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Automated Report

Technical Report for

Hydro-Environmental Technology, Inc.

8060.00 Indigo-Desoto Parish, LA

SGS Job Number: LA56751

Sampling Date: 08/06/19

Report to:

**Hydro-Environmental Technology
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Total number of pages in report: 107



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: LA56751

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

LA56751-1	08/06/19	07:00	KC/LV08/08/19	AQ	Trip Blank Water	TRIP BLANK
LA56751-2	08/06/19	10:25	KC/LV08/08/19	AQ	Field Blank Water	FIELD BLANK
LA56751-3	08/06/19	10:30	KC/LV08/08/19	AQ	Equipment Blank	EQUIPMENT BLANK
LA56751-3F	08/06/19	10:30	KC/LV08/08/19	AQ	Equip Blank Filtered	EQUIPMENT BLANK
LA56751-4	08/06/19	12:25	KC/LV08/08/19	AQ	Water	031-7353Z (COWDIN #27)
LA56751-4F	08/06/19	12:25	KC/LV08/08/19	AQ	Water Filtered	031-7353Z (COWDIN #27)
LA56751-5	08/06/19	16:50	KC/LV08/08/19	AQ	Water	031-9810Z (DENNISON RIG SUPPLY)
LA56751-5F	08/06/19	16:50	KC/LV08/08/19	AQ	Water Filtered	031-9810Z (DENNISON RIG SUPPLY)
LA56751-6	08/06/19	17:25	KC/LV08/08/19	AQ	Water	031-9768Z (LONG 3&4 RIG SUPPLY)
LA56751-6F	08/06/19	17:25	KC/LV08/08/19	AQ	Water Filtered	031-9768Z (LONG 3&4 RIG SUPPLY)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		Date Sampled: 08/06/19
Lab Sample ID: LA56751-1		Date Received: 08/08/19
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	2I063017.D	1	08/13/19 01:01	CP	n/a	n/a	V2I2291
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: TRIP BLANK		Date Sampled: 08/06/19
Lab Sample ID: LA56751-1		Date Received: 08/08/19
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
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	108%		81-120%
2037-26-5	Toluene-D8	100%		93-105%
460-00-4	4-Bromofluorobenzene	96%		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:	08/06/19
Lab Sample ID:	LA56751-2	Date Received:	08/08/19
Matrix:	AQ - Field 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	2I063015.D	1	08/13/19 00:30	CP	n/a	n/a	V2I2291
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: FIELD BLANK	
Lab Sample ID: LA56751-2	Date Sampled: 08/06/19
Matrix: AQ - Field Blank Water	Date Received: 08/08/19
Method: SW846 8260B	Percent Solids: n/a
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	112%		81-120%
2037-26-5	Toluene-D8	99%		93-105%
460-00-4	4-Bromofluorobenzene	96%		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:	EQUIPMENT BLANK	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-3	Date Received:	08/08/19
Matrix:	AQ - Equipment Blank	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	2I063013.D	1	08/12/19 23:59	CP	n/a	n/a	V2I2291
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: EQUIPMENT BLANK	
Lab Sample ID: LA56751-3	Date Sampled: 08/06/19
Matrix: AQ - Equipment Blank	Date Received: 08/08/19
Method: SW846 8260B	Percent Solids: n/a
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	107%		81-120%
2037-26-5	Toluene-D8	99%		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:	EQUIPMENT BLANK	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-3	Date Received:	08/08/19
Matrix:	AQ - Equipment Blank	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	L0028616.D	1	08/14/19 16:18	AA	08/13/19 11:00	OP14901	EL757
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	110 ml	1.0 ml
Run #2		

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	0.0045	mg/l	
120-83-2	2,4-Dichlorophenol	ND	0.0045	mg/l	
105-67-9	2,4-Dimethylphenol	ND	0.0045	mg/l	
51-28-5	2,4-Dinitrophenol	ND	0.018	mg/l	
100-02-7	4-Nitrophenol	ND	0.023	mg/l	
87-86-5	Pentachlorophenol	ND	0.00091	mg/l	
108-95-2	Phenol	ND	0.0045	mg/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0045	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	0.0045	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.0045	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	0.0045	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	0.0091	mg/l	
85-68-7	Butyl Benzyl Phthalate	ND	0.0045	mg/l	
106-47-8	4-Chloroaniline	ND	0.0045	mg/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.0045	mg/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	0.0045	mg/l	
91-58-7	2-Chloronaphthalene	ND	0.0045	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	0.0045	mg/l	
91-94-1	3,3'-Dichlorobenzidine	ND	0.0091	mg/l	
84-66-2	Diethyl Phthalate	0.0059	0.0045	mg/l	
131-11-3	Dimethyl Phthalate	ND	0.0045	mg/l	
117-84-0	Di-n-octyl Phthalate	ND	0.0045	mg/l	
99-65-0	1,3-Dinitrobenzene	ND	0.0045	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:	EQUIPMENT BLANK	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-3	Date Received:	08/08/19
Matrix:	AQ - Equipment Blank	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	0.0045	mg/l	
606-20-2	2,6-Dinitrotoluene	ND	0.0045	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0045	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	0.00091	mg/l	
87-68-3	Hexachlorobutadiene	ND	0.00045	mg/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.0091	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.00018	mg/l	
78-59-1	Isophorone	ND	0.0045	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	0.0045	mg/l	
99-09-2	3-Nitroaniline	ND	0.0045	mg/l	
100-01-6	4-Nitroaniline	ND	0.0045	mg/l	
98-95-3	Nitrobenzene	ND	0.00091	mg/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	0.0045	mg/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.0045	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	0.00091	mg/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0045	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		25-101%
4165-62-2	Phenol-d5	51%		17-79%
118-79-6	2,4,6-Tribromophenol	91%		40-144%
4165-60-0	Nitrobenzene-d5	94%		40-124%
321-60-8	2-Fluorobiphenyl	66%		27-124%
1718-51-0	Terphenyl-d14	89%		45-140%

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: EQUIPMENT BLANK		
Lab Sample ID: LA56751-3		Date Sampled: 08/06/19
Matrix: AQ - Equipment Blank		Date Received: 08/08/19
Method: MADEP VPH REV 1.1		Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LC045906.D	1	08/12/19 12:42	NN	n/a	n/a	GLC2295
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	98% ^a		70-130%
615-59-8	2,5-Dibromotoluene	84% ^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:	EQUIPMENT BLANK	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-3	Date Received:	08/08/19
Matrix:	AQ - Equipment Blank	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	LM001990.D	1	08/14/19 14:42	SV	08/14/19 10:30	OP14908	GLM49
Run #2							

	Initial Volume	Final Volume
Run #1	35.1 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND		0.000020mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
348-51-6	1-Chloro-2-fluorobenzene	105%		60-140%	

(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: EQUIPMENT BLANK	Date Sampled: 08/06/19
Lab Sample ID: LA56751-3	Date Received: 08/08/19
Matrix: AQ - Equipment Blank	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	X0010970.D	1	08/13/19 20:57	PC	08/12/19 09:00	OP14888	GLB1999
Run #2	Y0011019.D	1	08/14/19 22:42	PC	08/12/19 09:00	OP14888	GLB2004

Run #	Initial Volume	Final Volume
Run #1	53.6 ml	4.0 ml
Run #2	53.6 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		100%	40-140%
84-15-1	o-Terphenyl	76%		40-140%
321-60-8	2-Fluorobiphenyl	84%		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: EQUIPMENT BLANK	Date Sampled: 08/06/19
Lab Sample ID: LA56751-3	Date Received: 08/08/19
Matrix: AQ - Equipment Blank	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	< 0.10	0.10	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Arsenic	< 0.0010	0.0010	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁷
Barium	< 0.0010	0.0010	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁷
Cadmium	< 0.00050	0.00050	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Calcium	< 0.10	0.10	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Chromium	< 0.0010	0.0010	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Iron	< 0.10	0.10	mg/l	1	08/09/19	08/15/19 RT	SW846 6020A ⁵	SW846 3010A ⁷
Lead	< 0.0010	0.0010	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁷
Magnesium	< 0.10	0.10	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Manganese	< 0.0020	0.0020	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Mercury	< 0.00020	0.00020	mg/l	1	08/09/19	08/09/19 SA	SW846 7470A ¹	SW846 7470A ⁶
Potassium	< 0.10	0.10	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Selenium	< 0.0050	0.0050	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Silver	< 0.0010	0.0010	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Sodium	0.226	0.10	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁷
Strontium	< 0.0020	0.0020	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Zinc	< 0.0050	0.0050	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷

- (1) Instrument QC Batch: MA16598
- (2) Instrument QC Batch: MA16603
- (3) Instrument QC Batch: MA16639
- (4) Instrument QC Batch: MA16645
- (5) Instrument QC Batch: MA16648
- (6) Prep QC Batch: MP16014
- (7) Prep QC Batch: MP16022

RL = Reporting Limit

Report of Analysis

Client Sample ID: EQUIPMENT BLANK	Date Sampled: 08/06/19
Lab Sample ID: LA56751-3	Date Received: 08/08/19
Matrix: AQ - Equipment Blank	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	< 5.0	5.0	mg/l	1	08/13/19 16:30	ATX	SM18 2320B
Alkalinity, Carbonate ^a	< 5.0	5.0	mg/l	1	08/13/19 16:30	ATX	SM18 2320B
Alkalinity, Total as CaCO ₃ ^a	< 5.0	5.0	mg/l	1	08/13/19 16:30	ATX	SM 2320B-2011
Bromide ^a	< 0.60	0.60	mg/l	1	08/14/19 15:54	ATX	SW846 9056A
Chloride ^a	< 0.70	0.70	mg/l	1	08/14/19 15:54	ATX	SW846 9056A
Silica, Dissolved ^a	< 0.070	0.070	mg/l	1	08/14/19	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	< 10	10	mg/l	1	08/12/19	ATX	SM 2540C-2011
Specific Conductivity ^b	1.3	1.0	umhos/cm	1	08/12/19 17:20	ATX	EPA 120.1
Sulfate ^a	< 0.50	0.50	mg/l	1	08/14/19 15:54	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: EQUIPMENT BLANK	Date Sampled: 08/06/19
Lab Sample ID: LA56751-3F	Date Received: 08/08/19
Matrix: AQ - Equip Blank 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	< 0.10	0.10	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Arsenic	< 0.0010	0.0010	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Barium	< 0.0010	0.0010	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁶
Cadmium	< 0.00050	0.00050	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Calcium	0.103	0.10	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Chromium	< 0.0010	0.0010	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Iron	< 0.10	0.10	mg/l	1	08/09/19	08/15/19 RT	SW846 6020A ⁵	SW846 3010A ⁶
Lead	< 0.0010	0.0010	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁶
Magnesium	< 0.10	0.10	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Manganese	< 0.0020	0.0020	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Mercury	< 0.00020	0.00020	mg/l	1	08/12/19	08/13/19 SA	SW846 7470A ²	SW846 7470A ⁷
Potassium	< 0.10	0.10	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Selenium	< 0.0050	0.0050	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Silver	< 0.0010	0.0010	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Sodium	< 0.10	0.10	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Strontium	< 0.0020	0.0020	mg/l	1	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Zinc	0.0565	0.0050	mg/l	1	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁶

- (1) Instrument QC Batch: MA16603
- (2) Instrument QC Batch: MA16623
- (3) Instrument QC Batch: MA16639
- (4) Instrument QC Batch: MA16645
- (5) Instrument QC Batch: MA16648
- (6) Prep QC Batch: MP16022
- (7) Prep QC Batch: MP16033

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-7353Z (COWDIN #27)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-4	Date Received: 08/08/19
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	2I063019.D	1	08/13/19 01:32	CP	n/a	n/a	V2I2291
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: 031-7353Z (COWDIN #27)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-4	Date Received: 08/08/19
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	110%		81-120%
2037-26-5	Toluene-D8	98%		93-105%
460-00-4	4-Bromofluorobenzene	95%		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: 031-7353Z (COWDIN #27)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-4	Date Received: 08/08/19
Matrix: AQ - Water	Percent Solids: n/a
Method: SW846 8270D SW846 3510C	
Project: 8060.00 Indigo-Desoto Parish, LA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0028617.D	1	08/14/19 16:43	AA	08/13/19 11:00	OP14901	EL757
Run #2							

Run #	Initial Volume	Final Volume
Run #1	110 ml	1.0 ml
Run #2		

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	0.0045	mg/l	
120-83-2	2,4-Dichlorophenol	ND	0.0045	mg/l	
105-67-9	2,4-Dimethylphenol	ND	0.0045	mg/l	
51-28-5	2,4-Dinitrophenol	ND	0.018	mg/l	
100-02-7	4-Nitrophenol	ND	0.023	mg/l	
87-86-5	Pentachlorophenol	ND	0.00091	mg/l	
108-95-2	Phenol	ND	0.0045	mg/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0045	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	0.0045	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.0045	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	0.0045	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	0.0091	mg/l	
85-68-7	Butyl Benzyl Phthalate	ND	0.0045	mg/l	
106-47-8	4-Chloroaniline	ND	0.0045	mg/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.0045	mg/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	0.0045	mg/l	
91-58-7	2-Chloronaphthalene	ND	0.0045	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	0.0045	mg/l	
91-94-1	3,3'-Dichlorobenzidine	ND	0.0091	mg/l	
84-66-2	Diethyl Phthalate	ND	0.0045	mg/l	
131-11-3	Dimethyl Phthalate	ND	0.0045	mg/l	
117-84-0	Di-n-octyl Phthalate	ND	0.0045	mg/l	
99-65-0	1,3-Dinitrobenzene	ND	0.0045	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:	031-7353Z (COWDIN #27)	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-4	Date Received:	08/08/19
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	0.0045	mg/l	
606-20-2	2,6-Dinitrotoluene	ND	0.0045	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0045	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	0.00091	mg/l	
87-68-3	Hexachlorobutadiene	ND	0.00045	mg/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.0091	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.00018	mg/l	
78-59-1	Isophorone	ND	0.0045	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	0.0045	mg/l	
99-09-2	3-Nitroaniline	ND	0.0045	mg/l	
100-01-6	4-Nitroaniline	ND	0.0045	mg/l	
98-95-3	Nitrobenzene	ND	0.00091	mg/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	0.0045	mg/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.0045	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	0.00091	mg/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0045	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		25-101%
4165-62-2	Phenol-d5	51%		17-79%
118-79-6	2,4,6-Tribromophenol	90%		40-144%
4165-60-0	Nitrobenzene-d5	94%		40-124%
321-60-8	2-Fluorobiphenyl	67%		27-124%
1718-51-0	Terphenyl-d14	90%		45-140%

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: 031-7353Z (COWDIN #27)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-4	Date Received: 08/08/19
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	LC045907.D	1	08/12/19 13:12	NN	n/a	n/a	GLC2295
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	100% ^a		70-130%
615-59-8	2,5-Dibromotoluene	86% ^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: 031-7353Z (COWDIN #27)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-4	Date Received: 08/08/19
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	LM001991.D	1	08/14/19 15:03	SV	08/14/19 10:30	OP14908	GLM49
Run #2							

	Initial Volume	Final Volume
Run #1	33.8 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND		0.000021mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
348-51-6	1-Chloro-2-fluorobenzene	108%		60-140%	

(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: 031-7353Z (COWDIN #27)	
Lab Sample ID: LA56751-4	Date Sampled: 08/06/19
Matrix: AQ - Water	Date Received: 08/08/19
Method: MADEP EPH REV 1.1 SW846 3511	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0010971.D	1	08/13/19 21:20	PC	08/12/19 09:00	OP14888	GLB1999
Run #2	Y0011020.D	1	08/14/19 23:05	PC	08/12/19 09:00	OP14888	GLB2004

Run #	Initial Volume	Final Volume
Run #1	54.8 ml	4.0 ml
Run #2	54.8 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		83%	40-140%
84-15-1	o-Terphenyl	78%		40-140%
321-60-8	2-Fluorobiphenyl	81%		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: 031-7353Z (COWDIN #27)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-4	Date Received: 08/08/19
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	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Arsenic	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁷
Barium	0.0555	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁷
Cadmium	< 0.0050	0.0050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Calcium	127	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Chromium	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Iron	31.8	1.0	mg/l	10	08/09/19	08/15/19 RT	SW846 6020A ⁵	SW846 3010A ⁷
Lead	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁷
Magnesium	44.5	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Manganese	1.76	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Mercury	< 0.00020	0.00020	mg/l	1	08/09/19	08/09/19 SA	SW846 7470A ¹	SW846 7470A ⁶
Potassium	6.06	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Selenium	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Silver	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Sodium	131	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Strontium	4.91	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Zinc	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷

- (1) Instrument QC Batch: MA16598
- (2) Instrument QC Batch: MA16603
- (3) Instrument QC Batch: MA16639
- (4) Instrument QC Batch: MA16645
- (5) Instrument QC Batch: MA16648
- (6) Prep QC Batch: MP16014
- (7) Prep QC Batch: MP16022

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-7353Z (COWDIN #27)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-4	Date Received: 08/08/19
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	61.0	5.0	mg/l	1	08/13/19 16:30	ATX	SM18 2320B
Alkalinity, Carbonate ^a	< 5.0	5.0	mg/l	1	08/13/19 16:30	ATX	SM18 2320B
Alkalinity, Total as CaCO3 ^a	61.0	5.0	mg/l	1	08/13/19 16:30	ATX	SM 2320B-2011
Bromide ^a	2.0	0.60	mg/l	1	08/14/19 16:11	ATX	SW846 9056A
Chloride ^a	324	35	mg/l	50	08/14/19 18:26	ATX	SW846 9056A
Silica, Dissolved ^a	110	3.5	mg/l	50	08/14/19	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	1330	10	mg/l	1	08/12/19	ATX	SM 2540C-2011
Specific Conductivity ^b	1700	1.0	umhos/cm	1	08/12/19 17:20	ATX	EPA 120.1
Sulfate ^a	355	25	mg/l	50	08/14/19 18:26	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: 031-7353Z (COWDIN #27)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-4F	Date Received: 08/08/19
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	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Arsenic	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Barium	0.0542	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁶
Cadmium	< 0.0050	0.0050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Calcium	114	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Chromium	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Iron	31.4	1.0	mg/l	10	08/09/19	08/15/19 RT	SW846 6020A ⁵	SW846 3010A ⁶
Lead	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁶
Magnesium	42.5	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Manganese	1.71	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Mercury	< 0.00020	0.00020	mg/l	1	08/12/19	08/13/19 SA	SW846 7470A ²	SW846 7470A ⁷
Potassium	5.41	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Selenium	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Silver	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Sodium	127	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Strontium	4.60	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Zinc	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶

- (1) Instrument QC Batch: MA16603
- (2) Instrument QC Batch: MA16623
- (3) Instrument QC Batch: MA16639
- (4) Instrument QC Batch: MA16645
- (5) Instrument QC Batch: MA16648
- (6) Prep QC Batch: MP16022
- (7) Prep QC Batch: MP16033

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-9810Z (DENNISON RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-5	Date Received: 08/08/19
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	2I063021.D	1	08/13/19 02:03	CP	n/a	n/a	V2I2291
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: 031-9810Z (DENNISON RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-5	Date Received: 08/08/19
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	114%		81-120%
2037-26-5	Toluene-D8	98%		93-105%
460-00-4	4-Bromofluorobenzene	95%		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:	031-9810Z (DENNISON RIG SUPPLY)	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-5	Date Received:	08/08/19
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	L0028618.D	1	08/14/19 17:08	AA	08/13/19 11:00	OP14901	EL757
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	110 ml	1.0 ml
Run #2		

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	0.0045	mg/l	
120-83-2	2,4-Dichlorophenol	ND	0.0045	mg/l	
105-67-9	2,4-Dimethylphenol	ND	0.0045	mg/l	
51-28-5	2,4-Dinitrophenol	ND	0.018	mg/l	
100-02-7	4-Nitrophenol	ND	0.023	mg/l	
87-86-5	Pentachlorophenol	ND	0.00091	mg/l	
108-95-2	Phenol	ND	0.0045	mg/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0045	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	0.0045	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.0045	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	0.0045	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	0.0091	mg/l	
85-68-7	Butyl Benzyl Phthalate	ND	0.0045	mg/l	
106-47-8	4-Chloroaniline	ND	0.0045	mg/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.0045	mg/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	0.0045	mg/l	
91-58-7	2-Chloronaphthalene	ND	0.0045	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	0.0045	mg/l	
91-94-1	3,3'-Dichlorobenzidine	ND	0.0091	mg/l	
84-66-2	Diethyl Phthalate	ND	0.0045	mg/l	
131-11-3	Dimethyl Phthalate	ND	0.0045	mg/l	
117-84-0	Di-n-octyl Phthalate	ND	0.0045	mg/l	
99-65-0	1,3-Dinitrobenzene	ND	0.0045	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:	031-9810Z (DENNISON RIG SUPPLY)	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-5	Date Received:	08/08/19
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	0.0045	mg/l	
606-20-2	2,6-Dinitrotoluene	ND	0.0045	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0045	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	0.00091	mg/l	
87-68-3	Hexachlorobutadiene	ND	0.00045	mg/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.0091	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.00018	mg/l	
78-59-1	Isophorone	ND	0.0045	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	0.0045	mg/l	
99-09-2	3-Nitroaniline	ND	0.0045	mg/l	
100-01-6	4-Nitroaniline	ND	0.0045	mg/l	
98-95-3	Nitrobenzene	ND	0.00091	mg/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	0.0045	mg/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.0045	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	0.00091	mg/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0045	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	63%		25-101%
4165-62-2	Phenol-d5	51%		17-79%
118-79-6	2,4,6-Tribromophenol	96%		40-144%
4165-60-0	Nitrobenzene-d5	98%		40-124%
321-60-8	2-Fluorobiphenyl	64%		27-124%
1718-51-0	Terphenyl-d14	90%		45-140%

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: 031-9810Z (DENNISON RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-5	Date Received: 08/08/19
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	LC045908.D	1	08/12/19 13:42	NN	n/a	n/a	GLC2295
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	113% ^a		70-130%
615-59-8	2,5-Dibromotoluene	95% ^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: 031-9810Z (DENNISON RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-5	Date Received: 08/08/19
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	LM001992.D	1	08/14/19 15:22	SV	08/14/19 10:30	OP14908	GLM49
Run #2							

	Initial Volume	Final Volume
Run #1	34.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND		0.000020mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
348-51-6	1-Chloro-2-fluorobenzene	107%		60-140%	

(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: 031-9810Z (DENNISON RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-5	Date Received: 08/08/19
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	X0010972.D	1	08/13/19 21:43	PC	08/12/19 09:00	OP14888	GLB1999
Run #2	Y0011021.D	1	08/14/19 23:28	PC	08/12/19 09:00	OP14888	GLB2004

Run #	Initial Volume	Final Volume
Run #1	54.6 ml	4.0 ml
Run #2	54.6 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		99%	40-140%
84-15-1	o-Terphenyl	87%		40-140%
321-60-8	2-Fluorobiphenyl	81%		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: 031-9810Z (DENNISON RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-5	Date Received: 08/08/19
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	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Arsenic	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁷
Barium	0.0302	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁷
Cadmium	< 0.0050	0.0050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Calcium	1.69	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Chromium	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Iron	< 1.0	1.0	mg/l	10	08/09/19	08/15/19 RT	SW846 6020A ⁵	SW846 3010A ⁷
Lead	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁷
Magnesium	< 1.0	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Manganese	< 0.020	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Mercury	< 0.00020	0.00020	mg/l	1	08/09/19	08/09/19 SA	SW846 7470A ¹	SW846 7470A ⁶
Potassium	1.36	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Selenium	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Silver	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Sodium	353	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Strontium	0.0988	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Zinc	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷

- (1) Instrument QC Batch: MA16598
- (2) Instrument QC Batch: MA16603
- (3) Instrument QC Batch: MA16639
- (4) Instrument QC Batch: MA16645
- (5) Instrument QC Batch: MA16648
- (6) Prep QC Batch: MP16014
- (7) Prep QC Batch: MP16022

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-9810Z (DENNISON RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-5	Date Received: 08/08/19
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	369	5.0	mg/l	1	08/13/19 16:30	ATX	SM18 2320B
Alkalinity, Carbonate ^a	20.4	5.0	mg/l	1	08/13/19 16:30	ATX	SM18 2320B
Alkalinity, Total as CaCO ₃ ^a	390	5.0	mg/l	1	08/13/19 16:30	ATX	SM 2320B-2011
Bromide ^a	< 0.60	0.60	mg/l	1	08/15/19 14:47	ATX	SW846 9056A
Chloride ^a	104	7.0	mg/l	10	08/15/19 16:00	ATX	SW846 9056A
Silica, Dissolved ^a	13.4	0.70	mg/l	10	08/14/19	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	872	10	mg/l	1	08/12/19	ATX	SM 2540C-2011
Specific Conductivity ^b	1480	1.0	umhos/cm	1	08/12/19 17:20	ATX	EPA 120.1
Sulfate ^a	< 0.50	0.50	mg/l	1	08/15/19 14:47	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: 031-9810Z (DENNISON RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-5F	Date Received: 08/08/19
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	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Arsenic	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Barium	0.0258	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁶
Cadmium	< 0.0050	0.0050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Calcium	1.53	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Chromium	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Iron	< 1.0	1.0	mg/l	10	08/09/19	08/15/19 RT	SW846 6020A ⁵	SW846 3010A ⁶
Lead	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁶
Magnesium	< 1.0	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Manganese	< 0.020	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Mercury	< 0.00020	0.00020	mg/l	1	08/12/19	08/13/19 SA	SW846 7470A ²	SW846 7470A ⁷
Potassium	1.32	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Selenium	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Silver	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Sodium	339	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Strontium	0.0884	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Zinc	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶

- (1) Instrument QC Batch: MA16603
- (2) Instrument QC Batch: MA16623
- (3) Instrument QC Batch: MA16639
- (4) Instrument QC Batch: MA16645
- (5) Instrument QC Batch: MA16648
- (6) Prep QC Batch: MP16022
- (7) Prep QC Batch: MP16033

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-6	Date Received: 08/08/19
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	2I063023.D	1	08/13/19 02:33	CP	n/a	n/a	V2I2291
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: 031-9768Z (LONG 3&4 RIG SUPPLY)	
Lab Sample ID: LA56751-6	Date Sampled: 08/06/19
Matrix: AQ - Water	Date Received: 08/08/19
Method: SW846 8260B	Percent Solids: n/a
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	114%		81-120%
2037-26-5	Toluene-D8	98%		93-105%
460-00-4	4-Bromofluorobenzene	96%		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:	031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-6	Date Received:	08/08/19
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	L0028619.D	1	08/14/19 17:33	AA	08/13/19 11:00	OP14901	EL757
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	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	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:	031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled:	08/06/19
Lab Sample ID:	LA56751-6	Date Received:	08/08/19
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	65%		25-101%
4165-62-2	Phenol-d5	53%		17-79%
118-79-6	2,4,6-Tribromophenol	102%		40-144%
4165-60-0	Nitrobenzene-d5	95%		40-124%
321-60-8	2-Fluorobiphenyl	68%		27-124%
1718-51-0	Terphenyl-d14	95%		45-140%

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: 031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-6	Date Received: 08/08/19
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	LC045909.D	1	08/12/19 14:12	NN	n/a	n/a	GLC2295
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	98% ^a		70-130%
615-59-8	2,5-Dibromotoluene	83% ^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: 031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-6	Date Received: 08/08/19
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	LM001993.D	1	08/14/19 15:42	SV	08/14/19 10:30	OP14908	GLM49
Run #2							

	Initial Volume	Final Volume
Run #1	34.7 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	0.000020mg/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
348-51-6	1-Chloro-2-fluorobenzene	111%		60-140%	

(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: 031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-6	Date Received: 08/08/19
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	X0010973.D	1	08/13/19 22:05	PC	08/12/19 09:00	OP14888	GLB1999
Run #2	Y0011022.D	1	08/14/19 23:51	PC	08/12/19 09:00	OP14888	GLB2004

Run #	Initial Volume	Final Volume
Run #1	54.3 ml	4.0 ml
Run #2	54.3 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		108%	40-140%
84-15-1	o-Terphenyl	77%		40-140%
321-60-8	2-Fluorobiphenyl	74%		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: 031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-6	Date Received: 08/08/19
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	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Arsenic	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁷
Barium	0.0502	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁷
Cadmium	< 0.0050	0.0050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Calcium	2.05	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Chromium	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Iron	< 1.0	1.0	mg/l	10	08/09/19	08/15/19 RT	SW846 6020A ⁵	SW846 3010A ⁷
Lead	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁷
Magnesium	< 1.0	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Manganese	< 0.020	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Mercury	< 0.00020	0.00020	mg/l	1	08/09/19	08/09/19 SA	SW846 7470A ¹	SW846 7470A ⁶
Potassium	1.22	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Selenium	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Silver	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Sodium	164	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Strontium	0.121	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷
Zinc	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ²	SW846 3010A ⁷

- (1) Instrument QC Batch: MA16598
- (2) Instrument QC Batch: MA16603
- (3) Instrument QC Batch: MA16639
- (4) Instrument QC Batch: MA16645
- (5) Instrument QC Batch: MA16648
- (6) Prep QC Batch: MP16014
- (7) Prep QC Batch: MP16022

RL = Reporting Limit

Report of Analysis

Client Sample ID: 031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-6	Date Received: 08/08/19
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	216	5.0	mg/l	1	08/13/19 16:30	ATX	SM18 2320B
Alkalinity, Carbonate ^a	8.5	5.0	mg/l	1	08/13/19 16:30	ATX	SM18 2320B
Alkalinity, Total as CaCO ₃ ^a	225	5.0	mg/l	1	08/13/19 16:30	ATX	SM 2320B-2011
Bromide ^a	< 0.60	0.60	mg/l	1	08/15/19 15:04	ATX	SW846 9056A
Chloride ^a	40.9	3.5	mg/l	5	08/15/19 16:50	ATX	SW846 9056A
Silica, Dissolved ^a	16.4	0.70	mg/l	10	08/14/19	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	432	10	mg/l	1	08/12/19	ATX	SM 2540C-2011
Specific Conductivity ^b	729	1.0	umhos/cm	1	08/12/19 17:20	ATX	EPA 120.1
Sulfate ^a	8.3	0.50	mg/l	1	08/15/19 15:04	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: 031-9768Z (LONG 3&4 RIG SUPPLY)	Date Sampled: 08/06/19
Lab Sample ID: LA56751-6F	Date Received: 08/08/19
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	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Arsenic	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ⁴	SW846 3010A ⁶
Barium	0.0319	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁶
Cadmium	< 0.0050	0.0050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Calcium	2.37	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Chromium	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Iron	< 1.0	1.0	mg/l	10	08/09/19	08/15/19 RT	SW846 6020A ⁵	SW846 3010A ⁶
Lead	< 0.010	0.010	mg/l	10	08/09/19	08/14/19 RT	SW846 6020A ³	SW846 3010A ⁶
Magnesium	< 1.0	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Manganese	< 0.020	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Mercury	< 0.00020	0.00020	mg/l	1	08/12/19	08/13/19 SA	SW846 7470A ²	SW846 7470A ⁷
Potassium	1.52	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Selenium	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Silver	< 0.010	0.010	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Sodium	192	1.0	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Strontium	0.126	0.020	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶
Zinc	< 0.050	0.050	mg/l	10	08/09/19	08/12/19 RT	SW846 6020A ¹	SW846 3010A ⁶

- (1) Instrument QC Batch: MA16603
- (2) Instrument QC Batch: MA16623
- (3) Instrument QC Batch: MA16639
- (4) Instrument QC Batch: MA16645
- (5) Instrument QC Batch: MA16648
- (6) Prep QC Batch: MP16022
- (7) Prep QC Batch: MP16033

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) 261-1953

LA 56751

SAMPLE CHAIN-OF-CUSTODY RECORD

Project Name: Indigo Laboratory: SGS Lafayette
 Project Number: 8060.00 Collected By: KC / LV
 Project Location: DeSoto Parish, Louisiana Company: Hydro-Environmental Technology, Inc.
 Date: 8/6/2019

Sample I.D.	Type	Date/Time Sampled	Containers	Analysis Requested/Method	Comments
1 Trip Blank	AQ	8/6/2019 7:00	(6) 40mL Glass w/HCl	VOC 8260	4°C
2 Field Blank	AQ	8/6/2019 10:25	(6) 40mL Glass w/HCl	VOC 8260	4°C
3 Equipment Blank	AQ	8/6/2019 10:30	(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
4 031-7353Z (Cowdin #27)	AQ	8/6/2019 12:25	(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
5 031-9810Z (Dennison Rig Supply)	AQ	8/6/2019 16:50	(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

*Metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, strontium, zinc
 *Cations: aluminum, calcium, iron, manganese, potassium, sodium
 *Anions: bromide, sulfate, carbonate alkalinity, bicarbonate alkalinity

Relinquished By: Ken's Gage Received By: Walter Newman
 Date/Time: 8/7/2019 12:05pm Date/Time: 8/7/2019 12:05pm
 Relinquished By: Walter Newman Received By: Walter Newman
 Date/Time: 8/8/2019 14:20 Date/Time: 8/8/19 14:20
 Analysis Due: Verbal: Bl Written: Bl

Temp: 4.8 du 439
 NO/CS

VW(RPM66) (Ymz) OK
 11/01 (KPS75) 3WZ JHKZ
 21112F



HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
 Environmental Consultants
 P.O. Box 60295
 Lafayette, LA 70596-0295
 Phone (337) 261-1963 FAX (337) 261-1953

SAMPLE CHAIN-OF-CUSTODY RECORD

Project Name: Indigo
 Project Number: 8060.00
 Project Location: DeSoto Parish, Louisiana

Laboratory: SGS Lafayette
 Collected By: KC / LV
 Company: Hydro-Environmental Technology, Inc.
 Date: 8/6/2019

Sample I.D.	Type	Date/Time Sampled	Containers	Analysis Requested/Method	Comments
031-9768Z (Long 3&4 Rig Supply)	AQ	8/6/2019 17:25	(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

*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

Relinquished By: *Ken S. Goff*
 Date/Time: 8/17/2019 12:05pm
 Received By: *Walter Newman*
 Date/Time: 8/19/2019 14:20

Relinquished By: *Michelle A. Goff*
 Date/Time: 8/17/2019 12:05pm
 Received By: *Walter Newman*
 Date/Time: 8/19/2019 14:20

Analysis Due: Verbal
 Written:

Temp: 4.8 dv 439
 no/cs

SGS Sample Receipt Summary

Job Number: LA56751

Client: HYDRO ENVIRONMENTAL

Project: INDIGO

Date / Time Received: 8/8/2019 2:20:00 PM

Delivery Method: Accutest Courier

Airbill #'s: _____

Cooler Temps (Initial/Adjusted): #1: (4.8/4.8):

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

LA56751: Chain of Custody

Page 3 of 3

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: LA56751
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
V2I2291-MB2	2I063011.D	1	08/12/19	CP	n/a	n/a	V2I2291

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56751-1, LA56751-2, LA56751-3, LA56751-4, LA56751-5, LA56751-6

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	
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	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	

Method Blank Summary

Job Number: LA56751
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
V2I2291-MB2	2I063011.D	1	08/12/19	CP	n/a	n/a	V2I2291

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56751-1, LA56751-2, LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Result	RL	Units	Q
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	106%	81-120%
2037-26-5	Toluene-D8	98%	93-105%
460-00-4	4-Bromofluorobenzene	96%	89-107%

4.1.1
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56751
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
V2I2291-BS1	2I063005.D	1	08/12/19	CP	n/a	n/a	V2I2291
V2I2291-BSD1	2I063007.D	1	08/12/19	CP	n/a	n/a	V2I2291

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56751-1, LA56751-2, LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	38.3	77	39.1	78	2	35-173/20
71-43-2	Benzene	20	18.6	93	18.7	94	1	82-119/11
75-27-4	Bromodichloromethane	20	18.9	95	19.0	95	1	76-124/11
75-25-2	Bromoform	20	16.2	81	15.8	79	2	52-131/14
75-15-0	Carbon Disulfide	20	19.0	95	18.1	91	5	69-135/14
56-23-5	Carbon Tetrachloride	20	18.2	91	17.4	87	4	73-127/13
108-90-7	Chlorobenzene	20	18.5	93	18.2	91	2	82-118/11
75-00-3	Chloroethane	20	17.7	89	16.3	82	8	57-146/20
67-66-3	Chloroform	20	18.4	92	17.9	90	3	77-122/12
124-48-1	Dibromochloromethane	20	17.1	86	17.5	88	2	68-126/12
541-73-1	m-Dichlorobenzene	20	19.4	97	18.6	93	4	78-122/12
95-50-1	o-Dichlorobenzene	20	19.0	95	18.3	92	4	78-122/12
106-46-7	p-Dichlorobenzene	20	18.9	95	18.6	93	2	79-119/12
75-34-3	1,1-Dichloroethane	20	18.4	92	18.2	91	1	77-124/14
107-06-2	1,2-Dichloroethane	20	18.6	93	18.5	93	1	71-124/11
75-35-4	1,1-Dichloroethylene	20	17.2	86	17.8	89	3	77-125/14
156-59-2	cis-1,2-Dichloroethylene	20	18.5	93	18.4	92	1	79-121/13
156-60-5	trans-1,2-Dichloroethylene	20	19.2	96	18.0	90	6	77-124/14
540-59-0	1,2-Dichloroethene (total)	40	37.7	94	36.4	91	4	80-121/13
78-87-5	1,2-Dichloropropane	20	19.1	96	18.7	94	2	81-117/11
10061-01-5	cis-1,3-Dichloropropene	20	18.0	90	17.8	89	1	77-123/11
10061-02-6	trans-1,3-Dichloropropene	20	17.6	88	17.6	88	0	74-127/12
542-75-6	1,3-Dichloropropene (total)	40	35.6	89	35.4	89	1	76-124/11
100-41-4	Ethylbenzene	20	19.5	98	19.3	97	1	82-120/11
67-72-1	Hexachloroethane	20	17.1	86	16.0	80	7	54-132/15
78-83-1	Isobutyl Alcohol	200	160	80	182	91	13	37-152/30
74-83-9	Methyl Bromide	20	24.1	121	23.0	115	5	46-165/20
74-87-3	Methyl Chloride	20	26.8	134	26.0	130	3	55-140/18
75-09-2	Methylene Chloride	20	19.3	97	18.4	92	5	73-132/14
78-93-3	Methyl Ethyl Ketone	50	41.7	83	42.3	85	1	55-149/19
108-10-1	4-Methyl-2-pentanone	50	48.6	97	50.6	101	4	63-137/17
1634-04-4	Methyl Tert Butyl Ether	20	19.2	96	19.8	99	3	73-124/14
100-42-5	Styrene	20	17.9	90	18.1	91	1	80-126/12
630-20-6	1,1,1,2-Tetrachloroethane	20	18.8	94	19.0	95	1	77-126/12
79-34-5	1,1,2,2-Tetrachloroethane	20	19.2	96	19.2	96	0	69-134/14
127-18-4	Tetrachloroethylene	20	19.0	95	18.2	91	4	79-121/13

* = Outside of Control Limits.

4.2.1
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56751
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
V2I2291-BS1	2I063005.D	1	08/12/19	CP	n/a	n/a	V2I2291
V2I2291-BSD1	2I063007.D	1	08/12/19	CP	n/a	n/a	V2I2291

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56751-1, LA56751-2, LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
108-88-3	Toluene	20	18.9	95	18.6	93	2	82-118/12
71-55-6	1,1,1-Trichloroethane	20	19.2	96	18.5	93	4	79-126/13
79-00-5	1,1,2-Trichloroethane	20	17.9	90	18.2	91	2	80-120/12
79-01-6	Trichloroethylene	20	18.5	93	18.4	92	1	78-121/12
75-69-4	Trichlorofluoromethane	20	16.8	84	16.3	82	3	74-129/14
75-01-4	Vinyl Chloride	20	17.1	86	16.5	83	4	74-125/14
	m,p-Xylene	40	40.0	100	40.1	100	0	82-123/11
95-47-6	o-Xylene	20	20.5	103	20.3	102	1	81-123/11
1330-20-7	Xylene (total)	60	60.5	101	60.3	101	0	82-122/11

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	95%	81-120%
2037-26-5	Toluene-D8	99%	100%	93-105%
460-00-4	4-Bromofluorobenzene	100%	102%	89-107%

* = Outside of Control Limits.

4.2.1
4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56751
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
LA56691-4MS	2I063045.D	20	08/13/19	CP	n/a	n/a	V2I2291
LA56691-4MSD	2I063047.D	20	08/13/19	CP	n/a	n/a	V2I2291
LA56691-4 ^a	2I063043.D	20	08/13/19	CP	n/a	n/a	V2I2291

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56751-1, LA56751-2, LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	LA56691-4 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	2650	1000	3350	70	1000	3420	77	2	11-126/22
71-43-2	Benzene	2660	400	3150	123	400	3290	158* ^b	4	41-155/14
75-27-4	Bromodichloromethane	ND	400	380	95	400	402	101	6	65-125/14
75-25-2	Bromoform	ND	400	324	81	400	340	85	5	39-127/18
75-15-0	Carbon Disulfide	9.8	400	285	69	400	310	75	8	55-139/20
56-23-5	Carbon Tetrachloride	ND	400	372	93	400	395	99	6	60-131/20
108-90-7	Chlorobenzene	ND	400	399	100	400	412	103	3	71-124/14
75-00-3	Chloroethane	ND	400	344	86	400	380	95	10	44-163/31
67-66-3	Chloroform	9.4	400	401	98	400	418	102	4	65-130/15
124-48-1	Dibromochloromethane	ND	400	356	89	400	371	93	4	57-125/15
541-73-1	m-Dichlorobenzene	ND	400	380	95	400	395	99	4	67-124/14
95-50-1	o-Dichlorobenzene	ND	400	383	96	400	407	102	6	67-124/14
106-46-7	p-Dichlorobenzene	ND	400	378	95	400	403	101	6	66-122/15
75-34-3	1,1-Dichloroethane	ND	400	391	98	400	410	103	5	65-132/17
107-06-2	1,2-Dichloroethane	ND	400	402	101	400	411	103	2	61-130/13
75-35-4	1,1-Dichloroethylene	ND	400	352	88	400	378	95	7	62-136/20
156-59-2	cis-1,2-Dichloroethylene	ND	400	382	96	400	404	101	6	68-129/15
156-60-5	trans-1,2-Dichloroethylene	ND	400	348	87	400	369	92	6	65-132/18
540-59-0	1,2-Dichloroethene (total)	ND	800	731	91	800	773	97	6	66-130/15
78-87-5	1,2-Dichloropropane	ND	400	404	101	400	419	105	4	71-123/14
10061-01-5	cis-1,3-Dichloropropene	ND	400	328	82	400	346	87	5	61-125/15
10061-02-6	trans-1,3-Dichloropropene	ND	400	329	82	400	347	87	5	59-128/14
542-75-6	1,3-Dichloropropene (total)	ND	800	657	82	800	692	87	5	61-126/14
100-41-4	Ethylbenzene	222	400	665	111	400	685	116	3	50-147/15
67-72-1	Hexachloroethane	ND	400	332	83	400	326	82	2	42-122/21
78-83-1	Isobutyl Alcohol	ND	4000	3880	97	4000	3820	96	2	6-168/41
74-83-9	Methyl Bromide	ND	400	355	89	400	389	97	9	24-163/28
74-87-3	Methyl Chloride	12.0	400	498	122	400	525	128	5	37-151/22
75-09-2	Methylene Chloride	ND	400	394	99	400	398	100	1	63-137/16
78-93-3	Methyl Ethyl Ketone	226	1000	1120	89	1000	1150	92	3	35-137/21
108-10-1	4-Methyl-2-pentanone	76.3	1000	1190	111	1000	1190	111	0	48-146/21
1634-04-4	Methyl Tert Butyl Ether	5.5	400	384	95	400	409	101	6	48-143/15
100-42-5	Styrene	14.6	400	385	93	400	403	97	5	58-140/18
630-20-6	1,1,1,2-Tetrachloroethane	ND	400	401	100	400	419	105	4	67-127/15
79-34-5	1,1,2,2-Tetrachloroethane	7.1	400	407	100	400	431	106	6	62-139/16
127-18-4	Tetrachloroethylene	ND	400	376	94	400	392	98	4	68-127/19

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56751
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
LA56691-4MS	2I063045.D	20	08/13/19	CP	n/a	n/a	V2I2291
LA56691-4MSD	2I063047.D	20	08/13/19	CP	n/a	n/a	V2I2291
LA56691-4 ^a	2I063043.D	20	08/13/19	CP	n/a	n/a	V2I2291

The QC reported here applies to the following samples:

Method: SW846 8260B

LA56751-1, LA56751-2, LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	LA56691-4 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-88-3	Toluene	2690	400	3220	133	400	3340	163* ^b	4	40-153/15
71-55-6	1, 1, 1-Trichloroethane	ND	400	400	100	400	425	106	6	68-132/18
79-00-5	1, 1, 2-Trichloroethane	15.2	400	405	97	400	407	98	0	62-137/16
79-01-6	Trichloroethylene	ND	400	379	95	400	392	98	3	67-124/16
75-69-4	Trichlorofluoromethane	ND	400	357	89	400	371	93	4	65-134/17
75-01-4	Vinyl Chloride	ND	400	341	85	400	353	88	3	60-133/16
	m,p-Xylene	1120	800	2050	116	800	2120	125	3	47-153/15
95-47-6	o-Xylene	543	400	1060	129	400	1070	132	1	50-149/14
1330-20-7	Xylene (total)	1660	1200	3110	121	1200	3200	128	3	46-154/15

CAS No.	Surrogate Recoveries	MS	MSD	LA56691-4	Limits
17060-07-0	1,2-Dichloroethane-D4	102%	103%	105%	81-120%
2037-26-5	Toluene-D8	100%	100%	100%	93-105%
460-00-4	4-Bromofluorobenzene	101%	101%	99%	89-107%

(a) Sample used for QC purposes only.

(b) Outside control limits due to high level in sample relative to spike amount.

* = 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: LA56751
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
OP14901-MB	L0028603.D	1	08/14/19	AA	08/13/19	OP14901	EL757

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	ug/1	
120-83-2	2,4-Dichlorophenol	ND	5.0	ug/1	
105-67-9	2,4-Dimethylphenol	ND	5.0	ug/1	
51-28-5	2,4-Dinitrophenol	ND	20	ug/1	
100-02-7	4-Nitrophenol	ND	25	ug/1	
87-86-5	Pentachlorophenol	ND	10	ug/1	
108-95-2	Phenol	ND	5.0	ug/1	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	ug/1	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	ug/1	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	ug/1	
83-32-9	Acenaphthene	ND	0.20	ug/1	
208-96-8	Acenaphthylene	ND	0.20	ug/1	
62-53-3	Aniline	ND	5.0	ug/1	
120-12-7	Anthracene	ND	0.20	ug/1	
56-55-3	Benzo(a)anthracene	0.023	0.20	ug/1	J
50-32-8	Benzo(a)pyrene	ND	0.20	ug/1	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/1	
207-08-9	Benzo(k)fluoranthene	0.012	0.20	ug/1	J
92-52-4	1,1'-Biphenyl	ND	10	ug/1	
85-68-7	Butyl Benzyl Phthalate	0.035	5.0	ug/1	J
106-47-8	4-Chloroaniline	ND	5.0	ug/1	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/1	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	5.0	ug/1	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/1	
218-01-9	Chrysene	0.012	0.20	ug/1	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/1	
132-64-9	Dibenzofuran	ND	5.0	ug/1	
91-94-1	3,3'-Dichlorobenzidine	ND	10	ug/1	
84-66-2	Diethyl Phthalate	0.13	5.0	ug/1	J
131-11-3	Dimethyl Phthalate	ND	5.0	ug/1	
117-84-0	Di-n-octyl Phthalate	ND	5.0	ug/1	
99-65-0	1,3-Dinitrobenzene	ND	5.0	ug/1	
121-14-2	2,4-Dinitrotoluene	ND	5.0	ug/1	
606-20-2	2,6-Dinitrotoluene	ND	5.0	ug/1	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	ug/1	
206-44-0	Fluoranthene	0.014	0.20	ug/1	J

Method Blank Summary

Job Number: LA56751
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
OP14901-MB	L0028603.D	1	08/14/19	AA	08/13/19	OP14901	EL757

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56751-3, LA56751-4, LA56751-5, LA56751-6

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	ND	0.20	ug/l	
78-59-1	Isophorone	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.20	ug/l	
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	ND	0.20	ug/l	
129-00-0	Pyrene	0.018	0.20	ug/l	J
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	69%	25-101%
4165-62-2	Phenol-d5	58%	17-79%
118-79-6	2,4,6-Tribromophenol	83%	40-144%
4165-60-0	Nitrobenzene-d5	95%	40-124%
321-60-8	2-Fluorobiphenyl	67%	27-124%
1718-51-0	Terphenyl-d14	92%	45-140%

5.1.1
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Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56751
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
OP14901-BS	L0028604.D	1	08/14/19	AA	08/13/19	OP14901	EL757
OP14901-BSD	L0028605.D	1	08/14/19	AA	08/13/19	OP14901	EL757

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	5	4.5	90	4.4	88	2	48-123/17
120-83-2	2,4-Dichlorophenol	5	5.0	100	4.7	94	6	52-135/17
105-67-9	2,4-Dimethylphenol	5	5.0	100	4.5	90	11	47-132/21
51-28-5	2,4-Dinitrophenol	25	24.0	96	22.7	91	6	32-139/25
100-02-7	4-Nitrophenol	25	15.6	62	14.6	58	7	15-105/22
87-86-5	Pentachlorophenol	25	23.1	92	21.7	87	6	51-131/19
108-95-2	Phenol	5	2.9	58	2.7	54	7	19-92/23
58-90-2	2,3,4,6-Tetrachlorophenol	5	5.1	102	5.0	100	2	57-136/19
95-95-4	2,4,5-Trichlorophenol	5	5.2	104	4.9	98	6	51-143/17
88-06-2	2,4,6-Trichlorophenol	5	4.9	98	4.6	92	6	59-132/19
83-32-9	Acenaphthene	5	4.2	84	3.8	76	10	50-120/16
208-96-8	Acenaphthylene	5	4.2	84	3.9	78	7	48-126/16
62-53-3	Aniline	5	3.8	76	4.1	82	8	10-112/50
120-12-7	Anthracene	5	4.3	86	3.9	78	10	53-128/16
56-55-3	Benzo(a)anthracene	5	4.9	98	4.6	92	6	54-129/19
50-32-8	Benzo(a)pyrene	5	4.9	98	4.7	94	4	55-135/19
205-99-2	Benzo(b)fluoranthene	5	4.9	98	4.8	96	2	54-139/23
207-08-9	Benzo(k)fluoranthene	5	5.3	106	4.9	98	8	58-132/22
92-52-4	1,1'-Biphenyl	5	4.0	80	3.5	70	13	44-127/17
85-68-7	Butyl Benzyl Phthalate	5	5.8	116	5.6	112	4	63-141/20
106-47-8	4-Chloroaniline	5	4.3	86	4.4	88	2	19-126/38
111-44-4	bis(2-Chloroethyl)ether	5	4.8	96	4.6	92	4	45-123/17
108-60-1	2,2'-Oxybis(1-chloropropane)	5	4.9	98	4.6	92	6	29-126/17
91-58-7	2-Chloronaphthalene	5	3.8	76	3.4	68	11	44-123/20
218-01-9	Chrysene	5	4.8	96	4.7	94	2	57-127/20
53-70-3	Dibenzo(a,h)anthracene	5	5.3	106	4.9	98	8	58-141/21
132-64-9	Dibenzofuran	5	4.3	86	3.9	78	10	48-126/17
91-94-1	3,3'-Dichlorobenzidine	5	5.6	112	5.8	116	4	10-188/40
84-66-2	Diethyl Phthalate	5	4.7	94	4.5	90	4	54-133/17
131-11-3	Dimethyl Phthalate	5	5.0	100	4.8	96	4	56-132/17
117-84-0	Di-n-octyl Phthalate	5	4.9	98	4.7	94	4	66-139/21
99-65-0	1,3-Dinitrobenzene	25	26.6	106	25.8	103	3	64-133/16
121-14-2	2,4-Dinitrotoluene	5	4.9	98	4.7	94	4	67-132/20
606-20-2	2,6-Dinitrotoluene	5	5.3	106	5.1	102	4	56-138/20
117-81-7	bis(2-Ethylhexyl)phthalate	5	5.4	108	5.2	104	4	60-142/20
206-44-0	Fluoranthene	5	4.3	86	4.0	80	7	57-133/18

* = Outside of Control Limits.

5.2.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56751
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
OP14901-BS	L0028604.D	1	08/14/19	AA	08/13/19	OP14901	EL757
OP14901-BSD	L0028605.D	1	08/14/19	AA	08/13/19	OP14901	EL757

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
86-73-7	Fluorene	5	4.4	88	4.0	80	10	52-125/15
118-74-1	Hexachlorobenzene	5	2.6	52	2.2	44* a	17	47-127/21
87-68-3	Hexachlorobutadiene	5	2.5	50	2.2	44	13	14-121/30
77-47-4	Hexachlorocyclopentadiene	5	2.1	42	1.7	34	21	10-114/31
193-39-5	Indeno(1,2,3-cd)pyrene	5	5.2	104	5.0	100	4	58-142/19
78-59-1	Isophorone	5	5.1	102	4.7	94	8	52-130/18
91-57-6	2-Methylnaphthalene	5	4.0	80	3.3	66	19* b	43-123/18
91-20-3	Naphthalene	5	4.1	82	3.6	72	13	45-120/16
88-74-4	2-Nitroaniline	25	26.2	105	25.0	100	5	63-132/17
99-09-2	3-Nitroaniline	25	26.7	107	26.5	106	1	31-144/23
100-01-6	4-Nitroaniline	25	29.0	116	28.9	116	0	22-154/25
98-95-3	Nitrobenzene	5	5.5	110	5.0	100	10	52-128/17
621-64-7	N-Nitroso-di-n-propylamine	5	4.6	92	4.4	88	4	48-129/20
86-30-6	N-Nitrosodiphenylamine	5	4.7	94	4.5	90	4	26-146/28
85-01-8	Phenanthrene	5	4.3	86	3.9	78	10	54-124/17
129-00-0	Pyrene	5	4.2	84	3.9	78	7	56-132/19
95-94-3	1,2,4,5-Tetrachlorobenzene	5	3.2	64	2.6	52	21	33-121/24
120-82-1	1,2,4-Trichlorobenzene	5	3.4	68	2.7	54	23	34-118/23

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	63%	59%	25-101%
4165-62-2	Phenol-d5	53%	50%	17-79%
118-79-6	2,4,6-Tribromophenol	95%	91%	40-144%
4165-60-0	Nitrobenzene-d5	103%	92%	40-124%
321-60-8	2-Fluorobiphenyl	75%	67%	27-124%
1718-51-0	Terphenyl-d14	92%	89%	45-140%

- (a) Recovery of this analyte marginally exceeded lower statistical control limits.
- (b) Analytical precision exceeds laboratory control limits.

* = Outside of Control Limits.

5.2.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56751
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
OP14901-MS	L0028607.D	1	08/14/19	AA	08/13/19	OP14901	EL757
OP14901-MSD	L0028608.D	1	08/14/19	AA	08/13/19	OP14901	EL757
LA56507-12 ^a	L0028613.D	1	08/14/19	AA	08/13/19	OP14901	EL757

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	LA56507-12 Spike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
		ug/l	Q								
95-57-8	2-Chlorophenol	ND		4.55	3.9	86	4.55	4.2	92	7	47-126/30
120-83-2	2,4-Dichlorophenol	ND		4.55	4.1	90	4.55	4.4	97	7	49-137/30
105-67-9	2,4-Dimethylphenol	1.1		4.55	5.1	88	4.55	5.4	95	6	49-123/30
51-28-5	2,4-Dinitrophenol	ND		22.7	25.5	112	22.7	27.2	120	6	37-146/31
100-02-7	4-Nitrophenol	ND		22.7	14.0	62	22.7	16.3	72	15	19-97/39
87-86-5	Pentachlorophenol	237	E	22.7	198	-431* ^b	22.7	185	-488* ^b	7	46-146/33
108-95-2	Phenol	1.7		4.55	4.4	59	4.55	3.8	46	15	20-87/37
58-90-2	2,3,4,6-Tetrachlorophenol	39.4	E	4.55	35.0	-79* ^b	4.55	30.6	-176* ^b	13	61-137/28
95-95-4	2,4,5-Trichlorophenol	ND		4.55	4.6	101	4.55	4.8	106	4	61-133/31
88-06-2	2,4,6-Trichlorophenol	ND		4.55	4.3	95	4.55	4.5	99	5	61-133/29
83-32-9	Acenaphthene	8.5		4.55	10.8	42* ^c	4.55	10	24* ^c	8	43-122/27
208-96-8	Acenaphthylene	0.20		4.55	3.5	73	4.55	3.8	79	8	48-121/29
62-53-3	Aniline	ND		4.55	2.7	59	4.55	2.9	64	7	10-110/54
120-12-7	Anthracene	1.2		4.55	4.7	77	4.55	4.7	77	0	46-137/40
56-55-3	Benzo(a)anthracene	0.96		4.55	5.4	97	4.55	5.0	88	8	54-130/30
50-32-8	Benzo(a)pyrene	0.30		4.55	4.4	90	4.55	4.5	93	2	60-129/31
205-99-2	Benzo(b)fluoranthene	1.0		4.55	5.7	103	4.55	5.4	97	5	56-136/34
207-08-9	Benzo(k)fluoranthene	0.32		4.55	4.9	100	4.55	4.4	89	11	53-138/33
92-52-4	1,1'-Biphenyl	0.10		4.55	3.2	67	4.55	3.3	70	3	40-126/29
85-68-7	Butyl Benzyl Phthalate	ND		4.55	5.3	117	4.55	5.2	114	2	63-144/45
106-47-8	4-Chloroaniline	ND		4.55	1.4	31	4.55	1.8	40	25	10-122/53
111-44-4	bis(2-Chloroethyl)ether	ND		4.55	3.8	84	4.55	4.2	92	10	30-135/31
108-60-1	2,2'-Oxybis(1-chloropropane)	ND		4.55	3.7	81	4.55	4.2	92	13	22-130/34
91-58-7	2-Chloronaphthalene	ND		4.55	2.9	64	4.55	3.1	68	7	43-117/25
218-01-9	Chrysene	1.2		4.55	5.7	97	4.55	5.0	81	13	57-126/31
53-70-3	Dibenzo(a,h)anthracene	0.060		4.55	4.7	103	4.55	4.6	101	2	51-142/33
132-64-9	Dibenzofuran	2.0		4.55	5.4	75	4.55	5.1	68	6	34-142/28
91-94-1	3,3'-Dichlorobenzidine	ND		4.55	ND	0* ^c	4.55	ND	0* ^c	nc	10-126/44
84-66-2	Diethyl Phthalate	0.087		4.55	4.0	88	4.55	4.1	90	2	53-130/37
131-11-3	Dimethyl Phthalate	ND		4.55	4.2	92	4.55	4.3	95	2	53-134/32
117-84-0	Di-n-octyl Phthalate	ND		4.55	4.3	95	4.55	4.4	97	2	62-142/42
99-65-0	1,3-Dinitrobenzene	ND		22.7	22.1	97	22.7	23.3	103	5	60-132/29
121-14-2	2,4-Dinitrotoluene	ND		4.55	4.0	88	4.55	4.2	92	5	65-132/36
606-20-2	2,6-Dinitrotoluene	ND		4.55	4.5	99	4.55	4.6	101	2	60-130/31
117-81-7	bis(2-Ethylhexyl)phthalate	ND		4.55	4.9	108	4.55	4.7	103	4	52-152/38
206-44-0	Fluoranthene	9.5		4.55	14.4	110	4.55	12.8	75	12	46-144/45

* = Outside of Control Limits.

5.3.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56751
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
OP14901-MS	L0028607.D	1	08/14/19	AA	08/13/19	OP14901	EL757
OP14901-MSD	L0028608.D	1	08/14/19	AA	08/13/19	OP14901	EL757
LA56507-12 ^a	L0028613.D	1	08/14/19	AA	08/13/19	OP14901	EL757

The QC reported here applies to the following samples:

Method: SW846 8270D

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	LA56507-12 Spike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q ug/l							
86-73-7	Fluorene	4.3	4.55	8.3	84	4.55	7.3	62	13	50-122/27
118-74-1	Hexachlorobenzene	ND	4.55	2.6	57	4.55	2.5	55	4	34-132/35
87-68-3	Hexachlorobutadiene	ND	4.55	2.4	53	4.55	2.4	53	0	13-110/43
77-47-4	Hexachlorocyclopentadiene	ND	4.55	1.9	42	4.55	1.9	42	0	10-100/53
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	4.55	4.7	99	4.55	4.7	99	0	54-139/32
78-59-1	Isophorone	0.85	4.55	4.9	89	4.55	5.1	94	4	54-125/30
91-57-6	2-Methylnaphthalene	0.070	4.55	3.0	66	4.55	3.2	70	6	39-121/30
91-20-3	Naphthalene	0.031	4.55	2.9	64	4.55	3.1	68	7	39-122/27
88-74-4	2-Nitroaniline	ND	22.7	22.4	99	22.7	23.4	103	4	59-133/30
99-09-2	3-Nitroaniline	ND	22.7	10.8	48	22.7	11.9	52	10	17-135/33
100-01-6	4-Nitroaniline	ND	22.7	11.7	51	22.7	12.9	57	10	12-133/46
98-95-3	Nitrobenzene	ND	4.55	4.4	97	4.55	4.8	106	9	44-141/28
621-64-7	N-Nitroso-di-n-propylamine	ND	4.55	4.3	95	4.55	4.6	101	7	37-139/30
86-30-6	N-Nitrosodiphenylamine	ND	4.55	3.8	84	4.55	4.1	90	8	38-134/29
85-01-8	Phenanthrene	0.39	4.55	3.8	75	4.55	3.8	75	0	37-135/36
129-00-0	Pyrene	7.3	4.55	11.4	92	4.55	9.7	55	16	44-142/37
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	4.55	2.5	55	4.55	2.6	57	4	30-114/31
120-82-1	1,2,4-Trichlorobenzene	ND	4.55	2.7	59	4.55	2.8	62	4	30-114/31

CAS No.	Surrogate Recoveries	MS	MSD	LA56507-12 Limits	
367-12-4	2-Fluorophenol	57%	63%	63%	25-101%
4165-62-2	Phenol-d5	50%	54%	52%	17-79%
118-79-6	2,4,6-Tribromophenol	97%	104%	106%	40-144%
4165-60-0	Nitrobenzene-d5	89%	103%	90%	40-124%
321-60-8	2-Fluorobiphenyl	54%	59%	57%	27-124%
1718-51-0	Terphenyl-d14	81%	85%	95%	45-140%

- (a) Sample extracted beyond hold time. Confirmation run.
- (b) Outside control limits due to high level in sample relative to spike amount.
- (c) Outside control limits. The BS/BSD met criteria.

* = Outside of Control Limits.

5.3.1
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: LA56751
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
GLC2295-MB2	LC045905.D	1	08/12/19	NN	n/a	n/a	GLC2295

The QC reported here applies to the following samples:

Method: MADEP VPH REV 1.1

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Result	RL	Units	Q
	Aliphatics C6-C8 (Unadj.)	ND	30	ug/l	
	Aliphatics > C8-C10 (Unadj.)	19.2	50	ug/l	J
	Aromatics > C8-C10 (Unadj.)	16.6	50	ug/l	J

CAS No.	Surrogate Recoveries	Limits
615-59-8	2,5-Dibromotoluene	97% ^a 70-130%
615-59-8	2,5-Dibromotoluene	82% ^b 70-130%

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

Method Blank Summary

Job Number: LA56751
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
OP14908-MB	LM001987.D	1	08/14/19	SV	08/14/19	OP14908	GLM49

The QC reported here applies to the following samples:

Method: SW846 8011

LA56751-3, LA56751-4, LA56751-5, LA56751-6

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	115% 60-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56751
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
GLC2295-BS1	LC045903.D	1	08/12/19	NN	n/a	n/a	GLC2295
GLC2295-BSD1	LC045904.D	1	08/12/19	NN	n/a	n/a	GLC2295

The QC reported here applies to the following samples:

Method: MADEP VPH REV 1.1

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics C6-C8 (Unadj.)	150	161	107	167	111	4	70-130/30
	Aliphatics > C8-C10 (Unadj.)	250	285	114	290	116	2	70-130/30
	Aromatics > C8-C10 (Unadj.)	250	256	102	262	105	2	70-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	100% ^a	106% ^a	70-130%
615-59-8	2,5-Dibromotoluene	86% ^b	91% ^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: LA56751
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
OP14908-BS	LM001988.D	1	08/14/19	SV	08/14/19	OP14908	GLM49
OP14908-BSD	LM001989.D	1	08/14/19	SV	08/14/19	OP14908	GLM49

The QC reported here applies to the following samples:

Method: SW846 8011

LA56751-3, LA56751-4, LA56751-5, LA56751-6

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	0.27	107	0.29	115	7	73-140/16

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
348-51-6	1-Chloro-2-fluorobenzene	105%	113%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA56751
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
LA56785-2MS	LC046012.D	20	08/13/19	NN	n/a	n/a	GLC2295
LA56785-2MSD	LC046013.D	20	08/13/19	NN	n/a	n/a	GLC2295
LA56785-2	LC045924.D	1	08/12/19	NN	n/a	n/a	GLC2295

The QC reported here applies to the following samples:

Method: MADEP VPH REV 1.1

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	LA56785-2 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	3260	109	3000	3170	106	3	70-130/50
	Aliphatics > C8-C10 (Unadj.)	74.7	5000	5570	110	5000	5490	108	1	70-130/50
	Aromatics > C8-C10 (Unadj.)	78.5	5000	5110	101	5000	5080	100	1	70-130/50

CAS No.	Surrogate Recoveries	MS	MSD	LA56785-2	Limits
615-59-8	2,5-Dibromotoluene	108% ^a	106% ^a	113% ^a	70-130%
615-59-8	2,5-Dibromotoluene	95% ^b	92% ^b	95% ^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: LA56751
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
OP14888-MB	X0010967.D	1	08/13/19	PC	08/12/19	OP14888	GLB1999

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56751-3, LA56751-4, LA56751-5, LA56751-6

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	Results	Limits
84-15-1	o-Terphenyl	72%	40-140%
321-60-8	2-Fluorobiphenyl	76%	40-140%

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Method Blank Summary

Job Number: LA56751
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
OP14888-MB	Y0011016.D	1	08/14/19	PC	08/12/19	OP14888	GLB2004

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56751-3, LA56751-4, LA56751-5, LA56751-6

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	Limits
3386-33-2	1-Chlorooctadecane	95% 40-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56751
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
OP14888-BS	X0010968.D	1	08/13/19	PC	08/12/19	OP14888	GLB1999
OP14888-BSD	X0010969.D	1	08/13/19	PC	08/12/19	OP14888	GLB1999

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aromatics > C10-C12 (Unadj.)	463	260	56	321	69	21	40-140/30
	Aromatics > C12-C16 (Unadj.)	1390	769	55	958	69	22	40-140/30
	Aromatics > C16-C21 (Unadj.)	2310	1300	56	1580	68	19	40-140/30
	Aromatics > C21-C35 (Unadj.)	3700	2290	62	2760	75	19	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	56%	68%	40-140%
321-60-8	2-Fluorobiphenyl	63%	79%	40-140%

* = Outside of Control Limits.

7.2.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA56751
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
OP14888-BS	Y0011017.D	1	08/14/19	PC	08/12/19	OP14888	GLB2004
OP14888-BSD	Y0011018.D	1	08/14/19	PC	08/12/19	OP14888	GLB2004

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

LA56751-3, LA56751-4, LA56751-5, LA56751-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics > C10-C12 (Unadj.)	463	429	93	264	57	48* a	40-140/30
	Aliphatics > C12-C16 (Unadj.)	926	855	92	581	63	38* a	40-140/30
	Aliphatics > C16-C35 (Unadj.)	4170	4090	98	2950	71	32* a	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
3386-33-2	1-Chlorooctadecane	107%	76%	40-140%

(a) High RPD. Both the BS and BSD meet recovery criteria.

* = Outside of Control Limits.

7.2.2
7

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: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16014
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/09/19

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.056	.081	-0.0034	<0.20

Associated samples MP16014: LA56751-3, LA56751-4, LA56751-5, LA56751-6

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

8.1.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16014
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 08/09/19

Metal	LA56673-4 Original MS	SpikeLot HGSPIKE1	% Rec	QC Limits
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Mercury	0.0	5.0	5	100.0	75-125
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Associated samples MP16014: LA56751-3, LA56751-4, LA56751-5, LA56751-6

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: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16014
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 08/09/19

Metal	LA56673-4 Original MSD	Spikelot HGSPIKE1	% Rec	MSD RPD	QC Limit
Mercury	0.0	5.0	5	100.0	0.0 20

Associated samples MP16014: LA56751-3, LA56751-4, LA56751-5, LA56751-6

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: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16014
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/09/19

Metal	BSP Result	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	4.4	5	88.0	80-120

Associated samples MP16014: LA56751-3, LA56751-4, LA56751-5, LA56751-6

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: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16014
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/09/19

Metal	LA56673-4	QC	QC
	Original	SDL 1:5	%DIF Limits

Mercury 0.00 0.00 NC 0-

Associated samples MP16014: LA56751-3, LA56751-4, LA56751-5, LA56751-6

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: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/09/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	1.4	9.3	-18	<100
Antimony	1.0	.0063	.34		
Arsenic	1.0	.062	.26	0.023	<1.0
Barium	1.0	.0089	.46	0.12	<1.0
Beryllium	1.0	.0096	.28		
Boron	20	1.5	2.9		
Cadmium	0.50	.0081	.12	-0.088	<0.50
Calcium	100	4.7	20	16.9	<100
Cerium	1.0	.0019	.16		
Chromium	1.0	.059	.15	-0.20	<1.0
Cobalt	1.0	.0082	.14		
Copper	1.0	.27	.74		
Iron	100	2.8	16	-2.2	<100
Lithium	2.0	.3	.61		
Lead	1.0	.0045	.13	-0.13	<1.0
Magnesium	100	1.1	11	-11	<100
Manganese	2.0	.1	.53	-0.26	<2.0
Molybdenum	1.0	.19	.89		
Nickel	1.0	.081	.2		
Potassium	100	5	7.6	23.9	<100
Selenium	5.0	.3	3.1	-0.56	<5.0
Silver	1.0	.0088	.13	-0.11	<1.0
Silicon	500	7.6	130		
Sodium	100	8.6	9.9	-1.1	<100
Strontium	2.0	.063	.27	-0.086	<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	-0.67	<5.0

Associated samples MP16022: LA56751-3, LA56751-4, LA56751-5, LA56751-6, LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

Results < IDL are shown as zero for calculation purposes

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

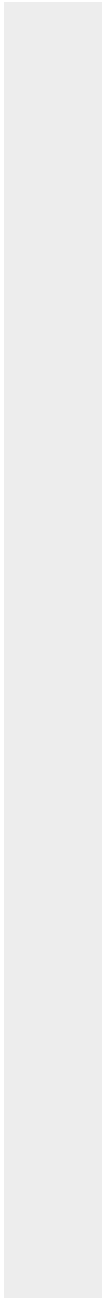
QC Batch ID: MP16022
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/09/19

Metal	RL	IDL	MDL	MB raw	final
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(*) Outside of QC limits
(anr) Analyte not requested



8.2.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/09/19

Metal	TD43171-2F Original MS		SpikeLot MPICPMS6	% Rec	QC Limits
Aluminum	95.4	5150	5100	99.1	75-125
Antimony					
Arsenic	0.0	113	100	113.0	75-125
Barium	28.8	128	100	99.2	75-125
Beryllium					
Boron					
Cadmium	0.0	85.5	100	85.5	75-125
Calcium	747000	695000	5000	-1040.0a	75-125
Cerium					
Chromium	42.8	138	100	95.2	75-125
Cobalt					
Copper					
Iron	342	5510	5000	103.4	75-125
Lithium					
Lead	0.0	94.6	100	94.6	75-125
Magnesium	516000	487000	5000	-580.0(a)	75-125
Manganese	4630	4460	100	-170.0(a)	75-125
Molybdenum					
Nickel	anr				
Potassium	19100	22400	5000	66.0N(b)	75-125
Selenium	0.0	404	500	80.8	75-125
Silver	0.0	73.6	100	73.6N(b)	75-125
Silicon					
Sodium	4550000	4360000	5000	-3800.0a	75-125
Strontium	5940	5740	100	-200.0(a)	75-125
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	21.6	101	100	79.4	75-125

Associated samples MP16022: LA56751-3, LA56751-4, LA56751-5, LA56751-6, LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

Results < IDL are shown as zero for calculation purposes

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/09/19

Metal	TD43171-2F Original MS	Spike/lot MPICPMS6 % Rec	QC Limits
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- (*) 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.
- (b) Spike recovery indicates possible matrix interference or sample non-homogeneity.

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/09/19

Metal	TD43171-2F Original MSD	Spikelot MPICPMS6	% Rec	MSD RPD	QC Limit
Aluminum	95.4	6530	5100	126.2N(a) 23.6 (b)	20
Antimony					
Arsenic	0.0	116	100	116.0	2.6
Barium	28.8	131	100	102.2	2.3
Beryllium					
Boron					
Cadmium	0.0	98.9	100	98.9	14.5
Calcium	747000	889000	5000	2840.0(c)	24.5 (b)
Cerium					
Chromium	42.8	153	100	110.2	10.3
Cobalt					
Copper					
Iron	342	5530	5000	103.8	0.4
Lithium					
Lead	0.0	95.1	100	95.1	0.5
Magnesium	516000	564000	5000	960.0(c)	14.7
Manganese	4630	5190	100	560.0(c)	15.1
Molybdenum					
Nickel	anr				
Potassium	19100	27500	5000	168.0N(a)	20.4 (b)
Selenium	0.0	451	500	90.2	11.0
Silver	0.0	84.0	100	84.0	13.2
Silicon					
Sodium	4550000	4440000	5000	-2200.0c	1.8
Strontium	5940	6650	100	710.0(c)	14.7
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	21.6	111	100	89.4	9.4

Associated samples MP16022: LA56751-3, LA56751-4, LA56751-5, LA56751-6, LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

Results < IDL are shown as zero for calculation purposes

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/09/19

Metal	TD43171-2F Original MSD	SpikeLot MPICPMS6 % Rec	MSD RPD	QC Limit
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- (*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike recovery indicates possible matrix interference or sample non-homogeneity.
- (b) Outside control limits due to matrix interference.
- (c) 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: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/09/19

Metal	BSP Result	Spikelot MPICPMS6	% Rec	QC Limits
Aluminum	5090	5100	99.8	80-120
Antimony				
Arsenic	107	100	107.0	80-120
Barium	101	100	101.0	80-120
Beryllium				
Boron				
Cadmium	100	100	100.0	80-120
Calcium	4970	5000	99.4	80-120
Cerium				
Chromium	98.0	100	98.0	80-120
Cobalt				
Copper				
Iron	4830	5000	96.6	80-120
Lithium				
Lead	104	100	104.0	80-120
Magnesium	4960	5000	99.2	80-120
Manganese	99.4	100	99.4	80-120
Molybdenum				
Nickel	anr			
Potassium	4800	5000	96.0	80-120
Selenium	536	500	107.2	80-120
Silver	80.7	100	80.7	80-120
Silicon				
Sodium	4890	5000	97.8	80-120
Strontium	102	100	102.0	80-120
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	104	100	104.0	80-120

Associated samples MP16022: LA56751-3, LA56751-4, LA56751-5, LA56751-6, LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

Results < IDL are shown as zero for calculation purposes

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

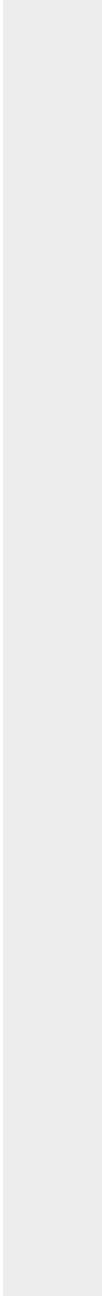
QC Batch ID: MP16022
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/09/19

Metal	BSP Result	Spikelot MPICPMS6 % Rec	QC Limits
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(*) Outside of QC limits
(anr) Analyte not requested



SERIAL DILUTION RESULTS SUMMARY

Login Number: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 08/09/19

Metal	TD43171-2F Original SDL 10:50%DIF		QC Limits
Aluminum	95.4	681	614.0 (a) 0-10
Antimony			
Arsenic	0.00	0.00	NC 0-10
Barium	28.8	31.7	9.7 0-10
Beryllium			
Boron			
Cadmium	0.00	0.00	NC 0-10
Calcium	747000	640000	14.3* (b) 0-10
Cerium			
Chromium	42.8	249	481.3* (b) 0-10
Cobalt			
Copper			
Iron	342	0.00	100.0 (a) 0-10
Lithium			
Lead	0.00	0.00	NC 0-10
Magnesium	516000	476000	7.8 0-10
Manganese	4630	4000	13.7* (b) 0-10
Molybdenum			
Nickel	anr		
Potassium	19100	17200	10.1* (b) 0-10
Selenium	0.00	0.00	NC 0-10
Silver	0.00	0.00	NC 0-10
Silicon			
Sodium	4550000	4670000	2.7 0-10
Strontium	5940	4980	16.1* (b) 0-10
Thallium			
Tin			
Titanium			
Uranium			
Vanadium			
Zinc	21.6	125	477.3 (a) 0-10

Associated samples MP16022: LA56751-3, LA56751-4, LA56751-5, LA56751-6, LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

Results < IDL are shown as zero for calculation purposes

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/09/19

Metal	TD43171-2F Original SDL 10:50%DIF	QC Limits
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- (*) Outside of QC limits
- (anr) Analyte not requested
- (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- (b) Serial dilution indicates possible matrix interference.

POST DIGESTATE SPIKE SUMMARY

Login Number: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16022
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date:

08/09/19

Metal	Sample ml	Final ml	TD43171-2F Raw	PS Corr.** ug/l	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum	0.2	10	95.41	1.9082	5174	0.125	408	5100	101.4	75-125
Antimony										
Beryllium										
Boron										
Cerium										
Cobalt										
Copper										
Lithium										
Molybdenum										
Potassium	0.2	10	19090	381.8	5234	0.025	2000	5000	97.0	75-125
Silver	0.2	10			85.41	0.1	10	100	85.4	75-125
Silicon										
Thallium										
Tin										
Titanium										
Uranium										
Vanadium										

Associated samples MP16022: LA56751-3, LA56751-4, LA56751-5, LA56751-6, LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (**) Corr. sample result = Raw * (sample volume / final volume)
 (anr) Analyte not requested

8.2.5
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16033
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/12/19

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.056	.081	-0.010	<0.20

Associated samples MP16033: LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

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: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16033
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 08/12/19

Metal	LA56776-3 Original MS	SpikeLot HGSPIKE1	% Rec	QC Limits
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Mercury	0.0	4.4	5	88.0	75-125
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Associated samples MP16033: LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

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

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA56751
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16033
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 08/12/19

Metal	LA56776-3 Original MSD	SpikeLot HGSPIKE1	% Rec	MSD RPD	QC Limit
Mercury	0.0	4.4	5	88.0	0.0 20

Associated samples MP16033: LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16033
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/12/19

Metal	BSP Result	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	4.7	5	94.0	80-120

Associated samples MP16033: LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

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

8.3.3
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA56751
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP16033
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/12/19

Metal	LA56776-3		QC	
	Original	SDL 1:5	%DIF	Limits

Mercury 0.00 0.00 NC 0-

Associated samples MP16033: LA56751-3F, LA56751-4F, LA56751-5F, LA56751-6F

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

Misc. Forms

Custody Documents and Other Forms

(SGS Houston, TX)

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

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 # LA56751

Requested Analysis (see TEST CODE sheet)												Matrix Codes
												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment CI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WIP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
												LAB USE ONLY

Turnaround Time (Business days)												Data Deliverable Information		Comments / Special Instructions	
<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 Due 8/19/2019				Approved By (SGS PM): / Date: _____				<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> TRRP <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> EDD Format <input type="checkbox"/> FULLT1 (Level 3+4) <input type="checkbox"/> Other <input type="checkbox"/> REDT1 (Level 3+4) <input type="checkbox"/> Commercial "C" X COMMB Commercial "A" = Results Only Commercial "B" = Results + QC Summary				4-500ml up			

Sample Custody must be documented below each time samples change possession, including courier delivery.											
Relinquished By: <i>[Signature]</i>	Date: 8/15/19	Received By: <i>[Signature]</i>	Date: 8/15/19	Relinquished By: <i>[Signature]</i>	Date: 8/15/19	Received By: <i>[Signature]</i>	Date: 8/15/19	Relinquished By: <i>[Signature]</i>	Date: 8/15/19	Received By: <i>[Signature]</i>	Date: 8/15/19
Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:
5		5									

Custody Seal #	<input type="checkbox"/> Intact	Preserved where applicable	<input type="checkbox"/>	On Ice	<input checked="" type="checkbox"/>	Cooler Temp.	7.5
	<input type="checkbox"/> Not Intact						

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				Street 8060.00 Indigo-Desoto Parish, LA			
City Scott LA 70583		State LA		Zip 70583		Billing Information (if different from Report to) Company Name	
Project Contact ralph.frye@sgs.com		E-mail		Project #		Street Address	
Phone # 800-304-5227		Fax #		Client Purchase Order #		City State Zip	
Sampler(s) Name(s) KC/LV		Phone		Project Manager		Attention:	

SGS Sample #	Field ID / Point of Collection	MECH/DI Vial #	Collection		Sampled by	Matrix	# of bottles	Number of preserved Bottles									
			Date	Time				HCl	NO3	HNO3	H2SO4	NO2	DI Water	MEQ	ENCORE		
3	EQUIPMENT BLANK		8/6/19	10:30:00 AM	KC/LV	AQ											X
4	031-7353Z (COWDIN #27)		8/6/19	12:25:00 PM	KC/LV	AQ											X
5	031-9810Z (DENNISON RIG SUPPLY)		8/6/19	4:50:00 PM	KC/LV	AQ											X
6	031-9768Z (LONG 3&4 RIG SUPPLY)		8/6/19	5:25:00 PM	KC/LV	AQ											X

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SGS Sample Receipt Summary

Job Number: LA56751 **Client:** SGS **Project:** 8060 Page 1 of 2
Date / Time Received: 8/9/2019 11:35:00 PM **Delv Method:** _____ **Airbill #'s:** _____
of Coolers: 1 **Therm ID:** IR-9; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (1.5/1.5);

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

LA56751: Chain of Custody
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Sample Receipt Log

Job #: LA56751 _____

Date / Time Received: 8/9/2019 11:35:00 PM _____

Initials: BELINDG _____

Client: SGS _____

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	LA56751-3	500ml	1	M1C	N/P	Note #2 - Preservative check not applicable.	IR-9	1.5	0	1.5
1	LA56751-4	500ml	1	M1C	N/P	Note #2 - Preservative check not applicable.	IR-9	1.5	0	1.5
1	LA56751-5	500ml	1	M1C	N/P	Note #2 - Preservative check not applicable.	IR-9	1.5	0	1.5
1	LA56751-6	500ml	1	M1C	N/P	Note #2 - Preservative check not applicable.	IR-9	1.5	0	1.5

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LA56751: 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: LA56751
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	GN442	5.0	2.0	mg/l				
Alkalinity, Carbonate	GN443	5.0	0.0	mg/l				
Alkalinity, Total as CaCO3	GN441	5.0	2.0	mg/l	100	103	103.0	90-110%
Alkalinity, Total as CaCO3	GN441			mg/l	100	103	103.0	90-110%
Bromide	GP54343/GN472	0.60	0.0	mg/l	10	10.9	109.0	90-110%
Bromide	GP54355/GN486	0.60	0.0	mg/l	10	10.2	102.0	90-110%
Chloride	GP54343/GN472	0.70	0.0	mg/l	10	9.84	98.4	90-110%
Chloride	GP54355/GN486	0.70	0.0	mg/l	10	10.9	109.0	90-110%
Silica, Dissolved	GN454	0.070	0.0	mg/l	1.07	0.99	92.5	80-120%
Solids, Total Dissolved	GN385	10	0.0	mg/l	500	475	95.0	88-110%
Specific Conductivity	GN398	1.0	<1.0	umhos/cm				
Sulfate	GP54343/GN472	0.50	0.0	mg/l	10	10.3	103.0	90-110%
Sulfate	GP54355/GN486	0.50	0.0	mg/l	10	10.9	109.0	90-110%

Associated Samples:

Batch GN385: LA56751-3, LA56751-4, LA56751-5, LA56751-6
 Batch GN398: LA56751-3, LA56751-4, LA56751-5, LA56751-6
 Batch GN441: LA56751-3, LA56751-4, LA56751-5, LA56751-6
 Batch GN442: LA56751-3, LA56751-4, LA56751-5, LA56751-6
 Batch GN443: LA56751-3, LA56751-4, LA56751-5, LA56751-6
 Batch GN454: LA56751-3, LA56751-4, LA56751-5, LA56751-6
 Batch GP54343: LA56751-3, LA56751-4
 Batch GP54355: LA56751-5, LA56751-6
 (*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA56751
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
Bromide	GP54343/GN472	LA56751-4	mg/l	2.0	0.0	200.0*	0-19%
Bromide	GP54355/GN486	LA56751-6	mg/l	0.0	0.0	0.0	0-19%
Chloride	GP54343/GN472	LA56751-4	mg/l	324	302	7.0	0-13%
Chloride	GP54355/GN486	LA56751-6	mg/l	40.9	40.7	0.5	0-13%
Silica, Dissolved	GN454	LA56751-3	mg/l	0.0	0.0	0.0	0-20%
Solids, Total Dissolved	GN385	TD43283-15	mg/l	769	771	0.3	0-5%
Specific Conductivity	GN398	LA56762-1	umhos/cm	591	591	0.0	0-10%
Sulfate	GP54343/GN472	LA56751-4	mg/l	355	351	1.1	0-20%
Sulfate	GP54355/GN486	LA56751-6	mg/l	8.3	8.4	1.2	0-20%

Associated Samples:

Batch GN385: LA56751-3, LA56751-4, LA56751-5, LA56751-6

Batch GN398: LA56751-3, LA56751-4, LA56751-5, LA56751-6

Batch GN454: LA56751-3, LA56751-4, LA56751-5, LA56751-6

Batch GP54343: LA56751-3, LA56751-4

Batch GP54355: LA56751-5, LA56751-6

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA56751
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
Bromide	GP54343/GN472	LA56751-4	mg/l	2.0	500	628	125.2N	80-120%
Bromide	GP54355/GN486	LA56751-6	mg/l	0.0	10	16.8	168.0N	80-120%
Chloride	GP54343/GN472	LA56751-4	mg/l	324	500	858	107.0	80-120%
Chloride	GP54355/GN486	LA56751-6	mg/l	40.9	50	81.8	81.8	80-120%
Silica, Dissolved	GN454	LA56751-3	mg/l	0.0	1.07	1.0	93.5	75-125%
Sulfate	GP54343/GN472	LA56751-4	mg/l	355	500	864	102.0	80-120%
Sulfate	GP54355/GN486	LA56751-6	mg/l	8.3	10	18.4	101.0	80-120%

Associated Samples:

Batch GN454: LA56751-3, LA56751-4, LA56751-5, LA56751-6

Batch GP54343: LA56751-3, LA56751-4

Batch GP54355: LA56751-5, LA56751-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

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