The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

Hydro-Environmental Technology, Inc.

8060.00 Indigo-Desoto Parish, LA

SGS Job Number: LA49116

Sampling Date: 10/23/18

Report to:

Hydro-Environmental Technology
P.O. BOX 60295
Lafayette, LA 70596
labdata@hetinc.us

ATTN: Stewart L Stover, Jr.

Total number of pages in report: **160**

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
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(T104704186-15-7), WV(257)

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SGS North America Inc.

Sample Summary

Hydro-Environmental Technology, Inc.

8060.00 Indigo-Desoto Parish, LA

Job No: LA49116

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA49116-1	10/23/18	11:20	KC/DB	10/25/18	AQ	Water	031-9832Z (BAGLEY RIG SUPPLY WELL)
LA49116-1F	10/23/18	11:20	KC/DB	10/25/18	AQ	Water Filtered	031-9832Z (BAGLEY RIG SUPPLY WELL)
LA49116-2	10/23/18	15:45	KC/DB	10/25/18	AQ	Water	031-9825Z (BILLINGSLEY RELIEF WELL)
LA49116-2F	10/23/18	15:45	KC/DB	10/25/18	AQ	Water Filtered	031-9825Z (BILLINGSLEY RELIEF WELL)
LA49116-3	10/23/18	17:20	KC/DB	10/25/18	AQ	Water	031-9767Z (LONG 1&2 RIG SUPPLY WELL)
LA49116-3F	10/23/18	17:20	KC/DB	10/25/18	AQ	Water Filtered	031-9767Z (LONG 1&2 RIG SUPPLY WELL)
LA49116-4	10/23/18	16:35	KC/DB	10/25/18	AQ	Water	031-9768Z (LONG 3&4 RIG SUPPLY WELL)
LA49116-4F	10/23/18	16:35	KC/DB	10/25/18	AQ	Water Filtered	031-9768Z (LONG 3&4 RIG SUPPLY WELL)
LA49116-5	10/23/18	13:00	KC/DB	10/25/18	AQ	Equipment Blank	EQUIPMENT BLANK
LA49116-5F	10/23/18	13:00	KC/DB	10/25/18	AQ	Equip Blank Filtered	EQUIPMENT BLANK
LA49116-6	10/23/18	10:55	KC/DB	10/25/18	AQ	Field Blank Water	FIELD BLANK
LA49116-7	10/23/18	06:45	KC/DB	10/25/18	AQ	Trip Blank Water	TRIP BLANK 1
LA49116-8	10/23/18	06:45	KC/DB	10/25/18	AQ	Trip Blank Water	TRIP BLANK 2

SGS North America Inc.

Sample Summary
(continued)

Hydro-Environmental Technology, Inc.

Job No: LA49116

8060.00 Indigo-Desoto Parish, LA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA49116-9	10/23/18	09:30	KC/DB	10/25/18	AQ	Water	031-802 (DERBONNE RELIEF WELL)
LA49116-9F	10/23/18	09:30	KC/DB	10/25/18	AQ	Water Filtered	031-802 (DERBONNE RELIEF WELL)
LA49116-10	10/23/18	13:15	KC/DB	10/25/18	AQ	Water	031-9807Z (GAMBLE RIG SUPPLY WELL)
LA49116-10F	10/23/18	13:15	KC/DB	10/25/18	AQ	Water Filtered	031-9807Z (GAMBLE RIG SUPPLY WELL)
LA49116-11	10/23/18	08:30	KC/DB	10/25/18	AQ	Field Blank Water	FIELD BLANK2
LA49116-12	10/23/18	07:15	KC/DB	10/25/18	AQ	Trip Blank Water	TRIP BLANK 2

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q0444634.D	1	10/30/18 14:06	NN	n/a	n/a	V2Q2275
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	100%		84-124%
2037-26-5	Toluene-D8	99%		83-115%
460-00-4	4-Bromofluorobenzene	99%		89-111%

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SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0022627.D	1	10/31/18 13:16	JS	10/29/18 07:00	OP12645	EL594
Run #2							

	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 [a]	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 [a]	ND	0.0044	mg/l	

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SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

ABN RECAP LIST

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	56%		23-85%
4165-62-2	Phenol-d5	46%		10-69%
118-79-6	2,4,6-Tribromophenol	90%		48-138%
4165-60-0	Nitrobenzene-d5	70%		51-128%
321-60-8	2-Fluorobiphenyl	78%		55-122%
1718-51-0	Terphenyl-d14	92%		43-138%

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

ND = Not detected
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J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	LC381161.D	1	10/27/18 14:21	SV	n/a	n/a	GLC1882
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	101% [b]		70-130%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LK113841.D	1	10/30/18 21:03	JS	10/29/18 03:50	OP12674	GLK739
Run #2							

	Initial Volume	Final Volume
Run #1	36.2 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
348-51-6	1-Chloro-2-fluorobenzene	114%		55-149%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	MADEP EPH REV 1.1 SW846 3511	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0005578.D	1	10/30/18 03:37	JT	10/26/18 14:00	OP12635	GLB1651
Run #2	Y0005578.D	1	10/30/18 03:38	JT	10/26/18 14:00	OP12635	GLB1652

	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		85%	40-140%
84-15-1	o-Terphenyl	74%		40-140%
321-60-8	2-Fluorobiphenyl	76%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		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	2.97	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0754	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	3.08	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	2.15	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	1.09	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	0.0331	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	2.13	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	170	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.193	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate [a]	222	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Carbonate [a]	6.0	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Total as CaCO3 [a]	228	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	< 0.50	0.50	mg/l	1	11/06/18 13:26	ATX	SW846 9056A
Chloride [a]	17.7	0.50	mg/l	1	11/06/18 13:26	ATX	SW846 9056A
Silica, Dissolved [a]	6.2	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	347	10	mg/l	1	10/30/18	ATX	SM 2540C-2011
Specific Conductivity [b]	563	1.0	umhos/cm	1	10/29/18 12:15	ATX	EPA 120.1
Sulfate [a]	1.3	0.50	mg/l	1	11/06/18 13:26	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9832Z (BAGLEY RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-1F	**Date Sampled:**	10/23/18
Matrix:	AQ - Water Filtered	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0397	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	2.06	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.020	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.20	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	154	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.149	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q0444636.D	1	10/30/18 14:32	NN	n/a	n/a	V2Q2275
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	97%		84-124%
2037-26-5	Toluene-D8	100%		83-115%
460-00-4	4-Bromofluorobenzene	98%		89-111%

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N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0022628.D	1	10/31/18 13:41	JS	10/29/18 07:00	OP12645	EL594
Run #2							

	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 [a]	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 [a]	ND	0.0044	mg/l	

ND = Not detected
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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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
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	59%		23-85%
4165-62-2	Phenol-d5	47%		10-69%
118-79-6	2,4,6-Tribromophenol	92%		48-138%
4165-60-0	Nitrobenzene-d5	72%		51-128%
321-60-8	2-Fluorobiphenyl	78%		55-122%
1718-51-0	Terphenyl-d14	88%		43-138%

(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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	LC381162.D	1	10/27/18 15:05	SV	n/a	n/a	GLC1882
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	99% [b]		70-130%

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

SGS North America Inc.

Report of Analysis

Client Sample ID: 031-9825Z (BILLINGSLEY RELIEF WELL)
Lab Sample ID: LA49116-2
Matrix: AQ - Water
Method: SW846 8011 SW846 8011
Project: 8060.00 Indigo-Desoto Parish, LA

Date Sampled: 10/23/18
Date Received: 10/25/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LK113842.D	1	10/30/18 21:20	JS	10/29/18 03:50	OP12674	GLK739
Run #2							

	Initial Volume	Final Volume
Run #1	36.9 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
348-51-6	1-Chloro-2-fluorobenzene	114%		55-149%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	MADEP EPH REV 1.1 SW846 3511	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0005579.D	1	10/30/18 04:02	JT	10/26/18 14:00	OP12635	GLB1651
Run #2	Y0005579.D	1	10/30/18 04:03	JT	10/26/18 14:00	OP12635	GLB1652

	Initial Volume	Final Volume
Run #1	53.5 ml	4.0 ml
Run #2	53.5 ml	4.0 ml

Louisiana EPH Ranges

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane		86%	40-140%
84-15-1	o-Terphenyl	78%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		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	1.20	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0318	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.27	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	0.0267	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.36	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	289	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.0755	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate [a]	385	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Carbonate [a]	10	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Total as CaCO3 [a]	395	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	0.50	0.50	mg/l	1	11/06/18 21:53	ATX	SW846 9056A
Chloride [a]	59.0	2.5	mg/l	5	11/06/18 13:42	ATX	SW846 9056A
Silica, Dissolved [a]	10.3	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	622	10	mg/l	1	10/30/18	ATX	SM 2540C-2011
Specific Conductivity [b]	997	1.0	umhos/cm	1	10/29/18 12:15	ATX	EPA 120.1
Sulfate [a]	< 0.50	0.50	mg/l	1	11/06/18 21:53	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9825Z (BILLINGSLEY RELIEF WELL)		
Lab Sample ID:	LA49116-2F	**Date Sampled:**	10/23/18
Matrix:	AQ - Water Filtered	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0253	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.20	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	0.0205	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.14	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	294	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.0741	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q0444638.D	1	10/30/18 14:58	NN	n/a	n/a	V2Q2275
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	98%		84-124%
2037-26-5	Toluene-D8	100%		83-115%
460-00-4	4-Bromofluorobenzene	98%		89-111%

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N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0022629.D	1	10/31/18 14:06	JS	10/29/18 07:00	OP12645	EL594
Run #2							

	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 [a]	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 [a]	ND	0.0044	mg/l	

ND = Not detected
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
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	54%		23-85%
4165-62-2	Phenol-d5	47%		10-69%
118-79-6	2,4,6-Tribromophenol	86%		48-138%
4165-60-0	Nitrobenzene-d5	68%		51-128%
321-60-8	2-Fluorobiphenyl	74%		55-122%
1718-51-0	Terphenyl-d14	90%		43-138%

(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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	LC381163.D	1	10/27/18 15:48	SV	n/a	n/a	GLC1882
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	100% [b]		70-130%

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

SGS North America Inc.

Report of Analysis

Client Sample ID: 031-9767Z (LONG 1&2 RIG SUPPLY WELL)
Lab Sample ID: LA49116-3
Matrix: AQ - Water
Method: SW846 8011 SW846 8011
Project: 8060.00 Indigo-Desoto Parish, LA

Date Sampled: 10/23/18
Date Received: 10/25/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LK113866.D	1	10/31/18 04:21	JS	10/29/18 03:50	OP12675	GLK739
Run #2							

	Initial Volume	Final Volume
Run #1	36.3 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
348-51-6	1-Chloro-2-fluorobenzene	114%		55-149%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	MADEP EPH REV 1.1 SW846 3511	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0005580.D	1	10/30/18 04:26	JT	10/26/18 14:00	OP12635	GLB1651
Run #2	Y0005580.D	1	10/30/18 04:27	JT	10/26/18 14:00	OP12635	GLB1652

	Initial Volume	Final Volume
Run #1	55.1 ml	4.0 ml
Run #2	55.1 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		84%	40-140%
84-15-1	o-Terphenyl	78%		40-140%
321-60-8	2-Fluorobiphenyl	77%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0253	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.22	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.020	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.14	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	201	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.104	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate [a]	225	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Carbonate [a]	5.7	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Total as CaCO3 [a]	231	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	< 0.50	0.50	mg/l	1	11/06/18 22:10	ATX	SW846 9056A
Chloride [a]	51.6	2.5	mg/l	5	11/06/18 13:59	ATX	SW846 9056A
Silica, Dissolved [a]	7.4	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	487	10	mg/l	1	10/30/18	ATX	SM 2540C-2011
Specific Conductivity [b]	796	1.0	umhos/cm	1	10/29/18 12:15	ATX	EPA 120.1
Sulfate [a]	60.5	2.5	mg/l	5	11/06/18 13:59	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9767Z (LONG 1&2 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-3F	**Date Sampled:**	10/23/18
Matrix:	AQ - Water Filtered	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0245	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.47	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.020	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.27	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	220	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.111	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q0444640.D	1	10/30/18 15:24	NN	n/a	n/a	V2Q2275
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	99%		84-124%
2037-26-5	Toluene-D8	98%		83-115%
460-00-4	4-Bromofluorobenzene	94%		89-111%

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N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0022630.D	1	10/31/18 14:31	JS	10/29/18 07:00	OP12645	EL594
Run #2							

	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 [a]	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 [a]	ND	0.0044	mg/l	

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N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
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	57%		23-85%
4165-62-2	Phenol-d5	46%		10-69%
118-79-6	2,4,6-Tribromophenol	90%		48-138%
4165-60-0	Nitrobenzene-d5	72%		51-128%
321-60-8	2-Fluorobiphenyl	78%		55-122%
1718-51-0	Terphenyl-d14	89%		43-138%

(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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	LC381170.D	1	10/27/18 20:56	SV	n/a	n/a	GLC1882
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	102% [a]		70-130%
615-59-8	2,5-Dibromotoluene	101% [b]		70-130%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LK113867.D	1	10/31/18 04:39	JS	10/29/18 03:50	OP12675	GLK739
Run #2							

	Initial Volume	Final Volume
Run #1	33.1 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000021	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
348-51-6	1-Chloro-2-fluorobenzene	113%		55-149%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	MADEP EPH REV 1.1 SW846 3511	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0005581.D	1	10/30/18 04:50	JT	10/26/18 14:00	OP12635	GLB1651
Run #2	Y0005581.D	1	10/30/18 04:51	JT	10/26/18 14:00	OP12635	GLB1652

	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		77%	40-140%
84-15-1	o-Terphenyl	81%		40-140%
321-60-8	2-Fluorobiphenyl	83%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0512	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.68	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.020	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.22	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	209	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.144	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate [a]	305	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Carbonate [a]	9.7	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Total as CaCO3 [a]	315	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	< 0.50	0.50	mg/l	1	11/06/18 23:01	ATX	SW846 9056A
Chloride [a]	43.9	2.5	mg/l	5	11/06/18 14:16	ATX	SW846 9056A
Silica, Dissolved [a]	6.8	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	448	10	mg/l	1	10/30/18	ATX	SM 2540C-2011
Specific Conductivity [b]	755	1.0	umhos/cm	1	10/29/18 12:15	ATX	EPA 120.1
Sulfate [a]	8.8	0.50	mg/l	1	11/06/18 23:01	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9768Z (LONG 3&4 RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-4F	**Date Sampled:**	10/23/18
Matrix:	AQ - Water Filtered	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0450	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.71	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.020	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.22	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	207	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.140	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1I040689.D	1	10/30/18 01:39	LS	n/a	n/a	V1I1896
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
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	102%		84-124%
2037-26-5	Toluene-D8	97%		83-115%
460-00-4	4-Bromofluorobenzene	95%		89-111%

ND = Not detected
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0022728.D	1	11/04/18 17:19	JS	10/29/18 07:00	OP12645	EL598
Run #2							

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

ABN RECAP LIST

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

ND = Not detected
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
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 [a]	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 [b]	0.00022	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	48%		23-85%
4165-62-2	Phenol-d5	38%		10-69%
118-79-6	2,4,6-Tribromophenol	78%		48-138%
4165-60-0	Nitrobenzene-d5	66%		51-128%
321-60-8	2-Fluorobiphenyl	66%		55-122%
1718-51-0	Terphenyl-d14	82%		43-138%

(a) Associated CCV outside of control limits high, sample was ND.
(b) Analyte detected in client Equipment Blank. Sample was re-analyzed for confirmation.

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
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	LC381169.D	1	10/27/18 20:11	SV	n/a	n/a	GLC1882
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	98% [b]		70-130%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LK113869.D	1	10/31/18 05:14	JS	10/29/18 03:50	OP12675	GLK739
Run #2							

	Initial Volume	Final Volume
Run #1	36.8 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
348-51-6	1-Chloro-2-fluorobenzene	113%		55-149%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
Method:	MADEP EPH REV 1.1 SW846 3511	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0005582.D	1	10/30/18 05:15	JT	10/26/18 14:00	OP12635	GLB1651
Run #2	Y0005582.D	1	10/30/18 05:16	JT	10/26/18 14:00	OP12635	GLB1652

	Initial Volume	Final Volume
Run #1	55.2 ml	4.0 ml
Run #2	55.2 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		77%	40-140%
84-15-1	o-Terphenyl	79%		40-140%
321-60-8	2-Fluorobiphenyl	82%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.00050	0.00050	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.0020	0.0020	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.0050	0.0050	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	< 0.0020	0.0020	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.0050	0.0050	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5	**Date Sampled:**	10/23/18
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/18
		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	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Carbonate [a]	< 5.0	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Total as CaCO3 [a]	< 5.0	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	< 0.50	0.50	mg/l	1	11/06/18 14:33	ATX	SW846 9056A
Chloride [a]	< 0.50	0.50	mg/l	1	11/06/18 14:33	ATX	SW846 9056A
Silica, Dissolved [a]	< 0.070	0.070	mg/l	1	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	< 10	10	mg/l	1	10/30/18	ATX	SM 2540C-2011
Specific Conductivity [b]	< 1.0	1.0	umhos/cm	1	10/29/18 12:15	ATX	EPA 120.1
Sulfate [a]	< 0.50	0.50	mg/l	1	11/06/18 14:33	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	LA49116-5F	**Date Sampled:**	10/23/18
Matrix:	AQ - Equip Blank Filtered	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.00050	0.00050	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.0020	0.0020	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.0050	0.0050	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.0010	0.0010	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	< 0.10	0.10	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	< 0.0020	0.0020	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.0050	0.0050	mg/l	1	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	FIELD BLANK		
Lab Sample ID:	LA49116-6	**Date Sampled:**	10/23/18
Matrix:	AQ - Field Blank Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1I040691.D	1	10/30/18 02:07	LS	n/a	n/a	V1I1896
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	FIELD BLANK		
Lab Sample ID:	LA49116-6	**Date Sampled:**	10/23/18
Matrix:	AQ - Field Blank Water	**Date Received:**	10/25/18
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	100%		84-124%
2037-26-5	Toluene-D8	97%		83-115%
460-00-4	4-Bromofluorobenzene	92%		89-111%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	TRIP BLANK 1		
Lab Sample ID:	LA49116-7	**Date Sampled:**	10/23/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1I040693.D	1	10/30/18 02:35	LS	n/a	n/a	V1I1896
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	TRIP BLANK 1		
Lab Sample ID:	LA49116-7	**Date Sampled:**	10/23/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/25/18
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	106%		84-124%
2037-26-5	Toluene-D8	98%		83-115%
460-00-4	4-Bromofluorobenzene	94%		89-111%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	TRIP BLANK 2		
Lab Sample ID:	LA49116-8	**Date Sampled:**	10/23/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2I040658.D	1	10/29/18 18:24	LS	n/a	n/a	V2I1896
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RECAP List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	TRIP BLANK 2		
Lab Sample ID:	LA49116-8	**Date Sampled:**	10/23/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

VOA RECAP List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		84-124%
2037-26-5	Toluene-D8	99%		83-115%
460-00-4	4-Bromofluorobenzene	91%		89-111%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q0444642.D	1	10/30/18 15:50	NN	n/a	n/a	V2Q2275
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	100%		84-124%
2037-26-5	Toluene-D8	96%		83-115%
460-00-4	4-Bromofluorobenzene	100%		89-111%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0022631.D	1	10/31/18 14:56	JS	10/29/18 07:00	OP12645	EL594
Run #2							

	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 [a]	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 [a]	ND	0.0044	mg/l	

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N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
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	0.0082	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	0.00020	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	53%		23-85%
4165-62-2	Phenol-d5	43%		10-69%
118-79-6	2,4,6-Tribromophenol	98%		48-138%
4165-60-0	Nitrobenzene-d5	75%		51-128%
321-60-8	2-Fluorobiphenyl	79%		55-122%
1718-51-0	Terphenyl-d14	80%		43-138%

(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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	LC381171.D	1	10/27/18 21:40	SV	n/a	n/a	GLC1882
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	106% [a]		70-130%
615-59-8	2,5-Dibromotoluene	104% [b]		70-130%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LK113870.D	1	10/31/18 05:31	JS	10/29/18 03:50	OP12675	GLK739
Run #2							

	Initial Volume	Final Volume
Run #1	36.8 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
348-51-6	1-Chloro-2-fluorobenzene	112%		55-149%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	MADEP EPH REV 1.1 SW846 3511	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0005605.D	1	11/01/18 13:25	JT	10/30/18 07:00	OP12664	GLB1653
Run #2	Y0005605.D	1	11/01/18 13:26	JT	10/30/18 07:00	OP12664	GLB1654

	Initial Volume	Final Volume
Run #1	55.3 ml	4.0 ml
Run #2	55.3 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. [b]	0.590 [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		67%	40-140%
84-15-1	o-Terphenyl	82%		40-140%
321-60-8	2-Fluorobiphenyl	79%		40-140%

(a) Result is from Run# 2
(b) Result confirmed by re-extraction and reanalysis.

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		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	5.55	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.126	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.28	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	5.39	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	1.22	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	0.143	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	2.20	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	237	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.0935	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate [a]	362	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Carbonate [a]	12.9	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Total as CaCO3 [a]	375	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	< 0.50	0.50	mg/l	1	11/06/18 23:18	ATX	SW846 9056A
Chloride [a]	34.9	1.0	mg/l	2	11/06/18 14:50	ATX	SW846 9056A
Silica, Dissolved [a]	5.6	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	574	10	mg/l	1	10/30/18	ATX	SM 2540C-2011
Specific Conductivity [b]	882	1.0	umhos/cm	1	10/29/18 14:20	ATX	EPA 120.1
Sulfate [a]	1.5	0.50	mg/l	1	11/06/18 23:18	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-802 (DERBONNE RELIEF WELL)		
Lab Sample ID:	LA49116-9F	**Date Sampled:**	10/23/18
Matrix:	AQ - Water Filtered	**Date Received:**	10/25/18
		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	4.79	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.115	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	2.66	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	4.02	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	1.06	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	0.105	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	2.22	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	283	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.0919	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q0444644.D	1	10/30/18 16:16	NN	n/a	n/a	V2Q2275
Run #2							

	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	102%		84-124%
2037-26-5	Toluene-D8	98%		83-115%
460-00-4	4-Bromofluorobenzene	98%		89-111%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L0022632.D	1	10/31/18 15:21	JS	10/29/18 07:00	OP12645	EL594
Run #2							

	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 [a]	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 [a]	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
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	0.00019	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	52%		23-85%
4165-62-2	Phenol-d5	44%		10-69%
118-79-6	2,4,6-Tribromophenol	98%		48-138%
4165-60-0	Nitrobenzene-d5	66%		51-128%
321-60-8	2-Fluorobiphenyl	70%		55-122%
1718-51-0	Terphenyl-d14	90%		43-138%

(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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
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	LC381172.D	1	10/27/18 22:25	SV	n/a	n/a	GLC1882
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	105% [a]		70-130%
615-59-8	2,5-Dibromotoluene	103% [b]		70-130%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LK113871.D	1	10/31/18 05:49	JS	10/29/18 03:50	OP12675	GLK739
Run #2							

	Initial Volume	Final Volume
Run #1	36.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
348-51-6	1-Chloro-2-fluorobenzene	107%		55-149%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
Method:	MADEP EPH REV 1.1 SW846 3511	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0005566.D	1	10/29/18 22:43	JT	10/26/18 14:00	OP12635	GLB1651
Run #2	Y0005566.D	1	10/29/18 22:44	JT	10/26/18 14:00	OP12635	GLB1652

	Initial Volume	Final Volume
Run #1	55.0 ml	4.0 ml
Run #2	55.0 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		87%	40-140%
84-15-1	o-Terphenyl	85%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0245	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.23	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.020	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.24	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	358	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.108	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10	**Date Sampled:**	10/23/18
Matrix:	AQ - Water	**Date Received:**	10/25/18
		Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate [a]	495	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Carbonate [a]	19.9	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Total as CaCO3 [a]	515	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	0.64	0.50	mg/l	1	11/06/18 23:35	ATX	SW846 9056A
Chloride [a]	102	5.0	mg/l	10	11/06/18 15:07	ATX	SW846 9056A
Silica, Dissolved [a]	7.4	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	1110	10	mg/l	1	10/30/18	ATX	SM 2540C-2011
Specific Conductivity [b]	1370	1.0	umhos/cm	1	10/29/18 14:20	ATX	EPA 120.1
Sulfate [a]	0.83	0.50	mg/l	1	11/06/18 23:35	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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-9807Z (GAMBLE RIG SUPPLY WELL)		
Lab Sample ID:	LA49116-10F	**Date Sampled:**	10/23/18
Matrix:	AQ - Water Filtered	**Date Received:**	10/25/18
		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	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Arsenic	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Barium	0.0246	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Cadmium	< 0.0050	0.0050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Calcium	1.30	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Chromium	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Iron	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Lead	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Magnesium	< 1.0	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Manganese	< 0.020	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [2]	SW846 7470A [4]
Potassium	1.31	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Selenium	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Silver	< 0.010	0.010	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Sodium	373	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.106	0.020	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Zinc	< 0.050	0.050	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA13786
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13153
(4) Prep QC Batch: MP13158

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	FIELD BLANK2		
Lab Sample ID:	LA49116-11	**Date Sampled:**	10/23/18
Matrix:	AQ - Field Blank Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q0444628.D	1	10/30/18 12:48	NN	n/a	n/a	V2Q2275
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RECAP List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	FIELD BLANK2		
Lab Sample ID:	LA49116-11	**Date Sampled:**	10/23/18
Matrix:	AQ - Field Blank Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

VOA RECAP List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		84-124%
2037-26-5	Toluene-D8	97%		83-115%
460-00-4	4-Bromofluorobenzene	97%		89-111%

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	TRIP BLANK 2		
Lab Sample ID:	LA49116-12	**Date Sampled:**	10/23/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2I040656.D	1	10/29/18 17:56	LS	n/a	n/a	V2I1896
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA RECAP List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	TRIP BLANK 2		
Lab Sample ID:	LA49116-12	**Date Sampled:**	10/23/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/25/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

VOA RECAP List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		84-124%
2037-26-5	Toluene-D8	100%		83-115%
460-00-4	4-Bromofluorobenzene	91%		89-111%

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

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 49116

SAMPLE CHAIN-OF-CUSTODY RECORD

Laboratory:	SGS Lafayette		
Project Name:	Indigo	**Collected By:**	KC / DB
Project Number:	8060.00	**Company:**	Hydro-Environmental Technology, Inc.
Project Location:	DeSoto Parish, Louisiana	**Date:**	10/23/2018

	Sample I.D.	Type	Date/Time Sampled		Containers	Analysis Requested/Method	Comments
1	031-9732Z (Bagley Rig Supply Well)	AQ	10/23/2018	11:20	(7) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO3	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
2	031-9825Z (Billingsley Relief Well)	AQ	10/23/2018	15:45	(7) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO4	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
3	031-9767Z (Long 1&2 Rig Supply Well)	AQ	10/23/2018	17:20	(7) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO5	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
4	031-9768Z (Long 3&4 Rig Supply Well)	AQ	10/23/2018	16:35	(7) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO6	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
5	Equipment Blank	AQ	10/23/2018	13:00	(7) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO7	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals

VW(BSM22) 11.03(RLM7)

*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

Temp: 2.5 4.1 5.8 dv 439 NO/CS/OC 1B2(W550) OK 3W2 3W2 pH<2

Relinquished By: Derek L. Broussard	Relinquished By: RCC: Walter Newman
Date/Time: 10-25-2018 1445	Date/Time: 10.25.2018 1445
Relinquished By:	Relinquished By:
Date/Time:	Date/Time:
Analysis Due: Verbal:	Written:

LA49116: Chain of Custody
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HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
Environmental Consultants
P.O. Box 60295
Lafayette, LA 70596-0295
Phone (337) 261-1963 FAX (337) 261-1953

LA49116

SAMPLE CHAIN-OF-CUSTODY RECORD

Project Name:	Indigo	**Laboratory:**	SGS Lafayette
Project Number:	8060.00	**Collected By:**	KC / DB
Project Location:	DeSoto Parish, Louisiana	**Company:**	Hydro-Environmental Technology, Inc.
		Date:	10/23/2018

	Sample I.D.	Type	Date/Time Sampled		Containers	Analysis Requested/Method	Comments
6	Field Blank	AQ	10/23/2018	10:55	(6) 40mL Glass HCl	VOC 8260	4°C
7	Trip Blank 1	AQ	10/23/2018	6:45	(5) 40mL Glass HCl	VOC 8261	4°C
8	Trip Blank 2	AQ	10/23/2018	6:45	(5) 40mL Glass HCl	VOC 8262	4°C
9	031-802 (Derbonne Relief Well)	AQ	10/24/2018	9:30	(7) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO6	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
10	031-9807Z (Gamble Rig Supply Well)	AQ	10/24/2018	13:15	(7) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO7	VOC 8260, SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals

NO/CS/OC

*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

Temp: 2.5 4.1 5.8 do 4.39

VW( )

1D3( )
1B2 (WS50)
3W3
3W2F VPH

Relinquished By: Derek J. Broussard	Relinquished By: Walter Newman
Date/Time: 10-25-2018 1445	Date/Time: 10.25.18 1445
Relinquished By:	Relinquished By:
Date/Time:	Date/Time:
Analysis Due: Verbal:	Written:

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

LA 49116

SAMPLE CHAIN-OF-CUSTODY RECORD

Laboratory:	SGS Lafayette		
Project Name:	Indigo	*Collected By:*	KC / DB
Project Number:	8060.00	*Company:*	Hydro-Environmental Technology, Inc.
Project Location:	DeSoto Parish, Louisiana	*Date:*	10/23/2018

	Sample I.D.	Type	Date/Time Sampled		Containers	Analysis Requested/Method	Comments
11	Field Blank	AQ	10/24/2018	8:30	(6) 40mL Glass HCl	VOC 8260	4°C
12	Trip Blank	AQ	10/24/2018	7:15	(5) 40mL Glass HCl	VOC 8260	4°C

10/cs/oc

*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

Temp: 2.5 4.1 5.8 dc 439

Relinquished By: Derek J. Braussard	Relinquished By: Rec'd Walter Newman
Date/Time: 10-25-2018 1445	Date/Time: 10.25.18 1445
Relinquished By:	Relinquished By:
Date/Time:	Date/Time:
Analysis Due: Verbal:	Written:

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LA49116: Chain of Custody
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SGS Sample Receipt Summary

Job Number: LA49116 **Client:** HYDRO ENVIRNMENTAL **Project:** INDIGO

Date / Time Received: 10/25/2018 2:45:00 PM **Delivery Method:** Accutest Courier **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2.5/2.5); #2: (4.1/4.1); #3: (5.8/5.8);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☐		☑	3. COC Present:	☑		☐
2. Custody Seals Intact:	☐		☑	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	DV439;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	3		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

LA49116: Chain of Custody
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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: LA49116
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
V2I1896-MB2	2I040654.D	1	10/29/18	LS	n/a	n/a	V2I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-8, LA49116-12

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

Method Blank Summary

Job Number: LA49116
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
V2I1896-MB2	2I040654.D	1	10/29/18	LS	n/a	n/a	V2I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-8, LA49116-12

CAS No.	Compound	Result	RL	Units	Q
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	0.50	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	100%	84-124%
2037-26-5	Toluene-D8	99%	83-115%
460-00-4	4-Bromofluorobenzene	94%	89-111%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Method Blank Summary

Job Number: LA49116
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
V1I1896-MB2	1I040653.D	1	10/29/18	LS	n/a	n/a	V1I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-5, LA49116-6, LA49116-7

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: LA49116
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
V1I1896-MB2	1I040653.D	1	10/29/18	LS	n/a	n/a	V1I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-5, LA49116-6, LA49116-7

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	101%	84-124%
2037-26-5	Toluene-D8	99%	83-115%
460-00-4	4-Bromofluorobenzene	94%	89-111%

Method Blank Summary

Job Number: LA49116
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
V2Q2275-MB2	2Q0444626.D	1	10/30/18	NN	n/a	n/a	V2Q2275

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-9, LA49116-10, LA49116-11

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
75-15-0	Carbon Disulfide	ND	1.0	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
540-59-0	1,2-Dichloroethene (total)	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
67-72-1	Hexachloroethane	ND	1.0	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	ug/l	
74-83-9	Methyl Bromide	ND	1.0	ug/l	
74-87-3	Methyl Chloride	ND	1.0	ug/l	
75-09-2	Methylene Chloride [a]	0.75	1.0	ug/l	J
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	

Method Blank Summary

Job Number: LA49116
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
V2Q2275-MB2	2Q0444626.D	1	10/30/18	NN	n/a	n/a	V2Q2275

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-9, LA49116-10, LA49116-11

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

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	101%	84-124%
2037-26-5	Toluene-D8	97%	83-115%
460-00-4	4-Bromofluorobenzene	100%	89-111%

(a) Compound not detected in samples at less than 10 times the hit in the blank.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
V2I1896-BS1	2I040648.D	1	10/29/18	LS	n/a	n/a	V2I1896
V2I1896-BSD1	2I040650.D	1	10/29/18	LS	n/a	n/a	V2I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-8, LA49116-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	41.8	84	44.6	89	6	38-178/30
71-43-2	Benzene	20	20.1	101	21.0	105	4	82-119/30
75-27-4	Bromodichloromethane	20	19.1	96	20.5	103	7	79-120/30
75-25-2	Bromoform	20	20.0	100	20.3	102	1	68-128/30
75-15-0	Carbon Disulfide	20	19.1	96	19.8	99	4	64-133/30
56-23-5	Carbon Tetrachloride	20	17.9	90	18.7	94	4	69-132/30
108-90-7	Chlorobenzene	20	19.5	98	20.1	101	3	85-120/30
75-00-3	Chloroethane	20	16.6	83	16.6	83	0	33-170/30
67-66-3	Chloroform	20	18.3	92	19.4	97	6	80-122/30
124-48-1	Dibromochloromethane	20	20.5	103	20.8	104	1	73-125/30
96-12-8	1,2-Dibromo-3-chloropropane	20	19.2	96	19.2	96	0	67-131/30
541-73-1	m-Dichlorobenzene	20	19.9	100	21.0	105	5	84-121/30
95-50-1	o-Dichlorobenzene	20	19.7	99	20.7	104	5	83-120/30
106-46-7	p-Dichlorobenzene	20	19.4	97	20.1	101	4	83-122/30
75-34-3	1,1-Dichloroethane	20	18.4	92	19.2	96	4	78-124/30
107-06-2	1,2-Dichloroethane	20	16.7	84	18.0	90	7	74-127/30
75-35-4	1,1-Dichloroethylene	20	17.6	88	18.6	93	6	70-134/30
156-59-2	cis-1,2-Dichloroethylene	20	19.7	99	20.4	102	3	78-122/30
156-60-5	trans-1,2-Dichloroethylene	20	18.2	91	19.0	95	4	75-127/30
540-59-0	1,2-Dichloroethene (total)	40	37.9	95	39.4	99	4	78-123/30
78-87-5	1,2-Dichloropropane	20	19.7	99	20.6	103	4	82-120/30
10061-01-5	cis-1,3-Dichloropropene	20	20.7	104	22.0	110	6	79-122/30
10061-02-6	trans-1,3-Dichloropropene	20	21.6	108	21.8	109	1	78-124/30
542-75-6	1,3-Dichloropropene (total)	40	42.3	106	43.7	109	3	50-150/30 [a]
100-41-4	Ethylbenzene	20	20.0	100	20.9	105	4	84-117/30
67-72-1	Hexachloroethane	20	19.6	98	19.5	98	1	53-141/30
78-83-1	Isobutyl Alcohol	200	183	92	219	110	18	20-175/30
74-83-9	Methyl Bromide	20	20.6	103	20.9	105	1	37-198/30
74-87-3	Methyl Chloride	20	17.0	85	17.7	89	4	50-136/30
75-09-2	Methylene Chloride	20	16.4	82	17.0	85	4	71-130/30
78-93-3	Methyl Ethyl Ketone	50	47.6	95	49.4	99	4	59-149/30
108-10-1	4-Methyl-2-pentanone	50	52.6	105	55.2	110	5	74-131/30
1634-04-4	Methyl Tert Butyl Ether	20	18.4	92	19.1	96	4	70-126/30
100-42-5	Styrene	20	22.6	113	23.5	118	4	79-128/30
630-20-6	1,1,1,2-Tetrachloroethane	20	19.2	96	20.0	100	4	84-120/30
79-34-5	1,1,2,2-Tetrachloroethane	20	19.2	96	19.8	99	3	77-126/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
V2I1896-BS1	2I040648.D	1	10/29/18	LS	n/a	n/a	V2I1896
V2I1896-BSD1	2I040650.D	1	10/29/18	LS	n/a	n/a	V2I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-8, LA49116-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	20	19.3	97	20.0	100	4	75-133/30
108-88-3	Toluene	20	19.0	95	20.0	100	5	80-121/30
71-55-6	1,1,1-Trichloroethane	20	19.4	97	19.9	100	3	74-126/30
79-00-5	1,1,2-Trichloroethane	20	19.3	97	19.7	99	2	80-123/30
79-01-6	Trichloroethylene	20	20.0	100	21.2	106	6	62-125/30
75-69-4	Trichlorofluoromethane	20	16.9	85	17.7	89	5	62-148/30
75-01-4	Vinyl Chloride	20	18.0	90	18.8	94	4	67-130/30
	m,p-Xylene	40	43.4	109	44.8	112	3	82-121/30
95-47-6	o-Xylene	20	21.6	108	22.5	113	4	84-119/30
1330-20-7	Xylene (total)	60	65.1	109	67.3	112	3	81-122/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	90%	89%	84-124%
2037-26-5	Toluene-D8	100%	102%	83-115%
460-00-4	4-Bromofluorobenzene	101%	102%	89-111%

(a) Advisory control limits.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
V1I1896-BS1	1I040647.D	1	10/29/18	LS	n/a	n/a	V1I1896
V1I1896-BSD1	1I040649.D	1	10/29/18	LS	n/a	n/a	V1I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-5, LA49116-6, LA49116-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	43.8	88	44.2	88	1	38-178/30
71-43-2	Benzene	20	19.1	96	19.6	98	3	82-119/30
75-27-4	Bromodichloromethane	20	18.4	92	19.1	96	4	79-120/30
75-25-2	Bromoform	20	15.5	78	15.9	80	3	68-128/30
75-15-0	Carbon Disulfide	20	18.3	92	19.2	96	5	64-133/30
56-23-5	Carbon Tetrachloride	20	17.7	89	18.3	92	3	69-132/30
108-90-7	Chlorobenzene	20	18.5	93	19.0	95	3	85-120/30
75-00-3	Chloroethane	20	18.6	93	19.2	96	3	33-170/30
67-66-3	Chloroform	20	17.8	89	18.6	93	4	80-122/30
124-48-1	Dibromochloromethane	20	17.3	87	17.7	89	2	73-125/30
541-73-1	m-Dichlorobenzene	20	19.4	97	19.8	99	2	84-121/30
95-50-1	o-Dichlorobenzene	20	19.6	98	20.2	101	3	83-120/30
106-46-7	p-Dichlorobenzene	20	18.9	95	18.7	94	1	83-122/30
75-34-3	1,1-Dichloroethane	20	17.7	89	18.6	93	5	78-124/30
107-06-2	1,2-Dichloroethane	20	18.5	93	19.1	96	3	74-127/30
75-35-4	1,1-Dichloroethylene	20	17.0	85	17.7	89	4	70-134/30
156-59-2	cis-1,2-Dichloroethylene	20	19.0	95	19.8	99	4	78-122/30
156-60-5	trans-1,2-Dichloroethylene	20	17.0	85	17.6	88	3	75-127/30
540-59-0	1,2-Dichloroethene (total)	40	36.1	90	37.4	94	4	78-123/30
78-87-5	1,2-Dichloropropane	20	18.9	95	19.4	97	3	82-120/30
10061-01-5	cis-1,3-Dichloropropene	20	17.4	87	17.7	89	2	79-122/30
10061-02-6	trans-1,3-Dichloropropene	20	17.2	86	17.7	89	3	78-124/30
542-75-6	1,3-Dichloropropene (total)	40	34.6	87	35.4	89	2	50-150/30 [a]
100-41-4	Ethylbenzene	20	19.6	98	20.1	101	3	84-117/30
67-72-1	Hexachloroethane	20	14.9	75	15.3	77	3	53-141/30
78-83-1	Isobutyl Alcohol	200	180	90	182	91	1	20-175/30
74-83-9	Methyl Bromide	20	19.1	96	19.4	97	2	37-198/30
74-87-3	Methyl Chloride	20	15.7	79	16.5	83	5	50-136/30
75-09-2	Methylene Chloride	20	18.7	94	19.4	97	4	71-130/30
78-93-3	Methyl Ethyl Ketone	50	48.7	97	50.2	100	3	59-149/30
108-10-1	4-Methyl-2-pentanone	50	42.0	84	43.4	87	3	74-131/30
1634-04-4	Methyl Tert Butyl Ether	20	19.5	98	19.2	96	2	70-126/30
100-42-5	Styrene	20	18.7	94	19.1	96	2	79-128/30
630-20-6	1,1,1,2-Tetrachloroethane	20	19.1	96	19.9	100	4	84-120/30
79-34-5	1,1,2,2-Tetrachloroethane	20	19.0	95	19.2	96	1	77-126/30
127-18-4	Tetrachloroethylene	20	18.3	92	19.1	96	4	75-133/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
V1I1896-BS1	1I040647.D	1	10/29/18	LS	n/a	n/a	V1I1896
V1I1896-BSD1	1I040649.D	1	10/29/18	LS	n/a	n/a	V1I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-5, LA49116-6, LA49116-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
108-88-3	Toluene	20	18.4	92	19.0	95	3	80-121/30
71-55-6	1,1,1-Trichloroethane	20	18.1	91	18.8	94	4	74-126/30
79-00-5	1,1,2-Trichloroethane	20	18.9	95	19.5	98	3	80-123/30
79-01-6	Trichloroethylene	20	19.3	97	19.6	98	2	62-125/30
75-69-4	Trichlorofluoromethane	20	15.8	79	16.6	83	5	62-148/30
75-01-4	Vinyl Chloride	20	17.2	86	17.9	90	4	67-130/30
	m,p-Xylene	40	41.4	104	42.6	107	3	82-121/30
95-47-6	o-Xylene	20	18.2	91	18.8	94	3	84-119/30
1330-20-7	Xylene (total)	60	59.5	99	61.4	102	3	81-122/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	90%	91%	84-124%
2037-26-5	Toluene-D8	101%	101%	83-115%
460-00-4	4-Bromofluorobenzene	100%	101%	89-111%

(a) Advisory control limits.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
V2Q2275-BS1	2Q0444620.D	1	10/30/18	NN	n/a	n/a	V2Q2275
V2Q2275-BSD1	2Q0444622.D	1	10/30/18	NN	n/a	n/a	V2Q2275

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-9, LA49116-10, LA49116-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	62.9	126	65.3	131	4	38-178/30
71-43-2	Benzene	20	18.8	94	18.7	94	1	82-119/30
75-27-4	Bromodichloromethane	20	19.2	96	19.0	95	1	79-120/30
75-25-2	Bromoform	20	18.9	95	20.7	104	9	68-128/30
75-15-0	Carbon Disulfide	20	18.0	90	18.8	94	4	64-133/30
56-23-5	Carbon Tetrachloride	20	18.8	94	20.7	104	10	69-132/30
108-90-7	Chlorobenzene	20	20.4	102	20.6	103	1	85-120/30
75-00-3	Chloroethane	20	20.5	103	19.8	99	3	33-170/30
67-66-3	Chloroform	20	18.8	94	19.4	97	3	80-122/30
124-48-1	Dibromochloromethane	20	21.5	108	20.6	103	4	73-125/30
96-12-8	1,2-Dibromo-3-chloropropane	20	20.7	104	20.2	101	2	67-131/30
541-73-1	m-Dichlorobenzene	20	19.8	99	20.0	100	1	84-121/30
95-50-1	o-Dichlorobenzene	20	19.8	99	20.0	100	1	83-120/30
106-46-7	p-Dichlorobenzene	20	19.2	96	20.7	104	8	83-122/30
75-34-3	1,1-Dichloroethane	20	18.3	92	18.7	94	2	78-124/30
107-06-2	1,2-Dichloroethane	20	19.2	96	18.5	93	4	74-127/30
75-35-4	1,1-Dichloroethylene	20	18.4	92	19.1	96	4	70-134/30
156-59-2	cis-1,2-Dichloroethylene	20	18.7	94	18.4	92	2	78-122/30
156-60-5	trans-1,2-Dichloroethylene	20	19.8	99	19.8	99	0	75-127/30
540-59-0	1,2-Dichloroethene (total)	40	38.4	96	38.2	96	1	78-123/30
78-87-5	1,2-Dichloropropane	20	17.6	88	18.3	92	4	82-120/30
10061-01-5	cis-1,3-Dichloropropene	20	19.0	95	20.0	100	5	79-122/30
10061-02-6	trans-1,3-Dichloropropene	20	19.9	100	20.2	101	1	78-124/30
542-75-6	1,3-Dichloropropene (total)	40	38.9	97	40.3	101	4	50-150/30 [a]
100-41-4	Ethylbenzene	20	20.2	101	20.3	102	0	84-117/30
67-72-1	Hexachloroethane	20	18.0	90	18.7	94	4	53-141/30
78-83-1	Isobutyl Alcohol	200	191	96	224	112	16	20-175/30
74-83-9	Methyl Bromide	20	20.3	102	21.8	109	7	37-198/30
74-87-3	Methyl Chloride	20	17.8	89	17.8	89	0	50-136/30
75-09-2	Methylene Chloride	20	21.6	108	21.2	106	2	71-130/30
78-93-3	Methyl Ethyl Ketone	50	52.1	104	54.5	109	5	59-149/30
108-10-1	4-Methyl-2-pentanone	50	53.4	107	51.9	104	3	74-131/30
1634-04-4	Methyl Tert Butyl Ether	20	18.4	92	19.2	96	4	70-126/30
100-42-5	Styrene	20	20.5	103	20.7	104	1	79-128/30
630-20-6	1,1,1,2-Tetrachloroethane	20	20.7	104	21.3	107	3	84-120/30
79-34-5	1,1,2,2-Tetrachloroethane	20	20.8	104	21.1	106	1	77-126/30

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
V2Q2275-BS1	2Q0444620.D	1	10/30/18	NN	n/a	n/a	V2Q2275
V2Q2275-BSD1	2Q0444622.D	1	10/30/18	NN	n/a	n/a	V2Q2275

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-9, LA49116-10, LA49116-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	20	20.7	104	21.0	105	1	75-133/30
108-88-3	Toluene	20	19.8	99	20.2	101	2	80-121/30
71-55-6	1,1,1-Trichloroethane	20	19.3	97	20.5	103	6	74-126/30
79-00-5	1,1,2-Trichloroethane	20	20.6	103	20.1	101	2	80-123/30
79-01-6	Trichloroethylene	20	18.9	95	18.2	91	4	62-125/30
75-69-4	Trichlorofluoromethane	20	19.8	99	20.0	100	1	62-148/30
75-01-4	Vinyl Chloride	20	18.9	95	19.0	95	1	67-130/30
	m,p-Xylene	40	40.8	102	41.3	103	1	82-121/30
95-47-6	o-Xylene	20	20.1	101	20.2	101	0	84-119/30
1330-20-7	Xylene (total)	60	60.8	101	61.5	103	1	81-122/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	101%	107%	84-124%
2037-26-5	Toluene-D8	98%	96%	83-115%
460-00-4	4-Bromofluorobenzene	101%	99%	89-111%

(a) Advisory control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
LA49009-4AMS	2I040692.D	2000000	10/30/18	LS	n/a	n/a	V2I1896
LA49009-4AMSD	2I040694.D	2000000	10/30/18	LS	n/a	n/a	V2I1896
LA49009-4A	2I040682.D	2000000	10/30/18	LS	n/a	n/a	V2I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-8, LA49116-12

CAS No.	Compound	LA49009-4A ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		100000000	112000000	112	100000000	99100000	99	12	39-164/27
71-43-2	Benzene	ND		40000000	42800000	107	40000000	44600000	112	4	31-161/15
75-27-4	Bromodichloromethane	ND		40000000	41800000	105	40000000	43900000	110	5	64-122/36
75-25-2	Bromoform	ND		40000000	39600000	99	40000000	40200000	101	2	43-125/37
75-15-0	Carbon Disulfide	ND		40000000	40400000	101	40000000	42000000	105	4	38-138/36
56-23-5	Carbon Tetrachloride	ND		40000000	39700000	99	40000000	41300000	103	4	53-133/36
108-90-7	Chlorobenzene	ND		40000000	41200000	103	40000000	43100000	108	5	74-122/34
75-00-3	Chloroethane	ND		40000000	37500000	94	40000000	39700000	99	6	14-181/43
67-66-3	Chloroform	ND		40000000	39900000	100	40000000	41400000	104	4	65-130/24
124-48-1	Dibromochloromethane	ND		40000000	41700000	104	40000000	43600000	109	4	57-121/36
96-12-8	1,2-Dibromo-3-chloropropane	ND		40000000	36200000	91	40000000	37400000	94	3	46-135/25
541-73-1	m-Dichlorobenzene	ND		40000000	41900000	105	40000000	44000000	110	5	70-120/35
95-50-1	o-Dichlorobenzene	ND		40000000	41200000	103	40000000	42800000	107	4	72-120/35
106-46-7	p-Dichlorobenzene	ND		40000000	40000000	100	40000000	42200000	106	5	68-120/35
75-34-3	1,1-Dichloroethane	ND		40000000	41100000	103	40000000	43200000	108	5	56-138/32
107-06-2	1,2-Dichloroethane	ND		40000000	38900000	97	40000000	41000000	103	5	51-141/39
75-35-4	1,1-Dichloroethylene	ND		40000000	39300000	98	40000000	40300000	101	3	48-139/37
156-59-2	cis-1,2-Dichloroethylene	ND		40000000	41700000	104	40000000	41700000	104	0	56-133/15
156-60-5	trans-1,2-Dichloroethylene	ND		40000000	40400000	101	40000000	41000000	103	1	59-128/37
540-59-0	1,2-Dichloroethene (total)	ND		80000000	82000000	103	80000000	82600000	103	1	54-134/30
78-87-5	1,2-Dichloropropane	ND		40000000	41500000	104	40000000	43700000	109	5	68-124/32
10061-01-5	cis-1,3-Dichloropropene	ND		40000000	42500000	106	40000000	44800000	112	5	62-120/35
10061-02-6	trans-1,3-Dichloropropene	ND		40000000	43400000	109	40000000	45200000	113	4	64-119/36
542-75-6	1,3-Dichloropropene (total)	ND		80000000	85900000	107	80000000	90000000	113	5	50-150/30 [a]
100-41-4	Ethylbenzene	ND		40000000	43100000	108	40000000	44700000	112	4	47-146/30
67-72-1	Hexachloroethane	ND		40000000	38600000	97	40000000	40600000	102	5	32-128/39
78-83-1	Isobutyl Alcohol	ND		400000000	454000000	114	400000000	374000000	94	19	33-142/54
74-83-9	Methyl Bromide	ND		40000000	40700000	102	40000000	42200000	106	4	1-150/64
74-87-3	Methyl Chloride	ND		40000000	37300000	93	40000000	39900000	100	7	16-146/29
75-09-2	Methylene Chloride	647000		40000000	36500000	90	40000000	37900000	93	4	55-134/36
78-93-3	Methyl Ethyl Ketone	864000000		100000000	834000000	-30* [b]	100000000	813000000	-51* [b]	3	54-142/39
108-10-1	4-Methyl-2-pentanone	ND		100000000	111000000	111	100000000	111000000	111	0	60-140/40
1634-04-4	Methyl Tert Butyl Ether	ND		40000000	38900000	97	40000000	39800000	100	2	52-146/32
100-42-5	Styrene	ND		40000000	48900000	122	40000000	50200000	126	3	67-128/35
630-20-6	1,1,1,2-Tetrachloroethane	ND		40000000	41400000	104	40000000	43200000	108	4	67-121/35
79-34-5	1,1,2,2-Tetrachloroethane	ND		40000000	38700000	97	40000000	39400000	99	2	64-133/38

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
LA49009-4AMS	2I040692.D	2000000	10/30/18	LS	n/a	n/a	V2I1896
LA49009-4AMSD	2I040694.D	2000000	10/30/18	LS	n/a	n/a	V2I1896
LA49009-4A	2I040682.D	2000000	10/30/18	LS	n/a	n/a	V2I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-8, LA49116-12

CAS No.	Compound	LA49009-4A ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	ND		40000000	41700000	104	40000000	42000000	105	1	58-135/37
108-88-3	Toluene	ND		40000000	40700000	102	40000000	41700000	104	2	36-155/17
71-55-6	1,1,1-Trichloroethane	ND		40000000	41300000	103	40000000	43500000	109	5	63-128/36
79-00-5	1,1,2-Trichloroethane	ND		40000000	41600000	104	40000000	40800000	102	2	61-138/17
79-01-6	Trichloroethylene	ND		40000000	43000000	108	40000000	45300000	113	5	57-131/36
75-69-4	Trichlorofluoromethane	ND		40000000	41500000	104	40000000	43500000	109	5	31-156/36
75-01-4	Vinyl Chloride	ND		40000000	40500000	101	40000000	41200000	103	2	22-155/49
	m,p-Xylene	ND		80000000	92700000	116	80000000	95800000	120	3	35-159/31
95-47-6	o-Xylene	ND		40000000	45300000	113	40000000	46200000	116	2	50-144/35
1330-20-7	Xylene (total)	ND		120000000	138000000	115	120000000	142000000	118	3	41-154/29

CAS No.	Surrogate Recoveries	MS	MSD	LA49009-4A Limits
17060-07-0	1,2-Dichloroethane-D4	96%	99%	116% 84-124%
2037-26-5	Toluene-D8	99%	100%	97% 83-115%
460-00-4	4-Bromofluorobenzene	102%	101%	90% 89-111%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
LA49127-3MS	2Q0444648.D	5	10/30/18	NN	n/a	n/a	V2Q2275
LA49127-3MSD	2Q0444650.D	5	10/30/18	NN	n/a	n/a	V2Q2275
LA49127-3	2Q0444646.D	1	10/30/18	NN	n/a	n/a	V2Q2275

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-9, LA49116-10, LA49116-11

CAS No.	Compound	LA49127-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	268	107	250	249	100	7	39-164/27
71-43-2	Benzene	ND		100	94.3	94	100	88.0	88	7	31-161/15
75-27-4	Bromodichloromethane	23.7		100	105	81	100	107	83	2	64-122/36
75-25-2	Bromoform	4.9		100	95.5	91	100	87.4	83	9	43-125/37
75-15-0	Carbon Disulfide	ND		100	93.8	94	100	85.4	85	9	38-138/36
56-23-5	Carbon Tetrachloride	ND		100	95.1	95	100	90.3	90	5	53-133/36
108-90-7	Chlorobenzene	ND		100	95.9	96	100	89.9	90	6	74-122/34
75-00-3	Chloroethane	ND		100	102	102	100	96.1	96	6	14-181/43
67-66-3	Chloroform	17.6		100	106	88	100	103	85	3	65-130/24
124-48-1	Dibromochloromethane	24.2		100	116	92	100	111	87	4	57-121/36
96-12-8	1,2-Dibromo-3-chloropropane	ND		100	85.8	86	100	92.5	93	8	46-135/25
541-73-1	m-Dichlorobenzene	ND		100	93.5	94	100	92.3	92	1	70-120/35
95-50-1	o-Dichlorobenzene	ND		100	91.6	92	100	89.9	90	2	72-120/35
106-46-7	p-Dichlorobenzene	ND		100	94.5	95	100	90.3	90	5	68-120/35
75-34-3	1,1-Dichloroethane	ND		100	89.1	89	100	86.2	86	3	56-138/32
107-06-2	1,2-Dichloroethane	ND		100	93.5	94	100	93.2	93	0	51-141/39
75-35-4	1,1-Dichloroethylene	ND		100	93.5	94	100	85.5	86	9	48-139/37
156-59-2	cis-1,2-Dichloroethylene	ND		100	92.3	92	100	87.5	88	5	56-133/15
156-60-5	trans-1,2-Dichloroethylene	ND		100	98.7	99	100	92.1	92	7	59-128/37
540-59-0	1,2-Dichloroethene (total)	ND		200	191	96	200	180	90	6	54-134/30
78-87-5	1,2-Dichloropropane	ND		100	83.3	83	100	85.5	86	3	68-124/32
10061-01-5	cis-1,3-Dichloropropene	ND		100	94.3	94	100	93.9	94	0	62-120/35
10061-02-6	trans-1,3-Dichloropropene	ND		100	95.1	95	100	89.0	89	7	64-119/36
542-75-6	1,3-Dichloropropene (total)	ND		200	189	95	200	183	92	3	50-150/30 [a]
100-41-4	Ethylbenzene	ND		100	97.5	98	100	90.0	90	8	47-146/30
67-72-1	Hexachloroethane	ND		100	73.6	74	100	67.2	67	9	32-128/39
78-83-1	Isobutyl Alcohol	ND		1000	1050	105	1000	1050	105	0	33-142/54
74-83-9	Methyl Bromide	ND		100	90.2	90	100	89.0	89	1	1-150/64
74-87-3	Methyl Chloride	ND		100	80.0	80	100	74.9	75	7	16-146/29
75-09-2	Methylene Chloride	0.45		100	97.7	97	100	94.4	94	3	55-134/36
78-93-3	Methyl Ethyl Ketone	ND		250	260	104	250	255	102	2	54-142/39
108-10-1	4-Methyl-2-pentanone	ND		250	248	99	250	241	96	3	60-140/40
1634-04-4	Methyl Tert Butyl Ether	ND		100	93.2	93	100	89.8	90	4	52-146/32
100-42-5	Styrene	ND		100	85.0	85	100	81.0	81	5	67-128/35
630-20-6	1,1,1,2-Tetrachloroethane	ND		100	99.8	100	100	93.0	93	7	67-121/35
79-34-5	1,1,2,2-Tetrachloroethane	ND		100	99.8	100	100	99.0	99	1	64-133/38

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
LA49127-3MS	2Q0444648.D	5	10/30/18	NN	n/a	n/a	V2Q2275
LA49127-3MSD	2Q0444650.D	5	10/30/18	NN	n/a	n/a	V2Q2275
LA49127-3	2Q0444646.D	1	10/30/18	NN	n/a	n/a	V2Q2275

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-9, LA49116-10, LA49116-11

CAS No.	Compound	LA49127-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethylene	ND		100	99.3	99	100	97.1	97	2	58-135/37
108-88-3	Toluene	ND		100	95.2	95	100	89.1	89	7	36-155/17
71-55-6	1,1,1-Trichloroethane	ND		100	94.5	95	100	91.7	92	3	63-128/36
79-00-5	1,1,2-Trichloroethane	ND		100	91.8	92	100	88.1	88	4	61-138/17
79-01-6	Trichloroethylene	ND		100	89.5	90	100	88.4	88	1	57-131/36
75-69-4	Trichlorofluoromethane	ND		100	102	102	100	93.8	94	8	31-156/36
75-01-4	Vinyl Chloride	ND		100	93.1	93	100	86.4	86	7	22-155/49
	m,p-Xylene	ND		200	194	97	200	181	91	7	35-159/31
95-47-6	o-Xylene	ND		100	96.7	97	100	91.1	91	6	50-144/35
1330-20-7	Xylene (total)	ND		300	290	97	300	272	91	6	41-154/29

CAS No.	Surrogate Recoveries	MS	MSD	LA49127-3	Limits
17060-07-0	1,2-Dichloroethane-D4	106%	105%	100%	84-124%
2037-26-5	Toluene-D8	99%	100%	98%	83-115%
460-00-4	4-Bromofluorobenzene	100%	98%	100%	89-111%

(a) Advisory control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
LA49176-5MS	1I040713.D	5	10/31/18	LS	n/a	n/a	V1I1896
LA49176-5MSD	1I040715.D	5	10/31/18	LS	n/a	n/a	V1I1896
LA49176-5	1I040659.D	1	10/29/18	LS	n/a	n/a	V1I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-5, LA49116-6, LA49116-7

CAS No.	Compound	LA49176-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	172	69	250	179	72	4	39-164/27
71-43-2	Benzene	ND		100	99.6	100	100	104	104	4	31-161/15
75-27-4	Bromodichloromethane	ND		100	102	102	100	105	105	3	64-122/36
75-25-2	Bromoform	ND		100	78.0	78	100	82.3	82	5	43-125/37
75-15-0	Carbon Disulfide	ND		100	98.9	99	100	103	103	4	38-138/36
56-23-5	Carbon Tetrachloride	ND		100	97.8	98	100	102	102	4	53-133/36
108-90-7	Chlorobenzene	ND		100	97.2	97	100	98.8	99	2	74-122/34
75-00-3	Chloroethane	ND		100	118	118	100	119	119	1	14-181/43
67-66-3	Chloroform	ND		100	97.9	98	100	101	101	3	65-130/24
124-48-1	Dibromochloromethane	ND		100	88.1	88	100	93.1	93	6	57-121/36
541-73-1	m-Dichlorobenzene	ND		100	101	101	100	102	102	1	70-120/35
95-50-1	o-Dichlorobenzene	ND		100	98.6	99	100	102	102	3	72-120/35
106-46-7	p-Dichlorobenzene	ND		100	95.3	95	100	97.8	98	3	68-120/35
75-34-3	1,1-Dichloroethane	ND		100	98.0	98	100	101	101	3	56-138/32
107-06-2	1,2-Dichloroethane	ND		100	108	108	100	111	111	3	51-141/39
75-35-4	1,1-Dichloroethylene	ND		100	92.9	93	100	95.6	96	3	48-139/37
156-59-2	cis-1,2-Dichloroethylene	ND		100	98.1	98	100	101	101	3	56-133/15
156-60-5	trans-1,2-Dichloroethylene	ND		100	95.5	96	100	96.1	96	1	59-128/37
540-59-0	1,2-Dichloroethene (total)	ND		200	194	97	200	197	99	2	54-134/30
78-87-5	1,2-Dichloropropane	ND		100	98.6	99	100	101	101	2	68-124/32
10061-01-5	cis-1,3-Dichloropropene	ND		100	84.2	84	100	87.1	87	3	62-120/35
10061-02-6	trans-1,3-Dichloropropene	ND		100	90.8	91	100	94.6	95	4	64-119/36
542-75-6	1,3-Dichloropropene (total)	ND		200	175	88	200	182	91	4	50-150/30 [a]
100-41-4	Ethylbenzene	ND		100	105	105	100	107	107	2	47-146/30
67-72-1	Hexachloroethane	ND		100	69.1	69	100	71.5	72	3	32-128/39
78-83-1	Isobutyl Alcohol	ND		1000	855	86	1000	885	89	3	33-142/54
74-83-9	Methyl Bromide	ND		100	104	104	100	107	107	3	1-150/64
74-87-3	Methyl Chloride	ND		100	90.4	90	100	93.4	93	3	16-146/29
75-09-2	Methylene Chloride	ND		100	115	115	100	116	116	1	55-134/36
78-93-3	Methyl Ethyl Ketone	ND		250	230	92	250	235	94	2	54-142/39
108-10-1	4-Methyl-2-pentanone	ND		250	233	93	250	236	94	1	60-140/40
1634-04-4	Methyl Tert Butyl Ether	ND		100	99.0	99	100	99.6	100	1	52-146/32
100-42-5	Styrene	ND		100	96.3	96	100	98.8	99	3	67-128/35
630-20-6	1,1,1,2-Tetrachloroethane	ND		100	104	104	100	106	106	2	67-121/35
79-34-5	1,1,2,2-Tetrachloroethane	ND		100	104	104	100	103	103	1	64-133/38
127-18-4	Tetrachloroethylene	ND		100	97.4	97	100	101	101	4	58-135/37

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
LA49176-5MS	1I040713.D	5	10/31/18	LS	n/a	n/a	V1I1896
LA49176-5MSD	1I040715.D	5	10/31/18	LS	n/a	n/a	V1I1896
LA49176-5	1I040659.D	1	10/29/18	LS	n/a	n/a	V1I1896

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA49116-5, LA49116-6, LA49116-7

CAS No.	Compound	LA49176-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-88-3	Toluene	ND		100	97.0	97	100	99.3	99	2	36-155/17
71-55-6	1,1,1-Trichloroethane	ND		100	101	101	100	103	103	2	63-128/36
79-00-5	1,1,2-Trichloroethane	ND		100	102	102	100	102	102	0	61-138/17
79-01-6	Trichloroethylene	ND		100	98.9	99	100	103	103	4	57-131/36
75-69-4	Trichlorofluoromethane	ND		100	103	103	100	105	105	2	31-156/36
75-01-4	Vinyl Chloride	ND		100	95.7	96	100	97.6	98	2	22-155/49
	m,p-Xylene	ND		200	224	112	200	230	115	3	35-159/31
95-47-6	o-Xylene	ND		100	93.3	93	100	96.6	97	3	50-144/35
1330-20-7	Xylene (total)	ND		300	318	106	300	327	109	3	41-154/29

CAS No.	Surrogate Recoveries	MS	MSD	LA49176-5	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	100%	110%	84-124%
2037-26-5	Toluene-D8	98%	99%	99%	83-115%
460-00-4	4-Bromofluorobenzene	102%	102%	94%	89-111%

(a) Advisory control limits.

* = 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: LA49116
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
OP12645-MB	L0022586.D	1	10/30/18	JS	10/29/18	OP12645	EL593

The QC reported here applies to the following samples: **Method:** SW846 8270D

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
100-02-7	4-Nitrophenol	ND	25	ug/l	
87-86-5	Pentachlorophenol	ND	10	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	ug/l	
83-32-9	Acenaphthene	ND	0.20	ug/l	
208-96-8	Acenaphthylene	ND	0.20	ug/l	
62-53-3	Aniline	ND	5.0	ug/l	
120-12-7	Anthracene	ND	0.20	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
92-52-4	1,1'-Biphenyl	ND	10	ug/l	
85-68-7	Butyl Benzyl Phthalate	ND	5.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	5.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	0.20	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
132-64-9	Dibenzofuran	ND	5.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	ug/l	
84-66-2	Diethyl Phthalate	0.049	5.0	ug/l	J
131-11-3	Dimethyl Phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl Phthalate	ND	5.0	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	0.20	ug/l	

Method Blank Summary

Job Number: LA49116
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
OP12645-MB	L0022586.D	1	10/30/18	JS	10/29/18	OP12645	EL593

The QC reported here applies to the following samples: **Method:** SW846 8270D

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

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	ND	0.20	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	55%	23-85%
4165-62-2	Phenol-d5	45%	10-69%
118-79-6	2,4,6-Tribromophenol	77%	48-138%
4165-60-0	Nitrobenzene-d5	72%	51-128%
321-60-8	2-Fluorobiphenyl	76%	55-122%
1718-51-0	Terphenyl-d14	82%	43-138%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
OP12645-BS	L0022587.D	1	10/30/18	JS	10/29/18	OP12645	EL593
OP12645-BSD	L0022588.D	1	10/30/18	JS	10/29/18	OP12645	EL593

The QC reported here applies to the following samples: **Method:** SW846 8270D

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	5	4.2	84	4.6	92	9	63-104/19
120-83-2	2,4-Dichlorophenol	5	4.4	88	4.8	96	9	68-112/19
105-67-9	2,4-Dimethylphenol	5	4.2	84	4.0	80	5	64-110/20
51-28-5	2,4-Dinitrophenol	25	17.9	72	20.7	83	15	51-121/30
100-02-7	4-Nitrophenol	25	11.7	47	13.2	53	12	20-68/23
87-86-5	Pentachlorophenol	25	20.6	82	22.9	92	11	52-120/29
108-95-2	Phenol	5	2.7	54	2.6	52	4	18-67/20
58-90-2	2,3,4,6-Tetrachlorophenol	5	4.6	92	5.2	104	12	67-121/21
95-95-4	2,4,5-Trichlorophenol	5	4.7	94	5.2	104	10	67-119/21
88-06-2	2,4,6-Trichlorophenol	5	4.3	86	4.8	96	11	67-120/21
83-32-9	Acenaphthene	5	4.0	80	4.4	88	10	67-114/28
208-96-8	Acenaphthylene	5	4.1	82	4.5	90	9	67-119/26
62-53-3	Aniline	5	2.5	50	3.0	60	18	40-114/40
120-12-7	Anthracene	5	4.1	82	4.4	88	7	68-121/24
56-55-3	Benzo(a)anthracene	5	4.2	84	4.7	94	11	69-113/20
50-32-8	Benzo(a)pyrene	5	4.3	86	4.6	92	7	71-124/22
205-99-2	Benzo(b)fluoranthene	5	4.2	84	4.7	94	11	72-120/22
207-08-9	Benzo(k)fluoranthene	5	4.6	92	5.1	102	10	71-124/21
92-52-4	1,1'-Biphenyl	5	3.8	76	4.3	86	12	65-122/29
85-68-7	Butyl Benzyl Phthalate	5	4.6	92	5.3	106	14	73-123/21
106-47-8	4-Chloroaniline	5	3.6	72	4.2	84	15	58-113/51
111-44-4	bis(2-Chloroethyl)ether	5	4.0	80	4.4	88	10	50-118/28
108-60-1	2,2'-Oxybis(1-chloropropane)	5	3.9	78	4.3	86	10	43-138/21
91-58-7	2-Chloronaphthalene	5	3.8	76	4.3	86	12	64-114/30
218-01-9	Chrysene	5	4.2	84	4.7	94	11	70-115/20
53-70-3	Dibenzo(a,h)anthracene	5	4.4	88	5.0	100	13	70-124/21
132-64-9	Dibenzofuran	5	3.9	78	4.5	90	14	67-117/27
91-94-1	3,3'-Dichlorobenzidine	5	3.8	76	3.9	78	3	69-122/38
84-66-2	Diethyl Phthalate	5	4.2	84	4.6	92	9	71-123/21
131-11-3	Dimethyl Phthalate	5	4.2	84	4.6	92	9	69-119/20
117-84-0	Di-n-octyl Phthalate	5	4.5	90	5.3	106	16	66-121/22
99-65-0	1,3-Dinitrobenzene	25	22.9	92	25.6	102	11	71-122/21
121-14-2	2,4-Dinitrotoluene	5	4.6	92	5.2	104	12	73-122/21
606-20-2	2,6-Dinitrotoluene	5	4.4	88	4.9	98	11	72-121/21
117-81-7	bis(2-Ethylhexyl)phthalate	5	4.5	90	5.2	104	14	68-126/21
206-44-0	Fluoranthene	5	4.3	86	4.8	96	11	73-120/21

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
OP12645-BS	L0022587.D	1	10/30/18	JS	10/29/18	OP12645	EL593
OP12645-BSD	L0022588.D	1	10/30/18	JS	10/29/18	OP12645	EL593

The QC reported here applies to the following samples: **Method:** SW846 8270D

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
86-73-7	Fluorene	5	4.1	82	4.5	90	9	69-118/25
118-74-1	Hexachlorobenzene	5	4.2	84	4.8	96	13	67-117/23
87-68-3	Hexachlorobutadiene	5	2.8	56	3.1	62	10	42-120/35
77-47-4	Hexachlorocyclopentadiene	5	2.8	56	3.1	62	10	35-123/48
193-39-5	Indeno(1,2,3-cd)pyrene	5	4.4	88	5.0	100	13	70-123/21
78-59-1	Isophorone	5	4.5	90	5.0	100	11	70-119/19
91-57-6	2-Methylnaphthalene	5	3.9	78	4.4	88	12	65-113/27
91-20-3	Naphthalene	5	3.7	74	4.2	84	13	63-114/23
88-74-4	2-Nitroaniline	25	22.4	90	25.2	101	12	68-125/21
99-09-2	3-Nitroaniline	25	19.7	79	22.6	90	14	69-117/23
100-01-6	4-Nitroaniline	25	19.6	78	22.9	92	16	67-122/19
98-95-3	Nitrobenzene	5	4.1	82	4.6	92	11	69-116/21
621-64-7	N-Nitroso-di-n-propylamine	5	4.7	94	5.0	100	6	67-120/20
86-30-6	N-Nitrosodiphenylamine	5	4.1	82	3.1	62* [a]	28* [b]	67-119/25
85-01-8	Phenanthrene	5	4.0	80	4.5	90	12	70-117/23
129-00-0	Pyrene	5	4.4	88	4.8	96	9	70-119/21
95-94-3	1,2,4,5-Tetrachlorobenzene	5	3.6	72	3.9	78	8	55-117/35
120-82-1	1,2,4-Trichlorobenzene	5	3.5	70	3.9	78	11	56-111/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	67%	68%	23-85%
4165-62-2	Phenol-d5	55%	53%	10-69%
118-79-6	2,4,6-Tribromophenol	97%	107%	48-138%
4165-60-0	Nitrobenzene-d5	80%	90%	51-128%
321-60-8	2-Fluorobiphenyl	81%	88%	55-122%
1718-51-0	Terphenyl-d14	92%	99%	43-138%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
OP12645-MS	L0022602.D	1	10/31/18	JS	10/29/18	OP12645	EL593
OP12645-MSD	L0022603.D	1	10/31/18	JS	10/29/18	OP12645	EL593
LA49175-1	L0022601.D	1	10/31/18	JS	10/29/18	OP12645	EL593

The QC reported here applies to the following samples: **Method:** SW846 8270D

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

CAS No.	Compound	LA49175-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		4.42	4.2	95	4.42	3.8	86	10	63-104/19
120-83-2	2,4-Dichlorophenol	ND		4.42	4.3	97	4.42	4.0	90	7	68-112/19
105-67-9	2,4-Dimethylphenol	ND		4.42	4.1	93	4.42	3.9	88	5	64-110/20
51-28-5	2,4-Dinitrophenol	ND		22.1	18.4	83	22.1	17.4	79	6	51-121/30
100-02-7	4-Nitrophenol	ND		22.1	11.3	51	22.1	10.8	49	5	20-68/23
87-86-5	Pentachlorophenol	ND		22.1	21.1	95	22.1	19.1	86	10	52-120/29
108-95-2	Phenol	ND		4.42	2.6	59	4.42	2.4	54	8	18-67/20
58-90-2	2,3,4,6-Tetrachlorophenol	ND		4.42	4.6	104	4.42	4.3	97	7	67-121/21
95-95-4	2,4,5-Trichlorophenol	ND		4.42	4.7	106	4.42	4.3	97	9	67-119/21
88-06-2	2,4,6-Trichlorophenol	ND		4.42	4.4	99	4.42	4.0	90	10	67-120/21
83-32-9	Acenaphthene	ND		4.42	3.7	84	4.42	3.4	77	8	67-114/28
208-96-8	Acenaphthylene	ND		4.42	4.0	90	4.42	3.5	79	13	67-119/26
62-53-3	Aniline	ND		4.42	2.3	52	4.42	2.5	56	8	40-114/40
120-12-7	Anthracene	ND		4.42	3.8	86	4.42	3.5	79	8	68-121/24
56-55-3	Benzo(a)anthracene	ND		4.42	4.2	95	4.42	3.8	86	10	69-113/20
50-32-8	Benzo(a)pyrene	ND		4.42	4.4	99	4.42	3.9	88	12	71-124/22
205-99-2	Benzo(b)fluoranthene	ND		4.42	4.1	93	4.42	3.9	88	5	72-120/22
207-08-9	Benzo(k)fluoranthene	ND		4.42	4.7	106	4.42	4.2	95	11	71-124/21
92-52-4	1,1'-Biphenyl	ND		4.42	3.7	84	4.42	3.3	75	11	65-122/29
85-68-7	Butyl Benzyl Phthalate	ND		4.42	4.8	108	4.42	4.4	99	9	73-123/21
106-47-8	4-Chloroaniline	ND		4.42	3.6	81	4.42	3.5	79	3	58-113/51
111-44-4	bis(2-Chloroethyl)ether	ND		4.42	3.9	88	4.42	3.6	81	8	50-118/28
108-60-1	2,2'-Oxybis(1-chloropropane)	ND		4.42	3.7	84	4.42	3.5	79	6	43-138/21
91-58-7	2-Chloronaphthalene	ND		4.42	3.5	79	4.42	3.2	72	9	64-114/30
218-01-9	Chrysene	ND		4.42	4.2	95	4.42	3.9	88	7	70-115/20
53-70-3	Dibenzo(a,h)anthracene	ND		4.42	4.4	99	4.42	4.1	93	7	70-124/21
132-64-9	Dibenzofuran	ND		4.42	3.8	86	4.42	3.4	77	11	67-117/27
91-94-1	3,3'-Dichlorobenzidine	ND		4.42	3.7	84	4.42	3.5	79	6	69-122/38
84-66-2	Diethyl Phthalate	ND		4.42	4.2	95	4.42	3.8	86	10	71-123/21
131-11-3	Dimethyl Phthalate	ND		4.42	4.2	95	4.42	3.9	88	7	69-119/20
117-84-0	Di-n-octyl Phthalate	ND		4.42	4.8	108	4.42	4.4	99	9	66-121/22
99-65-0	1,3-Dinitrobenzene	ND		22.1	22.9	104	22.1	21.4	97	7	71-122/21
121-14-2	2,4-Dinitrotoluene	ND		4.42	4.4	99	4.42	4.2	95	5	73-122/21
606-20-2	2,6-Dinitrotoluene	ND		4.42	4.2	95	4.42	4.0	90	5	72-121/21
117-81-7	bis(2-Ethylhexyl)phthalate	ND		4.42	4.8	108	4.42	4.4	99	9	68-126/21
206-44-0	Fluoranthene	ND		4.42	3.9	88	4.42	3.6	81	8	73-120/21

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
OP12645-MS	L0022602.D	1	10/31/18	JS	10/29/18	OP12645	EL593
OP12645-MSD	L0022603.D	1	10/31/18	JS	10/29/18	OP12645	EL593
LA49175-1	L0022601.D	1	10/31/18	JS	10/29/18	OP12645	EL593

The QC reported here applies to the following samples: **Method:** SW846 8270D

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

CAS No.	Compound	LA49175-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
86-73-7	Fluorene	ND		4.42	3.9	88	4.42	3.5	79	11	69-118/25
118-74-1	Hexachlorobenzene	ND		4.42	2.7	61* [a]	4.42	2.6	59* [a]	4	67-117/23
87-68-3	Hexachlorobutadiene	ND		4.42	2.2	50	4.42	1.9	43	15	42-120/35
77-47-4	Hexachlorocyclopentadiene	ND		4.42	2.2	50	4.42	1.9	43	15	35-123/48
193-39-5	Indeno(1,2,3-cd)pyrene	ND		4.42	4.5	102	4.42	4.1	93	9	70-123/21
78-59-1	Isophorone	ND		4.42	4.4	99	4.42	4.1	93	7	70-119/19
91-57-6	2-Methylnaphthalene	ND		4.42	3.6	81	4.42	3.3	75	9	65-113/27
91-20-3	Naphthalene	0.016		4.42	3.5	79	4.42	3.2	72	9	63-114/23
88-74-4	2-Nitroaniline	ND		22.1	22.5	102	22.1	20.9	94	7	68-125/21
99-09-2	3-Nitroaniline	ND		22.1	20.2	91	22.1	19.1	86	6	69-117/23
100-01-6	4-Nitroaniline	ND		22.1	19.5	88	22.1	19.0	86	3	67-122/19
98-95-3	Nitrobenzene	ND		4.42	4.1	93	4.42	3.8	86	8	69-116/21
621-64-7	N-Nitroso-di-n-propylamine	ND		4.42	4.4	99	4.42	4.2	95	5	67-120/20
86-30-6	N-Nitrosodiphenylamine	ND		4.42	4.0	90	4.42	3.6	81	11	67-119/25
85-01-8	Phenanthrene	ND		4.42	3.7	84	4.42	3.4	77	8	70-117/23
129-00-0	Pyrene	ND		4.42	3.9	88	4.42	3.6	81	8	70-119/21
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		4.42	3.0	68	4.42	2.7	61	11	55-117/35
120-82-1	1,2,4-Trichlorobenzene	ND		4.42	3.0	68	4.42	2.7	61	11	56-111/30

CAS No.	Surrogate Recoveries	MS	MSD	LA49175-1	Limits
367-12-4	2-Fluorophenol	73%	65%	59%	23-85%
4165-62-2	Phenol-d5	59%	55%	48%	10-69%
118-79-6	2,4,6-Tribromophenol	112%	99%	90%	48-138%
4165-60-0	Nitrobenzene-d5	87%	79%	72%	51-128%
321-60-8	2-Fluorobiphenyl	82%	77%	76%	55-122%
1718-51-0	Terphenyl-d14	104%	92%	91%	43-138%

(a) Outside control limits due to matrix interference. The BS/BSD met criteria.

* = Outside of Control Limits.

GC Volatiles

6

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: LA49116
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
GLC1882-MB1	LC381160.D	1	10/27/18	SV	n/a	n/a	GLC1882

The QC reported here applies to the following samples: **Method:** MADEP VPH REV 1.1

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

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

CAS No.	Surrogate Recoveries		Limits
615-59-8	2,5-Dibromotoluene	101% [a]	70-130%
615-59-8	2,5-Dibromotoluene	100% [b]	70-130%

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

Method Blank Summary

Job Number: LA49116
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
OP12674-MB	LK113836.D	1	10/30/18	JS	10/29/18	OP12674	GLK739

The QC reported here applies to the following samples: **Method:** SW846 8011

LA49116-1, LA49116-2

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%	55-149%

Method Blank Summary

Job Number: LA49116
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
OP12675-MB	LK113863.D	1	10/31/18	JS	10/29/18	OP12675	GLK739

The QC reported here applies to the following samples: **Method:** SW846 8011

LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

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	111%	55-149%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
GLC1882-BS1	LC381158.D	1	10/27/18	SV	n/a	n/a	GLC1882
GLC1882-BSD1	LC381159.D	1	10/27/18	SV	n/a	n/a	GLC1882

The QC reported here applies to the following samples: **Method:** MADEP VPH REV 1.1

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics C6-C8 (Unadj.)	150	123	82	132	88	7	70-130/30
	Aliphatics > C8-C10 (Unadj.)	250	214	86	209	84	2	70-130/30
	Aromatics > C8-C10 (Unadj.)	250	221	88	221	88	0	70-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	105% [a]	103% [a]	70-130%
615-59-8	2,5-Dibromotoluene	106% [b]	114% [b]	70-130%

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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
OP12674-BS	LK113837.D	1	10/30/18	JS	10/29/18	OP12674	GLK739
OP12674-BSD	LK113838.D	1	10/30/18	JS	10/29/18	OP12674	GLK739

The QC reported here applies to the following samples: **Method:** SW846 8011

LA49116-1, LA49116-2

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	0.28	111	0.26	103	7	60-148/18

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
348-51-6	1-Chloro-2-fluorobenzene	117%	115%	55-149%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
OP12675-BS	LK113864.D	1	10/31/18	JS	10/29/18	OP12675	GLK739
OP12675-BSD	LK113865.D	1	10/31/18	JS	10/29/18	OP12675	GLK739

The QC reported here applies to the following samples: **Method:** SW846 8011

LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

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	0.27	107	0	60-148/18

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
348-51-6	1-Chloro-2-fluorobenzene	109%	110%	55-149%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
LA49116-1MS	LC381164.D	5	10/27/18	SV	n/a	n/a	GLC1882
LA49116-1MSD	LC381165.D	5	10/27/18	SV	n/a	n/a	GLC1882
LA49116-1	LC381161.D	1	10/27/18	SV	n/a	n/a	GLC1882

The QC reported here applies to the following samples: **Method:** MADEP VPH REV 1.1

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10

CAS No.	Compound	LA49116-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
	Aliphatics C6-C8 (Unadj.)	ND		750	769	103	750	721	96	6	70-130/50
	Aliphatics > C8-C10 (Unadj.)	ND		1250	1240	99	1250	1270	102	2	70-130/50
	Aromatics > C8-C10 (Unadj.)	ND		1250	1300	104	1250	1310	105	1	70-130/50

CAS No.	Surrogate Recoveries	MS	MSD	LA49116-1	Limits
615-59-8	2,5-Dibromotoluene	105% [a]	104% [a]	100% [a]	70-130%
615-59-8	2,5-Dibromotoluene	105% [b]	104% [b]	101% [b]	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49116
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
OP12674-MS	LK113839.D	1	10/30/18	JS	10/29/18	OP12674	GLK739
OP12674-MSD	LK113840.D	1	10/30/18	JS	10/29/18	OP12674	GLK739
LA49151-2	LK113843.D	1	10/30/18	JS	10/29/18	OP12674	GLK739

The QC reported here applies to the following samples: **Method:** SW846 8011

LA49116-1, LA49116-2

CAS No.	Compound	LA49151-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.241	0.23	95	0.242	0.23	95	0	60-151/32

CAS No.	Surrogate Recoveries	MS	MSD	LA49151-2	Limits
348-51-6	1-Chloro-2-fluorobenzene	111%	111%	111%	55-149%

* = 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: LA49116
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
OP12635-MB	X0005563.D	1	10/29/18	JT	10/26/18	OP12635	GLB1651

The QC reported here applies to the following samples: **Method:** MADEP EPH REV 1.1

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-10

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

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

Method Blank Summary

Job Number: LA49116
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
OP12635-MB	Y0005563.D	1	10/29/18	JT	10/26/18	OP12635	GLB1652

The QC reported here applies to the following samples: **Method:** MADEP EPH REV 1.1

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-10

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	84%	40-140%

Method Blank Summary

Job Number: LA49116
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
OP12664-MB	X0005596.D	1	11/01/18	JT	10/30/18	OP12664	GLB1653

The QC reported here applies to the following samples: **Method:** MADEP EPH REV 1.1

LA49116-9

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	68%	40-140%
321-60-8	2-Fluorobiphenyl	83%	40-140%

Method Blank Summary

Job Number: LA49116
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
OP12664-MB	Y0005596.D	1	11/01/18	JT	10/30/18	OP12664	GLB1654

The QC reported here applies to the following samples: **Method:** MADEP EPH REV 1.1

LA49116-9

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	75%	40-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
OP12635-BS	X0005564.D	1	10/29/18	JT	10/26/18	OP12635	GLB1651
OP12635-BSD	X0005565.D	1	10/29/18	JT	10/26/18	OP12635	GLB1651

The QC reported here applies to the following samples: **Method:** MADEP EPH REV 1.1

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aromatics > C10-C12 (Unadj.)	461	340	74	339	73	0	40-140/30
	Aromatics > C12-C16 (Unadj.)	1380	1030	74	1020	73	1	40-140/30
	Aromatics > C16-C21 (Unadj.)	2310	1860	81	1900	82	2	40-140/30
	Aromatics > C21-C35 (Unadj.)	3690	3090	84	3140	85	2	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	75%	75%	40-140%
321-60-8	2-Fluorobiphenyl	76%	76%	40-140%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
OP12635-BS	Y0005564.D	1	10/29/18	JT	10/26/18	OP12635	GLB1652
OP12635-BSD	Y0005565.D	1	10/29/18	JT	10/26/18	OP12635	GLB1652

The QC reported here applies to the following samples: **Method:** MADEP EPH REV 1.1

LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics > C10-C12 (Unadj.)	461	351	76	369	80	5	40-140/30
	Aliphatics > C12-C16 (Unadj.)	923	699	76	741	80	6	40-140/30
	Aliphatics > C16-C35 (Unadj.)	4150	2980	72	3130	75	5	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
3386-33-2	1-Chlorooctadecane	79%	82%	40-140%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
OP12664-BS	X0005673.D	1	11/05/18	JT	10/30/18	OP12664	GLB1657
OP12664-BSD	X0005674.D	1	11/05/18	JT	10/30/18	OP12664	GLB1657

The QC reported here applies to the following samples: **Method:** MADEP EPH REV 1.1

LA49116-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aromatics > C10-C12 (Unadj.)	466	301	65	304	65	1	40-140/30
	Aromatics > C12-C16 (Unadj.)	1400	892	64	897	64	1	40-140/30
	Aromatics > C16-C21 (Unadj.)	2330	1620	70	1630	70	1	40-140/30
	Aromatics > C21-C35 (Unadj.)	3720	2280	61	2270	61	0	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	67%	67%	40-140%
321-60-8	2-Fluorobiphenyl	69%	69%	40-140%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49116
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
OP12664-BS	Y0005673.D	1	11/05/18	JT	10/30/18	OP12664	GLB1658
OP12664-BSD	Y0005674.D	1	11/05/18	JT	10/30/18	OP12664	GLB1658

The QC reported here applies to the following samples: **Method:** MADEP EPH REV 1.1

LA49116-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics > C10-C12 (Unadj.)	466	276	59	277	60	0	40-140/30
	Aliphatics > C12-C16 (Unadj.)	931	531	57	534	57	1	40-140/30
	Aliphatics > C16-C35 (Unadj.)	4190	2240	53	2230	53	0	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
3386-33-2	1-Chlorooctadecane	55%	56%	40-140%

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/26/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	6.9	9.3	-1.7	<100
Antimony	1.0	.043	.34		
Arsenic	1.0	.062	.26	-0.021	<1.0
Barium	1.0	.033	.46	-0.035	<1.0
Beryllium	1.0	.0077	.28		
Boron	20	1.3	2.9		
Cadmium	0.50	.011	.12	0.032	<0.50
Calcium	100	5.7	20	-15	<100
Cerium	1.0	.0041	.16		
Chromium	1.0	.11	.15	-0.028	<1.0
Cobalt	1.0	.012	.14		
Copper	1.0	.91	.74		
Iron	100	48	16	-21	<100
Lanthanum	1.0	.0038	.41		
Lithium	2.0	.1	.61		
Lead	1.0	.0081	.13	-0.12	<1.0
Magnesium	100	1.6	11	-11	<100
Manganese	2.0	.48	.53	-0.028	<2.0
Molybdenum	1.0	.048	.89		
Nickel	1.0	.037	.2		
Potassium	100	3.4	7.6	-9.0	<100
Selenium	5.0	.38	3.1	0.18	<5.0
Silver	1.0	.0047	.13	-0.080	<1.0
Silicon	500	6.6	130		
Sodium	100	24	9.9	-13	<100
Strontium	2.0	.12	.27	0.027	<2.0
Thallium	1.0	.021	.86		
Tin	2.0	.034	.19		
Titanium	1.0	.15	.77		
Uranium	1.0	.0048	.17		
Vanadium	1.0	.027	.1		
Zinc	5.0	1.5	1.1	-0.37	<5.0

Associated samples MP13153: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	RL	IDL	MDL	MB raw	final

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/26/18

Metal	LA49128-1 Original	MS	Spikelot MPICPMS6	% Rec	QC Limits
Aluminum	12200	18100	5100	115.7	75-125
Antimony					
Arsenic	3.7	122	100	118.3	75-125
Barium	123	239	100	116.0	75-125
Beryllium					
Boron					
Cadmium	0.63	116	100	115.4	75-125
Calcium	2190	7730	5000	110.8	75-125
Cerium					
Chromium	17.8	133	100	115.2	75-125
Cobalt					
Copper					
Iron	14100	20700	5000	132.0N(a	75-125
Lanthanum					
Lithium					
Lead	10.7	123	100	112.3	75-125
Magnesium	2570	8470	5000	118.0	75-125
Manganese	233	360	100	127.0N(a	75-125
Molybdenum					
Nickel					
Potassium	3790	9170	5000	107.6	75-125
Selenium	0.0	594	500	118.8	75-125
Silver	0.0	100	100	100.0	75-125
Silicon					
Sodium	245000	259000	5000	280.0(b)	75-125
Strontium	142	267	100	125.0	75-125
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	58.0	175	100	117.0	75-125

Associated samples MP13153: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

	LA49128-1	Spikelot	QC
Metal	Original MS	MPICPMS6 % Rec	Limits

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference or sample non-homogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	LA49128-1 Original	MSD	Spikelot MPICPMS6	% Rec	MSD RPD	QC Limit
Aluminum	12200	15100	5100	56.9N(a)	18.1	20
Antimony						
Arsenic	3.7	101	100	97.3	18.8	20
Barium	123	198	100	75.0	18.8	20
Beryllium						
Boron						
Cadmium	0.63	96.1	100	95.5	18.8	20
Calcium	2190	6620	5000	88.6	15.5	20
Cerium						
Chromium	17.8	111	100	93.2	18.0	20
Cobalt						
Copper						
Iron	14100	16800	5000	54.0N(a)	20.8 (b)	20
Lanthanum						
Lithium						
Lead	10.7	105	100	94.3	15.8	20
Magnesium	2570	6920	5000	87.0	20.1 (b)	20
Manganese	233	292	100	59.0N(a)	20.9 (b)	20
Molybdenum						
Nickel						
Potassium	3790	7750	5000	79.2	16.8	20
Selenium	0.0	482	500	96.4	20.8 (b)	20
Silver	0.0	84.7	100	84.7	16.6	20
Silicon						
Sodium	245000	212000	5000	-660.0(c	20.0	20
Strontium	142	221	100	79.0	18.9	20
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	58.0	146	100	88.0	18.1	20

Associated samples MP13153: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

	LA49128-1	Spikelot	MSD	QC
Metal	Original MSD	MPICPMS6 % Rec	RPD	Limit

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	BSP Result	Spikelot MPICPMS6	% Rec	QC Limits
Aluminum	5310	5100	104.1	80-120
Antimony				
Arsenic	103	100	103.0	80-120
Barium	110	100	110.0	80-120
Beryllium				
Boron				
Cadmium	103	100	103.0	80-120
Calcium	5440	5000	108.8	80-120
Cerium				
Chromium	105	100	105.0	80-120
Cobalt				
Copper				
Iron	5230	5000	104.6	80-120
Lanthanum				
Lithium				
Lead	107	100	107.0	80-120
Magnesium	5130	5000	102.6	80-120
Manganese	105	100	105.0	80-120
Molybdenum				
Nickel				
Potassium	5320	5000	106.4	80-120
Selenium	500	500	100.0	80-120
Silver	105	100	105.0	80-120
Silicon				
Sodium	5010	5000	100.2	80-120
Strontium	106	100	106.0	80-120
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	100	100	100.0	80-120

Associated samples MP13153: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	BSP Result	Spikelot MPICPMS6 % Rec	QC Limits

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	LA49128-1 Original	SDL 10:50%DIF		QC Limits
Aluminum	12200	8430	30.8*(a)	0-10
Antimony				
Arsenic	3.66	0.00	100.0(b)	0-10
Barium	123	80.4	34.6*(a)	0-10
Beryllium				
Boron				
Cadmium	0.627	2.48	296.3(b)	0-10
Calcium	2190	585	73.3 (b)	0-10
Cerium				
Chromium	17.8	13.7	23.1 (b)	0-10
Cobalt				
Copper				
Iron	14100	9770	30.8 (b)	0-10
Lanthanum				
Lithium				
Lead	10.7	2.31	78.4*(a)	0-10
Magnesium	2570	1400	45.6*(a)	0-10
Manganese	233	178	23.8 (b)	0-10
Molybdenum				
Nickel				
Potassium	3790	2210	41.6*(a)	0-10
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Silicon				
Sodium	245000	187000	23.9*(a)	0-10
Strontium	142	110	22.9*(a)	0-10
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	58.0	0.00	100.0(b)	0-10

Associated samples MP13153: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

	LA49128-1	QC
Metal	Original SDL 10:50%DIF	Limits

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13153 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	Sample ml	Final ml	LA49128-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum	0.2	10	12180	243.6	6480	0.125	408	5100	122.3	75-125
Antimony										
Beryllium										
Boron										
Cerium										
Cobalt										
Copper										
Iron	0.2	10	14110	282.2	6355	0.025	2000	5000	121.5	75-125
Lanthanum										
Lithium										
Magnesium	0.2	10	2570	51.4	6209	0.025	2000	5000	123.2	75-125
Manganese	0.2	10	233	4.66	127.7	0.1	10	100	123.0	75-125
Molybdenum										
Nickel										
Selenium	0.2	10			633.2	0.1	50	500	126.6*(a	75-125
Silicon										
Thallium										
Tin										
Titanium										
Uranium										
Vanadium										

Associated samples MP13153: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

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
(a) Spike recovery indicates possible matrix interference or sample non-homogeneity.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13158 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.06	.081	0.0025	<0.20

Associated samples MP13158: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

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: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13158 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

Metal	LA49116-2 Original	MS	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	0.0	4.7	5	94.0	75-125

Associated samples MP13158: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13158 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

Metal	LA49116-2 Original	MSD	Spikelot HGSPIKE1	% Rec	MSD RPD	QC Limit
Mercury	0.0	4.6	5	92.0	2.2	20

Associated samples MP13158: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

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: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13158 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

Metal	BSP Result	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	4.6	5	92.0	80-120

Associated samples MP13158: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49116
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13158 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

Metal	LA49116-2 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-

Associated samples MP13158: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10, LA49116-1F, LA49116-2F, LA49116-3F, LA49116-4F, LA49116-5F, LA49116-9F, LA49116-10F

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

SGS

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

Cooler 1 | Page 1 of 1 | TX

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA49116

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 500 Ambassador Caffery Parkway
City: Scott State: LA Zip: 70583
Project Contact: Bonnie.Taylor@sgs.com E-mail:
Phone #: 800-304-5227 Fax #:
Sampler(s) Name(s): KC/DB Phone:

Project Information

Project Name: 8060.00 (RL) Indigo-Desoto Parish, LA
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

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; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	.BROIC9056,CHLIC9056,SCON,.SIL,.SO4IC9056,TDS,XCARBICALK	LAB USE ONLY
1	031-9832Z (BAGLEY RIG SUPPLY WE		10/23/18	11:20:00 AM	KC/DB	AQ										X	
2	031-9825Z (BILLINGSLEY RELIEF WE		10/23/18	3:45:00 PM	KC/DB	AQ										X	
3	031-9767Z (LONG 1&2 RIG SUPPLY W		10/23/18	5:20:00 PM	KC/DB	AQ										X	
4	031-9768Z (LONG 3&4 RIG SUPPLY W		10/23/18	4:35:00 PM	KC/DB	AQ										X	
5	EQUIPMENT BLANK		10/23/18	1:00:00 PM	KC/DB	AQ										X	
9	031-802 (DERBONNE RELIEF WELL)		10/23/18	9:30:00 AM	KC/DB	AQ										X	
10	031-9807Z (GAMBLE RIG SUPPLY WE		10/23/18	1:15:00 PM	KC/DB	AQ										X	

VERIFIED DH

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 11/5/2018

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other
- [X] COMMB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions: 7-500ml ump

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		10/26/18				
2					1024 18	
3					10-26-18	
4						2320
5						

Custody Seal #: Intact / Not intact | Preserved where applicable | On Ice | Cooler Temp. 1.0

10/26/18

9.1

9

SGS Sample Receipt Summary

Job Number: LA49116 **Client:** SGS **Project:** 8060.00 RL

Date / Time Received: **Delivery Method:** **Airbill #'s:**

No. Coolers: 1 **Therm ID:** IR9; **Temp Adjustment Factor:** 0;

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

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		

Quality Control Preservation	Y	or	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☐		☐	☑	☐	☐
2. Trip Blank listed on COC:	☐		☐	☑		
3. Samples preserved properly:	☑		☐			
4. VOCs headspace free:	☐		☐	☑		

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Sample Receipt Log

Job #: LA49116 **Date / Time Received:** 10/26/2018 11:20:00 PM **Initials:** DS

Client: SGS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	LA49116-1	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR9	1	0	1
1	LA49116-2	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR9	1	0	1
1	LA49116-3	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR9	1	0	1
1	LA49116-4	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR9	1	0	1
1	LA49116-5	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR9	1	0	1
1	LA49116-9	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR9	1	0	1
1	LA49116-10	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR9	1	0	1

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: LA49116
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	GN93916	5.0	2.0	mg/l				
Alkalinity, Bicarbonate	GN93922	5.0	2.0	mg/l				
Alkalinity, Carbonate	GN93917	5.0	0.0	mg/l				
Alkalinity, Carbonate	GN93923	5.0	0.0	mg/l				
Alkalinity, Total as CaCO3	GN93915	5.0	0.0	mg/l	100	104	104.0	90-100%
Alkalinity, Total as CaCO3	GN93920	5.0	0.0	mg/l	100	104	104.0	90-100%
Bromide	GP50319/GN94143	0.50	0.0	mg/l	10	10.6	106.0	90-110%
Bromide	GP50320/GN94143	0.50	0.0	mg/l	10	10.6	106.0	90-110%
Chloride	GP50319/GN94143	0.50	0.0	mg/l	10	10.2	102.0	90-110%
Chloride	GP50320/GN94143	0.50	0.0	mg/l	10	10.3	103.0	90-110%
Fluoride	GP50320/GN94143	0.50	0.0	mg/l	10	10.8	108.0	90-110%
Nitrogen, Nitrate	GP50320/GN94143	0.50	0.0	mg/l	10	10.3	103.0	90-110%
Nitrogen, Nitrite	GP50320/GN94143	0.50	0.0	mg/l	10	10.7	107.0	90-110%
Silica, Dissolved	GN93969	0.070	0.0	mg/l	1.07	0.97	90.7	80-120%
Solids, Total Dissolved	GN93934	10	0.0	mg/l	500	485	97.0	88-110%
Specific Conductivity	GN93896	1.0	<1.0	umhos/cm				
Specific Conductivity	GN93897	1.0	<1.0	umhos/cm				
Sulfate	GP50319/GN94143	0.50	0.0	mg/l	10	10.6	106.0	90-110%
Sulfate	GP50320/GN94143	0.50	0.0	mg/l	10	10.6	106.0	90-110%

Associated Samples:
Batch GN93896: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5
Batch GN93897: LA49116-9, LA49116-10
Batch GN93915: LA49116-1, LA49116-2, LA49116-3
Batch GN93916: LA49116-1, LA49116-2, LA49116-3
Batch GN93917: LA49116-1, LA49116-2, LA49116-3
Batch GN93920: LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93922: LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93923: LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93934: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93969: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GP50319: LA49116-1, LA49116-2
Batch GP50320: LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA49116
Account: ALLA - SGS Scott, LA
Project: HETILAL: 8060.00 Indigo-Desoto Parish, LA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Bicarbonate	GN93922	LA49146-1	mg/l	621	621	0.0	0-10%
Alkalinity, Carbonate	GN93923	LA49146-1	mg/l	3.5	3.3	0.0	0-20%
Alkalinity, Total as CaCO3	GN93915	TD29437-2A	mg/l	265	265	0.0	0-10%
Alkalinity, Total as CaCO3	GN93920	LA49146-1E	mg/l	625	625	0.0	0-10%
Bromide	GP50319/GN94143	LA49115-2	mg/l	0.0	0.0	0.0	0-19%
Bromide	GP50320/GN94143	LA49128-1	mg/l	0.45	0.45	0.0	0-19%
Chloride	GP50319/GN94143	LA49115-2	mg/l	27.6	27.6	0.0	0-13%
Chloride	GP50320/GN94143	LA49128-1	mg/l	46.8	46.7	0.2	0-13%
Silica, Dissolved	GN93969	LA49190-5	mg/l	5.6	0.0	0.0	0-20%
Solids, Total Dissolved	GN93934	LA49116-1	mg/l	347	351	1.1	0-5%
Specific Conductivity	GN93896	TD29368-1	umhos/cm	201	201	0.0	0-10%
Specific Conductivity	GN93897	LA49116-9	umhos/cm	882	882	0.0	0-10%
Sulfate	GP50319/GN94143	LA49115-2	mg/l	27.2	27.1	0.4	0-20%
Sulfate	GP50320/GN94143	LA49128-1	mg/l	0.80	0.82	2.5	0-20%

Associated Samples:
Batch GN93896: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5
Batch GN93897: LA49116-9, LA49116-10
Batch GN93915: LA49116-1, LA49116-2, LA49116-3
Batch GN93920: LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93922: LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93923: LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93934: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93969: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GP50319: LA49116-1, LA49116-2
Batch GP50320: LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA49116
Account: ALLA - SGS Scott, LA
Project: HETILAL: 8060.00 Indigo-Desoto Parish, LA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN93915	TD29437-2A	mg/l	265	25	290	100.0	75-117%
Alkalinity, Total as CaCO3	GN93920	LA49146-1E	mg/l	625	25	650	100.0	75-117%
Bromide	GP50319/GN94143	LA49115-2	mg/l	0.0	10	10.8	108.0	80-120%
Bromide	GP50320/GN94143	LA49128-1	mg/l	0.45	10	10.8	103.5	80-120%
Chloride	GP50319/GN94143	LA49115-2	mg/l	27.6	20	51.4	119.0	80-120%
Chloride	GP50320/GN94143	LA49128-1	mg/l	46.8	50	104	114.4	80-120%
Silica, Dissolved	GN93969	LA49190-5	mg/l	5.6	1.07	0.85	79.0	75-125%
Sulfate	GP50319/GN94143	LA49115-2	mg/l	27.2	20	48.5	106.5	80-120%
Sulfate	GP50320/GN94143	LA49128-1	mg/l	0.80	10	11.3	105.0	80-120%

Associated Samples:
Batch GN93915: LA49116-1, LA49116-2, LA49116-3
Batch GN93920: LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GN93969: LA49116-1, LA49116-2, LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10
Batch GP50319: LA49116-1, LA49116-2
Batch GP50320: LA49116-3, LA49116-4, LA49116-5, LA49116-9, LA49116-10
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits