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

e-Hardcopy 2.0
Automated Report

Technical Report for

Hydro-Environmental Technology, Inc.

8060.00 Indigo-Desoto Parish, LA

SGS Job Number: LA49127

Sampling Date: 10/24/18

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: **104**

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: LA49127

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA49127-1	10/24/18	09:20	LV/EM	10/25/18	AQ	Water	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)
LA49127-1F	10/24/18	09:20	LV/EM	10/25/18	AQ	Water Filtered	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)
LA49127-2	10/24/18	11:15	LV/EM	10/25/18	AQ	Water	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)
LA49127-2F	10/24/18	11:15	LV/EM	10/25/18	AQ	Water Filtered	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)
LA49127-3	10/24/18	12:10	LV/EM	10/25/18	AQ	Water	031-6563Z (M. COWDIN IRRIGATION WELL)
LA49127-3F	10/24/18	12:10	LV/EM	10/25/18	AQ	Water Filtered	031-6563Z (M. COWDIN IRRIGATION WELL)
LA49127-4	10/24/18	07:45	LV/EM	10/25/18	AQ	Field Blank Water	FIELD BLANK
LA49127-5	10/24/18	06:30	LV/EM	10/25/18	AQ	Trip Blank Water	TRIP BLANK

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)		
Lab Sample ID:	LA49127-1	**Date Sampled:**	10/24/18
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	C0039927.D	1	10/31/18 06:18	IK	10/29/18 07:19	OP12657	EC1681
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	0.0048	mg/l	
120-83-2	2,4-Dichlorophenol	ND	0.0048	mg/l	
105-67-9	2,4-Dimethylphenol	ND	0.0048	mg/l	
51-28-5	2,4-Dinitrophenol	ND	0.019	mg/l	
100-02-7	4-Nitrophenol	ND	0.024	mg/l	
87-86-5	Pentachlorophenol	ND	0.00096	mg/l	
108-95-2	Phenol	ND	0.0048	mg/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0048	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	0.0048	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.0048	mg/l	
83-32-9	Acenaphthene	ND	0.00019	mg/l	
208-96-8	Acenaphthylene	ND	0.00019	mg/l	
62-53-3	Aniline	ND	0.0048	mg/l	
120-12-7	Anthracene	ND	0.00019	mg/l	
56-55-3	Benzo(a)anthracene	ND	0.00019	mg/l	
50-32-8	Benzo(a)pyrene	ND	0.00019	mg/l	
205-99-2	Benzo(b)fluoranthene	ND	0.00019	mg/l	
207-08-9	Benzo(k)fluoranthene	ND	0.00019	mg/l	
92-52-4	1,1'-Biphenyl	ND	0.0096	mg/l	
85-68-7	Butyl Benzyl Phthalate	ND	0.0048	mg/l	
106-47-8	4-Chloroaniline [a]	ND	0.0048	mg/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.0048	mg/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	0.0048	mg/l	
91-58-7	2-Chloronaphthalene	ND	0.0048	mg/l	
218-01-9	Chrysene	ND	0.00019	mg/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.00019	mg/l	
132-64-9	Dibenzofuran	ND	0.0048	mg/l	
91-94-1	3,3'-Dichlorobenzidine	ND	0.0096	mg/l	
84-66-2	Diethyl Phthalate	ND	0.0048	mg/l	
131-11-3	Dimethyl Phthalate	ND	0.0048	mg/l	
117-84-0	Di-n-octyl Phthalate	ND	0.0048	mg/l	
99-65-0	1,3-Dinitrobenzene	ND	0.0048	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:	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)		
Lab Sample ID:	LA49127-1	**Date Sampled:**	10/24/18
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	0.0048	mg/l	
606-20-2	2,6-Dinitrotoluene	ND	0.0048	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0048	mg/l	
206-44-0	Fluoranthene	ND	0.00019	mg/l	
86-73-7	Fluorene	ND	0.00019	mg/l	
118-74-1	Hexachlorobenzene	ND	0.00096	mg/l	
87-68-3	Hexachlorobutadiene	ND	0.00048	mg/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.0096	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.00019	mg/l	
78-59-1	Isophorone	ND	0.0048	mg/l	
91-57-6	2-Methylnaphthalene	ND	0.00019	mg/l	
91-20-3	Naphthalene	ND	0.00019	mg/l	
88-74-4	2-Nitroaniline	ND	0.0048	mg/l	
99-09-2	3-Nitroaniline	ND	0.0048	mg/l	
100-01-6	4-Nitroaniline	ND	0.0048	mg/l	
98-95-3	Nitrobenzene	ND	0.00096	mg/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	0.0048	mg/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.0048	mg/l	
85-01-8	Phenanthrene	ND	0.00019	mg/l	
129-00-0	Pyrene	ND	0.00019	mg/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	0.00096	mg/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0048	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	46%		23-85%
4165-62-2	Phenol-d5	32%		10-69%
118-79-6	2,4,6-Tribromophenol	84%		48-138%
4165-60-0	Nitrobenzene-d5	85%		51-128%
321-60-8	2-Fluorobiphenyl	88%		55-122%
1718-51-0	Terphenyl-d14	84%		43-138%

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

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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:	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)		
Lab Sample ID:	LA49127-1	**Date Sampled:**	10/24/18
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	LC381259.D	1	10/30/18 23:07	MB	n/a	n/a	GLC1885
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	103% [a]		70-130%
615-59-8	2,5-Dibromotoluene	92% [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:	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)		
Lab Sample ID:	LA49127-1	**Date Sampled:**	10/24/18
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	X0005569.D	1	10/29/18 23:57	JT	10/26/18 14:00	OP12635	GLB1651
Run #2	Y0005569.D	1	10/29/18 23:58	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		83%	40-140%
84-15-1	o-Terphenyl	83%		40-140%
321-60-8	2-Fluorobiphenyl	85%		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:	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)		
Lab Sample ID:	LA49127-1	**Date Sampled:**	10/24/18
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	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Arsenic	< 0.010	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Barium	0.111	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Cadmium	< 0.0050	0.0050	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Calcium	10.2	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Chromium	< 0.010	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Iron	< 1.0	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Lead	< 0.010	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Magnesium	3.84	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Manganese	0.0232	0.020	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [1]	SW846 7470A [3]
Potassium	2.41	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Selenium	< 0.050	0.050	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Silver	< 0.010	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Sodium	214	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Strontium	0.694	0.020	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Zinc	< 0.050	0.050	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA13797
(2) Instrument QC Batch: MA13945
(3) Prep QC Batch: MP13159
(4) Prep QC Batch: MP13321

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)		
Lab Sample ID:	LA49127-1	**Date Sampled:**	10/24/18
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]	276	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]	280	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	0.50	0.50	mg/l	1	11/07/18 13:14	ATX	SW846 9056A
Chloride [a]	58.1	2.5	mg/l	5	11/06/18 16:32	ATX	SW846 9056A
Silica, Dissolved [a]	7.9	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	525	10	mg/l	1	10/31/18	ATX	SM 2540C-2011
Specific Conductivity [b]	885	1.0	umhos/cm	1	10/29/18 14:20	ATX	EPA 120.1
Sulfate [a]	36.2	2.5	mg/l	5	11/06/18 16:32	ATX	SW846 9056A

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

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-7764Z (NELSON-JOHNSON #2 RIG SUPPLY)		
Lab Sample ID:	LA49127-1F	**Date Sampled:**	10/24/18
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	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Arsenic	< 0.010	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Barium	0.112	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Cadmium	< 0.0050	0.0050	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Calcium	10.1	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Chromium	< 0.010	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Iron	< 1.0	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Lead	< 0.010	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Magnesium	3.99	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Manganese	0.0227	0.020	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Mercury	< 0.00020	0.00020	mg/l	1	10/29/18	10/29/18	SA	SW846 7470A [1]	SW846 7470A [3]
Potassium	2.41	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Selenium	< 0.050	0.050	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Silver	< 0.010	0.010	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Sodium	221	1.0	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Strontium	0.722	0.020	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]
Zinc	< 0.050	0.050	mg/l	10	11/09/18	11/09/18	RT	SW846 6020A [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA13797
(2) Instrument QC Batch: MA13945
(3) Prep QC Batch: MP13159
(4) Prep QC Batch: MP13321

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)		
Lab Sample ID:	LA49127-2	**Date Sampled:**	10/24/18
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	C0039928.D	1	10/31/18 06:40	IK	10/29/18 07:19	OP12657	EC1681
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

ABN RECAP LIST

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	0.0048	mg/l	
120-83-2	2,4-Dichlorophenol	ND	0.0048	mg/l	
105-67-9	2,4-Dimethylphenol	ND	0.0048	mg/l	
51-28-5	2,4-Dinitrophenol	ND	0.019	mg/l	
100-02-7	4-Nitrophenol	ND	0.024	mg/l	
87-86-5	Pentachlorophenol	ND	0.00096	mg/l	
108-95-2	Phenol	ND	0.0048	mg/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0048	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	0.0048	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	0.0048	mg/l	
83-32-9	Acenaphthene	ND	0.00019	mg/l	
208-96-8	Acenaphthylene	ND	0.00019	mg/l	
62-53-3	Aniline	ND	0.0048	mg/l	
120-12-7	Anthracene	ND	0.00019	mg/l	
56-55-3	Benzo(a)anthracene	ND	0.00019	mg/l	
50-32-8	Benzo(a)pyrene	ND	0.00019	mg/l	
205-99-2	Benzo(b)fluoranthene	ND	0.00019	mg/l	
207-08-9	Benzo(k)fluoranthene	ND	0.00019	mg/l	
92-52-4	1,1'-Biphenyl	ND	0.0096	mg/l	
85-68-7	Butyl Benzyl Phthalate	ND	0.0048	mg/l	
106-47-8	4-Chloroaniline [a]	ND	0.0048	mg/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.0048	mg/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	0.0048	mg/l	
91-58-7	2-Chloronaphthalene	ND	0.0048	mg/l	
218-01-9	Chrysene	ND	0.00019	mg/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.00019	mg/l	
132-64-9	Dibenzofuran	ND	0.0048	mg/l	
91-94-1	3,3'-Dichlorobenzidine	ND	0.0096	mg/l	
84-66-2	Diethyl Phthalate	ND	0.0048	mg/l	
131-11-3	Dimethyl Phthalate	ND	0.0048	mg/l	
117-84-0	Di-n-octyl Phthalate	ND	0.0048	mg/l	
99-65-0	1,3-Dinitrobenzene	ND	0.0048	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:	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)		
Lab Sample ID:	LA49127-2	**Date Sampled:**	10/24/18
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	0.0048	mg/l	
606-20-2	2,6-Dinitrotoluene	ND	0.0048	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0048	mg/l	
206-44-0	Fluoranthene	ND	0.00019	mg/l	
86-73-7	Fluorene	ND	0.00019	mg/l	
118-74-1	Hexachlorobenzene	ND	0.00096	mg/l	
87-68-3	Hexachlorobutadiene	ND	0.00048	mg/l	
77-47-4	Hexachlorocyclopentadiene	ND	0.0096	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.00019	mg/l	
78-59-1	Isophorone	ND	0.0048	mg/l	
91-57-6	2-Methylnaphthalene	ND	0.00019	mg/l	
91-20-3	Naphthalene	ND	0.00019	mg/l	
88-74-4	2-Nitroaniline	ND	0.0048	mg/l	
99-09-2	3-Nitroaniline	ND	0.0048	mg/l	
100-01-6	4-Nitroaniline	ND	0.0048	mg/l	
98-95-3	Nitrobenzene	ND	0.00096	mg/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	0.0048	mg/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.0048	mg/l	
85-01-8	Phenanthrene	ND	0.00019	mg/l	
129-00-0	Pyrene	ND	0.00019	mg/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	0.00096	mg/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0048	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		23-85%
4165-62-2	Phenol-d5	31%		10-69%
118-79-6	2,4,6-Tribromophenol	84%		48-138%
4165-60-0	Nitrobenzene-d5	83%		51-128%
321-60-8	2-Fluorobiphenyl	91%		55-122%
1718-51-0	Terphenyl-d14	84%		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:	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)		
Lab Sample ID:	LA49127-2	**Date Sampled:**	10/24/18
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	LC381249.D	1	10/30/18 15:48	MB	n/a	n/a	GLC1885
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	108% [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:	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)		
Lab Sample ID:	LA49127-2	**Date Sampled:**	10/24/18
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	X0005570.D	1	10/30/18 00:22	JT	10/26/18 14:00	OP12635	GLB1651
Run #2	Y0005570.D	1	10/30/18 00:23	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		75%	40-140%
84-15-1	o-Terphenyl	78%		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:	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)		
Lab Sample ID:	LA49127-2	**Date Sampled:**	10/24/18
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	0.0232	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	< 1.0	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	1.33	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	280	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.0789	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: MA13785
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13152
(4) Prep QC Batch: MP13159

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)		
Lab Sample ID:	LA49127-2	**Date Sampled:**	10/24/18
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]	357	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Carbonate [a]	12.8	5.0	mg/l	1	10/29/18 16:00	ATX	SM18 2320B
Alkalinity, Total as CaCO3 [a]	370	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	< 0.50	0.50	mg/l	1	11/07/18 13:31	ATX	SW846 9056A
Chloride [a]	51.0	2.5	mg/l	5	11/06/18 16:49	ATX	SW846 9056A
Silica, Dissolved [a]	6.2	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	524	10	mg/l	1	10/31/18	ATX	SM 2540C-2011
Specific Conductivity [b]	909	1.0	umhos/cm	1	10/29/18 14:20	ATX	EPA 120.1
Sulfate [a]	4.2	0.50	mg/l	1	11/07/18 13:31	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:	031-8736Z (NELSON-MARTIN TIMBER ETAL 21 #1 RIG SUPPLY)		
Lab Sample ID:	LA49127-2F	**Date Sampled:**	10/24/18
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	0.0185	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	< 1.0	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	1.17	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	249	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.0685	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: MA13785
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13152
(4) Prep QC Batch: MP13159

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-6563Z (M. COWDIN IRRIGATION WELL)		
Lab Sample ID:	LA49127-3	**Date Sampled:**	10/24/18
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	L0022682.D	1	11/01/18 13:25	JS	10/31/18 08:00	OP12684	EL596
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 [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	ND	0.0044	mg/l	
99-65-0	1,3-Dinitrobenzene	ND	0.0044	mg/l	

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-6563Z (M. COWDIN IRRIGATION WELL)		
Lab Sample ID:	LA49127-3	**Date Sampled:**	10/24/18
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 [a]	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 [a]	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	36%		10-69%
118-79-6	2,4,6-Tribromophenol	82%		48-138%
4165-60-0	Nitrobenzene-d5	70%		51-128%
321-60-8	2-Fluorobiphenyl	73%		55-122%
1718-51-0	Terphenyl-d14	82%		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:	031-6563Z (M. COWDIN IRRIGATION WELL)		
Lab Sample ID:	LA49127-3	**Date Sampled:**	10/24/18
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	LC381253.D	1	10/30/18 18:42	MB	n/a	n/a	GLC1885
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	94% [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:	031-6563Z (M. COWDIN IRRIGATION WELL)		
Lab Sample ID:	LA49127-3	**Date Sampled:**	10/24/18
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	X0005609.D	1	11/01/18 15:04	JT	10/30/18 07:00	OP12664	GLB1653
Run #2	Y0005609.D	1	11/01/18 15:05	JT	10/30/18 07:00	OP12664	GLB1654

	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		73%	40-140%
84-15-1	o-Terphenyl	77%		40-140%
321-60-8	2-Fluorobiphenyl	81%		40-140%

(a) Result is from Run# 2

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

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-6563Z (M. COWDIN IRRIGATION WELL)		
Lab Sample ID:	LA49127-3	**Date Sampled:**	10/24/18
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	0.0172	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	< 1.0	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	1.05	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	249	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.0739	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: MA13785
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13152
(4) Prep QC Batch: MP13159

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	031-6563Z (M. COWDIN IRRIGATION WELL)		
Lab Sample ID:	LA49127-3	**Date Sampled:**	10/24/18
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]	381	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]	385	5.0	mg/l	1	10/29/18 16:00	ATX	SM 2320B-2011
Bromide [a]	< 0.50	0.50	mg/l	1	11/07/18 13:48	ATX	SW846 9056A
Chloride [a]	55.0	2.5	mg/l	5	11/06/18 17:06	ATX	SW846 9056A
Silica, Dissolved [a]	7.9	0.70	mg/l	10	11/01/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved [a]	514	10	mg/l	1	10/31/18	ATX	SM 2540C-2011
Specific Conductivity [b]	850	1.0	umhos/cm	1	10/29/18 14:20	ATX	EPA 120.1
Sulfate [a]	0.86	0.50	mg/l	1	11/07/18 13:48	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:	031-6563Z (M. COWDIN IRRIGATION WELL)		
Lab Sample ID:	LA49127-3F	**Date Sampled:**	10/24/18
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	0.0163	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	1.65	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	1.15	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	243	1.0	mg/l	10	10/26/18	10/29/18	RT	SW846 6020A [1]	SW846 3010A [3]
Strontium	0.0717	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: MA13785
(2) Instrument QC Batch: MA13797
(3) Prep QC Batch: MP13152
(4) Prep QC Batch: MP13159

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	FIELD BLANK		
Lab Sample ID:	LA49127-4	**Date Sampled:**	10/24/18
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	2Q0444632.D	1	10/30/18 13:40	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 BLANK		
Lab Sample ID:	LA49127-4	**Date Sampled:**	10/24/18
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	100%		84-124%
2037-26-5	Toluene-D8	95%		83-115%
460-00-4	4-Bromofluorobenzene	99%		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:	FIELD BLANK		
Lab Sample ID:	LA49127-4	**Date Sampled:**	10/24/18
Matrix:	AQ - Field Blank 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	LC381224.D	1	10/29/18 15:52	MB	n/a	n/a	GLC1884
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	95% [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:	TRIP BLANK		
Lab Sample ID:	LA49127-5	**Date Sampled:**	10/24/18
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	2Q0444630.D	1	10/30/18 13:14	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:	TRIP BLANK		
Lab Sample ID:	LA49127-5	**Date Sampled:**	10/24/18
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	99%		84-124%
2037-26-5	Toluene-D8	100%		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		
Lab Sample ID:	LA49127-5	**Date Sampled:**	10/24/18
Matrix:	AQ - Trip Blank 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	LC381223.D	1	10/29/18 15:08	MB	n/a	n/a	GLC1884
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	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

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

LA49127

SAMPLE CHAIN-OF-CUSTODY RECORD

Laboratory:	SGS Lafayette		
Project Name:	Indigo	*Collected By:*	LV/EM
Project Number:	8060.00	*Company:*	Hydro-Environmental Technology, Inc.
Project Location:	DeSoto Parish, Louisiana	*Date:*	10/24/2018

	Sample I.D.	Type	Date/Time Sampled		Containers	Analysis Requested/Method	Comments	
1	031-7764Z (Nelson-Johnson #2 Rig Supply)	AQ	10/24/2018	9:20	(3) 40mL Glass HCl (3) 60mL Amber Glass HCl (1) L Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO3	SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals	10
2	031-8736Z (Nelson-~~Johnson #3~~ Rig Supply) Martin Timber Etal 21 #1 (W)	AQ	10/24/2018	11:15	(4) 40mL Glass HCl (3) 60mL Amber Glass HCl (1) L Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO4	SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals	11
3	031-6563Z (M. Cowdin ~~Domestic~~ Well) Irrigation (W)	AQ	10/24/2018	12:40	(3) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO4	SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals	11
4	Field Blank	AQ	10/24/2018	7:45	(8) 40mL Glass HCL	VOC 8260, VPH	4°C	6
5	Trip Blank	AQ	10/24/2018	6:30	(8) 40mL Glass HCL	VOC 8260, VPH	4°C	5

US07 (1152)

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

Relinquished By: [signature]	Received By: [signature]
Date/Time: 10/24/18 1300	Date/Time: 10/24/18 1300
Relinquished By: [signature]	Received By: Walter Newman
Date/Time: 10/25/18 1445	Date/Time: 10-25-18 1445
Analysis Due: Verbal:	Written:

NO CS T1.6 (DW41) WS54A (W)
T=4.0C 10/25/18 RSC45 (DW)

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LA49127: Chain of Custody
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LA49127

SAMPLE CHAIN-OF-CUSTODY RECORD

Laboratory:	SGS Lafayette		
Project Name:	Indigo	*Collected By:*	LV/EM
Project Number:	8060.00	*Company:*	Hydro-Environmental Technology, Inc.
Project Location:	DeSoto Parish, Louisiana	*Date:*	10/24/2018

	Sample I.D.	Type	Date/Time Sampled		Containers	Analysis Requested/Method	Comments
1	031-7764Z (Nelson-Johnson #2 Rig Supply)	AQ	10/24/2018	9:20	(3) 40mL Glass HCl (3) 60mL Amber Glass HCl (1) L Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO3	SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
2	031-8736Z (Nelson-Johnson #3 Rig Supply)	AQ	10/24/2018	11:15	(4) 40mL Glass HCl (3) 60mL Amber Glass HCl (1) L Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO4	SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
3	031-6563Z (M. Cowdin Domestic Well)	AQ	10/24/2018	12:20	(3) 40mL Glass HCl (3) 60mL Amber Glass HCl (2) 4oz Amber Glass (1) 500mL Plastic (2) 250mL Plastic HNO4	SVOC 8270, VPH, EPH, Chlorides, TDS, Specific Conductance, Silica, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
4	Field Blank	AQ	10/24/2018	7:45	(8) 40mL Glass HCL	VOC 8260, VPH	4°C
5	Trip Blank	AQ	10/24/2018	6:30	(8) 40mL Glass HCL	VOC 8260, VPH	4°C

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

Relinquished By:	Received By:
Date/Time: 10/24/18 1300	Date/Time: 10/24/18 1300
Relinquished By:	Received By: Walter Newman
Date/Time: 10/25/18 1445	Date/Time: 10-25-18 1445
Analysis Due: Verbal:	Written:

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SGS Sample Receipt Summary

Job Number: LA49127 **Client:** HYDRO ENVIRONMENTAL **Project:** INDIGO

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

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

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:	IR Gun		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

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: Rec'd 6 vials for FB and 5 vials for TB, coc state 8 vials per ID.

Responded to by: RF Response Date: 10/26/2018

No issue

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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: LA49127
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

LA49127-4, LA49127-5

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: LA49127
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

LA49127-4, LA49127-5

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: LA49127
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

LA49127-4, LA49127-5

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: LA49127
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

LA49127-4, LA49127-5

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: LA49127
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

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

LA49127-4, LA49127-5

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49127
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

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

LA49127-4, LA49127-5

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

CAS No.	Surrogate Recoveries	MS	MSD	Limits
17060-07-0	1,2-Dichloroethane-D4	106%	105%	84-124%
2037-26-5	Toluene-D8	99%	100%	83-115%
460-00-4	4-Bromofluorobenzene	100%	98%	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: LA49127
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
OP12657-MB	C0039827.D	1	10/29/18	IK	10/29/18	OP12657	EC1678

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

LA49127-1, LA49127-2

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	ND	5.0	ug/l	
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: LA49127
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
OP12657-MB	C0039827.D	1	10/29/18	IK	10/29/18	OP12657	EC1678

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

LA49127-1, LA49127-2

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	49%	23-85%
4165-62-2	Phenol-d5	35%	10-69%
118-79-6	2,4,6-Tribromophenol	88%	48-138%
4165-60-0	Nitrobenzene-d5	89%	51-128%
321-60-8	2-Fluorobiphenyl	93%	55-122%
1718-51-0	Terphenyl-d14	91%	43-138%

Method Blank Summary

Job Number: LA49127
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
OP12684-MB	L0022679.D	1	11/01/18	JS	10/31/18	OP12684	EL596

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

LA49127-3

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	0.026	0.20	ug/l	J
208-96-8	Acenaphthylene	ND	0.20	ug/l	
62-53-3	Aniline	ND	5.0	ug/l	
120-12-7	Anthracene	0.0090	0.20	ug/l	J
56-55-3	Benzo(a)anthracene	0.030	0.20	ug/l	J
50-32-8	Benzo(a)pyrene	0.017	0.20	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.031	0.20	ug/l	J
207-08-9	Benzo(k)fluoranthene	0.024	0.20	ug/l	J
92-52-4	1,1'-Biphenyl	0.031	10	ug/l	J
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)	0.37	5.0	ug/l	J
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
218-01-9	Chrysene	0.019	0.20	ug/l	J
53-70-3	Dibenzo(a,h)anthracene	0.050	0.20	ug/l	J
132-64-9	Dibenzofuran	0.014	5.0	ug/l	J
91-94-1	3,3'-Dichlorobenzidine	ND	10	ug/l	
84-66-2	Diethyl Phthalate	ND	5.0	ug/l	
131-11-3	Dimethyl Phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl Phthalate	0.16	5.0	ug/l	J
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	0.16	5.0	ug/l	J
206-44-0	Fluoranthene	0.025	0.20	ug/l	J

Method Blank Summary

Job Number: LA49127
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
OP12684-MB	L0022679.D	1	11/01/18	JS	10/31/18	OP12684	EL596

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

LA49127-3

CAS No.	Compound	Result	RL	Units	Q
86-73-7	Fluorene	0.016	0.20	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.054	0.20	ug/l	J
78-59-1	Isophorone	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	0.025	0.20	ug/l	J
91-20-3	Naphthalene	0.030	0.20	ug/l	J
88-74-4	2-Nitroaniline	ND	5.0	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	ug/l	
85-01-8	Phenanthrene	0.031	0.20	ug/l	J
129-00-0	Pyrene	0.026	0.20	ug/l	J
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	54%	23-85%
4165-62-2	Phenol-d5	46%	10-69%
118-79-6	2,4,6-Tribromophenol	76%	48-138%
4165-60-0	Nitrobenzene-d5	65%	51-128%
321-60-8	2-Fluorobiphenyl	66%	55-122%
1718-51-0	Terphenyl-d14	77%	43-138%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49127
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
OP12657-BS	C0039828.D	1	10/29/18	IK	10/29/18	OP12657	EC1678
OP12657-BSD	C0039829.D	1	10/29/18	IK	10/29/18	OP12657	EC1678

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

LA49127-1, LA49127-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	50	38.7	77	33.7	67	14	63-104/19
120-83-2	2,4-Dichlorophenol	50	44.0	88	37.8	76	15	68-112/19
105-67-9	2,4-Dimethylphenol	50	44.4	89	35.6	71	22* [a]	64-110/20
51-28-5	2,4-Dinitrophenol	50	44.8	90	40.4	81	10	51-121/30
100-02-7	4-Nitrophenol	50	18.4	37	16.0	32	14	20-68/23
87-86-5	Pentachlorophenol	50	43.0	86	35.0	70	21	52-120/29
108-95-2	Phenol	50	18.2	36	16.6	33	9	18-67/20
58-90-2	2,3,4,6-Tetrachlorophenol	50	52.0	104	44.4	89	16	67-121/21
95-95-4	2,4,5-Trichlorophenol	50	52.0	104	44.9	90	15	67-119/21
88-06-2	2,4,6-Trichlorophenol	50	45.6	91	39.2	78	15	67-120/21
83-32-9	Acenaphthene	50	46.0	92	40.5	81	13	67-114/28
208-96-8	Acenaphthylene	50	46.9	94	38.2	76	20	67-119/26
62-53-3	Aniline	50	28.5	57	27.8	56	2	40-114/40
120-12-7	Anthracene	50	42.2	84	37.1	74	13	68-121/24
56-55-3	Benzo(a)anthracene	50	44.1	88	38.5	77	14	69-113/20
50-32-8	Benzo(a)pyrene	50	44.4	89	38.8	78	13	71-124/22
205-99-2	Benzo(b)fluoranthene	50	45.1	90	39.4	79	13	72-120/22
207-08-9	Benzo(k)fluoranthene	50	44.8	90	40.8	82	9	71-124/21
92-52-4	1,1'-Biphenyl	50	47.0	94	40.8	82	14	65-122/29
85-68-7	Butyl Benzyl Phthalate	50	40.5	81	37.1	74	9	73-123/21
106-47-8	4-Chloroaniline	50	43.9	88	40.3	81	9	58-113/51
111-44-4	bis(2-Chloroethyl)ether	50	44.2	88	39.2	78	12	50-118/28
108-60-1	2,2'-Oxybis(1-chloropropane)	50	49.0	98	44.0	88	11	43-138/21
91-58-7	2-Chloronaphthalene	50	45.9	92	40.9	82	12	64-114/30
218-01-9	Chrysene	50	44.4	89	39.0	78	13	70-115/20
53-70-3	Dibenzo(a,h)anthracene	50	46.8	94	41.6	83	12	70-124/21
132-64-9	Dibenzofuran	50	50.3	101	44.2	88	13	67-117/27
91-94-1	3,3'-Dichlorobenzidine	50	41.2	82	36.4	73	12	69-122/38
84-66-2	Diethyl Phthalate	50	48.2	96	42.9	86	12	71-123/21
131-11-3	Dimethyl Phthalate	50	48.1	96	43.4	87	10	69-119/20
117-84-0	Di-n-octyl Phthalate	50	40.3	81	35.6	71	12	66-121/22
99-65-0	1,3-Dinitrobenzene	50	50.4	101	45.9	92	9	71-122/21
121-14-2	2,4-Dinitrotoluene	50	52.0	104	47.1	94	10	73-122/21
606-20-2	2,6-Dinitrotoluene	50	49.5	99	44.2	88	11	72-121/21
117-81-7	bis(2-Ethylhexyl)phthalate	50	39.2	78	34.1	68	14	68-126/21
206-44-0	Fluoranthene	50	43.8	88	38.0	76	14	73-120/21

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49127
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
OP12657-BS	C0039828.D	1	10/29/18	IK	10/29/18	OP12657	EC1678
OP12657-BSD	C0039829.D	1	10/29/18	IK	10/29/18	OP12657	EC1678

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

LA49127-1, LA49127-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
86-73-7	Fluorene	50	49.8	100	43.9	88	13	69-118/25
118-74-1	Hexachlorobenzene	50	43.0	86	38.0	76	12	67-117/23
87-68-3	Hexachlorobutadiene	50	41.1	82	36.6	73	12	42-120/35
77-47-4	Hexachlorocyclopentadiene	50	41.0	82	38.0	76	8	35-123/48
193-39-5	Indeno(1,2,3-cd)pyrene	50	43.6	87	38.6	77	12	70-123/21
78-59-1	Isophorone	50	52.6	105	46.3	93	13	70-119/19
91-57-6	2-Methylnaphthalene	50	41.6	83	36.6	73	13	65-113/27
91-20-3	Naphthalene	50	40.9	82	35.6	71	14	63-114/23
88-74-4	2-Nitroaniline	50	46.7	93	42.0	84	11	68-125/21
99-09-2	3-Nitroaniline	50	46.7	93	42.1	84	10	69-117/23
100-01-6	4-Nitroaniline	50	44.7	89	40.2	80	11	67-122/19
98-95-3	Nitrobenzene	50	53.7	107	47.2	94	13	69-116/21
621-64-7	N-Nitroso-di-n-propylamine	50	49.6	99	43.8	88	12	67-120/20
86-30-6	N-Nitrosodiphenylamine	50	39.2	78	34.1	68	14	67-119/25
85-01-8	Phenanthrene	50	43.3	87	38.4	77	12	70-117/23
129-00-0	Pyrene	50	43.7	87	39.0	78	11	70-119/21
95-94-3	1,2,4,5-Tetrachlorobenzene	50	53.9	108	46.2	92	15	55-117/35
120-82-1	1,2,4-Trichlorobenzene	50	41.4	83	36.2	72	13	56-111/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	47%	43%	23-85%
4165-62-2	Phenol-d5	34%	32%	10-69%
118-79-6	2,4,6-Tribromophenol	88%	77%	48-138%
4165-60-0	Nitrobenzene-d5	93%	84%	51-128%
321-60-8	2-Fluorobiphenyl	93%	83%	55-122%
1718-51-0	Terphenyl-d14	88%	81%	43-138%

(a) High RPD. Analyte not detected in associated samples.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49127
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
OP12684-BS	L0022680.D	1	11/01/18	JS	10/31/18	OP12684	EL596
OP12684-BSD	L0022681.D	1	11/01/18	JS	10/31/18	OP12684	EL596

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

LA49127-3

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	4.5	90	7	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	4.5	90	7	64-110/20
51-28-5	2,4-Dinitrophenol	25	19.3	77	21.8	87	12	51-121/30
100-02-7	4-Nitrophenol	25	11.4	46	13.1	52	14	20-68/23
87-86-5	Pentachlorophenol	25	19.8	79	22.1	88	11	52-120/29
108-95-2	Phenol	5	2.6	52	2.9	58	11	18-67/20
58-90-2	2,3,4,6-Tetrachlorophenol	5	4.7	94	5.1	102	8	67-121/21
95-95-4	2,4,5-Trichlorophenol	5	4.8	96	5.3	106	10	67-119/21
88-06-2	2,4,6-Trichlorophenol	5	4.4	88	4.8	96	9	67-120/21
83-32-9	Acenaphthene	5	3.8	76	4.1	82	8	67-114/28
208-96-8	Acenaphthylene	5	4.0	80	4.2	84	5	67-119/26
62-53-3	Aniline	5	3.2	64	2.9	58	10	40-114/40
120-12-7	Anthracene	5	4.0	80	4.3	86	7	68-121/24
56-55-3	Benzo(a)anthracene	5	4.1	82	4.4	88	7	69-113/20
50-32-8	Benzo(a)pyrene	5	4.3	86	4.7	94	9	71-124/22
205-99-2	Benzo(b)fluoranthene	5	4.3	86	4.4	88	2	72-120/22
207-08-9	Benzo(k)fluoranthene	5	4.5	90	5.2	104	14	71-124/21
92-52-4	1,1'-Biphenyl	5	3.7	74	4.0	80	8	65-122/29
85-68-7	Butyl Benzyl Phthalate	5	4.9	98	5.1	102	4	73-123/21
106-47-8	4-Chloroaniline	5	3.8	76	4.0	80	5	58-113/51
111-44-4	bis(2-Chloroethyl)ether	5	4.0	80	4.2	84	5	50-118/28
108-60-1	2,2'-Oxybis(1-chloropropane)	5	4.2	84	4.4	88	5	43-138/21
91-58-7	2-Chloronaphthalene	5	3.5	70	3.8	76	8	64-114/30
218-01-9	Chrysene	5	4.2	84	4.4	88	5	70-115/20
53-70-3	Dibenzo(a,h)anthracene	5	4.5	90	4.8	96	6	70-124/21
132-64-9	Dibenzofuran	5	3.9	78	4.2	84	7	67-117/27
91-94-1	3,3'-Dichlorobenzidine	5	4.1	82	4.2	84	2	69-122/38
84-66-2	Diethyl Phthalate	5	4.1	82	4.5	90	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	4.7	94	5.1	102	8	66-121/22
99-65-0	1,3-Dinitrobenzene	25	23.2	93	25.0	100	7	71-122/21
121-14-2	2,4-Dinitrotoluene	5	4.6	92	5.0	100	8	73-122/21
606-20-2	2,6-Dinitrotoluene	5	4.3	86	4.7	94	9	72-121/21
117-81-7	bis(2-Ethylhexyl)phthalate	5	4.6	92	4.9	98	6	68-126/21
206-44-0	Fluoranthene	5	4.3	86	4.6	92	7	73-120/21

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49127
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
OP12684-BS	L0022680.D	1	11/01/18	JS	10/31/18	OP12684	EL596
OP12684-BSD	L0022681.D	1	11/01/18	JS	10/31/18	OP12684	EL596

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

LA49127-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
86-73-7	Fluorene	5	4.0	80	4.3	86	7	69-118/25
118-74-1	Hexachlorobenzene	5	4.2	84	4.3	86	2	67-117/23
87-68-3	Hexachlorobutadiene	5	2.6	52	2.6	52	0	42-120/35
77-47-4	Hexachlorocyclopentadiene	5	2.5	50	2.7	54	8	35-123/48
193-39-5	Indeno(1,2,3-cd)pyrene	5	4.4	88	4.8	96	9	70-123/21
78-59-1	Isophorone	5	4.6	92	4.7	94	2	70-119/19
91-57-6	2-Methylnaphthalene	5	3.8	76	4.0	80	5	65-113/27
91-20-3	Naphthalene	5	3.6	72	3.9	78	8	63-114/23
88-74-4	2-Nitroaniline	25	22.4	90	24.4	98	9	68-125/21
99-09-2	3-Nitroaniline	25	20.1	80	21.9	88	9	69-117/23
100-01-6	4-Nitroaniline	25	19.7	79	21.4	86	8	67-122/19
98-95-3	Nitrobenzene	5	4.1	82	4.3	86	5	69-116/21
621-64-7	N-Nitroso-di-n-propylamine	5	4.8	96	4.9	98	2	67-120/20
86-30-6	N-Nitrosodiphenylamine	5	3.9	78	4.4	88	12	67-119/25
85-01-8	Phenanthrene	5	4.0	80	4.2	84	5	70-117/23
129-00-0	Pyrene	5	4.4	88	4.6	92	4	70-119/21
95-94-3	1,2,4,5-Tetrachlorobenzene	5	3.2	64	3.4	68	6	55-117/35
120-82-1	1,2,4-Trichlorobenzene	5	3.2	64	3.4	68	6	56-111/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	56%	63%	23-85%
4165-62-2	Phenol-d5	48%	51%	10-69%
118-79-6	2,4,6-Tribromophenol	88%	95%	48-138%
4165-60-0	Nitrobenzene-d5	71%	75%	51-128%
321-60-8	2-Fluorobiphenyl	74%	72%	55-122%
1718-51-0	Terphenyl-d14	85%	86%	43-138%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49127
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
OP12684-MS	L0022687.D	1	11/01/18	JS	10/31/18	OP12684	EL596
OP12684-MSD	L0022688.D	1	11/01/18	JS	10/31/18	OP12684	EL596
LA49223-2	L0022686.D	1	11/01/18	JS	10/31/18	OP12684	EL596

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

LA49127-3

CAS No.	Compound	LA49223-2 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		4.55	3.7	81	5	5.1	102	32* a	63-104/19
120-83-2	2,4-Dichlorophenol	ND		4.55	4.0	88	5	5.1	102	24* a	68-112/19
105-67-9	2,4-Dimethylphenol	ND		4.55	3.7	81	5	3.5	70	6	64-110/20
51-28-5	2,4-Dinitrophenol	ND		22.7	17.9	79	25	22.5	90	23	51-121/30
100-02-7	4-Nitrophenol	ND		22.7	9.7	43	25	12.3	49	24* a	20-68/23
87-86-5	Pentachlorophenol	ND		22.7	19.2	84	25	25.0	100	26	52-120/29
108-95-2	Phenol	ND		4.55	2.3	51	5	3.1	62	30* a	18-67/20
58-90-2	2,3,4,6-Tetrachlorophenol	ND		4.55	4.2	92	5	5.3	106	23* a	67-121/21
95-95-4	2,4,5-Trichlorophenol	ND		4.55	4.2	92	5	5.4	108	25* a	67-119/21
88-06-2	2,4,6-Trichlorophenol	ND		4.55	3.8	84	5	4.9	98	25* a	67-120/21
83-32-9	Acenaphthene	1.5		4.55	4.8	73	5	6.1	92	24	67-114/28
208-96-8	Acenaphthylene	0.18		4.55	3.5	73	5	4.5	86	25	67-119/26
62-53-3	Aniline	ND		4.55	2.6	57	5	3.4	68	27	40-114/40
120-12-7	Anthracene	0.10		4.55	3.7	79	5	4.6	90	22	68-121/24
56-55-3	Benzo(a)anthracene	0.018		4.55	3.7	81	5	4.6	92	22* a	69-113/20
50-32-8	Benzo(a)pyrene	ND		4.55	3.8	84	5	4.9	98	25* a	71-124/22
205-99-2	Benzo(b)fluoranthene	ND		4.55	3.6	79	5	4.6	92	24* a	72-120/22
207-08-9	Benzo(k)fluoranthene	ND		4.55	4.1	90	5	5.3	106	26* a	71-124/21
92-52-4	1,1'-Biphenyl	ND		4.55	3.2	70	5	4.1	82	25	65-122/29
85-68-7	Butyl Benzyl Phthalate	ND		4.55	4.2	92	5	5.4	108	25* a	73-123/21
106-47-8	4-Chloroaniline	ND		4.55	2.9	64	5	3.8	76	27	58-113/51
111-44-4	bis(2-Chloroethyl)ether	ND		4.55	3.3	73	5	4.5	90	31* a	50-118/28
108-60-1	2,2'-Oxybis(1-chloropropane)	ND		4.55	3.5	77	5	4.7	94	29* a	43-138/21
91-58-7	2-Chloronaphthalene	ND		4.55	3.1	68	5	3.9	78	23	64-114/30
218-01-9	Chrysene	0.013		4.55	3.7	81	5	4.7	94	24* a	70-115/20
53-70-3	Dibenzo(a,h)anthracene	ND		4.55	4.0	88	5	5.1	102	24* a	70-124/21
132-64-9	Dibenzofuran	0.20		4.55	3.5	73	5	4.5	86	25	67-117/27
91-94-1	3,3'-Dichlorobenzidine	ND		4.55	1.6	35* b	5	2.1	42* b	27	69-122/38
84-66-2	Diethyl Phthalate	ND		4.55	3.5	77	5	4.6	92	27* a	71-123/21
131-11-3	Dimethyl Phthalate	ND		4.55	3.6	79	5	4.6	92	24* a	69-119/20
117-84-0	Di-n-octyl Phthalate	ND		4.55	4.2	92	5	5.4	108	25* a	66-121/22
99-65-0	1,3-Dinitrobenzene	ND		22.7	19.7	87	25	25.4	102	25* a	71-122/21
121-14-2	2,4-Dinitrotoluene	ND		4.55	4.5	99	5	5.5	110	20	73-122/21
606-20-2	2,6-Dinitrotoluene	ND		4.55	3.8	84	5	4.8	96	23* a	72-121/21
117-81-7	bis(2-Ethylhexyl)phthalate	ND		4.55	4.1	90	5	5.3	106	26* a	68-126/21
206-44-0	Fluoranthene	0.076		4.55	3.9	84	5	5.0	98	25* a	73-120/21

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA49127
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
OP12684-MS	L0022687.D	1	11/01/18	JS	10/31/18	OP12684	EL596
OP12684-MSD	L0022688.D	1	11/01/18	JS	10/31/18	OP12684	EL596
LA49223-2	L0022686.D	1	11/01/18	JS	10/31/18	OP12684	EL596

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

LA49127-3

CAS No.	Compound	LA49223-2 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		4.55	3.5	77	5	4.4	88	23	69-118/25
118-74-1	Hexachlorobenzene	ND		4.55	3.8	84	5	4.9	98	25* [a]	67-117/23
87-68-3	Hexachlorobutadiene	ND		4.55	2.0	44	5	2.9	58	37* [a]	42-120/35
77-47-4	Hexachlorocyclopentadiene	ND		4.55	1.9	42	5	2.9	58	42	35-123/48
193-39-5	Indeno(1,2,3-cd)pyrene	ND		4.55	4.1	90	5	5.1	102	22* [a]	70-123/21
78-59-1	Isophorone	ND		4.55	3.8	84	5	5.0	100	27* [a]	70-119/19
91-57-6	2-Methylnaphthalene	7.5		4.55	10.3	62* [b]	5	13.8	126* [b]	29* [a]	65-113/27
91-20-3	Naphthalene	1.3		4.55	4.5	70	5	5.7	88	24* [a]	63-114/23
88-74-4	2-Nitroaniline	ND		22.7	19.3	85	25	24.9	100	25* [a]	68-125/21
99-09-2	3-Nitroaniline	ND		22.7	16.7	73	25	21.1	84	23	69-117/23
100-01-6	4-Nitroaniline	ND		22.7	16.5	73	25	20.9	84	24* [a]	67-122/19
98-95-3	Nitrobenzene	ND		4.55	4.3	95	5	5.5	110	24* [a]	69-116/21
621-64-7	N-Nitroso-di-n-propylamine	ND		4.55	3.8	84	5	5.3	106	33* [a]	67-120/20
86-30-6	N-Nitrosodiphenylamine	ND		4.55	4.1	90	5	4.4	88	7	67-119/25
85-01-8	Phenanthrene	2.4		4.55	5.6	70	5	7.1	94	24* [a]	70-117/23
129-00-0	Pyrene	0.15		4.55	3.9	82	5	5.0	97	25* [a]	70-119/21
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		4.55	2.6	57	5	3.5	70	30	55-117/35
120-82-1	1,2,4-Trichlorobenzene	ND		4.55	2.7	59	5	3.5	70	26	56-111/30

CAS No.	Surrogate Recoveries	MS	MSD	LA49223-2	Limits
367-12-4	2-Fluorophenol	56%	64%	51%	23-85%
4165-62-2	Phenol-d5	44%	54%	46%	10-69%
118-79-6	2,4,6-Tribromophenol	90%	105%	82%	48-138%
4165-60-0	Nitrobenzene-d5	69%	79%	63%	51-128%
321-60-8	2-Fluorobiphenyl	69%	79%	63%	55-122%
1718-51-0	Terphenyl-d14	79%	91%	77%	43-138%

(a) Analytical precision exceeds laboratory control limits.
(b) Outside control limits due to matrix interference. The BS/BSD met criteria.

* = Outside of Control Limits.

GC Volatiles

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QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: LA49127
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
GLC1884-MB1	LC381222.D	1	10/29/18	MB	n/a	n/a	GLC1884

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

LA49127-4, LA49127-5

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	106% [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: LA49127
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
GLC1885-MB1	LC381247.D	1	10/30/18	MB	n/a	n/a	GLC1885

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

LA49127-1, LA49127-2, LA49127-3

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	107% [a]	70-130%
615-59-8	2,5-Dibromotoluene	97% [b]	70-130%

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

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA49127
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
GLC1884-BS1	LC381217.D	1	10/29/18	MB	n/a	n/a	GLC1884
GLC1884-BSD1	LC381218.D	1	10/29/18	MB	n/a	n/a	GLC1884

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

LA49127-4, LA49127-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics C6-C8 (Unadj.)	150	154	103	163	109	6	70-130/30
	Aliphatics > C8-C10 (Unadj.)	250	280	112	265	106	6	70-130/30
	Aromatics > C8-C10 (Unadj.)	250	256	102	254	102	1	70-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	112% [a]	106% [a]	70-130%
615-59-8	2,5-Dibromotoluene	104% [b]	100% [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: LA49127
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
GLC1885-BS1	LC381242.D	1	10/30/18	MB	n/a	n/a	GLC1885
GLC1885-BSD1	LC381243.D	1	10/30/18	MB	n/a	n/a	GLC1885

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

LA49127-1, LA49127-2, LA49127-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	Aliphatics C6-C8 (Unadj.)	150	146	97	162	108	10	70-130/30
	Aliphatics > C8-C10 (Unadj.)	250	275	110	261	104	5	70-130/30
	Aromatics > C8-C10 (Unadj.)	250	246	98	248	99	1	70-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
615-59-8	2,5-Dibromotoluene	109% [a]	105% [a]	70-130%
615-59-8	2,5-Dibromotoluene	100% [b]	96% [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: LA49127
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
LA49177-2MS	LC381276.D	2	10/31/18	MB	n/a	n/a	GLC1885
LA49177-2MSD	LC381277.D	2	10/31/18	MB	n/a	n/a	GLC1885
LA49177-2	LC381264.D	1	10/31/18	MB	n/a	n/a	GLC1885

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

LA49127-1, LA49127-2, LA49127-3

CAS No.	Compound	LA49177-2 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.)	62.5		300	326	88	300	327	88	0	70-130/50
	Aliphatics > C8-C10 (Unadj.)	150		500	599	90	500	620	94	3	70-130/50
	Aromatics > C8-C10 (Unadj.)	203		500	645	88	500	655	90	2	70-130/50

CAS No.	Surrogate Recoveries	MS	MSD	LA49177-2	Limits
615-59-8	2,5-Dibromotoluene	105% [a]	109% [a]	115% [a]	70-130%
615-59-8	2,5-Dibromotoluene	96% [b]	99% [b]	101% [b]	70-130%

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

* = Outside of Control Limits.

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: LA49127
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

LA49127-1, LA49127-2

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: LA49127
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

LA49127-1, LA49127-2

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: LA49127
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

LA49127-3

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: LA49127
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

LA49127-3

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: LA49127
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

LA49127-1, LA49127-2

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: LA49127
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

LA49127-1, LA49127-2

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: LA49127
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

LA49127-3

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: LA49127
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

LA49127-3

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: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	6.9	9.3	-0.76	<100
Antimony	1.0	.043	.34		
Arsenic	1.0	.062	.26	-0.023	<1.0
Barium	1.0	.033	.46	-0.019	<1.0
Beryllium	1.0	.0077	.28		
Boron	20	1.3	2.9		
Cadmium	0.50	.011	.12	0.034	<0.50
Calcium	100	5.7	20	-14	<100
Cerium	1.0	.0041	.16		
Chromium	1.0	.11	.15	-0.029	<1.0
Cobalt	1.0	.012	.14		
Copper	1.0	.91	.74		
Iron	100	48	16	-20	<100
Lanthanum	1.0	.0038	.41		
Lithium	2.0	.1	.61		
Lead	1.0	.0081	.13	-0.13	<1.0
Magnesium	100	1.6	11	-10	<100
Manganese	2.0	.48	.53	0.011	<2.0
Molybdenum	1.0	.048	.89		
Nickel	1.0	.037	.2		
Potassium	100	3.4	7.6	-9.6	<100
Selenium	5.0	.38	3.1	0.048	<5.0
Silver	1.0	.0047	.13	-0.081	<1.0
Silicon	500	6.6	130		
Sodium	100	24	9.9	-8.7	<100
Strontium	2.0	.12	.27	0.025	<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	-0.32	<5.0

Associated samples MP13152: LA49127-2, LA49127-3, LA49127-2F, LA49127-3F

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152 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: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	Original MS	Spikelot MPICPMS6 % Rec	QC Limits
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Boron			
Cadmium			
Calcium			
Cerium			
Chromium			
Cobalt			
Copper			
Iron			
Lanthanum			
Lithium			
Lead			
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium			
Silver			
Silicon			
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Uranium			
Vanadium			
Zinc			

Associated samples MP13152: LA49127-2, LA49127-3, LA49127-2F, LA49127-3F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	Original MS	Spikelot MPICPMS6	% Rec	QC 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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	Original MSD	Spikelot MPICPMS6 % Rec	MSD RPD	QC Limit
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Cerium				
Chromium				
Cobalt				
Copper				
Iron				
Lanthanum				
Lithium				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Silicon				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP13152: LA49127-2, LA49127-3, LA49127-2F, LA49127-3F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	Original MSD	Spikelot MPICPMS6 % Rec	MSD RPD	QC 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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/26/18

Metal	BSP Result	Spikelot MPICPMS6	% Rec	QC Limits
Aluminum	5270	5100	103.3	80-120
Antimony				
Arsenic	101	100	101.0	80-120
Barium	107	100	107.0	80-120
Beryllium				
Boron				
Cadmium	101	100	101.0	80-120
Calcium	5430	5000	108.6	80-120
Cerium				
Chromium	106	100	106.0	80-120
Cobalt				
Copper				
Iron	5250	5000	105.0	80-120
Lanthanum				
Lithium				
Lead	103	100	103.0	80-120
Magnesium	5070	5000	101.4	80-120
Manganese	105	100	105.0	80-120
Molybdenum				
Nickel				
Potassium	5350	5000	107.0	80-120
Selenium	493	500	98.6	80-120
Silver	101	100	101.0	80-120
Silicon				
Sodium	4980	5000	99.6	80-120
Strontium	105	100	105.0	80-120
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	98.9	100	98.9	80-120

Associated samples MP13152: LA49127-2, LA49127-3, LA49127-2F, LA49127-3F

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152 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: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/26/18

Metal	Original	%DIF	QC Limits
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Boron			
Cadmium			
Calcium			
Cerium			
Chromium			
Cobalt			
Copper			
Iron			
Lanthanum			
Lithium			
Lead			
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium			
Silver			
Silicon			
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Uranium			
Vanadium			
Zinc			

Associated samples MP13152: LA49127-2, LA49127-3, LA49127-2F, LA49127-3F

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/18

Metal	Original	%DIF	QC Limits

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

POST DIGESTATE SPIKE SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13152
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/26/18

Metal	Sample ml	Final ml	Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Antimony										
Beryllium										
Boron										
Cerium										
Cobalt										
Copper										
Lanthanum										
Lithium										
Molybdenum										
Nickel										
Silicon										
Thallium										
Tin										
Titanium										
Uranium										
Vanadium										
Zinc										

Associated samples MP13152: LA49127-2, LA49127-3, LA49127-2F, LA49127-3F

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 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	0.00070	<0.20

Associated samples MP13159: LA49127-1, LA49127-2, LA49127-3, LA49127-1F, LA49127-2F, LA49127-3F

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: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

Metal	LA49190-2 Original	MS	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	0.0	4.4	5	88.0	75-125

Associated samples MP13159: LA49127-1, LA49127-2, LA49127-3, LA49127-1F, LA49127-2F, LA49127-3F

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: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

Metal	LA49190-2 Original	MSD	Spikelot HGSPIKE1	% Rec	MSD RPD	QC Limit
Mercury	0.0	4.4	5	88.0	0.0	20

Associated samples MP13159: LA49127-1, LA49127-2, LA49127-3, LA49127-1F, LA49127-2F, LA49127-3F

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: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 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 MP13159: LA49127-1, LA49127-2, LA49127-3, LA49127-1F, LA49127-2F, LA49127-3F

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13159 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/18

Metal	LA49190-2 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-

Associated samples MP13159: LA49127-1, LA49127-2, LA49127-3, LA49127-1F, LA49127-2F, LA49127-3F

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/09/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	6.9	9.3	-1.9	<100
Antimony	1.0	.043	.34		
Arsenic	1.0	.062	.26	-0.064	<1.0
Barium	1.0	.033	.46	0.016	<1.0
Beryllium	1.0	.0077	.28		
Boron	20	1.3	2.9		
Cadmium	0.50	.011	.12	-0.11	<0.50
Calcium	100	5.7	20	11.8	<100
Cerium	1.0	.0041	.16		
Chromium	1.0	.11	.15	-0.082	<1.0
Cobalt	1.0	.012	.14		
Copper	1.0	.91	.74		
Iron	100	48	16	-25	<100
Lanthanum	1.0	.0038	.41		
Lithium	2.0	.1	.61		
Lead	1.0	.0081	.13	-0.17	<1.0
Magnesium	100	1.6	11	-16	<100
Manganese	2.0	.48	.53	0.024	<2.0
Molybdenum	1.0	.048	.89		
Nickel	1.0	.037	.2		
Potassium	100	3.4	7.6	-8.5	<100
Selenium	5.0	.38	3.1	-0.55	<5.0
Silver	1.0	.0047	.13	-0.076	<1.0
Silicon	500	6.6	130		
Sodium	100	24	9.9	38.1	<100
Strontium	2.0	.12	.27	-0.022	<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	-0.29	<5.0

Associated samples MP13321: LA49127-1, LA49127-1F

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/09/18

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: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 11/09/18

Metal	LA49572-1 Original	MS	Spikelot MPICPMS6	% Rec	QC Limits
Aluminum	310	5370	5100	99.2	75-125
Antimony					
Arsenic	0.0	109	100	109.0	75-125
Barium	112	198	100	86.0	75-125
Beryllium					
Boron					
Cadmium	0.0	95.9	100	95.9	75-125
Calcium	237000	217000	5000	-400.0(a	75-125
Cerium					
Chromium	5.0	99.2	100	94.2	75-125
Cobalt					
Copper					
Iron	1930	6070	5000	82.8	75-125
Lanthanum					
Lithium					
Lead	3.1	100	100	96.9	75-125
Magnesium	4930	8690	5000	75.2	75-125
Manganese	286	324	100	38.0N(b)	75-125
Molybdenum					
Nickel					
Potassium	2860	7720	5000	97.2	75-125
Selenium	0.0	478	500	95.6	75-125
Silver	0.0	94.2	100	94.2	75-125
Silicon					
Sodium	1490000	1230000	5000	-5200.0a	75-125
Strontium	346	371	100	25.0N(b)	75-125
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	325	360	100	35.0N(b)	75-125

Associated samples MP13321: LA49127-1, LA49127-1F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/09/18

Metal	LA49572-1 Original MS	Spikelot MPICPMS6 % Rec	QC 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 amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference or sample non-homogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/09/18

Metal	LA49572-1 Original	MSD	Spikelot MPICPMS6	% Rec	MSD RPD	QC Limit
Aluminum	310	5270	5100	97.3	1.9	20
Antimony						
Arsenic	0.0	106	100	106.0	2.8	20
Barium	112	191	100	79.0	3.6	20
Beryllium						
Boron						
Cadmium	0.0	103	100	103.0	7.1	20
Calcium	237000	209000	5000	-560.0(a	3.8	20
Cerium						
Chromium	5.0	104	100	99.0	4.7	20
Cobalt						
Copper						
Iron	1930	6330	5000	88.0	4.2	20
Lanthanum						
Lithium						
Lead	3.1	95.8	100	92.7	4.3	20
Magnesium	4930	9080	5000	83.0	4.4	20
Manganese	286	341	100	55.0N(b)	5.1	20
Molybdenum						
Nickel						
Potassium	2860	7460	5000	92.0	3.4	20
Selenium	0.0	510	500	102.0	6.5	20
Silver	0.0	96.2	100	96.2	2.1	20
Silicon						
Sodium	1490000	1290000	5000	-4000.0a	4.8	20
Strontium	346	393	100	47.0N(b)	5.8	20
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	325	372	100	47.0N(b)	3.3	20

Associated samples MP13321: LA49127-1, LA49127-1F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/09/18

Metal	LA49572-1 Original MSD	Spikelot MPICPMS6 % Rec	MSD RPD	QC 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 amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference or sample non-homogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 11/09/18

Metal	BSP Result	Spikelot MPICPMS6	% Rec	QC Limits
Aluminum	4900	5100	96.1	80-120
Antimony				
Arsenic	109	100	109.0	80-120
Barium	95.1	100	95.1	80-120
Beryllium				
Boron				
Cadmium	102	100	102.0	80-120
Calcium	4830	5000	96.6	80-120
Cerium				
Chromium	101	100	101.0	80-120
Cobalt				
Copper				
Iron	5120	5000	102.4	80-120
Lanthanum				
Lithium				
Lead	93.9	100	93.9	80-120
Magnesium	5090	5000	101.8	80-120
Manganese	99.4	100	99.4	80-120
Molybdenum				
Nickel				
Potassium	4930	5000	98.6	80-120
Selenium	538	500	107.6	80-120
Silver	100	100	100.0	80-120
Silicon				
Sodium	4920	5000	98.4	80-120
Strontium	103	100	103.0	80-120
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	110	100	110.0	80-120

Associated samples MP13321: LA49127-1, LA49127-1F

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/09/18

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: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/09/18

Metal	LA49572-1 Original	SDL 10:50%DIF		QC Limits
Aluminum	310	0.00	100.0(a)	0-10
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	112	81.7	27.1*(b)	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	237000	172000	27.5*(b)	0-10
Cerium				
Chromium	5.05	0.00	100.0(a)	0-10
Cobalt				
Copper				
Iron	1930	0.00	100.0(a)	0-10
Lanthanum				
Lithium				
Lead	3.10	0.00	100.0(a)	0-10
Magnesium	4930	2920	40.8*(b)	0-10
Manganese	286	212	25.8*(b)	0-10
Molybdenum				
Nickel				
Potassium	2860	1950	31.7*(b)	0-10
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Silicon				
Sodium	1490000	1130000	24.1*(b)	0-10
Strontium	346	254	26.6*(b)	0-10
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	325	231	28.7 (a)	0-10

Associated samples MP13321: LA49127-1, LA49127-1F

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/09/18

	LA49572-1	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) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

POST DIGESTATE SPIKE SUMMARY

Login Number: LA49127
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP13321
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 11/09/18

Metal	Sample ml	Final ml	LA49572-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Antimony										
Beryllium										
Boron										
Cerium										
Cobalt										
Copper										
Lanthanum										
Lithium										
Manganese	0.2	10	285.5	5.71	109.6	0.1	10	100	103.9	75-125
Molybdenum										
Nickel										
Silicon										
Strontium	0.2	10	345.6	6.912	111.9	0.1	10	100	105.0	75-125
Thallium										
Tin										
Titanium										
Uranium										
Vanadium										
Zinc	0.2	10	324.5	6.49	113.7	0.1	10	100	107.2	75-125

Associated samples MP13321: LA49127-1, LA49127-1F

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

Misc. Forms

Custody Documents and Other Forms

(SGS Houston, TX)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

Cooler 5 — Page 1 of 1 — TX

SGS

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

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA49127

Client / Reporting Information

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

BROIC9056_CHLIC9056_SCON_SIL_SO4IC9056_TDS
_XCARBICALK

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	031-7764Z (NELSON-JOHNSON #2 RI		10/24/18	9:20:00 AM	LV/EM	AQ										X	1	
2	031-8736Z (NELSON-JOHNSON #3 RI		10/24/18	11:15:00 AM	LV/EM	AQ										X	1	
3	031-6563Z (M. COWDIN DOMESTIC W		10/24/18	12:10:00 PM	LV/EM	AQ										X	1	

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

3-500ml unp

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	1	2	1020	2
3	Relinquished by Sampler:	Date Time:	3 10-26-18	4 10-26-18	2320	4 2320 10/26/18
5	Relinquished by:	Date Time:	5	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp: 3.6

9.1.9

LA49127: Chain of Custody
Page 1 of 3
SGS Houston, TX

SGS Sample Receipt Summary

Job Number: LA49127 **Client:** SGS **Project:** 8060.00 RL INDIGO

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

No. Coolers: 1 **Therm ID:** IR-3; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (3.6/3.6);

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

9.1

9

LA49127: Chain of Custody
Page 2 of 3

Sample Receipt Log

Job #: LA49127 **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	LA49127-1	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR-3	3.6	0	3.6
1	LA49127-2	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR-3	3.6	0	3.6
1	LA49127-3	500ml	1	M1A	N/P	Note #2 - Preservative check not applicable.	IR-3	3.6	0	3.6

LA49127: Chain of Custody
Page 3 of 3

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: LA49127
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	GN93922	5.0	2.0	mg/l				
Alkalinity, Carbonate	GN93923	5.0	0.0	mg/l				
Alkalinity, Total as CaCO3	GN93920	5.0	0.0	mg/l	100	104	104.0	90-100%
Bromide	GP50318/GN94140	0.50	0.0	mg/l	10	10.4	104.0	90-110%
Bromide	GP50320/GN94143	0.50	0.0	mg/l	10	10.6	106.0	90-110%
Chloride	GP50318/GN94140	0.50	0.0	mg/l	10	10.1	101.0	90-110%
Chloride	GP50320/GN94143	0.50	0.0	mg/l	10	10.3	103.0	90-110%
Fluoride	GP50318/GN94140	0.50	0.0	mg/l	10	10.5	105.0	90-110%
Fluoride	GP50320/GN94143	0.50	0.0	mg/l	10	10.8	108.0	90-110%
Nitrogen, Nitrate	GP50318/GN94140	0.50	0.0	mg/l	10	10.0	100.0	90-110%
Nitrogen, Nitrate	GP50320/GN94143	0.50	0.0	mg/l	10	10.3	103.0	90-110%
Nitrogen, Nitrite	GP50318/GN94140	0.50	0.0	mg/l	10	10.4	104.0	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	GN93966	10	0.0	mg/l	500	496	99.2	88-110%
Specific Conductivity	GN93897	1.0	<1.0	umhos/cm				
Sulfate	GP50318/GN94140	0.50	0.0	mg/l	10	10.3	103.0	90-110%
Sulfate	GP50320/GN94143	0.50	0.0	mg/l	10	10.6	106.0	90-110%

Associated Samples:
Batch GN93897: LA49127-1, LA49127-2, LA49127-3
Batch GN93920: LA49127-1, LA49127-2, LA49127-3
Batch GN93922: LA49127-1, LA49127-2, LA49127-3
Batch GN93923: LA49127-1, LA49127-2, LA49127-3
Batch GN93966: LA49127-1, LA49127-2, LA49127-3
Batch GN93969: LA49127-1, LA49127-2, LA49127-3
Batch GP50318: LA49127-1, LA49127-2, LA49127-3
Batch GP50320: LA49127-1, LA49127-2, LA49127-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA49127
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	GN93920	LA49146-1E	mg/l	625	625	0.0	0-10%
Bromide	GP50318/GN94140	LA49114-8	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	GP50318/GN94140	LA49114-8	mg/l	0.0	0.0	0.0	0-13%
Chloride	GP50320/GN94143	LA49128-1	mg/l	46.8	46.7	0.2	0-13%
Fluoride	GP50318/GN94140	LA49114-8	mg/l	0.0	0.0	0.0	0-12%
Nitrogen, Nitrate	GP50318/GN94140	LA49114-8	mg/l	0.0	0.0	0.0	0-14%
Nitrogen, Nitrite	GP50318/GN94140	LA49114-8	mg/l	0.0	0.0	0.0	0-10%
Silica, Dissolved	GN93969	LA49190-5	mg/l	5.6	0.0	0.0	0-20%
Solids, Total Dissolved	GN93966	LA49127-2	mg/l	524	535	2.1	0-5%
Specific Conductivity	GN93897	LA49116-9	umhos/cm	882	882	0.0	0-10%
Sulfate	GP50318/GN94140	LA49114-8	mg/l	0.0	0.0	0.0	0-20%
Sulfate	GP50320/GN94143	LA49128-1	mg/l	0.80	0.82	2.5	0-20%

Associated Samples:
Batch GN93897: LA49127-1, LA49127-2, LA49127-3
Batch GN93920: LA49127-1, LA49127-2, LA49127-3
Batch GN93922: LA49127-1, LA49127-2, LA49127-3
Batch GN93923: LA49127-1, LA49127-2, LA49127-3
Batch GN93966: LA49127-1, LA49127-2, LA49127-3
Batch GN93969: LA49127-1, LA49127-2, LA49127-3
Batch GP50318: LA49127-1, LA49127-2, LA49127-3
Batch GP50320: LA49127-1, LA49127-2, LA49127-3
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA49127
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	GN93920	LA49146-1E	mg/l	625	25	650	100.0	75-117%
Bromide	GP50318/GN94140	LA49114-8	mg/l	0.0	10	10.4	104.0	80-120%
Bromide	GP50320/GN94143	LA49128-1	mg/l	0.45	10	10.8	103.5	80-120%
Chloride	GP50318/GN94140	LA49114-8	mg/l	0.0	10	10.1	101.0	80-120%
Chloride	GP50320/GN94143	LA49128-1	mg/l	46.8	50	104	114.4	80-120%
Fluoride	GP50318/GN94140	LA49114-8	mg/l	0.0	10	10.5	105.0	80-120%
Nitrogen, Nitrate	GP50318/GN94140	LA49114-8	mg/l	0.0	10	10.1	101.0	80-120%
Nitrogen, Nitrite	GP50318/GN94140	LA49114-8	mg/l	0.0	10	10.5	105.0	80-120%
Silica, Dissolved	GN93969	LA49190-5	mg/l	5.6	1.07	0.85	79.0	75-125%
Sulfate	GP50318/GN94140	LA49114-8	mg/l	0.0	10	10.4	104.0	80-120%
Sulfate	GP50320/GN94143	LA49128-1	mg/l	0.80	10	11.3	105.0	80-120%

Associated Samples:
Batch GN93920: LA49127-1, LA49127-2, LA49127-3
Batch GN93969: LA49127-1, LA49127-2, LA49127-3
Batch GP50318: LA49127-1, LA49127-2, LA49127-3
Batch GP50320: LA49127-1, LA49127-2, LA49127-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits