TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

TestAmerica Job ID: 600-153830-1
Client Project/Site: Sheridan Disposal Services

For:
CH2M Hill Constructors, Inc.
14701 St. Mary's Lane
Suite 300
Houston, Texas 77079-2923

Attn: Mr. John Ynfante

Authorized for release by:
9/16/2017 5:08:30 PM

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7080250

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Job ID: 600-153830-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-153830-1

Comments
No additional comments.

Receipt
The sample was received on 9/13/2017 5:10 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 8.8º C.

Receipt Exceptions

The sample was received at the laboratory outside the required temperature criteria of 8.8°C. The sample is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC/MS VOA
Method(s) 8260B: The method blank for analytical batch 600-221380 contained 2-Hexanone above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

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

Organic Prep
Method(s) 3546: The following sample required a sulfuric acid clean-up, via EPA Method 3665A, to reduce matrix interferences: SDS-SS-001 (600-153830-1).

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

Method Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
8270C LL	Semivolatile Organic Compounds by GCMS - Low Levels	SW846	TAL HOU
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL HOU
6020	Metals (ICP/MS)	SW846	TAL CC
7471A	Mercury (CVAA)	SW846	TAL CC
2540B	Percent Moisture	SM20	TAL HOU

Protocol References:

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

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

Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-153830-1	SDS-SS-001	Solid	09/13/17 11:25	09/13/17 17:10

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Client Sample ID: SDS-SS-001

Date Collected: 09/13/17 11:25
Date Received: 09/13/17 17:10

Lab Sample ID: 600-153830-1

Matrix: Solid
Percent Solids: 78.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.89	U	6.0	0.89	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,1,2,2-Tetrachloroethane	1.0	U	6.0	1.0	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.7	U	6.0	1.7	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,1,2-Trichloroethane	0.88	U	48	0.88	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,1-Dichloroethane	1.0	U	6.0	1.0	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,1-Dichloroethene	1.5	U	6.0	1.5	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,2,3-Trichlorobenzene	0.75	U	6.0	0.75	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,2,4-Trichlorobenzene	2.4	U	6.0	2.4	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,2-Dibromo-3-Chloropropane	2.9	U	6.0	2.9	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,2-Dibromoethane	1.2	U	6.0	1.2	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,2-Dichlorobenzene	0.97	U	6.0	0.97	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,2-Dichloroethane	1.1	U	6.0	1.1	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,2-Dichloroethene, Total	2.3	U	12	2.3	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,2-Dichloropropane	0.86	U	6.0	0.86	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,3-Dichlorobenzene	0.86	U	6.0	0.86	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,4-Dichlorobenzene	0.80	U	6.0	0.80	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
1,4-Dioxane	75	U	600	75	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
2-Butanone (MEK)	2.3	U	12	2.3	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
2-Hexanone	1.2	U	12	1.2	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
4-Methyl-2-pentanone (MIBK)	1.8	U	12	1.8	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Acetone	2.0	U	12	2.0	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Benzene	0.76	U	6.0	0.76	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Bromochloromethane	2.1	U	6.0	2.1	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Bromodichloromethane	0.80	U	6.0	0.80	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Bromoform	1.7	U	6.0	1.7	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Bromomethane	1.0	U	12	1.0	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Carbon disulfide	0.66	U	12	0.66	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Carbon tetrachloride	1.4	U	6.0	1.4	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Chlorobenzene	1.2	U	6.0	1.2	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Chloroethane	1.7	U	12	1.7	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Chloroform	0.80	U	12	0.80	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Chloromethane	2.0	U	12	2.0	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
cis-1,2-Dichloroethene	1.0	U	6.0	1.0	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
cis-1,3-Dichloropropene	0.65	U	6.0	0.65	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Cyclohexane	2.3	U	6.0	2.3	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Dibromochloromethane	1.1	U	6.0	1.1	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Dichlorodifluoromethane	1.9	U	6.0	1.9	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Ethylbenzene	1.2	U	6.0	1.2	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Isopropylbenzene	1.1	U	6.0	1.1	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Methyl acetate	3.5	U	6.0	3.5	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Methyl tert-butyl ether	2.2	U	6.0	2.2	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Methylcyclohexane	1.8	U	6.0	1.8	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Methylene Chloride	2.6	U	12	2.6	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
m-Xylene & p-Xylene	1.8	U	6.0	1.8	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
o-Xylene	1.4	U	6.0	1.4	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Styrene	0.86	U	6.0	0.86	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Tetrachloroethene	0.86	U	6.0	0.86	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Toluene	1.7	U	6.0	1.7	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
trans-1,2-Dichloroethene	1.4	U	6.0	1.4	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Client Sample ID: SDS-SS-001

Date Collected: 09/13/17 11:25
Date Received: 09/13/17 17:10

Lab Sample ID: 600-153830-1

Matrix: Solid
Percent Solids: 78.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	0.70	U	6.0	0.70	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Trichloroethene	1.7	U	6.0	1.7	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Trichlorofluoromethane	0.80	U	12	0.80	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Vinyl acetate	1.1	U	12	1.1	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Vinyl chloride	1.1	U	12	1.1	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1
Xylenes, Total	1.4	U	6.0	1.4	ug/Kg	☼	09/13/17 20:00	09/15/17 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*61 - 130*	*09/13/17 20:00*	*09/15/17 13:40*	*1*
4-Bromofluorobenzene	*111*		*57 - 140*	*09/13/17 20:00*	*09/15/17 13:40*	*1*
Dibromofluoromethane	*95*		*68 - 140*	*09/13/17 20:00*	*09/15/17 13:40*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*	*09/13/17 20:00*	*09/15/17 13:40*	*1*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	5.1	U	42	5.1	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
1,2,4,5-Tetrachlorobenzene	8.6	U	42	8.6	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2,3,4,6-Tetrachlorophenol	21	U	42	21	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2,4,5-Trichlorophenol	13	U	42	13	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2,4,6-Trichlorophenol	3.4	U	42	3.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2,4-Dichlorophenol	4.9	U	42	4.9	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2,4-Dimethylphenol	11	U	42	11	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2,4-Dinitrophenol	6.0	U	130	6.0	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2,4-Dinitrotoluene	4.6	U	42	4.6	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2,6-Dinitrotoluene	3.7	U	42	3.7	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2-Chloronaphthalene	1.5	U	42	1.5	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2-Chlorophenol	2.5	U	42	2.5	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2-Methylnaphthalene	3.5	U	42	3.5	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2-Methylphenol	4.1	U	42	4.1	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2-Nitroaniline	6.2	U	42	6.2	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
2-Nitrophenol	4.9	U	42	4.9	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
3 & 4 Methylphenol	3.5	U	42	3.5	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
3,3'-Dichlorobenzidine	13	U	42	13	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
3-Nitroaniline	9.1	U	42	9.1	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
4,6-Dinitro-2-methylphenol	6.3	U	220	6.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
4-Bromophenyl phenyl ether	3.6	U	42	3.6	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
4-Chloro-3-methylphenol	20	U	42	20	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
4-Chloroaniline	7.4	U	42	7.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
4-Chlorophenyl phenyl ether	2.3	U	42	2.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
4-Nitroaniline	14	U	42	14	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
4-Nitrophenol	6.5	U	250	6.5	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Acenaphthene	1.8	U	42	1.8	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Acenaphthylene	1.3	U	42	1.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Acetophenone	**7.2**	**J**	42	4.2	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Anthracene	1.6	U	42	1.6	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Atrazine	6.4	U	42	6.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Benzaldehyde	**120**		42	21	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Benzo[a]anthracene	1.8	U	42	1.8	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Benzo[a]pyrene	2.0	U	42	2.0	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Benzo[b]fluoranthene	2.2	U	42	2.2	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Client Sample ID: SDS-SS-001

Date Collected: 09/13/17 11:25
Date Received: 09/13/17 17:10

Lab Sample ID: 600-153830-1

Matrix: Solid
Percent Solids: 78.7

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	6.4	U	42	6.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Benzo[k]fluoranthene	1.9	U	42	1.9	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
bis (2-Chloroisopropyl) ether	11	U	42	11	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Bis(2-chloroethoxy)methane	1.8	U	42	1.8	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Bis(2-chloroethyl)ether	2.1	U	42	2.1	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Bis(2-ethylhexyl) phthalate	6.8	U	42	6.8	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Butyl benzyl phthalate	7.9	U	85	7.9	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Caprolactam	21	U	42	21	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Carbazole	4.0	U	42	4.0	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Chrysene	1.3	U	42	1.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Dibenz(a,h)anthracene	4.6	U	42	4.6	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Dibenzofuran	2.3	U	42	2.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Diethyl phthalate	11	U	85	11	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Dimethyl phthalate	6.2	U	85	6.2	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Di-n-butyl phthalate	3.3	U	85	3.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Di-n-octyl phthalate	2.4	U	85	2.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Fluoranthene	4.0	U	42	4.0	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Fluorene	3.0	U	42	3.0	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Hexachlorobenzene	1.9	U	42	1.9	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Hexachlorobutadiene	2.4	U	42	2.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Hexachlorocyclopentadiene	5.9	U	42	5.9	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Hexachloroethane	2.9	U	42	2.9	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Indeno[1,2,3-cd]pyrene	4.4	U	42	4.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Isophorone	1.3	U	42	1.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Naphthalene	1.7	U	42	1.7	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Nitrobenzene	3.8	U	42	3.8	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
N-Nitrosodi-n-propylamine	2.8	U	42	2.8	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
N-Nitrosodiphenylamine	2.4	U	42	2.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Pentachlorophenol	5.1	U	210	5.1	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Phenanthrene	6.3	U	42	6.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Phenol	5.4	U	42	5.4	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1
Pyrene	2.3	U	42	2.3	ug/Kg	☼	09/15/17 11:17	09/15/17 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*72*		*10 - 148*	*09/15/17 11:17*	*09/15/17 17:06*	*1*
2-Fluorobiphenyl	*72*		*38 - 130*	*09/15/17 11:17*	*09/15/17 17:06*	*1*
2-Fluorophenol	*66*		*25 - 132*	*09/15/17 11:17*	*09/15/17 17:06*	*1*
Nitrobenzene-d5	*59*		*10 - 155*	*09/15/17 11:17*	*09/15/17 17:06*	*1*
Phenol-d5 (Surr)	*61*		*27 - 130*	*09/15/17 11:17*	*09/15/17 17:06*	*1*
Terphenyl-d14	*73*		*53 - 134*	*09/15/17 11:17*	*09/15/17 17:06*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	2.0	U	21	2.0	ug/Kg	☼	09/15/17 10:50	09/15/17 16:45	1
PCB-1221	11	U	21	11	ug/Kg	☼	09/15/17 10:50	09/15/17 16:45	1
PCB-1232	8.5	U	21	8.5	ug/Kg	☼	09/15/17 10:50	09/15/17 16:45	1
PCB-1242	1.6	U	21	1.6	ug/Kg	☼	09/15/17 10:50	09/15/17 16:45	1
PCB-1248	3.2	U	21	3.2	ug/Kg	☼	09/15/17 10:50	09/15/17 16:45	1
PCB-1254	2.8	U	21	2.8	ug/Kg	☼	09/15/17 10:50	09/15/17 16:45	1
PCB-1260	17	U	21	17	ug/Kg	☼	09/15/17 10:50	09/15/17 16:45	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Client Sample ID: SDS-SS-001

Date Collected: 09/13/17 11:25
Date Received: 09/13/17 17:10

Lab Sample ID: 600-153830-1

Matrix: Solid
Percent Solids: 78.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*82*		*10 - 150*	*09/15/17 10:50*	*09/15/17 16:45*	*1*
DCB Decachlorobiphenyl	*99*		*10 - 150*	*09/15/17 10:50*	*09/15/17 16:45*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**12000**		28	14	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Antimony	0.53	U	1.4	0.53	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Arsenic	**5.2**		1.4	0.27	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Barium	**150**		1.4	0.60	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Beryllium	**0.95**	**J**	1.4	0.48	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Cadmium	0.40	U	1.4	0.40	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Calcium	**25000**		140	76	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Chromium	**15**		1.4	0.62	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Cobalt	**7.5**		1.4	0.29	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Copper	**11**		2.8	0.98	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Iron	**15000**		140	30	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Lead	**11**		2.8	1.1	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Magnesium	**8200**		140	30	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Manganese	**430**		14	3.3	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Nickel	**17**		1.4	0.73	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Potassium	**2400**		280	140	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Selenium	**0.54**	**J**	1.4	0.24	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Silver	0.38	U	1.4	0.38	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Sodium	150	U	280	150	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Thallium	0.38	U	1.4	0.38	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Vanadium	**26**		1.4	0.32	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5
Zinc	**34**		6.9	4.2	mg/Kg	☼	09/15/17 12:00	09/15/17 18:40	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.011	U	0.12	0.011	mg/Kg	☼	09/15/17 11:00	09/15/17 14:16	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**21.3**		1.0	1.0	%			09/14/17 15:57	1
Percent Solids	**78.7**		1.0	1.0	%			09/14/17 15:57	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Surrogate Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(61-130)	(57-140)	(68-140)	(50-130)
600-153830-1	SDS-SS-001	104	111	95	88
LCS 600-221380/3	Lab Control Sample	109	122	106	100
LCSD 600-221380/4	Lab Control Sample Dup	104	124	106	103
MB 600-221380/6	Method Blank	108	102	97	90

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(10-148)	(38-130)	(25-132)	(10-155)	(27-130)	(53-134)
600-153830-1	SDS-SS-001	72	72	66	59	61	73
LCS 600-221420/2-A	Lab Control Sample	83	77	78	71	73	86
MB 600-221420/1-A	Method Blank	64	77	70	69	64	80

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(10-150)	(10-150)
600-153830-1	SDS-SS-001	82	99
LCS 600-221416/2-A	Lab Control Sample	94	130
LCSD 600-221416/3-A	Lab Control Sample Dup	90	126
MB 600-221416/1-A	Method Blank	89	121

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 600-221380/6
Matrix: Solid
Analysis Batch: 221380

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.74	U	5.0	0.74	ug/Kg			09/15/17 09:58	1
1,1,2,2-Tetrachloroethane	0.87	U	5.0	0.87	ug/Kg			09/15/17 09:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U	5.0	1.4	ug/Kg			09/15/17 09:58	1
1,1,2-Trichloroethane	0.73	U	40	0.73	ug/Kg			09/15/17 09:58	1
1,1-Dichloroethane	0.87	U	5.0	0.87	ug/Kg			09/15/17 09:58	1
1,1-Dichloroethene	1.2	U	5.0	1.2	ug/Kg			09/15/17 09:58	1
1,2,3-Trichlorobenzene	0.62	U	5.0	0.62	ug/Kg			09/15/17 09:58	1
1,2,4-Trichlorobenzene	2.0	U	5.0	2.0	ug/Kg			09/15/17 09:58	1
1,2-Dibromo-3-Chloropropane	2.4	U	5.0	2.4	ug/Kg			09/15/17 09:58	1
1,2-Dibromoethane	1.0	U	5.0	1.0	ug/Kg			09/15/17 09:58	1
1,2-Dichlorobenzene	0.80	U	5.0	0.80	ug/Kg			09/15/17 09:58	1
1,2-Dichloroethane	0.90	U	5.0	0.90	ug/Kg			09/15/17 09:58	1
1,2-Dichloroethene, Total	1.9	U	10	1.9	ug/Kg			09/15/17 09:58	1
1,2-Dichloropropane	0.71	U	5.0	0.71	ug/Kg			09/15/17 09:58	1
1,3-Dichlorobenzene	0.71	U	5.0	0.71	ug/Kg			09/15/17 09:58	1
1,4-Dichlorobenzene	0.66	U	5.0	0.66	ug/Kg			09/15/17 09:58	1
1,4-Dioxane	62	U	500	62	ug/Kg			09/15/17 09:58	1
2-Butanone (MEK)	1.9	U	10	1.9	ug/Kg			09/15/17 09:58	1
2-Hexanone	4.77	J	10	1.0	ug/Kg			09/15/17 09:58	1
4-Methyl-2-pentanone (MIBK)	1.5	U	10	1.5	ug/Kg			09/15/17 09:58	1
Acetone	1.7	U	10	1.7	ug/Kg			09/15/17 09:58	1
Benzene	0.63	U	5.0	0.63	ug/Kg			09/15/17 09:58	1
Bromochloromethane	1.8	U	5.0	1.8	ug/Kg			09/15/17 09:58	1
Bromodichloromethane	0.66	U	5.0	0.66	ug/Kg			09/15/17 09:58	1
Bromoform	1.4	U	5.0	1.4	ug/Kg			09/15/17 09:58	1
Bromomethane	0.83	U	10	0.83	ug/Kg			09/15/17 09:58	1
Carbon disulfide	0.55	U	10	0.55	ug/Kg			09/15/17 09:58	1
Carbon tetrachloride	1.1	U	5.0	1.1	ug/Kg			09/15/17 09:58	1
Chlorobenzene	0.96	U	5.0	0.96	ug/Kg			09/15/17 09:58	1
Chloroethane	1.4	U	10	1.4	ug/Kg			09/15/17 09:58	1
Chloroform	0.66	U	10	0.66	ug/Kg			09/15/17 09:58	1
Chloromethane	1.7	U	10	1.7	ug/Kg			09/15/17 09:58	1
cis-1,2-Dichloroethene	0.83	U	5.0	0.83	ug/Kg			09/15/17 09:58	1
cis-1,3-Dichloropropene	0.54	U	5.0	0.54	ug/Kg			09/15/17 09:58	1
Cyclohexane	1.9	U	5.0	1.9	ug/Kg			09/15/17 09:58	1
Dibromochloromethane	0.94	U	5.0	0.94	ug/Kg			09/15/17 09:58	1
Dichlorodifluoromethane	1.5	U	5.0	1.5	ug/Kg			09/15/17 09:58	1
Ethylbenzene	1.0	U	5.0	1.0	ug/Kg			09/15/17 09:58	1
Isopropylbenzene	0.92	U	5.0	0.92	ug/Kg			09/15/17 09:58	1
Methyl acetate	2.9	U	5.0	2.9	ug/Kg			09/15/17 09:58	1
Methyl tert-butyl ether	1.8	U	5.0	1.8	ug/Kg			09/15/17 09:58	1
Methylcyclohexane	1.5	U	5.0	1.5	ug/Kg			09/15/17 09:58	1
Methylene Chloride	2.2	U	10	2.2	ug/Kg			09/15/17 09:58	1
m-Xylene & p-Xylene	1.5	U	5.0	1.5	ug/Kg			09/15/17 09:58	1
o-Xylene	1.1	U	5.0	1.1	ug/Kg			09/15/17 09:58	1
Styrene	0.71	U	5.0	0.71	ug/Kg			09/15/17 09:58	1
Tetrachloroethene	0.71	U	5.0	0.71	ug/Kg			09/15/17 09:58	1
Toluene	1.4	U	5.0	1.4	ug/Kg			09/15/17 09:58	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-221380/6
Matrix: Solid
Analysis Batch: 221380

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	1.1	U	5.0	1.1	ug/Kg			09/15/17 09:58	1
trans-1,3-Dichloropropene	0.58	U	5.0	0.58	ug/Kg			09/15/17 09:58	1
Trichloroethene	1.4	U	5.0	1.4	ug/Kg			09/15/17 09:58	1
Trichlorofluoromethane	0.66	U	10	0.66	ug/Kg			09/15/17 09:58	1
Vinyl acetate	0.93	U	10	0.93	ug/Kg			09/15/17 09:58	1
Vinyl chloride	0.90	U	10	0.90	ug/Kg			09/15/17 09:58	1
Xylenes, Total	1.1	U	5.0	1.1	ug/Kg			09/15/17 09:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*61 - 130*		*09/15/17 09:58*	*1*
4-Bromofluorobenzene	*102*		*57 - 140*		*09/15/17 09:58*	*1*
Dibromofluoromethane	*97*		*68 - 140*		*09/15/17 09:58*	*1*
Toluene-d8 (Surr)	*90*		*50 - 130*		*09/15/17 09:58*	*1*

Lab Sample ID: LCS 600-221380/3
Matrix: Solid
Analysis Batch: 221380

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	42.0		ug/Kg		84	59 - 130
1,1,2,2-Tetrachloroethane	50.0	55.9		ug/Kg		112	61 - 138
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	43.8		ug/Kg		88	48 - 150
1,1,2-Trichloroethane	50.0	56.1		ug/Kg		112	67 - 134
1,1-Dichloroethane	50.0	44.0		ug/Kg		88	63 - 140
1,1-Dichloroethene	50.0	43.3		ug/Kg		87	62 - 142
1,2,3-Trichlorobenzene	50.0	37.1		ug/Kg		74	52 - 135
1,2,4-Trichlorobenzene	50.0	35.7		ug/Kg		71	53 - 136
1,2-Dibromo-3-Chloropropane	50.0	45.4		ug/Kg		91	29 - 150
1,2-Dibromoethane	50.0	60.6		ug/Kg		121	65 - 136
1,2-Dichlorobenzene	50.0	41.9		ug/Kg		84	61 - 131
1,2-Dichloroethane	50.0	57.4		ug/Kg		115	58 - 137
1,2-Dichloroethene, Total	100	92.9		ug/Kg		93	70 - 130
1,2-Dichloropropane	50.0	56.5		ug/Kg		113	70 - 130
1,3-Dichlorobenzene	50.0	45.5		ug/Kg		91	63 - 132
1,4-Dichlorobenzene	50.0	46.3		ug/Kg		93	65 - 131
1,4-Dioxane	1000	1450		ug/Kg		145	31 - 150
2-Butanone (MEK)	100	146		ug/Kg		146	33 - 150
2-Hexanone	100	113		ug/Kg		113	35 - 150
4-Methyl-2-pentanone (MIBK)	100	139		ug/Kg		139	21 - 150
Acetone	100	145		ug/Kg		145	13 - 150
Benzene	50.0	49.6		ug/Kg		99	70 - 131
Bromochloromethane	50.0	51.6		ug/Kg		103	70 - 132
Bromodichloromethane	50.0	55.1		ug/Kg		110	67 - 138
Bromoform	50.0	60.7		ug/Kg		121	43 - 150
Bromomethane	50.0	35.9		ug/Kg		72	37 - 147
Carbon disulfide	50.0	37.8		ug/Kg		76	51 - 141
Carbon tetrachloride	50.0	42.7		ug/Kg		85	58 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 600-221380/3
Matrix: Solid
Analysis Batch: 221380

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	50.0	48.0		ug/Kg		96	63 - 131
Chloroethane	50.0	32.6		ug/Kg		65	40 - 150
Chloroform	50.0	45.9		ug/Kg		92	69 - 130
Chloromethane	50.0	41.4		ug/Kg		83	44 - 141
cis-1,2-Dichloroethene	50.0	45.6		ug/Kg		91	70 - 130
cis-1,3-Dichloropropene	50.0	52.5		ug/Kg		105	65 - 130
Cyclohexane	50.0	43.4		ug/Kg		87	54 - 130
Dibromochloromethane	50.0	51.8		ug/Kg		104	65 - 134
Dichlorodifluoromethane	50.0	32.6		ug/Kg		65	24 - 147
Ethylbenzene	50.0	44.4		ug/Kg		89	66 - 130
Isopropylbenzene	50.0	40.9		ug/Kg		82	64 - 131
Methyl acetate	250	330		ug/Kg		132	10 - 150
Methyl tert-butyl ether	50.0	48.2		ug/Kg		96	63 - 132
Methylcyclohexane	50.0	44.9		ug/Kg		90	51 - 137
Methylene Chloride	50.0	48.4		ug/Kg		97	61 - 150
m-Xylene & p-Xylene	50.0	43.1		ug/Kg		86	64 - 130
o-Xylene	50.0	38.3		ug/Kg		77	62 - 130
Styrene	50.0	48.3		ug/Kg		97	65 - 133
Tetrachloroethene	50.0	42.1		ug/Kg		84	43 - 143
Toluene	50.0	44.7		ug/Kg		89	67 - 130
trans-1,2-Dichloroethene	50.0	47.3		ug/Kg		95	69 - 130
trans-1,3-Dichloropropene	50.0	62.9		ug/Kg		126	70 - 130
Trichloroethene	50.0	50.1		ug/Kg		100	63 - 135
Trichlorofluoromethane	50.0	44.1		ug/Kg		88	53 - 134
Vinyl acetate	100	130		ug/Kg		130	40 - 150
Vinyl chloride	50.0	38.2		ug/Kg		76	40 - 148
Xylenes, Total	100	81.4		ug/Kg		81	63 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*61 - 130*
4-Bromofluorobenzene	*122*		*57 - 140*
Dibromofluoromethane	*106*		*68 - 140*
Toluene-d8 (Surr)	*100*		*50 - 130*

Lab Sample ID: LCSD 600-221380/4
Matrix: Solid
Analysis Batch: 221380

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	43.9		ug/Kg		88	59 - 130	4	30
1,1,2,2-Tetrachloroethane	50.0	52.6		ug/Kg		105	61 - 138	6	30
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	43.4		ug/Kg		87	48 - 150	1	30
1,1,2-Trichloroethane	50.0	54.9		ug/Kg		110	67 - 134	2	30
1,1-Dichloroethane	50.0	45.0		ug/Kg		90	63 - 140	2	30
1,1-Dichloroethene	50.0	42.4		ug/Kg		85	62 - 142	2	30
1,2,3-Trichlorobenzene	50.0	35.3		ug/Kg		71	52 - 135	5	30
1,2,4-Trichlorobenzene	50.0	34.3		ug/Kg		69	53 - 136	4	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 600-221380/4
Matrix: Solid
Analysis Batch: 221380

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	50.0	39.2		ug/Kg		78	29 - 150	15	30
1,2-Dibromoethane	50.0	57.8		ug/Kg		116	65 - 136	5	30
1,2-Dichlorobenzene	50.0	42.1		ug/Kg		84	61 - 131	0	30
1,2-Dichloroethane	50.0	56.4		ug/Kg		113	58 - 137	2	30
1,2-Dichloroethene, Total	100	94.7		ug/Kg		95	70 - 130	2	30
1,2-Dichloropropane	50.0	57.2		ug/Kg		114	70 - 130	1	30
1,3-Dichlorobenzene	50.0	46.2		ug/Kg		92	63 - 132	2	30
1,4-Dichlorobenzene	50.0	46.5		ug/Kg		93	65 - 131	0	30
1,4-Dioxane	1000	1180		ug/Kg		118	31 - 150	21	30
2-Butanone (MEK)	100	130		ug/Kg		130	33 - 150	12	30
2-Hexanone	100	102		ug/Kg		102	35 - 150	11	30
4-Methyl-2-pentanone (MIBK)	100	123		ug/Kg		123	21 - 150	12	30
Acetone	100	115		ug/Kg		115	13 - 150	23	30
Benzene	50.0	50.7		ug/Kg		101	70 - 131	2	30
Bromochloromethane	50.0	51.8		ug/Kg		104	70 - 132	0	30
Bromodichloromethane	50.0	57.5		ug/Kg		115	67 - 138	4	30
Bromoform	50.0	57.8		ug/Kg		116	43 - 150	5	30
Bromomethane	50.0	35.3		ug/Kg		71	37 - 147	2	30
Carbon disulfide	50.0	38.0		ug/Kg		76	51 - 141	0	30
Carbon tetrachloride	50.0	42.8		ug/Kg		86	58 - 130	0	30
Chlorobenzene	50.0	49.1		ug/Kg		98	63 - 131	2	30
Chloroethane	50.0	33.6		ug/Kg		67	40 - 150	3	30
Chloroform	50.0	46.4		ug/Kg		93	69 - 130	1	30
Chloromethane	50.0	41.8		ug/Kg		84	44 - 141	1	30
cis-1,2-Dichloroethene	50.0	46.3		ug/Kg		93	70 - 130	2	30
cis-1,3-Dichloropropene	50.0	52.5		ug/Kg		105	65 - 130	0	30
Cyclohexane	50.0	42.5		ug/Kg		85	54 - 130	2	30
Dibromochloromethane	50.0	51.7		ug/Kg		103	65 - 134	0	30
Dichlorodifluoromethane	50.0	33.7		ug/Kg		67	24 - 147	3	30
Ethylbenzene	50.0	44.8		ug/Kg		90	66 - 130	1	30
Isopropylbenzene	50.0	41.8		ug/Kg		84	64 - 131	2	30
Methyl acetate	250	292		ug/Kg		117	10 - 150	12	30
Methyl tert-butyl ether	50.0	45.6		ug/Kg		91	63 - 132	6	30
Methylcyclohexane	50.0	45.7		ug/Kg		91	51 - 137	2	30
Methylene Chloride	50.0	48.8		ug/Kg		98	61 - 150	1	30
m-Xylene & p-Xylene	50.0	44.1		ug/Kg		88	64 - 130	2	30
o-Xylene	50.0	39.8		ug/Kg		80	62 - 130	4	30
Styrene	50.0	49.1		ug/Kg		98	65 - 133	2	30
Tetrachloroethene	50.0	43.9		ug/Kg		88	43 - 143	4	30
Toluene	50.0	45.7		ug/Kg		91	67 - 130	2	30
trans-1,2-Dichloroethene	50.0	48.4		ug/Kg		97	69 - 130	2	30
trans-1,3-Dichloropropene	50.0	61.6		ug/Kg		123	70 - 130	2	30
Trichloroethene	50.0	50.0		ug/Kg		100	63 - 135	0	30
Trichlorofluoromethane	50.0	46.6		ug/Kg		93	53 - 134	6	30
Vinyl acetate	100	120		ug/Kg		120	40 - 150	8	30
Vinyl chloride	50.0	39.2		ug/Kg		78	40 - 148	3	30
Xylenes, Total	100	83.9		ug/Kg		84	63 - 130	3	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 600-221380/4
Matrix: Solid
Analysis Batch: 221380

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

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*61 - 130*
4-Bromofluorobenzene	*124*		*57 - 140*
Dibromofluoromethane	*106*		*68 - 140*
Toluene-d8 (Surr)	*103*		*50 - 130*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Lab Sample ID: MB 600-221420/1-A
Matrix: Solid
Analysis Batch: 221418

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 221420

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	4.0	U	33	4.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
1,2,4,5-Tetrachlorobenzene	6.8	U	33	6.8	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2,3,4,6-Tetrachlorophenol	17	U	33	17	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2,4,5-Trichlorophenol	10	U	33	10	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2,4,6-Trichlorophenol	2.7	U	33	2.7	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2,4-Dichlorophenol	3.9	U	33	3.9	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2,4-Dimethylphenol	8.6	U	33	8.6	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2,4-Dinitrophenol	4.7	U	100	4.7	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2,4-Dinitrotoluene	3.6	U	33	3.6	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2,6-Dinitrotoluene	3.0	U	33	3.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2-Chloronaphthalene	1.2	U	33	1.2	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2-Chlorophenol	2.0	U	33	2.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2-Methylnaphthalene	2.7	U	33	2.7	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2-Methylphenol	3.2	U	33	3.2	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2-Nitroaniline	4.9	U	33	4.9	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
2-Nitrophenol	3.9	U	33	3.9	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
3 & 4 Methylphenol	2.8	U	33	2.8	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
3,3'-Dichlorobenzidine	10	U	33	10	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
3-Nitroaniline	7.2	U	33	7.2	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
4,6-Dinitro-2-methylphenol	5.0	U	170	5.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
4-Bromophenyl phenyl ether	2.8	U	33	2.8	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
4-Chloro-3-methylphenol	16	U	33	16	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
4-Chloroaniline	5.8	U	33	5.8	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
4-Chlorophenyl phenyl ether	1.8	U	33	1.8	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
4-Nitroaniline	11	U	33	11	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
4-Nitrophenol	5.1	U	200	5.1	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Acenaphthene	1.4	U	33	1.4	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Acenaphthylene	1.0	U	33	1.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Acetophenone	3.3	U	33	3.3	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Anthracene	1.3	U	33	1.3	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Atrazine	5.0	U	33	5.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Benzaldehyde	17	U	33	17	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Benzo[a]anthracene	1.4	U	33	1.4	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Benzo[a]pyrene	1.6	U	33	1.6	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Benzo[b]fluoranthene	1.7	U	33	1.7	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Benzo[g,h,i]perylene	5.1	U	33	5.1	ug/Kg		09/15/17 11:17	09/15/17 12:57	1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: MB 600-221420/1-A
Matrix: Solid
Analysis Batch: 221418

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 221420

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	1.5	U	33	1.5	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
bis (2-Chloroisopropyl) ether	8.8	U	33	8.8	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Bis(2-chloroethoxy)methane	1.4	U	33	1.4	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Bis(2-chloroethyl)ether	1.7	U	33	1.7	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Bis(2-ethylhexyl) phthalate	5.4	U	33	5.4	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Butyl benzyl phthalate	6.2	U	67	6.2	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Caprolactam	17	U	33	17	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Carbazole	3.1	U	33	3.1	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Chrysene	1.0	U	33	1.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Dibenz(a,h)anthracene	3.6	U	33	3.6	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Dibenzofuran	1.8	U	33	1.8	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Diethyl phthalate	8.4	U	67	8.4	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Dimethyl phthalate	4.9	U	67	4.9	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Di-n-butyl phthalate	2.6	U	67	2.6	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Di-n-octyl phthalate	1.9	U	67	1.9	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Fluoranthene	3.1	U	33	3.1	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Fluorene	2.4	U	33	2.4	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Hexachlorobenzene	1.5	U	33	1.5	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Hexachlorobutadiene	1.9	U	33	1.9	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Hexachlorocyclopentadiene	4.6	U	33	4.6	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Hexachloroethane	2.3	U	33	2.3	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Indeno[1,2,3-cd]pyrene	3.5	U	33	3.5	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Isophorone	1.0	U	33	1.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Naphthalene	1.4	U	33	1.4	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Nitrobenzene	3.0	U	33	3.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
N-Nitrosodi-n-propylamine	2.2	U	33	2.2	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
N-Nitrosodiphenylamine	1.9	U	33	1.9	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Pentachlorophenol	4.0	U	170	4.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Phenanthrene	5.0	U	33	5.0	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Phenol	4.2	U	33	4.2	ug/Kg		09/15/17 11:17	09/15/17 12:57	1
Pyrene	1.8	U	33	1.8	ug/Kg		09/15/17 11:17	09/15/17 12:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*64*		*10 - 148*	*09/15/17 11:17*	*09/15/17 12:57*	*1*
2-Fluorobiphenyl	*77*		*38 - 130*	*09/15/17 11:17*	*09/15/17 12:57*	*1*
2-Fluorophenol	*70*		*25 - 132*	*09/15/17 11:17*	*09/15/17 12:57*	*1*
Nitrobenzene-d5	*69*		*10 - 155*	*09/15/17 11:17*	*09/15/17 12:57*	*1*
Phenol-d5 (Surr)	*64*		*27 - 130*	*09/15/17 11:17*	*09/15/17 12:57*	*1*
Terphenyl-d14	*80*		*53 - 134*	*09/15/17 11:17*	*09/15/17 12:57*	*1*

Lab Sample ID: LCS 600-221420/2-A
Matrix: Solid
Analysis Batch: 221418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 221420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	667	471		ug/Kg		71	40 - 130
1,2,4,5-Tetrachlorobenzene	667	534		ug/Kg		80	37 - 130
2,3,4,6-Tetrachlorophenol	667	496		ug/Kg		74	44 - 130

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 600-221420/2-A
Matrix: Solid
Analysis Batch: 221418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 221420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	667	493		ug/Kg		74	41 - 130
2,4,6-Trichlorophenol	667	485		ug/Kg		73	39 - 130
2,4-Dichlorophenol	667	495		ug/Kg		74	38 - 130
2,4-Dimethylphenol	667	424		ug/Kg		64	32 - 139
2,4-Dinitrophenol	1330	946		ug/Kg		71	15 - 130
2,4-Dinitrotoluene	667	515		ug/Kg		77	45 - 130
2,6-Dinitrotoluene	667	511		ug/Kg		77	44 - 130
2-Chloronaphthalene	667	482		ug/Kg		72	41 - 130
2-Chlorophenol	667	503		ug/Kg		75	37 - 130
2-Methylnaphthalene	667	475		ug/Kg		71	43 - 130
2-Methylphenol	667	516		ug/Kg		77	30 - 130
2-Nitroaniline	667	389		ug/Kg		58	42 - 130
2-Nitrophenol	667	525		ug/Kg		79	38 - 130
3 & 4 Methylphenol	667	479		ug/Kg		72	28 - 133
3,3'-Dichlorobenzidine	667	559		ug/Kg		84	13 - 146
3-Nitroaniline	667	596		ug/Kg		89	41 - 130
4,6-Dinitro-2-methylphenol	1330	1030		ug/Kg		77	38 - 130
4-Bromophenyl phenyl ether	667	552		ug/Kg		83	46 - 130
4-Chloro-3-methylphenol	667	492		ug/Kg		74	43 - 130
4-Chloroaniline	667	506		ug/Kg		76	32 - 130
4-Chlorophenyl phenyl ether	667	544		ug/Kg		82	44 - 130
4-Nitroaniline	667	737		ug/Kg		111	46 - 130
4-Nitrophenol	1330	702		ug/Kg		53	42 - 130
Acenaphthene	667	506		ug/Kg		76	42 - 130
Acenaphthylene	667	495		ug/Kg		74	39 - 130
Acetophenone	667	386		ug/Kg		58	36 - 130
Anthracene	667	520		ug/Kg		78	51 - 130
Atrazine	667	194		ug/Kg		29	10 - 140
Benzaldehyde	667	231		ug/Kg		35	10 - 130
Benzo[a]anthracene	667	534		ug/Kg		80	54 - 130
Benzo[a]pyrene	667	605		ug/Kg		91	44 - 131
Benzo[b]fluoranthene	667	619		ug/Kg		93	41 - 139
Benzo[g,h,i]perylene	667	728		ug/Kg		109	38 - 142
Benzo[k]fluoranthene	667	569		ug/Kg		85	42 - 134
bis (2-Chloroisopropyl) ether	667	387		ug/Kg		58	38 - 130
Bis(2-chloroethoxy)methane	667	451		ug/Kg		68	39 - 130
Bis(2-chloroethyl)ether	667	444		ug/Kg		67	40 - 130
Bis(2-ethylhexyl) phthalate	667	462		ug/Kg		69	41 - 145
Butyl benzyl phthalate	667	464		ug/Kg		70	48 - 141
Caprolactam	667	383		ug/Kg		57	41 - 130
Carbazole	667	708		ug/Kg		106	49 - 131
Chrysene	667	520		ug/Kg		78	52 - 130
Dibenz(a,h)anthracene	667	652		ug/Kg		98	40 - 137
Dibenzofuran	667	511		ug/Kg		77	43 - 130
Diethyl phthalate	667	503		ug/Kg		75	50 - 130
Dimethyl phthalate	667	514		ug/Kg		77	40 - 130
Di-n-butyl phthalate	667	498		ug/Kg		75	51 - 135
Di-n-octyl phthalate	667	490		ug/Kg		74	38 - 153

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 600-221420/2-A
Matrix: Solid
Analysis Batch: 221418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 221420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoranthene	667	563		ug/Kg		85	53 - 130
Fluorene	667	516		ug/Kg		77	46 - 130
Hexachlorobenzene	667	564		ug/Kg		85	44 - 130
Hexachlorobutadiene	667	564		ug/Kg		85	36 - 130
Hexachlorocyclopentadiene	667	100		ug/Kg		15	10 - 130
Hexachloroethane	667	473		ug/Kg		71	37 - 130
Indeno[1,2,3-cd]pyrene	667	657		ug/Kg		98	35 - 146
Isophorone	667	370		ug/Kg		55	39 - 130
Naphthalene	667	497		ug/Kg		75	40 - 130
Nitrobenzene	667	426		ug/Kg		64	42 - 130
N-Nitrosodi-n-propylamine	667	439		ug/Kg		66	36 - 130
N-Nitrosodiphenylamine	667	524		ug/Kg		79	48 - 130
Pentachlorophenol	1330	797		ug/Kg		60	40 - 130
Phenanthrene	667	529		ug/Kg		79	51 - 130
Phenol	667	476		ug/Kg		71	30 - 130
Pyrene	667	525		ug/Kg		79	53 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*83*		*10 - 148*
2-Fluorobiphenyl	*77*		*38 - 130*
2-Fluorophenol	*78*		*25 - 132*
Nitrobenzene-d5	*71*		*10 - 155*
Phenol-d5 (Surr)	*73*		*27 - 130*
Terphenyl-d14	*86*		*53 - 134*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 600-221416/1-A
Matrix: Solid
Analysis Batch: 221448

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 221416

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	1.6	U	17	1.6	ug/Kg		09/15/17 10:50	09/15/17 15:37	1
PCB-1221	8.6	U	17	8.6	ug/Kg		09/15/17 10:50	09/15/17 15:37	1
PCB-1232	6.7	U	17	6.7	ug/Kg		09/15/17 10:50	09/15/17 15:37	1
PCB-1242	1.2	U	17	1.2	ug/Kg		09/15/17 10:50	09/15/17 15:37	1
PCB-1248	2.5	U	17	2.5	ug/Kg		09/15/17 10:50	09/15/17 15:37	1
PCB-1254	2.2	U	17	2.2	ug/Kg		09/15/17 10:50	09/15/17 15:37	1
PCB-1260	14	U	17	14	ug/Kg		09/15/17 10:50	09/15/17 15:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*89*		*10 - 150*	*09/15/17 10:50*	*09/15/17 15:37*	*1*
DCB Decachlorobiphenyl	*121*		*10 - 150*	*09/15/17 10:50*	*09/15/17 15:37*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 600-221416/2-A
Matrix: Solid
Analysis Batch: 221448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 221416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	167	160		ug/Kg		96	42 - 130
PCB-1260	167	163		ug/Kg		98	59 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*94*		*10 - 150*
DCB Decachlorobiphenyl	*130*		*10 - 150*

Lab Sample ID: LCSD 600-221416/3-A
Matrix: Solid
Analysis Batch: 221448

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 221416

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	167	154		ug/Kg		93	42 - 130	4	30
PCB-1260	167	157		ug/Kg		94	59 - 135	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*90*		*10 - 150*
DCB Decachlorobiphenyl	*126*		*10 - 150*

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-143263/1-A
Matrix: Solid
Analysis Batch: 143293

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 143263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2.5	U	5.0	2.5	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Antimony	0.096	U	0.25	0.096	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Arsenic	0.050	U	0.25	0.050	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Barium	0.11	U	0.25	0.11	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Beryllium	0.088	U	0.25	0.088	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Cadmium	0.072	U	0.25	0.072	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Calcium	14	U	25	14	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Chromium	0.11	U	0.25	0.11	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Cobalt	0.053	U	0.25	0.053	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Copper	0.18	U	0.50	0.18	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Iron	5.5	U	25	5.5	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Lead	0.21	U	0.50	0.21	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Magnesium	5.5	U	25	5.5	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Manganese	0.60	U	2.5	0.60	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Nickel	0.13	U	0.25	0.13	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Potassium	25	U	50	25	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Selenium	0.044	U	0.25	0.044	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Silver	0.069	U	0.25	0.069	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Sodium	28	U	50	28	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Thallium	0.069	U	0.25	0.069	mg/Kg		09/15/17 12:00	09/15/17 17:28	1
Vanadium	0.057	U	0.25	0.057	mg/Kg		09/15/17 12:00	09/15/17 17:28	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 560-143263/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 143293 — **Prep Batch: 143263**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	0.77	U	1.3	0.77	mg/Kg		09/15/17 12:00	09/15/17 17:28	1

Lab Sample ID: LCS 560-143263/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 143293 — **Prep Batch: 143263**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	1250	1320		mg/Kg		106	80 - 120
Antimony	12.5	12.6		mg/Kg		101	80 - 120
Arsenic	12.5	12.9		mg/Kg		103	80 - 120
Barium	12.5	12.8		mg/Kg		102	80 - 120
Beryllium	12.5	12.6		mg/Kg		101	80 - 120
Cadmium	12.5	12.1		mg/Kg		97	80 - 120
Calcium	1250	1330		mg/Kg		107	80 - 120
Chromium	12.5	12.9		mg/Kg		103	80 - 120
Cobalt	12.5	12.7		mg/Kg		102	80 - 120
Copper	12.5	12.7		mg/Kg		101	80 - 120
Iron	1250	1240		mg/Kg		99	80 - 120
Lead	12.5	12.7		mg/Kg		102	80 - 120
Magnesium	1250	1350		mg/Kg		108	80 - 120
Manganese	125	133		mg/Kg		107	80 - 120
Nickel	12.5	13.0		mg/Kg		104	80 - 120
Potassium	1250	1330		mg/Kg		106	80 - 120
Selenium	12.5	12.3		mg/Kg		98	80 - 120
Silver	12.5	12.9		mg/Kg		103	80 - 120
Sodium	1250	1260		mg/Kg		100	80 - 120
Thallium	5.00	5.18		mg/Kg		104	80 - 120
Vanadium	12.5	12.5		mg/Kg		100	80 - 120
Zinc	12.5	13.5		mg/Kg		108	80 - 120

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 560-143282/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 143280 — **Prep Batch: 143282**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.011	U	0.12	0.011	mg/Kg		09/15/17 11:00	09/15/17 14:03	1

Lab Sample ID: LCS 560-143282/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 143280 — **Prep Batch: 143282**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.250	0.264		mg/Kg		105	80 - 120

QC Association Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

GC/MS VOA

Prep Batch: 221313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	5035	

Analysis Batch: 221380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	8260B	221313
MB 600-221380/6	Method Blank	Total/NA	Solid	8260B	
LCS 600-221380/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 600-221380/4	Lab Control Sample Dup	Total/NA	Solid	8260B	

GC/MS Semi VOA

Analysis Batch: 221418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	8270C LL	221420
MB 600-221420/1-A	Method Blank	Total/NA	Solid	8270C LL	221420
LCS 600-221420/2-A	Lab Control Sample	Total/NA	Solid	8270C LL	221420

Prep Batch: 221420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	3546	
MB 600-221420/1-A	Method Blank	Total/NA	Solid	3546	
LCS 600-221420/2-A	Lab Control Sample	Total/NA	Solid	3546	

GC Semi VOA

Prep Batch: 221416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	3546	
MB 600-221416/1-A	Method Blank	Total/NA	Solid	3546	
LCS 600-221416/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 600-221416/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 221448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	8082	221416
MB 600-221416/1-A	Method Blank	Total/NA	Solid	8082	221416
LCS 600-221416/2-A	Lab Control Sample	Total/NA	Solid	8082	221416
LCSD 600-221416/3-A	Lab Control Sample Dup	Total/NA	Solid	8082	221416

Metals

Prep Batch: 143263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	3050B	
MB 560-143263/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 560-143263/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 143280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	7471A	143282

Metals (Continued)

Analysis Batch: 143280 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 560-143282/1-A	Method Blank	Total/NA	Solid	7471A	143282
LCS 560-143282/2-A	Lab Control Sample	Total/NA	Solid	7471A	143282

Prep Batch: 143282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	7471A	
MB 560-143282/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 560-143282/2-A	Lab Control Sample	Total/NA	Solid	7471A	

Analysis Batch: 143293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	6020	143263
MB 560-143263/1-A	Method Blank	Total/NA	Solid	6020	143263
LCS 560-143263/2-A	Lab Control Sample	Total/NA	Solid	6020	143263

General Chemistry

Analysis Batch: 221355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153830-1	SDS-SS-001	Total/NA	Solid	2540B	

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Client Sample ID: SDS-SS-001 — Lab Sample ID: 600-153830-1

Date Collected: 09/13/17 11:25 — **Matrix: Solid**
Date Received: 09/13/17 17:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1			221355	09/14/17 15:57	B1K	TAL HOU

Client Sample ID: SDS-SS-001 — Lab Sample ID: 600-153830-1

Date Collected: 09/13/17 11:25 — **Matrix: Solid**
Date Received: 09/13/17 17:10 — **Percent Solids: 78.7**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.266 g	5 mL	221313	09/13/17 20:00	WS1	TAL HOU
Total/NA	Analysis	8260B		1	5 g	5 g	221380	09/15/17 13:40	WS1	TAL HOU
Total/NA	Prep	3546			15.00 g	1.0 mL	221420	09/15/17 11:17	EAT	TAL HOU
Total/NA	Analysis	8270C LL		1			221418	09/15/17 17:06	TTD	TAL HOU
Total/NA	Prep	3546			15.06 g	5.0 mL	221416	09/15/17 10:50	RLK	TAL HOU
Total/NA	Analysis	8082		1			221448	09/15/17 16:45	JAL	TAL HOU
Total/NA	Prep	3050B			1.153 g	50 mL	143263	09/15/17 12:00	AKM	TAL CC
Total/NA	Analysis	6020		5			143293	09/15/17 18:40	JEM	TAL CC
Total/NA	Prep	7471A			1.230 g	50 mL	143282	09/15/17 11:00	JEM	TAL CC
Total/NA	Analysis	7471A		1			143280	09/15/17 14:16	JEM	TAL CC

Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Accreditation/Certification Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Sheridan Disposal Services

TestAmerica Job ID: 600-153830-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704223-17-21	10-31-17

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
8260B	5035	Solid	Methyl acetate

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540B		Solid	Percent Moisture
2540B		Solid	Percent Solids
8260B	5035	Solid	1,2-Dichloroethene, Total
8260B	5035	Solid	Cyclohexane
8270C LL	3546	Solid	Atrazine
8270C LL	3546	Solid	Benzaldehyde

Laboratory: TestAmerica Corpus Christi

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704210-17-20	03-31-18

Analysis Method	Prep Method	Matrix	Analyte

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Arreca Forsberg	Lab PM: Upton, Cathy L	Carrier Tracking No(s):	COC No: 600-54931-16099.30
Client Contact: Mr. John Ynfante	Phone: 505 918 1800	E-Mail: cathy.upton@testamericainc.com		Page: Page 30 of 32
Company: CH2M Hill Constructors, Inc.				Job #:
Address: 14701 St. Mary's Lane Suite 300	Due Date Requested:			
City: Houston	TAT Requested (days):			
State, Zip: TX, 77079-2923				
Phone: 281-721-8546(Tel)	PO #: Purchase Order not required			
Email: john.ynfante@ch2m.com	WO #:			
Project Name: Hurricane Harvey Environmental Response	Project #: 60008995			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020, 7471A	8260B - TCL Volatiles TX - default	8270C_LL - TCL 4.2 Default List	8082 - PCBs	300_ORGFM_28D, 9045C	6020, 7470A	8260B_LL - TCL Volatiles TX - default	9040B - pH	300_ORGFM_28D, SM2310B	Total Number of containers
				Preservation Code:			N	N	N	N	N	D	A	N	N	
SDS-SS-001	9/13/17	1125	C/G	~~Water~~ S	N	N	X	X	X	X						
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												

Special Instructions/Note:

600-153830 Chain of Custody

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☒ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
A Forsberg	9/13/17 1710	CH2M	[signature]	9-13-17 1710	[illegible]

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 9.1 CF-0.3 8.8 18549

RW

TestAmerica Houston

Loc: 600
153830

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Checklist

Date/Time Received: _____

JOB NUMBER: _____

CLIENT: CHZM '17 SEP 13 17:10

UNPACKED BY: _____

CARRIER/DRIVER: Chad

Custody Seal Present: ☐ YES ☒ NO

Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
Cu	Y / N	Y / N	9.1	549	-3	8.8
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☐ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☒ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☒	

COMMENTS: Chill in progress

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Upton, Cathy L	Carrier Tracking No(s):	COC No 600-28422.1
Client Contact Shipping/Receiving	Phone:	E-Mail: cathy.upton@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 600-153830-1
Address 1733 N. Padre Island Drive, ,	Due Date Requested: 9/18/2017			
City Corpus Christi	TAT Requested (days):			
State, Zip TX, 78408				
Phone: 361-289-2673(Tel) 361-289-2471(Fax)	PO #:			
Email	WO #:			
Project Name Hurricane Harvey Environmental Response	Project #: 60008995			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020/3050B Target Analyte List	7471A/7471A_Prep	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SDS-SS-001 (600-153830-1)	9/13/17	11:25 Central		Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	9/13/17 1700			9/14/17 0945	
Relinquished by	Date/Time:	Company	Received by:	Date/Time.	Company
Relinquished by	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 05.27 (17.8C[5])

Login Sample Receipt Checklist

Client: CH2M Hill Constructors, Inc.

Job Number: 600-153830-1

Login Number: 153830
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	9.1°C IR 549
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: CH2M Hill Constructors, Inc.

Job Number: 600-153830-1

Login Number: 153830
List Number: 2
Creator: Escalona-Garcia, Jose A

List Source: TestAmerica Corpus Christi
List Creation: 09/14/17 10:07 AM

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