	SB1-11.75
2			0945	SB1-1.0
3			0750	SB1-5.5
4			1130	SB2-10.75
5			1140	SB2-7.5
6			1150	SB2-4.0
7			1315	SB3-11.0
8			1320	SB3-7.5
9			1330	SB3-1.5
10			1430	SB4-10.0
11			1445	SB4-5.0
12			1500	SB4-1.5

MATRIX	# of Containers & Preservatives					DEPTH IN FEET
	Vapor	Water	Soil	Sedim't	Unpres.	
			X			
			X			
			X			
			X			
			X			
			X			
			X			
			X			
			X			
			X			
			X			
			X			
			X			
			X			

Received 11/20

received 11/20

NOTES		CHAIN OF CUSTODY RECORD				
Turn Around Time: * 24-Hour TAT for Lead analysis		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
** 72-Hour TAT for remaining analyses		<i>[Signature]</i>	<i>[Signature]</i>	11/17/13	930	
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
		<i>[Signature]</i>	Shirley Kowlica	11/12/13	1245	
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
DISPATCHED BY: (Signature)		DATE	TIME	RECEIVED FOR LAB BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:						

Page 1 of 2

WHITE-Laboratory COPY YELLOW-Project Office Copy PINK-Field or Office Copy

not on re cold PC



**PES Environmental, Inc.**  
Engineering & Environmental Services

250-433  
**CHAIN OF CUSTODY RECORD**

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C+T

SAMPLERS: M. Buttner

JOB NUMBER: 1386.001.01.003

NAME / LOCATION: 6701 Shellmound Energy

PROJECT MANAGER: R. Eloy

RECORDER: M.B.

ANALYSIS REQUESTED											
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 5035/8010	EPA 5035/8021	EPA 5035/8260B	TPHg by 5035/8015M	TPHd by 8015M	TPHmo by 8015M	EPA 8270C	MNA Parameters (see notes)	<u>AsLP</u>	<u>VOCs by 8260B**</u>	<u>SVOCs by 8270C**</u>	<u>PCBs by 8032**</u>
									<u>Lead by 6010B**</u>	<u>T-7.1e 22 Metals**</u>	<u>by 6010B/7471A</u>
									<u>STLC Lead</u>	<u>TCLP Lead</u>	

DATE				SAMPLE NUMBER / DESIGNATION
YR	MO	DY	TIME	
13	11	07	1600	SB5-11.5
14			1610	SB5-8.0
15			1615	SB5-3.0
16			1630	SB6-10.0
17			1645	SB6-8.0
18			1700	SB6-4.0

MATRIX	# of Containers & Preservatives					DEPTH IN FEET
	Vapor	Water	Soil	Sedim		
	X					
		X				
			X			
				X		
	X					

received 11/20

received 11/20

**NOTES**

Turn Around Time \*24-Hour TAT for Lead analysis  
\*\* 72-Hour TAT for remaining analyses

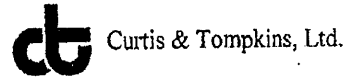
Page 2 of 2

CHAIN OF CUSTODY RECORD			
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
<u>[Signature]</u>	<u>[Signature]</u>	<u>11/2/13</u>	<u>930</u>
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
<u>[Signature]</u>	<u>[Signature]</u>	<u>11/12/13</u>	<u>1645</u>
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
METHOD OF SHIPMENT:			

start on the acid PC



COOLER RECEIPT CHECKLIST



Login # 250733 Date Received 11/12/13 Number of coolers 2
Client PES Project 6701 SHELLMOUND (1386.001.01.003)

Date Opened 11/12/13 By (print) KR (sign) Tania Raula
Date Logged in J By (print) J (sign) J

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples X NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)
Bubble Wrap Foam blocks Bags None
Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C
Type of ice used: X Wet Blue/Gel None Temp(°C) 4.8, 5.1

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun
Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

**Purgeable Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	1386.001.01.003	Analysis:	EPA 8260B
Field ID:	SB2-7.5	Diln Fac:	0.9488
Lab ID:	250733-005	Batch#:	205234
Matrix:	Soil	Sampled:	11/07/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Analyzed:	11/19/13

Analyte	Result	RL
Freon 12	ND	9.5
Chloromethane	ND	9.5
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Chloroethane	ND	9.5
Trichlorofluoromethane	ND	4.7
Acetone	35	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	4.7
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7

ND= Not Detected  
 RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	1386.001.01.003	Analysis:	EPA 8260B
Field ID:	SB2-7.5	Diln Fac:	0.9488
Lab ID:	250733-005	Batch#:	205234
Matrix:	Soil	Sampled:	11/07/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Analyzed:	11/19/13

Analyte	Result	RL
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-124
1,2-Dichloroethane-d4	110	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	97	79-127

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	1386.001.01.003	Analysis:	EPA 8260B
Field ID:	SB2-4.0	Diln Fac:	0.9940
Lab ID:	250733-006	Batch#:	205234
Matrix:	Soil	Sampled:	11/07/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Analyzed:	11/19/13

Analyte	Result	RL
Freon 12	ND	9.9
Chloromethane	ND	9.9
Vinyl Chloride	ND	9.9
Bromomethane	ND	9.9
Chloroethane	ND	9.9
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	9.9
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	9.9
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	9.9
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	1386.001.01.003	Analysis:	EPA 8260B
Field ID:	SB2-4.0	Diln Fac:	0.9940
Lab ID:	250733-006	Batch#:	205234
Matrix:	Soil	Sampled:	11/07/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Analyzed:	11/19/13

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-124
1,2-Dichloroethane-d4	112	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	101	79-127

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**Purgeable Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	1386.001.01.003	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716823	Batch#:	205234
Matrix:	Soil	Analyzed:	11/19/13
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

**Purgeable Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	1386.001.01.003	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716823	Batch#:	205234
Matrix:	Soil	Analyzed:	11/19/13
Units:	ug/Kg		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-124
1,2-Dichloroethane-d4	103	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	101	79-127

ND= Not Detected  
 RL= Reporting Limit

Batch QC Report

**Purgeable Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 5030B
Project#:	1386.001.01.003	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	205234
Units:	ug/Kg	Analyzed:	11/19/13
Diln Fac:	1.000		

Type: BS Lab ID: QC716824

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	22.55	113	67-132
Benzene	20.00	22.53	113	77-126
Trichloroethene	20.00	23.07	115	76-127
Toluene	20.00	22.86	114	76-124
Chlorobenzene	20.00	23.44	117	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-124
1,2-Dichloroethane-d4	108	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	103	79-127

Type: BSD Lab ID: QC716825

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	19.71	99	67-132	13	27
Benzene	20.00	20.25	101	77-126	11	20
Trichloroethene	20.00	19.68	98	76-127	16	22
Toluene	20.00	20.66	103	76-124	10	26
Chlorobenzene	20.00	20.17	101	76-120	15	21

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-124
1,2-Dichloroethane-d4	104	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	99	79-127

RPD= Relative Percent Difference



**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB2-7.5	Batch#:	205211
Lab ID:	250733-005	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	2.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	660
Phenol	ND	660
bis(2-Chloroethyl) ether	ND	660
2-Chlorophenol	ND	660
1,3-Dichlorobenzene	ND	660
1,4-Dichlorobenzene	ND	660
Benzyl alcohol	ND	660
1,2-Dichlorobenzene	ND	660
2-Methylphenol	ND	660
bis(2-Chloroisopropyl) ether	ND	660
4-Methylphenol	ND	660
N-Nitroso-di-n-propylamine	ND	660
Hexachloroethane	ND	660
Nitrobenzene	ND	660
Isophorone	ND	660
2-Nitrophenol	ND	1,300
2,4-Dimethylphenol	ND	660
Benzoic acid	ND	3,300
bis(2-Chloroethoxy)methane	ND	660
2,4-Dichlorophenol	ND	660
1,2,4-Trichlorobenzene	ND	660
Naphthalene	ND	130
4-Chloroaniline	ND	660
Hexachlorobutadiene	ND	660
4-Chloro-3-methylphenol	ND	660
2-Methylnaphthalene	ND	130
Hexachlorocyclopentadiene	ND	1,300
2,4,6-Trichlorophenol	ND	660
2,4,5-Trichlorophenol	ND	660
2-Chloronaphthalene	ND	660
2-Nitroaniline	ND	1,300
Dimethylphthalate	ND	660
Acenaphthylene	270	130
2,6-Dinitrotoluene	ND	660
3-Nitroaniline	ND	1,300
Acenaphthene	ND	130
2,4-Dinitrophenol	ND	1,300
4-Nitrophenol	ND	1,300
Dibenzofuran	ND	660
2,4-Dinitrotoluene	ND	660
Diethylphthalate	ND	660
Fluorene	210	130
4-Chlorophenyl-phenylether	ND	660
4-Nitroaniline	ND	1,300
4,6-Dinitro-2-methylphenol	ND	1,300
N-Nitrosodiphenylamine	ND	660
Azobenzene	ND	660
4-Bromophenyl-phenylether	ND	660
Hexachlorobenzene	ND	660
Pentachlorophenol	ND	1,300
Phenanthrene	2,400	130
Anthracene	630	130
Di-n-butylphthalate	ND	660

ND= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB2-7.5	Batch#:	205211
Lab ID:	250733-005	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	2.000		

Analyte	Result	RL
Fluoranthene	2,100	130
Pyrene	2,300	130
Butylbenzylphthalate	ND	660
3,3'-Dichlorobenzidine	ND	1,300
Benzo(a)anthracene	1,200	130
Chrysene	1,400	130
bis(2-Ethylhexyl)phthalate	ND	660
Di-n-octylphthalate	ND	660
Benzo(b)fluoranthene	970	130
Benzo(k)fluoranthene	360	130
Benzo(a)pyrene	970	130
Indeno(1,2,3-cd)pyrene	340	130
Dibenz(a,h)anthracene	ND	130
Benzo(g,h,i)perylene	330	130

Surrogate	%REC	Limits
2-Fluorophenol	64	35-120
Phenol-d5	65	39-120
2,4,6-Tribromophenol	89	39-120
Nitrobenzene-d5	73	49-120
2-Fluorobiphenyl	99	52-120
Terphenyl-d14	86	48-120

ND = Not Detected

RL = Reporting Limit

### Semivolatile Organics by GC/MS

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB2-4.0	Batch#:	205211
Lab ID:	250733-006	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl) ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	67
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	670
Dimethylphthalate	ND	330
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	330

ND = Not Detected  
 RL = Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB2-4.0	Batch#:	205211
Lab ID:	250733-006	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	1.000		

Analyte	Result	RL
Fluoranthene	ND	67
Pyrene	ND	67
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	52	35-120
Phenol-d5	54	39-120
2,4,6-Tribromophenol	76	39-120
Nitrobenzene-d5	57	49-120
2-Fluorobiphenyl	78	52-120
Terphenyl-d14	72	48-120

ND = Not Detected  
 RL = Reporting Limit

**Semivolatiles Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB6-10.0	Batch#:	205211
Lab ID:	250733-016	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl) ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	67
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	670
Dimethylphthalate	ND	330
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	330

ND= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB6-10.0	Batch#:	205211
Lab ID:	250733-016	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	1.000		

Analyte	Result	RL
Fluoranthene	ND	67
Pyrene	ND	67
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	49	35-120
Phenol-d5	52	39-120
2,4,6-Tribromophenol	77	39-120
Nitrobenzene-d5	54	49-120
2-Fluorobiphenyl	75	52-120
Terphenyl-d14	68	48-120

ND= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB6-4.0	Batch#:	205211
Lab ID:	250733-018	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	10.00		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	3,300
Phenol	ND	3,300
bis(2-Chloroethyl) ether	ND	3,300
2-Chlorophenol	ND	3,300
1,3-Dichlorobenzene	ND	3,300
1,4-Dichlorobenzene	ND	3,300
Benzyl alcohol	ND	3,300
1,2-Dichlorobenzene	ND	3,300
2-Methylphenol	ND	3,300
bis(2-Chloroisopropyl) ether	ND	3,300
4-Methylphenol	ND	3,300
N-Nitroso-di-n-propylamine	ND	3,300
Hexachloroethane	ND	3,300
Nitrobenzene	ND	3,300
Isophorone	ND	3,300
2-Nitrophenol	ND	6,600
2,4-Dimethylphenol	ND	3,300
Benzoic acid	ND	17,000
bis(2-Chloroethoxy)methane	ND	3,300
2,4-Dichlorophenol	ND	3,300
1,2,4-Trichlorobenzene	ND	3,300
Naphthalene	2,900	660
4-Chloroaniline	ND	3,300
Hexachlorobutadiene	ND	3,300
4-Chloro-3-methylphenol	ND	3,300
2-Methylnaphthalene	ND	660
Hexachlorocyclopentadiene	ND	6,600
2,4,6-Trichlorophenol	ND	3,300
2,4,5-Trichlorophenol	ND	3,300
2-Chloronaphthalene	ND	3,300
2-Nitroaniline	ND	6,600
Dimethylphthalate	ND	3,300
Acenaphthylene	ND	660
2,6-Dinitrotoluene	ND	3,300
3-Nitroaniline	ND	6,600
Acenaphthene	ND	660
2,4-Dinitrophenol	ND	6,600
4-Nitrophenol	ND	6,600
Dibenzofuran	ND	3,300
2,4-Dinitrotoluene	ND	3,300
Diethylphthalate	ND	3,300
Fluorene	810	660
4-Chlorophenyl-phenylether	ND	3,300
4-Nitroaniline	ND	6,600
4,6-Dinitro-2-methylphenol	ND	6,600
N-Nitrosodiphenylamine	ND	3,300
Azobenzene	ND	3,300
4-Bromophenyl-phenylether	ND	3,300
Hexachlorobenzene	ND	3,300
Pentachlorophenol	ND	6,600
Phenanthrene	5,500	660
Anthracene	1,200	660

ND= Diluted Out  
 )= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB6-4.0	Batch#:	205211
Lab ID:	250733-018	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	10.00		

Analyte	Result	RL
Di-n-butylphthalate	ND	3,300
Fluoranthene	4,400	660
Pyrene	4,500	660
Butylbenzylphthalate	ND	3,300
3,3'-Dichlorobenzidine	ND	6,600
Benzo(a)anthracene	2,400	660
Chrysene	2,900	660
bis(2-Ethylhexyl)phthalate	ND	3,300
Di-n-octylphthalate	ND	3,300
Benzo(b)fluoranthene	3,700	660
Benzo(k)fluoranthene	1,500	660
Benzo(a)pyrene	3,000	660
Indeno(1,2,3-cd)pyrene	1,300	660
Dibenz(a,h)anthracene	ND	660
Benzo(g,h,i)perylene	1,400	660

Surrogate	%REC	Limits
2-Fluorophenol	DO	35-120
Phenol-d5	DO	39-120
1,4,6-Tribromophenol	DO	39-120
Nitrobenzene-d5	DO	49-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	48-120

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

## Semivolatile Organics by GC/MS

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716731	Batch#:	205211
Matrix:	Soil	Prepared:	11/18/13
Units:	ug/Kg	Analyzed:	11/19/13

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	66
Hexachlorocyclopentadiene	ND	660
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	660
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	660
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330
Fluoranthene	ND	66

)= Not Detected

..L= Reporting Limit

Batch QC Report

**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716731	Batch#:	205211
Matrix:	Soil	Prepared:	11/18/13
Units:	ug/Kg	Analyzed:	11/19/13

Analyte	Result	RL
Pyrene	ND	66
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

Surrogate	%REC	Limits
2-Fluorophenol	56	35-120
Phenol-d5	57	39-120
2,4,6-Tribromophenol	68	39-120
Nitrobenzene-d5	61	49-120
2-Fluorobiphenyl	80	52-120
terphenyl-d14	81	48-120

ND = Not Detected  
 RL = Reporting Limit

## Batch QC Report

**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC716732	Batch#:	205211
Matrix:	Soil	Prepared:	11/18/13
Units:	ug/Kg	Analyzed:	11/19/13

Analyte	Spiked	Result	%REC	Limits
Phenol	2,653	2,176	82	48-120
2-Chlorophenol	2,653	2,098	79	51-120
1,4-Dichlorobenzene	2,653	2,122	80	54-120
N-Nitroso-di-n-propylamine	2,653	1,892	71	35-120
1,2,4-Trichlorobenzene	2,653	2,403	91	56-120
4-Chloro-3-methylphenol	2,653	2,304	87	61-120
Acenaphthene	995.0	828.6	83	57-120
4-Nitrophenol	2,653	2,350	89	54-120
2,4-Dinitrotoluene	2,653	2,427	91	58-120
Pentachlorophenol	2,653	2,139	81	42-120
Pyrene	995.0	988.8	99	60-120

Surrogate	%REC	Limits
2-Fluorophenol	75	35-120
Phenol-d5	78	39-120
2,4,6-Tribromophenol	100	39-120
Nitrobenzene-d5	74	49-120
2-Fluorobiphenyl	80	52-120
Terphenyl-d14	86	48-120

Batch QC Report

**Semivolatile Organics by GC/MS**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB2-7.5	Batch#:	205211
MSS Lab ID:	250733-005	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	2.000		

Type: MS Lab ID: QC716733

Analyte	MSS Result	Spiked	Result	%REC	Limits
Phenol	<13.95	2,664	2,094	79	51-120
2-Chlorophenol	<14.52	2,664	1,998	75	52-120
1,4-Dichlorobenzene	<15.20	2,664	1,811	68	55-120
N-Nitroso-di-n-propylamine	<15.52	2,664	2,062	77	45-120
1,2,4-Trichlorobenzene	<15.58	2,664	2,321	87	57-120
4-Chloro-3-methylphenol	<16.45	2,664	2,240	84	60-120
Acenaphthene	35.29	999.0	800.5	77	58-120
4-Nitrophenol	<140.7	2,664	2,158	81	49-120
2,4-Dinitrotoluene	<18.98	2,664	2,248	84	58-120
Pentachlorophenol	<252.4	2,664	1,753	66	23-120
Pyrene	2,286	999.0	1,257	-103 *	53-122

Surrogate	%REC	Limits
2-Fluorophenol	63	35-120
Phenol-d5	69	39-120
2,4,6-Tribromophenol	86	39-120
Nitrobenzene-d5	69	49-120
2-Fluorobiphenyl	82	52-120
Terphenyl-d14	81	48-120

Type: MSD Lab ID: QC716734

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	2,704	2,032	75	51-120	4	32
2-Chlorophenol	2,704	1,967	73	52-120	3	32
1,4-Dichlorobenzene	2,704	1,622	60	55-120	12	35
N-Nitroso-di-n-propylamine	2,704	1,998	74	45-120	5	35
1,2,4-Trichlorobenzene	2,704	2,191	81	57-120	7	31
4-Chloro-3-methylphenol	2,704	2,210	82	60-120	3	30
Acenaphthene	1,014	768.9	72	58-120	5	36
4-Nitrophenol	2,704	2,054	76	49-120	6	39
2,4-Dinitrotoluene	2,704	2,137	79	58-120	7	28
Pentachlorophenol	2,704	1,293	48	23-120	32	47
Pyrene	1,014	1,344	-93 *	53-122	6	44

Surrogate	%REC	Limits
2-Fluorophenol	63	35-120
Phenol-d5	69	39-120
2,4,6-Tribromophenol	79	39-120
Nitrobenzene-d5	67	49-120
2-Fluorobiphenyl	79	52-120
Terphenyl-d14	80	48-120

\*= Value outside of QC limits; see narrative  
 RPD= Relative Percent Difference

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/07/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Field ID: SB5-11.5  
 Type: SAMPLE  
 Lab ID: 250733-013

Diln Fac: 1.000  
 Analyzed: 11/20/13

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Aroclor-1262	140	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	113	66-142
Decachlorobiphenyl	30 *	43-139

Field ID: SB5-8.0  
 Type: SAMPLE  
 Lab ID: 250733-014

Diln Fac: 1.000  
 Analyzed: 11/20/13

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Aroclor-1262	180	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	96	66-142
Decachlorobiphenyl	42 *	43-139

\*= Value outside of QC limits; see narrative  
 O= Diluted Out  
 )= Not Detected  
 AL= Reporting Limit

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/07/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Field ID: SB5-3.0 Diln Fac: 20.00  
 Type: SAMPLE Analyzed: 11/20/13  
 Lab ID: 250733-015

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	ND	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	10,000	170
Aroclor-1262	ND	170
Aroclor-1268	ND	170

Surrogate	%REC	Limits
TCMX	DO	66-142
Decachlorobiphenyl	DO	43-139

Field ID: SB6-10.0 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 11/20/13  
 Lab ID: 250733-016

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Aroclor-1262	48	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	108	66-142
Decachlorobiphenyl	34 *	43-139

\*= Value outside of QC limits; see narrative  
 ND= Diluted Out  
 )= Not Detected  
 L= Reporting Limit

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/07/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Field ID: SB6-8.0  
 Type: SAMPLE  
 Lab ID: 250733-017

Diln Fac: 1.000  
 Analyzed: 11/20/13

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Aroclor-1262	160	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	87	66-142
Decachlorobiphenyl	41 *	43-139

Field ID: SB6-4.0  
 Type: SAMPLE  
 Lab ID: 250733-018

Diln Fac: 1.000  
 Analyzed: 11/19/13

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	570	12
Aroclor-1262	ND	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	91	66-142
Decachlorobiphenyl	53	43-139

\*= Value outside of QC limits; see narrative

NO= Diluted Out

ND= Not Detected

RL= Reporting Limit



**Polychlorinated Biphenyls (PCBs)**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/07/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Type: BLANK Diln Fac: 1.000  
 Lab ID: QC716687 Analyzed: 11/19/13

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Aroclor-1262	ND	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	97	66-142
Decachlorobiphenyl	78	43-139

\*= Value outside of QC limits; see narrative  
 NO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC716688	Batch#:	205200
Matrix:	Soil	Prepared:	11/18/13
Units:	ug/Kg	Analyzed:	11/19/13

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	167.8	177.2	106	64-143
Aroclor-1260	167.8	175.0	104	58-146

Surrogate	%REC	Limits
TCMX	102	66-142
Decachlorobiphenyl	83	43-139

Batch QC Report

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Field ID:	SB14-3.5	Batch#:	205200
MSS Lab ID:	250732-003	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	1.000		

Type: MS Lab ID: QC716689

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<2.942	164.1	172.5 b	105	58-155
Aroclor-1260	12.74	164.1	214.3	123	35-159

Surrogate	%REC	Limits
TCMX	110	66-142
Decachlorobiphenyl	83	43-139

Type: MSD Lab ID: QC716690

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	166.7	176.6 b	106	58-155	1	44
Aroclor-1260	166.7	192.9	108	35-159	12	53

Surrogate	%REC	Limits
TCMX	106	66-142
Decachlorobiphenyl	84	43-139

b= See narrative

RPD= Relative Percent Difference

Lead			
Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/17/13
Basis:	as received	Analyzed:	11/18/13
Batch#:	205159		

Field ID	Type	Lab ID	Result	RL	Diln Fac
SB1-11.75	SAMPLE	250733-001	2,400	2.5	10.00
SB1-5.5	SAMPLE	250733-003	1,300	2.5	10.00
SB2-10.75	SAMPLE	250733-004	240	0.23	1.000
SB2-7.5	SAMPLE	250733-005	120	0.25	1.000
SB2-4.0	SAMPLE	250733-006	20	0.25	1.000
SB3-7.5	SAMPLE	250733-008	340	0.24	1.000
SB4-10.0	SAMPLE	250733-010	10,000	25	100.0
SB4-5.0	SAMPLE	250733-011	110	0.27	1.000
SB4-1.5	SAMPLE	250733-012	18	0.27	1.000
SB5-11.5	SAMPLE	250733-013	1,100	2.5	10.00
SB5-3.0	SAMPLE	250733-015	430	0.28	1.000
SB6-8.0	SAMPLE	250733-017	58	0.25	1.000
SB6-4.0	SAMPLE	250733-018	140	0.25	1.000
	BLANK	QC716525	ND	0.25	1.000

ND= Not Detected  
 RL= Reporting Limit  
 Page 1 of 1

**California Title 22 Metals**

Lab #:	250733	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB1-1.0	Basis:	as received
Lab ID:	250733-002	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/07/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.51	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	5.9	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	160	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.39	0.10	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	0.94	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	86	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	13	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	52	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	81	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.22	0.018	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	ND	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	100	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.51	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.51	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	51	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	190	1.0	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

**California Title 22 Metals**

Lab #:	250733	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB3-11.0	Basis:	as received
Lab ID:	250733-007	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg		

Analyte	Result	RL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	3.3	0.50	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	7.5	0.25	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	810	2.5	10.00		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.39	0.10	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	4.3	0.25	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	46	0.25	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	10	0.25	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	170	0.26	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	460	2.5	10.00		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.17	0.015	1.000		205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	4.6	0.25	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	38	0.25	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.50	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.25	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.50	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	42	0.25	1.000		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	920	10	10.00		205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

**California Title 22 Metals**

Lab #:	250733	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB3-1.5	Basis:	as received
Lab ID:	250733-009	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/07/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.46	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	3.4	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	150	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.59	0.093	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	0.44	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	16	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	6.9	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	16	0.24	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	14	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.39	0.015	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	ND	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	23	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.46	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.46	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	26	0.23	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	46	0.93	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND = Not Detected  
 RL = Reporting Limit

**California Title 22 Metals**

Lab #:	250733	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB5-8.0	Basis:	as received
Lab ID:	250733-014	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/07/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	3.1	0.50	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	6.7	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	100	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.21	0.10	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	0.77	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	39	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	6.3	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	100	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	100	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.19	0.015	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	0.34	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	38	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.50	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.50	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	29	0.25	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	170	1.0	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit  
 Page 1 of 1

**California Title 22 Metals**

Lab #:	250733	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB6-10.0	Basis:	as received
Lab ID:	250733-016	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/07/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	7.5	0.52	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	5.6	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	140	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.27	0.10	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	1.9	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	140	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	16	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	390	0.27	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	160	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.13	0.016	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	4.9	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	190	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	6.0	0.52	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.52	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	41	0.26	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	270	1.0	205159	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected

RL= Reporting Limit



Batch QC Report

**California Title 22 Metals**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716525	Batch#:	205159
Matrix:	Soil	Prepared:	11/17/13
Units:	mg/Kg	Analyzed:	11/18/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected  
 RL= Reporting Limit

Batch QC Report

Lead			
Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	SB4-1.5	Batch#:	205159
MSS Lab ID:	250733-012	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/17/13
Basis:	as received	Analyzed:	11/18/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC716526		100.0	102.6	103	80-120		
BSD	QC716527		100.0	101.0	101	80-120	2	22
MS	QC716528	17.98	90.91	112.8	104	52-120		
MSD	QC716529		98.04	90.20	74	52-120	29	51

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	205159
Units:	mg/Kg	Prepared:	11/17/13
Diln Fac:	1.000	Analyzed:	11/18/13

Type: BS Lab ID: QC716526

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	102.9	103	80-120
Arsenic	50.00	51.87	104	80-120
Barium	100.0	103.9	104	80-120
Beryllium	2.500	2.475	99	80-120
Cadmium	10.00	10.65	107	80-120
Chromium	100.0	101.9	102	80-120
Cobalt	25.00	25.68	103	80-120
Copper	12.50	12.92	103	80-120
Lead	100.0	102.6	103	80-120
Molybdenum	20.00	20.54	103	80-120
Nickel	25.00	26.25	105	80-120
Selenium	50.00	51.37	103	80-120
Silver	10.00	9.895	99	80-120
Thallium	50.00	50.69	101	80-120
Vanadium	25.00	25.48	102	80-120
Zinc	25.00	26.65	107	80-120

Type: BSD Lab ID: QC716527

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	100.9	101	80-120	2	20
Arsenic	50.00	51.14	102	80-120	1	20
Barium	100.0	101.6	102	80-120	2	20
Beryllium	2.500	2.410	96	80-120	3	20
Cadmium	10.00	10.46	105	80-120	2	20
Chromium	100.0	99.67	100	80-120	2	20
Cobalt	25.00	25.09	100	80-120	2	20
Copper	12.50	12.63	101	80-120	2	20
Lead	100.0	101.0	101	80-120	2	22
Molybdenum	20.00	20.04	100	80-120	2	20
Nickel	25.00	25.67	103	80-120	2	20
Selenium	50.00	50.61	101	80-120	1	20
Silver	10.00	9.741	97	80-120	2	20
Thallium	50.00	49.65	99	80-120	2	20
Vanadium	25.00	25.03	100	80-120	2	20
Zinc	25.00	26.03	104	80-120	2	20

Batch QC Report

California Title 22 Metals

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Field ID:	SB4-1.5	Batch#:	205159
MSS Lab ID:	250733-012	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/17/13
Basis:	as received	Analyzed:	11/18/13
Diln Fac:	1.000		

Type: MS Lab ID: QC716528

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1746	90.91	32.09	35	8-120
Arsenic	3.505	45.45	41.80	84	71-121
Barium	235.9	90.91	268.2	36 *	48-133
Beryllium	0.6852	2.273	2.489	79	78-120
Cadmium	0.3272	9.091	8.479	90	69-120
Chromium	14.58	90.91	92.09	85	60-122
Cobalt	7.653	22.73	25.99	81	61-120
Copper	16.17	11.36	33.65	154 *	44-151
Lead	17.98	90.91	112.8	104	52-120
Molybdenum	0.1276	18.18	15.17	83	67-120
Nickel	22.23	22.73	47.11	109	45-134
Selenium	<0.1607	45.45	37.26	82	67-120
Silver	<0.08215	9.091	6.727	74	66-120
Thallium	<0.1792	45.45	35.37	78	62-120
Vanadium	28.55	22.73	44.19	69	55-137
Zinc	43.57	22.73	66.80	102	38-146

Type: MSD Lab ID: QC716529

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	98.04	32.37	33	8-120	7	29
Arsenic	49.02	41.78	78	71-121	7	34
Barium	98.04	223.6	-13 *	48-133	20	45
Beryllium	2.451	2.508	74 *	78-120	5	20
Cadmium	9.804	8.667	85	69-120	5	23
Chromium	98.04	91.00	78	60-122	8	34
Cobalt	24.51	25.54	73	61-120	7	37
Copper	12.25	26.63	85	44-151	26	35
Lead	98.04	90.20	74	52-120	29	51
Molybdenum	19.61	15.43	78	67-120	6	20
Nickel	24.51	38.12	65	45-134	25	38
Selenium	49.02	37.63	77	67-120	7	27
Silver	9.804	7.405	76	66-120	2	30
Thallium	49.02	36.74	75	62-120	4	20
Vanadium	24.51	43.24	60	55-137	6	30
Zinc	24.51	53.57	41	38-146	25	36

\*= Value outside of QC limits; see narrative  
RPD= Relative Percent Difference

Batch QC Report

**California Title 22 Metals**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	205271
Lab ID:	QC716952	Prepared:	11/20/13
Matrix:	Soil	Analyzed:	11/20/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND = Not Detected  
 RL = Reporting Limit

## Batch QC Report

**California Title 22 Metals**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	205271
Matrix:	Soil	Prepared:	11/20/13
Units:	mg/Kg	Analyzed:	11/20/13
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC716953	0.2083	0.2012	97	80-120		
BSD	QC716954	0.2083	0.2047	98	80-120	2	20

RPD= Relative Percent Difference

Batch QC Report

**California Title 22 Metals**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	SB14-3.5	Batch#:	205271
MSS Lab ID:	250732-003	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/20/13
Basis:	as received	Analyzed:	11/20/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC716955	0.06011	0.2016	0.2371	88	72-135		
MSD	QC716956		0.2049	0.3893	161 *	72-135	47 *	42

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Lead			
Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3010A
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	11/07/13
Matrix:	TCLP Leachate	Received:	11/12/13
Units:	ug/L	Prepared:	11/21/13
Diln Fac:	10.00	Analyzed:	11/22/13
Batch#:	205380		

Field ID	Type	Lab ID	Result	RL
SB1-11.75	SAMPLE	250733-001	750	50
SB1-5.5	SAMPLE	250733-003	6,100	50
SB3-7.5	SAMPLE	250733-008	1,100	50
SB4-10.0	SAMPLE	250733-010	2,400	50
SB5-11.5	SAMPLE	250733-013	1,000	50
SB5-3.0	SAMPLE	250733-015	270	50
	BLANK	QC717362	ND	50

ND= Not Detected  
 RL= Reporting Limit



Batch QC Report

Lead			
Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3010A
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	205380
Field ID:	SB16-7.5	Sampled:	11/09/13
MSS Lab ID:	250732-008	Received:	11/12/13
Matrix:	TCLP Leachate	Prepared:	11/21/13
Units:	ug/L	Analyzed:	11/22/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
BS	QC717363		2,000	2,062	103	78-120				1.000
BSD	QC717364		2,000	2,056	103	78-120	0	20		1.000
MS	QC717365	1,840	2,000	4,024	109	68-120				10.00
MSD	QC717366		2,000	4,042	110	68-120	0	24		10.00

RPD= Relative Percent Difference

Lead			
Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	WET
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	11/07/13
Matrix:	WET Leachate	Received:	11/12/13
Units:	ug/L	Prepared:	11/22/13
Diln Fac:	10.00	Analyzed:	11/22/13
Batch#:	205421		

Field ID	Type	Lab ID	Result	RL
SB2-7.5	SAMPLE	250733-005	2,700	250
SB3-7.5	SAMPLE	250733-008	1,800	250
SB4-5.0	SAMPLE	250733-011	7,500	250
SB5-3.0	SAMPLE	250733-015	7,700	250
	BLANK	QC717527	ND	250

ND = Not Detected  
 RL = Reporting Limit

Batch QC Report

**Lead**

Lab #:	250733	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	WET
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	205421
Field ID:	ZZZZZZZZZZ	Sampled:	11/07/13
MSS Lab ID:	250978-001	Received:	11/07/13
Matrix:	WET Leachate	Prepared:	11/22/13
Units:	ug/L	Analyzed:	11/22/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
BS	QC717528		2,000	1,930	97	78-120				1.000
BSD	QC717529		2,000	1,961	98	78-120	2	20		1.000
MS	QC717530	13,640	10,000	23,020	94	68-120				10.00
MSD	QC717531		10,000	22,360	87	68-120	3	24		10.00

RPD= Relative Percent Difference



**ct** Curtis & Tompkins, Ltd.  
Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 250734  
ANALYTICAL REPORT**

PES Environmental, Inc.  
1682 Novato Boulevard  
Novato, CA 94947

Project : 1386.001.01.003  
Location : 6701 Shellmound, Emeryville  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
SB7-12.5	250734-001
SB7-8.0	250734-002
SB7-2.5	250734-003
SB8-12.0	250734-004
SB8-8.0	250734-005
SB8-3.5	250734-006
SB9-10.0	250734-007
SB9-4.5	250734-008
SB10-10.0	250734-009
SB10-5.0	250734-010
SB10-2.0	250734-011
SB11-11.5	250734-012
SB11-5.5	250734-013
SB11-2.0	250734-014
SB12-10.0	250734-015
SB12-5.0	250734-016
SB12-2.0	250734-017
SB13-10.0	250734-018
SB13-5.0	250734-019
SB13-1.5	250734-020

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: \_\_\_\_\_

Date: 11/25/2013

Will S Rice  
Project Manager  
will.rice@ctberk.com

NELAP # 01107CA

### CASE NARRATIVE

Laboratory number: 250734  
Client: PES Environmental, Inc.  
Project: 1386.001.01.003  
Location: 6701 Shellmound, Emeryville  
Request Date: 11/15/13  
Samples Received: 11/12/13

This data package contains sample and QC results for twenty soil samples, requested for the above referenced project on 11/15/13. The samples were received cold and intact.

#### Semivolatile Organics by GC/MS (EPA 8270C):

Low recoveries were observed for pyrene in the MS/MSD of SB2-7.5 (lab # 250733-005); the LCS was within limits, and the associated RPD was within limits. SB11-5.5 (lab # 250734-013), SB11-2.0 (lab # 250734-014), and SB13-10.0 (lab # 250734-018) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

#### PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. High response was observed for Aroclor-1016 in the CCV analyzed 11/20/13 03:45; affected data was qualified with "b". Low surrogate recoveries were observed for decachlorobiphenyl in SB11-2.0 (lab # 250734-014), SB12-5.0 (lab # 250734-016), and SB13-1.5 (lab # 250734-020); the corresponding TCMX surrogate recoveries were within limits. No other analytical problems were encountered.

#### Metals (EPA 6010B and EPA 7471A) Soil:

High recovery was observed for mercury in the MSD of SB14-3.5 (lab # 250732-003); the BS/BSD were within limits. High RPD was also observed for mercury in the MS/MSD of SB14-3.5 (lab # 250732-003); the RPD was acceptable in the BS/BSD. No other analytical problems were encountered.

#### Metals (EPA 6010B) TCLP Leachate:

No analytical problems were encountered.

#### Metals (EPA 6010B) WET Leachate:

No analytical problems were encountered.



**PES Environmental, Inc.**  
Engineering & Environmental Services

250734  
**CHAIN OF CUSTODY RECORD**

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C + T      SAMPLERS: M. Bettner  
JOB NUMBER: 1386.00101.003  
NAME / LOCATION: 6701 Shellmound, Emeryville  
PROJECT MANAGER: K. Flory      RECORDER: M/B

ANALYSIS REQUESTED										
EPA 5035/8010	EPA 5035/8021	EPA 5035/8260B	TPHg by 5035/8015M	TPHd by 8015M	TPHmo by 8015M	EPA 8270C	MNA Parameters (see notes)			
							<u>HOLD</u>			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			
							X			

	DATE				SAMPLE NUMBER / DESIGNATION
	YR	MO	DY	TIME	
1	13	11	08	0900	SB7-12.5
2				0915	SB7-8.0
3				0930	SB7-2.5
4				1100	SB8-12.0
5				1115	SB8-8.0
6				1130	SB8-3.5
7				1230	SB9-10.0
8				1245	SB9-4.5
9				1500	SB10-10.0
10				1510	SB10-5.0
11				1520	SB10-2.0
12				1545	SB11-11.5

MATRIX	# of Containers & Preservatives					DEPTH IN FEET
	Vapor	Water	Soil	Sedim't		
					Unpres. EnCore H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl	
		X				
		X				
		X				
		X				
		X				
		X				
		X				
		X				
		X				
		X				

NOTES	CHAIN OF CUSTODY RECORD			
Turn Around Time:	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
			11/12/13	930
	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
			11/12/13	1245
	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
	DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
	METHOD OF SHIPMENT:			

Page 1 of 2

*intact on re cord file*



**PES Environmental, Inc.**  
Engineering & Environmental Services

250734  
**CHAIN OF CUSTODY RECORD**

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: CIT      SAMPLERS: M. Buttress  
JOB NUMBER: 1386.001.01.003  
NAME / LOCATION: 6701 Shellmound, Emeryville  
PROJECT MANAGER: K. Flooy      RECORDER: MB

ANALYSIS REQUESTED											
EPA 5035/8010	EPA 5035/8021	EPA 5035/8260B	TPHg by 5035/8015M	TPHd by 8015M	TPHmo by 8015M	EPA 8270C	MNA Parameters (see notes)				
							<u>HOLD</u>				
							X				
							X				
							X				
							X				
							X				
							X				
							X				
							X				
							X				

	DATE				SAMPLE NUMBER / DESIGNATION
	YR	MO	DY	TIME	
43	13	11	08	1600	SB11-5.5
44				1610	SB11-2.0
45				1620	SB12-10.0
46				1630	SB12-5.0
47				1640	SB12-2.0
48				1650	SB13-10.0
49				1700	SB13-5.0
50				1710	SB13-1.5

MATRIX	# of Containers & Preservatives						DEPTH IN FEET
	Vapor	Water	Soil	Sedim't	Unpres.	EnCore	
		X			1		
		Y			1		
		X			1		
		Y			1		
		X			1		
		X			1		
		X			1		
		Y			1		

**NOTES**

Turn Around Time:

Page 2 of 2

CHAIN OF CUSTODY RECORD					
RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)	DATE	TIME
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:					

WHITE-Laboratory COPY    YELLOW-Project Office Copy    PINK-Field or Office Copy

*Wait on re work*





**PES Environmental, Inc.**  
Engineering & Environmental Services

250734  
**CHAIN OF CUSTODY RECORD**

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C + T

SAMPLERS: M. Buttner

JOB NUMBER: 1386.00101.003

NAME / LOCATION: 6701 Shellmead, Emeryville

PROJECT MANAGER: R. Flory

RECORDER: M.B

	DATE				SAMPLE NUMBER / DESIGNATION
	YR	MO	DY	TIME	
1	11	08	07	00	SB7-12.5
2			09	15	SB7-8.0
3			09	30	SB7-2.5
4			11	00	SB8-12.0
5			11	15	SB8-8.0
6			11	30	SB8-3.5
7			12	30	SB9-10.0
8			12	45	SB9-4.5
9			15	00	SB10-10.0
10			15	00	SB10-5.0
11			15	20	SB10-2.0
12			15	45	SB11-12.5

Vapor	Water	Soil	Sediment	# of Containers & Preservatives						DEPTH IN FEET
				Unpres.	EnCore	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl		
		X								
		X								
		X								
		X								
		X								
		X								
		X								
		X								
		X								
		X								
		X								

ANALYSIS REQUESTED											
EPA 5035/8010											
EPA 5035/8021											
EPA 5035/8260B											
TPHg by 5035/8015M											
TPHd by 8015M											
TPHmo by 8015M											
EPA 8270C											
MNA Parameters (see notes)											
TCOD											
VOCs by 8260B*											
SVOCs by 8270C*											
PCBs by 8082*											
Lead by 6010B*											
Trace 27 Metals by 6010B/7471A											

req rpt received 11/15/13

NOTES		CHAIN OF CUSTODY RECORD				
Turn Around Time: * 24-Hour TAT for Lead analysis		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
*** 72-Hour TAT for remaining analyses		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
DISPATCHED BY: (Signature)		DATE	TIME	RECEIVED FOR LAB BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:						

Page 1 of 2

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met on 12/02/13



**PES Environmental, Inc.**  
Engineering & Environmental Services

250734  
**CHAIN OF CUSTODY RECORD**

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: CIT

SAMPLERS: M. Bostress

JOB NUMBER: 1386 con-01003

NAME / LOCATION: 6701 Shellman Rd, Novato

PROJECT MANAGER: K. Flory

RECORDER: MB

ANALYSIS REQUESTED	
EPA 5035/8010	<input checked="" type="checkbox"/>
EPA 5035/8021	<input checked="" type="checkbox"/>
EPA 5035/8200B	<input checked="" type="checkbox"/>
TPHg by 5035/8015M	<input checked="" type="checkbox"/>
TPHd by 8015M	<input checked="" type="checkbox"/>
TPHm by 8015M	<input checked="" type="checkbox"/>
EPA 8270C	<input checked="" type="checkbox"/>
MVA Parameters (see notes)	<input checked="" type="checkbox"/>
<i>Handwritten:</i> VOCs by 8260B**	<input checked="" type="checkbox"/>
<i>Handwritten:</i> SVOCs by 8270C**	<input checked="" type="checkbox"/>
<i>Handwritten:</i> PCBs by 8082**	<input checked="" type="checkbox"/>
<i>Handwritten:</i> Lead by 6010B**	<input checked="" type="checkbox"/>
<i>Handwritten:</i> Title 22 Metals by 6010B/7471A	<input checked="" type="checkbox"/>

DATE	SAMPLE NUMBER / DESIGNATION				
	YR	MO	DAY	TIME	
13	13	11	08	1600	SB11-5.5
14				1610	SB11-2.0
15				1620	SB12-10.0
16				1630	SB12-5.0
17				1640	SB12-2.0
18				1650	SB13-10.0
19				1700	SB13-5.0
20				1710	SB13-1.5

MATRIX	# of Containers & Preservatives					DEPTH IN FEET
	Vapor	Water	Soil	Sediment		
					Unpres. EnCore H2SO4 HNO3 HCl	
	X					
		Y				
		Y				
		Y				
	X					
		Y				
		Y				

NOTES		CHAIN OF CUSTODY RECORD			
Turn Around Time: * 24-Hour TAT for Lead analysis		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
** 72-Hour TAT for remaining analyses		<i>[Signature]</i>	<i>[Signature]</i>	11/12/13	930
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		<i>[Signature]</i>	<i>[Signature]</i>	11/12/13	1015
		RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
		METHOD OF SHIPMENT:			

Page 2 of 2

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*What on we will do*



**PES Environmental, Inc.**  
Engineering & Environmental Services

250734  
**CHAIN OF CUSTODY RECORD**

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C + T      SAMPLERS: M. Butters  
JOB NUMBER: 1386.001.01.003  
NAME / LOCATION: 6701 Shellmound, Emeryville  
PROJECT MANAGER: K. Flory      RECORDER: M.B.

ANALYSIS REQUESTED	
EPA 5035/8010	
EPA 5035/8021	
EPA 5035/8260B	
TPHg by 5035/8015M	
TPHd by 8015M	
TPHmo by 8015M	
EPA 8270C	
MNA Parameters (see notes)	
TCOD	X
VOCs by 8260B**	X
SVOCs by 8270C**	X
PCBs by 8082**	X
Lead by 6010B**	X
T-16 by 6010B**	X
by 6010B/7471A	X
STC Lead	X
TCLP Lead	X

	DATE				SAMPLE NUMBER / DESIGNATION
	YR	MO	DY	TIME	
1	13	11	08	0900	SB 7-12.5
2			09	15	SB 7-8.0
3			09	30	SB 7-2.5
4			11	00	SB 8-12.0
5			11	15	SB 8-8.0
6			11	30	SB 8-3.5
7			12	30	SB 9-10.0
8			12	45	SB 9-4.5
9			15	00	SB 10-10.0
10			15	00	SB 10-5.0
11			15	00	SB 10-2.0
12			15	45	SB 11-11.5

MATRIX	# of Containers & Preservatives						DEPTH IN FEET
	Vapor	Water	Soil	Sedim't	Unpres.	EnCore	
			Y				
			Y				
			X				
			Y				
			X				
			Y				
			Y				
			X				
			X				
			X				

Received 1/10

NOTES		CHAIN OF CUSTODY RECORD			
Turn Around Time: <u>* 24-Hour TAT for Lead analysis</u>	RELINQUISHED BY: (Signature) <u>[Signature]</u>	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE	TIME	
<u>** 72-Hour TAT for remaining analyses</u>	RELINQUISHED BY: (Signature) <u>[Signature]</u>	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE	TIME	
	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME	
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:					

Page 1 of 2

WHITE-Laboratory COPY    YELLOW-Project Office Copy    PINK-Field or Office Copy

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**PES Environmental, Inc.**  
Engineering & Environmental Services

250734  
**CHAIN OF CUSTODY RECORD**

1682 NOVATO BOULEVARD, SUITE 100  
NOVATO, CALIFORNIA 94947  
(415) 899-1600 FAX (415) 899-1601

LABORATORY: C+T

SAMPLERS: M. Butcher

JOB NUMBER: 1386 201-01-003

NAME / LOCATION: 6701 Shellmound, Emeryville

PROJECT MANAGER: K. Flory

RECORDER: MB

ANALYSIS REQUESTED	
EPA 5035/8010	<input checked="" type="checkbox"/>
EPA 5035/8021	<input checked="" type="checkbox"/>
EPA 5035/8260B	<input checked="" type="checkbox"/>
TPHg by 5035/8015M	<input checked="" type="checkbox"/>
TPHd by 8015M	<input checked="" type="checkbox"/>
TPHm by 8015M	<input checked="" type="checkbox"/>
EPA 8270C	<input checked="" type="checkbox"/>
MNA Parameters (see notes)	<input checked="" type="checkbox"/>
HOLD	<input checked="" type="checkbox"/>
VOLs by 8260B	<input checked="" type="checkbox"/>
SVOCs by 8270C	<input checked="" type="checkbox"/>
PLBs by 8082	<input checked="" type="checkbox"/>
Lead by 6010B	<input checked="" type="checkbox"/>
Title 22 Metals	<input checked="" type="checkbox"/>
by 6010B/7471A	<input checked="" type="checkbox"/>
STLC Lead	<input checked="" type="checkbox"/>
TCLP Lead	<input checked="" type="checkbox"/>

DATE				SAMPLE NUMBER / DESIGNATION
YR	MO	DY	TIME	
13	11	08	1600	SB11-5.5
14			1610	SB11-2.0
15			1620	SB12-10.0
16			1630	SB12-5.0
17			1640	SB12-2.0
18			1650	SB13-10.0
19			1700	SB13-5.0
20			1710	SB13-1.5

MATRIX					# of Containers & Preservatives					DEPTH IN FEET
Vapor	Water	Soil	Sedim't		Unpres.	EnCore	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	
			X		1					
			Y		1					
			Y		1					
			Y		1					
			X		1					
			Y		1					
			Y		1					

13  
14  
15  
16  
17  
18  
19  
20

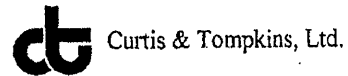
received 11/20

**NOTES**  
Turn Around Time: \* 24-Hour-TAT for Lead analysis  
\*\* 72-Hour-TAT for remaining analyses

CHAIN OF CUSTODY RECORD			
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
		11/13/13	930
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
	Edna Rarick	11/12/13	1045
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
DISPATCHED BY: (Signature)	DATE	TIME	RECEIVED FOR LAB BY: (Signature)
METHOD OF SHIPMENT:			

not sent on the cold RC

COOLER RECEIPT CHECKLIST



Login # 250734 Date Received 11/12/13 Number of coolers 2
Client PES Project 6701 SHELLMOUND (1386.001.01.003)

Date Opened 11/12/13 By (print) JR (sign) Jma Paula
Date Logged in [initials] By (print) [initials] (sign) [initials]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)
Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C
Type of ice used: Wet, Blue/Gel, None Temp(°C) 4.8, 5.1

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun
Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS



## Semivolatile Organics by GC/MS

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB7-8.0	Batch#:	205211
Lab ID:	250734-002	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received		

Analyte	Result	RL	Diln Fac	Analyzed
N-Nitrosodimethylamine	ND	1,600	5.000	11/19/13
Phenol	ND	1,600	5.000	11/19/13
bis(2-Chloroethyl) ether	ND	1,600	5.000	11/19/13
2-Chlorophenol	ND	1,600	5.000	11/19/13
1,3-Dichlorobenzene	ND	1,600	5.000	11/19/13
1,4-Dichlorobenzene	ND	1,600	5.000	11/19/13
Benzyl alcohol	ND	1,600	5.000	11/19/13
1,2-Dichlorobenzene	ND	1,600	5.000	11/19/13
2-Methylphenol	ND	1,600	5.000	11/19/13
bis(2-Chloroisopropyl) ether	ND	1,600	5.000	11/19/13
4-Methylphenol	ND	1,600	5.000	11/19/13
N-Nitroso-di-n-propylamine	ND	1,600	5.000	11/19/13
Hexachloroethane	ND	1,600	5.000	11/19/13
Nitrobenzene	ND	1,600	5.000	11/19/13
Isophorone	ND	1,600	5.000	11/19/13
2-Nitrophenol	ND	3,300	5.000	11/19/13
2,4-Dimethylphenol	ND	1,600	5.000	11/19/13
Benzoic acid	ND	8,200	5.000	11/19/13
bis(2-Chloroethoxy)methane	ND	1,600	5.000	11/19/13
2,4-Dichlorophenol	ND	1,600	5.000	11/19/13
1,2,4-Trichlorobenzene	ND	1,600	5.000	11/19/13
Naphthalene	28,000	1,300	20.00	11/20/13
4-Chloroaniline	ND	1,600	5.000	11/19/13
Hexachlorobutadiene	ND	1,600	5.000	11/19/13
4-Chloro-3-methylphenol	ND	1,600	5.000	11/19/13
2-Methylnaphthalene	9,200	330	5.000	11/19/13
Hexachlorocyclopentadiene	ND	3,300	5.000	11/19/13
2,4,6-Trichlorophenol	ND	1,600	5.000	11/19/13
2,4,5-Trichlorophenol	ND	1,600	5.000	11/19/13
2-Chloronaphthalene	ND	1,600	5.000	11/19/13
2-Nitroaniline	ND	3,300	5.000	11/19/13
Dimethylphthalate	ND	1,600	5.000	11/19/13
Acenaphthylene	ND	330	5.000	11/19/13
2,6-Dinitrotoluene	ND	1,600	5.000	11/19/13
3-Nitroaniline	ND	3,300	5.000	11/19/13
Acenaphthene	500	330	5.000	11/19/13
2,4-Dinitrophenol	ND	3,300	5.000	11/19/13
4-Nitrophenol	ND	3,300	5.000	11/19/13
Dibenzofuran	ND	1,600	5.000	11/19/13
2,4-Dinitrotoluene	ND	1,600	5.000	11/19/13
Diethylphthalate	ND	1,600	5.000	11/19/13
Fluorene	680	330	5.000	11/19/13
4-Chlorophenyl-phenylether	ND	1,600	5.000	11/19/13
4-Nitroaniline	ND	3,300	5.000	11/19/13
4,6-Dinitro-2-methylphenol	ND	3,300	5.000	11/19/13
N-Nitrosodiphenylamine	1,700	1,600	5.000	11/19/13
Azobenzene	ND	1,600	5.000	11/19/13
4-Bromophenyl-phenylether	ND	1,600	5.000	11/19/13
Hexachlorobenzene	ND	1,600	5.000	11/19/13
Pentachlorophenol	ND	3,300	5.000	11/19/13
Phenanthrene	2,400	330	5.000	11/19/13
Anthracene	340	330	5.000	11/19/13
Di-n-butylphthalate	ND	1,600	5.000	11/19/13
Fluoranthene	1,100	330	5.000	11/19/13

ND= Not Detected

RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB7-8.0	Batch#:	205211
Lab ID:	250734-002	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received		

Analyte	Result	RL	Diln Fac	Analyzed
Pyrene	1,100	330	5.000	11/19/13
Butylbenzylphthalate	ND	1,600	5.000	11/19/13
3,3'-Dichlorobenzidine	ND	3,300	5.000	11/19/13
Benzo(a)anthracene	340	330	5.000	11/19/13
Chrysene	470	330	5.000	11/19/13
bis(2-Ethylhexyl)phthalate	ND	1,600	5.000	11/19/13
Di-n-octylphthalate	ND	1,600	5.000	11/19/13
Benzo(b)fluoranthene	ND	330	5.000	11/19/13
Benzo(k)fluoranthene	ND	330	5.000	11/19/13
Benzo(a)pyrene	ND	330	5.000	11/19/13
Indeno(1,2,3-cd)pyrene	ND	330	5.000	11/19/13
Dibenz(a,h)anthracene	ND	330	5.000	11/19/13
Benzo(g,h,i)perylene	ND	330	5.000	11/19/13

Surrogate	%REC	Limits	Diln Fac	Analyzed
2-Fluorophenol	65	35-120	5.000	11/19/13
Phenol-d5	65	39-120	5.000	11/19/13
2,4,6-Tribromophenol	82	39-120	5.000	11/19/13
Nitrobenzene-d5	71	49-120	5.000	11/19/13
2-Fluorobiphenyl	92	52-120	5.000	11/19/13
terphenyl-d14	84	48-120	5.000	11/19/13

ND = Not Detected  
 RL = Reporting Limit



## Semivolatile Organics by GC/MS

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB7-2.5	Batch#:	205211
Lab ID:	250734-003	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received		

Analyte	Result	RL	Diln	Fac	Analyzed
N-Nitrosodimethylamine	ND	1,700	5.000		11/19/13
Phenol	ND	1,700	5.000		11/19/13
bis(2-Chloroethyl) ether	ND	1,700	5.000		11/19/13
2-Chlorophenol	ND	1,700	5.000		11/19/13
1,3-Dichlorobenzene	ND	1,700	5.000		11/19/13
1,4-Dichlorobenzene	ND	1,700	5.000		11/19/13
Benzyl alcohol	ND	1,700	5.000		11/19/13
1,2-Dichlorobenzene	ND	1,700	5.000		11/19/13
2-Methylphenol	ND	1,700	5.000		11/19/13
bis(2-Chloroisopropyl) ether	ND	1,700	5.000		11/19/13
4-Methylphenol	10,000	3,300	10.00		11/20/13
N-Nitroso-di-n-propylamine	ND	1,700	5.000		11/19/13
Hexachloroethane	ND	1,700	5.000		11/19/13
Nitrobenzene	ND	1,700	5.000		11/19/13
Isophorone	ND	1,700	5.000		11/19/13
2-Nitrophenol	ND	3,300	5.000		11/19/13
2,4-Dimethylphenol	ND	1,700	5.000		11/19/13
Benzoic acid	ND	8,300	5.000		11/19/13
bis(2-Chloroethoxy)methane	ND	1,700	5.000		11/19/13
?,4-Dichlorophenol	ND	1,700	5.000		11/19/13
1,2,4-Trichlorobenzene	ND	1,700	5.000		11/19/13
Naphthalene	1,500	330	5.000		11/19/13
4-Chloroaniline	ND	1,700	5.000		11/19/13
Hexachlorobutadiene	ND	1,700	5.000		11/19/13
4-Chloro-3-methylphenol	ND	1,700	5.000		11/19/13
2-Methylnaphthalene	ND	330	5.000		11/19/13
Hexachlorocyclopentadiene	ND	3,300	5.000		11/19/13
2,4,6-Trichlorophenol	ND	1,700	5.000		11/19/13
2,4,5-Trichlorophenol	ND	1,700	5.000		11/19/13
2-Chloronaphthalene	ND	1,700	5.000		11/19/13
2-Nitroaniline	ND	3,300	5.000		11/19/13
Dimethylphthalate	ND	1,700	5.000		11/19/13
Acenaphthylene	ND	330	5.000		11/19/13
2,6-Dinitrotoluene	ND	1,700	5.000		11/19/13
3-Nitroaniline	ND	3,300	5.000		11/19/13
Acenaphthene	ND	330	5.000		11/19/13
2,4-Dinitrophenol	ND	3,300	5.000		11/19/13
4-Nitrophenol	ND	3,300	5.000		11/19/13
Dibenzofuran	ND	1,700	5.000		11/19/13
2,4-Dinitrotoluene	ND	1,700	5.000		11/19/13
Diethylphthalate	ND	1,700	5.000		11/19/13
Fluorene	ND	330	5.000		11/19/13
4-Chlorophenyl-phenylether	ND	1,700	5.000		11/19/13
4-Nitroaniline	ND	3,300	5.000		11/19/13
4,6-Dinitro-2-methylphenol	ND	3,300	5.000		11/19/13
N-Nitrosodiphenylamine	ND	1,700	5.000		11/19/13
Azobenzene	ND	1,700	5.000		11/19/13
4-Bromophenyl-phenylether	ND	1,700	5.000		11/19/13
Hexachlorobenzene	ND	1,700	5.000		11/19/13
Pentachlorophenol	ND	3,300	5.000		11/19/13
Phenanthrene		330	5.000		11/19/13
Anthracene	450	330	5.000		11/19/13
Di-n-butylphthalate	ND	1,700	5.000		11/19/13
Fluoranthene	ND	330	5.000		11/19/13

ND= Not Detected

RL= Reporting Limit





## Semivolatile Organics by GC/MS

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB7-2.5	Batch#:	205211
Lab ID:	250734-003	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received		

Analyte	Result	RL	Diln Fac	Analyzed
Pyrene	ND	330	5.000	11/19/13
Butylbenzylphthalate	ND	1,700	5.000	11/19/13
3,3'-Dichlorobenzidine	ND	3,300	5.000	11/19/13
Benzo(a)anthracene	ND	330	5.000	11/19/13
Chrysene	ND	330	5.000	11/19/13
bis(2-Ethylhexyl)phthalate	ND	1,700	5.000	11/19/13
Di-n-octylphthalate	ND	1,700	5.000	11/19/13
Benzo(b)fluoranthene	ND	330	5.000	11/19/13
Benzo(k)fluoranthene	ND	330	5.000	11/19/13
Benzo(a)pyrene	ND	330	5.000	11/19/13
Indeno(1,2,3-cd)pyrene	ND	330	5.000	11/19/13
Dibenz(a,h)anthracene	ND	330	5.000	11/19/13
Benzo(g,h,i)perylene	ND	330	5.000	11/19/13

Surrogate	%REC	Limits	Diln Fac	Analyzed
2-Fluorophenol	63	35-120	5.000	11/19/13
Phenol-d5	62	39-120	5.000	11/19/13
2,4,6-Tribromophenol	88	39-120	5.000	11/19/13
Nitrobenzene-d5	73	49-120	5.000	11/19/13
2-Fluorobiphenyl	100	52-120	5.000	11/19/13
terphenyl-d14	86	48-120	5.000	11/19/13

ND= Not Detected  
 RL= Reporting Limit



## Semivolatile Organics by GC/MS

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB11-5.5	Batch#:	205211
Lab ID:	250734-013	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	10.00		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	3,300
Phenol	ND	3,300
bis(2-Chloroethyl) ether	ND	3,300
2-Chlorophenol	ND	3,300
1,3-Dichlorobenzene	ND	3,300
1,4-Dichlorobenzene	ND	3,300
Benzyl alcohol	ND	3,300
1,2-Dichlorobenzene	ND	3,300
2-Methylphenol	ND	3,300
bis(2-Chloroisopropyl) ether	ND	3,300
4-Methylphenol	ND	3,300
N-Nitroso-di-n-propylamine	ND	3,300
Hexachloroethane	ND	3,300
Nitrobenzene	ND	3,300
Isophorone	ND	3,300
2-Nitrophenol	ND	6,700
2,4-Dimethylphenol	ND	3,300
Benzoic acid	ND	17,000
bis(2-Chloroethoxy)methane	ND	3,300
2,4-Dichlorophenol	ND	3,300
1,2,4-Trichlorobenzene	ND	3,300
Naphthalene	ND	670
4-Chloroaniline	ND	3,300
Hexachlorobutadiene	ND	3,300
4-Chloro-3-methylphenol	ND	3,300
2-Methylnaphthalene	ND	670
Hexachlorocyclopentadiene	ND	6,700
2,4,6-Trichlorophenol	ND	3,300
2,4,5-Trichlorophenol	ND	3,300
2-Chloronaphthalene	ND	3,300
2-Nitroaniline	ND	6,700
Dimethylphthalate	ND	3,300
Acenaphthylene	ND	670
2,6-Dinitrotoluene	ND	3,300
3-Nitroaniline	ND	6,700
Acenaphthene	ND	670
2,4-Dinitrophenol	ND	6,700
4-Nitrophenol	ND	6,700
Dibenzofuran	ND	3,300
2,4-Dinitrotoluene	ND	3,300
Diethylphthalate	ND	3,300
Fluorene	ND	670
4-Chlorophenyl-phenylether	ND	3,300
4-Nitroaniline	ND	6,700
4,6-Dinitro-2-methylphenol	ND	6,700
N-Nitrosodiphenylamine	ND	3,300
Azobenzene	ND	3,300
4-Bromophenyl-phenylether	ND	3,300
Hexachlorobenzene	ND	3,300
Pentachlorophenol	ND	6,700
Phenanthrene	750	670
Anthracene	ND	670

Q= Diluted Out  
 )= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB11-5.5	Batch#:	205211
Lab ID:	250734-013	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	10.00		

Analyte	Result	RL
Di-n-butylphthalate	ND	3,300
Fluoranthene	1,800	670
Pyrene	2,300	670
Butylbenzylphthalate	ND	3,300
3,3'-Dichlorobenzidine	ND	6,700
Benzo(a)anthracene	ND	670
Chrysene	820	670
bis(2-Ethylhexyl)phthalate	ND	3,300
Di-n-octylphthalate	ND	3,300
Benzo(b)fluoranthene	990	670
Benzo(k)fluoranthene	ND	670
Benzo(a)pyrene	900	670
Indeno(1,2,3-cd)pyrene	ND	670
Dibenz(a,h)anthracene	ND	670
Benzo(g,h,i)perylene	ND	670

Surrogate	%REC	Limits
2-Fluorophenol	DO	35-120
Phenol-d5	DO	39-120
2,4,6-Tribromophenol	DO	39-120
Nitrobenzene-d5	DO	49-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	48-120

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB11-2.0	Batch#:	205211
Lab ID:	250734-014	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	20.00		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	6,600
Phenol	ND	6,600
bis(2-Chloroethyl) ether	ND	6,600
2-Chlorophenol	ND	6,600
1,3-Dichlorobenzene	ND	6,600
1,4-Dichlorobenzene	ND	6,600
Benzyl alcohol	ND	6,600
1,2-Dichlorobenzene	ND	6,600
2-Methylphenol	ND	6,600
bis(2-Chloroisopropyl) ether	ND	6,600
4-Methylphenol	ND	6,600
N-Nitroso-di-n-propylamine	ND	6,600
Hexachloroethane	ND	6,600
Nitrobenzene	ND	6,600
Isophorone	ND	6,600
2-Nitrophenol	ND	13,000
2,4-Dimethylphenol	ND	6,600
Benzoic acid	ND	33,000
bis(2-Chloroethoxy)methane	ND	6,600
2,4-Dichlorophenol	ND	6,600
1,2,4-Trichlorobenzene	ND	6,600
Naphthalene	ND	1,300
4-Chloroaniline	ND	6,600
Hexachlorobutadiene	ND	6,600
4-Chloro-3-methylphenol	ND	6,600
2-Methylnaphthalene	ND	1,300
Hexachlorocyclopentadiene	ND	13,000
2,4,6-Trichlorophenol	ND	6,600
2,4,5-Trichlorophenol	ND	6,600
2-Chloronaphthalene	ND	6,600
2-Nitroaniline	ND	13,000
Dimethylphthalate	ND	6,600
Acenaphthylene	ND	1,300
2,6-Dinitrotoluene	ND	6,600
3-Nitroaniline	ND	13,000
Acenaphthene	ND	1,300
2,4-Dinitrophenol	ND	13,000
4-Nitrophenol	ND	13,000
Dibenzofuran	ND	6,600
2,4-Dinitrotoluene	ND	6,600
Diethylphthalate	ND	6,600
Fluorene	ND	1,300
4-Chlorophenyl-phenylether	ND	6,600
4-Nitroaniline	ND	13,000
4,6-Dinitro-2-methylphenol	ND	13,000
N-Nitrosodiphenylamine	ND	6,600
Azobenzene	ND	6,600
4-Bromophenyl-phenylether	ND	6,600
Hexachlorobenzene	ND	6,600
Pentachlorophenol	ND	13,000
Phenanthrene	ND	1,300
Anthracene	ND	1,300

ND= Diluted Out  
 )= Not Detected  
 RL= Reporting Limit



## Semivolatile Organics by GC/MS

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB11-2.0	Batch#:	205211
Lab ID:	250734-014	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	20.00		

Analyte	Result	RL
Di-n-butylphthalate	ND	6,600
Fluoranthene	ND	1,300
Pyrene	1,300	1,300
Butylbenzylphthalate	ND	6,600
3,3'-Dichlorobenzidine	ND	13,000
Benzo(a)anthracene	ND	1,300
Chrysene	ND	1,300
bis(2-Ethylhexyl)phthalate	ND	6,600
Di-n-octylphthalate	ND	6,600
Benzo(b)fluoranthene	ND	1,300
Benzo(k)fluoranthene	ND	1,300
Benzo(a)pyrene	ND	1,300
Indeno(1,2,3-cd)pyrene	ND	1,300
Dibenz(a,h)anthracene	ND	1,300
Benzo(g,h,i)perylene	ND	1,300

Surrogate	%REC	Limits
2-Fluorophenol	DO	35-120
Phenol-d5	DO	39-120
2,4,6-Tribromophenol	DO	39-120
Nitrobenzene-d5	DO	49-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	48-120

DO= Diluted Out  
 ( )= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB13-10.0	Batch#:	205211
Lab ID:	250734-018	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/20/13
Diln Fac:	25.00		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	8,300
Phenol	ND	8,300
bis(2-Chloroethyl) ether	ND	8,300
2-Chlorophenol	ND	8,300
1,3-Dichlorobenzene	ND	8,300
1,4-Dichlorobenzene	ND	8,300
Benzyl alcohol	ND	8,300
1,2-Dichlorobenzene	ND	8,300
2-Methylphenol	ND	8,300
bis(2-Chloroisopropyl) ether	ND	8,300
4-Methylphenol	ND	8,300
N-Nitroso-di-n-propylamine	ND	8,300
Hexachloroethane	ND	8,300
Nitrobenzene	ND	8,300
Isophorone	ND	8,300
2-Nitrophenol	ND	17,000
2,4-Dimethylphenol	ND	8,300
Benzoic acid	ND	42,000
bis(2-Chloroethoxy)methane	ND	8,300
2,4-Dichlorophenol	ND	8,300
1,2,4-Trichlorobenzene	ND	8,300
Naphthalene	2,100	1,700
4-Chloroaniline	ND	8,300
Hexachlorobutadiene	ND	8,300
4-Chloro-3-methylphenol	ND	8,300
2-Methylnaphthalene	2,000	1,700
Hexachlorocyclopentadiene	ND	17,000
2,4,6-Trichlorophenol	ND	8,300
2,4,5-Trichlorophenol	ND	8,300
2-Chloronaphthalene	ND	8,300
2-Nitroaniline	ND	17,000
Dimethylphthalate	ND	8,300
Acenaphthylene	ND	1,700
2,6-Dinitrotoluene	ND	8,300
3-Nitroaniline	ND	17,000
Acenaphthene	ND	1,700
2,4-Dinitrophenol	ND	17,000
4-Nitrophenol	ND	17,000
Dibenzofuran	ND	8,300
2,4-Dinitrotoluene	ND	8,300
Diethylphthalate	ND	8,300
Fluorene	ND	1,700
4-Chlorophenyl-phenylether	ND	8,300
4-Nitroaniline	ND	17,000
4,6-Dinitro-2-methylphenol	ND	17,000
N-Nitrosodiphenylamine	ND	8,300
Azobenzene	ND	8,300
4-Bromophenyl-phenylether	ND	8,300
Hexachlorobenzene	ND	8,300
Pentachlorophenol	ND	17,000
Phenanthrene	7,500	1,700
Anthracene	ND	1,700

ND= Diluted Out  
 )= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB13-10.0	Batch#:	205211
Lab ID:	250734-018	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/20/13
Diln Fac:	25.00		

Analyte	Result	RL
Di-n-butylphthalate	ND	8,300
Fluoranthene	4,200	1,700
Pyrene	4,000	1,700
Butylbenzylphthalate	ND	8,300
3,3'-Dichlorobenzidine	ND	17,000
Benzo(a)anthracene	2,000	1,700
Chrysene	2,100	1,700
bis(2-Ethylhexyl)phthalate	ND	8,300
Di-n-octylphthalate	ND	8,300
Benzo(b)fluoranthene	1,800	1,700
Benzo(k)fluoranthene	ND	1,700
Benzo(a)pyrene	ND	1,700
Indeno(1,2,3-cd)pyrene	ND	1,700
Dibenz(a,h)anthracene	ND	1,700
Benzo(g,h,i)perylene	ND	1,700

Surrogate	%REC	Limits
2-Fluorophenol	DO	35-120
Phenol-d5	DO	39-120
2,4,6-Tribromophenol	DO	39-120
Nitrobenzene-d5	DO	49-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	48-120

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

### Semivolatile Organics by GC/MS

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB13-1.5	Batch#:	205211
Lab ID:	250734-020	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl) ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	260	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	92	66
Hexachlorocyclopentadiene	ND	660
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	660
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	660
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330

ND= Not Detected

RL= Reporting Limit



**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB13-1.5	Batch#:	205211
Lab ID:	250734-020	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	1.000		

Analyte	Result	RL
Fluoranthene	ND	66
Pyrene	79	66
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

Surrogate	%REC	Limits
2-Fluorophenol	55	35-120
Phenol-d5	55	39-120
2,4,6-Tribromophenol	78	39-120
Nitrobenzene-d5	62	49-120
2-Fluorobiphenyl	79	52-120
Terphenyl-d14	71	48-120

ND = Not Detected  
 RL = Reporting Limit

## Batch QC Report

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716731	Batch#:	205211
Matrix:	Soil	Prepared:	11/18/13
Units:	ug/Kg	Analyzed:	11/19/13

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	66
Hexachlorocyclopentadiene	ND	660
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	660
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	660
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330
Fluoranthene	ND	66

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716731	Batch#:	205211
Matrix:	Soil	Prepared:	11/18/13
Units:	ug/Kg	Analyzed:	11/19/13

Analyte	Result	RL
Pyrene	ND	66
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

Surrogate	%REC	Limits
2-Fluorophenol	56	35-120
Phenol-d5	57	39-120
2,4,6-Tribromophenol	68	39-120
Nitrobenzene-d5	61	49-120
2-Fluorobiphenyl	80	52-120
terphenyl-d14	81	48-120

ND = Not Detected  
 RL = Reporting Limit

## Batch QC Report

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC716732	Batch#:	205211
Matrix:	Soil	Prepared:	11/18/13
Units:	ug/Kg	Analyzed:	11/19/13

Analyte	Spiked	Result	%REC	Limits
Phenol	2,653	2,176	82	48-120
2-Chlorophenol	2,653	2,098	79	51-120
1,4-Dichlorobenzene	2,653	2,122	80	54-120
N-Nitroso-di-n-propylamine	2,653	1,892	71	35-120
1,2,4-Trichlorobenzene	2,653	2,403	91	56-120
4-Chloro-3-methylphenol	2,653	2,304	87	61-120
Acenaphthene	995.0	828.6	83	57-120
4-Nitrophenol	2,653	2,350	89	54-120
2,4-Dinitrotoluene	2,653	2,427	91	58-120
Pentachlorophenol	2,653	2,139	81	42-120
Pyrene	995.0	988.8	99	60-120

Surrogate	%REC	Limits
2-Fluorophenol	75	35-120
Phenol-d5	78	39-120
2,4,6-Tribromophenol	100	39-120
Nitrobenzene-d5	74	49-120
2-Fluorobiphenyl	80	52-120
Terphenyl-d14	86	48-120

Batch QC Report

**Semivolatile Organics by GC/MS**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8270C
Field ID:	SB2-7.5	Batch#:	205211
MSS Lab ID:	250733-005	Sampled:	11/07/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	2.000		

Type: MS Lab ID: QC716733

Analyte	MSS Result	Spiked	Result	%REC	Limits
Phenol	<13.95	2,664	2,094	79	51-120
2-Chlorophenol	<14.52	2,664	1,998	75	52-120
1,4-Dichlorobenzene	<15.20	2,664	1,811	68	55-120
N-Nitroso-di-n-propylamine	<15.52	2,664	2,062	77	45-120
1,2,4-Trichlorobenzene	<15.58	2,664	2,321	87	57-120
4-Chloro-3-methylphenol	<16.45	2,664	2,240	84	60-120
Acenaphthene	35.29	999.0	800.5	77	58-120
4-Nitrophenol	<140.7	2,664	2,158	81	49-120
2,4-Dinitrotoluene	<18.98	2,664	2,248	84	58-120
Pentachlorophenol	<252.4	2,664	1,753	66	23-120
Pyrene	2,286	999.0	1,257	-103 *	53-122

Surrogate	%REC	Limits
2-Fluorophenol	63	35-120
Phenol-d5	69	39-120
2,4,6-Tribromophenol	86	39-120
Nitrobenzene-d5	69	49-120
2-Fluorobiphenyl	82	52-120
Terphenyl-d14	81	48-120

Type: MSD Lab ID: QC716734

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	2,704	2,032	75	51-120	4	32
2-Chlorophenol	2,704	1,967	73	52-120	3	32
1,4-Dichlorobenzene	2,704	1,622	60	55-120	12	35
N-Nitroso-di-n-propylamine	2,704	1,998	74	45-120	5	35
1,2,4-Trichlorobenzene	2,704	2,191	81	57-120	7	31
4-Chloro-3-methylphenol	2,704	2,210	82	60-120	3	30
Acenaphthene	1,014	768.9	72	58-120	5	36
4-Nitrophenol	2,704	2,054	76	49-120	6	39
2,4-Dinitrotoluene	2,704	2,137	79	58-120	7	28
Pentachlorophenol	2,704	1,293	48	23-120	32	47
Pyrene	1,014	1,344	-93 *	53-122	6	44

Surrogate	%REC	Limits
2-Fluorophenol	63	35-120
Phenol-d5	69	39-120
2,4,6-Tribromophenol	79	39-120
Nitrobenzene-d5	67	49-120
2-Fluorobiphenyl	79	52-120
Terphenyl-d14	80	48-120

\*= Value outside of QC limits; see narrative  
 RPD= Relative Percent Difference

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/08/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Field ID: SB7-8.0  
 Type: SAMPLE  
 Lab ID: 250734-002

Diln Fac: 5.000  
 Analyzed: 11/20/13

Analyte	Result	RL
Aroclor-1016	ND	42
Aroclor-1221	ND	84
Aroclor-1232	ND	42
Aroclor-1242	ND	42
Aroclor-1248	ND	42
Aroclor-1254	ND	42
Aroclor-1260	ND	42
Aroclor-1262	1,500	42
Aroclor-1268	ND	42

Surrogate	%REC	Limits
TCMX	79	66-142
Decachlorobiphenyl	43	43-139

Field ID: SB7-2.5  
 Type: SAMPLE  
 Lab ID: 250734-003

Diln Fac: 10.00  
 Analyzed: 11/20/13

Analyte	Result	RL
Aroclor-1016	ND	82
Aroclor-1221	ND	160
Aroclor-1232	ND	82
Aroclor-1242	ND	82
Aroclor-1248	ND	82
Aroclor-1254	ND	82
Aroclor-1260	1,900	82
Aroclor-1262	ND	82
Aroclor-1268	ND	82

Surrogate	%REC	Limits
TCMX	DO	66-142
Decachlorobiphenyl	DO	43-139

\*= Value outside of QC limits; see narrative  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit



**Polychlorinated Biphenyls (PCBs)**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/08/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Field ID: SB12-10.0                      Diln Fac: 10.00  
 Type: SAMPLE                              Analyzed: 11/20/13  
 Lab ID: 250734-015

Analyte	Result	RL
Aroclor-1016	ND	83
Aroclor-1221	ND	170
Aroclor-1232	ND	83
Aroclor-1242	ND	83
Aroclor-1248	ND	83
Aroclor-1254	ND	83
Aroclor-1260	ND	83
Aroclor-1262	6,500	83
Aroclor-1268	ND	83

Surrogate	%REC	Limits
TCMX	DO	66-142
Decachlorobiphenyl	DO	43-139

Field ID: SB12-5.0                      Diln Fac: 5.000  
 Type: SAMPLE                              Analyzed: 11/20/13  
 Lab ID: 250734-016

Analyte	Result	RL
Aroclor-1016	ND	41
Aroclor-1221	ND	82
Aroclor-1232	ND	41
Aroclor-1242	ND	41
Aroclor-1248	ND	41
Aroclor-1254	ND	41
Aroclor-1260	ND	41
Aroclor-1262	1,200	41
Aroclor-1268	ND	41

Surrogate	%REC	Limits
TCMX	79	66-142
Decachlorobiphenyl	39 *	43-139

\*= Value outside of QC limits; see narrative  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit



**Polychlorinated Biphenyls (PCBs)**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/08/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Field ID: SB12-2.0 Diln Fac: 5.000  
 Type: SAMPLE Analyzed: 11/20/13  
 Lab ID: 250734-017

Analyte	Result	RL
Aroclor-1016	ND	42
Aroclor-1221	ND	85
Aroclor-1232	ND	42
Aroclor-1242	ND	42
Aroclor-1248	ND	42
Aroclor-1254	ND	42
Aroclor-1260	2,000	42
Aroclor-1262	ND	42
Aroclor-1268	ND	42

Surrogate	%REC	Limits
TCMX	115	66-142
Decachlorobiphenyl	97	43-139

Field ID: SB13-10.0 Diln Fac: 10.00  
 Type: SAMPLE Analyzed: 11/20/13  
 Lab ID: 250734-018

Analyte	Result	RL
Aroclor-1016	ND	84
Aroclor-1221	ND	170
Aroclor-1232	ND	84
Aroclor-1242	ND	84
Aroclor-1248	ND	84
Aroclor-1254	ND	84
Aroclor-1260	3,300	84
Aroclor-1262	ND	84
Aroclor-1268	1,900	84

Surrogate	%REC	Limits
TCMX	DO	66-142
Decachlorobiphenyl	DO	43-139

\*= Value outside of QC limits; see narrative  
 NO= Diluted Out  
 )= Not Detected  
 .L= Reporting Limit

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/08/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Field ID: SB13-5.0 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 11/20/13  
 Lab ID: 250734-019

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	18	12
Aroclor-1262	ND	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	118	66-142
Decachlorobiphenyl	108	43-139

Field ID: SB13-1.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 11/20/13  
 Lab ID: 250734-020

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	270	12
Aroclor-1262	ND	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	93	66-142
Decachlorobiphenyl	37 *	43-139

\*= Value outside of QC limits; see narrative  
 D= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	11/08/13
Units:	ug/Kg	Received:	11/12/13
Basis:	as received	Prepared:	11/18/13
Batch#:	205200		

Type: BLANK Diln Fac: 1.000  
 Lab ID: QC716687 Analyzed: 11/19/13

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Aroclor-1262	ND	12
Aroclor-1268	ND	12

Surrogate	%REC	Limits
TCMX	97	66-142
Decachlorobiphenyl	78	43-139

\*= Value outside of QC limits; see narrative  
 D= Diluted Out  
 N= Not Detected  
 L= Reporting Limit

Batch QC Report

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC716688	Batch#:	205200
Matrix:	Soil	Prepared:	11/18/13
Units:	ug/Kg	Analyzed:	11/19/13

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	167.8	177.2	106	64-143
Aroclor-1260	167.8	175.0	104	58-146

Surrogate	%REC	Limits
TCMX	102	66-142
Decachlorobiphenyl	83	43-139

Batch QC Report

**Polychlorinated Biphenyls (PCBs)**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3550B
Project#:	1386.001.01.003	Analysis:	EPA 8082
Field ID:	SB14-3.5	Batch#:	205200
MSS Lab ID:	250732-003	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	ug/Kg	Prepared:	11/18/13
Basis:	as received	Analyzed:	11/19/13
Diln Fac:	1.000		

Type: MS Lab ID: QC716689

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<2.942	164.1	172.5 b	105	58-155
Aroclor-1260	12.74	164.1	214.3	123	35-159

Surrogate	%REC	Limits
TCMX	110	66-142
Decachlorobiphenyl	83	43-139

Type: MSD Lab ID: QC716690

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	166.7	176.6 b	106	58-155	1	44
Aroclor-1260	166.7	192.9	108	35-159	12	53

Surrogate	%REC	Limits
TCMX	106	66-142
Decachlorobiphenyl	84	43-139

b= See narrative

RPD= Relative Percent Difference

Lead			
Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/17/13
Basis:	as received	Analyzed:	11/18/13
Batch#:	205160		

Field ID	Type	Lab ID	Result	RL	Diln	Fac
SB7-12.5	SAMPLE	250734-001	2.1	0.25	1.000	
SB7-8.0	SAMPLE	250734-002	250	0.24	1.000	
SB8-12.0	SAMPLE	250734-004	3.0	0.24	1.000	
SB8-3.5	SAMPLE	250734-006	200	0.26	1.000	
SB9-10.0	SAMPLE	250734-007	50	0.26	1.000	
SB10-10.0	SAMPLE	250734-009	21	0.27	1.000	
SB10-5.0	SAMPLE	250734-010	49	0.28	1.000	
SB11-11.5	SAMPLE	250734-012	1.7	0.24	1.000	
SB11-2.0	SAMPLE	250734-014	28	0.24	1.000	
SB12-5.0	SAMPLE	250734-016	320	0.27	1.000	
SB12-2.0	SAMPLE	250734-017	130	0.28	1.000	
SB13-10.0	SAMPLE	250734-018	3,300	2.4	10.00	
SB13-1.5	SAMPLE	250734-020	68	0.24	1.000	
	BLANK	QC716530	ND	0.25	1.000	

### California Title 22 Metals

Lab #:	250734	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB7-2.5	Basis:	as received
Lab ID:	250734-003	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/08/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.75	0.47	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	5.0	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	160	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.25	0.093	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	1.2	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	34	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	9.0	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	74	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	120	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.19	0.015	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	0.69	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	49	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	0.66	0.47	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.47	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	35	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	220	0.93	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

**California Title 22 Metals**

Lab #:	250734	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB8-8.0	Basis:	as received
Lab ID:	250734-005	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/08/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.51	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	2.3	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	32	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	ND	0.10	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	ND	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	33	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	4.4	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	4.7	0.26	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	3.1	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	ND	0.016	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	ND	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	24	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.51	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.51	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	26	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	19	1.0	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit



**California Title 22 Metals**

Lab #:	250734	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB9-4.5	Basis:	as received
Lab ID:	250734-008	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/08/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.49	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	5.4	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	120	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.32	0.097	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	0.81	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	45	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	10	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	46	0.25	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	41	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.12	0.016	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	1.5	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	38	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.49	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.49	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	36	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	110	0.97	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected

RL= Reporting Limit

### California Title 22 Metals

Lab #:	250734	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB10-2.0	Basis:	as received
Lab ID:	250734-011	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg		

Analyte	Result	RL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.47	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	6.9	0.23	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	550	2.3	10.00		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.33	0.093	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	0.58	0.23	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	38	0.23	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	6.9	0.23	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	27	2.4	10.00		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	45	2.3	10.00		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.15	0.017	1.000		205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	0.61	0.23	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	36	0.23	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.47	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.23	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.47	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	34	0.23	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	90	0.93	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

**California Title 22 Metals**

Lab #:	250734	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB11-5.5	Basis:	as received
Lab ID:	250734-013	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/08/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.62	0.54	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	9.2	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	140	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.26	0.11	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	1.2	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	160	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	10	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	260	0.28	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	170	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.17	0.018	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	21	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	170	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.54	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.54	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	36	0.27	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	300	1.1	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND = Not Detected  
 RL = Reporting Limit

**California Title 22 Metals**

Lab #:	250734	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB12-10.0	Basis:	as received
Lab ID:	250734-015	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg		

Analyte	Result	RL	Diln	Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.49	1.000		205160	11/17/13	11/19/13	EPA 3050B	EPA 6010B
Arsenic	5.9	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	210	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.27	0.098	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	1.3	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	31	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	6.6	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	44	2.5	10.00		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	290	2.5	10.00		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.18	0.016	1.000		205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	0.28	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	29	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	ND	0.49	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.49	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	30	0.25	1.000		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	1,900	9.8	10.00		205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

**California Title 22 Metals**

Lab #:	250734	Project#:	1386.001.01.003
Client:	PES Environmental, Inc.	Location:	6701 Shellmound, Emeryville
Field ID:	SB13-5.0	Basis:	as received
Lab ID:	250734-019	Diln Fac:	1.000
Matrix:	Soil	Sampled:	11/08/13
Units:	mg/Kg	Received:	11/12/13

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.47	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Arsenic	8.4	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Barium	270	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Beryllium	0.42	0.093	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cadmium	0.70	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Chromium	23	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Cobalt	26	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Copper	30	0.24	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Lead	54	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Mercury	0.070	0.018	205271	11/20/13	11/20/13	METHOD	EPA 7471A
Molybdenum	0.37	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Nickel	27	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Selenium	1.6	0.47	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Silver	ND	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Thallium	ND	0.47	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Vanadium	45	0.23	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B
Zinc	100	0.93	205160	11/17/13	11/18/13	EPA 3050B	EPA 6010B

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

**California Title 22 Metals**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC716530	Batch#:	205160
Matrix:	Soil	Prepared:	11/17/13
Units:	mg/Kg	Analyzed:	11/18/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected  
 RL= Reporting Limit

Batch QC Report

**Lead**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	SB7-12.5	Batch#:	205160
MSS Lab ID:	250734-001	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/17/13
Basis:	as received	Analyzed:	11/18/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC716531		100.0	100.6	101	80-120		
BSD	QC716532		100.0	99.84	100	80-120	1	22
MS	QC716533	2.081	106.4	97.49	90	52-120		
MSD	QC716534		104.2	96.30	90	52-120	1	51

RPD= Relative Percent Difference



## Batch QC Report

## California Title 22 Metals

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	205160
Units:	mg/Kg	Prepared:	11/17/13
Diln Fac:	1.000	Analyzed:	11/18/13

Type: BS

Lab ID: QC716531

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	103.6	104	80-120
Arsenic	50.00	52.27	105	80-120
Barium	100.0	103.1	103	80-120
Beryllium	2.500	2.429	97	80-120
Cadmium	10.00	10.63	106	80-120
Chromium	100.0	101.2	101	80-120
Cobalt	25.00	25.51	102	80-120
Copper	12.50	12.97	104	80-120
Lead	100.0	100.6	101	80-120
Molybdenum	20.00	20.81	104	80-120
Nickel	25.00	26.02	104	80-120
Selenium	50.00	51.44	103	80-120
Silver	10.00	9.800	98	80-120
Thallium	50.00	50.35	101	80-120
Vanadium	25.00	25.22	101	80-120
Zinc	25.00	26.16	105	80-120

Type: BSD

Lab ID: QC716532

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	101.8	102	80-120	2	20
Arsenic	50.00	51.45	103	80-120	2	20
Barium	100.0	103.2	103	80-120	0	20
Beryllium	2.500	2.434	97	80-120	0	20
Cadmium	10.00	10.65	106	80-120	0	20
Chromium	100.0	101.4	101	80-120	0	20
Cobalt	25.00	25.49	102	80-120	0	20
Copper	12.50	12.97	104	80-120	0	20
Lead	100.0	99.84	100	80-120	1	22
Molybdenum	20.00	20.51	103	80-120	1	20
Nickel	25.00	26.10	104	80-120	0	20
Selenium	50.00	50.62	101	80-120	2	20
Silver	10.00	9.799	98	80-120	0	20
Thallium	50.00	49.58	99	80-120	2	20
Vanadium	25.00	25.20	101	80-120	0	20
Zinc	25.00	26.33	105	80-120	1	20

RPD= Relative Percent Difference



**Batch QC Report**
**California Title 22 Metals**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3050B
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Field ID:	SB7-12.5	Batch#:	205160
MSS Lab ID:	250734-001	Sampled:	11/08/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/17/13
Basis:	as received	Analyzed:	11/18/13
Diln Fac:	1.000		

Type: MS Lab ID: QC716533

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.2139	106.4	71.11	67	8-120
Arsenic	2.167	53.19	53.09	96	71-121
Barium	36.47	106.4	129.5	87	48-133
Beryllium	0.1016	2.660	2.391	86	78-120
Cadmium	0.1963	10.64	10.26	95	69-120
Chromium	33.59	106.4	130.2	91	60-122
Cobalt	4.758	26.60	28.45	89	61-120
Copper	4.566	13.30	17.34	96	44-151
Lead	2.081	106.4	97.49	90	52-120
Molybdenum	<0.05505	21.28	19.82	93	67-120
Nickel	28.68	26.60	51.09	84	45-134
Selenium	<0.1434	53.19	47.97	90	67-120
Silver	<0.07329	10.64	9.149	86	66-120
Thallium	<0.1598	53.19	45.92	86	62-120
Vanadium	25.83	26.60	49.21	88	55-137
Zinc	18.04	26.60	48.74	115	38-146

Type: MSD Lab ID: QC716534

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	104.2	65.66	63	8-120	6	29
Arsenic	52.08	52.62	97	71-121	1	34
Barium	104.2	130.2	90	48-133	2	45
Beryllium	2.604	2.379	87	78-120	2	20
Cadmium	10.42	10.27	97	69-120	2	23
Chromium	104.2	134.1	96	60-122	5	34
Cobalt	26.04	28.38	91	61-120	2	37
Copper	13.02	17.92	103	44-151	5	35
Lead	104.2	96.30	90	52-120	1	51
Molybdenum	20.83	19.69	94	67-120	1	20
Nickel	26.04	52.36	91	45-134	3	38
Selenium	52.08	47.37	91	67-120	1	27
Silver	10.42	9.176	88	66-120	2	30
Thallium	52.08	45.29	87	62-120	1	20
Vanadium	26.04	48.99	89	55-137	1	30
Zinc	26.04	42.33	93	38-146	13	36

RPD= Relative Percent Difference

Batch QC Report

**California Title 22 Metals**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	205271
Lab ID:	QC716952	Prepared:	11/20/13
Matrix:	Soil	Analyzed:	11/20/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND = Not Detected  
 RL = Reporting Limit

Batch QC Report

**California Title 22 Metals**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	205271
Matrix:	Soil	Prepared:	11/20/13
Units:	mg/Kg	Analyzed:	11/20/13
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC716953	0.2083	0.2012	97	80-120		
BSD	QC716954	0.2083	0.2047	98	80-120	2	20

RPD= Relative Percent Difference

Batch QC Report

**California Title 22 Metals**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	METHOD
Project#:	1386.001.01.003	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	SB14-3.5	Batch#:	205271
MSS Lab ID:	250732-003	Sampled:	11/09/13
Matrix:	Soil	Received:	11/12/13
Units:	mg/Kg	Prepared:	11/20/13
Basis:	as received	Analyzed:	11/20/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC716955	0.06011	0.2016	0.2371	88	72-135		
MSD	QC716956		0.2049	0.3893	161 *	72-135	47 *	42

\*= Value outside of QC limits; see narrative  
 RPD= Relative Percent Difference

**Lead**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3010A
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	205380
Field ID:	SB12-2.0	Sampled:	11/08/13
Matrix:	TCLP Leachate	Received:	11/12/13
Units:	ug/L	Prepared:	11/21/13
Diln Fac:	10.00	Analyzed:	11/22/13

Type	Lab ID	Result	RL
SAMPLE	250734-017	1,100	50
BLANK	QC717362	ND	50

ND= Not Detected  
 RL= Reporting Limit

Batch QC Report

Lead			
Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	EPA 3010A
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	205380
Field ID:	SB16-7.5	Sampled:	11/09/13
MSS Lab ID:	250732-008	Received:	11/12/13
Matrix:	TCLP Leachate	Prepared:	11/21/13
Units:	ug/L	Analyzed:	11/22/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
BS	QC717363		2,000	2,062	103	78-120				1.000
BSD	QC717364		2,000	2,056	103	78-120	0	20		1.000
MS	QC717365	1,840	2,000	4,024	109	68-120				10.00
MSD	QC717366		2,000	4,042	110	68-120	0	24		10.00

RPD= Relative Percent Difference



**Lead**

Lab #:	250734	Location:	6701 Shellmound, Emeryville
Client:	PES Environmental, Inc.	Prep:	WET
Project#:	1386.001.01.003	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	11/08/13
Matrix:	WET Leachate	Received:	11/12/13
Units:	ug/L	Prepared:	11/22/13
Diln Fac:	10.00	Analyzed:	11/22/13
Batch#:	205421		

Field ID	Type	Lab ID	Result	RL
SB7-8.0	SAMPLE	250734-002	39,000	250
SB12-2.0	SAMPLE	250734-017	12,000	250
	BLANK	QC717527	ND	250

)= Not Detected  
AL= Reporting Limit

**DISTRIBUTION**

**SUPPLEMENTAL SUBSURFACE INVESTIGATION REPORT  
6701, 6705, and 6707 SHELLMOUND STREET  
EMERYVILLE, CALIFORNIA**

**JANUARY 13, 2014**

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