

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: LA46148

Sampling Dates: 07/23/18 - 07/24/18

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: 52



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

Ron Benjamin
Ron Benjamin
Lab Director

Client Service contact: Ralph Frye 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-15-7), WV(257)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: LA46148-1: HALEY POND	5
2.2: LA46148-1F: HALEY POND	7
2.3: LA46148-2: LONG 1 & 2 RIG SUPPLY	8
2.4: LA46148-2F: LONG 1 & 2 RIG SUPPLY	10
2.5: LA46148-3: LONG 3 & 4 RIG SUPPLY	11
2.6: LA46148-3F: LONG 3 & 4 RIG SUPPLY	13
2.7: LA46148-4: C L BRYANT POND	14
2.8: LA46148-4F: C L BRYANT POND	16
2.9: LA46148-5: DAVID MASON RELIEF WELL	17
2.10: LA46148-5F: DAVID MASON RELIEF WELL	18
2.11: LA46148-6: DERBONNE RELIEF WELL	19
2.12: LA46148-6F: DERBONNE RELIEF WELL	21
Section 3: Misc. Forms	22
3.1: Chain of Custody	23
Section 4: Metals Analysis - QC Data Summaries	27
4.1: Prep QC MP12232: Al,As,Ba,Cd,Ca,Cr,Fe,Pb,Mg,Mn,K,Se,Ag,Na,Sr,Zn	28
4.2: Prep QC MP12237: Hg	39
Section 5: Misc. Forms (SGS Houston, TX)	44
5.1: Chain of Custody	45
Section 6: General Chemistry - QC Data (SGS Houston, TX)	49
6.1: Method Blank and Spike Results Summary	50
6.2: Duplicate Results Summary	51
6.3: Matrix Spike Results Summary	52



Sample Summary

Hydro-Environmental Technology, Inc.

Job No: LA46148

8060.00 Indigo-Desoto Parish, LA

Sample Number	Collected		Matrix Code	Type	Client Sample ID
	Date	Time By			
LA46148-1	07/23/18	11:10	KC/LV07/25/18	AQ Water	HALEY POND
LA46148-1F	07/23/18	11:10	KC/LV07/25/18	AQ Water Filtered	HALEY POND
LA46148-2	07/23/18	16:05	KC/LV07/25/18	AQ Water	LONG 1 & 2 RIG SUPPLY
LA46148-2F	07/23/18	16:05	KC/LV07/25/18	AQ Water Filtered	LONG 1 & 2 RIG SUPPLY
LA46148-3	07/23/18	16:35	KC/LV07/25/18	AQ Water	LONG 3 & 4 RIG SUPPLY
LA46148-3F	07/23/18	16:35	KC/LV07/25/18	AQ Water Filtered	LONG 3 & 4 RIG SUPPLY
LA46148-4	07/24/18	12:00	KC/LV07/25/18	AQ Water	C L BRYANT POND
LA46148-4F	07/24/18	12:00	KC/LV07/25/18	AQ Water Filtered	C L BRYANT POND
LA46148-5	07/24/18	15:30	KC/LV07/25/18	AQ Water	DAVID MASON RELIEF WELL
LA46148-5F	07/24/18	15:30	KC/LV07/25/18	AQ Water Filtered	DAVID MASON RELIEF WELL
LA46148-6	07/24/18	16:15	KC/LV07/25/18	AQ Water	DERBONNE RELIEF WELL
LA46148-6F	07/24/18	16:15	KC/LV07/25/18	AQ Water Filtered	DERBONNE RELIEF WELL

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: HALEY POND	Date Sampled: 07/23/18
Lab Sample ID: LA46148-1	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.191	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	9.73	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	4.66	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	< 0.020	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	2.74	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	132	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.460	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: HALEY POND	Date Sampled: 07/23/18
Lab Sample ID: LA46148-1	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	143	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Carbonate ^a	< 5.0	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Total as CaCO3 ^a	148	5.0	mg/l	1	07/30/18 12:20	ATX	SM 2320B-2011
Bromide ^a	< 0.50	0.50	mg/l	1	07/27/18 10:12	ATX	SW846 9056A
Chloride ^a	47.2	2.5	mg/l	5	08/02/18 13:39	ATX	SW846 9056A
Silica, Dissolved ^a	5.3	0.10	mg/l	2	08/04/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	416	10	mg/l	1	07/26/18	ATX	SM 2540C-2011
Specific Conductivity ^b	712	1.0	umhos/cm	1	07/27/18 16:45	ATX	EPA 120.1
Sulfate ^a	82.0	2.5	mg/l	5	07/27/18 13:01	ATX	SW846 9056A

(a) Analysis performed at SGS Houston, TX.

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

RL = Reporting Limit

Report of Analysis

Client Sample ID: HALEY POND	Date Sampled: 07/23/18
Lab Sample ID: LA46148-1F	Date Received: 07/25/18
Matrix: AQ - Water Filtered	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.200	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	10.6	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	4.98	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	< 0.020	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	2.87	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	136	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.481	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: LONG 1 & 2 RIG SUPPLY	Date Sampled: 07/23/18
Lab Sample ID: LA46148-2	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.0218	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	1.19	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	< 0.020	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	185	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.0849	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: LONG 1 & 2 RIG SUPPLY	Date Sampled: 07/23/18
Lab Sample ID: LA46148-2	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	244	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Carbonate ^a	5.9	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Total as CaCO3 ^a	250	5.0	mg/l	1	07/30/18 12:20	ATX	SM 2320B-2011
Bromide ^a	< 0.50	0.50	mg/l	1	07/27/18 10:29	ATX	SW846 9056A
Chloride ^a	48.8	2.5	mg/l	5	08/02/18 13:56	ATX	SW846 9056A
Silica, Dissolved ^a	11.6	0.50	mg/l	10	08/04/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	503	10	mg/l	1	07/26/18	ATX	SM 2540C-2011
Specific Conductivity ^b	846	1.0	umhos/cm	1	07/27/18 16:45	ATX	EPA 120.1
Sulfate ^a	51.4	2.5	mg/l	5	07/27/18 13:18	ATX	SW846 9056A

(a) Analysis performed at SGS Houston, TX.

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	LONG 1 & 2 RIG SUPPLY	Date Sampled:	07/23/18
Lab Sample ID:	LA46148-2F	Date Received:	07/25/18
Matrix:	AQ - Water Filtered	Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.0210	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	1.22	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	< 0.020	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	177	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.0838	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: LONG 3 & 4 RIG SUPPLY	Date Sampled: 07/23/18
Lab Sample ID: LA46148-3	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.0326	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	1.34	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	< 0.020	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	163	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.0992	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: LONG 3 & 4 RIG SUPPLY	Date Sampled: 07/23/18
Lab Sample ID: LA46148-3	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	204	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Carbonate ^a	5.7	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Total as CaCO ₃ ^a	210	5.0	mg/l	1	07/30/18 12:20	ATX	SM 2320B-2011
Bromide ^a	< 0.50	0.50	mg/l	1	07/27/18 10:46	ATX	SW846 9056A
Chloride ^a	38.3	2.5	mg/l	5	08/02/18 14:13	ATX	SW846 9056A
Silica, Dissolved ^a	13.4	0.50	mg/l	10	08/04/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	451	10	mg/l	1	07/26/18	ATX	SM 2540C-2011
Specific Conductivity ^a	751	1.0	umhos/cm	1	07/27/18 16:45	ATX	EPA 120.1
Sulfate ^a	7.7	0.50	mg/l	1	07/27/18 10:46	ATX	SW846 9056A

(a) Analysis performed at SGS Houston, TX.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	LONG 3 & 4 RIG SUPPLY	Date Sampled:	07/23/18
Lab Sample ID:	LA46148-3F	Date Received:	07/25/18
Matrix:	AQ - Water Filtered	Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.0258	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	1.30	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	< 0.020	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	173	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.0959	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: C L BRYANT POND	Date Sampled: 07/24/18
Lab Sample ID: LA46148-4	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.342	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	6.96	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	2.13	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	0.533	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	1.47	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	93.6	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.405	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: C L BRYANT POND	Date Sampled: 07/24/18
Lab Sample ID: LA46148-4	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	46.9	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Carbonate ^a	< 5.0	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Total as CaCO ₃ ^a	47.0	5.0	mg/l	1	07/30/18 12:20	ATX	SM 2320B-2011
Bromide ^a	< 0.50	0.50	mg/l	1	07/27/18 11:03	ATX	SW846 9056A
Chloride ^a	23.0	1.0	mg/l	2	08/02/18 14:30	ATX	SW846 9056A
Silica, Dissolved ^a	6.5	0.10	mg/l	2	08/04/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	276	10	mg/l	1	07/26/18	ATX	SM 2540C-2011
Specific Conductivity ^b	473	1.0	umhos/cm	1	07/27/18 16:45	ATX	EPA 120.1
Sulfate ^a	1.8	0.50	mg/l	1	07/27/18 11:03	ATX	SW846 9056A

(a) Analysis performed at SGS Houston, TX.

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

RL = Reporting Limit

Report of Analysis

Client Sample ID: C L BRYANT POND	Date Sampled: 07/24/18
Lab Sample ID: LA46148-4F	Date Received: 07/25/18
Matrix: AQ - Water Filtered	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.249	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	7.44	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	2.20	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	0.583	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	1.34	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	98.3	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.425	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: DAVID MASON RELIEF WELL	Date Sampled: 07/24/18
Lab Sample ID: LA46148-5	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	147	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Carbonate ^a	< 5.0	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Total as CaCO3 ^a	150	5.0	mg/l	1	07/30/18 12:20	ATX	SM 2320B-2011
Bromide ^a	< 0.50	0.50	mg/l	1	07/27/18 11:20	ATX	SW846 9056A
Chloride ^a	85.7	2.5	mg/l	5	08/02/18 14:47	ATX	SW846 9056A
Silica, Dissolved ^a	14.0	0.50	mg/l	10	08/04/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	1470	40	mg/l	1	07/26/18	ATX	SM 2540C-2011
Specific Conductivity ^b	1830	1.0	umhos/cm	1	07/27/18 16:45	ATX	EPA 120.1
Sulfate ^a	1.5	0.50	mg/l	1	07/27/18 11:20	ATX	SW846 9056A

(a) Analysis performed at SGS Houston, TX.

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	DAVID MASON RELIEF WELL	Date Sampled:	07/24/18
Lab Sample ID:	LA46148-5F	Date Received:	07/25/18
Matrix:	AQ - Water Filtered	Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	1.76	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.134	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	5.62	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	2.50	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	1.64	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	0.133	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	2.80	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	425	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.353	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: DERBONNE RELIEF WELL	Date Sampled: 07/24/18
Lab Sample ID: LA46148-6	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	3.69	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.112	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	1.70	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	3.55	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	0.0437	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	1.56	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	198	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.0774	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Report of Analysis

Client Sample ID: DERBONNE RELIEF WELL	Date Sampled: 07/24/18
Lab Sample ID: LA46148-6	Date Received: 07/25/18
Matrix: AQ - Water	Percent Solids: n/a
Project: 8060.00 Indigo-Desoto Parish, LA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate ^a	91.9	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Carbonate ^a	< 5.0	5.0	mg/l	1	07/30/18 12:20	ATX	SM18 2320B
Alkalinity, Total as CaCO3 ^a	96.0	5.0	mg/l	1	07/30/18 12:20	ATX	SM 2320B-2011
Bromide ^a	< 0.50	0.50	mg/l	1	07/27/18 11:36	ATX	SW846 9056A
Chloride ^a	31.8	1.0	mg/l	2	08/02/18 15:04	ATX	SW846 9056A
Silica, Dissolved ^a	12.2	0.50	mg/l	10	08/04/18	ATX	SM4500SIO2 C-2011
Solids, Total Dissolved ^a	532	20	mg/l	1	07/26/18	ATX	SM 2540C-2011
Specific Conductivity ^b	901	1.0	umhos/cm	1	07/27/18 16:45	ATX	EPA 120.1
Sulfate ^a	1.4	0.50	mg/l	1	07/27/18 11:36	ATX	SW846 9056A

(a) Analysis performed at SGS Houston, TX.

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	DERBONNE RELIEF WELL	Date Sampled:	07/24/18
Lab Sample ID:	LA46148-6F	Date Received:	07/25/18
Matrix:	AQ - Water Filtered	Percent Solids:	n/a
Project:	8060.00 Indigo-Desoto Parish, LA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Arsenic	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.0224	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Cadmium	< 0.0050	0.0050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Calcium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Chromium	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Iron	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Lead	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Magnesium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Manganese	< 0.020	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Mercury	< 0.00020	0.00020	mg/l	1	07/27/18	07/27/18 SA	SW846 7470A ²	SW846 7470A ⁵
Potassium	< 1.0	1.0	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Selenium	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Silver	< 0.010	0.010	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Sodium	209	1.0	mg/l	10	07/26/18	07/30/18 RT	SW846 6020A ³	SW846 3010A ⁴
Strontium	0.0407	0.020	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴
Zinc	< 0.050	0.050	mg/l	10	07/26/18	07/27/18 RT	SW846 6020A ¹	SW846 3010A ⁴

- (1) Instrument QC Batch: MA12819
- (2) Instrument QC Batch: MA12831
- (3) Instrument QC Batch: MA12835
- (4) Prep QC Batch: MP12232
- (5) Prep QC Batch: MP12237

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



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

LA46148

SAMPLE CHAIN-OF-CUSTODY RECORD

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

Laboratory: SGS Lafayette
 Collected By: KCLV
 Company: Hydro-Environmental Technology, Inc.
 Date: 7/23/2018

Sample I.D.	Type	Date/Time Sampled	Containers	Analysis Requested/Method	Comments
1 Hayley Pond	AQ	7/23/2018 1110	(2) 250mL plastic HNO3, (1) Liter Plastic	Chlorides, TDS, Specific Conductance, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
2 Long 1 & 2 Rig Supply	AQ	7/23/2018 1605	(2) 250mL plastic HNO3, (1) Liter Plastic	Chlorides, TDS, Specific Conductance, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
3 Long 3 & 4 Rig Supply	AQ	7/23/2018 1635	(2) 250mL plastic HNO3, (1) Liter Plastic	Chlorides, TDS, Specific Conductance, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
Metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, strontium, zinc Cations: calcium, iron, magnesium, manganese, potassium, sodium Anions: bromide, sulfate, carbonate alkalinity, bicarbonate alkalinity					
Reinquired By: <i>Paul E. Fox</i>		Reinquired By: <i>Paul E. Fox</i>		Reinquired By: <i>Paul E. Fox</i>	
Date/Time: 7/23/16 1447		Date/Time: 7/25/16 1430		Date/Time: 7/25/16 1430	
Analysis Due: Verbal		Written: <i>NOCS 7/23/16 (DV439)</i>		Written: <i>NOCS 7/23/16 (DV439)</i>	

LA46148: Chain of Custody
 Page 1 of 4



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

LA 46148

SAMPLE CHAIN-OF-CUSTODY RECORD

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

Laboratory: SGS Lafayette
 Collected By: KCILV
 Company: Hydro-Environmental Technology, Inc.
 Date: 7/24/2018

Sample I.D.	Type	Date/Time Sampled	Containers	Analysis Requested/Method	Comments
C L Bryant Pond	AQ	7/24/2018 1200	(2) 250mL plastic HNO ₃ , (1) Liter Plastic	Chlorides, TDS, Specific Conductance, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
David Mason Relief Well	AQ	7/24/2018 1530	(1) 250mL plastic HNO ₃ , (1) Liter Plastic	Chlorides, TDS, Specific Conductance, Cations*, Anions*, Dissolved Metals*	4°C Field filtered: Dissolved metals
Deibonne Relief Well	AQ	7/24/2018 1615	(2) 250mL plastic HNO ₃ , (1) Liter Plastic	Chlorides, TDS, Specific Conductance, Cations*, Anions*, Total Metals*, Dissolved Metals*	4°C Field filtered: Dissolved metals
Metals*: arsenic, barium, chromium, lead, mercury, selenium, silver, strontium, zinc Cations: calcium, iron, magnesium, manganese, potassium, sodium Anions: bromide, sulfate, carbonate alkalinity, bicarbonate alkalinity					
Relinquished By: <i>Paul</i>			Relinquished By: <i>Ramette</i>		
Date/Time: 7/25/18 1430			Date/Time: 7/25/18 1430		
Relinquished By: <i>Ramette</i>			Relinquished By: <i>Deane</i>		
Date/Time: 7/25/18 1447			Date/Time: 7/25/18 1447		
Analysis Due: Verbal					

4
5
6
3
2
3

SGS Sample Receipt Summary

Job Number: LA46148

Client: HYDRO-ENVIRONMENTAL

Project: INDIGO

Date / Time Received: 7/25/2018 2:47:00 PM

Delivery Method: Accutest Courier

Airbill #'s: _____

Cooler Temps (Initial/Adjusted): #1: (1.3/1.3);

Cooler Security

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

Cooler Temperature

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

Quality Control Preservation

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

Sample Integrity - Documentation

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

Sample Integrity - Condition

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

Sample Integrity - Instructions

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

Comments Rec'd only 2 containers for David Mason relief Well. Rec'd 1000ml bottle 1/2 full.

3.1
3

LA46148: Chain of Custody

Page 3 of 4

Job Change Order: LA46148

Requested Date: 7/30/2018 Received Date: 7/25/2018
 Account Name: Hydro-Environmental Technology, Due Date: 8/6/2018
 Project Description: 8060.00 Indigo-Desoto Parish, LA Deliverable: COMMB
 CSR: ralphf TAT (Days): 10

=====
 Sample #: LA46148-1 to 6 Change: Add ALMS and SIL
 Dept:

TAT: 10

=====
 Sample #: LA46148-1F to 6F Change: Add ALMS
 Dept:

TAT: 10

Above Changes Per: Wade Pigott

Date/Time: 7/30/2018 3:41:16 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the a Client Service Representative.

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: LA46148
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 07/26/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	6.9	9.3	5.4	<100
Antimony	1.0	.043	.34		
Arsenic	1.0	.062	.26	0.027	<1.0
Barium	1.0	.033	.46	0.065	<1.0
Beryllium	1.0	.0077	.28		
Boron	20	1.3	2.9		
Cadmium	0.50	.011	.12	0.0043	<0.50
Calcium	100	5.7	20	10	<100
Cerium	1.0	.0041	.16		
Chromium	1.0	.11	.15	-0.10	<1.0
Cobalt	1.0	.012	.14		
Copper	1.0	.91	.74		
Iron	100	48	16	-26	<100
Lanthanum	1.0	.0038	.41		
Lithium	2.0	.1	.61		
Lead	1.0	.0081	.13	-0.012	<1.0
Magnesium	100	1.6	11	-8.1	<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	-26	<100
Selenium	5.0	.38	3.1	-0.80	<5.0
Silver	1.0	.0047	.13	-0.096	<1.0
Silicon	500	6.6	130		
Sodium	100	24	9.9	-7.9	<100
Strontium	2.0	.12	.27	0.075	<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	-0.24	<5.0

Associated samples MP12232: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA46148
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 07/26/18

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

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

4.1.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 07/26/18

Metal	LA46148-1 Original MS		SpikeLot MPICPMS6	% Rec	QC Limits
Aluminum	149	4910	5100	93.4	75-125
Antimony					
Arsenic	3.6	105	100	101.4	75-125
Barium	191	296	100	105.0	75-125
Beryllium					
Boron					
Cadmium	0.93	98.7	100	97.8	75-125
Calcium	9730	14800	5000	101.4	75-125
Cerium					
Chromium	0.0	101	100	101.0	75-125
Cobalt					
Copper	anr				
Iron	0.0	4730	5000	94.6	75-125
Lanthanum					
Lithium					
Lead	1.1	101	100	99.9	75-125
Magnesium	4660	9510	5000	97.0	75-125
Manganese	19.9	120	100	100.1	75-125
Molybdenum					
Nickel	anr				
Potassium	2740	7730	5000	99.8	75-125
Selenium	0.0	488	500	97.6	75-125
Silver	0.0	59.8	100	59.8N(a)	75-125
Silicon					
Sodium	132000	135000	5000	60.0 (b)	75-125
Strontium	460	576	100	116.0	75-125
Thallium					
Tin	anr				
Titanium					
Uranium					
Vanadium	anr				
Zinc	0.0	101	100	101.0	75-125

Associated samples MP12232: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA46148
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 07/26/18

	LA46148-1	SpikeLot	QC
Metal	Original MS	MPICPMS6 % Rec	Limits

Results < IDL are shown as zero for calculation purposes

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 07/26/18

Metal	LA46148-1 Original MSD		SpikeLot MPICPMS6 % Rec		MSD RPD	QC Limit
Aluminum	149	5090	5100	96.9	3.6	20
Antimony						
Arsenic	3.6	98.1	100	94.5	6.8	20
Barium	191	308	100	117.0	4.0	20
Beryllium						
Boron						
Cadmium	0.93	96.0	100	95.1	2.8	20
Calcium	9730	15400	5000	113.4	4.0	20
Cerium						
Chromium	0.0	95.5	100	95.5	5.6	20
Cobalt						
Copper	anr					
Iron	0.0	4500	5000	90.0	5.0	20
Lanthanum						
Lithium						
Lead	1.1	105	100	103.9	3.9	20
Magnesium	4660	9050	5000	87.8	5.0	20
Manganese	19.9	114	100	94.1	5.1	20
Molybdenum						
Nickel	anr					
Potassium	2740	8060	5000	106.4	4.2	20
Selenium	0.0	461	500	92.2	5.7	20
Silver	0.0	57.3	100	57.3N(a)	4.3	20
Silicon						
Sodium	132000	133000	5000	20.0 (b)	1.5	20
Strontium	460	556	100	96.0	3.5	20
Thallium						
Tin	anr					
Titanium						
Uranium						
Vanadium	anr					
Zinc	0.0	101	100	101.0	0.0	20

Associated samples MP12232: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

4.1.2
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 07/26/18

Metal	LA46148-1 Original MSD	Spike lot 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 recovery indicates possible matrix interference or sample non-homogeneity.
- (b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.1.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 07/26/18

Metal	BSP Result	Spikelot MPICPMS6	% Rec	QC Limits
Aluminum	4870	5100	95.5	80-120
Antimony				
Arsenic	95.6	100	95.6	80-120
Barium	97.5	100	97.5	80-120
Beryllium				
Boron				
Cadmium	94.3	100	94.3	80-120
Calcium	4990	5000	99.8	80-120
Cerium				
Chromium	94.4	100	94.4	80-120
Cobalt				
Copper	anr			
Iron	4630	5000	92.6	80-120
Lanthanum				
Lithium				
Lead	103	100	103.0	80-120
Magnesium	4510	5000	90.2	80-120
Manganese	94.8	100	94.8	80-120
Molybdenum				
Nickel	anr			
Potassium	5010	5000	100.2	80-120
Selenium	481	500	96.2	80-120
Silver	94.0	100	94.0	80-120
Silicon				
Sodium	4890	5000	97.8	80-120
Strontium	94.6	100	94.6	80-120
Thallium				
Tin	anr			
Titanium				
Uranium				
Vanadium	anr			
Zinc	100	100	100.0	80-120

Associated samples MP12232: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA46148
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 07/26/18

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

4.1.3
4

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 07/26/18

Metal	LA46148-1 Original SDL 10:50%DIF		QC Limits
Aluminum	149	378	153.8 (a) 0-10
Antimony			
Arsenic	3.58	3.24	9.5 0-10
Barium	191	169	11.6* (b) 0-10
Beryllium			
Boron			
Cadmium	0.927	0.623	32.8 (a) 0-10
Calcium	9730	8050	17.3* (b) 0-10
Cerium			
Chromium	0.00	0.00	NC 0-10
Cobalt			
Copper	anr		
Iron	0.00	0.00	NC 0-10
Lanthanum			
Lithium			
Lead	1.09	0.00	100.0 (a) 0-10
Magnesium	4660	3450	25.9* (b) 0-10
Manganese	19.9	0.00	100.0 (a) 0-10
Molybdenum			
Nickel	anr		
Potassium	2740	1470	46.4* (b) 0-10
Selenium	0.00	0.00	NC 0-10
Silver	0.00	0.00	NC 0-10
Silicon			
Sodium	132000	108000	18.2* (b) 0-10
Strontium	460	395	14.1* (b) 0-10
Thallium			
Tin	anr		
Titanium			
Uranium			
Vanadium	anr		
Zinc	0.00	0.00	NC 0-10

Associated samples MP12232: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA46148
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 07/26/18

Metal	LA46148-1 Original SDL 10:50%DIF	QC 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: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12232
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date:

07/26/18

Metal	Sample ml	Final ml	LA46148-1 Raw	PS Corr.** ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum									
Antimony									
Beryllium									
Boron									
Cerium									
Cobalt									
Lanthanum									
Lithium									
Molybdenum									
Silver	0.2	10		92.26	0.1	10	100	92.3	75-125
Silicon									
Thallium									
Titanium									
Uranium									

Associated samples MP12232: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

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

4.1.5
4

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA46148
Account: HETILAL - Hydro-Environmental Technology, Inc.
Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12237
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/27/18

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.06	.081	-0.028	<0.20

Associated samples MP12237: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

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

4.2.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12237
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 07/27/18

Metal	LA46148-2 Original MS	Spikelet HGSPIKE1 % Rec	QC Limits
Mercury	0.0 5.2	5	104.0 75-125

Associated samples MP12237: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

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

4.2.2
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12237
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 07/27/18

Metal	LA46148-2 Original MSD	Spikelot HGSPIKE1 % Rec	MSD RPD	QC Limit
Mercury	0.0 5.2	5	104.0	0.0 20

Associated samples MP12237: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

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

4.2.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12237
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 07/27/18

Metal	BSP Result	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	5.3	5	106.0	80-120

Associated samples MP12237: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

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

4.2.3
4

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA46148
 Account: HETILAL - Hydro-Environmental Technology, Inc.
 Project: 8060.00 Indigo-Desoto Parish, LA

QC Batch ID: MP12237
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 07/27/18

Metal	LA46148-2	Original	SDL 1:5	%DIF	QC	Limits
Mercury	0.00	0.00		NC		0-

Associated samples MP12237: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-6, LA46148-1F, LA46148-2F, LA46148-3F, LA46148-4F, LA46148-5F, LA46148-6F

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

4.2.4
 4

Misc. Forms

Custody Documents and Other Forms

(SGS Houston, TX)

Includes the following where applicable:

- Chain of Custody

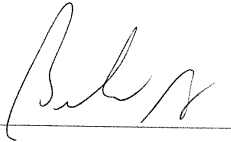
Cooler 2

Date / Time: 7/25/2018 4:43:18 PM
CSR: ralph
Job #: LA46148
Client Project: 8060.00 Indigo-Desoto Parish, LA
Deliverable: COMMB
TAT: Due 8/6/2018

Sub Lab: SGS North America Inc. - TX
Address: 10165 Harwin Drive
City: Houston
State: TX Zip: 77036
Contact: Sample Management
Phone: (713) 692-9151

SGS Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
LA46148-1 ✓	HALEY POND	BROIC9056_CHL_SCON_SO4IC9056 .TDS_XCARBICALK	3W2_OL	KC/LV	7/23/2018	11:10:00 AM	
LA46148-2 ✓	LONG 1 & 2 RIG SUPPLY	BROIC9056_CHL_SCON_SO4IC9056 .TDS_XCARBICALK	3W2_OL	KC/LV	7/23/2018	4:05:00 PM	
LA46148-3 ✓	LONG 3 & 4 RIG SUPPLY	BROIC9056_CHL_SCON_SO4IC9056 .TDS_XCARBICALK	3W2_OL	KC/LV	7/23/2018	4:35:00 PM	
LA46148-4 ✓	C.L BRYANT POND	BROIC9056_CHL_SCON_SO4IC9056 .TDS_XCARBICALK	3W2_OL	KC/LV	7/24/2018	12:00:00 PM	
LA46148-5 ✓	DAVID MASON RELIEF WELL	BROIC9056_CHL_SCON_SO4IC9056 .TDS_XCARBICALK	OL	KC/LV	7/24/2018	3:30:00 PM	
LA46148-6 ✓	DERBONNE RELIEF WELL	BROIC9056_CHL_SCON_SO4IC9056 .TDS_XCARBICALK	3W2_OL	KC/LV	7/24/2018	4:15:00 PM	

Comments:

Sample Management Receipt: 

Date: 7/25/18 2302
6-1000ml unsp

5.1
5

SGS Sample Receipt Summary

Job Number: LA46148 **Client:** SGS **Project:** 8060 .00 INDIGO
Date / Time Received: _____ **Delivery Method:** _____ **Airbill #'s:** _____
No. Coolers: 1 **Therm ID:** IR-5; **Temp Adjustment Factor:** 0;
Cooler Temps (Initial/Adjusted): #1: (1.8/1.8);

Cooler Security	<u>Y or N</u>		<u>Y or N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/> <input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>
Cooler Temperature	<u>Y or N</u>		
1. Temp criteria achieved:	<input checked="" type="checkbox"/> <input type="checkbox"/>		
2. Cooler temp verification:	_____		
3. Cooler media:	Ice (Bag)		
Quality Control Preservation	<u>Y or N</u>	<u>N/A</u>	<u>WTB STB</u>
1. Trip Blank present / cooler:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/> <input type="checkbox"/>		
4. VOCs headspace free:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	

Sample Integrity - Documentation	<u>Y or N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/> <input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/> <input type="checkbox"/>
Sample Integrity - Condition	<u>Y or N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/> <input type="checkbox"/>
3. Condition of sample:	Intact
Sample Integrity - Instructions	<u>Y or N</u> <u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Bottles received for unspecified tests	<input type="checkbox"/> <input checked="" type="checkbox"/>
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/> <input type="checkbox"/>
4. Compositing instructions clear:	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>

Comments

5.1
5

Sample Receipt Log

Job #: LA46148 _____

Date / Time Received: 7/25/2018 11:05:00 PM _____

Initials: BG _____

Client: SGS _____

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	LA46148-1	1000ml	1	M3D	N/P	Note #2 - Preservative check not applicable.	IR-5	1.8	0	1.8
1	LA46148-2	1000ml	1	M3D	N/P	Note #2 - Preservative check not applicable.	IR-5	1.8	0	1.8
1	LA46148-3	1000ml	1	M3D	N/P	Note #2 - Preservative check not applicable.	IR-5	1.8	0	1.8
1	LA46148-4	1000ml	1	M3D	N/P	Note #2 - Preservative check not applicable.	IR-5	1.8	0	1.8
1	LA46148-5	1000ml	1	M3D	N/P	Note #2 - Preservative check not applicable.	IR-5	1.8	0	1.8
1	LA46148-6	1000ml	1	M3D	N/P	Note #2 - Preservative check not applicable.	IR-5	1.8	0	1.8

5.1
5

LA46148: Chain of Custody

Page 4 of 4

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: LA46148
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	GN91623	5.0	1.0	mg/l				
Alkalinity, Carbonate	GN91624	5.0	0.0	mg/l				
Alkalinity, Total as CaCO3	GN91622	5.0	0.0	mg/l	100	105	105.0	90-100%
Bromide	GP48773/GN91566	0.50	0.0	mg/l	10	9.35	93.5	90-110%
Chloride	GP48864/GN91741	0.50	0.0	mg/l	10	9.72	97.2	90-110%
Silica, Dissolved	GN91769	0.050	0.0	mg/l	1.07	1.0	93.5	80-120%
Solids, Total Dissolved	GN91543	10	0.0	mg/l	500	485	97.0	88-110%
Specific Conductivity	GN91580	1.0	<1.0	umhos/cm				
Sulfate	GP48773/GN91566	0.50	0.0	mg/l	10	9.55	95.5	90-110%

Associated Samples:

Batch GN91543: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91580: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91622: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91623: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91624: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91769: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GP48773: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GP48864: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 (*) Outside of QC limits

6.1
6

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA46148
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	GN91623	LA46057-1	mg/l	381	381	0.0	0-10%
Alkalinity, Carbonate	GN91624	LA46057-1	mg/l	13.9	13.6	0.0	0-20%
Alkalinity, Total as CaCO3	GN91622	LA46057-1	mg/l	395	395	0.0	0-10%
Bromide	GP48773/GN91566	LA46148-3	mg/l	0.0	0.0	0.0	0-19%
Chloride	GP48864/GN91741	LA46057-1	mg/l	111	115	3.5	0-13%
Silica, Dissolved	GN91769	LA46196-5F	mg/l	12.8	12.2	4.8	0-20%
Solids, Total Dissolved	GN91543	LA46148-1	mg/l	416	412	1.0	0-5%
Specific Conductivity	GN91580	TD24686-1	umhos/cm	1020	1020	0.0	0-10%
Sulfate	GP48773/GN91566	LA46148-3	mg/l	7.7	7.8	1.3	0-20%

Associated Samples:

Batch GN91543: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91580: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91622: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91623: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91624: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GN91769: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GP48773: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 Batch GP48864: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6
 (*) Outside of QC limits

6.2
6

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA46148
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	GN91622	LA46057-1	mg/l	395	25	420	100.0	75-117%
Bromide	GP48773/GN91566	LA46148-3	mg/l	0.0	10	9.0	90.0	80-120%
Chloride	GP48864/GN91741	LA46057-1	mg/l	111	100	234	123.0N	80-120%
Silica, Dissolved	GN91769	LA46196-5F	mg/l	12.8	21.4	30.3	81.8	75-125%
Sulfate	GP48773/GN91566	LA46148-3	mg/l	7.7	10	17.6	99.0	80-120%

Associated Samples:

Batch GN91622: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6

Batch GN91769: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6

Batch GP48773: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6

Batch GP48864: LA46148-1, LA46148-2, LA46148-3, LA46148-4, LA46148-5, LA46148-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

6.3
6