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Automated Report

Technical Report for

Hydro-Environmental Technology, Inc.

8060.00 Indigo-Desoto Parish, LA

SGS Job Number: LA56938

Sampling Date: 08/14/19

Report to:

**Hydro-Environmental Technology
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Lafayette, LA 70596
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ATTN: Stewart L Stover, Jr.

Total number of pages in report: 80



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Ron Benjamin
Lab Director

Client Service contact: Ralph Frye 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

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Test results relate only to samples analyzed.

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Sample Summary

Hydro-Environmental Technology, Inc.

Job No: LA56938

8060.00 Indigo-Desoto Parish, LA

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
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This report contains results reported as ND = Not detected. The following applies:
 Organics ND = Not detected above the RL

LA56938-1	08/14/19	07:00	KC	08/16/19	AQ Trip Blank Water	TRIP BLANK
LA56938-2	08/14/19	08:15	KC	08/16/19	AQ Field Blank Water	FIELD BLANK
LA56938-3	08/14/19	12:45	KC	08/16/19	AQ Water	031-9253Z (XTO-BAGLEY 26H-1)
LA56938-3F	08/14/19	12:45	KC	08/16/19	AQ Water Filtered	031-9253Z (XTO-BAGLEY 26H-1)
LA56938-4	08/14/19	16:50	KC	08/16/19	AQ Water	031-8641Z (XTO-EVANS 26H)
LA56938-4F	08/14/19	16:50	KC	08/16/19	AQ Water Filtered	031-8641Z (XTO-EVANS 26H)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		Date Sampled: 08/14/19
Lab Sample ID: LA56938-1		Date Received: 08/16/19
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: SW846 8260B		
Project: 8060.00 Indigo-Desoto Parish, LA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ0067744.D	1	08/22/19 20:10	CP	n/a	n/a	V1J2100
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RECAP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	0.050	mg/l	
71-43-2	Benzene	ND	0.0050	mg/l	
75-27-4	Bromodichloromethane	ND	0.0010	mg/l	
75-25-2	Bromoform	ND	0.0010	mg/l	
75-15-0	Carbon Disulfide	ND	0.0010	mg/l	
56-23-5	Carbon Tetrachloride	ND	0.0010	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	mg/l	
75-00-3	Chloroethane	ND	0.0010	mg/l	
67-66-3	Chloroform	ND	0.0010	mg/l	
124-48-1	Dibromochloromethane	ND	0.0010	mg/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0010	mg/l	
541-73-1	m-Dichlorobenzene	ND	0.0010	mg/l	
95-50-1	o-Dichlorobenzene	ND	0.0010	mg/l	
106-46-7	p-Dichlorobenzene	ND	0.0010	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	mg/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.0010	mg/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.0010	mg/l	
540-59-0	1,2-Dichloroethene (total)	ND	0.0010	mg/l	
78-87-5	1,2-Dichloropropane	ND	0.0010	mg/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0010	mg/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0010	mg/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0050	mg/l	
67-72-1	Hexachloroethane	ND	0.0010	mg/l	
78-83-1	Isobutyl Alcohol	ND	0.10	mg/l	
74-83-9	Methyl Bromide	ND	0.0010	mg/l	
74-87-3	Methyl Chloride	ND	0.0010	mg/l	
75-09-2	Methylene Chloride	ND	0.0010	mg/l	
78-93-3	Methyl Ethyl Ketone	ND	0.013	mg/l	
108-10-1	4-Methyl-2-pentanone	ND	0.013	mg/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	08/14/19
Lab Sample ID:	LA56938-1	Date Received:	08/16/19
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	8060.00 Indigo-Desoto Parish, LA		

VOA RECAP List

CAS No.	Compound	Result	RL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	0.0050	mg/l	
100-42-5	Styrene	ND	0.0010	mg/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0010	mg/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.00050	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	mg/l	
108-88-3	Toluene	ND	0.0050	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	mg/l	
79-01-6	Trichloroethylene	ND	0.0010	mg/l	
75-69-4	Trichlorofluoromethane	ND	0.0010	mg/l	
75-01-4	Vinyl Chloride	ND	0.0010	mg/l	
	m,p-Xylene	ND	0.0050	mg/l	
95-47-6	o-Xylene	ND	0.0050	mg/l	
1330-20-7	Xylene (total)	ND	0.0050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		81-120%
2037-26-5	Toluene-D8	97%		93-105%
460-00-4	4-Bromofluorobenzene	97%		89-107%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: FIELD BLANK		Date Sampled: 08/14/19
Lab Sample ID: LA56938-2		Date Received: 08/16/19
Matrix: AQ - Field Blank Water		Percent Solids: n/a
Method: SW846 8260B		
Project: 8060.00 Indigo-Desoto Parish, LA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ0067746.D	1	08/22/19 20:37	CP	n/a	n/a	V1J2100
Run #2							

Run #1	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RECAP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	0.050	mg/l	
71-43-2	Benzene	ND	0.0050	mg/l	
75-27-4	Bromodichloromethane	ND	0.0010	mg/l	
75-25-2	Bromoform	ND	0.0010	mg/l	
75-15-0	Carbon Disulfide	ND	0.0010	mg/l	
56-23-5	Carbon Tetrachloride	ND	0.0010	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	mg/l	
75-00-3	Chloroethane	ND	0.0010	mg/l	
67-66-3	Chloroform	ND	0.0010	mg/l	
124-48-1	Dibromochloromethane	ND	0.0010	mg/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0010	mg/l	
541-73-1	m-Dichlorobenzene	ND	0.0010	mg/l	
95-50-1	o-Dichlorobenzene	ND	0.0010	mg/l	
106-46-7	p-Dichlorobenzene	ND	0.0010	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	mg/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.0010	mg/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.0010	mg/l	
540-59-0	1,2-Dichloroethene (total)	ND	0.0010	mg/l	
78-87-5	1,2-Dichloropropane	ND	0.0010	mg/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0010	mg/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0010	mg/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0050	mg/l	
67-72-1	Hexachloroethane	ND	0.0010	mg/l	
78-83-1	Isobutyl Alcohol	ND	0.10	mg/l	
74-83-9	Methyl Bromide	ND	0.0010	mg/l	
74-87-3	Methyl Chloride	ND	0.0010	mg/l	
75-09-2	Methylene Chloride	ND	0.0010	mg/l	
78-93-3	Methyl Ethyl Ketone	ND	0.013	mg/l	
108-10-1	4-Methyl-2-pentanone	ND	0.013	mg/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: FIELD BLANK		Date Sampled: 08/14/19
Lab Sample ID: LA56938-2		Date Received: 08/16/19
Matrix: AQ - Field Blank Water		Percent Solids: n/a
Method: SW846 8260B		
Project: 8060.00 Indigo-Desoto Parish, LA		

VOA RECAP List

CAS No.	Compound	Result	RL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	0.0050	mg/l	
100-42-5	Styrene	ND	0.0010	mg/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0010	mg/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.00050	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	mg/l	
108-88-3	Toluene	ND	0.0050	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	mg/l	
79-01-6	Trichloroethylene	ND	0.0010	mg/l	
75-69-4	Trichlorofluoromethane	ND	0.0010	mg/l	
75-01-4	Vinyl Chloride	ND	0.0010	mg/l	
	m,p-Xylene	ND	0.0050	mg/l	
95-47-6	o-Xylene	ND	0.0050	mg/l	
1330-20-7	Xylene (total)	ND	0.0050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		81-120%
2037-26-5	Toluene-D8	98%		93-105%
460-00-4	4-Bromofluorobenzene	97%		89-107%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled:	08/14/19
Lab Sample ID:	LA56938-3	Date Received:	08/16/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	8060.00 Indigo-Desoto Parish, LA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ0067752.D	1	08/22/19 21:57	CP	n/a	n/a	V1J2100
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RECAP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	0.050	mg/l	
71-43-2	Benzene	ND	0.0050	mg/l	
75-27-4	Bromodichloromethane	ND	0.0010	mg/l	
75-25-2	Bromoform	ND	0.0010	mg/l	
75-15-0	Carbon Disulfide	ND	0.0010	mg/l	
56-23-5	Carbon Tetrachloride	ND	0.0010	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	mg/l	
75-00-3	Chloroethane	ND	0.0010	mg/l	
67-66-3	Chloroform	ND	0.0010	mg/l	
124-48-1	Dibromochloromethane	ND	0.0010	mg/l	
541-73-1	m-Dichlorobenzene	ND	0.0010	mg/l	
95-50-1	o-Dichlorobenzene	ND	0.0010	mg/l	
106-46-7	p-Dichlorobenzene	ND	0.0010	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	mg/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.0010	mg/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.0010	mg/l	
540-59-0	1,2-Dichloroethene (total)	ND	0.0010	mg/l	
78-87-5	1,2-Dichloropropane	ND	0.0010	mg/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0010	mg/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0010	mg/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0050	mg/l	
67-72-1	Hexachloroethane	ND	0.0010	mg/l	
78-83-1	Isobutyl Alcohol	ND	0.10	mg/l	
74-83-9	Methyl Bromide	ND	0.0010	mg/l	
74-87-3	Methyl Chloride	ND	0.0010	mg/l	
75-09-2	Methylene Chloride	ND	0.0010	mg/l	
78-93-3	Methyl Ethyl Ketone	ND	0.013	mg/l	
108-10-1	4-Methyl-2-pentanone	ND	0.013	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0050	mg/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-3	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 8060.00 Indigo-Desoto Parish, LA	

VOA RECAP List

CAS No.	Compound	Result	RL	Units	Q
100-42-5	Styrene	ND	0.0010	mg/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0010	mg/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.00050	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	mg/l	
108-88-3	Toluene	ND	0.0050	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	mg/l	
79-01-6	Trichloroethylene	ND	0.0010	mg/l	
75-69-4	Trichlorofluoromethane	ND	0.0010	mg/l	
75-01-4	Vinyl Chloride	ND	0.0010	mg/l	
	m,p-Xylene	ND	0.0050	mg/l	
95-47-6	o-Xylene	ND	0.0050	mg/l	
1330-20-7	Xylene (total)	ND	0.0050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		81-120%
2037-26-5	Toluene-D8	98%		93-105%
460-00-4	4-Bromofluorobenzene	98%		89-107%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	
Lab Sample ID: LA56938-3	Date Sampled: 08/14/19
Matrix: AQ - Water	Date Received: 08/16/19
Method: SW846 8270D SW846 3510C	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0028760.D	1	08/19/19 19:37	AA	08/18/19 08:00	OP14934	EL761
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	113 ml	1.0 ml
Run #2		

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	0.0044	mg/l	
120-83-2	2,4-Dichlorophenol	ND	0.0044	mg/l	
105-67-9	2,4-Dimethylphenol	ND	0.0044	mg/l	
51-28-5	2,4-Dinitrophenol	ND	0.018	mg/l	
100-02-7	4-Nitrophenol	ND	0.022	mg/l	
87-86-5	Pentachlorophenol	ND	0.00088	mg/l	
108-95-2	Phenol	ND	0.0044	mg/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0044	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	0.0044	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.0044	mg/l	
83-32-9	Acenaphthene	ND	0.00018	mg/l	
208-96-8	Acenaphthylene	ND	0.00018	mg/l	
62-53-3	Aniline	ND	0.0044	mg/l	
120-12-7	Anthracene	ND	0.00018	mg/l	
56-55-3	Benzo(a)anthracene	ND	0.00018	mg/l	
50-32-8	Benzo(a)pyrene	ND	0.00018	mg/l	
205-99-2	Benzo(b)fluoranthene	ND	0.00018	mg/l	
207-08-9	Benzo(k)fluoranthene	ND	0.00018	mg/l	
92-52-4	1,1'-Biphenyl	ND	0.0088	mg/l	
85-68-7	Butyl Benzyl Phthalate ^a	ND	0.0044	mg/l	
106-47-8	4-Chloroaniline	ND	0.0044	mg/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.0044	mg/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	0.0044	mg/l	
91-58-7	2-Chloronaphthalene	ND	0.0044	mg/l	
218-01-9	Chrysene	ND	0.00018	mg/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.00018	mg/l	
132-64-9	Dibenzofuran	ND	0.0044	mg/l	
91-94-1	3,3'-Dichlorobenzidine ^a	ND	0.0088	mg/l	
84-66-2	Diethyl Phthalate	ND	0.0044	mg/l	
131-11-3	Dimethyl Phthalate	ND	0.0044	mg/l	
117-84-0	Di-n-octyl Phthalate	ND	0.0044	mg/l	
99-65-0	1,3-Dinitrobenzene	ND	0.0044	mg/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-3	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: SW846 8270D SW846 3510C	
Project: 8060.00 Indigo-Desoto Parish, LA	

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
121-14-2	2,4-Dinitrotoluene	ND	0.0044	mg/l	
606-20-2	2,6-Dinitrotoluene	ND	0.0044	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0044	mg/l	
206-44-0	Fluoranthene	ND	0.00018	mg/l	
86-73-7	Fluorene	ND	0.00018	mg/l	
118-74-1	Hexachlorobenzene	ND	0.00088	mg/l	
87-68-3	Hexachlorobutadiene	ND	0.00044	mg/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.0088	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.00018	mg/l	
78-59-1	Isophorone	ND	0.0044	mg/l	
91-57-6	2-Methylnaphthalene	ND	0.00018	mg/l	
91-20-3	Naphthalene	ND	0.00018	mg/l	
88-74-4	2-Nitroaniline	ND	0.0044	mg/l	
99-09-2	3-Nitroaniline	ND	0.0044	mg/l	
100-01-6	4-Nitroaniline	ND	0.0044	mg/l	
98-95-3	Nitrobenzene	ND	0.00088	mg/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	0.0044	mg/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.0044	mg/l	
85-01-8	Phenanthrene	ND	0.00018	mg/l	
129-00-0	Pyrene	ND	0.00018	mg/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	0.00088	mg/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0044	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	56%		25-101%
4165-62-2	Phenol-d5	45%		17-79%
118-79-6	2,4,6-Tribromophenol	84%		40-144%
4165-60-0	Nitrobenzene-d5	91%		40-124%
321-60-8	2-Fluorobiphenyl	71%		27-124%
1718-51-0	Terphenyl-d14	89%		45-140%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-3	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: MADEP VPH REV 1.1	
Project: 8060.00 Indigo-Desoto Parish, LA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LC047860.D	1	08/19/19 14:31	LS	n/a	n/a	GLC2305
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Volatile Petroleum Hydrocarbons (VPH)

CAS No.	Compound	Result	RL	Units	Q
	Aliphatics C6-C8 (Unadj.)	ND	0.15	mg/l	
	Aliphatics > C8-C10 (Unadj.)	ND	0.15	mg/l	
	Aromatics > C8-C10 (Unadj.)	ND	0.15	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8	2,5-Dibromotoluene	87% ^a		70-130%
615-59-8	2,5-Dibromotoluene	87% ^b		70-130%

- (a) Recovery from Aliphatics fraction.
- (b) Recovery from Aromatics fraction.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-3	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: SW846 8011 SW846 8011	
Project: 8060.00 Indigo-Desoto Parish, LA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM002020.D	1	08/23/19 17:49	PC	08/23/19 11:45	OP14981	GLM50
Run #2							

	Initial Volume	Final Volume
Run #1	34.2 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.000020mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
348-51-6	1-Chloro-2-fluorobenzene	119%		60-140%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-3	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: MADEP EPH REV 1.1 SW846 3511	
Project: 8060.00 Indigo-Desoto Parish, LA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0011104.D	1	08/20/19 21:12	PC	08/19/19 10:30	OP14943	GLB2009
Run #2	Y0011104.D	1	08/20/19 21:13	PC	08/19/19 10:30	OP14943	GLB2010

Run #	Initial Volume	Final Volume
Run #1	53.9 ml	4.0 ml
Run #2	53.9 ml	4.0 ml

Louisiana EPH Ranges

CAS No.	Compound	Result	RL	Units	Q
	Aliphatics > C10-C12 (Unadj.)	ND ^a	0.14	mg/l	
	Aliphatics > C12-C16 (Unadj.)	ND ^a	0.14	mg/l	
	Aliphatics > C16-C35 (Unadj.)	ND ^a	0.14	mg/l	
	Aromatics > C10-C12 (Unadj.)	ND	0.14	mg/l	
	Aromatics > C12-C16 (Unadj.)	ND	0.14	mg/l	
	Aromatics > C16-C21 (Unadj.)	ND	0.14	mg/l	
	Aromatics > C21-C35 (Unadj.)	ND	0.14	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane		72%	40-140%
84-15-1	o-Terphenyl	58%		40-140%
321-60-8	2-Fluorobiphenyl	60%		40-140%

(a) Result is from Run# 2

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-3	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ³	SW846 3010A ⁶
Arsenic	< 0.010	0.010	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Barium	0.0264	0.010	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Cadmium	< 0.0050	0.0050	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Calcium	1.95	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Chromium	< 0.010	0.010	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Iron	< 1.0	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Lead	< 0.010	0.010	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Magnesium	< 1.0	1.0	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Manganese	< 0.020	0.020	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Mercury	< 0.00020	0.00020	mg/l	1	08/19/19	08/20/19 SA	SW846 7470A ¹	SW846 7470A ⁵
Potassium	1.16	1.0	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Selenium	< 0.050	0.050	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Silver	< 0.010	0.010	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Sodium	246	1.0	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶
Strontium	0.0929	0.020	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ³	SW846 3010A ⁶
Zinc	< 0.050	0.050	mg/l	10	08/20/19	08/20/19 RT	SW846 6020A ²	SW846 3010A ⁶

- (1) Instrument QC Batch: MA16702
- (2) Instrument QC Batch: MA16709
- (3) Instrument QC Batch: MA16711
- (4) Instrument QC Batch: MA16714
- (5) Prep QC Batch: MP16082
- (6) Prep QC Batch: MP16099

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-3	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	412	5.0	mg/l	1	08/20/19 14:40	ATX	SM18 2320B
Alkalinity, Carbonate ^a	12.8	5.0	mg/l	1	08/20/19 14:40	ATX	SM18 2320B
Alkalinity, Total as CaCO ₃ ^a	425	5.0	mg/l	1	08/20/19 14:40	ATX	SM 2320B-2011
Bromide ^a	0.72	0.60	mg/l	1	08/22/19 16:49	ATX	SW846 9056A
Chloride ^a	91.9	14	mg/l	20	08/21/19 11:23	ATX	SW846 9056A
Silica, Dissolved ^a	15.0	0.70	mg/l	10	08/25/19	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	764	10	mg/l	1	08/21/19	ATX	SM 2540C-2011
Specific Conductivity ^b	1300	1.0	umhos/cm	1	08/19/19 16:50	ATX	EPA 120.1
Sulfate ^a	2.1	0.50	mg/l	1	08/21/19 10:32	ATX	SW846 9056A

(a) Analysis performed at SGS Houston, TX.

(b) Conductivity results corrected to 25 degrees Celsius. Analysis performed at SGS Houston, TX.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-9253Z (XTO-BAGLEY 26H-1)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-3F	Date Received: 08/16/19
Matrix: AQ - Water Filtered	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Arsenic	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Barium	0.0243	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Cadmium	< 0.0050	0.0050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Calcium	1.67	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Chromium	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Iron	< 1.0	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Lead	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Magnesium	< 1.0	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Manganese	< 0.020	0.020	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Mercury	< 0.00020	0.00020	mg/l	1	08/19/19	08/20/19 SA	SW846 7470A ¹	SW846 7470A ⁵
Potassium	1.12	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Selenium	< 0.050	0.050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Silver	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Sodium	240	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Strontium	0.0919	0.020	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ³	SW846 3010A ⁶
Zinc	< 0.050	0.050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶

- (1) Instrument QC Batch: MA16702
- (2) Instrument QC Batch: MA16709
- (3) Instrument QC Batch: MA16711
- (4) Instrument QC Batch: MA16714
- (5) Prep QC Batch: MP16082
- (6) Prep QC Batch: MP16099

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-8641Z (XTO-EVANS 26H)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-4	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 8060.00 Indigo-Desoto Parish, LA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0067754.D	1	08/22/19 22:24	CP	n/a	n/a	V1J2100
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RECAP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	0.050	mg/l	
71-43-2	Benzene	ND	0.0050	mg/l	
75-27-4	Bromodichloromethane	ND	0.0010	mg/l	
75-25-2	Bromoform	ND	0.0010	mg/l	
75-15-0	Carbon Disulfide	ND	0.0010	mg/l	
56-23-5	Carbon Tetrachloride	ND	0.0010	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	mg/l	
75-00-3	Chloroethane	ND	0.0010	mg/l	
67-66-3	Chloroform	ND	0.0010	mg/l	
124-48-1	Dibromochloromethane	ND	0.0010	mg/l	
541-73-1	m-Dichlorobenzene	ND	0.0010	mg/l	
95-50-1	o-Dichlorobenzene	ND	0.0010	mg/l	
106-46-7	p-Dichlorobenzene	ND	0.0010	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	mg/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.0010	mg/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.0010	mg/l	
540-59-0	1,2-Dichloroethene (total)	ND	0.0010	mg/l	
78-87-5	1,2-Dichloropropane	ND	0.0010	mg/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0010	mg/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0010	mg/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0050	mg/l	
67-72-1	Hexachloroethane	ND	0.0010	mg/l	
78-83-1	Isobutyl Alcohol	ND	0.10	mg/l	
74-83-9	Methyl Bromide	ND	0.0010	mg/l	
74-87-3	Methyl Chloride	ND	0.0010	mg/l	
75-09-2	Methylene Chloride	ND	0.0010	mg/l	
78-93-3	Methyl Ethyl Ketone	ND	0.013	mg/l	
108-10-1	4-Methyl-2-pentanone	ND	0.013	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0050	mg/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-8641Z (XTO-EVANS 26H)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-4	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: SW846 8260B	
Project: 8060.00 Indigo-Desoto Parish, LA	

VOA RECAP List

CAS No.	Compound	Result	RL	Units	Q
100-42-5	Styrene	ND	0.0010	mg/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0010	mg/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.00050	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	mg/l	
108-88-3	Toluene	ND	0.0050	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	mg/l	
79-01-6	Trichloroethylene	ND	0.0010	mg/l	
75-69-4	Trichlorofluoromethane	ND	0.0010	mg/l	
75-01-4	Vinyl Chloride	ND	0.0010	mg/l	
	m,p-Xylene	ND	0.0050	mg/l	
95-47-6	o-Xylene	ND	0.0050	mg/l	
1330-20-7	Xylene (total)	ND	0.0050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		81-120%
2037-26-5	Toluene-D8	100%		93-105%
460-00-4	4-Bromofluorobenzene	97%		89-107%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	031-8641Z (XTO-EVANS 26H)	Date Sampled:	08/14/19
Lab Sample ID:	LA56938-4	Date Received:	08/16/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	8060.00 Indigo-Desoto Parish, LA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0028761.D	1	08/19/19 20:02	AA	08/18/19 08:00	OP14934	EL761
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	113 ml	1.0 ml
Run #2		

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	0.0044	mg/l	
120-83-2	2,4-Dichlorophenol	ND	0.0044	mg/l	
105-67-9	2,4-Dimethylphenol	ND	0.0044	mg/l	
51-28-5	2,4-Dinitrophenol	ND	0.018	mg/l	
100-02-7	4-Nitrophenol	ND	0.022	mg/l	
87-86-5	Pentachlorophenol	ND	0.00088	mg/l	
108-95-2	Phenol	ND	0.0044	mg/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0044	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	0.0044	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.0044	mg/l	
83-32-9	Acenaphthene	ND	0.00018	mg/l	
208-96-8	Acenaphthylene	ND	0.00018	mg/l	
62-53-3	Aniline	ND	0.0044	mg/l	
120-12-7	Anthracene	ND	0.00018	mg/l	
56-55-3	Benzo(a)anthracene	ND	0.00018	mg/l	
50-32-8	Benzo(a)pyrene	ND	0.00018	mg/l	
205-99-2	Benzo(b)fluoranthene	ND	0.00018	mg/l	
207-08-9	Benzo(k)fluoranthene	ND	0.00018	mg/l	
92-52-4	1,1'-Biphenyl	ND	0.0088	mg/l	
85-68-7	Butyl Benzyl Phthalate ^a	ND	0.0044	mg/l	
106-47-8	4-Chloroaniline	ND	0.0044	mg/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.0044	mg/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	0.0044	mg/l	
91-58-7	2-Chloronaphthalene	ND	0.0044	mg/l	
218-01-9	Chrysene	ND	0.00018	mg/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.00018	mg/l	
132-64-9	Dibenzofuran	ND	0.0044	mg/l	
91-94-1	3,3'-Dichlorobenzidine ^a	ND	0.0088	mg/l	
84-66-2	Diethyl Phthalate	ND	0.0044	mg/l	
131-11-3	Dimethyl Phthalate	ND	0.0044	mg/l	
117-84-0	Di-n-octyl Phthalate	ND	0.0044	mg/l	
99-65-0	1,3-Dinitrobenzene	ND	0.0044	mg/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	031-8641Z (XTO-EVANS 26H)	Date Sampled:	08/14/19
Lab Sample ID:	LA56938-4	Date Received:	08/16/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	8060.00 Indigo-Desoto Parish, LA		

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
121-14-2	2,4-Dinitrotoluene	ND	0.0044	mg/l	
606-20-2	2,6-Dinitrotoluene	ND	0.0044	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0044	mg/l	
206-44-0	Fluoranthene	ND	0.00018	mg/l	
86-73-7	Fluorene	ND	0.00018	mg/l	
118-74-1	Hexachlorobenzene	ND	0.00088	mg/l	
87-68-3	Hexachlorobutadiene	ND	0.00044	mg/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.0088	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.00018	mg/l	
78-59-1	Isophorone	ND	0.0044	mg/l	
91-57-6	2-Methylnaphthalene	ND	0.00018	mg/l	
91-20-3	Naphthalene	ND	0.00018	mg/l	
88-74-4	2-Nitroaniline	ND	0.0044	mg/l	
99-09-2	3-Nitroaniline	ND	0.0044	mg/l	
100-01-6	4-Nitroaniline	ND	0.0044	mg/l	
98-95-3	Nitrobenzene	ND	0.00088	mg/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	0.0044	mg/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.0044	mg/l	
85-01-8	Phenanthrene	ND	0.00018	mg/l	
129-00-0	Pyrene	ND	0.00018	mg/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	0.00088	mg/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0044	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	61%		25-101%
4165-62-2	Phenol-d5	50%		17-79%
118-79-6	2,4,6-Tribromophenol	97%		40-144%
4165-60-0	Nitrobenzene-d5	103%		40-124%
321-60-8	2-Fluorobiphenyl	85%		27-124%
1718-51-0	Terphenyl-d14	102%		45-140%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-8641Z (XTO-EVANS 26H)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-4	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: MADEP VPH REV 1.1	
Project: 8060.00 Indigo-Desoto Parish, LA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LC047863.D	1	08/19/19 16:00	LS	n/a	n/a	GLC2305
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Volatile Petroleum Hydrocarbons (VPH)

CAS No.	Compound	Result	RL	Units	Q
	Aliphatics C6-C8 (Unadj.)	ND	0.15	mg/l	
	Aliphatics > C8-C10 (Unadj.)	ND	0.15	mg/l	
	Aromatics > C8-C10 (Unadj.)	ND	0.15	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
615-59-8	2,5-Dibromotoluene	81% ^a		70-130%
615-59-8	2,5-Dibromotoluene	81% ^b		70-130%

- (a) Recovery from Aliphatics fraction.
- (b) Recovery from Aromatics fraction.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-8641Z (XTO-EVANS 26H)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-4	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: SW846 8011 SW846 8011	
Project: 8060.00 Indigo-Desoto Parish, LA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM002021.D	1	08/23/19 18:09	PC	08/23/19 11:45	OP14981	GLM50
Run #2							

	Initial Volume	Final Volume
Run #1	33.3 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.000021mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
348-51-6	1-Chloro-2-fluorobenzene	122%		60-140%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-8641Z (XTO-EVANS 26H)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-4	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Method: MADEP EPH REV 1.1 SW846 3511	
Project: 8060.00 Indigo-Desoto Parish, LA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0011099.D	1	08/20/19 19:17	PC	08/19/19 10:30	OP14943	GLB2009
Run #2	Y0011099.D	1	08/20/19 19:18	PC	08/19/19 10:30	OP14943	GLB2010

Run #	Initial Volume	Final Volume
Run #1	54.5 ml	4.0 ml
Run #2	54.5 ml	4.0 ml

Louisiana EPH Ranges

CAS No.	Compound	Result	RL	Units	Q
	Aliphatics > C10-C12 (Unadj.)	ND ^a	0.14	mg/l	
	Aliphatics > C12-C16 (Unadj.)	ND ^a	0.14	mg/l	
	Aliphatics > C16-C35 (Unadj.)	ND ^a	0.14	mg/l	
	Aromatics > C10-C12 (Unadj.)	ND	0.14	mg/l	
	Aromatics > C12-C16 (Unadj.)	ND	0.14	mg/l	
	Aromatics > C16-C21 (Unadj.)	ND	0.14	mg/l	
	Aromatics > C21-C35 (Unadj.)	ND	0.14	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane		71%	40-140%
84-15-1	o-Terphenyl	73%		40-140%
321-60-8	2-Fluorobiphenyl	78%		40-140%

(a) Result is from Run# 2

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 031-8641Z (XTO-EVANS 26H)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-4	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Arsenic	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Barium	0.511	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Cadmium	< 0.0050	0.0050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Calcium	47.0	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Chromium	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Iron	3.56	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Lead	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Magnesium	17.6	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Manganese	0.253	0.020	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Mercury	< 0.00020	0.00020	mg/l	1	08/19/19	08/20/19 SA	SW846 7470A ¹	SW846 7470A ⁵
Potassium	3.25	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Selenium	< 0.050	0.050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Silver	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Sodium	50.2	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Strontium	2.28	0.020	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ³	SW846 3010A ⁶
Zinc	< 0.050	0.050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶

- (1) Instrument QC Batch: MA16702
- (2) Instrument QC Batch: MA16709
- (3) Instrument QC Batch: MA16711
- (4) Instrument QC Batch: MA16714
- (5) Prep QC Batch: MP16082
- (6) Prep QC Batch: MP16099

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-8641Z (XTO-EVANS 26H)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-4	Date Received: 08/16/19
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	117	5.0	mg/l	1	08/20/19 14:40	ATX	SM18 2320B
Alkalinity, Carbonate ^a	< 5.0	5.0	mg/l	1	08/20/19 14:40	ATX	SM18 2320B
Alkalinity, Total as CaCO ₃ ^a	117	5.0	mg/l	1	08/20/19 14:40	ATX	SM 2320B-2011
Bromide ^a	0.77	0.60	mg/l	1	08/22/19 16:32	ATX	SW846 9056A
Chloride ^a	114	7.0	mg/l	10	08/21/19 13:21	ATX	SW846 9056A
Silica, Dissolved ^a	46.2	1.4	mg/l	20	08/25/19	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	432	10	mg/l	1	08/21/19	ATX	SM 2540C-2011
Specific Conductivity ^b	649	1.0	umhos/cm	1	08/19/19 16:50	ATX	EPA 120.1
Sulfate ^a	26.9	1.0	mg/l	2	08/21/19 12:30	ATX	SW846 9056A

(a) Analysis performed at SGS Houston, TX.

(b) Conductivity results corrected to 25 degrees Celsius. Analysis performed at SGS Houston, TX.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-8641Z (XTO-EVANS 26H)	Date Sampled: 08/14/19
Lab Sample ID: LA56938-4F	Date Received: 08/16/19
Matrix: AQ - Water Filtered	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Arsenic	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Barium	0.457	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Cadmium	< 0.0050	0.0050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Calcium	47.6	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Chromium	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Iron	3.59	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Lead	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Magnesium	15.3	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Manganese	0.220	0.020	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Mercury	< 0.00020	0.00020	mg/l	1	08/19/19	08/20/19 SA	SW846 7470A ¹	SW846 7470A ⁵
Potassium	2.89	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Selenium	< 0.050	0.050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Silver	< 0.010	0.010	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Sodium	43.8	1.0	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶
Strontium	2.13	0.020	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ³	SW846 3010A ⁶
Zinc	< 0.050	0.050	mg/l	10	08/20/19	08/21/19 RT	SW846 6020A ²	SW846 3010A ⁶

- (1) Instrument QC Batch: MA16702
- (2) Instrument QC Batch: MA16709
- (3) Instrument QC Batch: MA16711
- (4) Instrument QC Batch: MA16714
- (5) Prep QC Batch: MP16082
- (6) Prep QC Batch: MP16099

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
 Environmental Consultants
 P.O. Box 60295
 Lafayette, LA 70596-0295
 Phone (337) 261-1963 FAX (337) 261-1955

LA 56938

SAMPLE CHAIN-OF-CUSTODY RECORD

Project Name: Indigo
 Project Number: 8060.00
 Project Location: DeSoto Parish, Louisiana
 Laboratory: SGS Lafayette
 Collected By: KC
 Company: Hydro-Environmental Technology, Inc.
 Date: 8/14/2019

Sample I.D.	Type	Date/Time Sampled	Containers	Analysis Requested/Method	Comments
1 Trip Blank	AQ	8/14/2019 7:00	(6) 40mL Glass w/HCl	VOC 8260	4°C
2 Field Blank	AQ	8/14/2019 8:15	(6) 40mL Glass w/HCl	VOC 8260	4°C
3 031-9235Z (XTC-Bagley 26H-1)	AQ	8/14/2019 12:45	(6) 40mL Glass w/HCl (3) 60mL Glass w/HCl (2) 4oz amber (2) 250 mL plastic w/Nitric (1) 500 mL plastic	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C
4 031-8641Z (XTO-Evans 26H)	AQ	8/14/2019 16:50 PM	(6) 40mL Glass w/HCl (3) 60mL Glass w/HCl (2) 4oz amber (2) 250 mL plastic w/Nitric (1) 500 mL plastic	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C

Mouslec

Temp: 3.4 0/4/39 Metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, strontium, zinc
 *Cations: aluminum, calcium, iron, magnesium, manganese, potassium, sodium
 *Anions: bromide, sulfate, carbonate alkalinity, bicarbonate alkalinity
 BL-23 (NW) RR-109 (D) YR-21 (CBZ) SWZ SWZF (AL)

Relinquished By: Kendy Gage 8/15/19
 Date/Time: 8/15/19 17:00
 Received By: *[Signature]* 8/15/19
 Date/Time: 8/15/19 17:00
 Relinquished By: *[Signature]* 8/16/19 8:55
 Date/Time: 8/16/19 9:10
 Received By: Johnny McCain 8-16-19
 Date/Time: 8-16-19 17:00
 Analysis Due: Verbal: 9:30
 Written: Mark Paul 8-16-19 9:30
 Relinquished By: Johnny McCain

SGS Sample Receipt Summary

Job Number: LA56938

Client: HYDRO - ENV.

Project: INDIGO

Date / Time Received: 8/16/2019 9:30:00 AM

Delivery Method: Accutest Courier

Airbill #'s: _____

Cooler Temps (Initial/Adjusted): #1: (3.4/3.4); DV439

Cooler Security

- | | | | | | | | |
|---------------------------|--------------------------|-----------|-------------------------------------|-----------------------|-------------------------------------|-----------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> | | <u>Y</u> | <u>or</u> | <u>N</u> |
| 1. Custody Seals Present: | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |

Cooler Temperature

- | | | | |
|----------------------------|-------------------------------------|-----------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> |
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. Thermometer ID: | <u>DV439;</u> | | |
| 3. Cooler media: | <u>Ice (direct contact)</u> | | |
| 4. No. Coolers: | <u>1</u> | | |

Quality Control Preservation

- | | | | | |
|---------------------------------|-------------------------------------|-----------|--------------------------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> | <u>N/A</u> |
| 1. Trip Blank present / cooler: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Documentation

- | | | | |
|--|-------------------------------------|-----------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> |
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |

Sample Integrity - Condition

- | | | | |
|----------------------------------|-------------------------------------|-----------|--------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> |
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 3. Condition of sample: | <u>Intact</u> | | |

Sample Integrity - Instructions

- | | | | | |
|---|-------------------------------------|-----------|-------------------------------------|-------------------------------------|
| | <u>Y</u> | <u>or</u> | <u>N</u> | <u>N/A</u> |
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

LA56938: Chain of Custody

Page 2 of 2

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J2100-MB2	1J0067732.D	1	08/22/19	CP	n/a	n/a	V1J2100

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56938-1, LA56938-2, LA56938-3, LA56938-4

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
75-15-0	Carbon Disulfide	ND	1.0	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
540-59-0	1,2-Dichloroethene (total)	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
67-72-1	Hexachloroethane	ND	1.0	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	ug/l	
74-83-9	Methyl Bromide	ND	1.0	ug/l	
74-87-3	Methyl Chloride	ND	1.0	ug/l	
75-09-2	Methylene Chloride	ND	1.0	ug/l	
78-93-3	Methyl Ethyl Ketone	ND	13	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	13	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	

4.1.1
4

Method Blank Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J2100-MB2	1J0067732.D	1	08/22/19	CP	n/a	n/a	V1J2100

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56938-1, LA56938-2, LA56938-3, LA56938-4

CAS No.	Compound	Result	RL	Units	Q
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
17060-07-0	1,2-Dichloroethane-D4	102%	81-120%
2037-26-5	Toluene-D8	97%	93-105%
460-00-4	4-Bromofluorobenzene	97%	89-107%

4.1.1
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J2100-BS1	1J0067726.D	1	08/22/19	CP	n/a	n/a	V1J2100
V1J2100-BSD1	1J0067728.D	1	08/22/19	CP	n/a	n/a	V1J2100

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56938-1, LA56938-2, LA56938-3, LA56938-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	49.7	99	43.7	87	13	35-173/20
71-43-2	Benzene	20	22.1	111	21.4	107	3	82-119/11
75-27-4	Bromodichloromethane	20	21.4	107	20.9	105	2	76-124/11
75-25-2	Bromoform	20	21.2	106	20.6	103	3	52-131/14
75-15-0	Carbon Disulfide	20	21.5	108	20.3	102	6	69-135/14
56-23-5	Carbon Tetrachloride	20	21.1	106	20.4	102	3	73-127/13
108-90-7	Chlorobenzene	20	21.8	109	21.4	107	2	82-118/11
75-00-3	Chloroethane	20	20.4	102	18.8	94	8	57-146/20
67-66-3	Chloroform	20	21.3	107	20.3	102	5	77-122/12
124-48-1	Dibromochloromethane	20	20.9	105	21.0	105	0	68-126/12
96-12-8	1,2-Dibromo-3-chloropropane	20	20.3	102	19.8	99	2	57-132/17
541-73-1	m-Dichlorobenzene	20	22.1	111	21.8	109	1	78-122/12
95-50-1	o-Dichlorobenzene	20	23.0	115	21.9	110	5	78-122/12
106-46-7	p-Dichlorobenzene	20	21.3	107	20.9	105	2	79-119/12
75-34-3	1,1-Dichloroethane	20	22.1	111	21.1	106	5	77-124/14
107-06-2	1,2-Dichloroethane	20	22.1	111	21.7	109	2	71-124/11
75-35-4	1,1-Dichloroethylene	20	22.1	111	20.6	103	7	77-125/14
156-59-2	cis-1,2-Dichloroethylene	20	22.4	112	21.5	108	4	79-121/13
156-60-5	trans-1,2-Dichloroethylene	20	21.2	106	20.1	101	5	77-124/14
540-59-0	1,2-Dichloroethene (total)	40	43.5	109	41.5	104	5	80-121/13
78-87-5	1,2-Dichloropropane	20	21.6	108	21.7	109	0	81-117/11
10061-01-5	cis-1,3-Dichloropropene	20	22.5	113	22.1	111	2	77-123/11
10061-02-6	trans-1,3-Dichloropropene	20	22.4	112	22.0	110	2	74-127/12
542-75-6	1,3-Dichloropropene (total)	40	44.9	112	44.1	110	2	76-124/11
100-41-4	Ethylbenzene	20	22.8	114	21.8	109	4	82-120/11
67-72-1	Hexachloroethane	20	21.7	109	20.7	104	5	54-132/15
78-83-1	Isobutyl Alcohol	200	192	96	180	90	6	37-152/30
74-83-9	Methyl Bromide	20	12.3	62	12.3	62	0	46-165/20
74-87-3	Methyl Chloride	20	19.9	100	17.6	88	12	55-140/18
75-09-2	Methylene Chloride	20	22.5	113	21.0	105	7	73-132/14
78-93-3	Methyl Ethyl Ketone	50	53.2	106	50.4	101	5	55-149/19
108-10-1	4-Methyl-2-pentanone	50	55.9	112	53.9	108	4	63-137/17
1634-04-4	Methyl Tert Butyl Ether	20	21.9	110	21.2	106	3	73-124/14
100-42-5	Styrene	20	22.2	111	21.3	107	4	80-126/12
630-20-6	1,1,1,2-Tetrachloroethane	20	21.5	108	20.8	104	3	77-126/12
79-34-5	1,1,2,2-Tetrachloroethane	20	21.6	108	21.1	106	2	69-134/14

* = Outside of Control Limits.

4.2.1
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J2100-BS1	1J0067726.D	1	08/22/19	CP	n/a	n/a	V1J2100
V1J2100-BSD1	1J0067728.D	1	08/22/19	CP	n/a	n/a	V1J2100

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56938-1, LA56938-2, LA56938-3, LA56938-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	20	22.0	110	21.3	107	3	79-121/13
108-88-3	Toluene	20	22.1	111	21.6	108	2	82-118/12
71-55-6	1,1,1-Trichloroethane	20	22.1	111	20.9	105	6	79-126/13
79-00-5	1,1,2-Trichloroethane	20	21.1	106	21.3	107	1	80-120/12
79-01-6	Trichloroethylene	20	21.7	109	20.9	105	4	78-121/12
75-69-4	Trichlorofluoromethane	20	20.6	103	19.9	100	3	74-129/14
75-01-4	Vinyl Chloride	20	22.4	112	20.9	105	7	74-125/14
	m,p-Xylene	40	47.8	120	45.3	113	5	82-123/11
95-47-6	o-Xylene	20	24.2	121	23.5	118	3	81-123/11
1330-20-7	Xylene (total)	60	72.1	120	68.8	115	5	82-122/11

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	95%	81-120%
2037-26-5	Toluene-D8	100%	101%	93-105%
460-00-4	4-Bromofluorobenzene	100%	100%	89-107%

* = Outside of Control Limits.

4.2.1
4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA56885-1MS	1J0067756.D	1	08/22/19	CP	n/a	n/a	V1J2100
LA56885-1MSD	1J0067758.D	5	08/22/19	CP	n/a	n/a	V1J2100
LA56885-1	1J0067750.D	1	08/22/19	CP	n/a	n/a	V1J2100

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56938-1, LA56938-2, LA56938-3, LA56938-4

CAS No.	Compound	LA56885-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	18.0	50	53.7	71	250	274	102	134* a	11-126/22
71-43-2	Benzene	ND	20	19.4	97	100	95.4	95	132* a	41-155/14
75-27-4	Bromodichloromethane	1.0	20	18.3	87	100	88.2	87	131* b	65-125/14
75-25-2	Bromoform	ND	20	16.8	84	100	81.3	81	131* a	39-127/18
75-15-0	Carbon Disulfide	ND	20	17.9	90	100	88.2	88	133* a	55-139/20
56-23-5	Carbon Tetrachloride	ND	20	18.1	91	100	88.4	88	132* a	60-131/20
108-90-7	Chlorobenzene	ND	20	18.5	93	100	91.1	91	132* a	71-124/14
75-00-3	Chloroethane	ND	20	19.0	95	100	109	109	141* a	44-163/31
67-66-3	Chloroform	1.8	20	18.3	83	100	93.2	91	134* b	65-130/15
124-48-1	Dibromochloromethane	0.78	20	17.7	85	100	87.2	86	133* a	57-125/15
96-12-8	1,2-Dibromo-3-chloropropane	ND	20	16.2	81	100	82.6	83	134* a	43-132/22
541-73-1	m-Dichlorobenzene	ND	20	19.0	95	100	94.4	94	133* a	67-124/14
95-50-1	o-Dichlorobenzene	ND	20	19.2	96	100	95.3	95	133* a	67-124/14
106-46-7	p-Dichlorobenzene	ND	20	18.1	91	100	90.1	90	133* a	66-122/15
75-34-3	1,1-Dichloroethane	ND	20	19.4	97	100	99.3	99	135* a	65-132/17
107-06-2	1,2-Dichloroethane	ND	20	18.6	93	100	92.2	92	133* a	61-130/13
75-35-4	1,1-Dichloroethylene	ND	20	18.5	93	100	93.3	93	134* a	62-136/20
156-59-2	cis-1,2-Dichloroethylene	ND	20	18.0	90	100	90.6	91	134* a	68-129/15
156-60-5	trans-1,2-Dichloroethylene	ND	20	18.1	91	100	90.5	91	133* a	65-132/18
540-59-0	1,2-Dichloroethene (total)	ND	40	36.2	91	200	181	91	133* a	66-130/15
78-87-5	1,2-Dichloropropane	ND	20	19.1	96	100	95.4	95	133* a	71-123/14
10061-01-5	cis-1,3-Dichloropropene	ND	20	18.5	93	100	92.2	92	133* a	61-125/15
10061-02-6	trans-1,3-Dichloropropene	ND	20	18.3	92	100	88.9	89	132* a	59-128/14
542-75-6	1,3-Dichloropropene (total)	ND	40	36.8	92	200	181	91	132* a	61-126/14
100-41-4	Ethylbenzene	ND	20	19.3	97	100	94.8	95	132* a	50-147/15
67-72-1	Hexachloroethane	ND	20	17.1	86	100	87.3	87	134* a	42-122/21
78-83-1	Isobutyl Alcohol	ND	200	178	89	1000	869	87	132* a	6-168/41
74-83-9	Methyl Bromide	ND	20	12.7	64	100	56.5	57	127* a	24-163/28
74-87-3	Methyl Chloride	ND	20	15.8	79	100	83.9	84	137* a	37-151/22
75-09-2	Methylene Chloride	ND	20	19.2	96	100	98.6	99	135* a	63-137/16
78-93-3	Methyl Ethyl Ketone	2.0	50	47.8	92	250	234	93	132* a	35-137/21
108-10-1	4-Methyl-2-pentanone	ND	50	50.5	101	250	248	99	132* a	48-146/21
1634-04-4	Methyl Tert Butyl Ether	ND	20	18.8	94	100	94.6	95	134* a	48-143/15
100-42-5	Styrene	ND	20	18.4	92	100	90.6	91	132* a	58-140/18
630-20-6	1,1,1,2-Tetrachloroethane	ND	20	18.3	92	100	90.3	90	133* a	67-127/15
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	19.1	96	100	96.4	96	134* a	62-139/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA56885-1MS	1J0067756.D	1	08/22/19	CP	n/a	n/a	V1J2100
LA56885-1MSD	1J0067758.D	5	08/22/19	CP	n/a	n/a	V1J2100
LA56885-1	1J0067750.D	1	08/22/19	CP	n/a	n/a	V1J2100

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56938-1, LA56938-2, LA56938-3, LA56938-4

CAS No.	Compound	LA56885-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	ND	20	18.1	91	100	88.4	88	132* a	68-127/19
108-88-3	Toluene	ND	20	18.8	94	100	93.9	94	133* a	40-153/15
71-55-6	1,1,1-Trichloroethane	ND	20	18.9	95	100	92.7	93	132* a	68-132/18
79-00-5	1,1,2-Trichloroethane	ND	20	18.5	93	100	90.5	91	132* a	62-137/16
79-01-6	Trichloroethylene	ND	20	18.5	93	100	90.7	91	132* a	67-124/16
75-69-4	Trichlorofluoromethane	ND	20	19.6	98	100	97.0	97	133* a	65-134/17
75-01-4	Vinyl Chloride	ND	20	21.9	110	100	107	107	132* a	60-133/16
	m,p-Xylene	ND	40	40.0	100	200	195	98	132* a	47-153/15
95-47-6	o-Xylene	ND	20	20.3	102	100	97.9	98	131* a	50-149/14
1330-20-7	Xylene (total)	ND	60	60.3	101	300	293	98	132* a	46-154/15

CAS No.	Surrogate Recoveries	MS	MSD	LA56885-1	Limits
17060-07-0	1,2-Dichloroethane-D4	95%	95%	100%	81-120%
2037-26-5	Toluene-D8	101%	99%	100%	93-105%
460-00-4	4-Bromofluorobenzene	99%	98%	97%	89-107%

(a) RPD exceeded criteria. However, both recoveries passed criteria and the samples were ND.
 (b) RPD exceeded criteria. However, both recoveries passed criteria. BS/BSD passed criteria.

* = Outside of Control Limits.

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14934-MB	L0028739A.D	1	08/19/19	AA	08/18/19	OP14934	EL761

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56938-3, LA56938-4

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
100-02-7	4-Nitrophenol	ND	25	ug/l	
87-86-5	Pentachlorophenol	ND	10	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	ug/l	
83-32-9	Acenaphthene	ND	0.20	ug/l	
208-96-8	Acenaphthylene	ND	0.20	ug/l	
62-53-3	Aniline	ND	5.0	ug/l	
120-12-7	Anthracene	ND	0.20	ug/l	
56-55-3	Benzo(a)anthracene	0.026	0.20	ug/l	J
50-32-8	Benzo(a)pyrene	0.017	0.20	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.018	0.20	ug/l	J
207-08-9	Benzo(k)fluoranthene	0.014	0.20	ug/l	J
92-52-4	1,1'-Biphenyl	ND	10	ug/l	
85-68-7	Butyl Benzyl Phthalate	ND	5.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	5.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
218-01-9	Chrysene	0.016	0.20	ug/l	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
132-64-9	Dibenzofuran	ND	5.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	ug/l	
84-66-2	Diethyl Phthalate	0.044	5.0	ug/l	J
131-11-3	Dimethyl Phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl Phthalate	ND	5.0	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	ug/l	
206-44-0	Fluoranthene	0.015	0.20	ug/l	J

Method Blank Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14934-MB	L0028739A.D	1	08/19/19	AA	08/18/19	OP14934	EL761

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56938-3, LA56938-4

CAS No.	Compound	Result	RL	Units	Q
86-73-7	Fluorene	ND	0.20	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	0.20	ug/l	J
78-59-1	Isophorone	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	0.018	0.20	ug/l	J
88-74-4	2-Nitroaniline	ND	5.0	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	ug/l	
85-01-8	Phenanthrene	0.016	0.20	ug/l	J
129-00-0	Pyrene	ND	0.20	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	70%	25-101%
4165-62-2	Phenol-d5	63%	17-79%
118-79-6	2,4,6-Tribromophenol	94%	40-144%
4165-60-0	Nitrobenzene-d5	99%	40-124%
321-60-8	2-Fluorobiphenyl	80%	27-124%
1718-51-0	Terphenyl-d14	98%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14934-BS	L0028740A.D	1	08/19/19	AA	08/18/19	OP14934	EL761
OP14934-BSD	L0028741A.D	1	08/19/19	AA	08/18/19	OP14934	EL761

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56938-3, LA56938-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	5	4.6	92	4.7	94	2	48-123/17
120-83-2	2,4-Dichlorophenol	5	4.3	86	4.6	92	7	52-135/17
105-67-9	2,4-Dimethylphenol	5	4.4	88	4.6	92	4	47-132/21
51-28-5	2,4-Dinitrophenol	25	25.3	101	25.5	102	1	32-139/25
100-02-7	4-Nitrophenol	25	18.6	74	18.9	76	2	15-105/22
87-86-5	Pentachlorophenol	25	23.8	95	24.2	97	2	51-131/19
108-95-2	Phenol	5	3.3	66	3.7	74	11	19-92/23
58-90-2	2,3,4,6-Tetrachlorophenol	5	5.2	104	5.3	106	2	57-136/19
95-95-4	2,4,5-Trichlorophenol	5	5.1	102	5.2	104	2	51-143/17
88-06-2	2,4,6-Trichlorophenol	5	4.7	94	4.9	98	4	59-132/19
83-32-9	Acenaphthene	5	4.6	92	4.7	94	2	50-120/16
208-96-8	Acenaphthylene	5	4.5	90	4.6	92	2	48-126/16
62-53-3	Aniline	5	3.4	68	3.0	60	13	10-112/50
120-12-7	Anthracene	5	4.9	98	4.9	98	0	53-128/16
56-55-3	Benzo(a)anthracene	5	5.1	102	5.0	100	2	54-129/19
50-32-8	Benzo(a)pyrene	5	5.3	106	5.2	104	2	55-135/19
205-99-2	Benzo(b)fluoranthene	5	5.4	108	5.1	102	6	54-139/23
207-08-9	Benzo(k)fluoranthene	5	5.1	102	5.1	102	0	58-132/22
92-52-4	1,1'-Biphenyl	5	4.3	86	4.4	88	2	44-127/17
85-68-7	Butyl Benzyl Phthalate	5	6.5	130	6.3	126	3	63-141/20
106-47-8	4-Chloroaniline	5	4.3	86	4.1	82	5	19-126/38
111-44-4	bis(2-Chloroethyl)ether	5	4.8	96	4.8	96	0	45-123/17
108-60-1	2,2'-Oxybis(1-chloropropane)	5	4.6	92	4.7	94	2	29-126/17
91-58-7	2-Chloronaphthalene	5	4.1	82	4.2	84	2	44-123/20
218-01-9	Chrysene	5	5.1	102	5.0	100	2	57-127/20
53-70-3	Dibenzo(a,h)anthracene	5	5.4	108	5.3	106	2	58-141/21
132-64-9	Dibenzofuran	5	4.6	92	4.6	92	0	48-126/17
91-94-1	3,3'-Dichlorobenzidine	5	7.3	146	7.9	158	8	10-188/40
84-66-2	Diethyl Phthalate	5	4.9	98	4.9	98	0	54-133/17
131-11-3	Dimethyl Phthalate	5	5.0	100	5.1	102	2	56-132/17
117-84-0	Di-n-octyl Phthalate	5	5.6	112	5.4	108	4	66-139/21
99-65-0	1,3-Dinitrobenzene	25	26.5	106	27.2	109	3	64-133/16
121-14-2	2,4-Dinitrotoluene	5	5.0	100	4.9	98	2	67-132/20
606-20-2	2,6-Dinitrotoluene	5	5.3	106	5.3	106	0	56-138/20
117-81-7	bis(2-Ethylhexyl)phthalate	5	6.3	126	6.0	120	5	60-142/20
206-44-0	Fluoranthene	5	5.0	100	5.0	100	0	57-133/18

* = Outside of Control Limits.

5.2.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14934-BS	L0028740A.D	1	08/19/19	AA	08/18/19	OP14934	EL761
OP14934-BSD	L0028741A.D	1	08/19/19	AA	08/18/19	OP14934	EL761

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56938-3, LA56938-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
86-73-7	Fluorene	5	4.8	96	4.8	96	0	52-125/15
118-74-1	Hexachlorobenzene	5	4.4	88	4.6	92	4	47-127/21
87-68-3	Hexachlorobutadiene	5	3.4	68	3.6	72	6	14-121/30
77-47-4	Hexachlorocyclopentadiene	5	2.7	54	2.7	54	0	10-114/31
193-39-5	Indeno(1,2,3-cd)pyrene	5	5.4	108	5.3	106	2	58-142/19
78-59-1	Isophorone	5	4.6	92	4.9	98	6	52-130/18
91-57-6	2-Methylnaphthalene	5	4.0	80	4.3	86	7	43-123/18
91-20-3	Naphthalene	5	4.2	84	4.2	84	0	45-120/16
88-74-4	2-Nitroaniline	25	26.3	105	26.5	106	1	63-132/17
99-09-2	3-Nitroaniline	25	26.8	107	26.8	107	0	31-144/23
100-01-6	4-Nitroaniline	25	26.6	106	26.2	105	2	22-154/25
98-95-3	Nitrobenzene	5	5.0	100	5.4	108	8	52-128/17
621-64-7	N-Nitroso-di-n-propylamine	5	4.7	94	4.6	92	2	48-129/20
86-30-6	N-Nitrosodiphenylamine	5	4.9	98	5.0	100	2	26-146/28
85-01-8	Phenanthrene	5	4.8	96	4.9	98	2	54-124/17
129-00-0	Pyrene	5	5.1	102	5.1	102	0	56-132/19
95-94-3	1,2,4,5-Tetrachlorobenzene	5	3.7	74	3.8	76	3	33-121/24
120-82-1	1,2,4-Trichlorobenzene	5	3.7	74	4.1	82	10	34-118/23

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	67%	69%	25-101%
4165-62-2	Phenol-d5	60%	63%	17-79%
118-79-6	2,4,6-Tribromophenol	99%	99%	40-144%
4165-60-0	Nitrobenzene-d5	98%	106%	40-124%
321-60-8	2-Fluorobiphenyl	82%	87%	27-124%
1718-51-0	Terphenyl-d14	98%	95%	45-140%

* = Outside of Control Limits.

5.2.1
5

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLC2305-MB2	LC047857.D	1	08/19/19	LS	n/a	n/a	GLC2305

The QC reported here applies to the following samples:

Method: MADEP VPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	Result	RL	Units	Q
	Aliphatics C6-C8 (Unadj.)	ND	30	ug/l	
	Aliphatics > C8-C10 (Unadj.)	7.3	50	ug/l	J
	Aromatics > C8-C10 (Unadj.)	10.5	50	ug/l	J

CAS No.	Surrogate Recoveries	Limits
615-59-8	2,5-Dibromotoluene	73% ^a 70-130%
615-59-8	2,5-Dibromotoluene	74% ^b 70-130%

(a) Recovery from Aliphatics fraction.

(b) Recovery from Aromatics fraction.

Method Blank Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14981-MB	LM002015.D	1	08/23/19	PC	08/23/19	OP14981	GLM50

The QC reported here applies to the following samples:

Method: SW846 8011

LA56938-3, LA56938-4

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.020	ug/l	

CAS No.	Surrogate Recoveries	Limits
348-51-6	1-Chloro-2-fluorobenzene	82% 60-140%

6.1.2
6

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLC2305-BS1	LC047852.D	1	08/19/19	LS	n/a	n/a	GLC2305
GLC2305-BSD1	LC047853.D	1	08/19/19	LS	n/a	n/a	GLC2305

The QC reported here applies to the following samples:

Method: MADEP VPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics C6-C8 (Unadj.)	150	149	99	143	95	4	70-130/30
	Aliphatics > C8-C10 (Unadj.)	250	266	106	250	100	6	70-130/30
	Aromatics > C8-C10 (Unadj.)	250	287	115	265	106	8	70-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	90% ^a	82% ^a	70-130%
615-59-8	2,5-Dibromotoluene	92% ^b	83% ^b	70-130%

(a) Recovery from Aliphatics fraction.

(b) Recovery from Aromatics fraction.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14981-BS	LM002016.D	1	08/23/19	PC	08/23/19	OP14981	GLM50
OP14981-BSD	LM002017.D	1	08/23/19	PC	08/23/19	OP14981	GLM50

The QC reported here applies to the following samples:

Method: SW846 8011

LA56938-3, LA56938-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	0.251	0.26	103	0.26	103	0	73-140/16

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
348-51-6	1-Chloro-2-fluorobenzene	117%	116%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA56938-4MS	LC047864.D	20	08/19/19	LS	n/a	n/a	GLC2305
LA56938-4MSD	LC047865.D	20	08/19/19	LS	n/a	n/a	GLC2305
LA56938-4	LC047863.D	1	08/19/19	LS	n/a	n/a	GLC2305

The QC reported here applies to the following samples:

Method: MADEP VPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	LA56938-4 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
	Aliphatics C6-C8 (Unadj.)	ND	3000	3000	100	3000	2980	99	1	70-130/50
	Aliphatics > C8-C10 (Unadj.)	ND	5000	5260	105	5000	5120	102	3	70-130/50
	Aromatics > C8-C10 (Unadj.)	9.0	5000	5400	108	5000	5330	106	1	70-130/50

CAS No.	Surrogate Recoveries	MS	MSD	LA56938-4	Limits
615-59-8	2,5-Dibromotoluene	95% ^a	87% ^a	81% ^a	70-130%
615-59-8	2,5-Dibromotoluene	96% ^b	92% ^b	81% ^b	70-130%

(a) Recovery from Aliphatics fraction.

(b) Recovery from Aromatics fraction.

* = Outside of Control Limits.

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14943-MB	X0011093.D	1	08/20/19	PC	08/19/19	OP14943	GLB2009

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	Result	RL	Units	Q
	Aromatics > C10-C12 (Unadj.)	ND	140	ug/l	
	Aromatics > C12-C16 (Unadj.)	ND	140	ug/l	
	Aromatics > C16-C21 (Unadj.)	ND	140	ug/l	
	Aromatics > C21-C35 (Unadj.)	ND	140	ug/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	73%	40-140%
321-60-8	2-Fluorobiphenyl	74%	40-140%

Method Blank Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14943-MB	Y0011093.D	1	08/20/19	PC	08/19/19	OP14943	GLB2010

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	Result	RL	Units	Q
	Aliphatics > C10-C12 (Unadj.)	ND	140	ug/l	
	Aliphatics > C12-C16 (Unadj.)	ND	140	ug/l	
	Aliphatics > C16-C35 (Unadj.)	ND	140	ug/l	

CAS No.	Surrogate Recoveries	Results	Limits
3386-33-2	1-Chlorooctadecane	77%	40-140%

7.1.2
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14943-BS	X0011094.D	1	08/20/19	PC	08/19/19	OP14943	GLB2009
OP14943-BSD	X0011095.D	1	08/20/19	PC	08/19/19	OP14943	GLB2009

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aromatics > C10-C12 (Unadj.)	466	366	79	328	71	11	40-140/30
	Aromatics > C12-C16 (Unadj.)	1400	1080	77	958	69	12	40-140/30
	Aromatics > C16-C21 (Unadj.)	2330	1910	82	1700	74	12	40-140/30
	Aromatics > C21-C35 (Unadj.)	3720	3380	91	2860	77	17	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	83%	76%	40-140%
321-60-8	2-Fluorobiphenyl	88%	83%	40-140%

* = Outside of Control Limits.

7.2.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14943-BS	Y0011094.D	1	08/20/19	PC	08/19/19	OP14943	GLB2010
OP14943-BSD	Y0011095.D	1	08/20/19	PC	08/19/19	OP14943	GLB2010

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics > C10-C12 (Unadj.)	466	291	63	328	71	12	40-140/30
	Aliphatics > C12-C16 (Unadj.)	931	576	62	647	70	12	40-140/30
	Aliphatics > C16-C35 (Unadj.)	4190	2530	60	2810	68	10	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
3386-33-2	1-Chlorooctadecane	64%	72%	40-140%

* = Outside of Control Limits.

7.2.2
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14943-MS	X0011096.D	1	08/20/19	PC	08/19/19	OP14943	GLB2009
OP14943-MSD	X0011097.D	1	08/20/19	PC	08/19/19	OP14943	GLB2009
LA56945-4	X0011100.D	1	08/20/19	PC	08/19/19	OP14943	GLB2009

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	LA56945-4 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
	Aromatics > C10-C12 (Unadj.)ND		471	357	76	463	321	69	11	40-140/50
	Aromatics > C12-C16 (Unadj.)ND		1410	1070	76	1390	969	70	10	40-140/50
	Aromatics > C16-C21 (Unadj.)ND		2350	1940	82	2310	1770	76	9	40-140/50
	Aromatics > C21-C35 (Unadj.)ND		3770	3150	84	3700	2820	76	11	40-140/50

CAS No.	Surrogate Recoveries	MS	MSD	LA56945-4	Limits
84-15-1	o-Terphenyl	81%	75%	76%	40-140%
321-60-8	2-Fluorobiphenyl	82%	84%	72%	40-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56938
Account: HETILAL Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14943-MS	Y0011096.D	1	08/20/19	PC	08/19/19	OP14943	GLB2010
OP14943-MSD	Y0011097.D	1	08/20/19	PC	08/19/19	OP14943	GLB2010
LA56945-4	Y0011100.D	1	08/20/19	PC	08/19/19	OP14943	GLB2010

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56938-3, LA56938-4

CAS No.	Compound	LA56945-4 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
	Aliphatics > C10-C12 (Unadj.) ND		471	368	78	463	341	74	8	40-140/50
	Aliphatics > C12-C16 (Unadj.) 125		942	757	67	926	706	63	7	40-140/50
	Aliphatics > C16-C35 (Unadj.) ND		4240	3180	75	4170	2920	70	9	40-140/50

CAS No.	Surrogate Recoveries	MS	MSD	LA56945-4	Limits
3386-33-2	1-Chlorooctadecane	79%	74%	82%	40-140%

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA56938
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16082
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/19/19

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.056	.081	-0.028	<0.20

Associated samples MP16082: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16082
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 08/19/19

Metal	LA56867-1 Original MS	SpikeLot HGSPIKE1	% Rec	QC Limits
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Mercury 0.0 5.0 5 100.0 75-125

Associated samples MP16082: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.1.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16082
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 08/19/19

Metal	LA56867-1 Original MSD	SpikeLot HGSPIKE1	% Rec	MSD RPD	QC Limit
Mercury	0.0	4.8	5	96.0	4.1 20

Associated samples MP16082: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.1.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16082
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 08/19/19

Metal	BSP Result	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	4.5	5	90.0	80-120

Associated samples MP16082: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.1.3
 8

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA56938
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16082
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/19/19

Metal	LA56867-1	QC
	Original	%DIF
	SDL 1:5	Limits

Mercury 0.00 0.00 NC 0-

Associated samples MP16082: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA56938
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/20/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	1.4	9.3	-24	<100
Antimony	1.0	.0063	.34		
Arsenic	1.0	.062	.26	-0.015	<1.0
Barium	1.0	.0089	.46	0.046	<1.0
Beryllium	1.0	.0096	.28		
Boron	20	1.5	2.9		
Cadmium	0.50	.0081	.12	0.087	<0.50
Calcium	100	4.7	20	23.2	<100
Cerium	1.0	.0019	.16		
Chromium	1.0	.059	.15	0.13	<1.0
Cobalt	1.0	.0082	.14		
Copper	1.0	.27	.74		
Iron	100	2.8	16	-9.7	<100
Lanthanum	1.0	.0019	.41		
Lithium	2.0	.3	.61		
Lead	1.0	.0045	.13	-0.078	<1.0
Magnesium	100	1.1	11	20.5	<100
Manganese	2.0	.1	.53	0.099	<2.0
Molybdenum	1.0	.19	.89		
Nickel	1.0	.081	.2		
Potassium	100	5	7.6	26.7	<100
Selenium	5.0	.3	3.1	1.2	<5.0
Silver	1.0	.0088	.13	0.12	<1.0
Silicon	500	7.6	130		
Sodium	100	8.6	9.9	23.8	<100
Strontium	2.0	.063	.27	-0.17	<2.0
Thallium	1.0	.03	.86		
Tin	2.0	.059	.19		
Titanium	1.0	.095	.77		
Uranium	1.0	.0019	.17		
Vanadium	1.0	.035	.1		
Zinc	5.0	1.5	1.1	-0.092	<5.0

Associated samples MP16099: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA56938
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/20/19

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/20/19

Metal	LA56938-3 Original MS		SpikeLot MPICPMS6	% Rec	QC Limits
Aluminum	0.0	4880	5100	95.7	75-125
Antimony					
Arsenic	0.0	101	100	101.0	75-125
Barium	26.4	128	100	101.6	75-125
Beryllium					
Boron					
Cadmium	0.81	102	100	101.2	75-125
Calcium	1950	6850	5000	98.0	75-125
Cerium					
Chromium	1.5	109	100	107.5	75-125
Cobalt					
Copper					
Iron	0.0	5020	5000	100.4	75-125
Lanthanum					
Lithium					
Lead	0.0	102	100	102.0	75-125
Magnesium	617	5560	5000	98.9	75-125
Manganese	9.0	107	100	98.0	75-125
Molybdenum					
Nickel	anr				
Potassium	1160	6040	5000	97.6	75-125
Selenium	11.8	428	500	83.2	75-125
Silver	1.3	107	100	105.7	75-125
Silicon					
Sodium	246000	246000	5000	0.0 (a)	75-125
Strontium	92.9	190	100	97.1	75-125
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	37.3	135	100	97.7	75-125

Associated samples MP16099: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/20/19

Metal	LA56938-3 Original MS	Spike/lot MPICPMS6 % Rec	QC Limits
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Results < IDL are shown as zero for calculation purposes

- (*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/20/19

Metal	LA56938-3 Original	MSD	SpikeLot MPICPMS6	% Rec	MSD RPD	QC Limit
Aluminum	0.0	4660	5100	91.4	4.6	20
Antimony						
Arsenic	0.0	95.6	100	95.6	5.5	20
Barium	26.4	123	100	96.6	4.0	20
Beryllium						
Boron						
Cadmium	0.81	92.5	100	91.7	9.8	20
Calcium	1950	6500	5000	91.0	5.2	20
Cerium						
Chromium	1.5	99.3	100	97.8	9.3	20
Cobalt						
Copper						
Iron	0.0	4650	5000	93.0	7.7	20
Lanthanum						
Lithium						
Lead	0.0	99.3	100	99.3	2.7	20
Magnesium	617	5200	5000	91.7	6.7	20
Manganese	9.0	99.4	100	90.4	7.4	20
Molybdenum						
Nickel	anr					
Potassium	1160	5800	5000	92.8	4.1	20
Selenium	11.8	404	500	78.4	5.8	20
Silver	1.3	97.1	100	95.8	9.7	20
Silicon						
Sodium	246000	228000	5000	-360.0(a)	7.6	20
Strontium	92.9	180	100	87.1	5.4	20
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	37.3	127	100	89.7	6.1	20

Associated samples MP16099: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/20/19

Metal	LA56938-3 Original MSD	SpikeLot MPICPMS6 % Rec	MSD RPD	QC Limit
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Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested
 (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

8.2.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/20/19

Metal	BSP Result	Spikelot MPICPMS6	% Rec	QC Limits
Aluminum	4850	5100	95.1	80-120
Antimony				
Arsenic	108	100	108.0	80-120
Barium	102	100	102.0	80-120
Beryllium				
Boron				
Cadmium	104	100	104.0	80-120
Calcium	5110	5000	102.2	80-120
Cerium				
Chromium	104	100	104.0	80-120
Cobalt				
Copper				
Iron	4900	5000	98.0	80-120
Lanthanum				
Lithium				
Lead	101	100	101.0	80-120
Magnesium	4900	5000	98.0	80-120
Manganese	98.9	100	98.9	80-120
Molybdenum				
Nickel	anr			
Potassium	4770	5000	95.4	80-120
Selenium	510	500	102.0	80-120
Silver	101	100	101.0	80-120
Silicon				
Sodium	4980	5000	99.6	80-120
Strontium	102	100	102.0	80-120
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	114	100	114.0	80-120

Associated samples MP16099: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

8.2.3
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA56938
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/20/19

Metal	BSP Result	Spikelot MPICPMS6 % Rec	QC Limits
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Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA56938
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/20/19

Metal	LA56938-3 Original SDL 10:50%DIF		QC Limits
Aluminum	0.00	0.00	NC 0-10
Antimony			
Arsenic	0.00	0.00	NC 0-10
Barium	26.4	31.0	17.7*(a) 0-10
Beryllium			
Boron			
Cadmium	0.811	4.19	417.1(b) 0-10
Calcium	1950	3990	104.9(b) 0-10
Cerium			
Chromium	1.54	6.12	299.0(b) 0-10
Cobalt			
Copper			
Iron	0.00	0.00	NC 0-10
Lanthanum			
Lithium			
Lead	0.00	0.00	NC 0-10
Magnesium	617	1600	158.5*(a) 0-10
Manganese	9.01	17.6	94.8 (b) 0-10
Molybdenum			
Nickel	anr		
Potassium	1160	3560	206.9(b) 0-10
Selenium	11.8	30.2	155.4(b) 0-10
Silver	1.28	6.27	389.8(b) 0-10
Silicon			
Sodium	246000	333000	35.5*(a) 0-10
Strontium	92.9	102	9.8 0-10
Thallium			
Tin			
Titanium			
Uranium			
Vanadium			
Zinc	37.3	173	362.7(b) 0-10

Associated samples MP16099: LA56938-3, LA56938-4, LA56938-3F, LA56938-4F

8.2.4
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA56938
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16099
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/20/19

Metal	LA56938-3 Original SDL 10:50%DIF	QC Limits
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Results < IDL are shown as zero for calculation purposes

- (*) Outside of QC limits
- (anr) Analyte not requested
- (a) Serial dilution indicates possible matrix interference.
- (b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Misc. Forms

Custody Documents and Other Forms

(SGS Houston, TX)

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

Cooler 1

TX

500 Ambassador Caffery Parkway, Scott, LA 70583
Phone: 800-304-5227 Fax: 337-237-7838

FED-EX Tracking #		Bottle Order Control #	
SGS Quote #		SGS Job # LA56938	
Client / Reporting Information		Project Information	
Company Name SGS North America Inc.		Project Name 8060.00 Indigo-Desoto Parish, LA	
Street Address 500 Ambassador Caffery Parkway		Billing Information (if different from Report to)	
City Scott LA 70583	State LA	City	State
Project Contact ralph.frye@sgs.com	E-mail	Project #	Street Address
Phone # 800-304-5227	Fax #	Client Purchase Order #	City
Sampler(s) Name(s) KC	Phone	Project Manager	State
Collection		Number of preserved Bottles	
Field ID / Point of Collection	MEHQ/CI Viol #	Date	Time
3 031-9232Z (XTO-BAGLEY 26H-1)		8/14/19	12:45:00 PM
4 031-9232Z (XTO-BAGLEY 26H-1)		8/14/19	4:50:00 PM
Matrix	Sampled by	# of bottles	Matrix
KC	KC	AQ	AQ
Turnaround Time (Business days)		Data Deliverable Information	
<input type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY <input checked="" type="checkbox"/> other Duo 8/26/2019 <small>Emergency & Rush TIA data available VIA Lablink</small>		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input type="checkbox"/> REDT1 (Level 3+4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> TRRP <input type="checkbox"/> EDD Format <input type="checkbox"/> Other <input checked="" type="checkbox"/> COMMB <small>Commercial "A" = Results Only Commercial "B" = Results + CC Summary</small>	
Approved By (SGS PM) / Date:		Comments / Special Instructions	
		2 SWD (RP)	
Sample Custody must be documented below each time samples change possession, including courier delivery.			
Relinquished by Sampler: 1 <i>[Signature]</i>	Date Time: 08-16-19	Received By: 1 <i>[Signature]</i>	Date Time: 08-16-19
Relinquished by Sampler: 3 <i>[Signature]</i>	Date Time: 8-16-19	Received By: 3 <i>[Signature]</i>	Date Time: 8-16-19
Relinquished by: 5	Date Time:	Received By: 5	Date Time:
Custody Seal #	Intact	Preserved where applicable	On Ice
	Not Intact		Cooler Temp.

9.1
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LA56938: Chain of Custody

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SGS Houston, TX



SGS Sample Receipt Summary

Job Number: LA56938 **Client:** SGS **Project:** 8060.00 INDIGO-DESOTO PART 1 LA 2
Date / Time Received: 8/16/2019 11:30:00 PM **Delv Method:** DRIVER **Airbill #'s:** _____
of Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (1.6/1.6);

Test Strip Lot #s: **pH 1-12:** _____ **pH 12+:** _____ **Other: (Specify)** _____

Cooler Information

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4. Cooler temp verification:			
3. Cooler media:	<u>Ice (Bag)</u>		

Trip Blank Information

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Type Of TB Received	<u>W</u>	<u>or</u>	<u>S</u>	<u>N/A</u>
	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Misc. Information

Number of terracores: _____ Number of Lab Filtered Metals: _____
 Number of 5035 Field Kits: _____
 Residual Chlorine Test Strip Lot #: _____

Sample Information

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Condition of sample:				Intact
5. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
6. Dates/Times/IDs on COC match Sample Label	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
7. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
8. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
9. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
11. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
12. Special Instructions (compositing/filtering) clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Voa Soil Kits/Jars received past 48hrs?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
14. % Solids Jar received?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
15. Residual Chlorine Present?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Comments

LA56938: Chain of Custody

Page 2 of 3

9.1
9

Sample Receipt Log

Job #: LA56938 _____

Date / Time Received: 8/16/2019 11:30:00 PM _____

Initials: SJ _____

Client: SGS _____

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	LA56938-3	500ml	1	M1D	N/P	Note #2 - Preservative check not applicable.	IR-4	1.6	0	1.6
1	LA56938-4	500ml	1	M1D	N/P	Note #2 - Preservative check not applicable.	IR-4	1.6	0	1.6

9.1
9

LA56938: Chain of Custody
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General Chemistry

QC Data Summaries

(SGS Houston, TX)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA56938
Account: ALLA - SGS Scott, LA
Project: HETILAL: 8060.00 Indigo-Desoto Parish, LA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Bicarbonate	GN572	5.0	1.0	mg/l				
Alkalinity, Carbonate	GN573	5.0	0.0	mg/l				
Alkalinity, Total as CaCO3	GN571	5.0	0.0	mg/l	100	105	105.0	90-110%
Bromide	GP54444/GN636	0.60	0.0	mg/l	10	9.46	94.6	90-110%
Chloride	GP54433/GN611	0.70	0.0	mg/l	10	10.6	106.0	90-110%
Silica, Dissolved	GN665	0.070	0.0	mg/l	1.07	1.0	93.5	80-120%
Solids, Total Dissolved	GN595	10	0.0	mg/l	500	484	96.8	88-110%
Specific Conductivity	GN554	1.0	<1.0	umhos/cm				
Sulfate	GP54433/GN611	0.50	0.0	mg/l	10	10.1	101.0	90-110%

Associated Samples:

Batch GN554: LA56938-3, LA56938-4
 Batch GN571: LA56938-3, LA56938-4
 Batch GN572: LA56938-3, LA56938-4
 Batch GN573: LA56938-3, LA56938-4
 Batch GN595: LA56938-3, LA56938-4
 Batch GN665: LA56938-3, LA56938-4
 Batch GP54433: LA56938-3, LA56938-4
 Batch GP54444: LA56938-3, LA56938-4
 (*) Outside of QC limits

10.1
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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA56938
Account: ALLA - SGS Scott, LA
Project: HETILAL: 8060.00 Indigo-Desoto Parish, LA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Bicarbonate	GN572	LA56911-1	mg/l	161	161	0.0	0-10%
Alkalinity, Carbonate	GN573	LA56911-1	mg/l	0.87	0.85	0.0	0-20%
Alkalinity, Total as CaCO3	GN571	LA56911-1	mg/l	162	162	0.0	0-10%
Bromide	GP54444/GN636	LA56938-3	mg/l	0.72	0.66	8.7	0-19%
Chloride	GP54433/GN611	LA56938-3	mg/l	91.9	92.2	0.3	0-13%
Silica, Dissolved	GN665	LA56938-3	mg/l	15.0	15.0	0.0	0-20%
Solids, Total Dissolved	GN595	LA56978-1	mg/l	370	372	0.5	0-5%
Specific Conductivity	GN554	LA56898-1	umhos/cm	3400	3400	0.0	0-10%
Sulfate	GP54433/GN611	LA56938-3	mg/l	2.1	2.1	0.0	0-20%

Associated Samples:

Batch GN554: LA56938-3, LA56938-4
 Batch GN571: LA56938-3, LA56938-4
 Batch GN572: LA56938-3, LA56938-4
 Batch GN573: LA56938-3, LA56938-4
 Batch GN595: LA56938-3, LA56938-4
 Batch GN665: LA56938-3, LA56938-4
 Batch GP54433: LA56938-3, LA56938-4
 Batch GP54444: LA56938-3, LA56938-4
 (*) Outside of QC limits

10.2
10

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA56938
Account: ALLA - SGS Scott, LA
Project: HETILAL: 8060.00 Indigo-Desoto Parish, LA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN571	LA56911-1	mg/l	162	25	185	92.0	75-117%
Bromide	GP54444/GN636	LA56938-3	mg/l	0.72	10	10.6	98.8	80-120%
Chloride	GP54433/GN611	LA56938-3	mg/l	91.9	10	309	2171.0(a)	80-120%
Silica, Dissolved	GN665	LA56938-3	mg/l	15.0	10.7	23.6	80.4	75-125%
Sulfate	GP54433/GN611	LA56938-3	mg/l	2.1	10	11.4	93.0	80-120%

Associated Samples:

Batch GN571: LA56938-3, LA56938-4

Batch GN665: LA56938-3, LA56938-4

Batch GP54433: LA56938-3, LA56938-4

Batch GP54444: LA56938-3, LA56938-4

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

10.3
10