ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

EA Engineering
405 State Highway 121 Bypass
Building C, Suite 100
Lewisville TX 75067-8192

Report Date: June 09, 2017

Project: Wilcox Oil Company Superfund Site

Submittal Date: 05/31/2017
Group Number: 1807465
SDG: WLC11
PO Number: 15838
State of Sample Origin: OK

Client Sample Description	Lancaster Labs (LL) #
WPA-WC-02 Soil	9021495

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To EA Engineering Attn: Pamela Moss

Respectfully Submitted,

Angela M. Miller
Specialist

(717) 556-7260

9957061

Sample Description: WPA-WC-02 Soil

Project Name: Wilcox Oil Company Superfund Site

LL Sample # SW 9021495
LL Group # 1807465
Account # 30056

Collected: 04/25/2017 17:30 by JS

Submitted: 05/31/2017 17:00
Reported: 06/09/2017 10:16

EA Engineering
405 State Highway 121 Bypass
Building C, Suite 100
Lewisville TX 75067-8192

WPAW2 SDG#: WLC11-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**		**ug/kg**	**ug/kg**	
10237	Acetone	67-64-1	N.D.		830	2,400	96.53
10237	Benzene	71-43-2	N.D.		59	590	96.53
10237	Bromodichloromethane	75-27-4	N.D.		120	590	96.53
10237	Bromoform	75-25-2	N.D.		120	590	96.53
10237	Bromomethane	74-83-9	N.D.		240	590	96.53
10237	2-Butanone	78-93-3	N.D.		470	1,200	96.53
10237	Carbon Disulfide	75-15-0	N.D.		120	590	96.53
10237	Carbon Tetrachloride	56-23-5	N.D.		120	590	96.53
10237	Chlorobenzene	108-90-7	N.D.		120	590	96.53
10237	Chloroethane	75-00-3	N.D.		240	590	96.53
10237	Chloroform	67-66-3	N.D.		120	590	96.53
10237	Chloromethane	74-87-3	N.D.		240	590	96.53
10237	Dibromochloromethane	124-48-1	N.D.		120	590	96.53
10237	1,1-Dichloroethane	75-34-3	N.D.		120	590	96.53
10237	1,2-Dichloroethane	107-06-2	N.D.		120	590	96.53
10237	1,1-Dichloroethene	75-35-4	N.D.		120	590	96.53
10237	cis-1,2-Dichloroethene	156-59-2	N.D.		120	590	96.53
10237	trans-1,2-Dichloroethene	156-60-5	N.D.		120	590	96.53
10237	1,2-Dichloropropane	78-87-5	N.D.		120	590	96.53
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.		120	590	96.53
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.		120	590	96.53
10237	Ethylbenzene	100-41-4	320	J	120	590	96.53
10237	2-Hexanone	591-78-6	N.D.		360	1,200	96.53
10237	4-Methyl-2-pentanone	108-10-1	N.D.		360	1,200	96.53
10237	Methylene Chloride	75-09-2	N.D.		240	590	96.53
10237	Styrene	100-42-5	N.D.		120	590	96.53
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		120	590	96.53
10237	Tetrachloroethene	127-18-4	N.D.		120	590	96.53
10237	Toluene	108-88-3	140	J	120	590	96.53
10237	1,1,1-Trichloroethane	71-55-6	N.D.		120	590	96.53
10237	1,1,2-Trichloroethane	79-00-5	N.D.		120	590	96.53
10237	Trichloroethene	79-01-6	N.D.		120	590	96.53
10237	Vinyl Chloride	75-01-4	N.D.		120	590	96.53
10237	Xylene (Total)	1330-20-7	3,200		120	590	96.53

Preservation requirements were not met. Due to the preservative not covering the soil or the matrix of the sample, methanol was added at the laboratory after the net weight was determined.

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the TNI/DoD Standards. The following analytes are accepted based on this allowance: carbon tetrachloride, dibromochloromethane, and bromoform.

GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**		**ug/kg**	**ug/kg**	
10726	Acenaphthene	83-32-9	11,000		1,200	6,300	5
10726	Acenaphthylene	208-96-8	N.D.		1,200	6,300	5
10726	Anthracene	120-12-7	36,000		1,200	6,300	5
10726	Benzo(a)anthracene	56-55-3	12,000		1,200	6,300	5
10726	Benzo(a)pyrene	50-32-8	12,000		1,200	6,300	5
10726	Benzo(b)fluoranthene	205-99-2	N.D.		1,200	6,300	5
10726	Benzo(g,h,i)perylene	191-24-2	13,000		1,200	6,300	5

*=This limit was used in the evaluation of the final result

Sample Description: WPA-WC-02 Soil

Project Name: Wilcox Oil Company Superfund Site

LL Sample # SW 9021495
LL Group # 1807465
Account # 30056

Collected: 04/25/2017 17:30 by JS

Submitted: 05/31/2017 17:00
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EA Engineering
405 State Highway 121 Bypass
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Lewisville TX 75067-8192

WPAW2 SDG#: WLC11-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**		**ug/kg**	**ug/kg**	
10726	Benzo(k)fluoranthene	207-08-9	N.D.		1,200	6,300	5
10726	4-Bromophenyl-phenylether	101-55-3	N.D.		6,100	12,000	5
10726	Butylbenzylphthalate	85-68-7	N.D.		25,000	61,000	5
10726	Di-n-butylphthalate	84-74-2	N.D.		25,000	61,000	5
10726	Carbazole	86-74-8	N.D.		6,100	12,000	5
10726	4-Chloro-3-methylphenol	59-50-7	N.D.		6,100	12,000	5
10726	4-Chloroaniline	106-47-8	N.D.		12,000	25,000	5
10726	bis(2-Chloroethoxy)methane	111-91-1	N.D.		6,100	12,000	5
10726	bis(2-Chloroethyl)ether	111-44-4	N.D.		6,100	12,000	5
10726	2-Chloronaphthalene	91-58-7	N.D.		2,500	12,000	5
10726	2-Chlorophenol	95-57-8	N.D.		6,100	12,000	5
10726	4-Chlorophenyl-phenylether	7005-72-3	N.D.		6,100	12,000	5
10726	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.		6,100	12,000	5
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10726	Chrysene	218-01-9	37,000		1,200	6,300	5
10726	Dibenz(a,h)anthracene	53-70-3	N.D.		1,200	6,300	5
10726	Dibenzofuran	132-64-9	N.D.		6,100	12,000	5
10726	1,2-Dichlorobenzene	95-50-1	N.D.		6,100	12,000	5
10726	1,3-Dichlorobenzene	541-73-1	N.D.		6,100	12,000	5
10726	1,4-Dichlorobenzene	106-46-7	N.D.		6,100	12,000	5
10726	3,3'-Dichlorobenzidine	91-94-1	N.D.		37,000	120,000	5
10726	2,4-Dichlorophenol	120-83-2	N.D.		6,100	12,000	5
10726	Diethylphthalate	84-66-2	N.D.		25,000	61,000	5
10726	2,4-Dimethylphenol	105-67-9	N.D.		6,100	12,000	5
10726	Dimethylphthalate	131-11-3	N.D.		25,000	61,000	5
10726	4,6-Dinitro-2-methylphenol	534-52-1	N.D.		61,000	180,000	5
10726	2,4-Dinitrophenol	51-28-5	N.D.		110,000	370,000	5
10726	2,4-Dinitrotoluene	121-14-2	N.D.		25,000	61,000	5
10726	2,6-Dinitrotoluene	606-20-2	N.D.		6,100	12,000	5
10726	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		25,000	63,000	5
10726	Fluoranthene	206-44-0	17,000		1,200	6,300	5
10726	Fluorene	86-73-7	28,000		1,200	6,300	5
10726	Hexachlorobenzene	118-74-1	N.D.		1,200	6,300	5
10726	Hexachlorobutadiene	87-68-3	N.D.		6,100	12,000	5
10726	Hexachlorocyclopentadiene	77-47-4	N.D.		61,000	180,000	5
10726	Hexachloroethane	67-72-1	N.D.		12,000	61,000	5
10726	Indeno(1,2,3-cd)pyrene	193-39-5	4,400	J	1,200	6,300	5
10726	Isophorone	78-59-1	N.D.		6,100	12,000	5
10726	2-Methylnaphthalene	91-57-6	55,000		1,200	6,300	5
10726	2-Methylphenol	95-48-7	N.D.		6,100	12,000	5
10726	4-Methylphenol	106-44-5	N.D.		6,100	12,000	5
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10726	Naphthalene	91-20-3	14,000		1,200	6,300	5
10726	2-Nitroaniline	88-74-4	N.D.		6,100	12,000	5
10726	3-Nitroaniline	99-09-2	N.D.		25,000	61,000	5
10726	4-Nitroaniline	100-01-6	N.D.		25,000	61,000	5

*=This limit was used in the evaluation of the final result

Sample Description: WPA-WC-02 Soil

Project Name: Wilcox Oil Company Superfund Site

LL Sample # SW 9021495
LL Group # 1807465
Account # 30056

Collected: 04/25/2017 17:30 by JS

Submitted: 05/31/2017 17:00
Reported: 06/09/2017 10:16

EA Engineering
405 State Highway 121 Bypass
Building C, Suite 100
Lewisville TX 75067-8192

WPAW2 SDG#: WLC11-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/kg**	**ug/kg**	**ug/kg**	
10726	Nitrobenzene	98-95-3	N.D.	6,100	12,000	5
10726	2-Nitrophenol	88-75-5	N.D.	6,100	12,000	5
10726	4-Nitrophenol	100-02-7	N.D.	61,000	180,000	5
10726	N-Nitroso-di-n-propylamine	621-64-7	N.D.	6,100	12,000	5
10726	N-Nitrosodiphenylamine	86-30-6	N.D.	6,100	12,000	5
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
10726	Di-n-octylphthalate	117-84-0	N.D.	25,000	61,000	5
10726	Pentachlorophenol	87-86-5	N.D.	12,000	63,000	5
10726	Phenanthrene	85-01-8	140,000	1,200	6,300	5
10726	Phenol	108-95-2	N.D.	6,100	12,000	5
10726	Pyrene	129-00-0	160,000	1,200	6,300	5
10726	1,2,4-Trichlorobenzene	120-82-1	N.D.	6,100	12,000	5
10726	2,4,5-Trichlorophenol	95-95-4	N.D.	6,100	12,000	5
10726	2,4,6-Trichlorophenol	88-06-2	N.D.	6,100	12,000	5

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the TNI/DoD Standards. The following analytes are accepted based on this allowance: Pentachlorophenol

Reporting limits were raised due to interference from the sample matrix.

The holding time was not met. The analysis was added after the holding time had already expired.

Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	N.D.	1.02	4.19	1
06946	Barium	7440-39-3	6.66	0.0346	1.05	1
06949	Cadmium	7440-43-9	0.0535 J	0.0514	1.05	1
06951	Chromium	7440-47-3	0.665 J	0.147	3.15	1
06955	Lead	7439-92-1	12.5	0.577	3.15	1
06936	Selenium	7782-49-2	N.D.	0.944	4.19	1
06966	Silver	7440-22-4	N.D.	0.157	1.05	1
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0124 J	0.0121	0.121	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	18.5	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

*=This limit was used in the evaluation of the final result

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: WPA-WC-02 Soil

Project Name: Wilcox Oil Company Superfund Site

LL Sample # SW 9021495
LL Group # 1807465
Account # 30056

Collected: 04/25/2017 17:30 by JS

Submitted: 05/31/2017 17:00
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WPAW2 SDG#: WLC11-01

Sample Comments

This sample was originally submitted to the laboratory on 04/26/17 at 09:40. We received authorization for further testing on 05/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	Q171571AA	06/06/2017	17:29	Angela D Sneeringer	96.53
10445	High Level Bulk Prep DP 21	SW-846 5035A Modified	1	201715245629	06/01/2017	14:32	Anastasia Jaynes	n.a.
10445	High Level Bulk Prep DP 21	SW-846 5035A Modified	2	201715245629	06/01/2017	14:33	Anastasia Jaynes	n.a.
10726	SVOA 8270D (microwave)	SW-846 8270D	1	17153SLB026	06/06/2017	16:55	Joseph M Gambler	5
10813	BNA Soil Microwave APP IX	SW-846 3546	1	17153SLB026	06/03/2017	07:00	Michelle A Newswanger	1
06935	Arsenic	SW-846 6010C	1	171531063705	06/05/2017	18:12	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	171531063705	06/05/2017	18:12	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	171531063705	06/05/2017	18:12	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	171531063705	06/05/2017	18:12	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	171531063705	06/05/2017	18:12	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	171531063705	06/05/2017	18:12	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	171531063705	06/05/2017	18:12	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	171531063805	06/05/2017	09:30	Damary Valentin	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	171531063705	06/05/2017	01:50	Denise L Trimby	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	171531063805	06/05/2017	05:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	17153820003A	06/02/2017	20:49	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/kg	MDL** ug/kg	LOQ ug/kg
Batch number: Q171571AA	Sample number(s): 9021495		
Acetone	N.D.	350	1,000
Benzene	N.D.	25	250
Bromodichloromethane	N.D.	50	250
Bromoform	N.D.	50	250
Bromomethane	N.D.	100	250
2-Butanone	N.D.	200	500
Carbon Disulfide	N.D.	50	250
Carbon Tetrachloride	N.D.	50	250
Chlorobenzene	N.D.	50	250
Chloroethane	N.D.	100	250
Chloroform	N.D.	50	250
Chloromethane	N.D.	100	250
Dibromochloromethane	N.D.	50	250
1,1-Dichloroethane	N.D.	50	250
1,2-Dichloroethane	N.D.	50	250
1,1-Dichloroethene	N.D.	50	250
cis-1,2-Dichloroethene	N.D.	50	250
trans-1,2-Dichloroethene	N.D.	50	250
1,2-Dichloropropane	N.D.	50	250
cis-1,3-Dichloropropene	N.D.	50	250
trans-1,3-Dichloropropene	N.D.	50	250
Ethylbenzene	N.D.	50	250
2-Hexanone	N.D.	150	500
4-Methyl-2-pentanone	N.D.	150	500
Methylene Chloride	N.D.	100	250
Styrene	N.D.	50	250
1,1,2,2-Tetrachloroethane	N.D.	50	250
Tetrachloroethene	N.D.	50	250
Toluene	N.D.	50	250
1,1,1-Trichloroethane	N.D.	50	250
1,1,2-Trichloroethane	N.D.	50	250
Trichloroethene	N.D.	50	250
Vinyl Chloride	N.D.	50	250
Xylene (Total)	N.D.	50	250
Batch number: 17153SLB026	Sample number(s): 9021495		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Anthracene	N.D.	3	17
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	3	17

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

Method Blank (continued)

Analysis Name	Result ug/kg	MDL** ug/kg	LOQ ug/kg
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	3	17
Benzo(k)fluoranthene	N.D.	3	17
4-Bromophenyl-phenylether	N.D.	17	33
Butylbenzylphthalate	N.D.	67	170
Di-n-butylphthalate	N.D.	67	170
Carbazole	N.D.	17	33
4-Chloro-3-methylphenol	N.D.	17	33
4-Chloroaniline	N.D.	33	67
bis(2-Chloroethoxy)methane	N.D.	17	33
bis(2-Chloroethyl)ether	N.D.	17	33
2-Chloronaphthalene	N.D.	7	33
2-Chlorophenol	N.D.	17	33
4-Chlorophenyl-phenylether	N.D.	17	33
2,2'-oxybis(1-Chloropropane)	N.D.	17	33
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Dibenzofuran	N.D.	17	33
1,2-Dichlorobenzene	N.D.	17	33
1,3-Dichlorobenzene	N.D.	17	33
1,4-Dichlorobenzene	N.D.	17	33
3,3'-Dichlorobenzidine	N.D.	100	330
2,4-Dichlorophenol	N.D.	17	33
Diethylphthalate	N.D.	67	170
2,4-Dimethylphenol	N.D.	17	33
Dimethylphthalate	N.D.	67	170
4,6-Dinitro-2-methylphenol	N.D.	170	500
2,4-Dinitrophenol	N.D.	300	1,000
2,4-Dinitrotoluene	N.D.	67	170
2,6-Dinitrotoluene	N.D.	17	33
bis(2-Ethylhexyl)phthalate	N.D.	67	170
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Hexachlorobenzene	N.D.	3	17
Hexachlorobutadiene	N.D.	17	33
Hexachlorocyclopentadiene	N.D.	170	500
Hexachloroethane	N.D.	33	170
Indeno(1,2,3-cd)pyrene	N.D.	3	17
Isophorone	N.D.	17	33
2-Methylnaphthalene	N.D.	3	17
2-Methylphenol	N.D.	17	33
4-Methylphenol	N.D.	17	33
Naphthalene	N.D.	3	17
2-Nitroaniline	N.D.	17	33
3-Nitroaniline	N.D.	67	170
4-Nitroaniline	N.D.	67	170
Nitrobenzene	N.D.	17	33
2-Nitrophenol	N.D.	17	33
4-Nitrophenol	N.D.	170	500

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
N-Nitroso-di-n-propylamine	N.D.	17	33
N-Nitrosodiphenylamine	N.D.	17	33
Di-n-octylphthalate	N.D.	67	170
Pentachlorophenol	N.D.	33	170
Phenanthrene	N.D.	3	17
Phenol	N.D.	17	33
Pyrene	N.D.	3	17
1,2,4-Trichlorobenzene	N.D.	17	33
2,4,5-Trichlorophenol	N.D.	17	33
2,4,6-Trichlorophenol	N.D.	17	33
	mg/kg	mg/kg	mg/kg
Batch number: 171531063705	Sample number(s): 9021495		
Arsenic	N.D.	0.970	4.00
Barium	0.223 J	0.0330	1.00
Cadmium	N.D.	0.0490	1.00
Chromium	N.D.	0.140	3.00
Lead	N.D.	0.550	3.00
Selenium	N.D.	0.900	4.00
Silver	N.D.	0.150	1.00
Batch number: 171531063805	Sample number(s): 9021495		
Mercury	N.D.	0.0100	0.100

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q171571AA	Sample number(s): 9021495								
Acetone	7500	3616.28	7500	4393.69	48	59	32-144	19	30
Benzene	1000	926.79	1000	899.18	93	90	80-120	3	30
Bromodichloromethane	1000	747.85	1000	769.59	75	77	75-120	3	30
Bromoform	1000	582.2	1000	601.06	58*	60*	61-122	3	30
Bromomethane	1000	1634.93	1000	1481.08	163*	148	39-155	10	30
2-Butanone	7500	5322.74	7500	5766.88	71	77	41-134	8	30
Carbon Disulfide	1000	986.15	1000	923.19	99	92	60-128	7	30
Carbon Tetrachloride	1000	633.26	1000	612.78	63*	61*	69-130	3	30
Chlorobenzene	1000	936	1000	921.05	94	92	80-120	2	30
Chloroethane	1000	1053.71	1000	992.07	105	99	50-137	6	30
Chloroform	1000	874.53	1000	861.68	87	86	80-120	1	30
Chloromethane	1000	984.95	1000	932.43	98	93	56-120	5	30
Dibromochloromethane	1000	658.75	1000	675.38	66*	68*	71-120	2	30
1,1-Dichloroethane	1000	959.77	1000	920.64	96	92	77-120	4	30
1,2-Dichloroethane	1000	928.67	1000	907.65	93	91	78-127	2	30
1,1-Dichloroethene	1000	982.86	1000	910.91	98	91	73-129	8	30

*- Outside of specification
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Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
cis-1,2-Dichloroethene	1000	933.54	1000	913.63	93	91	80-120	2	30
trans-1,2-Dichloroethene	1000	963.58	1000	910.11	96	91	80-125	6	30
1,2-Dichloropropane	1000	958.75	1000	952.29	96	95	76-120	1	30
cis-1,3-Dichloropropene	1000	831.36	1000	834.55	83	83	74-120	0	30
trans-1,3-Dichloropropene	1000	818.82	1000	828.46	82	83	70-120	1	30
Ethylbenzene	1000	903.92	1000	884.87	90	88	80-120	2	30
2-Hexanone	5000	4245.96	5000	4657.09	85	93	45-138	9	30
4-Methyl-2-pentanone	5000	4856.94	5000	4990.21	97	100	53-134	3	30
Methylene Chloride	1000	956.88	1000	921.62	96	92	76-122	4	30
Styrene	1000	874.75	1000	872.35	87	87	76-120	0	30
1,1,2,2-Tetrachloroethane	1000	856.76	1000	985.21	86	99	67-121	14	30
Tetrachloroethene	1000	904.71	1000	856.46	90	86	74-126	5	30
Toluene	1000	957.3	1000	953.84	96	95	80-120	0	30
1,1,1-Trichloroethane	1000	761.84	1000	751.58	76	75	66-128	1	30
1,1,2-Trichloroethane	1000	951.29	1000	947.55	95	95	80-120	0	30
Trichloroethene	1000	870.75	1000	851.9	87	85	80-120	2	30
Vinyl Chloride	1000	970.33	1000	911.46	97	91	59-120	6	30
Xylene (Total)	3000	2716.25	3000	2666.24	91	89	80-120	2	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17153SLB026	Sample number(s): 9021495								
Acenaphthene	1666.67	1691.04			101		83-116		
Acenaphthylene	1666.67	1640.72			98		83-119		
Anthracene	1666.67	1592.83			96		82-118		
Benzo(a)anthracene	1666.67	1747.23			105		76-119		
Benzo(a)pyrene	1666.67	1769.35			106		78-117		
Benzo(b)fluoranthene	1666.67	1965.88			118		79-121		
Benzo(g,h,i)perylene	1666.67	1766.17			106		71-123		
Benzo(k)fluoranthene	1666.67	1624.35			97		71-123		
4-Bromophenyl-phenylether	1666.67	1752.51			105		78-122		
Butylbenzylphthalate	1666.67	1717.33			103		80-118		
Di-n-butylphthalate	1666.67	1667.45			100		84-120		
Carbazole	1666.67	1616.27			97		80-120		
4-Chloro-3-methylphenol	1666.67	1638.85			98		78-124		
4-Chloroaniline	1666.67	1016.5			61		10-110		
bis(2-Chloroethoxy)methane	1666.67	1718.79			103		77-116		
bis(2-Chloroethyl)ether	1666.67	1602.7			96		68-115		
2-Chloronaphthalene	1666.67	2048.64			123		57-148		
2-Chlorophenol	1666.67	1751.24			105		80-121		
4-Chlorophenyl-phenylether	1666.67	1729.04			104		73-119		
2,2'-oxybis(1-Chloropropane)	1666.67	1443.34			87		60-123		
Chrysene	1666.67	1712.04			103		72-121		
Dibenz(a,h)anthracene	1666.67	1907.2			114		72-129		
Dibenzofuran	1666.67	1705.14			102		79-114		
1,2-Dichlorobenzene	1666.67	1629.04			98		77-113		
1,3-Dichlorobenzene	1666.67	1598.35			96		79-113		
1,4-Dichlorobenzene	1666.67	1607.33			96		79-112		
3,3'-Dichlorobenzidine	1666.67	1583.36			95		12-125		

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Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2,4-Dichlorophenol	1666.67	1797.15			108		86-125		
Diethylphthalate	1666.67	1561.16			94		81-118		
2,4-Dimethylphenol	1666.67	1310.12			79		57-109		
Dimethylphthalate	1666.67	1715.93			103		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1740			104		53-130		
2,4-Dinitrophenol	3333.33	3007.12			90		27-136		
2,4-Dinitrotoluene	1666.67	1805.33			108		81-122		
2,6-Dinitrotoluene	1666.67	1837.52			110		80-120		
bis(2-Ethylhexyl)phthalate	1666.67	1768.58			106		81-121		
Fluoranthene	1666.67	1629.61			98		72-120		
Fluorene	1666.67	1684.98			101		75-118		
Hexachlorobenzene	1666.67	1707.63			102		73-120		
Hexachlorobutadiene	1666.67	1707.83			102		72-120		
Hexachlorocyclopentadiene	3333.33	2822.03			85		57-142		
Hexachloroethane	1666.67	1545.8			93		69-116		
Indeno(1,2,3-cd)pyrene	1666.67	1774.75			106		69-125		
Isophorone	1666.67	1556.58			93		70-118		
2-Methylnaphthalene	1666.67	1653.7			99		77-116		
2-Methylphenol	1666.67	1712.02			103		74-128		
4-Methylphenol	1666.67	1575.81			95		72-120		
Naphthalene	1666.67	1603.97			96		75-113		
2-Nitroaniline	1666.67	1863.26			112		84-126		
3-Nitroaniline	1666.67	1599.89			96		60-125		
4-Nitroaniline	1666.67	1538.57			92		50-112		
Nitrobenzene	1666.67	1566.91			94		70-122		
2-Nitrophenol	1666.67	1861.44			112		83-120		
4-Nitrophenol	1666.67	950.95			57		52-133		
N-Nitroso-di-n-propylamine	1666.67	1480.34			89		67-121		
N-Nitrosodiphenylamine	1666.67	1738.57			104		83-118		
Di-n-octylphthalate	1666.67	1969.74			118		80-140		
Pentachlorophenol	1666.67	916.98			55*		56-131		
Phenanthrene	1666.67	1646.49			99		74-114		
Phenol	1666.67	1591.62			95		73-122		
Pyrene	1666.67	1660.12			100		74-112		
1,2,4-Trichlorobenzene	1666.67	1772.77			106		79-114		
2,4,5-Trichlorophenol	1666.67	1702.04			102		86-123		
2,4,6-Trichlorophenol	1666.67	1800.94			108		81-123		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 171531063705	Sample number(s): 9021495								
Arsenic	15	16.16			108		80-120		
Barium	200	202.91			101		80-120		
Cadmium	5.00	5.23			105		80-120		
Chromium	20	20.65			103		80-120		
Lead	15	15.59			104		80-120		
Selenium	15	15.17			101		80-120		
Silver	5.00	5.70			114		80-120		

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Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 171531063805	Sample number(s): 9021495								
Mercury	0.100	0.0923			92		80-120		
	%	%	%	%					
Batch number: 17153820003A	Sample number(s): 9021495								
Moisture	89.5	89.43			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: Q171571AA	Sample number(s): 9021495 UNSPK: P017478									
Acetone	N.D.	8886.26	13649.29	7560.48	12504.6	154*	165*	32-144	9	30
Benzene	543	1184.83	14932.85	1008.06	4046.96	1215*	348*	80-120	115*	30
Bromodichloromethane	N.D.	1184.83	1862.22	1008.06	1584.67	157*	157*	75-120	16	30
Bromoform	N.D.	1184.83	1058.1	1008.06	995.38	89	99	61-122	6	30
Bromomethane	N.D.	1184.83	2282.44	1008.06	2110.49	193*	209*	39-155	8	30
2-Butanone	N.D.	8886.26	15557.61	7560.48	13316.01	175*	176*	41-134	16	30
Carbon Disulfide	N.D.	1184.83	850.82	1008.06	845.26	72	84	60-128	1	30
Carbon Tetrachloride	N.D.	1184.83	867.15	1008.06	876.28	73	87	69-130	1	30
Chlorobenzene	N.D.	1184.83	1599.88	1008.06	1482.58	135*	147*	80-120	8	30
Chloroethane	N.D.	1184.83	1576.33	1008.06	1413.43	133	140*	50-137	11	30
Chloroform	N.D.	1184.83	1747.16	1008.06	1561.33	147*	155*	80-120	11	30
Chloromethane	N.D.	1184.83	1408.83	1008.06	1211.54	119	120	56-120	15	30
Dibromochloromethane	N.D.	1184.83	1073.12	1008.06	1081.3	91	107	71-120	1	30
1,1-Dichloroethane	N.D.	1184.83	1697.71	1008.06	1560.41	143*	155*	77-120	8	30
1,2-Dichloroethane	N.D.	1184.83	1773.27	1008.06	1552.37	150*	154*	78-127	13	30
1,1-Dichloroethene	N.D.	1184.83	1286.94	1008.06	1230.21	109	122	73-129	5	30
cis-1,2-Dichloroethene	N.D.	1184.83	1619.65	1008.06	1490.69	137*	148*	80-120	8	30
trans-1,2-Dichloroethene	N.D.	1184.83	1365.25	1008.06	1295.1	115	128*	80-125	5	30
1,2-Dichloropropane	N.D.	1184.83	1918.44	1008.06	1661.04	162*	165*	76-120	14	30
cis-1,3-Dichloropropene	N.D.	1184.83	1408.13	1008.06	1360.13	119	135*	74-120	3	30
trans-1,3-Dichloropropene	N.D.	1184.83	1422.14	1008.06	1364.97	120	135*	70-120	4	30
Ethylbenzene	525.99	1184.83	6207.95	1008.06	3226.3	480*	268*	80-120	63*	30
2-Hexanone	N.D.	5924.17	20650.05	5040.32	18238.61	349*	362*	45-138	12	30
4-Methyl-2-pentanone	N.D.	5924.17	11188.59	5040.32	10012.47	189*	199*	53-134	11	30
Methylene Chloride	N.D.	1184.83	1687.8	1008.06	1492.15	142*	148*	76-122	12	30
Styrene	N.D.	1184.83	1598.54	1008.06	1473.57	135*	146*	76-120	8	30
1,1,2,2-Tetrachloroethane	N.D.	1184.83	2339.64	1008.06	1960.66	197*	194*	67-121	18	30
Tetrachloroethene	N.D.	1184.83	1196.98	1008.06	1174.44	101	117	74-126	2	30
Toluene	531.86	1184.83	9869.2	1008.06	3658.16	788*	310*	80-120	92*	30

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Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,1,1-Trichloroethane	N.D.	1184.83	1158.77	1008.06	1101.63	98	109	66-128	5	30
1,1,2-Trichloroethane	N.D.	1184.83	6810.16	1008.06	5814.19	575*	577*	80-120	16	30
Trichloroethene	N.D.	1184.83	1437	1008.06	1314.76	121*	130*	80-120	9	30
Vinyl Chloride	N.D.	1184.83	1297.08	1008.06	1130.25	109	112	59-120	14	30
Xylene (Total)	1172.46	3554.5	16897.52	3024.19	9351.06	442*	270*	80-120	57*	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17153SLB026	Sample number(s): 9021495 UNSPK: P011609									
Acenaphthene	N.D.	1661.13	1462.24	1655.63	1502.33	88	91	83-116	3	30
Acenaphthylene	N.D.	1661.13	1248.73	1655.63	1403.05	75*	85	83-119	12	30
Anthracene	N.D.	1661.13	1339.26	1655.63	1449.33	81*	88	82-118	8	30
Benzo(a)anthracene	N.D.	1661.13	1264.51	1655.63	1459.67	76	88	76-119	14	30
Benzo(a)pyrene	19.43	1661.13	1267.95	1655.63	1494.79	75*	89	78-117	16	30
Benzo(b)fluoranthene	29.71	1661.13	1353.41	1655.63	1611.97	80	96	79-121	17	30
Benzo(g,h,i)perylene	21.27	1661.13	1298.53	1655.63	1503.21	77	90	71-123	15	30
Benzo(k)fluoranthene	N.D.	1661.13	1277.27	1655.63	1414.05	77	85	71-123	10	30
4-Bromophenyl-phenylether	N.D.	1661.13	1404.26	1655.63	1468.6	85	89	78-122	4	30
Butylbenzylphthalate	N.D.	1661.13	1265.99	1655.63	1473.57	76*	89	80-118	15	30
Di-n-butylphthalate	N.D.	1661.13	1272.68	1655.63	1426.34	77*	86	84-120	11	30
Carbazole	N.D.	1661.13	1199	1655.63	1381.33	72*	83	80-120	14	30
4-Chloro-3-methylphenol	N.D.	1661.13	1427.42	1655.63	1492.86	86	90	78-124	4	30
4-Chloroaniline	N.D.	1661.13	N.D.	1655.63	261.71	0*	16	10-110	200*	30
bis(2-Chloroethoxy)methane	N.D.	1661.13	1601.43	1655.63	1443.98	96	87	77-116	10	30
bis(2-Chloroethyl)ether	N.D.	1661.13	1421.69	1655.63	1459.28	86	88	68-115	3	30
2-Chloronaphthalene	N.D.	1661.13	1787.46	1655.63	1801.73	108	109	57-148	1	30
2-Chlorophenol	N.D.	1661.13	1490.7	1655.63	1616.07	90	98	80-121	8	30
4-Chlorophenyl-phenylether	N.D.	1661.13	1433.49	1655.63	1552.97	86	94	73-119	8	30
2,2'-oxybis(1-Chloropropane)	N.D.	1661.13	1395.21	1655.63	1352.7	84	82	60-123	3	30
Chrysene	19.06	1661.13	1257.98	1655.63	1464.75	75	87	72-121	15	30
Dibenz(a,h)anthracene	N.D.	1661.13	1377.51	1655.63	1612.14	83	97	72-129	16	30
Dibenzofuran	N.D.	1661.13	1442.31	1655.63	1508.7	87	91	79-114	4	30
1,2-Dichlorobenzene	N.D.	1661.13	1517.95	1655.63	1535.16	91	93	77-113	1	30
1,3-Dichlorobenzene	N.D.	1661.13	1499.77	1655.63	1497.05	90	90	79-113	0	30
1,4-Dichlorobenzene	N.D.	1661.13	1549.73	1655.63	1512.1	93	91	79-112	2	30
3,3'-Dichlorobenzidine	N.D.	1661.13	N.D.	1655.63	N.D.	0*	0*	12-125	0	30
2,4-Dichlorophenol	N.D.	1661.13	1478.25	1655.63	1556.14	89	94	86-125	5	30
Diethylphthalate	N.D.	1661.13	1228.83	1655.63	1293.07	74*	78*	81-118	5	30
2,4-Dimethylphenol	N.D.	1661.13	1018.19	1655.63	1070.84	61	65	57-109	5	30
Dimethylphthalate	N.D.	1661.13	1375.53	1655.63	1418.37	83	86	82-113	3	30
4,6-Dinitro-2-methylphenol	N.D.	1661.13	N.D.	1655.63	1287.26	0*	78	53-130	200*	30
2,4-Dinitrophenol	N.D.	3322.26	N.D.	3311.26	2059.95	0*	62	27-136	200*	30
2,4-Dinitrotoluene	N.D.	1661.13	907.39	1655.63	1433.84	55*	87	81-122	45*	30
2,6-Dinitrotoluene	N.D.	1661.13	1026.08	1655.63	1576.66	62*	95	80-120	42*	30
bis(2-Ethylhexyl)phthalate	N.D.	1661.13	1310.92	1655.63	1496.81	79*	90	81-121	13	30
Fluoranthene	26.88	1661.13	1294.7	1655.63	1427.13	76	85	72-120	10	30
Fluorene	N.D.	1661.13	1423.2	1655.63	1489.21	86	90	75-118	5	30

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Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Hexachlorobenzene	N.D.	1661.13	1358.03	1655.63	1494.5	82	90	73-120	10	30
Hexachlorobutadiene	N.D.	1661.13	1569.28	1655.63	1549.23	94	94	72-120	1	30
Hexachlorocyclopentadiene	N.D.	3322.26	N.D.	3311.26	N.D.	0*	0*	57-142	0	30
Hexachloroethane	N.D.	1661.13	913.22	1655.63	1402.35	55*	85	69-116	42*	30
Indeno(1,2,3-cd)pyrene	18.3	1661.13	1291.6	1655.63	1520.13	77	91	69-125	16	30
Isophorone	N.D.	1661.13	1351.13	1655.63	1363.16	81	82	70-118	1	30
2-Methylnaphthalene	N.D.	1661.13	1529.8	1655.63	1534.7	92	93	77-116	0	30
2-Methylphenol	N.D.	1661.13	1485.82	1655.63	1467.26	89	89	74-128	1	30
4-Methylphenol	N.D.	1661.13	1355.59	1655.63	1422.48	82	86	72-120	5	30
Naphthalene	36.26	1661.13	1528.78	1655.63	1508.84	90	89	75-113	1	30
2-Nitroaniline	N.D.	1661.13	1922.4	1655.63	1625.13	116	98	84-126	17	30
3-Nitroaniline	N.D.	1661.13	N.D.	1655.63	398.88	0*	24*	60-125	200*	30
4-Nitroaniline	N.D.	1661.13	N.D.	1655.63	541.43	0*	33*	50-112	200*	30
Nitrobenzene	N.D.	1661.13	1368.12	1655.63	1428.72	82	86	70-122	4	30
2-Nitrophenol	N.D.	1661.13	1323.92	1655.63	1619.03	80*	98	83-120	20	30
4-Nitrophenol	N.D.	1661.13	1244.22	1655.63	1087.63	75	66	52-133	13	30
N-Nitroso-di-n-propylamine	N.D.	1661.13	1454.41	1655.63	1443.99	88	87	67-121	1	30
N-Nitrosodiphenylamine	N.D.	1661.13	1201.37	1655.63	1469.93	72*	89	83-118	20	30
Di-n-octylphthalate	N.D.	1661.13	1496.82	1655.63	1743.62	90	105	80-140	15	30
Pentachlorophenol	N.D.	1661.13	1222.49	1655.63	1199.58	74	72	56-131	2	30
Phenanthrene	16.73	1661.13	1341.33	1655.63	1474.46	80	88	74-114	9	30
Phenol	N.D.	1661.13	1473.65	1655.63	1505.71	89	91	73-122	2	30
Pyrene	30.69	1661.13	1268.39	1655.63	1443.03	75	85	74-112	13	30
1,2,4-Trichlorobenzene	N.D.	1661.13	1632.47	1655.63	1586.07	98	96	79-114	3	30
2,4,5-Trichlorophenol	N.D.	1661.13	1425.38	1655.63	1497.26	86	90	86-123	5	30
2,4,6-Trichlorophenol	N.D.	1661.13	1540	1655.63	1551.51	93	94	81-123	1	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 171531063705	Sample number(s): 9021495 UNSPK: P018277									
Arsenic	72.02	14.56	351.32	15	186.13	1918 (2)	761 (2)	75-125	61*	20
Barium	23.73	194.17	221.01	200	223.39	102	100	75-125	1	20
Cadmium	N.D.	4.85	4.90	5.00	4.92	101	98	75-125	0	20
Chromium	152.59	19.42	500.29	20	233.38	1791 (2)	404 (2)	75-125	73*	20
Lead	6.00	14.56	28.67	15	22.72	156*	111	75-125	23*	20
Selenium	N.D.	14.56	15.02	15	14.17	103	94	75-125	6	20
Silver	N.D.	4.85	5.16	5.00	5.29	106	106	75-125	3	20
Batch number: 171531063805	Sample number(s): 9021495 UNSPK: P018278									
Mercury	0.0430	0.154	0.164	0.161	0.171	79*	79*	80-120	4	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 171531063705	Sample number(s): 9021495 BKG: P018277			
Arsenic	72.02	54.13	28*	20
Barium	23.73	24.22	2	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	152.59	86.94	55*	20
Lead	6.00	6.05	1 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Batch number: 171531063805	Sample number(s): 9021495 BKG: P018278			
Mercury	0.0430	0.0363	17 (1)	20
	%	%		
Batch number: 17153820003A	Sample number(s): 9021495 BKG: P009946			
Moisture	23.34	23.14	1	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- Solid by 8260B
Batch number: Q171571AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9021495	72	72	67	65
Blank	81	86	90	80
LCS	88	91	95	93
LCSD	86	87	95	92
MS	59	58	64	56
MSD	61	58	63	57
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SVOA 8270D (microwave)
Batch number: 17153SLB026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9021495	44*	47	40	63	49*	58
Blank	86	90	89	86	92	100
LCS	92	96	92	86	94	98
MS	82	84	81	76	84	78
MSD	85	86	86	77	83	85
Limits:	46-125	43-130	28-141	45-125	50-124	43-132

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: EA Engineering
Reported: 06/09/2017 10:16

Group Number: 1807465

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

1807465 | 0021495
30056 | ~~1793844~~ | ~~8960232~~ 34
③ 5/31/17

EA Engineering - Wilcox
DateShipped: 4/25/2017
CarrierName: FedEx
AirbillNo: 7789 8805 5966

CHAIN OF CUSTODY RECORD
Site #: 277
Contact Name: Patrick Appel
Contact Phone: 972-315-3922

No: 6-042517-171744-0157
Lab Contact: Angela Miller
Lab: Eurofins Lancaster Laboratories Environmental LLC
Lab Phone: 717-656-2300

Lab #	Sample #	Analyses	Preservative	Sampler	Collected	Sample Time	Numb Cont	Container	Lab QC
	WPA-WC-02	Ignitability Moisture PCBs pH	Ice to 4C	Jason Stroup	4/25/2017	17:30	1	8oz Jar	N
	WPA-WC-02	Dioxins Furans	Ice to 4C	Jason Stroup	4/25/2017	17:30	1	8oz Jar	N
	WPA-WC-02	Reactivity	Ice to 4C	Jason Stroup	4/25/2017	17:30	1	4oz Jar	N
	WPA-WC-02	GRO	Ice to 4C	Jason Stroup	4/25/2017	17:30	1	4oz Jar	N
	WPA-WC-02	ORO	Ice to 4C	Jason Stroup	4/25/2017	17:30	1	8oz Jar	N
	WPA-WC-02	DRO	Ice to 4C	Jason Stroup	4/25/2017	17:30	1	8oz Jar	N
	WPA-WC-02	TCLP Metals TCLP SVOCs	Ice to 4C	Jason Stroup	4/25/2017	17:30	3	8oz Jar	N
	WPA-WC-02	TCLP VOCs	Ice to 4C	Jason Stroup	4/25/2017	17:30	1	4oz Jar	N

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	EA	4-25-17 1800	EA	4-25-17 1800	
	EA	4-25-17 2000	FedEx (courier)	4-25-17 2000	
			ELLE	4-26-17 1940	Intact

Angela Miller

From: Moss, Pamela <pmoss@eaest.com>
Sent: Wednesday, May 31, 2017 5:13 PM
To: Angela Miller
Subject: RE: Wilcox - additional sample analysis requested

Sounds good thx Angela

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Wednesday, May 31, 2017 3:10 PM
To: Moss, Pamela <pmoss@eaest.com>
Subject: RE: Wilcox - additional sample analysis requested

Hi Pam,
Sure we can report the TCL list for VOCs and SVOCs. I have attached the TCL 3.2 compound lists for your reference. We will report the RCRA metals including mercury as well for WLC06 and WLC07.

Thank you, Angela

From: Moss, Pamela [mailto:pmoss@eaest.com]
Sent: Wednesday, May 31, 2017 3:52 PM
To: Angela Miller
Subject: RE: Wilcox - additional sample analysis requested

Hi Angela,
We need the full VOC and SVOC lists. Can you use the CLP TCL list for VOCs and SVOCs . We also need the RCRA metals inc. mercury. thx.

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Wednesday, May 31, 2017 1:43 PM
To: Moss, Pamela <pmoss@eaest.com>
Subject: RE: Wilcox - additional sample analysis requested

Hi Pam,

Just to clarify, did you want the same list of compounds for the Total analysis on VOCs and SVOCs as what was reported for the TCLP portion? If not do you have a specific compound list that you could pass along to me?

Thank you, Angela

Angela Miller
Project Manager

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Phone: 717-556-7260
Fax: 717-656-6766

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 181849

Group Number(s): 1807465

Client: EA

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	04/26/2017 9:40
Number of Packages:	3	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 11:49 on 04/26/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	0.8	DT	Wet	Y	Bagged	N
2	DT131	0.8	DT	Wet	Y	Bagged	N
3	DT131	0.4	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	none detected
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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