

# ANALYTICAL RESULTS

PERFORMED BY

**GULF COAST ANALYTICAL LABORATORIES, INC.**

7979 GSRI Avenue  
Baton Rouge, LA 70820

**Report Date** 10/17/2012

**GCAL Report** 212101113



**Deliver To** Shaw Environmental  
4171 Essen Lane  
Baton Rouge, LA 70809  
987-7335

**Attn** Lisa Pultz

**Project** LDNR Bayou Come

## CASE NARRATIVE

**Client:** Shaw Environmental      **Report:** 212101113

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

### **VOLATILES GAS CHROMATOGRAPHY**

In the RSK 175 analysis, samples 21210111301(007-098-100912), 21210111302(007-131-100912), 21210111303(007-089-100912), 21210111304(007-073-100912), 21210111305(007-072-100912), 21210111306(007-081-100912), 21210111309(007-080-100912) and 21210111310(DUP-100912) had to be diluted to bracket the concentrations within the calibration range of the instrument.

In the RSK 175 analysis for analytical batch 492283, the MS/MSD recoveries and RPDs are not applicable because the spike was diluted out of the samples. The LCS/LCSD recoveries are acceptable.

# Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

## Common Abbreviations Utilized in this Report

<b>ND</b>	Indicates the result was Not Detected at the specified RDL
<b>DO</b>	Indicates the result was Diluted Out
<b>MI</b>	Indicates the result was subject to Matrix Interference
<b>TNTC</b>	Indicates the result was Too Numerous To Count
<b>SUBC</b>	Indicates the analysis was Sub-Contracted
<b>FLD</b>	Indicates the analysis was performed in the Field
<b>PQL</b>	Practical Quantitation Limit
<b>MDL</b>	Method Detection Limit
<b>RDL</b>	Reporting Detection Limit
<b>00:00</b>	Reported as a time equivalent to 12:00 AM

## Reporting Flags Utilized in this Report

<b>J</b>	Indicates the result is between the MDL and RDL
<b>U</b>	Indicates the compound was analyzed for but not detected
<b>B</b>	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with [NELAC](#), this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

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Robyn Miguez  
Technical Director  
**GCAL REPORT 212101113**

# Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111301	007-098-100912	Water	10/09/2012 10:10	10/11/2012 11:40
21210111302	007-131-100912	Water	10/09/2012 10:30	10/11/2012 11:40
21210111303	007-089-100912	Water	10/09/2012 11:20	10/11/2012 11:40
21210111304	007-073-100912	Water	10/09/2012 12:10	10/11/2012 11:40
21210111305	007-072-100912	Water	10/09/2012 12:25	10/11/2012 11:40
21210111306	007-081-100912	Water	10/09/2012 12:55	10/11/2012 11:40
21210111307	007-081-100912-MS	Water	10/09/2012 12:55	10/11/2012 11:40
21210111308	007-081-100912-MSD	Water	10/09/2012 12:55	10/11/2012 11:40
21210111309	007-080-100912	Water	10/09/2012 13:30	10/11/2012 11:40
21210111310	DUP-100912	Water	10/09/2012 00:00	10/11/2012 11:40

# Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111301	007-098-100912	Water	10/09/2012 10:10	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	1.04	1.00		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	26200	3000		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111302	007-131-100912	Water	10/09/2012 10:30	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	5890	3000		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	77.9	50.0		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111303	007-089-100912	Water	10/09/2012 11:20	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	7.24	5.50		ug/L
74-98-6	Propane	39.7	10.0		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	619	200		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	21300	3000		ug/L

# Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111304	007-073-100912	Water	10/09/2012 12:10	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	16.2	5.50		ug/L
74-98-6	Propane	91.0	10.0		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	36400	4500		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	1120	600		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111305	007-072-100912	Water	10/09/2012 12:25	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-98-6	Propane	22.9	10.0		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	16000	3000		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	290	100		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111306	007-081-100912	Water	10/09/2012 12:55	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	27700	4500		ug/L

# Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111306	007-081-100912	Water	10/09/2012 12:55	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	424	100		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111307	007-081-100912-MS	Water	10/09/2012 12:55	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	54.7	5.50		ug/L
74-85-1	Ethene	2.64	1.00		ug/L
74-98-6	Propane	38.7	10.0		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	27800	4500		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	429	100		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111308	007-081-100912-MSD	Water	10/09/2012 12:55	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	53.0	5.50		ug/L
74-85-1	Ethene	2.64	1.00		ug/L
74-98-6	Propane	38.1	10.0		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	27000	4500		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	430	100		ug/L

## Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111309	007-080-100912	Water	10/09/2012 13:30	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	7.79	1.00		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	30600	4500		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111310	DUP-100912	Water	10/09/2012 00:00	10/11/2012 11:40

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-98-6	Propane	29.2	10.0		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	328	100		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	23600	3000		ug/L



GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111301	007-098-100912	Water	10/09/2012 10:10	10/11/2012 11:40

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 18:21	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units	
106-97-8	Butane	<5.50	5.50		ug/L	
<b>74-84-0</b>	<b>Ethane</b>	<b>1.04</b>	<b>1.00</b>		<b>ug/L</b>	
74-85-1	Ethene	<1.00	1.00		ug/L	
74-98-6	Propane	<10.0	10.0		ug/L	
CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	27.4	ug/L	68	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			600	10/15/2012 18:36	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
<b>74-82-8</b>	<b>Methane</b>	<b>26200</b>	<b>3000</b>		<b>ug/L</b>

SM 4500 S E Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 11:20	JEM	492271

CAS#	Parameter	Result	RDL	REG LIMIT	Units
18496-25-8	Sulfide	<2.00	2.00		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111302	007-131-100912	Water	10/09/2012 10:30	10/11/2012 11:40

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 18:53	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	<5.50	5.50		ug/L
74-85-1	Ethene	<1.00	1.00		ug/L
74-98-6	Propane	<10.0	10.0		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	29.6	ug/L	73	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			50	10/15/2012 19:00	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
<b>74-84-0</b>	<b>Ethane</b>	<b>77.9</b>	<b>50.0</b>		<b>ug/L</b>

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			600	10/15/2012 19:07	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
<b>74-82-8</b>	<b>Methane</b>	<b>5890</b>	<b>3000</b>		<b>ug/L</b>

SM 4500 S E Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/12/2012 08:50	JEM	492271

CAS#	Parameter	Result	RDL	REG LIMIT	Units
18496-25-8	Sulfide	<2.00	2.00		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111303	007-089-100912	Water	10/09/2012 11:20	10/11/2012 11:40

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 19:15	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	7.24	5.50		ug/L
74-85-1	Ethene	<1.00	1.00		ug/L
74-98-6	Propane	39.7	10.0		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	27	ug/L	67	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			600	10/15/2012 19:23	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	21300	3000		ug/L

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			200	10/15/2012 19:30	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	619	200		ug/L

SM 4500 S E Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 11:20	JEM	492271

CAS#	Parameter	Result	RDL	REG LIMIT	Units
18496-25-8	Sulfide	<2.00	2.00		mg/L

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21210111304	007-073-100912	Water	10/09/2012 12:10	10/11/2012 11:40

**RSK 175**

<b>Prep Date</b>	<b>Prep Batch</b>	<b>Prep Method</b>	<b>Dilution</b>	<b>Analyzed</b>	<b>By</b>	<b>Analytical Batch</b>
			1	10/15/2012 19:39	BMR	492283

<b>CAS#</b>	<b>Parameter</b>	<b>Result</b>	<b>RDL</b>	<b>REG LIMIT</b>	<b>Units</b>
106-97-8	Butane	16.2	5.50		ug/L
74-85-1	Ethene	<1.00	1.00		ug/L
74-98-6	Propane	91.0	10.0		ug/L

<b>CAS#</b>	<b>Surrogate</b>	<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene	40.5	24.6	ug/L	61	40 - 143

**RSK 175**

<b>Prep Date</b>	<b>Prep Batch</b>	<b>Prep Method</b>	<b>Dilution</b>	<b>Analyzed</b>	<b>By</b>	<b>Analytical Batch</b>
			600	10/15/2012 19:47	BMR	492283

<b>CAS#</b>	<b>Parameter</b>	<b>Result</b>	<b>RDL</b>	<b>REG LIMIT</b>	<b>Units</b>
74-84-0	Ethane	1120	600		ug/L

**RSK 175**

<b>Prep Date</b>	<b>Prep Batch</b>	<b>Prep Method</b>	<b>Dilution</b>	<b>Analyzed</b>	<b>By</b>	<b>Analytical Batch</b>
			900	10/15/2012 20:03	BMR	492283

<b>CAS#</b>	<b>Parameter</b>	<b>Result</b>	<b>RDL</b>	<b>REG LIMIT</b>	<b>Units</b>
74-82-8	Methane	36400	4500		ug/L

**SM 4500 S E Sulfide**

<b>Prep Date</b>	<b>Prep Batch</b>	<b>Prep Method</b>	<b>Dilution</b>	<b>Analyzed</b>	<b>By</b>	<b>Analytical Batch</b>
			1	10/15/2012 11:20	JEM	492271

<b>CAS#</b>	<b>Parameter</b>	<b>Result</b>	<b>RDL</b>	<b>REG LIMIT</b>	<b>Units</b>
18496-25-8	Sulfide	<2.00	2.00		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111305	007-072-100912	Water	10/09/2012 12:25	10/11/2012 11:40

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 20:12	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	<5.50	5.50		ug/L
74-85-1	Ethene	<1.00	1.00		ug/L
<b>74-98-6</b>	<b>Propane</b>	<b>22.9</b>	<b>10.0</b>		<b>ug/L</b>

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	27.5	ug/L	68	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	10/15/2012 20:22	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
<b>74-84-0</b>	<b>Ethane</b>	<b>290</b>	<b>100</b>		<b>ug/L</b>

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			600	10/15/2012 20:30	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
<b>74-82-8</b>	<b>Methane</b>	<b>16000</b>	<b>3000</b>		<b>ug/L</b>

SM 4500 S E Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 11:20	JEM	492271

CAS#	Parameter	Result	RDL	REG LIMIT	Units
18496-25-8	Sulfide	<2.00	2.00		mg/L

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21210111306	007-081-100912	Water	10/09/2012 12:55	10/11/2012 11:40

RSK 175

<b>Prep Date</b>	<b>Prep Batch</b>	<b>Prep Method</b>	<b>Dilution</b>	<b>Analyzed</b>	<b>By</b>	<b>Analytical Batch</b>
			1	10/15/2012 20:38	BMR	492283

<b>CAS#</b>	<b>Parameter</b>	<b>Result</b>	<b>RDL</b>	<b>REG LIMIT</b>	<b>Units</b>
106-97-8	Butane	<5.50	5.50		ug/L
74-85-1	Ethene	<1.00	1.00		ug/L
74-98-6	Propane	<10.0	10.0		ug/L

<b>CAS#</b>	<b>Surrogate</b>	<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene	40.5	26.8	ug/L	66	40 - 143

RSK 175

<b>Prep Date</b>	<b>Prep Batch</b>	<b>Prep Method</b>	<b>Dilution</b>	<b>Analyzed</b>	<b>By</b>	<b>Analytical Batch</b>
			100	10/15/2012 21:12	BMR	492283

<b>CAS#</b>	<b>Parameter</b>	<b>Result</b>	<b>RDL</b>	<b>REG LIMIT</b>	<b>Units</b>
74-84-0	Ethane	424	100		ug/L

RSK 175

<b>Prep Date</b>	<b>Prep Batch</b>	<b>Prep Method</b>	<b>Dilution</b>	<b>Analyzed</b>	<b>By</b>	<b>Analytical Batch</b>
			900	10/15/2012 22:05	BMR	492283

<b>CAS#</b>	<b>Parameter</b>	<b>Result</b>	<b>RDL</b>	<b>REG LIMIT</b>	<b>Units</b>
74-82-8	Methane	27700	4500		ug/L

SM 4500 S E Sulfide

<b>Prep Date</b>	<b>Prep Batch</b>	<b>Prep Method</b>	<b>Dilution</b>	<b>Analyzed</b>	<b>By</b>	<b>Analytical Batch</b>
			1	10/15/2012 11:20	JEM	492271

<b>CAS#</b>	<b>Parameter</b>	<b>Result</b>	<b>RDL</b>	<b>REG LIMIT</b>	<b>Units</b>
18496-25-8	Sulfide	<2.00	2.00		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111307	007-081-100912-MS	Water	10/09/2012 12:55	10/11/2012 11:40

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 20:47	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	54.7	5.50		ug/L
74-85-1	Ethene	2.64	1.00		ug/L
74-98-6	Propane	38.7	10.0		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	24	ug/L	59	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	10/15/2012 21:21	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	429	100		ug/L

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			900	10/15/2012 22:13	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	27800	4500		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111308	007-081-100912-MSD	Water	10/09/2012 12:55	10/11/2012 11:40

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 21:01	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	53.0	5.50		ug/L
74-85-1	Ethene	2.64	1.00		ug/L
74-98-6	Propane	38.1	10.0		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	23.6	ug/L	58	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	10/15/2012 21:29	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	430	100		ug/L

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			900	10/15/2012 22:21	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	27000	4500		ug/L



GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111309	007-080-100912	Water	10/09/2012 13:30	10/11/2012 11:40

### RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 22:30	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	<5.50	5.50		ug/L
<b>74-84-0</b>	<b>Ethane</b>	<b>7.79</b>	<b>1.00</b>		<b>ug/L</b>
74-85-1	Ethene	<1.00	1.00		ug/L
74-98-6	Propane	<10.0	10.0		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	24.1	ug/L	60	40 - 143

### RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			900	10/15/2012 22:37	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
<b>74-82-8</b>	<b>Methane</b>	<b>30600</b>	<b>4500</b>		<b>ug/L</b>

### SM 4500 S E Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 11:20	JEM	492271

CAS#	Parameter	Result	RDL	REG LIMIT	Units
18496-25-8	Sulfide	<2.00	2.00		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21210111310	DUP-100912	Water	10/09/2012 00:00	10/11/2012 11:40

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 22:45	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	<5.50	5.50		ug/L
74-85-1	Ethene	<1.00	1.00		ug/L
<b>74-98-6</b>	<b>Propane</b>	<b>29.2</b>	<b>10.0</b>		<b>ug/L</b>

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	24.5	ug/L	60	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	10/15/2012 22:54	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
<b>74-84-0</b>	<b>Ethane</b>	<b>328</b>	<b>100</b>		<b>ug/L</b>

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			600	10/15/2012 23:02	BMR	492283

CAS#	Parameter	Result	RDL	REG LIMIT	Units
<b>74-82-8</b>	<b>Methane</b>	<b>23600</b>	<b>3000</b>		<b>ug/L</b>

SM 4500 S E Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	10/15/2012 11:20	JEM	492271

CAS#	Parameter	Result	RDL	REG LIMIT	Units
18496-25-8	Sulfide	<2.00	2.00		mg/L

# General Chromatography Quality Control Summary

<b>Analytical Batch</b> 492283 <b>Prep Batch</b> N/A	<b>Client ID</b> MB492283 <b>GCAL ID</b> 1117127 <b>Sample Type</b> Method Blank <b>Analytical Date</b> 10/15/2012 16:56 <b>Matrix</b> Water	LCS492283 1117128 LCS 10/15/2012 18:05 Water					
<b>RSK 175</b>		<b>Units</b> ug/L <b>Result</b> <b>RDL</b>	<b>Spike</b> Added	<b>Result</b>	<b>% R</b>	<b>Control</b> Limits % R	
74-82-8	Methane	<5.00	5.00	17.5	14.6	83	39 - 120
74-85-1	Ethene	<1.00	1.00	3.06	2.75	90	45 - 134
74-84-0	Ethane	<1.00	1.00	3.28	2.96	90	45 - 128
74-98-6	Propane	<10.0	10.0	50.7	38.8	77	30 - 170
106-97-8	Butane	<5.50	5.50	81.2	62.7	77	30 - 170
<b>Surrogate</b>							
115-07-1	Propene	32.6	80	40.5	27.3	67	40 - 143

<b>Analytical Batch</b> 492283 <b>Prep Batch</b> N/A	<b>Client ID</b> 007-081-100912 <b>GCAL ID</b> 21210111306 <b>Sample Type</b> SAMPLE <b>Analytical Date</b> 10/15/2012 20:38 <b>Matrix</b> Water	007-081-100912-MS 21210111307 MS 10/15/2012 20:47 Water	007-081-100912-MSD 21210111308 MSD 10/15/2012 21:01 Water								
<b>RSK 175</b>		<b>Units</b> ug/L <b>Result</b> <b>RDL</b>	<b>Spike</b> Added	<b>Result</b>	<b>% R</b>	<b>Control</b> Limits % R	<b>Result</b>	<b>% R</b>	<b>RPD</b>	<b>RPD</b> Limit	
74-82-8	Methane	14500	5.00	17.5	14200	-2000*	39 - 120	14700	1140*	3	27
106-97-8	Butane	0.00	5.50	81.2	54.7	67	30 - 170	53.0	65	3	40
74-84-0	Ethane	155	1.00	3.28	159	122	45 - 128	166	335*	4	29
74-85-1	Ethene	0.00	1.00	3.06	2.64	86	45 - 134	2.64	86	0	25
74-98-6	Propane	2.60	10.0	50.7	38.7	71	30 - 170	38.1	70	2	40
<b>Surrogate</b>											
115-07-1	Propene	26.8	66	40.5	24	59	40 - 143	23.6	58		

<b>Analytical Batch</b> 492283 <b>Prep Batch</b> N/A	<b>Client ID</b> 007-081-100912 <b>GCAL ID</b> 21210111306 <b>Sample Type</b> SAMPLE <b>Analytical Date</b> 10/15/2012 22:05 <b>Matrix</b> Water	007-081-100912-MS 21210111307 MS 10/15/2012 22:13 Water	007-081-100912-MSD 21210111308 MSD 10/15/2012 22:21 Water								
<b>RSK 175</b>		<b>Units</b> ug/L <b>Result</b> <b>RDL</b>	<b>Spike</b> Added	<b>Result</b>	<b>% R</b>	<b>Control</b> Limits % R	<b>Result</b>	<b>% R</b>	<b>RPD</b>	<b>RPD</b> Limit	
74-82-8	Methane	27700	4500	17.5	27800	571*	39 - 120	27000	-4000*	3	27

# General Chromatography Quality Control Summary

<b>Analytical Batch</b> 492283 <b>Prep Batch</b> N/A		<b>Client ID</b> 007-081-100912 <b>GCAL ID</b> 21210111306 <b>Sample Type</b> SAMPLE <b>Analytical Date</b> 10/15/2012 21:12 <b>Matrix</b> Water			<b>007-081-100912-MS</b> 21210111307 MS 10/15/2012 21:21 Water			<b>007-081-100912-MSD</b> 21210111308 MSD 10/15/2012 21:29 Water			
<b>RSK 175</b>		<b>Units</b> <b>Result</b>	<b>ug/L</b> <b>RDL</b>	<b>Spike</b> <b>Added</b>	<b>Result</b>	<b>% R</b>	<b>Control</b> <b>Limits % R</b>	<b>Result</b>	<b>% R</b>	<b>RPD</b>	<b>RPD</b> <b>Limit</b>
		40500	500	17.5	41000	<b>2860*</b>	39 - 120	41100	<b>3430*</b>	0.2	27
74-82-8 74-84-0	Methane Ethane	424	100	3.28	429	<b>152*</b>	45 - 128	430	<b>183*</b>	0.2	29

# General Chemistry Quality Control Summary

<b>Analytical Batch</b> 492271 <b>Prep Batch</b> N/A	<b>Client ID</b> MB492271 <b>GCAL ID</b> 1117098 <b>Sample Type</b> Method Blank <b>Analytical Date</b> 10/15/2012 11:20 <b>Matrix</b> Water	<b>LCS492271</b> 1117099 LCS 10/15/2012 11:20 Water				
<b>SM 4500 S E Sulfide</b>		<b>Units</b>	<b>mg/L</b>	<b>Spike</b>	<b>Result</b>	<b>Control</b>
		<b>Result</b>	<b>RDL</b>	<b>Added</b>	<b>% R</b>	<b>Limits % R</b>
18496-25-8	Sulfide	<2.00	2.00	92.2	91.4	99
						80 - 120

<b>Analytical Batch</b> 492271 <b>Prep Batch</b> N/A	<b>Client ID</b> FT028-MW02A_1012 <b>GCAL ID</b> 21210122101 <b>Sample Type</b> SAMPLE <b>Analytical Date</b> 10/15/2012 11:20 <b>Matrix</b> Water	<b>1116329DUP</b> 1117100 DUP 10/15/2012 11:20 Water			
<b>SM 4500 S E Sulfide</b>		<b>Units</b>	<b>mg/L</b>	<b>Result</b>	<b>RPD</b>
		<b>Result</b>	<b>RDL</b>	<b>RPD</b>	<b>Limit</b>
18496-25-8	Sulfide	0.000	2.00	0.000	0
					25

**CHAIN OF CUSTODY RECORD**

Lab use only

Client Name: Shaw Client #: 0270 Group #: 21210113 Due Date: 10/16/12

**Report to:**  
Client: Shaw E+I  
Address: 4171 Essen Ln.  
BR, LA, 70809  
Contact: Lisa Rultz  
Phone: 225-987-7335  
Fax: \_\_\_\_\_

**Bill to:**  
Client: \_\_\_\_\_  
Address: Same  
Contact: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_

Analytical Requests & Method

*RSK - 175 Dissolved Gases*  
*Hydrogen Sulfide*  
*SB 10/15/12*

**Lab use only:**  
Custody Seal  
used  yes  no  
in tact  yes  no  
Temperature °C 19

P.O. Number \_\_\_\_\_ Project Name/Number LDNR - Bayou Corne (Industrial water well sampling)

Sampled By: Kevin Simoneaux

Matrix <sup>1</sup>	Date	Time (2400)	PH	GC	Sample Description	Preservatives	No Containers	Remarks:	Lab ID
W	10/9/12	1010		X	007-098-100912	NaOH/ZnAc	4		1
		1030			007-131-100912				2
		1120			007-089-100912				3
		1210			007-073-100912				4
		1225			007-072-100912				5
		1255			007-081-100912				6
		1255			007-081-100912-MS				7
		1255			007-081-100912-MSD				8
		1330			007-080-100912				9
W	10/9/12			X	DUP-100912	NaOH/ZnAc	4		10

Turn Around Time:  24-48 hrs.  3 days  1 week  Standard  Other SBD final report

Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) <u>Jules Hebert</u>	Date: <u>10-11-12</u>	Time: <u>1120</u>
Relinquished by: (Signature) <u>Jules Hebert</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>10-11-12</u>	Time: <u>1140</u>
Relinquished by: (Signature) _____	Received by: (Signature) _____	Date: _____	Time: _____

Note: \*TAT Subject to change

By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.



### SAMPLE RECEIVING CHECKLIST

<b>SAMPLE DELIVERY GROUP</b> 212101113		<b>CHECKLIST</b>	
<b>Client</b> 0270 - Shaw Environmental	<b>Transport Method</b> COURIER	Were all samples received using proper thermal preservation?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
		When used, were all custody seals intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
		Were all samples received in proper containers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<b>Profile</b> 235534 - LDNR Bayou Corne	<b>Received By</b> Saucier, Charlotte	Were all samples received using proper chemical preservation?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
		Was preservative added to any container at the lab?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
<b>Line Item(s)</b> 1 - WATER	<b>Receive Date(s)</b> 10/11/12	Were all containers received in good condition?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
		Were all VOA vials received with no head space?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
		Do all sample labels match the Chain of Custody?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
		Did the Chain of Custody list the sampling technician?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
		Was the COC maintained i.e. all signatures, dates and time of receipt included?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<b>COOLERS</b>		<b>DISCREPANCIES</b>	<b>LABORATORY PRESERVATIONS</b>
<b>Airbill</b>	<b>Temp(oC)</b>	None	None
	1.9		
<b>NOTES</b>	Containers received for total sulfide rather than hydrogen sulfide; per client, proceed w ith analysis for total sulfide.		