Leland Land, LLC

October 1, 2012

Mr. David Peacock
North Carolina Division of Waste Management
Brownfield Program
127 Cardinal Drive Extension
Wilmington, NC 28405

Subject: May 10, 2012 Dioxin Sampling Results
BF Project # 07003-01-10, (Formerly General Wood)
1901 Wood Treatment Road - Leland, Brunswick County

Mr. Peacock;

This letter is to provide to you Leland Land's results concerning the soil sampling performed on May 10, 2012. I apologize for the delay in submitting this information.

Per our 2012 Dioxin sampling work plan approved by you and Mr. Watson, Ron Yarborough with ERM again performed the sampling. The Six grids from the work plan were sampled, split and forwarded to two laboratories, SGS and Cape Fear Analytical (CFA). Two duplicates were submitted (3-5 and 3-25) as well. As a result of this procedure, 16 dioxin analytical results were reviewed from the six samples. The objective was to determine sampling accuracy for dioxin.

Grid Number	Laboratory Sampling #	pg/g				mg/kg		
		2004 Dioxin Total TEQ	2011 Dioxin Total TEQ	2012 Dioxin Total TEQ SGS	2012 Dioxin Total TEQ CFA	2004 Penta Results	2011 Penta Results	2012 Penta Results
5-2	1	1720	1035	2663	1192.94	41	0.27	0.68
3-5	2	458	268	263.72	338.59		0.21	0.13
3-5 (dup)	7	NA	NA	268.54	332.99			
1-10	3	1610	3702	1889.86	610.85		3.5	1.9
3-25	4	396	2500	4064.97	3516.63		25	3.2
3-25 (dup)	8	NA	NA	3559.71	3170.13			
2-8	5	138	1316	494.45	654.23		3.5	0.31
6-23	6	61	332	264.4	357.46		0.45	0.2

P. O. Box 1124 Orangeburg, SC 29116 (803) 664-4014

Martin Rollins, P.E., whom you met at our conference earlier this year, has provided some data, and comments. His comments concerning the 2012 sampling are as follows:

"The things that I see from the 2012 data are that the inter-laboratory variability is relatively large, as I was expecting to see. The intra-laboratory variability, as measured by the results of the 2 duplicate samples, was much less than I expected, which indicates to me that these labs were actually pretty good at what they were doing, or at least they made consistent errors if errors were made. "

"What the sum total of this is telling us is that the expected total variability, which includes variability in sampling and analysis, when sampling soils for chlorinated dioxins/furans is at least an order of magnitude (a factor of 10), on a total TEQ basis, and, therefore, the present requirements and benchmarks in the Brownfield agreement are simply technically unworkable. Variability on a congener by congener basis rather than on a total basis would be higher."

As you can see from the information provided, sampling results from 2004 through 2012 show extreme variability in Dioxin results within the same grids. We request that the dioxin sampling in the Brownfield agreement be repealed and allow us to determine our soil sampling compliance using pentachlorophenol per the agreement.

If you have any questions, require more information or would like to schedule a meeting, please feel free to contact me at (803) 664-4014 or by email at jhouse@coxwood.com.

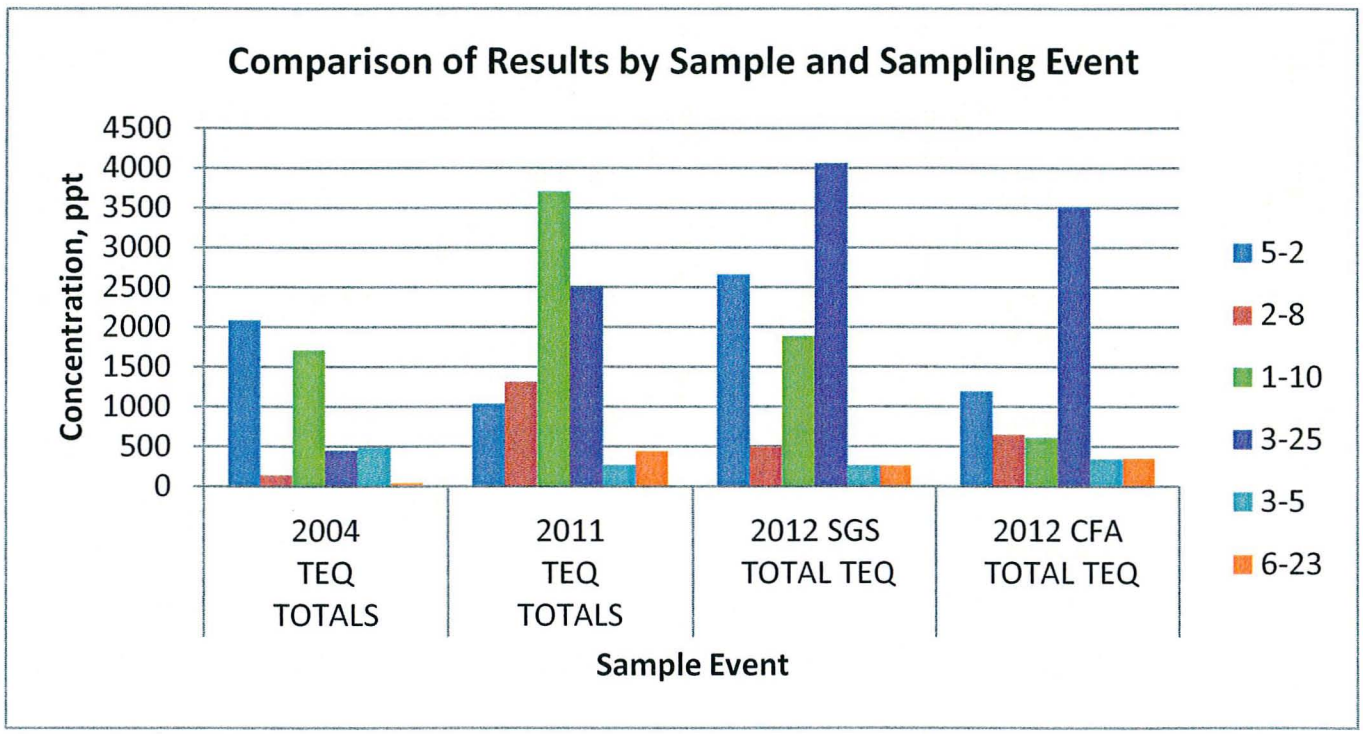
Sincerely,

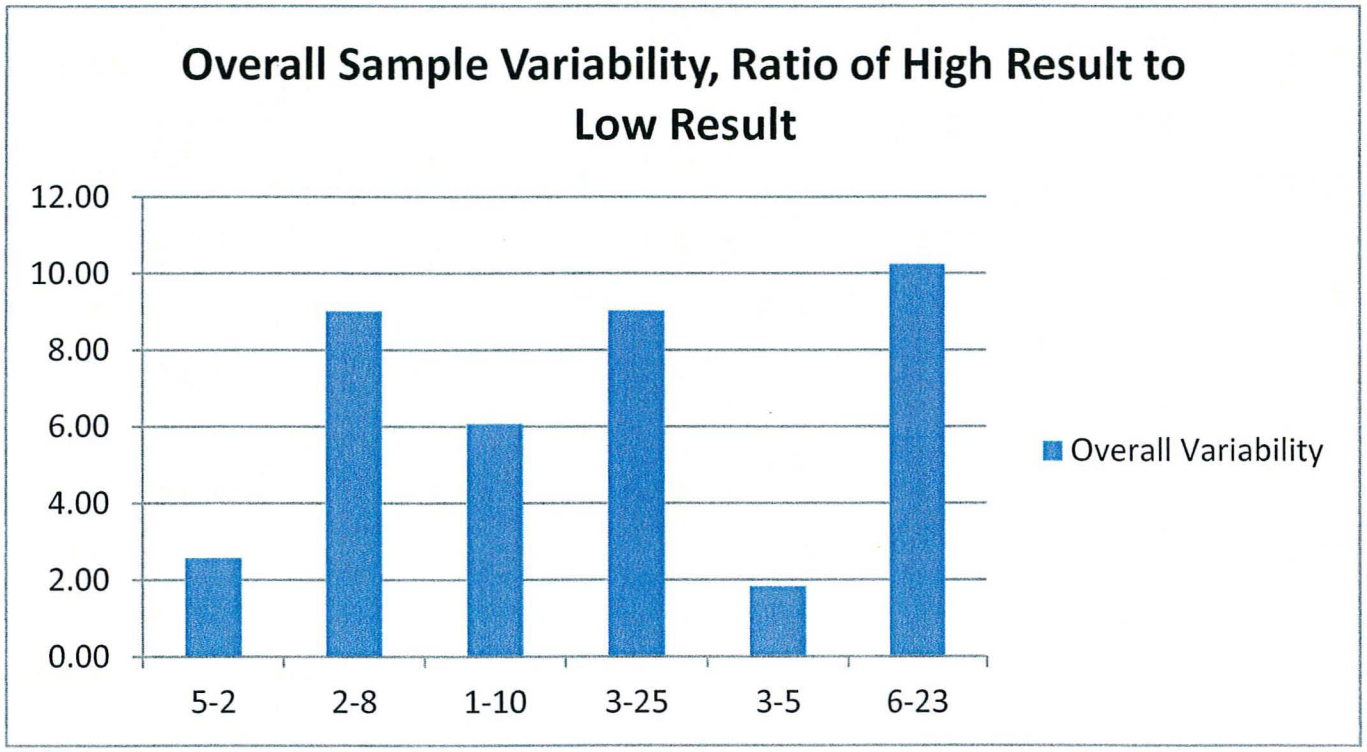
LELAND LAND, LLC

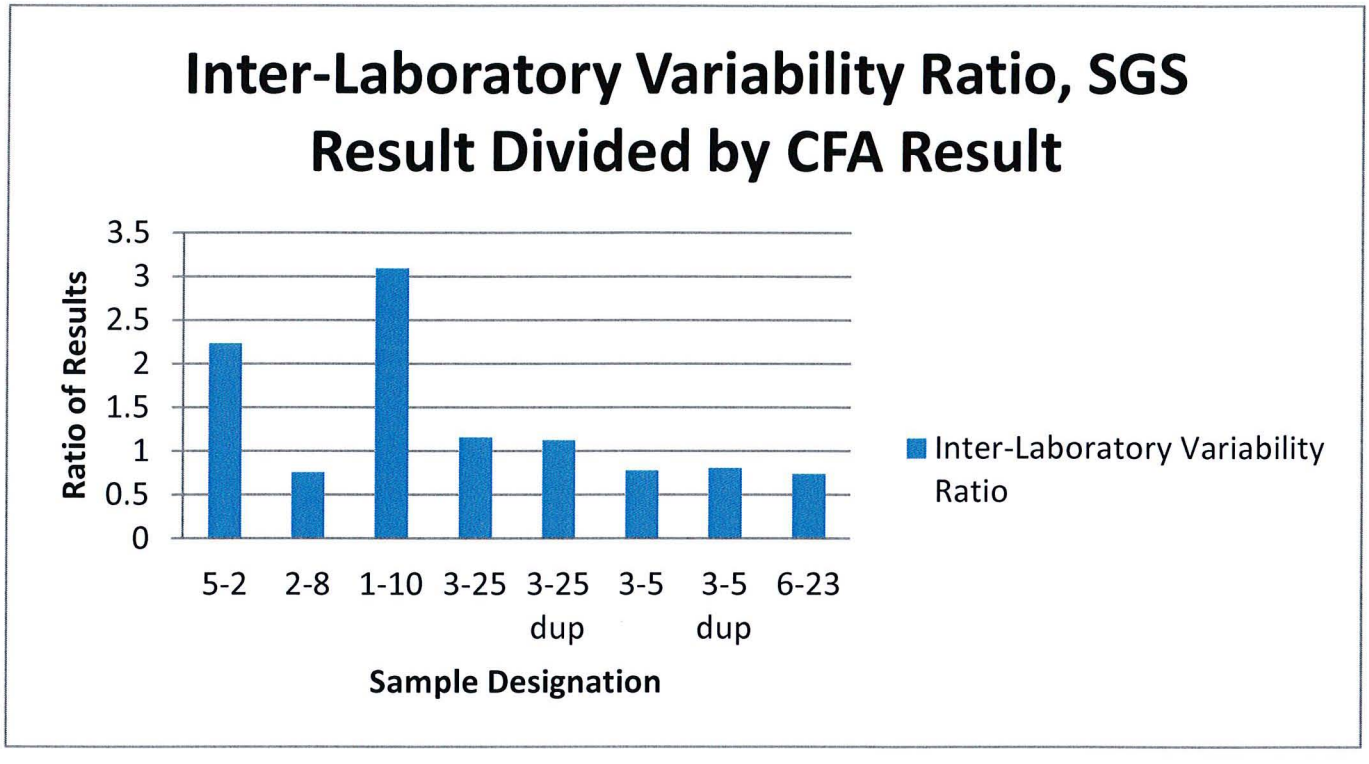
Jane House, CHMM

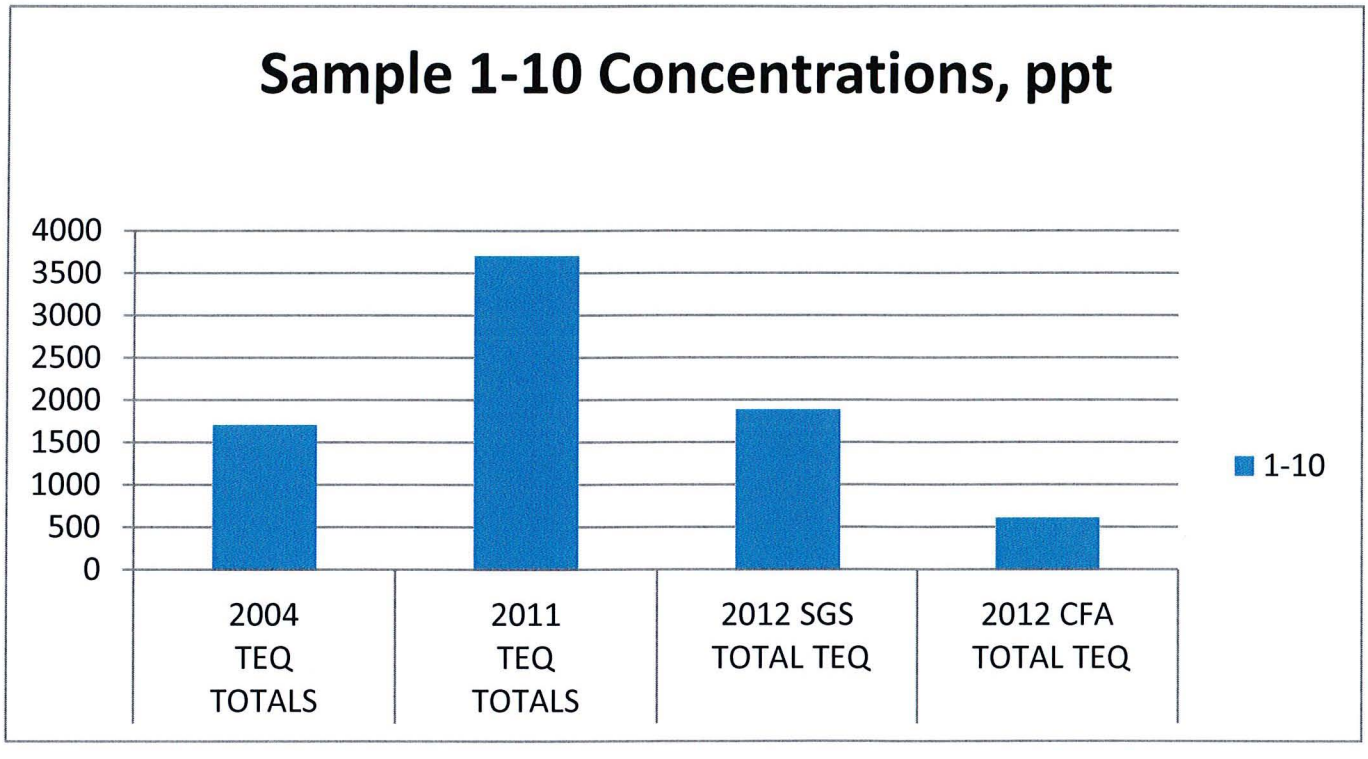
Jane House, CHMM
Environmental, Health, and Safety
Attachment
cc: Sam Watson, NCDENR
Martin Rollins, H. M. Rollins Company, Inc
Ron Yarborough, ERM

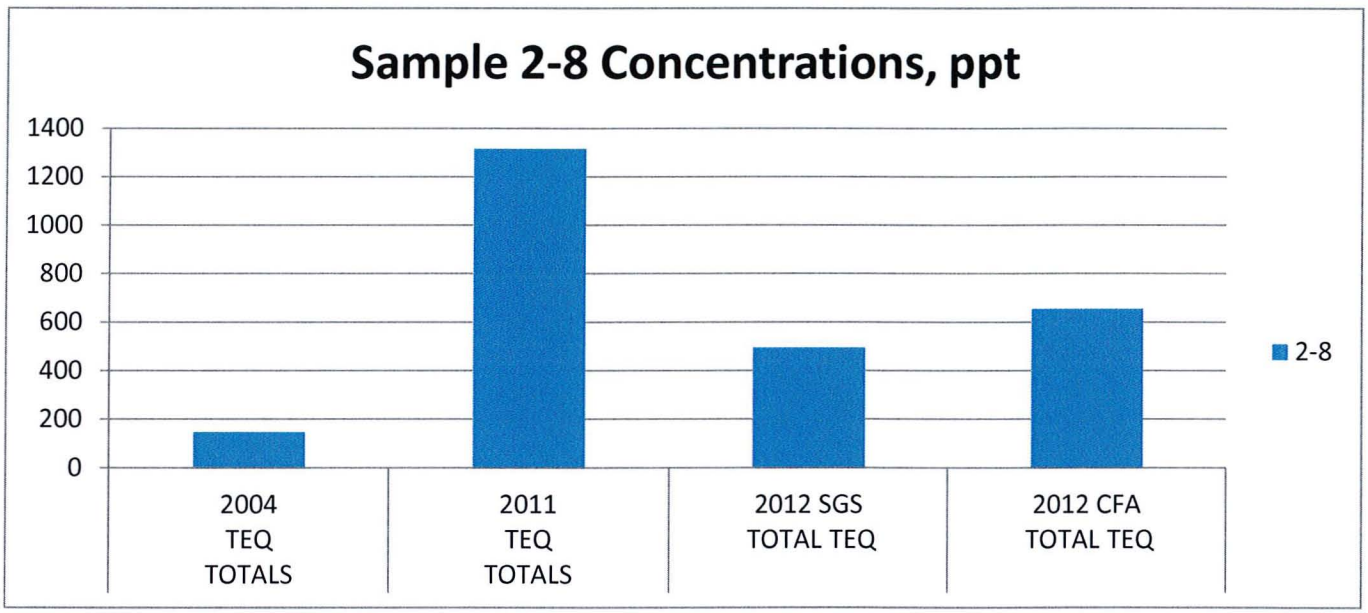
Cox Leland, NC, Dioxin/Furan Soil Data 2004 Through 2012								
Sample ID	2004 TEQ TOTALS	2011 TEQ TOTALS	2012 SGS TOTAL TEQ	2012 CFA TOTAL TEQ	Inter-Laboratory Variability, Ratio, SGS Divided by CFA	Intra-Laboratory Variability, Ratio, Original Result Divided by Duplicate Result		Overall Sample Variability, Ratio, High Divided by Low
						SGS	CFA	
5-2	2086.84	1035.19	2663.37	1192.94	2.23			2.57
2-8	146.00	1315.57	494.45	654.23	0.76			9.01
1-10	1709.57	3702.56	1889.86	610.85	3.09			6.06
3-25	450.63	2499.56	4064.97	3516.63	1.16	1.14	1.11	9.02
3-25 dup			3559.71	3170.13	1.12			
3-5	481.04	267.94	263.72	338.59	0.78	0.98	1.02	1.82
3-5 dup			268.54	332.99	0.81			
6-23	43.61	446.33	264.40	357.46	0.74			10.23

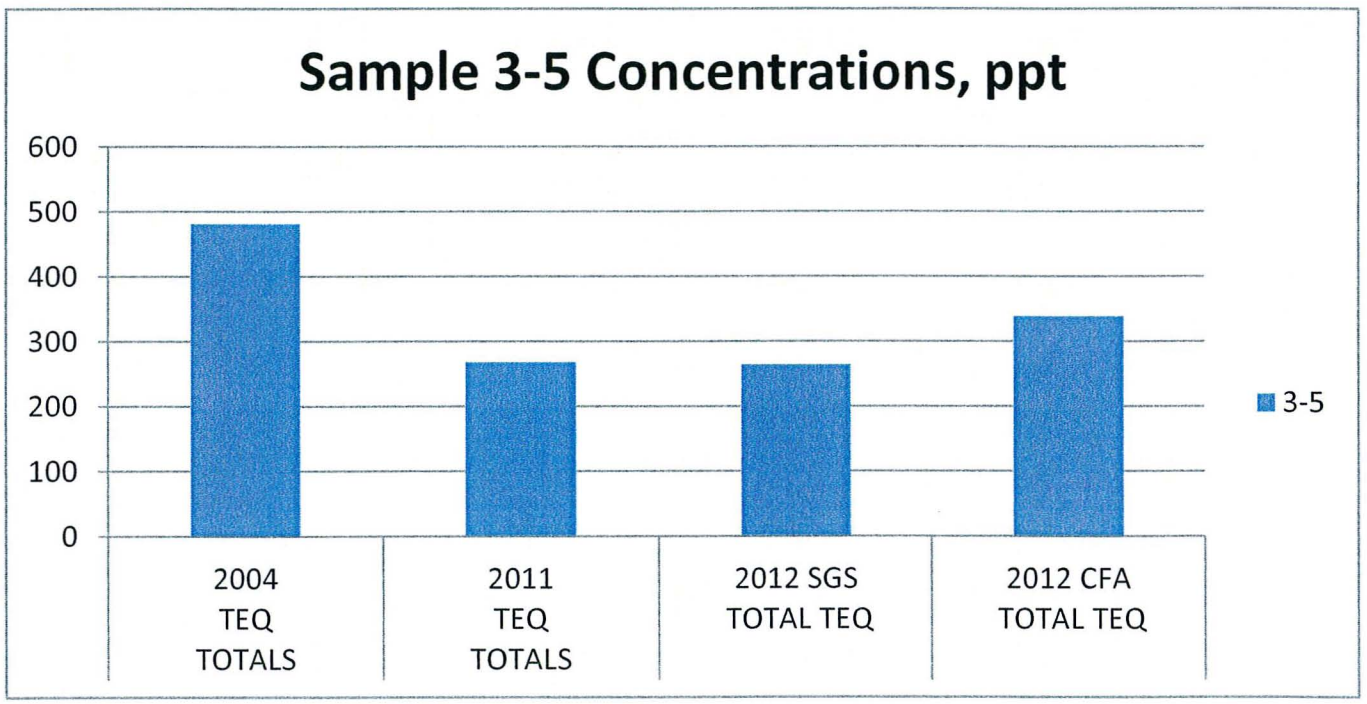

Comparison of Results by Sample and Sampling Event
Concentration, ppt
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2004 TEQ TOTALS
2011 TEQ TOTALS
2012 SGS TOTAL TEQ
2012 CFA TOTAL TEQ
Sample Event
5-2
2-8
1-10
3-25
3-5
6-23

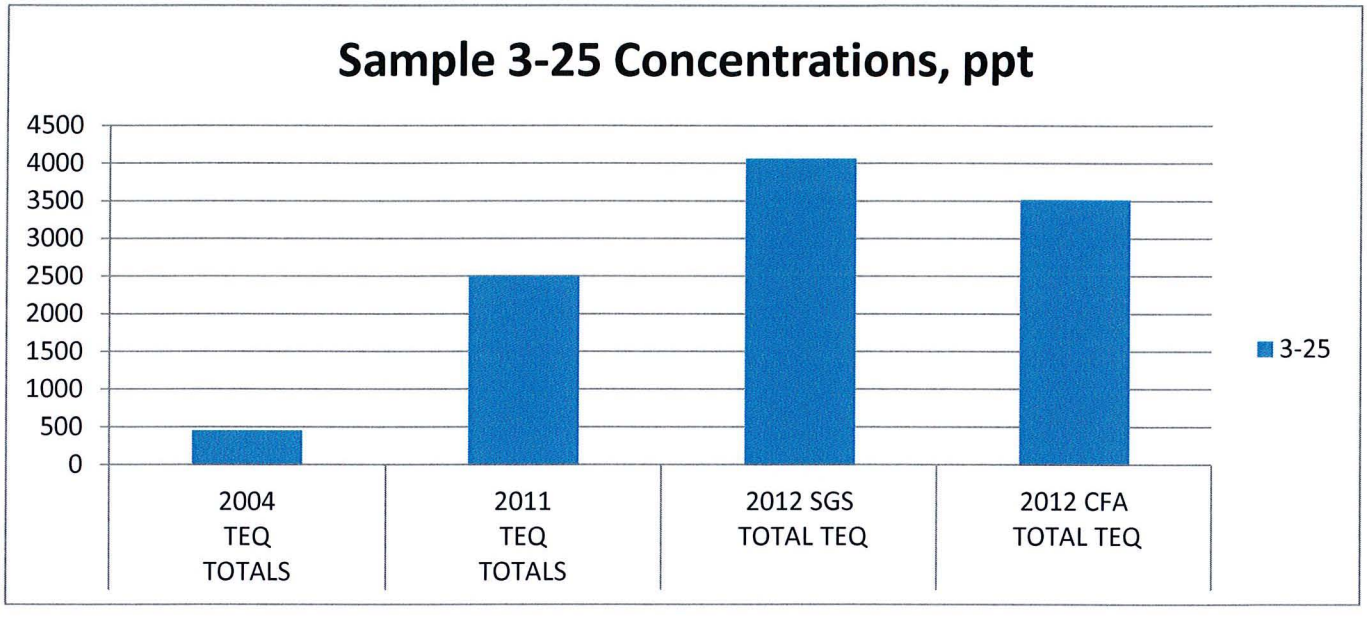

Overall Sample Variability, Ratio of High Result to Low Result
12.00
10.00
8.00
6.00
4.00
2.00
0.00
5-2
2-8
1-10
3-25
3-5
6-23
Overall Variability

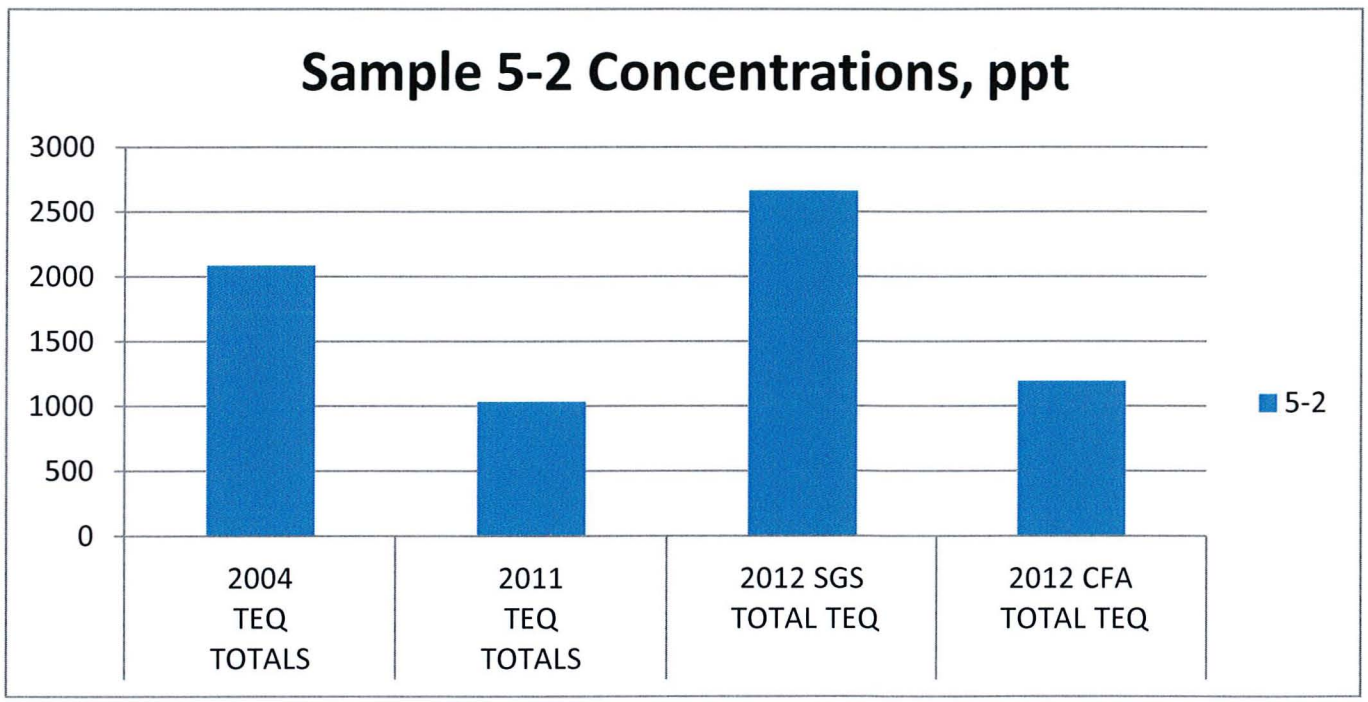

Inter-Laboratory Variability Ratio, SGS Result Divided by CFA Result
Ratio of Results
3.5
3
2.5
2
1.5
1
0.5
0
5-2
2-8
1-10
3-25
3-25 dup
3-5
3-5 dup
6-23
Sample Designation
Inter-Laboratory Variability Ratio

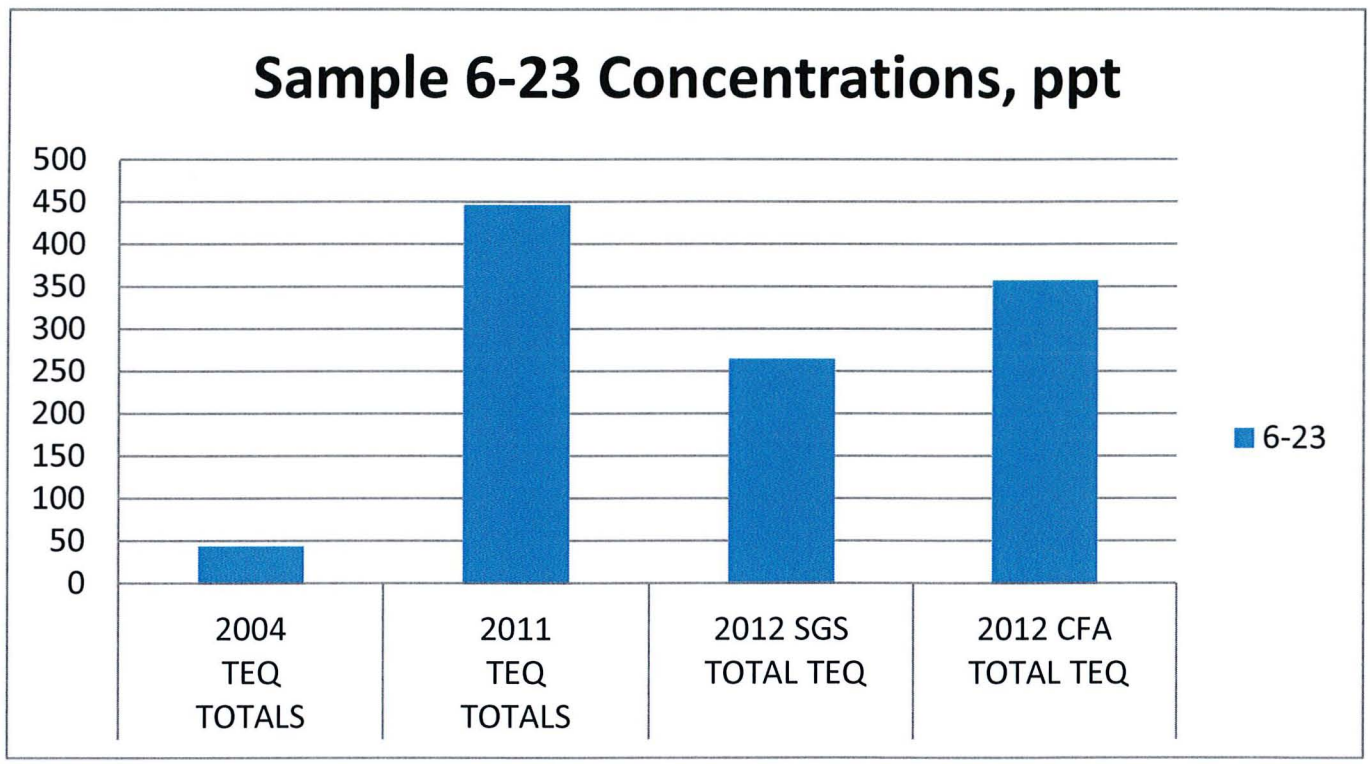

Sample 1-10 Concentrations, ppt
4000
3500
3000
2500
2000
1500
1000
500
0
2004 TEQ TOTALS
2011 TEQ TOTALS
2012 SGS TOTAL TEQ
2012 CFA TOTAL TEQ
1-10


Sample 2-8 Concentrations, ppt
1400
1200
1000
800
600
400
200
0
2004 TEQ TOTALS
2011 TEQ TOTALS
2012 SGS TOTAL TEQ
2012 CFA TOTAL TEQ
2-8


Sample 3-5 Concentrations, ppt
600
500
400
300
200
100
0
2004 TEQ TOTALS
2011 TEQ TOTALS
2012 SGS TOTAL TEQ
2012 CFA TOTAL TEQ
3-5


Sample 3-25 Concentrations, ppt
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2004 TEQ TOTALS
2011 TEQ TOTALS
2012 SGS TOTAL TEQ
2012 CFA TOTAL TEQ
3-25


Sample 5-2 Concentrations, ppt
3000
2500
2000
1500
1000
500
0
2004 TEQ TOTALS
2011 TEQ TOTALS
2012 SGS TOTAL TEQ
2012 CFA TOTAL TEQ
5-2


Sample 6-23 Concentrations, ppt
500
450
400
350
300
250
200
150
100
50
0
2004 TEQ TOTALS
2011 TEQ TOTALS
2012 SGS TOTAL TEQ
2012 CFA TOTAL TEQ
6-23

Dioxin Results
Leland Land LLC
Leland,North Carolina

Sample ID	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ
	2,3,7,8 - TCDD						1,2,3,7,8 - PeCDD						1,2,3,4,7,8 - HxCDD						1,2,3,6,7,8 - HxCDD					
5-2	30.781	47.2	84.1	45.9	45.9-84.1	47.2	141.364	282	531	207	207-531	282	389.898	469	1190	577	469-11.90	46.9	1055.8	956	2600	1110	956-2600	95.6
3-5	2.94	0	2.89	4.89	0-4.89	0	51.1	32.3	33.3	34.5	31.9-38.6	32.3	170	115	96.7	124	94.7-153	11.5	305	225	195	235	195-240	22.5
3-5(DUP)			2.63	<10					31.9	38.6					94.7	153					200	240		
1-10	6.11	23	10.1	<6.93	6.39-10.1	23	161	519	234	69.7	69.7-519	519	628	1340	674	202	202-1340	134	1360	2720	674	439	439-2720	272
3-25	4.76	16.5	24.1	22.3	16.5-24.1	16.5	36.9	271	452	496	271-496	271	128	650	1280	925	650-1220	65	317	1780	2870	2280	2280-2900	178
3-25(DUP)			19.8	21.5					383	416					970	1220					2620	2900		
2-8	1.51	7.08	6.83	<17.2	6.83-7.08	7.08	27.2	112	73.5	106	73.5-112	112	43.5	340	199	276	199-340	34	86	1090	400	652	400-1090	109
6-23	0.779	0	3.14	<11.6	0-3.14	0	7.39	64.8	33.0	53.8	33-64.8	64.8	11.6	190	95.7	140	95.7-190	19	32.6	392	238	299	238-392	39.2

Sample ID	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ
	1,2,3,7,8,9 - HxCDD						1,2,3,4,6,7,8 - HpCDD						OCDD						2,3,7,8 - TCDF					
5-2	1455.8	947	2060	1100	947-2060	94.7	91881	29400	103000	43300	43300-103000	294	1764280	262000	789000	452000	62000-78900	78.6	7.801	2.68	2.51	<25	2.51-2.68	0.268
3-5	353	242	200	278	200-278	24.2	14000	7970	7030	8590	6750-9050	79.7	110000	67600	69300	86400	65800-95400	20.28	4.47	1.51	1.33	<3.36	1.17-1.51	0.151
3-5(DUP)			210	271					6750	9050					65800	95400					1.17	<10.9		
1-10	1540	3050	1430	458	458-3050	305	49200	97800	46400	14900	14900-97800	978	459000	761000	356000	131000	31000-76100	228.3	7.12	20.7	9.50	<12.1	9.50-20.7	2.07
3-25	428	1580	2770	2380	1580-2770	158	16900	54200	86400	74500	54200-86400	542	265000	386000	474000	135000	18000-47800	115.8	4.76	18.7	33.2	36	18.7-37.7	1.87
3-25(DUP)			2330	2760					71400	59500					478000	118000					27.9	37.7		
2-8	88.3	787	405	672	405-787	78.7	3900	43500	13200	18000	13200-43500	435	44300	462000	138000	183000	38000-46200	138.6	1.64	4.36	2.68	<17.6	2.68-4.36	0.436
6-23	40.9	423	228	309(K)	228-423	42.3	1540	13800	8060	11800	8060-13800	138	14300	127000	82200	109000	82200-12700	38.1	1.12	2.66	1.11	<11.9	1.11-2.66	0.266

Sample ID	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ
	1,2,3,7,8 - PeCDF						2,3,4,7,8 - PeCDF						1,2,3,4,7,8 - HxCDF						1,2,3,6,7,8 - HxCDF					
5-2	12.922	11.4	20.5	<25	11.4-20.5	0.342	16.062	21.3	36.2	25.1	21.3-36.2	6.39	145.435	114	264	121	114-264	11.4	89.19	141	196	134	134-196	14.1
3-5	18.38	7.61	8.99	11.3	8.27-11.3	0.2283	17.94	15.7	16.6	24.4	17.7-24.8	4.71	153	83	76.1	113	76.1-113	8.3	212.00	117	131	188	117-188	11.7
3-5(DUP)			8.27	10.1					17.7	24.8					82.4	105					154	165		
1-10	28	121	62.3	19.2	19.2-121	3.63	32	231	133	46.1	46.1-231	69.3	594	1200	711	216	216-1200	120	920.00	1740	1100	374	374-1740	174
3-25	9.72	93.1	195	171	93.1-195	2.793	11.38	178	381	313	178-381	53.4	58.7	1110	2000	1350	1110-2000	111	78.50	1460	2750	2470	1460-2750	146
3-25(DUP)			164	132					319	299					1720	1190					2440	2050		
2-8	6.18	22.5	14.7	21.3	14.7-22.5	0.675	7.82	48	33.2	42.3	33.2-48	14.4	52.6	459	121	132	121-459	45.9	92.70	338	199	223	199-338	33.8
6-23	0.946	10.2	5.92	<14.7	5.92-10.2	0.306	1.144	25.3	15.3	20.3	15.3-25.3	7.59	5.04	114	59.9	79	59.9-114	11.4	6.96	157	97.2	122	97.2-157	15.7

Dioxin Results
Leland Land LLC
Leland,North Carolina

Sample ID	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ
	1,2,3,7,8,9 - HxCDF						2,3,4,6,7,8 - HxCDF						1,2,3,4,6,7,8 - HpCDF						1,2,3,4,7,8,9 - HpCDF					
5-2	5.701	22.6	39.4	180	22.6-180	2.26	218.462	218	368	54.3	218-368	21.8	8899.748	3480	8480	3830	3480-8480	34.8	745.94	297	730	262	262-730	2.97
3-5	6.95	0	ND	26.6	0-26.6	0	275	167	172	244	167-244	16.7	8770	3130	3870	5260	3130-5260	31.3	492	241	195	275	195-280	2.41
3-5(DUP)			ND	<27.4					198	221					4170	4500					206	280		
1-10	0	213	0	<36.9	0-213	21.3	1170	2680	1610	531	531-2680	268	24400	52700	27300	10300	10300-52700	527	1490	2850	1910	498	498-2850	28.5
3-25	2.52	152	ND	236	0-236	15.2	116	2110	3880	3020	2110-3880	211	3560	52200	82100	75200	52200-82100	522	206	2760	4450	2970	2600-4450	27.6
3-25(DUP)			ND	179					3690	2650					72700	63500					4050	2600		
2-8	1.25	63.8	ND	<35.5	0-63.8	6.38	68.3	630	308	313	308-630	63	1590	18000	5570	6250	5570-18000	180	136	1670	347	410	347-1670	16.7
6-23	0	23.1	ND	<31.7	0-23.1	2.31	18.7	234	135	168	135-234	23.4	306	3860	2790	3010	2790-3860	38.6	32.7	288	157	220	157-288	2.88

Sample ID	2004 Results	2011 Results	2012 Results SGS	2012 Results CFA	2011-2012 Range	2005 WHO TEQ	2004 TEQ Totals	2011 TEQ Totals	2012 TEQ SGS Totals	2012 TEQ CFA Totals	2011-2012 Range
	OCDF						TEQ				
5-2	93757	6210	19700	9640	6210-19700	1.863	2,087	1035	2663	1190	1035-2663
3-5	25000	6540	11100	11700	6540-14100	1.962	481	268	261	338	261-338
3-5(DUP)			11400	14100					269	333	
1-10	71700	98200	98800	28200	28200-98800	29.46	1,710	3703	1890	611	611-3703
3-25	19200	208000	129000	208000	129000-208000	62.4	451	2500	4065	3520	2500-4065
3-25(DUP)			181000	163000					3560	3170	
2-8	5940	133000	25600	22000	22000-133000	39.9	146	1316	494	655	494-1316
6-23	1000	8250	10900	9570	8250-10900	2.475	44	446	264	326	264-446

SGS ANALYTICAL PERSPECTIVES

Laboratory Report of Analysis

To: Nisreen Saikaly
SHEALY ENVIRONMENTAL SERVICE
106 Vantage Point Drive
West Columbia, SC 29172

Report Number: **31201508**

Client Project: **Cox 2012**

Dear Nisreen Saikaly,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or services performed during this project, please call Amy J. Boehm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Digitally signed by: Amy Boehm
Date: 2012.06.25 16:10:15 -
04'00'

Amy J. Boehm
Project Manager
amy.boehm@sgs.com

Date

Print Date: 06/25/2012

N.C. Certification # 481

ANALYTICAL PERSPECTIVES IS NOW PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

Laboratory Qualifiers

Report Definitions

DL	Method, Instrument, or Estimated Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Estimated Concentration.
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMPC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

Samples requiring manual integrations for various congeners and/or standards are marked and dated by the analyst. A code definition is provided below:

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

Note Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
01	31201508001	05/10/2012 12:20	05/15/2012 09:52	Soil-Solid as dry weight
02	31201508002	05/10/2012 12:40	05/15/2012 09:52	Soil-Solid as dry weight
03	31201508003	05/10/2012 14:20	05/15/2012 09:52	Soil-Solid as dry weight
04	31201508004	05/10/2012 13:10	05/15/2012 09:52	Soil-Solid as dry weight
05	31201508005	05/10/2012 14:00	05/15/2012 09:52	Soil-Solid as dry weight
06	31201508006	05/10/2012 13:30	05/15/2012 09:52	Soil-Solid as dry weight
07	31201508007	05/10/2012 14:45	05/15/2012 09:52	Soil-Solid as dry weight
08	31201508008	05/10/2012 15:15	05/15/2012 09:52	Soil-Solid as dry weight

Case Narrative

01

DPE - Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
E - Results over Calibration Range
20X Dilution

02

DPE - Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
E - Results over Calibration Range

03

DPE - Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
E - Results over Calibration Range
20X Dilution

04

DPE - Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
E - Results over Calibration Range
20X Dilution

05

DPE - Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
E - Results over Calibration Range

06

DPE - Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
E - Results over Calibration Range

07

DPE - Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
E - Results over Calibration Range

08

DPE - Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
E - Results over Calibration Range
20X Dilution

SGS ANALYTICAL PERSPECTIVES

Results of **01**

Client Sample ID: **01**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508001-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 12:20
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 77.50

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD	**84.1**			0.154	0.589	pg/g	25.52	0.75
1,2,3,7,8-PeCDD	**531**			0.308	2.95	pg/g	31.57	1.52
1,2,3,4,7,8-HxCDD	**1190**			0.414	2.95	pg/g	33.75	1.26
1,2,3,6,7,8-HxCDD	**2600**		E	0.428	2.95	pg/g	33.82	1.26
1,2,3,7,8,9-HxCDD	**2060**			0.421	2.95	pg/g	34.00	1.24
1,2,3,4,6,7,8-HpCDD	**103000**			34.6	34.6	pg/g	36.24	1.05
OCDD	**789000**			19.9	19.9	pg/g	39.53	0.90
2,3,7,8-TCDF	2.51			0.250	0.589	pg/g	24.62	0.77
2,3,7,8-TCDF [confirm]	**3.48**			0.991	0.991	pg/g	8.19	0.86
1,2,3,7,8-PeCDF	**20.5**			0.916	2.95	pg/g	30.03	1.48
2,3,4,7,8-PeCDF	**36.2**			0.905	2.95	pg/g	31.31	1.50
1,2,3,4,7,8-HxCDF	**264**			0.665	2.95	pg/g	33.19	1.25
1,2,3,6,7,8-HxCDF	**196**			0.649	2.95	pg/g	33.25	1.24
2,3,4,6,7,8-HxCDF	**368**		DPE	0.651	2.95	pg/g	33.63	1.23
1,2,3,7,8,9-HxCDF	**39.4**			0.720	2.95	pg/g	34.22	1.21
1,2,3,4,6,7,8-HpCDF	**8480**			7.82	7.82	pg/g	35.28	1.04
1,2,3,4,7,8,9-HpCDF	**730**			11.3	11.3	pg/g	36.63	1.04
OCDF	**19700**			4.44	5.89	pg/g	39.53	0.89
Total TCDD	**1630**			0.154	0.589	pg/g		
Total PeCDD	**6400**			0.308	2.95	pg/g		
Total HxCDD	**47700**			0.428	2.95	pg/g		
Total HpCDD	**448000**			34.6	34.6	pg/g		
Total TCDF	**204**	210		0.250	0.589	pg/g		
Total PeCDF	**1470**		DPE	0.910	2.95	pg/g		
Total HxCDF	**7320**	7420	DPE	0.720	2.95	pg/g		
Total HpCDF	**29300**			11.3	11.3	pg/g		

World Health Organization Summary

	Units	ND=0	ND=½	ND=DL
WHO-2005 TEQ	pg/g	2663	2663	2663
WHO-2005 TEQ w/EMPC	pg/g	2663	2663	2663

Print Date: 06/25/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of **01**

Client Sample ID: **01**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508001-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 12:20
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 77.50

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
Labeled Standards								
13C-2378-TCDD	91.0				40.0-135	%		
13C-12378-PeCDD	96.0				40.0-135	%		
13C-123678-HxCDD	88.0				40.0-135	%		
13C-1234678-HpCDD	134				40.0-135	%		
13C-OCDD		249*			40.0-135	%		
13C-2378-TCDF	83.0				40.0-135	%		
13C-12378-PeCDF	81.0				40.0-135	%		
13C-123678-HxCDF	96.0				40.0-135	%		
13C-1234678-HpCDF	100				40.0-135	%		
37Cl-2378-TCDD	101				40.0-135	%		
13C-23478-PeCDF	83.0				40.0-135	%		
13C-123478-HxCDD	87.0				40.0-135	%		
13C-123478-HxCDF	87.0				40.0-135	%		
13C-1234789-HpCDF	89.0				40.0-135	%		

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 07:14
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.96 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1740
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: KAS
Analytical Date/Time: 06/18/2012 11:38
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.96 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1741
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 19:23
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.96 g
Prep Extract Vol: 20 uL

SGS ANALYTICAL PERSPECTIVES

Results of **02**

Client Sample ID: **02**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508002-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 12:40
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 91.00

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD		2.89		0.101	0.501	pg/g	25.46	0.64*
1,2,3,7,8-PeCDD	**33.3**			0.106	2.50	pg/g	31.55	1.53
1,2,3,4,7,8-HxCDD	**96.7**			0.586	2.50	pg/g	33.74	1.25
1,2,3,6,7,8-HxCDD	**195**			0.606	2.50	pg/g	33.81	1.29
1,2,3,7,8,9-HxCDD	**200**			0.596	2.50	pg/g	33.97	1.26
1,2,3,4,6,7,8-HpCDD	**7030**		E	1.77	2.50	pg/g	36.23	1.04
OCDD	**69300**		E	4.11	5.01	pg/g	39.44	0.90
2,3,7,8-TCDF	1.33			0.201	0.501	pg/g	24.55	0.79
2,3,7,8-TCDF [confirm]		1.27		0.730	0.730	pg/g	8.20	0.65*
1,2,3,7,8-PeCDF	**8.99**			0.351	2.50	pg/g	29.96	1.51
2,3,4,7,8-PeCDF	**16.6**			0.347	2.50	pg/g	31.28	1.44
1,2,3,4,7,8-HxCDF	**76.1**			0.340	2.50	pg/g	33.16	1.26
1,2,3,6,7,8-HxCDF	**131**			0.332	2.50	pg/g	33.24	1.26
2,3,4,6,7,8-HxCDF	**172**		DPE	0.333	2.50	pg/g	33.62	1.27
1,2,3,7,8,9-HxCDF	ND		U	0.368	2.50	pg/g		
1,2,3,4,6,7,8-HpCDF	**3870**		E	0.981	2.50	pg/g	35.32	1.04
1,2,3,4,7,8,9-HpCDF	**195**			1.16	2.50	pg/g	36.69	1.05
OCDF	**11100**		E	2.15	5.01	pg/g	39.55	0.89
Total TCDD	**11.1**	22.4		0.101	0.501	pg/g		
Total PeCDD	**185**	187		0.106	2.50	pg/g		
Total HxCDD	**2190**			0.606	2.50	pg/g		
Total HpCDD	**16300**			1.77	2.50	pg/g		
Total TCDF	**88.8**	92.6		0.201	0.501	pg/g		
Total PeCDF	**721**	724	DPE	0.349	2.50	pg/g		
Total HxCDF	**3310**		DPE	0.368	2.50	pg/g		
Total HpCDF	**8310**			1.16	2.50	pg/g		

World Health Organization Summary

	Units	ND=0	ND=½	ND=DL
WHO-2005 TEQ	pg/g	261	261	261
WHO-2005 TEQ w/EMPC	pg/g	264	264	264

Print Date: 06/25/2012

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SGS ANALYTICAL PERSPECTIVES

Results of **02**

Client Sample ID: **02**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508002-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 12:40
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 91.00

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
Labeled Standards								
13C-2378-TCDD	82.0				40.0-135	%		
13C-12378-PeCDD	95.0				40.0-135	%		
13C-123678-HxCDD	87.0				40.0-135	%		
13C-1234678-HpCDD	93.0				40.0-135	%		
13C-OCDD	77.0				40.0-135	%		
13C-2378-TCDF	70.0				40.0-135	%		
13C-12378-PeCDF	80.0				40.0-135	%		
13C-123678-HxCDF	102				40.0-135	%		
13C-1234678-HpCDF	106				40.0-135	%		
37Cl-2378-TCDD	89.0				40.0-135	%		
13C-23478-PeCDF	77.0				40.0-135	%		
13C-123478-HxCDD	78.0				40.0-135	%		
13C-123478-HxCDF	79.0				40.0-135	%		
13C-1234789-HpCDF	80.0				40.0-135	%		

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 05:44
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.98 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1740
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: JHL
Analytical Date/Time: 06/18/2012 11:56
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.98 g
Prep Extract Vol: 20 uL

SGS ANALYTICAL PERSPECTIVES

Results of **03**

Client Sample ID: **03**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508003-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 14:20
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 86.50

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD	**10.1**			0.147	0.536	pg/g	25.46	0.85
1,2,3,7,8-PeCDD	**234**			0.223	2.68	pg/g	31.56	1.56
1,2,3,4,7,8-HxCDD	**674**			1.06	2.68	pg/g	33.75	1.25
1,2,3,6,7,8-HxCDD	**1580**			1.09	2.68	pg/g	33.82	1.26
1,2,3,7,8,9-HxCDD	**1430**			1.08	2.68	pg/g	33.99	1.25
1,2,3,4,6,7,8-HpCDD	**46400**		E	4.52	4.52	pg/g	36.24	1.04
OCDD	**356000**		E	18.4	18.4	pg/g	39.44	0.90
2,3,7,8-TCDF	10.1			0.275	0.536	pg/g	24.57	0.73
2,3,7,8-TCDF [confirm]	**9.50**			0.937	0.937	pg/g	8.21	0.82
1,2,3,7,8-PeCDF	**62.3**			0.659	2.68	pg/g	29.97	1.59
2,3,4,7,8-PeCDF	**133**			0.651	2.68	pg/g	31.28	1.52
1,2,3,4,7,8-HxCDF	**711**			14.1	14.1	pg/g	33.17	1.31
1,2,3,6,7,8-HxCDF	**1100**			12.5	12.5	pg/g	33.25	1.26
2,3,4,6,7,8-HxCDF	**1610**			13.4	13.4	pg/g	33.63	1.23
1,2,3,7,8,9-HxCDF	ND		U	19.9	19.9	pg/g		
1,2,3,4,6,7,8-HpCDF	**27300**			19.1	19.1	pg/g	35.29	1.02
1,2,3,4,7,8,9-HpCDF	**1910**			27.8	27.8	pg/g	36.65	1.05
OCDF	**98800**			38.8	38.8	pg/g	39.38	0.90
Total TCDD	**82.6**	88.0		0.147	0.536	pg/g		
Total PeCDD	**1010**	1020		0.223	2.68	pg/g		
Total HxCDD	**11200**	11300		1.09	2.68	pg/g		
Total HpCDD	**71500**			4.52	4.52	pg/g		
Total TCDF	**777**	778		0.275	0.536	pg/g		
Total PeCDF	**6900**	6900	DPE	0.655	2.68	pg/g		
Total HxCDF	**33800**	33900		19.9	19.9	pg/g		
Total HpCDF	**65400**			27.8	27.8	pg/g		

World Health Organization Summary

	Units	ND=0	ND=½	ND=DL
WHO-2005 TEQ	pg/g	1890	1891	1892
WHO-2005 TEQ w/EMPC	pg/g	1890	1891	1892

Print Date: 06/25/2012

N.C. Certification # 481

SGS ANALYTICAL PERSPECTIVES

Results of 03

Client Sample ID: **03**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508003-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 14:20
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 86.50

Results by SW-846 8290A

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
Labeled Standards								
13C-2378-TCDD	100				40.0-135	%		
13C-12378-PeCDD	110				40.0-135	%		
13C-123678-HxCDD	93.0				40.0-135	%		
13C-1234678-HpCDD	63.0				40.0-135	%		
13C-OCDD	24.0*				40.0-135	%		
13C-2378-TCDF	88.0				40.0-135	%		
13C-12378-PeCDF	93.0				40.0-135	%		
13C-123678-HxCDF	103				40.0-135	%		
13C-1234678-HpCDF	101				40.0-135	%		
37Cl-2378-TCDD	112				40.0-135	%		
13C-23478-PeCDF	93.0				40.0-135	%		
13C-123478-HxCDD	95.0				40.0-135	%		
13C-123478-HxCDF	89.0				40.0-135	%		
13C-1234789-HpCDF	77.0				40.0-135	%		

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 04:59
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.79 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1740
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: JHL
Analytical Date/Time: 06/18/2012 12:15
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.79 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1741
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 20:08
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.79 g
Prep Extract Vol: 20 uL

SGS ANALYTICAL PERSPECTIVES

Results of **04**

Client Sample ID: **04**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508004-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 13:10
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 92.10

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD	**24.1**			0.0764	0.509	pg/g	25.49	0.75
1,2,3,7,8-PeCDD	**452**			0.196	2.55	pg/g	31.56	1.54
1,2,3,4,7,8-HxCDD	**1280**			2.20	2.55	pg/g	33.76	1.24
1,2,3,6,7,8-HxCDD	**2870**		E	2.27	2.55	pg/g	33.83	1.25
1,2,3,7,8,9-HxCDD	**2770**		E	2.24	2.55	pg/g	34.00	1.30
1,2,3,4,6,7,8-HpCDD	**86400**			25.4	25.4	pg/g	36.22	1.05
OCDD	**474000**			19.9	19.9	pg/g	39.31	0.90
2,3,7,8-TCDF	39.1			0.306	0.509	pg/g	24.60	0.77
2,3,7,8-TCDF [confirm]	**33.2**			4.18	4.18	pg/g	22.13	0.75
1,2,3,7,8-PeCDF	**195**			5.71	5.71	pg/g	30.00	1.57
2,3,4,7,8-PeCDF	**381**			5.64	5.64	pg/g	31.29	1.57
1,2,3,4,7,8-HxCDF	**2000**			9.94	9.94	pg/g	33.16	1.24
1,2,3,6,7,8-HxCDF	**2750**			8.73	8.73	pg/g	33.24	1.25
2,3,4,6,7,8-HxCDF	**3880**			8.78	8.78	pg/g	33.62	1.26
1,2,3,7,8,9-HxCDF	ND		U	14.4	14.4	pg/g		
1,2,3,4,6,7,8-HpCDF	**82100**			11.3	11.3	pg/g	35.29	1.04
1,2,3,4,7,8,9-HpCDF	**4450**			25.3	25.3	pg/g	36.63	1.03
OCDF	**129000**			8.38	8.38	pg/g	39.43	0.90
Total TCDD	**197**	208		0.0764	0.509	pg/g		
Total PeCDD	**2260**			0.196	2.55	pg/g		
Total HxCDD	**27900**			2.27	2.55	pg/g		
Total HpCDD	**223000**			25.4	25.4	pg/g		
Total TCDF	**2080**	2090	DPE	0.306	0.509	pg/g		
Total PeCDF	**20600**		DPE	5.67	5.67	pg/g		
Total HxCDF	**91100**			14.4	14.4	pg/g		
Total HpCDF	**198000**			25.3	25.3	pg/g		

World Health Organization Summary

	Units	ND=0	ND=½	ND=DL
WHO-2005 TEQ	pg/g	4065	4066	4066
WHO-2005 TEQ w/EMPC	pg/g	4065	4066	4066

Print Date: 06/26/2012

N.C. Certification # 481

Results of **04**

Client Sample ID: **04**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508004-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 13:10
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 92.10

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
Labeled Standards								
13C-2378-TCDD	89.0				40.0-135	%		
13C-12378-PeCDD	92.0				40.0-135	%		
13C-123678-HxCDD	86.0				40.0-135	%		
13C-1234678-HpCDD	127				40.0-135	%		
13C-OCDD		243*			40.0-135	%		
13C-2378-TCDF	80.0				40.0-135	%		
13C-12378-PeCDF	81.0				40.0-135	%		
13C-123678-HxCDF	92.0				40.0-135	%		
13C-1234678-HpCDF	124				40.0-135	%		
37Cl-2378-TCDD	104				40.0-135	%		
13C-23478-PeCDF	83.0				40.0-135	%		
13C-123478-HxCDD	83.0				40.0-135	%		
13C-123478-HxCDF	84.0				40.0-135	%		
13C-123478-HxCDF	76.0				40.0-135	%		
13C-1234789-HpCDF	87.0				40.0-135	%		

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 04:14
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.66 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1740
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: JHL
Analytical Date/Time: 06/21/2012 14:46
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.66 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1741
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 20:53
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.66 g
Prep Extract Vol: 20 uL

SGS ANALYTICAL PERSPECTIVES

Results of **05**

Client Sample ID: **05**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508005-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 14:00
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 91.40

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD	**6.83**			0.128	0.499	pg/g	25.44	0.73
1,2,3,7,8-PeCDD	**73.5**			0.165	2.50	pg/g	31.55	1.54
1,2,3,4,7,8-HxCDD	**199**			0.973	2.50	pg/g	33.75	1.25
1,2,3,6,7,8-HxCDD	**400**			1.01	2.50	pg/g	33.82	1.24
1,2,3,7,8,9-HxCDD	**405**			0.989	2.50	pg/g	33.97	1.33
1,2,3,4,6,7,8-HpCDD	**13200**		E	3.10	3.10	pg/g	36.27	1.04
OCDD	**138000**		E	6.11	6.11	pg/g	39.34	0.90
2,3,7,8-TCDF	2.93			0.241	0.499	pg/g	24.58	0.81
2,3,7,8-TCDF [confirm]	**2.68**			0.301	0.499	pg/g	22.13	0.85
1,2,3,7,8-PeCDF	**14.7**			0.476	2.50	pg/g	29.95	1.42
2,3,4,7,8-PeCDF	**33.2**			0.470	2.50	pg/g	31.27	1.58
1,2,3,4,7,8-HxCDF	**121**			0.769	2.50	pg/g	33.16	1.27
1,2,3,6,7,8-HxCDF	**199**			0.750	2.50	pg/g	33.24	1.25
2,3,4,6,7,8-HxCDF	**308**		DPE	0.752	2.50	pg/g	33.64	1.25
1,2,3,7,8,9-HxCDF	ND		U	0.832	2.50	pg/g		
1,2,3,4,6,7,8-HpCDF	**5570**		E	1.05	2.50	pg/g	35.30	1.05
1,2,3,4,7,8,9-HpCDF	**347**			1.24	2.50	pg/g	36.66	1.02
OCDF	**25600**		E	2.37	4.99	pg/g	39.46	0.88
Total TCDD	**60.0**	61.0		0.128	0.499	pg/g		
Total PeCDD	**418**			0.165	2.50	pg/g		
Total HxCDD	**4030**			1.01	2.50	pg/g		
Total HpCDD	**26500**			3.10	3.10	pg/g		
Total TCDF	**209**	216		0.241	0.499	pg/g		
Total PeCDF	**1410**	1420	DPE	0.473	2.50	pg/g		
Total HxCDF	**5550**		DPE	0.832	2.50	pg/g		
Total HpCDF	**14200**			1.24	2.50	pg/g		

World Health Organization Summary

	Units	ND=0	ND=½	ND=DL
WHO-2005 TEQ	pg/g	494	494	495
WHO-2005 TEQ w/EMPC	pg/g	494	494	495

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Results of **05**

Client Sample ID: **05**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508005-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 14:00
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 91.40

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
Labeled Standards								
13C-2378-TCDD	89.0				40.0-135	%		
13C-12378-PeCDD	95.0				40.0-135	%		
13C-123678-HxCDD	93.0				40.0-135	%		
13C-1234678-HpCDD	77.0				40.0-135	%		
13C-OCDD	46.0				40.0-135	%		
13C-2378-TCDF	81.0				40.0-135	%		
13C-12378-PeCDF	82.0				40.0-135	%		
13C-123678-HxCDF	108				40.0-135	%		
13C-1234678-HpCDF	92.0				40.0-135	%		
37Cl-2378-TCDD	102				40.0-135	%		
13C-23478-PeCDF	84.0				40.0-135	%		
13C-123478-HxCDD	84.0				40.0-135	%		
13C-123478-HxCDF	94.0				40.0-135	%		
13C-1234789-HpCDF	87.0				40.0-135	%		

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 03:29
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.95 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1740
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: JHL
Analytical Date/Time: 06/21/2012 15:22
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.95 g
Prep Extract Vol: 20 uL

SGS ANALYTICAL PERSPECTIVES

Results of **06**

Client Sample ID: **06**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508006-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 13:30
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 87.10

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD	**3.14**			0.0743	0.563	pg/g	26.00	0.77
1,2,3,7,8-PeCDD	**33.0**			0.0903	2.82	pg/g	31.83	1.51
1,2,3,4,7,8-HxCDD	**95.7**			0.370	2.82	pg/g	34.00	1.23
1,2,3,6,7,8-HxCDD	**238**			0.382	2.82	pg/g	34.06	1.25
1,2,3,7,8,9-HxCDD	**228**			0.376	2.82	pg/g	34.23	1.25
1,2,3,4,6,7,8-HpCDD	**8060**		E	2.03	2.82	pg/g	36.54	1.04
OCDD	**82200**		E	3.27	5.63	pg/g	39.72	0.89
2,3,7,8-TCDF	1.24			0.0755	0.563	pg/g	25.11	0.74
2,3,7,8-TCDF [confirm]	**1.11**			0.217	0.563	pg/g	22.13	0.68
1,2,3,7,8-PeCDF	**5.92**			0.167	2.82	pg/g	30.55	1.52
2,3,4,7,8-PeCDF	**15.3**			0.165	2.82	pg/g	31.59	1.55
1,2,3,4,7,8-HxCDF	**59.9**			0.223	2.82	pg/g	33.40	1.22
1,2,3,6,7,8-HxCDF	**97.2**			0.218	2.82	pg/g	33.47	1.24
2,3,4,6,7,8-HxCDF	**135**		DPE	0.218	2.82	pg/g	33.88	1.23
1,2,3,7,8,9-HxCDF	ND		U	0.242	2.82	pg/g		
1,2,3,4,6,7,8-HpCDF	**2790**		DPE E	0.501	2.82	pg/g	35.58	1.04
1,2,3,4,7,8,9-HpCDF	**157**			0.593	2.82	pg/g	36.98	1.04
OCDF	**10900**		E	1.45	5.63	pg/g	39.81	0.89
Total TCDD	**39.9**	42.4		0.0743	0.563	pg/g		
Total PeCDD	**236**			0.0903	2.82	pg/g		
Total HxCDD	**2480**			0.382	2.82	pg/g		
Total HpCDD	**17900**			2.03	2.82	pg/g		
Total TCDF	**101**	102		0.0755	0.563	pg/g		
Total PeCDF	**594**	596	DPE	0.166	2.82	pg/g		
Total HxCDF	**2570**		DPE	0.242	2.82	pg/g		
Total HpCDF	**5830**		DPE	0.593	2.82	pg/g		

World Health Organization Summary

	Units	ND=0	ND=½	ND=DL
WHO-2005 TEQ	pg/g	264	264	264
WHO-2005 TEQ w/EMPC	pg/g	264	264	264

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Results of **06**

Client Sample ID: **06**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508006-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 13:30
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 87.10

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
Labeled Standards								
13C-2378-TCDD	82.0				40.0-135	%		
13C-12378-PeCDD	85.0				40.0-135	%		
13C-123678-HxCDD	81.0				40.0-135	%		
13C-1234678-HpCDD	77.0				40.0-135	%		
13C-OCDD	42.0				40.0-135	%		
13C-2378-TCDF	73.0				40.0-135	%		
13C-12378-PeCDF	76.0				40.0-135	%		
13C-123678-HxCDF	95.0				40.0-135	%		
13C-1234678-HpCDF	92.0				40.0-135	%		
37Cl-2378-TCDD	95.0				40.0-135	%		
13C-23478-PeCDF	76.0				40.0-135	%		
13C-123478-HxCDD	78.0				40.0-135	%		
13C-123478-HxCDF	81.0				40.0-135	%		
13C-1234789-HpCDF	71.0				40.0-135	%		

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/11/2012 22:54
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.19 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1740
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: JHL
Analytical Date/Time: 06/21/2012 15:59
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.19 g
Prep Extract Vol: 20 uL

Print Date: 06/25/2012

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SGS ANALYTICAL PERSPECTIVES

Results of **07**

Client Sample ID: **07**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508007-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 14:45
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 94.10

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD	**2.63**			0.0347	0.490	pg/g	26.00	0.77
1,2,3,7,8-PeCDD	**31.9**			0.0307	2.45	pg/g	31.83	1.56
1,2,3,4,7,8-HxCDD	**94.7**			0.209	2.45	pg/g	34.00	1.23
1,2,3,6,7,8-HxCDD	**200**			0.216	2.45	pg/g	34.08	1.24
1,2,3,7,8,9-HxCDD	**210**			0.213	2.45	pg/g	34.24	1.21
1,2,3,4,6,7,8-HpCDD	**6750**		E	1.60	2.45	pg/g	36.58	1.04
OCDD	**65800**		E	2.91	4.90	pg/g	39.80	0.89
2,3,7,8-TCDF	1.24			0.0495	0.490	pg/g	25.09	0.78
2,3,7,8-TCDF [confirm]	**1.17**			0.237	0.490	pg/g	22.13	0.77
1,2,3,7,8-PeCDF	**8.27**			0.199	2.45	pg/g	30.55	1.48
2,3,4,7,8-PeCDF	**17.7**			0.197	2.45	pg/g	31.59	1.60
1,2,3,4,7,8-HxCDF	**82.4**			0.315	2.45	pg/g	33.40	1.24
1,2,3,6,7,8-HxCDF	**154**			0.308	2.45	pg/g	33.47	1.24
2,3,4,6,7,8-HxCDF	**198**		DPE	0.308	2.45	pg/g	33.88	1.25
1,2,3,7,8,9-HxCDF	ND		U	0.341	2.45	pg/g		
1,2,3,4,6,7,8-HpCDF	**4170**		DPE E	0.462	2.45	pg/g	35.61	1.03
1,2,3,4,7,8,9-HpCDF	**206**			0.547	2.45	pg/g	37.00	1.04
OCDF	**11400**		E	1.45	4.90	pg/g	39.86	0.89
Total TCDD	**18.2**	19.8		0.0347	0.490	pg/g		
Total PeCDD	**185**			0.0307	2.45	pg/g		
Total HxCDD	**2250**			0.216	2.45	pg/g		
Total HpCDD	**14800**			1.60	2.45	pg/g		
Total TCDF	**91.3**	92.8		0.0495	0.490	pg/g		
Total PeCDF	**850**	851	DPE	0.198	2.45	pg/g		
Total HxCDF	**3800**		DPE	0.341	2.45	pg/g		
Total HpCDF	**7780**		DPE	0.547	2.45	pg/g		

World Health Organization Summary

	Units	ND=0	ND=½	ND=DL
WHO-2005 TEQ	pg/g	269	269	269
WHO-2005 TEQ w/EMPC	pg/g	269	269	269

Print Date 06/25/2012

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Results of **07**

Client Sample ID: **07**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508007-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 14:45
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 94.10

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
Labeled Standards								
13C-2378-TCDD	83.0				40.0-135	%		
13C-12378-PeCDD	86.0				40.0-135	%		
13C-123678-HxCDD	83.0				40.0-135	%		
13C-1234678-HpCDD	81.0				40.0-135	%		
13C-OCDD	43.0				40.0-135	%		
13C-2378-TCDF	68.0				40.0-135	%		
13C-12378-PeCDF	75.0				40.0-135	%		
13C-123678-HxCDF	96.0				40.0-135	%		
13C-1234678-HpCDF	98.0				40.0-135	%		
37Cl-2378-TCDD	92.0				40.0-135	%		
13C-23478-PeCDF	71.0				40.0-135	%		
13C-123478-HxCDD	77.0				40.0-135	%		
13C-123478-HxCDF	72.0				40.0-135	%		
13C-1234789-HpCDF	66.0				40.0-135	%		

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/11/2012 22:09
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.86 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1740
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: JHL
Analytical Date/Time: 06/21/2012 16:35
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10.86 g
Prep Extract Vol: 20 uL

SGS ANALYTICAL PERSPECTIVES

Results of **08**

Client Sample ID: **08**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508008-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 15:15
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 85.90

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD	**19.8**			0.158	0.528	pg/g	25.46	0.81
1,2,3,7,8-PeCDD	**383**			0.249	2.64	pg/g	31.55	1.58
1,2,3,4,7,8-HxCDD	**970**			1.61	2.64	pg/g	33.74	1.26
1,2,3,6,7,8-HxCDD	**2620**		E	1.67	2.64	pg/g	33.81	1.28
1,2,3,7,8,9-HxCDD	**2330**		E	1.64	2.64	pg/g	33.97	1.29
1,2,3,4,6,7,8-HpCDD	**71400**			22.4	22.4	pg/g	36.29	1.05
OCDD	**478000**			19.0	19.0	pg/g	39.34	0.90
2,3,7,8-TCDF	35.4			0.343	0.528	pg/g	24.55	0.80
2,3,7,8-TCDF [confirm]	**27.9**			0.300	0.528	pg/g	22.13	0.74
1,2,3,7,8-PeCDF	**164**			0.823	2.64	pg/g	29.96	1.57
2,3,4,7,8-PeCDF	**310**			0.813	2.64	pg/g	31.27	1.57
1,2,3,4,7,8-HxCDF	**1720**			11.4	11.4	pg/g	33.23	1.23
1,2,3,6,7,8-HxCDF	**2440**			9.61	9.61	pg/g	33.30	1.23
2,3,4,6,7,8-HxCDF	**3690**			10.4	10.4	pg/g	33.69	1.28
1,2,3,7,8,9-HxCDF	ND		U	17.6	17.6	pg/g		
1,2,3,4,6,7,8-HpCDF	**72700**			9.11	9.11	pg/g	35.37	1.04
1,2,3,4,7,8,9-HpCDF	**4050**			19.0	19.0	pg/g	36.73	1.02
OCDF	**181000**			12.2	12.2	pg/g	39.51	0.89
Total TCDD	**171**	174		0.158	0.528	pg/g		
Total PeCDD	**1870**			0.249	2.64	pg/g		
Total HxCDD	**25400**			1.67	2.64	pg/g		
Total HpCDD	**176000**			22.4	22.4	pg/g		
Total TCDF	**1910**	1920		0.343	0.528	pg/g		
Total PeCDF	**18000**	18100	DPE	0.818	2.64	pg/g		
Total HxCDF	**90600**			17.6	17.6	pg/g		
Total HpCDF	**171000**			19.0	19.0	pg/g		

World Health Organization Summary

	Units	ND=0	ND=½	ND=DL
WHO-2005 TEQ	pg/g	3560	3561	3561
WHO-2005 TEQ w/EMPC	pg/g	3560	3561	3561

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Results of **08**

Client Sample ID: **08**
Client Project ID: **Cox 2012**
Lab Sample ID: 31201508008-A
Lab Project ID: 31201508

Collection Date: 05/10/2012 15:15
Received Date: 05/15/2012 09:52
Matrix: Soil-Solid as dry weight
Solids (%): 85.90

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
Labeled Standards								
13C-2378-TCDD	90.0				40.0-135	%		
13C-12378-PeCDD	98.0				40.0-135	%		
13C-123678-HxCDD	85.0				40.0-135	%		
13C-1234678-HpCDD	109				40.0-135	%		
13C-OCDD		113			40.0-135	%		
13C-2378-TCDF	83.0				40.0-135	%		
13C-12378-PeCDF	88.0				40.0-135	%		
13C-123678-HxCDF	96.0				40.0-135	%		
13C-1234678-HpCDF	132				40.0-135	%		
37Cl-2378-TCDD	108				40.0-135	%		
13C-23478-PeCDF	85.0				40.0-135	%		
13C-123478-HxCDD	81.0				40.0-135	%		
13C-123478-HxCDF	80.0				40.0-135	%		
13C-1234789-HpCDF	86.0				40.0-135	%		

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/14/2012 01:59
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 11.02 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1740
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: JHL
Analytical Date/Time: 06/21/2012 18:59
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 11.02 g
Prep Extract Vol: 20 uL

Analytical Batch: HRD1741
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/20/2012 10:34
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 11.02 g
Prep Extract Vol: 20 uL

Batch Summary

Analytical Method: SW-846 8290A

Prep Method: SW-846 3540C/HRMS
Prep Batch: HXX1624
Prep Date: 06/06/2012 17:36

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
OPR for HBN 24377 [HXX/1624]	75281	06/11/2012 17:32	HRD1732	HRMS3	MAF
LMB for HBN 24377 [HXX/1624]	75280	06/11/2012 18:17	HRD1732	HRMS3	MAF
07	31201508007	06/11/2012 22:09	HRD1732	HRMS3	MAF
06	31201508006	06/11/2012 22:54	HRD1732	HRMS3	MAF
08	31201508008	06/14/2012 01:59	HRD1732	HRMS3	MAF
05	31201508005	06/14/2012 03:29	HRD1732	HRMS3	MAF
04	31201508004	06/14/2012 04:14	HRD1732	HRMS3	MAF
03	31201508003	06/14/2012 04:59	HRD1732	HRMS3	MAF
02	31201508002	06/14/2012 05:44	HRD1732	HRMS3	MAF
01	31201508001	06/14/2012 07:14	HRD1732	HRMS3	MAF
01	31201508001	06/14/2012 19:23	HRD1741	HRMS3	MAF
03	31201508003	06/14/2012 20:08	HRD1741	HRMS3	MAF
04	31201508004	06/14/2012 20:53	HRD1741	HRMS3	MAF
01	31201508001	06/18/2012 11:38	HRD1740	HRMS3	KAS
02	31201508002	06/18/2012 11:56	HRD1740	HRMS3	JHL
03	31201508003	06/18/2012 12:15	HRD1740	HRMS3	JHL
08	31201508008	06/20/2012 10:34	HRD1741	HRMS3	MAF
04	31201508004	06/21/2012 14:46	HRD1740	HRMS3	JHL
05	31201508005	06/21/2012 15:22	HRD1740	HRMS3	JHL
06	31201508006	06/21/2012 15:59	HRD1740	HRMS3	JHL
07	31201508007	06/21/2012 16:35	HRD1740	HRMS3	JHL
08	31201508008	06/21/2012 18:59	HRD1740	HRMS3	JHL

Method Blank Summary

Blank ID: LMB for HBN 24377 [HXX/1624]
Blank Lab ID: 75280
QC for Samples:
31201508001, 31201508002, 31201508003, 31201508004, 31201508005, 31201508006, 31201508007, 31201508008

Matrix: Soil-Solid as dry weight

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio
2,3,7,8-TCDD	ND		U	0.0276	0.500	pg/g		
1,2,3,7,8-PeCDD	**0.146**		J	0.0190	2.50	pg/g	31.83	1.49
1,2,3,4,7,8-HxCDD	**0.146**		J	0.0318	2.50	pg/g	34.00	1.34
1,2,3,6,7,8-HxCDD	**0.232**		J	0.0328	2.50	pg/g	34.06	1.39
1,2,3,7,8,9-HxCDD	**0.168**		J	0.0324	2.50	pg/g	34.23	1.30
1,2,3,4,6,7,8-HpCDD	**0.878**		J	0.0432	2.50	pg/g	36.53	1.00
OCDD	**2.99**		J	0.0648	5.00	pg/g	39.55	0.92
2,3,7,8-TCDF	ND		U	0.0306	0.500	pg/g		
1,2,3,7,8-PeCDF		0.136	J	0.0364	2.50	pg/g	30.54	1.94*
2,3,4,7,8-PeCDF	**0.140**		J	0.0360	2.50	pg/g	31.59	1.66
1,2,3,4,7,8-HxCDF	**0.148**		J	0.0172	2.50	pg/g	33.40	1.38
1,2,3,6,7,8-HxCDF	**0.194**		J	0.0166	2.50	pg/g	33.47	1.10
2,3,4,6,7,8-HxCDF		0.216	J	0.0168	2.50	pg/g	33.88	1.53*
1,2,3,7,8,9-HxCDF	**0.0840**		J	0.0186	2.50	pg/g	34.44	1.19
1,2,3,4,6,7,8-HpCDF	**1.08**		J	0.0194	2.50	pg/g	35.57	1.11
1,2,3,4,7,8,9-HpCDF	**0.136**		J	0.0228	2.50	pg/g	36.97	1.04
OCDF	**1.15**		J	0.0552	5.00	pg/g	39.75	0.83
Total TCDD	ND		U	0.0276	0.500	pg/g		
Total PeCDD	**0.146**	0.202	J	0.0190	2.50	pg/g		
Total HxCDD	**0.770**	1.28	J	0.0328	2.50	pg/g		
Total HpCDD	**2.28**		J	0.0432	2.50	pg/g		
Total TCDF	ND	0.122	J	0.0306	0.500	pg/g		
Total PeCDF	**1.19**	1.46	J	0.878	2.50	pg/g		
Total HxCDF	**2.07**	2.29	J	0.0186	2.50	pg/g		
Total HpCDF	**2.15**		J	0.0228	2.50	pg/g		
Labeled Standards								
13C-2378-TCDD	80.0				40.0-135	%		
13C-12378-PeCDD	80.0				40.0-135	%		
13C-123678-HxCDD	74.0				40.0-135	%		
13C-1234678-HpCDD	81.0				40.0-135	%		
13C-OCDD	56.0				40.0-135	%		
13C-2378-TCDF	66.0				40.0-135	%		
13C-12378-PeCDF	69.0				40.0-135	%		
13C-123678-HxCDF	85.0				40.0-135	%		
13C-1234678-HpCDF	85.0				40.0-135	%		
37Cl-2378-TCDD	92.0				40.0-135	%		
13C-23478-PeCDF	70.0				40.0-135	%		
13C-123478-HxCDD	79.0				40.0-135	%		
13C-123478-HxCDF	71.0				40.0-135	%		
13C-1234789-HpCDF	69.0				40.0-135	%		

Method Blank Summary

Blank ID: LMB for HBN 24377 [HXX/1624]
Blank Lab ID: 75280
QC for Samples:
31201508001, 31201508002, 31201508003, 31201508004, 31201508005, 31201508006, 31201508007, 31201508008

Matrix: Soil-Solid as dry weight

Results by **SW-846 8290A**

Parameter	Result	EMPC	Qual	DL	LOQ/CL	Units	RT	Ratio

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF
Analytical Date/Time: 06/11/2012 18:17
Dilution: 1

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Prep Initial Wt./Vol.: 10 g
Prep Extract Vol: 20 uL

Blank Spike Summary

Blank Spike ID: OPR for HBN 24377 [HXX/1624]
Blank Spike Lab ID: 75281
Date Analyzed: 06/11/2012 17:32

Matrix: Soil-Solid as dry weight

QC for Samples: 31201508001, 31201508002, 31201508003, 31201508004, 31201508005, 31201508006, 31201508007, 31201508008

Results by **SW-846 8290A**

	Blank Spike (pg/g)			
Parameter	Spike	Result	Rec (%)	CL
2,3,7,8-TCDD	20.0	19.0	95	70.0-130
1,2,3,7,8-PeCDD	100	88.6	89	70.0-130
1,2,3,4,7,8-HxCDD	100	103	103	70.0-130
1,2,3,6,7,8-HxCDD	100	102	102	70.0-130
1,2,3,7,8,9-HxCDD	100	108	108	70.0-130
1,2,3,4,6,7,8-HpCDD	100	95.5	95	70.0-130
OCDD	200	197	99	70.0-130
2,3,7,8-TCDF	20.0	20.6	103	70.0-130
1,2,3,7,8-PeCDF	100	99.8	100	70.0-130
2,3,4,7,8-PeCDF	100	84.8	85	70.0-130
1,2,3,4,7,8-HxCDF	100	81.9	82	70.0-130
1,2,3,6,7,8-HxCDF	100	93.7	94	70.0-130
2,3,4,6,7,8-HxCDF	100	74.9	75	70.0-130
1,2,3,7,8,9-HxCDF	100	67.4	**67***	70.0-130
1,2,3,4,6,7,8-HpCDF	100	92.6	93	70.0-130
1,2,3,4,7,8,9-HpCDF	100	59.8	**60***	70.0-130
OCDF	200	146	73	70.0-130
Labeled Standards				
13C-2378-TCDD			85	40.0-135
13C-12378-PeCDD			86	40.0-135
13C-123678-HxCDD			80	40.0-135
13C-1234678-HpCDD			87	40.0-135
13C-OCDD			64	40.0-135
13C-2378-TCDF			68	40.0-135
13C-12378-PeCDF			77	40.0-135
13C-123678-HxCDF			98	40.0-135
13C-1234678-HpCDF			99	40.0-135
37Cl-2378-TCDD			98	40.0-135
13C-23478-PeCDF			69	40.0-135
13C-123478-HxCDD			87	40.0-135
13C-123478-HxCDF			78	40.0-135
13C-1234789-HpCDF			65	40.0-135

Blank Spike Summary

Blank Spike ID: OPR for HBN 24377 [HXX/1624]
Blank Spike Lab ID: 75281
Date Analyzed: 06/11/2012 17:32

Matrix: Soil-Solid as dry weight

QC for Samples: 31201508001, 31201508002, 31201508003, 31201508004, 31201508005, 31201508006, 31201508007, 31201508008

Results by **SW-846 8290A**

Parameter	Spike	Blank Spike (%) Result	Rec (%)	CL

Batch Information

Analytical Batch: HRD1732
Analytical Method: SW-846 8290A
Instrument: HRMS3
Analyst: MAF

Prep Batch: HXX1624
Prep Method: SW-846 3540C/HRMS
Prep Date/Time: 06/06/2012 17:36
Spike Init Wt./Vol.: 10 g Extract Vol: 20 uL

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

31201508

Number 14387

WO# 31201508

Client	Report to Contact: Nisreen Saikaly	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page ___ of ___
City / State / Zip Code	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers: 1
Project Name			Bottle (See Instructions on back): M
			Preservative: 1
Project Number / P.O Number			Lot No.: NE11020

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix GW	DW	WW	S	Other	Analysis: 8290 Dioxin	Remarks / Cooler ID
01	5/10/12	1220	C				X		X	
02		1240	C							
03		1420	C							
04		1310	C							
05		1400	C							
06		1330	C							
07		1445	C							
08		1515	C							

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify): Need L3 Report

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☑ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	5/14/12	1800	1. Received by: FedEx	5/14/12	1800
2. Relinquished by	5/15/12	0952	2. Received by: Julie R Franhuzer		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory Received by		

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. 1.6 °C
Temp. Blank ☐ Y / ☐ N

custody seal absent

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **Shealy** Work Order No.: **31201508**

1. X Shipped
   ___ Hand Delivered

2. ___ COC Present on Receipt
   X No COC
   ___ Additional Transmittal Forms

3. ___ Custody Tape on Container
   X No Custody Tape

4. X Samples Intact
   ___ Samples Broken / Leaking

5. X Chilled on Receipt Actual Temp.(s) in °C: 1.6
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   ___ Received Outside of Temperature Specifications

6. X Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

7. ___ Chlorine absent
   ___ HNO3 < 2
   ___ HCL < 2
   ___ Additional Preservatives verified (see notes)

8. X Received Within Holding Time
   ___ Not Received Within Holding Time

9. X No Discrepancies Noted
   ___ Discrepancies Noted
   ___ NCDENR notified of Descrepancies*

10. ___ No Headspace present in VOC vials
    ___ Headspace present in VOC vials >6mm

Notes:

Comments:

Inspected and Logged in by: JJ

Date: Tue-5/15/12 00:00

*NCDENR must be notified when collection, holding time or preservation requirements are not met. MI_11.6

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421

www.capefearanalytical.com

June 11, 2012

Ms. Nisreen Saikaly
Shealy Environmental Services, Incorporated
106 Vantage Point Drive
West Columbia, South Carolina 29172

Re: Lab Subcontract
Work Order: 3540
SDG: NE11019

Dear Ms. Saikaly:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on May 15, 2012. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynthia Larkins

Cynthia Larkins
Project Manager

Chain of Custody: 14386
Enclosures

SHEALY

Chain of Custody Record

Shealy Envi .nental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 14386

CFA WO # 3540

Client	Report to Contact: Nisreen Saikaly	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page of
City / State / Zip Code	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers
Project Name			Bottle (See Instructions on back)
			Preservative
Project Number	P.O Number		Lot No. NE11019

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	GW	DW	WW	S	Other	Analysis: Dioxin 8290 (1)	Remarks / Cooler ID
01	5/10/12	1220	C				X		X	
02		1240	C							
03		1420	C							
04		1310	C							
05		1400	C							
06		1330	C							
07		1445	C							
08		1515	C							

Turn Around Time Required (Prior lab approval required for expedited TAT): ☑ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☑ Disposal by Lab

QC Requirements (Specify): NEED L3 report

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☑ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	5/14/12	1800	1. Received by: FedEx	5/14/12	1800
2. Relinquished by			2. Received by: CR 15MAY12		
3. Relinquished by: CR 15MAY12			3. Received by		
4. Relinquished by: FedEx			4. Laboratory Received by: Cynde Larkins	15MAY12	0940

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received on Ice (Check) ☑ Yes ☐ No ☐ Ice Pack — Receipt Temp. 2.2 C — Temp. Blank ☐ Y / ☑ N

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: Shealy	Work Order: 3540
Received By: Cynde Larkins	Date/Time Received: 15MAY12 0940

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?		✓	
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: ice bags blue ice dry ice none other (describe) 2.2
4	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: If preservative added, Lot#:
5	Samples requiring preservation have no residual chlorine?		✓		Sample IDs, containers affected: If preservative added, Lot#:
6	Samples received within holding time?	✓			Sample IDs, tests affected:
7	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
8	Date & time of COC match date & time on containers?			✓	Sample IDs, containers affected: Samples 07 and 08 do not have collection time on labels
9	Number of containers received match number indicated on COC?	✓			Sample IDs, containers affected:
10	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CL Date: 15MAY12

High Resolution Dioxin and Furan Analysis

Case Narrative

HDOX Case Narrative
Shealy Environmental Services, Inc. (SHLA)
SDG NE11019
Work Order 3540

Method/Analysis Information

Product: **Dioxins/Furans by SW846 Method 8290A in Solids**
Analytical Method: SW846 8290A
Extraction Method: SW846 3540C
Analytical Batch Number: 21187
Clean Up Batch Number: 21186
Extraction Batch Number: 21185

Sample Analysis

The following samples were analyzed using the analytical protocol as established in :

Sample ID	Client ID
3540001	01
3540002	02
3540003	03
3540004	04
3540005	05
3540006	06
3540007	07
3540008	08
12006081	Method Blank (MB)
12006082	Laboratory Control Sample (LCS)
12006083	Laboratory Control Sample Duplicate (LCSD)
12006084	3540002(02) Matrix Spike (MS)
12006085	3540002(02) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

Preparation/Analytical Method Verification

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 9.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2003 NELAC Standard.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
13C-OCDD recovered marginally low, signal-to-noise was acceptable. 3540004 (04) and 3540008 (08)- Batch 21187.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Matrix Spike (MS) Recovery Statement
The MS recoveries for this SDG were not within the acceptance limits. The failures confirm in the matrix spike duplicate and are attributed to matrix interference. 12006084 (02)- Batch 21187.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD recoveries for this SDG were not within the acceptance limits. The failures confirm in the MS and are attributed to matrix interference. 12006085 (02)- Batch 21187.

MS/MSD Relative Percent Difference (RPD) Statement

The relative percent differences (RPD) between each MS and MSD were not within the required acceptance limits. 12006085 (02)- Batch 21187.

Duplicate Relative Percent Difference (RPD) Statement
The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
Samples 12006084 (02), 12006085 (02), 3540001 (01), 3540002 (02), 3540003 (03), 3540004 (04), 3540005 (05), 3540006 (06), 3540007 (07) and 3540008 (08)- Batch 21187 were diluted due to the presence of overrange target analytes. Samples required the addition of additional extraction standard to facilitate the large dilution required due to over range targets. 3540004 (04), 3540005 (05) and 3540008 (08)- Batch 21187.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

Sample preparation
No difficulties were encountered during sample preparation.

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional

packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC

3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report
for

SHLA001 Shealy Environmental Services, Inc.

Client SDG: NE11019 CFA Work Order: 3540

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a surrogate compound

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range

J Value is estimated

K Estimated Maximum Possible Concentration

U Analyte was analyzed for , but not detected above the specified detection limit.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: **Name: Mike Larkins**

Date: 11 JUN 2012 **Title: Technical Director**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	**Client:**	SHLA001	**Project:**	SHLA00110
Lab Sample ID:	3540001	**Date Collected:**	05/10/2012 12:20	**Matrix:**	SOLID
Client Sample:	8290 Soil	**Date Received:**	05/15/2012 09:40	**%Moisture:**	74.8
Client ID:	01			**Prep Basis:**	Dry Weight
Batch ID:	21187	**Method:**	SW846 8290A		
Run Date:	06/01/2012 06:04	**Analyst:**	MJC	**Instrument:**	HRP763
Data File:	b31may12b_3-6			**Dilution:**	20
Prep Batch:	21185	**Prep Method:**	SW846 3540C		
Prep Date:	23-MAY-12	**Aliquot:**	15.76 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	45.9		pg/g	41.7	50.3
40321-76-4	1,2,3,7,8-PeCDD	J	207		pg/g	50.2	252
39227-28-6	1,2,3,4,7,8-HxCDD		577		pg/g	98.6	252
57653-85-7	1,2,3,6,7,8-HxCDD		1110		pg/g	90.1	252
19408-74-3	1,2,3,7,8,9-HxCDD		1100		pg/g	101	252
35822-46-9	1,2,3,4,6,7,8-HpCDD		43300		pg/g	294	252
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	452000		pg/g	421	503
51207-31-9	2,3,7,8-TCDF	U	25		pg/g	25.0	50.3
57117-41-6	1,2,3,7,8-PeCDF	U	25		pg/g	25.0	252
57117-31-4	2,3,4,7,8-PeCDF	U	25.1		pg/g	25.1	252
70648-26-9	1,2,3,4,7,8-HxCDF	J	121		pg/g	31.6	252
57117-44-9	1,2,3,6,7,8-HxCDF	J	134		pg/g	27.9	252
60851-34-5	2,3,4,6,7,8-HxCDF	J	180		pg/g	30.7	252
72918-21-9	1,2,3,7,8,9-HxCDF	J	54.3		pg/g	37.1	252
67562-39-4	1,2,3,4,6,7,8-HpCDF		3830		pg/g	65.9	252
55673-89-7	1,2,3,4,7,8,9-HpCDF		262		pg/g	88.1	252
39001-02-0	1,2,3,4,6,7,8,9-OCDF		9640		pg/g	99.6	503
41903-57-5	Total Tetrachlorodibenzo-p-dioxin		277	619	pg/g	41.7	50.3
36088-22-9	Total Pentachlorodibenzo-p-dioxin		3420		pg/g	50.2	252
34465-46-8	Total Hexachlorodibenzo-p-dioxin		26300		pg/g	90.1	252
37871-00-4	Total Heptachlorodibenzo-p-dioxin	E	187000		pg/g	294	252
30402-14-3	Total Tetrachlorodibenzofuran		53.9		pg/g	25.0	50.3
30402-15-4	Total Pentachlorodibenzofuran		535	742	pg/g	11.9	252
55684-94-1	Total Hexachlorodibenzofuran		3870	3920	pg/g	27.9	252
38998-75-3	Total Heptachlorodibenzofuran		12300	12500	pg/g	65.9	252
3333-30-0	TEQ WHO2005 ND=0		1190	1190	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		1200	1200	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		360	503	pg/g	71.6	(40%-135%)
13C-1,2,3,7,8-PeCDD		315	503	pg/g	62.7	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		370	503	pg/g	73.6	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		447	503	pg/g	88.8	(40%-135%)
13C-OCDD		1080	1010	pg/g	107	(40%-135%)
13C-2,3,7,8-TCDF		367	503	pg/g	72.9	(40%-135%)
13C-1,2,3,7,8-PeCDF		296	503	pg/g	58.8	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		376	503	pg/g	74.6	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		363	503	pg/g	72.1	(40%-135%)

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	**Client:**	SHLA001	**Project:**	SHLA00110
Lab Sample ID:	3540002	**Date Collected:**	05/10/2012 12:40	**Matrix:**	SOLID
Client Sample:	8290 Soil	**Date Received:**	05/15/2012 09:40	**%Moisture:**	16.8
Client ID:	02			**Prep Basis:**	Dry Weight
Batch ID:	21187	**Method:**	SW846 8290A		
Run Date:	06/01/2012 03:43	**Analyst:**	MJC	**Instrument:**	HRP763
Data File:	b31may12b_3-3			**Dilution:**	10
Prep Batch:	21185	**Prep Method:**	SW846 3540C		
Prep Date:	23-MAY-12	**Aliquot:**	12.24 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	4.89		pg/g	2.57	9.82
40321-76-4	1,2,3,7,8-PeCDD	J	34.5		pg/g	2.06	49.1
39227-28-6	1,2,3,4,7,8-HxCDD		124		pg/g	8.76	49.1
57653-85-7	1,2,3,6,7,8-HxCDD		235		pg/g	7.99	49.1
19408-74-3	1,2,3,7,8,9-HxCDD		278		pg/g	8.97	49.1
35822-46-9	1,2,3,4,6,7,8-HpCDD		8590		pg/g	25.7	49.1
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	86400		pg/g	40.0	98.2
51207-31-9	2,3,7,8-TCDF	U	3.36		pg/g	3.36	9.82
57117-41-6	1,2,3,7,8-PeCDF	J	11.3		pg/g	2.16	49.1
57117-31-4	2,3,4,7,8-PeCDF	J	24.4		pg/g	2.16	49.1
70648-26-9	1,2,3,4,7,8-HxCDF		113		pg/g	7.60	49.1
57117-44-9	1,2,3,6,7,8-HxCDF		188		pg/g	6.71	49.1
60851-34-5	2,3,4,6,7,8-HxCDF		244		pg/g	7.40	49.1
72918-21-9	1,2,3,7,8,9-HxCDF	J	26.6		pg/g	8.95	49.1
67562-39-4	1,2,3,4,6,7,8-HpCDF		5260		pg/g	11.2	49.1
55673-89-7	1,2,3,4,7,8,9-HpCDF		275		pg/g	14.9	49.1
39001-02-0	1,2,3,4,6,7,8,9-OCDF		11700		pg/g	23.6	98.2
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	9.62		pg/g	2.57	9.82
36088-22-9	Total Pentachlorodibenzo-p-dioxin		228	262	pg/g	2.06	49.1
34465-46-8	Total Hexachlorodibenzo-p-dioxin		3120		pg/g	7.99	49.1
37871-00-4	Total Heptachlorodibenzo-p-dioxin	E	21800		pg/g	25.7	49.1
30402-14-3	Total Tetrachlorodibenzofuran		88.8	102	pg/g	3.36	9.82
30402-15-4	Total Pentachlorodibenzofuran		1000		pg/g	1.11	49.1
55684-94-1	Total Hexachlorodibenzofuran		5020		pg/g	6.71	49.1
38998-75-3	Total Heptachlorodibenzofuran		12300		pg/g	11.2	49.1
3333-30-0	TEQ WHO2005 ND=0		338	338	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		339	339	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		145	196	pg/g	73.8	(40%-135%)
13C-1,2,3,7,8-PeCDD		135	196	pg/g	68.9	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		138	196	pg/g	70.5	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		164	196	pg/g	83.7	(40%-135%)
13C-OCDD		333	393	pg/g	84.9	(40%-135%)
13C-2,3,7,8-TCDF		129	196	pg/g	65.8	(40%-135%)
13C-1,2,3,7,8-PeCDF		116	196	pg/g	59.2	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		134	196	pg/g	68.0	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		138	196	pg/g	70.2	(40%-135%)

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	**Client:**	SHLA001	**Project:**	SHLA00110
Lab Sample ID:	3540003	**Date Collected:**	05/10/2012 14:20	**Matrix:**	SOLID
Client Sample:	8290 Soil	**Date Received:**	05/15/2012 09:40	**%Moisture:**	16.3
Client ID:	03			**Prep Basis:**	Dry Weight
Batch ID:	21187	**Method:**	SW846 8290A		
Run Date:	06/01/2012 06:51	**Analyst:**	MJC	**Instrument:**	HRP763
Data File:	b31may12b_3-7			**Dilution:**	20
Prep Batch:	21185	**Prep Method:**	SW846 3540C		
Prep Date:	23-MAY-12	**Aliquot:**	12.37 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	6.93		pg/g	6.93	19.3
40321-76-4	1,2,3,7,8-PeCDD	J	69.7		pg/g	8.75	96.5
39227-28-6	1,2,3,4,7,8-HxCDD		202		pg/g	33.2	96.5
57653-85-7	1,2,3,6,7,8-HxCDD		439		pg/g	30.3	96.5
19408-74-3	1,2,3,7,8,9-HxCDD		458		pg/g	34.0	96.5
35822-46-9	1,2,3,4,6,7,8-HpCDD		14900		pg/g	96.0	96.5
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	131000		pg/g	146	193
51207-31-9	2,3,7,8-TCDF	U	12.1		pg/g	12.1	19.3
57117-41-6	1,2,3,7,8-PeCDF	J	19.2		pg/g	9.71	96.5
57117-31-4	2,3,4,7,8-PeCDF	J	46.1		pg/g	9.73	96.5
70648-26-9	1,2,3,4,7,8-HxCDF		216		pg/g	31.3	96.5
57117-44-9	1,2,3,6,7,8-HxCDF		374		pg/g	27.6	96.5
60851-34-5	2,3,4,6,7,8-HxCDF		531		pg/g	30.5	96.5
72918-21-9	1,2,3,7,8,9-HxCDF	U	36.9		pg/g	36.9	96.5
67562-39-4	1,2,3,4,6,7,8-HpCDF		10300		pg/g	48.3	96.5
55673-89-7	1,2,3,4,7,8,9-HpCDF		498		pg/g	64.7	96.5
39001-02-0	1,2,3,4,6,7,8,9-OCDF		28200		pg/g	108	193
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	6.93		pg/g	6.93	19.3
36088-22-9	Total Pentachlorodibenzo-p-dioxin		338	385	pg/g	8.75	96.5
34465-46-8	Total Hexachlorodibenzo-p-dioxin		3840		pg/g	30.3	96.5
37871-00-4	Total Heptachlorodibenzo-p-dioxin		26800		pg/g	96.0	96.5
30402-14-3	Total Tetrachlorodibenzofuran		229	245	pg/g	12.1	19.3
30402-15-4	Total Pentachlorodibenzofuran		2360	2410	pg/g	4.65	96.5
55684-94-1	Total Hexachlorodibenzofuran		10900	11100	pg/g	27.6	96.5
38998-75-3	Total Heptachlorodibenzofuran		26400	26600	pg/g	48.3	96.5
3333-30-0	TEQ WHO2005 ND=0		611	611	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		617	617	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		143	193	pg/g	74.0	(40%-135%)
13C-1,2,3,7,8-PeCDD		116	193	pg/g	60.1	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		150	193	pg/g	77.6	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		154	193	pg/g	79.7	(40%-135%)
13C-OCDD		345	386	pg/g	89.4	(40%-135%)
13C-2,3,7,8-TCDF		138	193	pg/g	71.4	(40%-135%)
13C-1,2,3,7,8-PeCDF		111	193	pg/g	57.6	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		139	193	pg/g	71.9	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		143	193	pg/g	73.9	(40%-135%)

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	Client:	SHLA001	Project:	SHLA00110
Lab Sample ID:	3540004	Date Collected:	05/10/2012 13:10	Matrix:	SOLID
Client Sample:	8290 Soil	Date Received:	05/15/2012 09:40	%Moisture:	6.1
Client ID:	04			Prep Basis:	Dry Weight
Batch ID:	21187	Method:	SW846 8290A		
Run Date:	06/07/2012 13:23	Analyst:	MJC	Instrument:	HRP763
Data File:	b06jun12a_4-2			Dilution:	100
Prep Batch:	21185	Prep Method:	SW846 3540C		
Prep Date:	23-MAY-12	Aliquot:	11.07 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	22.3		pg/g	20.6	96.2
40321-76-4	1,2,3,7,8-PeCDD		496		pg/g	17.6	481
39227-28-6	1,2,3,4,7,8-HxCDD		925		pg/g	77.9	481
57653-85-7	1,2,3,6,7,8-HxCDD		2280		pg/g	71.2	481
19408-74-3	1,2,3,7,8,9-HxCDD		2380		pg/g	79.9	481
35822-46-9	1,2,3,4,6,7,8-HpCDD		74500		pg/g	210	481
3268-87-9	1,2,3,4,6,7,8,9-OCDD		135000		pg/g	300	962
51207-31-9	2,3,7,8-TCDF	J	36.0		pg/g	25.4	96.2
57117-41-6	1,2,3,7,8-PeCDF	J	171		pg/g	18.8	481
57117-31-4	2,3,4,7,8-PeCDF	J	313		pg/g	18.8	481
70648-26-9	1,2,3,4,7,8-HxCDF		1350		pg/g	71.4	481
57117-44-9	1,2,3,6,7,8-HxCDF		2470		pg/g	62.9	481
60851-34-5	2,3,4,6,7,8-HxCDF		3020		pg/g	69.5	481
72918-21-9	1,2,3,7,8,9-HxCDF	J	236		pg/g	83.9	481
67562-39-4	1,2,3,4,6,7,8-HpCDF		75200		pg/g	111	481
55673-89-7	1,2,3,4,7,8,9-HpCDF		2970		pg/g	149	481
39001-02-0	1,2,3,4,6,7,8,9-OCDF		208000		pg/g	346	962
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	60.0		pg/g	20.6	96.2
36088-22-9	Total Pentachlorodibenzo-p-dioxin		2400		pg/g	17.6	481
34465-46-8	Total Hexachlorodibenzo-p-dioxin		26000		pg/g	71.2	481
37871-00-4	Total Heptachlorodibenzo-p-dioxin		181000		pg/g	210	481
30402-14-3	Total Tetrachlorodibenzofuran		2090		pg/g	25.4	96.2
30402-15-4	Total Pentachlorodibenzofuran		20300		pg/g	9.41	481
55684-94-1	Total Hexachlorodibenzofuran		76700		pg/g	62.9	481
38998-75-3	Total Heptachlorodibenzofuran		189000		pg/g	111	481
3333-30-0	TEQ WHO2005 ND=0		3520	3520	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		3520	3520	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	Client:	SHLA001	Project:	SHLA00110
Lab Sample ID:	3540005	Date Collected:	05/10/2012 14:00	Matrix:	SOLID
Client Sample:	8290 Soil	Date Received:	05/15/2012 09:40	%Moisture:	10.9
Client ID:	05			Prep Basis:	Dry Weight
Batch ID:	21187	Method:	SW846 8290A		
Run Date:	06/07/2012 14:10	Analyst:	MJC	Instrument:	HRP763
Data File:	b06jun12a_4-3			Dilution:	100
Prep Batch:	21185	Prep Method:	SW846 3540C		
Prep Date:	23-MAY-12	Aliquot:	10.94 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	17.2		pg/g	17.2	103
40321-76-4	1,2,3,7,8-PeCDD	J	106		pg/g	17.5	513
39227-28-6	1,2,3,4,7,8-HxCDD	J	276		pg/g	67.9	513
57653-85-7	1,2,3,6,7,8-HxCDD		652		pg/g	62.0	513
19408-74-3	1,2,3,7,8,9-HxCDD		672		pg/g	69.5	513
35822-46-9	1,2,3,4,6,7,8-HpCDD		18000		pg/g	145	513
3268-87-9	1,2,3,4,6,7,8,9-OCDD		183000		pg/g	390	1030
51207-31-9	2,3,7,8-TCDF	U	17.6		pg/g	17.6	103
57117-41-6	1,2,3,7,8-PeCDF	J	21.3		pg/g	13.1	513
57117-31-4	2,3,4,7,8-PeCDF	J	42.3		pg/g	13.1	513
70648-26-9	1,2,3,4,7,8-HxCDF	J	132		pg/g	30.2	513
57117-44-9	1,2,3,6,7,8-HxCDF	J	223		pg/g	26.7	513
60851-34-5	2,3,4,6,7,8-HxCDF	J	313		pg/g	29.5	513
72918-21-9	1,2,3,7,8,9-HxCDF	U	35.5		pg/g	35.5	513
67562-39-4	1,2,3,4,6,7,8-HpCDF		6250		pg/g	56.2	513
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	410		pg/g	75.3	513
39001-02-0	1,2,3,4,6,7,8,9-OCDF		22000		pg/g	131	1030
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	48.0		pg/g	17.2	103
36088-22-9	Total Pentachlorodibenzo-p-dioxin		701		pg/g	17.5	513
34465-46-8	Total Hexachlorodibenzo-p-dioxin		7400	7550	pg/g	62.0	513
37871-00-4	Total Heptachlorodibenzo-p-dioxin		42100		pg/g	145	513
30402-14-3	Total Tetrachlorodibenzofuran		244		pg/g	17.6	103
30402-15-4	Total Pentachlorodibenzofuran		1970		pg/g	9.11	513
55684-94-1	Total Hexachlorodibenzofuran		6450	6510	pg/g	26.7	513
38998-75-3	Total Heptachlorodibenzofuran		16200	16400	pg/g	56.2	513
3333-30-0	TEQ WHO2005 ND=0		655	655	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		666	666	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

J Value is estimated

K Estimated Maximum Possible Concentration

U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	Client:	SHLA001	Project:	SHLA00110
Lab Sample ID:	3540006	Date Collected:	05/10/2012 13:30	Matrix:	SOLID
Client Sample:	8290 Soil	Date Received:	05/15/2012 09:40	%Moisture:	19.1
Client ID:	06			Prep Basis:	Dry Weight
Batch ID:	21187	Method:	SW846 8290A		
Run Date:	06/01/2012 07:38	Analyst:	MJC	Instrument:	HRP763
Data File:	b31may12b_3-8			Dilution:	20
Prep Batch:	21185	Prep Method:	SW846 3540C		
Prep Date:	23-MAY-12	Aliquot:	11.94 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	11.6		pg/g	11.6	20.7
40321-76-4	1,2,3,7,8-PeCDD	J	53.8		pg/g	9.50	103
39227-28-6	1,2,3,4,7,8-HxCDD		140		pg/g	36.8	103
57653-85-7	1,2,3,6,7,8-HxCDD		299		pg/g	33.7	103
19408-74-3	1,2,3,7,8,9-HxCDD	K		309	pg/g	37.9	103
35822-46-9	1,2,3,4,6,7,8-HpCDD		11800		pg/g	78.6	103
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	109000		pg/g	226	207
51207-31-9	2,3,7,8-TCDF	U	11.9		pg/g	11.9	20.7
57117-41-6	1,2,3,7,8-PeCDF	U	14.7		pg/g	14.7	103
57117-31-4	2,3,4,7,8-PeCDF	J	20.3		pg/g	14.8	103
70648-26-9	1,2,3,4,7,8-HxCDF	J	79.0		pg/g	26.9	103
57117-44-9	1,2,3,6,7,8-HxCDF		122		pg/g	23.8	103
60851-34-5	2,3,4,6,7,8-HxCDF		168		pg/g	26.3	103
72918-21-9	1,2,3,7,8,9-HxCDF	U	31.7		pg/g	31.7	103
67562-39-4	1,2,3,4,6,7,8-HpCDF		3010		pg/g	31.2	103
55673-89-7	1,2,3,4,7,8,9-HpCDF		220		pg/g	41.8	103
39001-02-0	1,2,3,4,6,7,8,9-OCDF		9570		pg/g	85.7	207
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	11.6		pg/g	11.6	20.7
36088-22-9	Total Pentachlorodibenzo-p-dioxin		365		pg/g	9.50	103
34465-46-8	Total Hexachlorodibenzo-p-dioxin		3460	3760	pg/g	33.7	103
37871-00-4	Total Heptachlorodibenzo-p-dioxin		30100		pg/g	78.6	103
30402-14-3	Total Tetrachlorodibenzofuran		81.0	117	pg/g	11.9	20.7
30402-15-4	Total Pentachlorodibenzofuran		651	669	pg/g	4.59	103
55684-94-1	Total Hexachlorodibenzofuran		3560		pg/g	23.8	103
38998-75-3	Total Heptachlorodibenzofuran		7970		pg/g	31.2	103
3333-30-0	TEQ WHO2005 ND=0		326	357	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		336	365	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		162	207	pg/g	78.3	(40%-135%)
13C-1,2,3,7,8-PeCDD		135	207	pg/g	65.2	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		177	207	pg/g	85.3	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		188	207	pg/g	90.9	(40%-135%)
13C-OCDD		371	414	pg/g	89.6	(40%-135%)
13C-2,3,7,8-TCDF		155	207	pg/g	74.7	(40%-135%)
13C-1,2,3,7,8-PeCDF		144	207	pg/g	69.7	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		189	207	pg/g	91.4	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		200	207	pg/g	96.6	(40%-135%)

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	**Client:**	SHLA001	**Project:**	SHLA00110
Lab Sample ID:	3540007	**Date Collected:**	05/10/2012 14:45	**Matrix:**	SOLID
Client Sample:	8290 Soil	**Date Received:**	05/15/2012 09:40	**%Moisture:**	9.3
Client ID:	07			**Prep Basis:**	Dry Weight
Batch ID:	21187	**Method:**	SW846 8290A		
Run Date:	06/01/2012 08:25	**Analyst:**	MJC	**Instrument:**	HRP763
Data File:	b31may12b_3-9			**Dilution:**	20
Prep Batch:	21185	**Prep Method:**	SW846 3540C		
Prep Date:	23-MAY-12	**Aliquot:**	11.75 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	10		pg/g	10.0	18.8
40321-76-4	1,2,3,7,8-PeCDD	J	38.6		pg/g	10.8	93.9
39227-28-6	1,2,3,4,7,8-HxCDD		153		pg/g	28.2	93.9
57653-85-7	1,2,3,6,7,8-HxCDD		240		pg/g	25.7	93.9
19408-74-3	1,2,3,7,8,9-HxCDD		271		pg/g	28.9	93.9
35822-46-9	1,2,3,4,6,7,8-HpCDD		9050		pg/g	83.5	93.9
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	95400		pg/g	190	188
51207-31-9	2,3,7,8-TCDF	U	10.9		pg/g	10.9	18.8
57117-41-6	1,2,3,7,8-PeCDF	J	10.1		pg/g	9.40	93.9
57117-31-4	2,3,4,7,8-PeCDF	J	24.8		pg/g	9.42	93.9
70648-26-9	1,2,3,4,7,8-HxCDF		105		pg/g	23.3	93.9
57117-44-9	1,2,3,6,7,8-HxCDF		165		pg/g	20.6	93.9
60851-34-5	2,3,4,6,7,8-HxCDF		221		pg/g	22.7	93.9
72918-21-9	1,2,3,7,8,9-HxCDF	U	27.4		pg/g	27.4	93.9
67562-39-4	1,2,3,4,6,7,8-HpCDF		4500		pg/g	41.7	93.9
55673-89-7	1,2,3,4,7,8,9-HpCDF		280		pg/g	55.8	93.9
39001-02-0	1,2,3,4,6,7,8,9-OCDF		14100		pg/g	70.0	188
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	10		pg/g	10.0	18.8
36088-22-9	Total Pentachlorodibenzo-p-dioxin		263		pg/g	10.8	93.9
34465-46-8	Total Hexachlorodibenzo-p-dioxin		3060		pg/g	25.7	93.9
37871-00-4	Total Heptachlorodibenzo-p-dioxin		21800		pg/g	83.5	93.9
30402-14-3	Total Tetrachlorodibenzofuran		63.7		pg/g	10.9	18.8
30402-15-4	Total Pentachlorodibenzofuran		934		pg/g	4.73	93.9
55684-94-1	Total Hexachlorodibenzofuran		4370		pg/g	20.6	93.9
38998-75-3	Total Heptachlorodibenzofuran		11900		pg/g	41.7	93.9
3333-30-0	TEQ WHO2005 ND=0		333	333	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		340	340	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		125	188	pg/g	66.7	(40%-135%)
13C-1,2,3,7,8-PeCDD		107	188	pg/g	57.0	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		141	188	pg/g	74.9	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		151	188	pg/g	80.6	(40%-135%)
13C-OCDD		307	375	pg/g	81.8	(40%-135%)
13C-2,3,7,8-TCDF		132	188	pg/g	70.4	(40%-135%)
13C-1,2,3,7,8-PeCDF		103	188	pg/g	54.7	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		153	188	pg/g	81.6	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		154	188	pg/g	81.9	(40%-135%)

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range

J Value is estimated

U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	Client:	SHLA001	Project:	SHLA00110
Lab Sample ID:	3540008	Date Collected:	05/10/2012 15:15	Matrix:	SOLID
Client Sample:	8290 Soil	Date Received:	05/15/2012 09:40	%Moisture:	11.3
Client ID:	08			Prep Basis:	Dry Weight
Batch ID:	21187	Method:	SW846 8290A		
Run Date:	06/07/2012 14:57	Analyst:	MJC	Instrument:	HRP763
Data File:	b06jun12a_4-4			Dilution:	100
Prep Batch:	21185	Prep Method:	SW846 3540C		
Prep Date:	23-MAY-12	Aliquot:	10.93 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	21.5		pg/g	16.7	103
40321-76-4	1,2,3,7,8-PeCDD	J	416		pg/g	22.5	516
39227-28-6	1,2,3,4,7,8-HxCDD		1220		pg/g	62.7	516
57653-85-7	1,2,3,6,7,8-HxCDD		2900		pg/g	57.3	516
19408-74-3	1,2,3,7,8,9-HxCDD		2760		pg/g	64.4	516
35822-46-9	1,2,3,4,6,7,8-HpCDD		59500		pg/g	179	516
3268-87-9	1,2,3,4,6,7,8,9-OCDD		118000		pg/g	328	1030
51207-31-9	2,3,7,8-TCDF	J	37.7		pg/g	21.7	103
57117-41-6	1,2,3,7,8-PeCDF	J	132		pg/g	21.0	516
57117-31-4	2,3,4,7,8-PeCDF	J	299		pg/g	21.0	516
70648-26-9	1,2,3,4,7,8-HxCDF		1190		pg/g	68.1	516
57117-44-9	1,2,3,6,7,8-HxCDF		2050		pg/g	60.0	516
60851-34-5	2,3,4,6,7,8-HxCDF		2650		pg/g	66.2	516
72918-21-9	1,2,3,7,8,9-HxCDF	J	179		pg/g	80.0	516
67562-39-4	1,2,3,4,6,7,8-HpCDF		63500		pg/g	96.7	516
55673-89-7	1,2,3,4,7,8,9-HpCDF		2600		pg/g	129	516
39001-02-0	1,2,3,4,6,7,8,9-OCDF		163000		pg/g	274	1030
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	59.8		pg/g	16.7	103
36088-22-9	Total Pentachlorodibenzo-p-dioxin		1950		pg/g	22.5	516
34465-46-8	Total Hexachlorodibenzo-p-dioxin		29900		pg/g	57.3	516
37871-00-4	Total Heptachlorodibenzo-p-dioxin		135000		pg/g	179	516
30402-14-3	Total Tetrachlorodibenzofuran		1770		pg/g	21.7	103
30402-15-4	Total Pentachlorodibenzofuran		16800		pg/g	11.3	516
55684-94-1	Total Hexachlorodibenzofuran		64000		pg/g	60.0	516
38998-75-3	Total Heptachlorodibenzofuran		157000		pg/g	96.7	516
3333-30-0	TEQ WHO2005 ND=0		3170	3170	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		3170	3170	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for , but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: NE11019

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12006082	LCS for batch 21185	13C-2,3,7,8-TCDD		71.2	(40%-135%)
		13C-1,2,3,7,8-PeCDD		76.4	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		70.1	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		83.6	(40%-135%)
		13C-OCDD		89.5	(40%-135%)
		13C-2,3,7,8-TCDF		63.9	(40%-135%)
		13C-1,2,3,7,8-PeCDF		67.9	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		64.1	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		70.9	(40%-135%)
12006083	LCSD for batch 21185	13C-2,3,7,8-TCDD		71.9	(40%-135%)
		13C-1,2,3,7,8-PeCDD		76.6	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		69.9	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		84.8	(40%-135%)
		13C-OCDD		96.4	(40%-135%)
		13C-2,3,7,8-TCDF		66.5	(40%-135%)
		13C-1,2,3,7,8-PeCDF		67.0	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		64.0	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		71.5	(40%-135%)
12006081	MB for batch 21185	13C-2,3,7,8-TCDD		69.1	(40%-135%)
		13C-1,2,3,7,8-PeCDD		82.4	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		67.0	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		88.5	(40%-135%)
		13C-OCDD		101	(40%-135%)
		13C-2,3,7,8-TCDF		62.9	(40%-135%)
		13C-1,2,3,7,8-PeCDF		72.1	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		62.3	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		72.9	(40%-135%)
3540004	04	13C-2,3,7,8-TCDD		74.0	(40%-135%)
		13C-1,2,3,7,8-PeCDD		74.5	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		68.4	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		87.2	(40%-135%)
		13C-OCDD		35.1 *	(40%-135%)
		13C-2,3,7,8-TCDF		68.3	(40%-135%)
		13C-1,2,3,7,8-PeCDF		68.2	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		68.8	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		85.4	(40%-135%)
3540005	05	13C-2,3,7,8-TCDD		80.5	(40%-135%)
		13C-1,2,3,7,8-PeCDD		79.7	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		76.4	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		102	(40%-135%)
		13C-OCDD		111	(40%-135%)
		13C-2,3,7,8-TCDF		70.3	(40%-135%)
		13C-1,2,3,7,8-PeCDF		72.2	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		67.3	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		89.2	(40%-135%)
3540008	08	13C-2,3,7,8-TCDD		76.1	(40%-135%)
		13C-1,2,3,7,8-PeCDD		80.8	(40%-135%)

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: NE11019

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
3540008	08	13C-1,2,3,6,7,8-HxCDD		74.8	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		86.0	(40%-135%)
		13C-OCDD		36.2 *	(40%-135%)
		13C-2,3,7,8-TCDF		68.1	(40%-135%)
		13C-1,2,3,7,8-PeCDF		69.3	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		68.0	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		78.9	(40%-135%)
3540002	02	13C-2,3,7,8-TCDD		73.8 D	(40%-135%)
		13C-1,2,3,7,8-PeCDD		68.9 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		70.5 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		83.7 D	(40%-135%)
		13C-OCDD		84.9 D	(40%-135%)
		13C-2,3,7,8-TCDF		65.8 D	(40%-135%)
		13C-1,2,3,7,8-PeCDF		59.2 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		68.0 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		70.2 D	(40%-135%)
12006084	02(3540002MS)	13C-2,3,7,8-TCDD		71.0 D	(40%-135%)
		13C-1,2,3,7,8-PeCDD		64.7 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		77.5 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		87.8 D	(40%-135%)
		13C-OCDD		94.9 D	(40%-135%)
		13C-2,3,7,8-TCDF		66.8 D	(40%-135%)
		13C-1,2,3,7,8-PeCDF		55.5 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		74.9 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		78.7 D	(40%-135%)
12006085	02(3540002MSD)	13C-2,3,7,8-TCDD		71.8 D	(40%-135%)
		13C-1,2,3,7,8-PeCDD		68.6 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		73.9 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		77.0 D	(40%-135%)
		13C-OCDD		77.3 D	(40%-135%)
		13C-2,3,7,8-TCDF		73.8 D	(40%-135%)
		13C-1,2,3,7,8-PeCDF		60.2 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		78.7 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		76.2 D	(40%-135%)
3540001	01	13C-2,3,7,8-TCDD		71.6 D	(40%-135%)
		13C-1,2,3,7,8-PeCDD		62.7 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		73.6 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		88.8 D	(40%-135%)
		13C-OCDD		107 D	(40%-135%)
		13C-2,3,7,8-TCDF		72.9 D	(40%-135%)
		13C-1,2,3,7,8-PeCDF		58.8 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		74.6 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		72.1 D	(40%-135%)
3540003	03	13C-2,3,7,8-TCDD		74.0 D	(40%-135%)
		13C-1,2,3,7,8-PeCDD		60.1 D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		77.6 D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		79.7 D	(40%-135%)

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: NE11019

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)		Acceptance Limits
3540003	03	13C-OCDD		89.4	D	(40%-135%)
		13C-2,3,7,8-TCDF		71.4	D	(40%-135%)
		13C-1,2,3,7,8-PeCDF		57.6	D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		71.9	D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		73.9	D	(40%-135%)
3540006	06	13C-2,3,7,8-TCDD		78.3	D	(40%-135%)
		13C-1,2,3,7,8-PeCDD		65.2	D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		85.3	D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		90.9	D	(40%-135%)
		13C-OCDD		89.6	D	(40%-135%)
		13C-2,3,7,8-TCDF		74.7	D	(40%-135%)
		13C-1,2,3,7,8-PeCDF		69.7	D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		91.4	D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		96.6	D	(40%-135%)
3540007	07	13C-2,3,7,8-TCDD		66.7	D	(40%-135%)
		13C-1,2,3,7,8-PeCDD		57.0	D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		74.9	D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		80.6	D	(40%-135%)
		13C-OCDD		81.8	D	(40%-135%)
		13C-2,3,7,8-TCDF		70.4	D	(40%-135%)
		13C-1,2,3,7,8-PeCDF		54.7	D	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		81.6	D	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		81.9	D	(40%-135%)

* Recovery outside Acceptance Limits
# Column to be used to flag recovery values
D Sample Diluted

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: NE11019
Client ID: LCS for batch 21185
Lab Sample ID: 12006082
Instrument: HRP763
Analyst: MJC

Sample Type: Laboratory Control Sample
Matrix: SOLID
Analysis Date: 05/30/2012 03:22
Dilution: 1
Prep Batch ID: 21185
Batch ID: 21187

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	LCS	2,3,7,8-TCDD	20.0	19.3	96.3	70-130
40321-76-4	LCS	1,2,3,7,8-PeCDD	100	105	105	70-130
39227-28-6	LCS	1,2,3,4,7,8-HxCDD	100	120	120	70-130
57653-85-7	LCS	1,2,3,6,7,8-HxCDD	100	112	112	70-130
19408-74-3	LCS	1,2,3,7,8,9-HxCDD	100	121	121	70-130
35822-46-9	LCS	1,2,3,4,6,7,8-HpCDD	100	107	107	70-130
3268-87-9	LCS	1,2,3,4,6,7,8,9-OCDD	200	213	106	70-130
51207-31-9	LCS	2,3,7,8-TCDF	20.0	20.9	104	70-130
57117-41-6	LCS	1,2,3,7,8-PeCDF	100	99.0	99	70-130
57117-31-4	LCS	2,3,4,7,8-PeCDF	100	104	104	70-130
70648-26-9	LCS	1,2,3,4,7,8-HxCDF	100	109	109	70-130
57117-44-9	LCS	1,2,3,6,7,8-HxCDF	100	107	107	70-130
60851-34-5	LCS	2,3,4,6,7,8-HxCDF	100	110	110	70-130
72918-21-9	LCS	1,2,3,7,8,9-HxCDF	100	117	117	70-130
67562-39-4	LCS	1,2,3,4,6,7,8-HpCDF	100	103	103	70-130
55673-89-7	LCS	1,2,3,4,7,8,9-HpCDF	100	110	110	70-130
39001-02-0	LCS	1,2,3,4,6,7,8,9-OCDF	200	188	93.9	70-130

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: NE11019
Client ID: LCSD for batch 21185
Lab Sample ID: 12006083
Instrument: HRP763
Analyst: MJC

Sample Type: Laboratory Control Sample Duplicate
Matrix: SOLID
Analysis Date: 05/30/2012 04:08
Dilution: 1
Prep Batch ID: 21185
Batch ID: 21187

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD	2,3,7,8-TCDD	20.0	19.1	95.5	70-130	0.782	0-20
40321-76-4	LCSD	1,2,3,7,8-PeCDD	100	101	101	70-130	4.26	0-20
39227-28-6	LCSD	1,2,3,4,7,8-HxCDD	100	118	118	70-130	1.71	0-20
57653-85-7	LCSD	1,2,3,6,7,8-HxCDD	100	115	115	70-130	2.57	0-20
19408-74-3	LCSD	1,2,3,7,8,9-HxCDD	100	121	121	70-130	0.0331	0-20
35822-46-9	LCSD	1,2,3,4,6,7,8-HpCDD	100	110	110	70-130	3.07	0-20
3268-87-9	LCSD	1,2,3,4,6,7,8,9-OCDD	200	218	109	70-130	2.40	0-20
51207-31-9	LCSD	2,3,7,8-TCDF	20.0	20.8	104	70-130	0.384	0-20
57117-41-6	LCSD	1,2,3,7,8-PeCDF	100	103	103	70-130	4.11	0-20
57117-31-4	LCSD	2,3,4,7,8-PeCDF	100	106	106	70-130	1.45	0-20
70648-26-9	LCSD	1,2,3,4,7,8-HxCDF	100	109	109	70-130	0.702	0-20
57117-44-9	LCSD	1,2,3,6,7,8-HxCDF	100	110	110	70-130	2.66	0-20
60851-34-5	LCSD	2,3,4,6,7,8-HxCDF	100	110	110	70-130	0.0291	0-20
72918-21-9	LCSD	1,2,3,7,8,9-HxCDF	100	114	114	70-130	3.08	0-20
67562-39-4	LCSD	1,2,3,4,6,7,8-HpCDF	100	108	108	70-130	4.52	0-20
55673-89-7	LCSD	1,2,3,4,7,8,9-HpCDF	100	108	108	70-130	1.90	0-20
39001-02-0	LCSD	1,2,3,4,6,7,8,9-OCDF	200	187	93.3	70-130	0.609	0-20

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number:	NE11019	Sample Type:	Matrix Spike	
Client ID:	02(3540002MS)	Matrix:	SOLID	
Lab Sample ID:	12006084	%Moisture:	16.8	
Instrument:	HRP763	Analysis Date:	06/01/2012 04:30	Dilution: 10
Analyst:	MJC	Prep Batch ID:	21185	
		Batch ID:	21187	

CAS No.		Parmname	Amount Added pg/g		Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	MS	2,3,7,8-TCDD	19.4	J	23.4	95.3	70-130
40321-76-4	MS	1,2,3,7,8-PeCDD	97.1	J	138	107	70-130
39227-28-6	MS	1,2,3,4,7,8-HxCDD	97.1		204	83.3	70-130
57653-85-7	MS	1,2,3,6,7,8-HxCDD	97.1		318	85.7	70-130
19408-74-3	MS	1,2,3,7,8,9-HxCDD	97.1		324	47.7 *	70-130
35822-46-9	MS	1,2,3,4,6,7,8-HpCDD	97.1		7850	-757 *	70-130
3268-87-9	MS	1,2,3,4,6,7,8,9-OCDD	194	E	84600	-966 *	70-130
51207-31-9	MS	2,3,7,8-TCDF	19.4	U	24.1	124	70-130
57117-41-6	MS	1,2,3,7,8-PeCDF	97.1	J	126	118	70-130
57117-31-4	MS	2,3,4,7,8-PeCDF	97.1	J	124	103	70-130
70648-26-9	MS	1,2,3,4,7,8-HxCDF	97.1		205	95.4	70-130
57117-44-9	MS	1,2,3,6,7,8-HxCDF	97.1		286	101	70-130
60851-34-5	MS	2,3,4,6,7,8-HxCDF	97.1		322	80.4	70-130
72918-21-9	MS	1,2,3,7,8,9-HxCDF	97.1	J	117	93.4	70-130
67562-39-4	MS	1,2,3,4,6,7,8-HpCDF	97.1		5630	384 *	70-130
55673-89-7	MS	1,2,3,4,7,8,9-HpCDF	97.1		443	174 *	70-130
39001-02-0	MS	1,2,3,4,6,7,8,9-OCDF	194		17600	3070 *	70-130

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: NE11019
Client ID: 02(3540002MSD)
Lab Sample ID: 12006085
Instrument: HRP763
Analyst: MJC

Sample Type: Matrix Spike Duplicate
Matrix: SOLID
%Moisture: 16.8
Analysis Date: 06/01/2012 05:17
Dilution: 10
Prep Batch ID: 21185
Batch ID: 21187

CAS No.		Parmname	Amount Added pg/g		Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	MSD	2,3,7,8-TCDD	19.9	J	23.7	94.8	70-130	1.47	0-20
40321-76-4	MSD	1,2,3,7,8-PeCDD	99.4	J	131	97.6	70-130	4.86	0-20
39227-28-6	MSD	1,2,3,4,7,8-HxCDD	99.4		185	62 *	70-130	9.84	0-20
57653-85-7	MSD	1,2,3,6,7,8-HxCDD	99.4		286	51 *	70-130	10.7	0-20
19408-74-3	MSD	1,2,3,7,8,9-HxCDD	99.4		285	7.15 *	70-130	12.9	0-20
35822-46-9	MSD	1,2,3,4,6,7,8-HpCDD	99.4		5010	-3600 *	70-130	44.3 *	0-20
3268-87-9	MSD	1,2,3,4,6,7,8,9-OCDD	199	E	45800	-20400 *	70-130	59.4 *	0-20
51207-31-9	MSD	2,3,7,8-TCDF	19.9	U	22.8	115	70-130	5.27	0-20
57117-41-6	MSD	1,2,3,7,8-PeCDF	99.4	J	120	109	70-130	4.90	0-20
57117-31-4	MSD	2,3,4,7,8-PeCDF	99.4	J	128	104	70-130	2.89	0-20
70648-26-9	MSD	1,2,3,4,7,8-HxCDF	99.4		162	49.2 *	70-130	23.8 *	0-20
57117-44-9	MSD	1,2,3,6,7,8-HxCDF	99.4		226	38.1 *	70-130	23.5 *	0-20
60851-34-5	MSD	2,3,4,6,7,8-HxCDF	99.4		249	5.09 *	70-130	25.6 *	0-20
72918-21-9	MSD	1,2,3,7,8,9-HxCDF	99.4	J	116	89.8	70-130	1.23	0-20
67562-39-4	MSD	1,2,3,4,6,7,8-HpCDF	99.4		2690	-2580 *	70-130	70.7 *	0-20
55673-89-7	MSD	1,2,3,4,7,8,9-HpCDF	99.4		237	-38 *	70-130	60.7 *	0-20
39001-02-0	MSD	1,2,3,4,6,7,8,9-OCDF	199		7180	-2270 *	70-130	84.3 *	0-20

Method Blank Summary

SDG Number:	**NE11019**	**Client:**	**SHLA001**	**Matrix:**	**SOLID**
Client ID:	**MB for batch 21185**	**Instrument ID:**	**HRP763**	**Data File:**	**b29may12b_2-3**
Lab Sample ID:	**12006081**	**Prep Date:**	**23-MAY-12**	**Analyzed:**	**05/30/12 04:55**
Column:					

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 21185	12006082	b29may12b_2-1	05/30/12	0322
02	LCSD for batch 21185	12006083	b29may12b_2-2	05/30/12	0408
03	04	3540004	b29may12b_2-9	05/30/12	0936
04	05	3540005	b29may12b_2-10	05/30/12	1023
05	08	3540008	b29may12b_2-13	05/30/12	1244
06	02	3540002	b31may12b_3-3	06/01/12	0343
07	02(3540002MS)	12006084	b31may12b_3-4	06/01/12	0430
08	02(3540002MSD)	12006085	b31may12b_3-5	06/01/12	0517
09	01	3540001	b31may12b_3-6	06/01/12	0604
10	03	3540003	b31may12b_3-7	06/01/12	0651
11	06	3540006	b31may12b_3-8	06/01/12	0738
12	07	3540007	b31may12b_3-9	06/01/12	0825
13	04	3540004	b06jun12a_4-2	06/07/12	1323
14	05	3540005	b06jun12a_4-3	06/07/12	1410
15	08	3540008	b06jun12a_4-4	06/07/12	1457

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**NE11019**	**Client:**	**SHLA001**	**Project:**	**SHLA00110**
Lab Sample ID:	**12006081**			**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21185**				
Client ID:	**MB for batch 21185**			**Prep Basis:**	**As Received**
Batch ID:	**21187**	**Method:**	**SW846 8290A**		
Run Date:	**05/30/2012 04:55**	**Analyst:**	**MJC**	**Instrument:**	**HRP763**
Data File:	**b29may12b_2-3**			**Dilution:**	**1**
Prep Batch:	**21185**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**23-MAY-12**	**Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.194		pg/g	0.194	1.00
40321-76-4	1,2,3,7,8-PeCDD	U	.124		pg/g	0.124	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	U	.208		pg/g	0.208	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	U	.189		pg/g	0.189	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	U	.212		pg/g	0.212	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.384		pg/g	0.248	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.57		pg/g	0.420	10.0
51207-31-9	2,3,7,8-TCDF	JK		0.284	pg/g	0.200	1.00
57117-41-6	1,2,3,7,8-PeCDF	U	.107		pg/g	0.107	5.00
57117-31-4	2,3,4,7,8-PeCDF	U	.107		pg/g	0.107	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	U	.142		pg/g	0.142	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	U	.126		pg/g	0.126	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	U	.139		pg/g	0.139	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	U	.167		pg/g	0.167	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.232		pg/g	0.166	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.222		pg/g	0.222	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.298		pg/g	0.298	10.0
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.194		pg/g	0.194	1.00
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.124		pg/g	0.124	5.00
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.189		pg/g	0.189	5.00
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.384	0.862	pg/g	0.248	5.00
30402-14-3	Total Tetrachlorodibenzofuran	U	.2	0.284	pg/g	0.200	1.00
30402-15-4	Total Pentachlorodibenzofuran	U	.107		pg/g	0.107	5.00
55684-94-1	Total Hexachlorodibenzofuran	U	.126		pg/g	0.126	5.00
38998-75-3	Total Heptachlorodibenzofuran	J	0.232		pg/g	0.166	5.00
3333-30-0	TEQ WHO2005 ND=0		0.00663	0.035	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.254	0.272	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		138	200	pg/g	69.1	(40%-135%)
13C-1,2,3,7,8-PeCDD		165	200	pg/g	82.4	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		134	200	pg/g	67.0	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		177	200	pg/g	88.5	(40%-135%)
13C-OCDD		405	400	pg/g	101	(40%-135%)
13C-2,3,7,8-TCDF		126	200	pg/g	62.9	(40%-135%)
13C-1,2,3,7,8-PeCDF		144	200	pg/g	72.1	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		125	200	pg/g	62.3	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		146	200	pg/g	72.9	(40%-135%)

Comments:

J Value is estimated

K Estimated Maximum Possible Concentration

U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	**Client:**	SHLA001	**Project:**	SHLA00110
Lab Sample ID:	12006082			**Matrix:**	SOLID
Client Sample:	QC for batch 21185				
Client ID:	LCS for batch 21185			**Prep Basis:**	As Received
Batch ID:	21187	**Method:**	SW846 8290A		
Run Date:	05/30/2012 03:22	**Analyst:**	MJC	**Instrument:**	HRP763
Data File:	b29may12b_2-1			**Dilution:**	1
Prep Batch:	21185	**Prep Method:**	SW846 3540C		
Prep Date:	23-MAY-12	**Aliquot:**	10 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		19.3		pg/g	0.206	1.00
40321-76-4	1,2,3,7,8-PeCDD		105		pg/g	0.230	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		120		pg/g	0.348	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		112		pg/g	0.318	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		121		pg/g	0.356	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		107		pg/g	0.414	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		213		pg/g	0.684	10.0
51207-31-9	2,3,7,8-TCDF		20.9		pg/g	0.216	1.00
57117-41-6	1,2,3,7,8-PeCDF		99.0		pg/g	0.240	5.00
57117-31-4	2,3,4,7,8-PeCDF		104		pg/g	0.240	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		109		pg/g	0.564	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		107		pg/g	0.498	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		110		pg/g	0.548	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		117		pg/g	0.662	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		103		pg/g	0.346	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		110		pg/g	0.462	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		188		pg/g	0.562	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		142	200	pg/g	71.2	(40%-135%)
13C-1,2,3,7,8-PeCDD		153	200	pg/g	76.4	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		140	200	pg/g	70.1	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		167	200	pg/g	83.6	(40%-135%)
13C-OCDD		358	400	pg/g	89.5	(40%-135%)
13C-2,3,7,8-TCDF		128	200	pg/g	63.9	(40%-135%)
13C-1,2,3,7,8-PeCDF		136	200	pg/g	67.9	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		128	200	pg/g	64.1	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		142	200	pg/g	70.9	(40%-135%)

Comments:

K Estimated Maximum Possible Concentration

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**NE11019**	**Client:**	**SHLA001**	**Project:**	**SHLA00110**
Lab Sample ID:	**12006083**			**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21185**				
Client ID:	**LCSD for batch 21185**			**Prep Basis:**	**As Received**
Batch ID:	**21187**	**Method:**	**SW846 8290A**		
Run Date:	**05/30/2012 04:08**	**Analyst:**	**MJC**	**Instrument:**	**HRP763**
Data File:	**b29may12b_2-2**			**Dilution:**	**1**
Prep Batch:	**21185**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**23-MAY-12**	**Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		19.1		pg/g	0.320	1.00
40321-76-4	1,2,3,7,8-PeCDD		101		pg/g	0.268	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		118		pg/g	0.590	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		115		pg/g	0.538	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		121		pg/g	0.604	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		110		pg/g	0.582	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		218		pg/g	0.882	10.0
51207-31-9	2,3,7,8-TCDF		20.8		pg/g	0.268	1.00
57117-41-6	1,2,3,7,8-PeCDF		103		pg/g	0.254	5.00
57117-31-4	2,3,4,7,8-PeCDF		106		pg/g	0.256	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		109		pg/g	0.650	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		110		pg/g	0.574	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		110		pg/g	0.634	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		114		pg/g	0.766	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		108		pg/g	0.432	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		108		pg/g	0.578	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		187		pg/g	0.644	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		144	200	pg/g	71.9	(40%-135%)
13C-1,2,3,7,8-PeCDD		153	200	pg/g	76.6	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		140	200	pg/g	69.9	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		170	200	pg/g	84.8	(40%-135%)
13C-OCDD		386	400	pg/g	96.4	(40%-135%)
13C-2,3,7,8-TCDF		133	200	pg/g	66.5	(40%-135%)
13C-1,2,3,7,8-PeCDF		134	200	pg/g	67.0	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		128	200	pg/g	64.0	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		143	200	pg/g	71.5	(40%-135%)

Comments:

K Estimated Maximum Possible Concentration

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	**Client:**	SHLA001	**Project:**	SHLA00110
Lab Sample ID:	12006084	**Date Collected:**	05/10/2012 12:40	**Matrix:**	SOLID
Client Sample:	QC for batch 21185	**Date Received:**	05/15/2012 09:40	**%Moisture:**	16.8
Client ID:	02(3540002MS)			**Prep Basis:**	Dry Weight
Batch ID:	21187	**Method:**	SW846 8290A		
Run Date:	06/01/2012 04:30	**Analyst:**	MJC	**Instrument:**	HRP763
Data File:	b31may12b_3-4			**Dilution:**	10
Prep Batch:	21185	**Prep Method:**	SW846 3540C		
Prep Date:	23-MAY-12	**Aliquot:**	12.38 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		23.4		pg/g	4.08	9.71
40321-76-4	1,2,3,7,8-PeCDD		138		pg/g	4.04	48.5
39227-28-6	1,2,3,4,7,8-HxCDD		204		pg/g	9.57	48.5
57653-85-7	1,2,3,6,7,8-HxCDD		318		pg/g	8.73	48.5
19408-74-3	1,2,3,7,8,9-HxCDD		324		pg/g	9.80	48.5
35822-46-9	1,2,3,4,6,7,8-HpCDD		7850		pg/g	34.2	48.5
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	84600		pg/g	57.8	97.1
51207-31-9	2,3,7,8-TCDF		24.1		pg/g	4.04	9.71
57117-41-6	1,2,3,7,8-PeCDF		126		pg/g	3.24	48.5
57117-31-4	2,3,4,7,8-PeCDF		124		pg/g	3.24	48.5
70648-26-9	1,2,3,4,7,8-HxCDF		205		pg/g	9.67	48.5
57117-44-9	1,2,3,6,7,8-HxCDF		286		pg/g	8.52	48.5
60851-34-5	2,3,4,6,7,8-HxCDF		322		pg/g	9.41	48.5
72918-21-9	1,2,3,7,8,9-HxCDF		117		pg/g	11.4	48.5
67562-39-4	1,2,3,4,6,7,8-HpCDF		5630		pg/g	20.8	48.5
55673-89-7	1,2,3,4,7,8,9-HpCDF		443		pg/g	27.8	48.5
39001-02-0	1,2,3,4,6,7,8,9-OCDF		17600		pg/g	28.1	97.1

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		138	194	pg/g	71.0	(40%-135%)
13C-1,2,3,7,8-PeCDD		126	194	pg/g	64.7	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		150	194	pg/g	77.5	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		170	194	pg/g	87.8	(40%-135%)
13C-OCDD		368	388	pg/g	94.9	(40%-135%)
13C-2,3,7,8-TCDF		130	194	pg/g	66.8	(40%-135%)
13C-1,2,3,7,8-PeCDF		108	194	pg/g	55.5	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		145	194	pg/g	74.9	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		153	194	pg/g	78.7	(40%-135%)

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range

K Estimated Maximum Possible Concentration

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	NE11019	**Client:**	SHLA001	**Project:**	SHLA00110
Lab Sample ID:	12006085	**Date Collected:**	05/10/2012 12:40	**Matrix:**	SOLID
Client Sample:	QC for batch 21185	**Date Received:**	05/15/2012 09:40	**%Moisture:**	16.8
Client ID:	02(3540002MSD)			**Prep Basis:**	Dry Weight
Batch ID:	21187	**Method:**	SW846 8290A		
Run Date:	06/01/2012 05:17	**Analyst:**	MJC	**Instrument:**	HRP763
Data File:	b31may12b_3-5			**Dilution:**	10
Prep Batch:	21185	**Prep Method:**	SW846 3540C		
Prep Date:	23-MAY-12	**Aliquot:**	12.09 g		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		23.7		pg/g	4.75	9.94
40321-76-4	1,2,3,7,8-PeCDD		131		pg/g	3.44	49.7
39227-28-6	1,2,3,4,7,8-HxCDD		185		pg/g	10.6	49.7
57653-85-7	1,2,3,6,7,8-HxCDD		286		pg/g	9.68	49.7
19408-74-3	1,2,3,7,8,9-HxCDD		285		pg/g	10.9	49.7
35822-46-9	1,2,3,4,6,7,8-HpCDD		5010		pg/g	28.0	49.7
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	45800		pg/g	65.0	99.4
51207-31-9	2,3,7,8-TCDF		22.8		pg/g	4.37	9.94
57117-41-6	1,2,3,7,8-PeCDF		120		pg/g	4.11	49.7
57117-31-4	2,3,4,7,8-PeCDF		128		pg/g	4.11	49.7
70648-26-9	1,2,3,4,7,8-HxCDF		162		pg/g	10.8	49.7
57117-44-9	1,2,3,6,7,8-HxCDF		226		pg/g	9.56	49.7
60851-34-5	2,3,4,6,7,8-HxCDF		249		pg/g	10.6	49.7
72918-21-9	1,2,3,7,8,9-HxCDF		116		pg/g	12.8	49.7
67562-39-4	1,2,3,4,6,7,8-HpCDF		2690		pg/g	11.7	49.7
55673-89-7	1,2,3,4,7,8,9-HpCDF		237		pg/g	15.7	49.7
39001-02-0	1,2,3,4,6,7,8,9-OCDF		7180		pg/g	31.6	99.4

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		143	199	pg/g	71.8	(40%-135%)
13C-1,2,3,7,8-PeCDD		136	199	pg/g	68.6	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		147	199	pg/g	73.9	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		153	199	pg/g	77.0	(40%-135%)
13C-OCDD		307	398	pg/g	77.3	(40%-135%)
13C-2,3,7,8-TCDF		147	199	pg/g	73.8	(40%-135%)
13C-1,2,3,7,8-PeCDF		120	199	pg/g	60.2	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		156	199	pg/g	78.7	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		152	199	pg/g	76.2	(40%-135%)

Comments:

E **Value is estimated - Concentration of the target analyte exceeds the instrument calibration range**

K **Estimated Maximum Possible Concentration**

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Cox Wood Preserving
PO Box 1124
Orangeburg, SC 29116-1124
Attention: Jane House

Project Name: **Leland Soil 2012**

Lot Number: **NE11018**
Date Completed: **05/25/2012**

Nisreen Saikaly
Project Manager

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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

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Case Narrative
Cox Wood Preserving
Lot Number: NE11018

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Semivolatile Organic Compounds

The surrogate recovery of samples -003 and -004 and the MS/MSD recovery fo sample -001 were outside the acceptance limit. This sample was diluted. The dilution impacted the surrogate recoveries, thus negating their usefulness concerning quality control. The sample results are reported and no corrective action is required.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Cox Wood Preserving
Lot Number: NE11018

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	5-2	Solid	05/10/2012 1220	05/11/2012
002	3-5	Solid	05/10/2012 1240	05/11/2012
003	1-10	Solid	05/10/2012 1420	05/11/2012
004	3-25	Solid	05/10/2012 1310	05/11/2012
005	2-8	Solid	05/10/2012 1400	05/11/2012
006	6-23	Solid	05/10/2012 1330	05/11/2012

(6 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary
Cox Wood Preserving
Lot Number: NE11018

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units
001	5-2	Solid	Pentachlorophenol	8270D (SIM)	680		ug/kg
002	3-5	Solid	Pentachlorophenol	8270D (SIM)	130		ug/kg
003	1-10	Solid	Pentachlorophenol	8270D (SIM)	1900		ug/kg
004	3-25	Solid	Pentachlorophenol	8270D (SIM)	3200		ug/kg
005	2-8	Solid	Pentachlorophenol	8270D (SIM)	310		ug/kg
006	6-23	Solid	Pentachlorophenol	8270D (SIM)	200		ug/kg

(6 detections)

Semivolatile Organic Compounds by GC/MS (SIM)

Client: **Cox Wood Preserving**
Description: **5-2**
Date Sampled: **05/10/2012 1220**
Received: **05/11/2012**

Laboratory ID: **NE11018-001**
Matrix: **Solid**
% Solids: **93.9** **05/11/2012 2038**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8270D (SIM)	10	05/24/2012 1301	WD	05/13/2012 1231	84680

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Pentachlorophenol	**87-86-5**	**8270D (SIM)**	**680**		**70**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Fluoranthene-d10		110	20-150
2-Methylnaphthalene-d10		51	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Semivolatile Organic Compounds by GC/MS (SIM)

Client: **Cox Wood Preserving**
Description: **3-5**
Date Sampled: **05/10/2012 1240**
Received: **05/11/2012**

Laboratory ID: **NE11018-002**
Matrix: **Solid**
% Solids: **97.0** **05/11/2012 2038**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8270D (SIM)	2	05/24/2012 1424	WD	05/13/2012 1231	84680

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Pentachlorophenol	**87-86-5**	**8270D (SIM)**	**130**		**13**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Fluoranthene-d10		101	20-150
2-Methylnaphthalene-d10		60	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Semivolatile Organic Compounds by GC/MS (SIM)

Client: **Cox Wood Preserving**
Description: **1-10**
Date Sampled: **05/10/2012 1420**
Received: **05/11/2012**

Laboratory ID: **NE11018-003**
Matrix: **Solid**
% Solids: **93.6** **05/11/2012 2038**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8270D (SIM)	50	05/24/2012 1641	WD	05/13/2012 1231	84680

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Pentachlorophenol	**87-86-5**	**8270D (SIM)**	**1900**		**340**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Fluoranthene-d10	N	0.00	20-150
2-Methylnaphthalene-d10	N	0.00	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Semivolatile Organic Compounds by GC/MS (SIM)

Client: **Cox Wood Preserving**
Description: **3-25**
Date Sampled: **05/10/2012 1310**
e Received: **05/11/2012**

Laboratory ID: **NE11018-004**
Matrix: **Solid**
% Solids: **94.1** **05/11/2012 2038**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8270D (SIM)	50	05/24/2012 1803	WD	05/13/2012 1231	84680

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Pentachlorophenol	**87-86-5**	**8270D (SIM)**	**3200**		**330**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Fluoranthene-d10	N	0.00	20-150
2-Methylnaphthalene-d10	N	0.00	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Semivolatile Organic Compounds by GC/MS (SIM)

Client: **Cox Wood Preserving**
Description: **2-8**
Date Sampled: **05/10/2012 1400**
Date Received: **05/11/2012**

Laboratory ID: **NE11018-005**
Matrix: **Solid**
% Solids: **93.6** **05/11/2012 2038**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8270D (SIM)	10	05/24/2012 1926	WD	05/13/2012 1231	84680

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Pentachlorophenol	**87-86-5**	**8270D (SIM)**	**310**		**68**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Fluoranthene-d10		82	20-150
2-Methylnaphthalene-d10		69	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Semivolatile Organic Compounds by GC/MS (SIM)

Client: **Cox Wood Preserving**
Description: **6-23**
Date Sampled: **05/10/2012 1330**
Received: **05/11/2012**

Laboratory ID: **NE11018-006**
Matrix: **Solid**
% Solids: **86.2** **05/11/2012 2038**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8270D (SIM)	10	05/24/2012 1736	WD	05/13/2012 1231	84680

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Pentachlorophenol	**87-86-5**	**8270D (SIM)**	**200**		**75**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Fluoranthene-d10		59	20-150
2-Methylnaphthalene-d10		47	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

QC Summary

Semivolatile Organic Compounds by GC/MS (SIM) - MB

Sample ID: NQ84680-001
Batch: 84680
nalytical Method: 8270D (SIM)

Matrix: Solid
Prep Method: 3550C
Prep Date: 05/13/2012 1231

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Pentachlorophenol	ND		1	6.6	ug/kg	05/23/2012 2043

Surrogate	Q	% Rec	Acceptance Limit
2-Methylnaphthalene-d10		46	20-150
Fluoranthene-d10		81	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

e applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS (SIM) - LCS

Sample ID: NQ84680-002
Batch: 84680
\nalytical Method: 8270D (SIM)

Matrix: Solid
Prep Method: 3550C
Prep Date: 05/13/2012 1231

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Pentachlorophenol	13	10		1	79	30-130	05/23/2012 2111

Surrogate	Q	% Rec	Acceptance Limit
2-Methylnaphthalene-d10		52	20-150
Fluoranthene-d10		95	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

'e applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS (SIM) - MS

Sample ID: NE11018-001MS
Batch: 84680
Analytical Method: 8270D (SIM)
Matrix: Solid
Prep Method: 3550C
Prep Date: 05/13/2012 1231

Parameter	Sample Amount (ug/kg)	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Pentachlorophenol	680	14	720	N	10	263	30-130	05/24/2012 1329

Surrogate	Q	% Rec	Acceptance Limit
Fluoranthene-d10		107	20-150
2-Methylnaphthalene-d10		54	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

re applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS (SIM) - MSD

Sample ID: NE11018-001MD
Batch: 84680
\nalytical Method: 8270D (SIM)

Matrix: Solid
Prep Method: 3550C
Prep Date: 05/13/2012 1231

Parameter	Sample Amount (ug/kg)	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Pentachlorophenol	680	14	640	N	10	-303	12	30-130	20	05/24/2012 1356

Surrogate	Q	% Rec	Acceptance Limit
Fluoranthene-d10		96	20-150
2-Methylnaphthalene-d10		53	20-150

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

re applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
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SHEALY

Chain of Custody Record

Number 14671

Client	Report to Contact	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page 1 of 1
City / State / Zip Code	Preservative 1. None 2. $NaOH$ 3. H_2SO_4 4. HNO_3 5. HCl 6. Na Tios. 7. Na$_2$S$_2$O$_3$		Number of Containers
Project Name			Bottle (See instructions on back)
			Preservative
Project Manager	P.O. Number		Lot No.
Sample ID / Description (Continue for more sample may be continued on side line)	Date / Time	Matrix: Grab / Composite / GW / DW / WW / S / Other	Analysis	Remarks / Sample ID
5-2	5/10/12 12:30	C		
5-3	12:40	C		
5-4	12:50	C		
5-5	3:10	C		
5-6	4:00	C		
5-7	12:30	C		

Turnaround Time Required (Prior lab approval required for expedited TAT): Standard / Rush (Please Specify)

Sample Disposal: Return to Client / Disposal by Lab

QC Requirements (Specify)

Possible Hazard Identification: Non Hazard / Flammable / Skin Irritant / Poison / Unknown

1. Relinquished by Sampler	Date 5/10/12	Time 1600	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date 5/11/12	Time 1125	4. Laboratory Received by	Date 5/11/12	Time 1125

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY: Received in Good Condition / Cooler Temp. / Ice Pack / Chain of Custody Seals / Intact / Broken / Yes / No / Ice Pack / Receipt Temp. 4.1 °C / Temp. Blank / Yes / No

Shealy Environmental Services, Inc.
Document Number: [illegible]
Revision Number: [illegible]

Page [illegible]
Effective Date: [illegible]
Effective Date: [illegible]

Sample Receipt Checklist (SRC)

Client: [illegible] Cooler Inspected by/date: [illegible] Lot #: [illegible]

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☒ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☒		1. Were custody seals present on the cooler?
Yes ☐	No ☐		2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt [illegible] °C / °C / °C / °C
Method: ☐ Temperature Blank ☒ Against Bottles
Method of coolant: ☒ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No or Yes for 14, 15, 16, an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☒	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☒	No ☐	NA ☒	4. Is the commercial courier's packing slip attached to this form?
Yes ☐	No ☒		5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☐	5a. Were samples relinquished by client to commercial courier?
Yes ☒	No ☐		6. Were sample IDs listed?
Yes ☒	No ☐		7. Was collection date & time listed?
Yes ☒	No ☐		8. Were tests to be performed listed on the COC?
Yes ☒	No ☐		9. Did all samples arrive in the proper containers for each test?
Yes ☒	No ☐		10. Did all container label information (ID, date, time) agree with COC?
Yes ☒	No ☐		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☒	No ☐		12. Was adequate sample volume available?
Yes ☒	No ☐		13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☒		14. Were any samples containers missing?
Yes ☐	No ☒		15. Were there any excess samples not listed on COC?
Yes ☐	No ☐	NA ☒	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☒	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☒	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☒	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb samples free of residual chlorine? (< 0.2mg/L)
Yes ☐	No ☐	NA ☐	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☒	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc.) correctly transcribed from the COC into the comment section in LIMS?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4/HNO_3/HCl/NaOH) with the SR # (number):

Sample(s) _____ were received with bubbles > 6 mm in diameter.

Sample(s) _____ were received with TRC > 0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐

SESI employee: _____

Comments: _____

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