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: 600-153607-2
Client Project/Site: North Cavalcade Street

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

Attn: Mr. John Ynfante

Authorized for release by:
9/15/2017 2:22:14 PM

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LINKS

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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.

7080212

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions/Glossary 10
Surrogate Summary 11
QC Sample Results 12
QC Association Summary 16
Lab Chronicle 17
Certification Summary 18
Chain of Custody 19
Receipt Checklists 21

Case Narrative

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

Job ID: 600-153607-2

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-153607-2

Comments
No additional comments.

Receipt
The samples were received on 9/10/2017 8:08 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7º C.

GC/MS Semi VOA
Method(s) 8270C LL: The laboratory control sample for preparation batch 600-220951 and analytical batch 600-221013 recovered outside control limits for the following analyte(s): Benzaldehyde. Benzaldehyde has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. The results have been reported and qualified.

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

Method Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

Method	Method Description	Protocol	Laboratory
8270C LL	Semivolatile Organic Compounds by GCMS - Low Levels	SW846	TAL HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-153607-5	NCS-SS-001	Solid	09/09/17 13:30	09/10/17 08:08
600-153607-6	NCS-SS-003	Solid	09/09/17 14:25	09/10/17 08:08

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

Client Sample ID: NCS-SS-001

Date Collected: 09/09/17 13:30
Date Received: 09/10/17 08:08

Lab Sample ID: 600-153607-5

Matrix: Solid
Percent Solids: 89.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	**15**	**J**	37	4.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
1,2,4,5-Tetrachlorobenzene	7.5	U	37	7.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2,3,4,6-Tetrachlorophenol	19	U	37	19	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2,4,5-Trichlorophenol	11	U	37	11	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2,4,6-Trichlorophenol	3.0	U	37	3.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2,4-Dichlorophenol	4.3	U	37	4.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2,4-Dimethylphenol	9.6	U	37	9.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2,4-Dinitrophenol	5.3	U	110	5.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2,4-Dinitrotoluene	4.0	U	37	4.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2,6-Dinitrotoluene	3.3	U	37	3.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2-Chloronaphthalene	1.3	U	37	1.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2-Chlorophenol	2.2	U	37	2.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2-Methylnaphthalene	**32**	**J**	37	3.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2-Methylphenol	3.6	U	37	3.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2-Nitroaniline	5.5	U	37	5.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
2-Nitrophenol	4.3	U	37	4.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
3 & 4 Methylphenol	3.1	U	37	3.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
3,3'-Dichlorobenzidine	11	U	37	11	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
3-Nitroaniline	8.0	U	37	8.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
4,6-Dinitro-2-methylphenol	5.6	U	190	5.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
4-Bromophenyl phenyl ether	3.2	U	37	3.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
4-Chloro-3-methylphenol	17	U	37	17	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
4-Chloroaniline	6.5	U	37	6.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
4-Chlorophenyl phenyl ether	2.0	U	37	2.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
4-Nitroaniline	12	U	37	12	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
4-Nitrophenol	5.7	U	220	5.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Acenaphthene	**14**	**J**	37	1.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Acenaphthylene	**87**		37	1.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Acetophenone	**13**	**J**	37	3.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Anthracene	**130**		37	1.4	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Atrazine	5.6	U	37	5.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Benzaldehyde	**61**	*****	37	19	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Benzo[a]anthracene	**160**		37	1.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Benzo[a]pyrene	**200**		37	1.8	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Benzo[b]fluoranthene	**600**		37	1.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Benzo[g,h,i]perylene	**160**		37	5.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Benzo[k]fluoranthene	**200**		37	1.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
bis (2-Chloroisopropyl) ether	9.9	U	37	9.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Bis(2-chloroethoxy)methane	1.6	U	37	1.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Bis(2-chloroethyl)ether	1.8	U	37	1.8	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Bis(2-ethylhexyl) phthalate	**81**		37	6.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Butyl benzyl phthalate	**34**	**J**	74	6.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Caprolactam	19	U	37	19	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Carbazole	**98**		37	3.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Chrysene	**250**		37	1.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Dibenz(a,h)anthracene	**35**	**J**	37	4.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Dibenzofuran	**51**		37	2.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Diethyl phthalate	9.4	U	74	9.4	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Dimethyl phthalate	5.5	U	74	5.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

Client Sample ID: NCS-SS-001

Lab Sample ID: 600-153607-5
Date Collected: 09/09/17 13:30
Matrix: Solid
Date Received: 09/10/17 08:08
Percent Solids: 89.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	2.9	U	74	2.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Di-n-octyl phthalate	2.1	U	74	2.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Fluoranthene	**480**		37	3.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Fluorene	**9.5**	**J**	37	2.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Hexachlorobenzene	1.7	U	37	1.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Hexachlorobutadiene	2.1	U	37	2.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Hexachlorocyclopentadiene	5.1	U	37	5.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Hexachloroethane	2.6	U	37	2.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Indeno[1,2,3-cd]pyrene	**120**		37	3.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Isophorone	1.1	U	37	1.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Naphthalene	**88**		37	1.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Nitrobenzene	3.3	U	37	3.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
N-Nitrosodi-n-propylamine	2.5	U	37	2.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
N-Nitrosodiphenylamine	2.1	U	37	2.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Pentachlorophenol	**77**	**J**	190	4.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Phenanthrene	**220**		37	5.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Phenol	4.7	U	37	4.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1
Pyrene	**370**		37	2.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*56*		*25 - 132*	*09/10/17 12:18*	*09/12/17 13:27*	*1*
Nitrobenzene-d5	*51*		*10 - 155*	*09/10/17 12:18*	*09/12/17 13:27*	*1*
2-Fluorobiphenyl	*62*		*38 - 130*	*09/10/17 12:18*	*09/12/17 13:27*	*1*
2,4,6-Tribromophenol	*72*		*10 - 148*	*09/10/17 12:18*	*09/12/17 13:27*	*1*
Terphenyl-d14	*71*		*53 - 134*	*09/10/17 12:18*	*09/12/17 13:27*	*1*
Phenol-d5 (Surr)	*55*		*27 - 130*	*09/10/17 12:18*	*09/12/17 13:27*	*1*

Client Sample ID: NCS-SS-003

Lab Sample ID: 600-153607-6
Date Collected: 09/09/17 14:25
Matrix: Solid
Date Received: 09/10/17 08:08
Percent Solids: 85.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	4.6	U	39	4.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
1,2,4,5-Tetrachlorobenzene	7.8	U	39	7.8	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2,3,4,6-Tetrachlorophenol	19	U	39	19	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2,4,5-Trichlorophenol	12	U	39	12	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2,4,6-Trichlorophenol	3.1	U	39	3.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2,4-Dichlorophenol	4.5	U	39	4.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2,4-Dimethylphenol	9.9	U	39	9.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2,4-Dinitrophenol	5.5	U	120	5.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2,4-Dinitrotoluene	4.2	U	39	4.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2,6-Dinitrotoluene	3.4	U	39	3.4	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2-Chloronaphthalene	1.4	U	39	1.4	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2-Chlorophenol	2.3	U	39	2.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2-Methylnaphthalene	3.2	U	39	3.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2-Methylphenol	3.7	U	39	3.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2-Nitroaniline	5.7	U	39	5.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
2-Nitrophenol	4.5	U	39	4.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
3 & 4 Methylphenol	3.2	U	39	3.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

Client Sample ID: NCS-SS-003
Date Collected: 09/09/17 14:25
Date Received: 09/10/17 08:08

Lab Sample ID: 600-153607-6
Matrix: Solid
Percent Solids: 85.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	12	U	39	12	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
3-Nitroaniline	8.3	U	39	8.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
4,6-Dinitro-2-methylphenol	5.8	U	200	5.8	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
4-Bromophenyl phenyl ether	3.3	U	39	3.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
4-Chloro-3-methylphenol	18	U	39	18	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
4-Chloroaniline	6.7	U	39	6.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
4-Chlorophenyl phenyl ether	2.1	U	39	2.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
4-Nitroaniline	13	U	39	13	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
4-Nitrophenol	5.9	U	230	5.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Acenaphthene	**3.5**	**J**	39	1.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Acenaphthylene	**10**	**J**	39	1.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Acetophenone	**5.7**	**J**	39	3.8	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Anthracene	**17**	**J**	39	1.5	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Atrazine	5.8	U	39	5.8	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Benzaldehyde	**43**	*****	39	19	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Benzo[a]anthracene	**36**	**J**	39	1.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Benzo[a]pyrene	**61**		39	1.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Benzo[b]fluoranthene	**140**		39	2.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Benzo[g,h,i]perylene	**26**	**J**	39	5.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Benzo[k]fluoranthene	**46**		39	1.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
bis (2-Chloroisopropyl) ether	10	U	39	10	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Bis(2-chloroethoxy)methane	1.6	U	39	1.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Bis(2-chloroethyl)ether	1.9	U	39	1.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Bis(2-ethylhexyl) phthalate	**18**	**J**	39	6.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Butyl benzyl phthalate	**12**	**J**	77	7.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Caprolactam	19	U	39	19	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Carbazole	3.6	U	39	3.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Chrysene	**47**		39	1.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Dibenz(a,h)anthracene	**8.8**	**J**	39	4.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Dibenzofuran	**6.3**	**J**	39	2.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Diethyl phthalate	9.8	U	77	9.8	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Dimethyl phthalate	5.7	U	77	5.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Di-n-butyl phthalate	3.0	U	77	3.0	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Di-n-octyl phthalate	2.2	U	77	2.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Fluoranthene	**50**		39	3.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Fluorene	**4.3**	**J**	39	2.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Hexachlorobenzene	1.8	U	39	1.8	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Hexachlorobutadiene	2.2	U	39	2.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Hexachlorocyclopentadiene	5.3	U	39	5.3	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Hexachloroethane	2.7	U	39	2.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Indeno[1,2,3-cd]pyrene	**24**	**J**	39	4.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Isophorone	1.2	U	39	1.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Naphthalene	1.6	U	39	1.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Nitrobenzene	3.4	U	39	3.4	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
N-Nitrosodi-n-propylamine	2.6	U	39	2.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
N-Nitrosodiphenylamine	2.2	U	39	2.2	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Pentachlorophenol	4.6	U	190	4.6	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Phenanthrene	**25**	**J**	39	5.7	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1
Phenol	4.9	U	39	4.9	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1

Client Sample Results

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

Client Sample ID: NCS-SS-003

Date Collected: 09/09/17 14:25
Date Received: 09/10/17 08:08

Lab Sample ID: 600-153607-6

Matrix: Solid
Percent Solids: 85.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	43		39	2.1	ug/Kg	☼	09/10/17 12:18	09/12/17 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*56*		*25 - 132*	*09/10/17 12:18*	*09/12/17 13:51*	*1*
Nitrobenzene-d5	*49*		*10 - 155*	*09/10/17 12:18*	*09/12/17 13:51*	*1*
2-Fluorobiphenyl	*61*		*38 - 130*	*09/10/17 12:18*	*09/12/17 13:51*	*1*
2,4,6-Tribromophenol	*77*		*10 - 148*	*09/10/17 12:18*	*09/12/17 13:51*	*1*
Terphenyl-d14	*70*		*53 - 134*	*09/10/17 12:18*	*09/12/17 13:51*	*1*
Phenol-d5 (Surr)	*55*		*27 - 130*	*09/10/17 12:18*	*09/12/17 13:51*	*1*

Qualifiers

GC/MS Semi VOA

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

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: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	NBZ	FBP	TBP	TPH	PHL
Lab Sample ID	Client Sample ID	(25-132)	(10-155)	(38-130)	(10-148)	(53-134)	(27-130)
600-153607-5	NCS-SS-001	56	51	62	72	71	55
600-153607-6	NCS-SS-003	56	49	61	77	70	55
LCS 600-220951/2-A	Lab Control Sample	80	68	71	76	81	70
MB 600-220951/1-A	Method Blank	66	61	56	52	73	52

Surrogate Legend

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

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

Lab Sample ID: MB 600-220951/1-A
Matrix: Solid
Analysis Batch: 221013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220951

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	4.0	U	33	4.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
1,2,4,5-Tetrachlorobenzene	6.7	U	33	6.7	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2,3,4,6-Tetrachlorophenol	17	U	33	17	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2,4,5-Trichlorophenol	10	U	33	10	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2,4,6-Trichlorophenol	2.7	U	33	2.7	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2,4-Dichlorophenol	3.9	U	33	3.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2,4-Dimethylphenol	8.6	U	33	8.6	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2,4-Dinitrophenol	4.7	U	100	4.7	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2,4-Dinitrotoluene	3.6	U	33	3.6	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2,6-Dinitrotoluene	2.9	U	33	2.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2-Chloronaphthalene	1.2	U	33	1.2	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2-Chlorophenol	2.0	U	33	2.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2-Methylnaphthalene	2.7	U	33	2.7	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2-Methylphenol	3.2	U	33	3.2	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2-Nitroaniline	4.9	U	33	4.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
2-Nitrophenol	3.9	U	33	3.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
3 & 4 Methylphenol	2.8	U	33	2.8	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
3,3'-Dichlorobenzidine	10	U	33	10	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
3-Nitroaniline	7.1	U	33	7.1	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
4,6-Dinitro-2-methylphenol	5.0	U	170	5.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
4-Bromophenyl phenyl ether	2.8	U	33	2.8	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
4-Chloro-3-methylphenol	16	U	33	16	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
4-Chloroaniline	5.8	U	33	5.8	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
4-Chlorophenyl phenyl ether	1.8	U	33	1.8	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
4-Nitroaniline	11	U	33	11	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
4-Nitrophenol	5.1	U	200	5.1	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Acenaphthene	1.4	U	33	1.4	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Acenaphthylene	1.0	U	33	1.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Acetophenone	3.3	U	33	3.3	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Anthracene	1.3	U	33	1.3	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Atrazine	5.0	U	33	5.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Benzaldehyde	17	U	33	17	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Benzo[a]anthracene	1.4	U	33	1.4	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Benzo[a]pyrene	1.6	U	33	1.6	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Benzo[b]fluoranthene	1.7	U	33	1.7	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Benzo[g,h,i]perylene	5.1	U	33	5.1	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Benzo[k]fluoranthene	1.5	U	33	1.5	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
bis (2-Chloroisopropyl) ether	8.8	U	33	8.8	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Bis(2-chloroethoxy)methane	1.4	U	33	1.4	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Bis(2-chloroethyl)ether	1.6	U	33	1.6	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Bis(2-ethylhexyl) phthalate	5.4	U	33	5.4	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Butyl benzyl phthalate	6.2	U	67	6.2	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Caprolactam	17	U	33	17	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Carbazole	3.1	U	33	3.1	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Chrysene	1.0	U	33	1.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Dibenz(a,h)anthracene	3.6	U	33	3.6	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Dibenzofuran	1.8	U	33	1.8	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Diethyl phthalate	8.4	U	67	8.4	ug/Kg		09/10/17 09:36	09/11/17 15:30	1

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

Lab Sample ID: MB 600-220951/1-A
Matrix: Solid
Analysis Batch: 221013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220951

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	4.9	U	67	4.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Di-n-butyl phthalate	49.9	J	67	2.6	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Di-n-octyl phthalate	1.9	U	67	1.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Fluoranthene	3.1	U	33	3.1	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Fluorene	2.4	U	33	2.4	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Hexachlorobenzene	1.5	U	33	1.5	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Hexachlorobutadiene	1.9	U	33	1.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Hexachlorocyclopentadiene	4.6	U	33	4.6	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Hexachloroethane	2.3	U	33	2.3	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Indeno[1,2,3-cd]pyrene	3.5	U	33	3.5	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Isophorone	1.0	U	33	1.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Naphthalene	1.3	U	33	1.3	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Nitrobenzene	3.0	U	33	3.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
N-Nitrosodi-n-propylamine	2.2	U	33	2.2	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
N-Nitrosodiphenylamine	1.9	U	33	1.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Pentachlorophenol	4.0	U	170	4.0	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Phenanthrene	4.9	U	33	4.9	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Phenol	4.2	U	33	4.2	ug/Kg		09/10/17 09:36	09/11/17 15:30	1
Pyrene	1.8	U	33	1.8	ug/Kg		09/10/17 09:36	09/11/17 15:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*66*		*25 - 132*	*09/10/17 09:36*	*09/11/17 15:30*	*1*
Nitrobenzene-d5	*61*		*10 - 155*	*09/10/17 09:36*	*09/11/17 15:30*	*1*
2-Fluorobiphenyl	*56*		*38 - 130*	*09/10/17 09:36*	*09/11/17 15:30*	*1*
2,4,6-Tribromophenol	*52*		*10 - 148*	*09/10/17 09:36*	*09/11/17 15:30*	*1*
Terphenyl-d14	*73*		*53 - 134*	*09/10/17 09:36*	*09/11/17 15:30*	*1*
Phenol-d5 (Surr)	*52*		*27 - 130*	*09/10/17 09:36*	*09/11/17 15:30*	*1*

Lab Sample ID: LCS 600-220951/2-A
Matrix: Solid
Analysis Batch: 221013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220951

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	666	432		ug/Kg		65	40 - 130
1,2,4,5-Tetrachlorobenzene	666	457		ug/Kg		69	37 - 130
2,3,4,6-Tetrachlorophenol	666	445		ug/Kg		67	44 - 130
2,4,5-Trichlorophenol	666	500		ug/Kg		75	41 - 130
2,4,6-Trichlorophenol	666	457		ug/Kg		69	39 - 130
2,4-Dichlorophenol	666	448		ug/Kg		67	38 - 130
2,4-Dimethylphenol	666	366		ug/Kg		55	32 - 139
2,4-Dinitrophenol	1330	659		ug/Kg		49	15 - 130
2,4-Dinitrotoluene	666	450		ug/Kg		68	45 - 130
2,6-Dinitrotoluene	666	459		ug/Kg		69	44 - 130
2-Chloronaphthalene	666	444		ug/Kg		67	41 - 130
2-Chlorophenol	666	467		ug/Kg		70	37 - 130
2-Methylnaphthalene	666	426		ug/Kg		64	43 - 130
2-Methylphenol	666	428		ug/Kg		64	30 - 130
2-Nitroaniline	666	389		ug/Kg		58	42 - 130

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

Lab Sample ID: LCS 600-220951/2-A
Matrix: Solid
Analysis Batch: 221013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220951

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitrophenol	666	492		ug/Kg		74	38 - 130
3 & 4 Methylphenol	666	409		ug/Kg		61	28 - 133
3,3'-Dichlorobenzidine	666	314		ug/Kg		47	13 - 146
3-Nitroaniline	666	439		ug/Kg		66	41 - 130
4,6-Dinitro-2-methylphenol	1330	793		ug/Kg		60	38 - 130
4-Bromophenyl phenyl ether	666	497		ug/Kg		75	46 - 130
4-Chloro-3-methylphenol	666	491		ug/Kg		74	43 - 130
4-Chloroaniline	666	302		ug/Kg		45	32 - 130
4-Chlorophenyl phenyl ether	666	493		ug/Kg		74	44 - 130
4-Nitroaniline	666	599		ug/Kg		90	46 - 130
4-Nitrophenol	1330	619		ug/Kg		46	42 - 130
Acenaphthene	666	465		ug/Kg		70	42 - 130
Acenaphthylene	666	462		ug/Kg		69	39 - 130
Acetophenone	666	333		ug/Kg		50	36 - 130
Anthracene	666	482		ug/Kg		72	51 - 130
Atrazine	666	206		ug/Kg		31	10 - 140
Benzaldehyde	666	50.9	*	ug/Kg		8	10 - 130
Benzo[a]anthracene	666	502		ug/Kg		75	54 - 130
Benzo[a]pyrene	666	539		ug/Kg		81	44 - 131
Benzo[b]fluoranthene	666	513		ug/Kg		77	41 - 139
Benzo[g,h,i]perylene	666	540		ug/Kg		81	38 - 142
Benzo[k]fluoranthene	666	509		ug/Kg		76	42 - 134
bis (2-Chloroisopropyl) ether	666	371		ug/Kg		56	38 - 130
Bis(2-chloroethoxy)methane	666	417		ug/Kg		63	39 - 130
Bis(2-chloroethyl)ether	666	423		ug/Kg		64	40 - 130
Bis(2-ethylhexyl) phthalate	666	460		ug/Kg		69	41 - 145
Butyl benzyl phthalate	666	469		ug/Kg		70	48 - 141
Caprolactam	666	505		ug/Kg		76	41 - 130
Carbazole	666	603		ug/Kg		91	49 - 131
Chrysene	666	500		ug/Kg		75	52 - 130
Dibenz(a,h)anthracene	666	533		ug/Kg		80	40 - 137
Dibenzofuran	666	475		ug/Kg		71	43 - 130
Diethyl phthalate	666	455		ug/Kg		68	50 - 130
Dimethyl phthalate	666	469		ug/Kg		71	40 - 130
Di-n-butyl phthalate	666	516		ug/Kg		77	51 - 135
Di-n-octyl phthalate	666	471		ug/Kg		71	38 - 153
Fluoranthene	666	498		ug/Kg		75	53 - 130
Fluorene	666	475		ug/Kg		71	46 - 130
Hexachlorobenzene	666	495		ug/Kg		74	44 - 130
Hexachlorobutadiene	666	502		ug/Kg		75	36 - 130
Hexachlorocyclopentadiene	666	283		ug/Kg		42	10 - 130
Hexachloroethane	666	439		ug/Kg		66	37 - 130
Indeno[1,2,3-cd]pyrene	666	549		ug/Kg		82	35 - 146
Isophorone	666	343		ug/Kg		52	39 - 130
Naphthalene	666	460		ug/Kg		69	40 - 130
Nitrobenzene	666	410		ug/Kg		62	42 - 130
N-Nitrosodi-n-propylamine	666	428		ug/Kg		64	36 - 130
N-Nitrosodiphenylamine	666	488		ug/Kg		73	48 - 130

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

Lab Sample ID: LCS 600-220951/2-A
Matrix: Solid
Analysis Batch: 221013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220951

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	1330	651		ug/Kg		49	40 - 130
Phenanthrene	666	479		ug/Kg		72	51 - 130
Phenol	666	437		ug/Kg		66	30 - 130
Pyrene	666	508		ug/Kg		76	53 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol	*80*		*25 - 132*
Nitrobenzene-d5	*68*		*10 - 155*
2-Fluorobiphenyl	*71*		*38 - 130*
2,4,6-Tribromophenol	*76*		*10 - 148*
Terphenyl-d14	*81*		*53 - 134*
Phenol-d5 (Surr)	*70*		*27 - 130*

QC Association Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

GC/MS Semi VOA

Prep Batch: 220951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153607-5	NCS-SS-001	Total/NA	Solid	3546	
600-153607-6	NCS-SS-003	Total/NA	Solid	3546	
MB 600-220951/1-A	Method Blank	Total/NA	Solid	3546	
LCS 600-220951/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 221013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 600-220951/1-A	Method Blank	Total/NA	Solid	8270C LL	220951
LCS 600-220951/2-A	Lab Control Sample	Total/NA	Solid	8270C LL	220951

Analysis Batch: 221104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-153607-5	NCS-SS-001	Total/NA	Solid	8270C LL	220951
600-153607-6	NCS-SS-003	Total/NA	Solid	8270C LL	220951

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

Client Sample ID: NCS-SS-001

Lab Sample ID: 600-153607-5
Date Collected: 09/09/17 13:30
Matrix: Solid
Date Received: 09/10/17 08:08
Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.07 g	1.0 mL	220951	09/10/17 12:18	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1			221104	09/12/17 13:27	TTD	TAL HOU

Client Sample ID: NCS-SS-003

Lab Sample ID: 600-153607-6
Date Collected: 09/09/17 14:25
Matrix: Solid
Date Received: 09/10/17 08:08
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.08 g	1.0 mL	220951	09/10/17 12:18	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1			221104	09/12/17 13:51	TTD	TAL HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: North Cavalcade Street

TestAmerica Job ID: 600-153607-2

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 accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8270C LL	3546	Solid	Atrazine
8270C LL	3546	Solid	Benzaldehyde

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: Darren Davis	Lab PM: Upton, Cathy L	Carrier Tracking No(s): Lab Drop Off	COC No: 600-54931-16099.22
Client Contact: Mr. John Ynfante	Phone: 214-458-4667	E-Mail: cathy.upton@testamericainc.com		Page: Page 22 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	Special Instructions/Note:
				Preservation Code:			N	N	N	N	N	D	A	N	N						
MDI-SS-ØØ1	9/9/17	1015	G	Water Soil	Y	N	X													1	
MDI-SS-ØØ2	9/9/17	1055	G	Water Soil	Y	N	X													1	
MDI-SS-GW-ØØ3 9/9/18	9/9/17	1120	G	Water	Y	N	X													1	
MDI-GW-ØØ4	9/9/17	1130	G	Water	Y	N	X													1	
NCS-SS-ØØ1	9/9/17	1330	G	Water Soil	Y	N			X											1	
NCS-SS-ØØ3	9/9/17	1425	G	Water Soil	Y	N			X											1	
TEMP BLANK				Water																	
				Water																	
				Water																	
				Water																	
				Water																	

600-153607 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: Darren Davis	Date/Time: 9/9/17 1830	Company: CH2M	Received by: Sherry Jurtus	Date/Time: 9/10/17 0808	Company: TAL
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:

TestAmerica Houston

Loc: 600
153607

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Checklist

Date/Time Received: '17 SEP 10 8:08

JOB NUMBER: _____ CLIENT: CH2M

UNPACKED BY: R/W CARRIER/DRIVER: Client

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)
R/W	~~Y~~ / N	Y / ~~N~~	1.0	544	-0.3	0.7
	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	SJ	9/10/17		
	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 # HC601355

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

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

COMMENTS:

SJ 9/10/17

HS-SA-WI-013 Rev. 3; 07/01/2014

Login Sample Receipt Checklist

Client: CH2M Hill Constructors, Inc.

Job Number: 600-153607-2

Login Number: 153607
List Number: 1
Creator: Justus, Sherry E

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	
Cooler Temperature is recorded.	True	0.7
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.