



Texas Brine Company, LLC

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July 10, 2013

Commissioner James H. Welsh
P.O. Box 94275
Baton Rouge, LA 70804

RE: In response to State of Louisiana Department of Natural Resources Office of Conservation's Second Amendment to Declaration of Emergency and Directive

Commissioner Welsh,

In response to the Second Amendment and Declaration of Emergency and Directive order issued by the Louisiana Department of Natural Resources (LDNR), Office of Conservation on September 25, 2012, Texas Brine Company, LLC (TPC) understands the seven items listed in the document.

In the above mentioned, TBC was specifically directed and ordered to perform certain tasks outlined in the above mentioned document. Below are the required responses, as directed.

1. TBC's counsel provided LDNR legal counsel with a response to Directives 1-3 on September 28, 2012.
2. TBC understands Directive 4, which is to provide all daily logs and field notes from all contractors conducting investigation into subsidence and natural gas bubbling. The Daily Action Summary and results for current information can be found in the Attachment section of this report.
3. TBC understands Directive 5, which directs TBC to immediately allow for split or share any sample taken on site related to Well 3A (Serial Number 974265), the cavern, other wells facilities or other site locations. The Daily Action Summary of today's collection can be found in Attachment section of this report.
4. TBC understands Directive 6, which directs TBC to immediately report the results (final and preliminary) of any tests, logs samples or data collection performed on Well 3A, the cavern, other wells, facilities or site locations that indicate a change in any previously known conditions related to the investigation of the subsidence or natural gas bubbling

events, and continue to report any such results. The Daily Action Summary and the Results related to this Directive can be found in Attachment section of this report.

5. TBC understands the Directive 7, which states that TBC will provide a daily summary of all tests, or logs performed or samples taken from Well 3A and the cavern as well as any results of those tests or logs, including preliminary as of September 25, 2012 and going forward. The Daily Summary and Results related to this Directive can be found in Attachment section of this report.

Please note that the drilling rig used for the Observation Well 3A has been removed and the site is being rigged down and returned to pre-drilling condition. As such, daily drilling reports for this well have ceased. Plans are being made for longer term potential gas venting/flaring requirements and possible hydrocarbon material recover from Well 3A.

In addition, previous daily summary reports issued to LDNR have included significant duplicate information as there is a fair amount of overlap in the information requested in each of the Directives included in the September 25, 2012 order. All requested information associated with the Directives issued in the September 25, 2012 order are included in the Attachment section of this report.

TBC believes that the submittal of this report satisfies the requirements of the Declaration of Emergency and Directive issued on September 25, 2012. As directed this report is submitted by email to conservationorder@la.gov, ref. "Emergency Declaration-Texas Brine Company LLC-9/25/2012.



Bruce E. Martin

Vice President, Operations

Texas Brine Company, LLC

Summary Table for Daily Events

TBC Oxy Grand Bayou Data Management-Environmental										
Contractor	Responsibilities	Collected By		Date Collected		Delivered to Lab	Results from Lab	Laboratory	Method	Date to Agencies
Sage	Stationary Air Monitoring	Bijet Mukherjee - 08:05 - 09:35 Darlene McManus (Code Red) - 07:00 - 17:00		7/9/2013		NA	NA	NA	AreaRAE Monitors	7/10/2013
	Residential Air Monitoring	Sage has been requested to suspend bimonthly residential air monitoring. Therefore, Sage will discontinue these activities.		NA		NA	NA	NA	NA	NA
	Gas Seep Sampling	No work performed		7/9/2013		NA	NA	NA	NA	NA
	Well Gas Sampling	No work performed		7/9/2013		NA	NA	NA	NA	NA
	Under Slab Gas Sampling	No work performed		7/9/2013		NA	NA	NA	NA	NA
	Indoor Air Monitoring	No work performed		7/9/2013		NA	NA	NA	NA	NA
Respec	Inclinometers/Tilt Meters	7/9/2013	NA	NA	NA	NA	NA	NA	NA	NA
	InSAR Reflector Installations	7/9/2013	NA	NA	NA	NA	NA	NA	NA	NA
	Subsidence Survey-Fenstermaker	7/9/2013	NA	NA	NA	NA	NA	NA	NA	NA
	Shallow Geophone Installation	7/9/2013	NA	NA	NA	NA	NA	NA	NA	NA
	Deep Geophone Installation	7/9/2013	NA	NA	NA	NA	NA	NA	NA	NA
	Amendment #3, Directive #2	7/9/2013	NA	NA	NA	NA	NA	NA	NA	NA
	Expansion of geoprobe gas sampling locations	7/9/2013	NA	NA	NA	NA	NA	NA	NA	NA
Miller	Weekly Stability Survey	No Work Performed		July 9, 2013		NA	NA	NA	NA	NA
	Misc. Survey Work	Joel Miller		July 9, 2013		NA	NA	NA	NA	NA
	Sinkhole Hydro/Perimeter Survey	No Work Performed		July 9, 2013		NA	NA	NA	NA	NA
Pisani	Surface Water	NA		July 9, 2013		NA	NA	NA	NA	NA
	Industrial Well Water	PMR		7/9/2013		7/9/2013	NA	GCAL	Chloride, Bromide and Sulfate (Inorganic Anions) – SW-846 9056A, Conductivity – SM 2510B, TDS – SM 2540C, Cations/metals – SW-846 6010B, Carbonate & Bicarbonate Alkalinity – SM 2320B, BTEX – SW-846 8260B,	NA
	MRAA Well Water	NA		July 9, 2013		NA	NA	NA	NA	NA
	GP/ORW Water	NA		July 9, 2013		NA	NA	NA	NA	NA
	Cavern Brine	NA		July 9, 2013		NA	NA	NA	NA	NA
	Geoprobe Wells	NA		July 9, 2013		NA	NA	NA	NA	NA
Grand Bayou Well 3A										
Daily Operations at 3A		Summary of Today's events								
		Oxy 3A								
7/10/2013		7am	593.67		7/10/2013					
7/10/2013		Relief Well #1								
		See ORW-01 Flare Spreadsheet								

Attachments

Daily Action Summary

July 9, 2013

Stationary Air Monitoring

- Bijet Mukherjee onsite from 08:05 to 09:35. Changed out the monitors between 08:18 and 09:04. Collected data from the monitoring database and forwarded to Eric Rucinski in the Baton Rouge office for processing.
- Darlene McManus of Code Red (monitor sub-contractor) onsite from 07:00 to 17:00. Assisted in battery change outs and maintenance of the monitoring equipment.

Residential Air Monitoring

- Sage has been requested to suspend bimonthly residential air monitoring. Therefore, Sage will discontinue these activities. The last event was conducted on March 26, 2013.

Gas Seep Sampling

- The isotopic analytical results for the gas seep samples collected May 22 -23, 2013 as part of the MRAA Sampling Program were previously submitted with the June 7, 2013 Daily Action Summary. Isotech has revised the analytical report to include the stable isotopes of carbon for ethane and propane. See the attached revised data summary report.

Well Gas Sampling

- The isotopic analytical results for the well gas samples collected May 21 -23, 2013 as part of the MRAA Sampling Program were previously submitted with the June 7, 2013 Daily Action Summary. Isotech has revised the analytical report to include the stable isotopes of carbon for ethane and propane. See the attached revised data summary report.

Under Slab Gas Sampling

- Not Scheduled

Air Indoor Monitoring

- Not Scheduled

Texas Brine - Belle Rose, Louisiana
Hourly Air Monitoring Data

*Time indicates start of time period (ex. 12:00:00 AM gives the time period 12:00:00 AM to 12:59:59 AM)

Date-Time *	South-most Pipeline Site					Middle-most Pipeline Site					North-most Pipeline Site					South of OG3A-1					Onsite Trailers				
	ST-3					ST-2b					ST-1					Pad #9					TR-1				
	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	SO2 (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)
07/09/2013 01:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	See Note	1.7	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.3	0.0	0.0	0.0	0.0	20.9
07/09/2013 02:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9		1.8	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0	20.9
07/09/2013 03:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9		1.9	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0	20.9
07/09/2013 04:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9		1.8	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0	20.9
07/09/2013 05:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9		1.4	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0	20.9
07/09/2013 06:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9		1.9	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.3	0.0	0.0	0.0	0.0	20.9
07/09/2013 07:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9		2.8	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.3	0.0	0.0	0.0	0.0	20.9
07/09/2013 08:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9		1.6	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.0	0.0	20.9
07/09/2013 09:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 10:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 11:00:00 AM	0.0	0.0	0.0	0.0	21.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 12:00:00 PM	0.0	0.0	0.0	0.0	21.2	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 01:00:00 PM	0.0	0.0	0.0	0.0	21.2	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 02:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 03:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 04:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 05:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 06:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 07:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 08:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 09:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 10:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/09/2013 11:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	
07/10/2013 12:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	

Notes:
RTU-8 was inadvertently placed at ST-1 at 2:55 PM on 7/8/2013. RTU-8 is not equipped with a CO sensor; thus no CO data was collected while RTU-8 was deployed at ST-1. RTU-2 replaced RTU-8 at approximately 09:00 AM on 7/9/2013, and normal data collection resumed.

Texas Brine - Belle Rose, Louisiana
MRAA Sampling Events
Isotopic Analytical Results

Lab # 359109
Sample Name: GP-BS-23
Date Sampled: 5/21/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	nd			
Hydrogen	0.0036			
Argon	0.112			
Oxygen	1.92			
Nitrogen	8.05			
Carbon Dioxide	8.98	-3.77	-221.3	
Methane	80.93	-69.64		
Ethane	0.0036			
Ethylene	nd			
Propane	0.0007			
Propylene	nd			
Iso-butane	0.0001			
N-butane	0.0002			
Iso-pentane	0.0001			
N-pentane	nd			
Hexanes +	nd			
BTU/cf	821			
Specific gravity	0.685			

Lab # 359110
Sample Name: GP-BS-15
Date Sampled: 5/21/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0076			
Hydrogen	nd			
Argon	0.0893			
Oxygen	1.83			
Nitrogen	7.76			
Carbon Dioxide	2.48	-5.77		
Methane	84.87	-40.92	-154.9	
Ethane	2.26	-26.36		
Ethylene	nd			
Propane	0.429	-23.90		
Propylene	nd			
Iso-butane	0.0943			
N-butane	0.0860			
Iso-pentane	0.0384			
N-pentane	0.0196			
Hexanes +	0.0369			
BTU/cf	921			
Specific gravity	0.640			

Lab # 359111
Sample Name: NSDBS-49
Date Sampled: 5/22/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0037			
Hydrogen	nd			
Argon	0.0692			
Oxygen	0.44			
Nitrogen	4.21			
Carbon Dioxide	2.04	-15.67		
Methane	90.08	-40.38	-153.1	
Ethane	2.40	-26.30		
Ethylene	nd			
Propane	0.459	-23.90		
Propylene	nd			
Iso-butane	0.102			
N-butane	0.0925			
Iso-pentane	0.0416			
N-pentane	0.0217			
Hexanes +	0.0436			
BTU/cf	979			
Specific gravity	0.615			

Lab # 359112
Sample Name: GP-BS-26
Date Sampled: 5/22/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0035			
Hydrogen	nd			
Argon	0.106			
Oxygen	2.07			
Nitrogen	8.91			
Carbon Dioxide	5.15	-3.51		
Methane	81.52	-46.97	-164.2	
Ethane	1.66	-26.30		
Ethylene	nd			
Propane	0.371	-24.09		
Propylene	nd			
Iso-butane	0.0939			
N-butane	0.0613			
Iso-pentane	0.0268			
N-pentane	0.0116			
Hexanes +	0.0187			
BTU/cf	873			
Specific gravity	0.668			

Lab # 359114
Sample Name: GP-BS-20
Date Sampled: 5/22/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0062			
Hydrogen	nd			
Argon	0.102			
Oxygen	1.90			
Nitrogen	8.53			
Carbon Dioxide	2.37	-2.56		
Methane	83.94	-41.41	-153.5	
Ethane	2.34	-26.48		
Ethylene	nd			
Propane	0.512	-23.67		
Propylene	nd			
Iso-butane	0.120			
N-butane	0.0965			
Iso-pentane	0.0391			
N-pentane	0.0175			
Hexanes +	0.0231			
BTU/cf	916			
Specific gravity	0.644			

Lab # 359117
Sample Name: NSDMW-15
Date Sampled: 5/22/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0052			
Hydrogen	nd			
Argon	0.0228			
Oxygen	0.018			
Nitrogen	1.47			
Carbon Dioxide	3.73	-3.99		
Methane	91.50	-43.61	-160.0	
Ethane	2.32	-26.76		
Ethylene	nd			
Propane	0.631	-23.04		
Propylene	nd			
Iso-butane	0.167			
N-butane	0.0980			
Iso-pentane	0.0282			
N-pentane	0.0069			
Hexanes +	0.0043			
BTU/cf	995			
Specific gravity	0.618			

Lab # 359118
Sample Name: ORW-16
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0066			
Hydrogen	0.0082			
Argon	0.0282			
Oxygen	0.029			
Nitrogen	1.77			
Carbon Dioxide	1.13	-9.53		
Methane	93.81	-43.11	-156.4	
Ethane	2.37	-26.88		
Ethylene	nd			
Propane	0.624	-22.93		
Propylene	nd			
Iso-butane	0.140			
N-butane	0.0687			
Iso-pentane	0.0125			
N-pentane	0.0022			
Hexanes +	0.0009			
BTU/cf	1017			
Specific gravity	0.593			

Lab # 359119
Sample Name: ORW-13
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0043			
Hydrogen	0.0030			
Argon	0.0356			
Oxygen	0.042			
Nitrogen	2.28			
Carbon Dioxide	1.10	-11.65		
Methane	94.13	-46.37	-167.0	
Ethane	1.88	-26.29		
Ethylene	nd			
Propane	0.340	-23.71		
Propylene	nd			
Iso-butane	0.0770			
N-butane	0.0560			
Iso-pentane	0.0239			
N-pentane	0.0094			
Hexanes +	0.0158			
BTU/cf	1003			
Specific gravity	0.590			

Lab # 359120
Sample Name: ORW-6
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0072			
Hydrogen	nd			
Argon	0.0259			
Oxygen	0.043			
Nitrogen	1.68			
Carbon Dioxide	1.23	-6.75		
Methane	93.53	-42.48	-155.9	
Ethane	2.49	-26.90		
Ethylene	nd			
Propane	0.686	-23.02		
Propylene	nd			
Iso-butane	0.172			
N-butane	0.0943			
Iso-pentane	0.0244			
N-pentane	0.0059			
Hexanes +	0.0099			
BTU/cf	1020			
Specific gravity	0.597			

Texas Brine - Belle Rose, Louisiana
MRAA Sampling Events
Isotopic Analytical Results

Lab # 359121
Sample Name: ORW-1
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0063			
Hydrogen	0.0197			
Argon	0.0229			
Oxygen	0.038			
Nitrogen	1.53			
Carbon Dioxide	1.65	-6.66		
Methane	93.20	-42.41	-156.9	
Ethane	2.54	-26.83		
Ethylene	nd			
Propane	0.656	-23.13		
Propylene	nd			
Iso-butane	0.171			
N-butane	0.108			
Iso-pentane	0.0365			
N-pentane	0.0105			
Hexanes +	0.0077			
BTU/cf	1018			
Specific gravity	0.600			

Lab # 359122
Sample Name: ORW-28
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0062			
Hydrogen	0.0158			
Argon	0.0384			
Oxygen	0.046			
Nitrogen	2.28			
Carbon Dioxide	1.24	-10.47		
Methane	93.32	-44.39	-157.2	
Ethane	2.21	-26.93		
Ethylene	nd			
Propane	0.602	-22.96		
Propylene	nd			
Iso-butane	0.145			
N-butane	0.0727			
Iso-pentane	0.0148			
N-pentane	0.0029			
Hexanes +	0.0017			
BTU/cf	1009			
Specific gravity	0.596			

Lab # 359123
Sample Name: NSDBS-64
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0063			
Hydrogen	nd			
Argon	0.103			
Oxygen	1.34			
Nitrogen	7.34			
Carbon Dioxide	2.65	-12.52		
Methane	85.76	-45.29	-162.7	
Ethane	2.03	-26.72		
Ethylene	nd			
Propane	0.517	-23.15		
Propylene	nd			
Iso-butane	0.134			
N-butane	0.0812			
Iso-pentane	0.0278			
N-pentane	0.0083			
Hexanes +	0.0068			
BTU/cf	927			
Specific gravity	0.637			

Lab # 359124
Sample Name: ORW-14
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0053			
Hydrogen	nd			
Argon	0.0435			
Oxygen	0.072			
Nitrogen	2.69			
Carbon Dioxide	1.30	-7.43		
Methane	92.98	-43.10	-156.0	
Ethane	2.18	-26.30		
Ethylene	nd			
Propane	0.440	-23.99		
Propylene	nd			
Iso-butane	0.104			
N-butane	0.0875			
Iso-pentane	0.0406			
N-pentane	0.0198			
Hexanes +	0.0381			
BTU/cf	1003			
Specific gravity	0.598			

Lab # 359125
Sample Name: ORW-15
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0061			
Hydrogen	nd			
Argon	0.0274			
Oxygen	0.052			
Nitrogen	1.79			
Carbon Dioxide	1.87	-4.96		
Methane	93.07	-43.09	-156.7	
Ethane	2.32	-26.82		
Ethylene	nd			
Propane	0.609	-23.03		
Propylene	nd			
Iso-butane	0.150			
N-butane	0.0815			
Iso-pentane	0.0199			
N-pentane	0.0043			
Hexanes +	0.0024			
BTU/cf	1009			
Specific gravity	0.601			

Lab # 359126
Sample Name: ORW-17
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0061			
Hydrogen	nd			
Argon	0.0469			
Oxygen	0.025			
Nitrogen	2.70			
Carbon Dioxide	1.25	-8.64		
Methane	93.40	-46.46	-161.5	
Ethane	1.92	-27.07		
Ethylene	nd			
Propane	0.495	-22.91		
Propylene	nd			
Iso-butane	0.108			
N-butane	0.0451			
Iso-pentane	0.0072			
N-pentane	0.0010			
Hexanes +	0.0005			
BTU/cf	999			
Specific gravity	0.594			

Lab # 359127
Sample Name: ORW-8
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	nd			
Hydrogen	0.0600			
Argon	0.854			
Oxygen	16.48			
Nitrogen	70.78			
Carbon Dioxide	0.24	-16.20		
Methane	11.17	-47.34	-160.9	
Ethane	0.291	-28.43		
Ethylene	nd			
Propane	0.0828	-23.86		
Propylene	nd			
Iso-butane	0.0215			
N-butane	0.0136			
Iso-pentane	0.0048			
N-pentane	0.0016			
Hexanes +	0.0018			
BTU/cf	122			
Specific gravity	0.949			

Lab # 359128
Sample Name: ORW-22
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0069			
Hydrogen	nd			
Argon	0.0218			
Oxygen	0.021			
Nitrogen	1.48			
Carbon Dioxide	1.55	-7.45		
Methane	93.55	-42.04	-156.5	
Ethane	2.45	-26.84		
Ethylene	nd			
Propane	0.656	-23.03		
Propylene	nd			
Iso-butane	0.158			
N-butane	0.0862			
Iso-pentane	0.0182			
N-pentane	0.0037			
Hexanes +	0.0018			
BTU/cf	1018			
Specific gravity	0.598			

Lab # 359129
Sample Name: NSDBS-26
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0034			
Hydrogen	nd			
Argon	0.220			
Oxygen	3.22			
Nitrogen	15.54			
Carbon Dioxide	1.28	-10.66		
Methane	77.32	-43.13	-157.5	
Ethane	1.82	-26.27		
Ethylene	nd			
Propane	0.365	-23.83		
Propylene	nd			
Iso-butane	0.0848			
N-butane	0.0724			
Iso-pentane	0.0337			
N-pentane	0.0167			
Hexanes +	0.0264			
BTU/cf	834			
Specific gravity	0.666			

Texas Brine - Belle Rose, Louisiana
MRAA Sampling Events
Isotopic Analytical Results

Lab # 359130
Sample Name: ORW-5
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0047			
Hydrogen	0.0117			
Argon	0.0341			
Oxygen	0.035			
Nitrogen	2.18			
Carbon Dioxide	1.53	-4.78		
Methane	92.94	-43.40	-156.8	
Ethane	2.37	-26.70		
Ethylene	nd			
Propane	0.595	-23.21		
Propylene	nd			
Iso-butane	0.145			
N-butane	0.0905			
Iso-pentane	0.0306			
N-pentane	0.0123			
Hexanes +	0.0216			
BTU/cf	1010			
Specific gravity	0.600			

Lab # 359131
Sample Name: ORW-19
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0066			
Hydrogen	0.0582			
Argon	0.332			
Oxygen	5.62			
Nitrogen	26.76			
Carbon Dioxide	0.10			
Methane	64.94	-42.88	-155.1	
Ethane	1.57	-26.72		
Ethylene	nd			
Propane	0.438	-22.93		
Propylene	nd			
Iso-butane	0.108			
N-butane	0.0545			
Iso-pentane	0.0108			
N-pentane	0.0017			
Hexanes +	0.0008			
BTU/cf	703			
Specific gravity	0.713			

Lab # 359132
Sample Name: ORW-9
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0053			
Hydrogen	0.0148			
Argon	0.272			
Oxygen	5.46			
Nitrogen	22.54			
Carbon Dioxide	1.03	-6.29		
Methane	67.96	-41.35	-153.0	
Ethane	1.92	-26.27		
Ethylene	nd			
Propane	0.538	-22.69		
Propylene	nd			
Iso-butane	0.140			
N-butane	0.0815			
Iso-pentane	0.0247			
N-pentane	0.0071			
Hexanes +	0.0052			
BTU/cf	745			
Specific gravity	0.708			

Lab # 359133
Sample Name: ORW-12
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0053			
Hydrogen	nd			
Argon	0.0325			
Oxygen	0.021			
Nitrogen	2.10			
Carbon Dioxide	1.51	-5.84		
Methane	93.31	-43.22	-156.7	
Ethane	2.26	-26.50		
Ethylene	nd			
Propane	0.5000	-23.55		
Propylene	nd			
Iso-butane	0.117			
N-butane	0.0840			
Iso-pentane	0.0304			
N-pentane	0.0124			
Hexanes +	0.0177			
BTU/cf	1008			
Specific gravity	0.598			

Lab # 359134
Sample Name: NSDBS-14
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	nd			
Hydrogen	nd			
Argon	0.123			
Oxygen	1.12			
Nitrogen	7.44			
Carbon Dioxide	2.30	-6.22		
Methane	88.35	-61.40	-199.2	
Ethane	0.502	-26.45		
Ethylene	nd			
Propane	0.116	-23.05		
Propylene	nd			
Iso-butane	0.0318			
N-butane	0.0129			
Iso-pentane	0.0047			
N-pentane	0.0012			
Hexanes +	0.0012			
BTU/cf	909			
Specific gravity	0.618			

Lab # 359135
Sample Name: NSDBS-6
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0089			
Hydrogen	nd			
Argon	0.116			
Oxygen	0.73			
Nitrogen	6.57			
Carbon Dioxide	1.82	-5.96		
Methane	88.20	-46.13	-165.3	
Ethane	1.85	-26.73		
Ethylene	nd			
Propane	0.492	-23.01		
Propylene	nd			
Iso-butane	0.125			
N-butane	0.0635			
Iso-pentane	0.0168			
N-pentane	0.0040			
Hexanes +	0.0034			
BTU/cf	947			
Specific gravity	0.621			

Lab # 359136
Sample Name: NSDBS-23
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0070			
Hydrogen	nd			
Argon	0.0554			
Oxygen	0.26			
Nitrogen	3.00			
Carbon Dioxide	1.55	-9.94		
Methane	91.83	-40.13	-152.1	
Ethane	2.53	-26.24		
Ethylene	nd			
Propane	0.483	-23.79		
Propylene	nd			
Iso-butane	0.108			
N-butane	0.0943			
Iso-pentane	0.0421			
N-pentane	0.0204			
Hexanes +	0.0245			
BTU/cf	999			
Specific gravity	0.605			

Lab # 359137
Sample Name: NSDBS-15
Date Sampled: 5/23/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0051			
Hydrogen	nd			
Argon	0.421			
Oxygen	8.46			
Nitrogen	33.15			
Carbon Dioxide	1.01	-11.76		
Methane	55.04	-40.93	-149.0	
Ethane	1.45	-26.32		
Ethylene	nd			
Propane	0.281	-23.90		
Propylene	nd			
Iso-butane	0.0636			
N-butane	0.0564			
Iso-pentane	0.0261			
N-pentane	0.0134			
Hexanes +	0.0213			
BTU/cf	597			
Specific gravity	0.764			

Lab # 359138
Sample Name: ORW-37
Date Sampled: 5/24/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd			
Helium	0.0081			
Hydrogen	nd			
Argon	0.0218			
Oxygen	0.065			
Nitrogen	1.56			
Carbon Dioxide	1.39	-8.11		
Methane	93.32	-41.73	-155.1	
Ethane	2.58	-26.82		
Ethylene	nd			
Propane	0.713	-23.01		
Propylene	nd			
Iso-butane	0.185			
N-butane	0.110			
Iso-pentane	0.0307			
N-pentane	0.0078			
Hexanes +	0.0045			
BTU/cf	1022			
Specific gravity	0.599			

Texas Brine - Belle Rose, Louisiana
MRAA Sampling Events
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Lab # 359139
Sample Name: ORW-36
Date Sampled: 5/24/2013

Lab # 359140
Sample Name: BC-2
Date Sampled: 5/24/2013

Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰	Component	mol %	¹³ C ‰	D ‰	¹⁵ N ‰
Carbon Monoxide	nd				Carbon Monoxide	nd			
Helium	0.0066				Helium	0.0079			
Hydrogen	nd				Hydrogen	0.0338			
Argon	0.0410				Argon	0.0605			
Oxygen	0.031				Oxygen	0.077			
Nitrogen	2.41				Nitrogen	3.87			
Carbon Dioxide	1.78	-7.93			Carbon Dioxide	1.69	-7.14		
Methane	93.36	-48.03	-168.1		Methane	91.80	-46.42	-161.6	
Ethane	1.78	-26.72			Ethane	1.93	-27.15		
Ethylene	nd				Ethylene	nd			
Propane	0.439	-22.94			Propane	0.438	-22.62		
Propylene	nd				Propylene	nd			
Iso-butane	0.102				Iso-butane	0.0694			
N-butane	0.0454				N-butane	0.0199			
Iso-pentane	0.0082				Iso-pentane	0.0012			
N-pentane	0.0012				N-pentane	nd			
Hexanes +	0.0006				Hexanes +	nd			
BTU/cf	995				BTU/cf	979			
Specific gravity	0.597				Specific gravity	0.602			

Texas Brine - Belle Rose, Louisiana
Hourly Air Monitoring Data

*Time indicates start of time period (ex. 12:00:00 AM gives the time period 12:00:00 AM to 12:59:59 AM)

Date-Time *	South-most Pipeline Site					Middle-most Pipeline Site					North-most Pipeline Site					South of OG3A-1					Onsite Trailers				
	ST-3					ST-2b					ST-1					Pad #9					TR-1				
	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	SO2 (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)
07/09/2013 05:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	See Note	1.4	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0	20.9
07/09/2013 06:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9		1.9	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.3	0.0	0.0	0.0	0.0	20.9
07/09/2013 07:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9		2.8	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.3	0.0	0.0	0.0	0.0	20.9
07/09/2013 08:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9		1.6	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.0	0.0	20.9
07/09/2013 09:00:00 AM	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 10:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 11:00:00 AM	0.0	0.0	0.0	0.0	21.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 12:00:00 PM	0.0	0.0	0.0	0.0	21.2	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 01:00:00 PM	0.0	0.0	0.0	0.0	21.2	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 02:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 03:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 04:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 05:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 06:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 07:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 08:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 09:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 10:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/09/2013 11:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/10/2013 12:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/10/2013 01:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/10/2013 02:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/10/2013 03:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/10/2013 04:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/10/2013 05:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9

Notes:

RTU-8 was inadvertently placed at ST-1 at 2:55 PM on 7/8/2013. RTU-8 is not equipped with a CO sensor; thus no CO data was collected while RTU-8 was deployed at ST-1. RTU-2 replaced RTU-8 at approximately 09:00 AM on 7/9/2013, and normal data collection resumed.

ME&A Daily Action Summary

July 9, 2013

Subsidence Survey:

- No Work Done

Sinkhole Perimeter/Hydrographic Survey:

- No Work Done

Support Sinkhole Cleanup

- No Work Done

Misc. Survey Work

- Arrive @ 9:00 am
- Stake access routes to CPT locations in swamp.
- Depart 12:00 pm

Michael Pisani & Associates
Texas Brine, L.L.C.
Assumption Parish, Louisiana
Daily Field Report

Report By: Patrick Ritchie
 Company: MP&A

Date: 7/9/2013
 Work Order # 80-05

Health and Safety Meeting YES NO

Weather: 89 F Mostly Cloudy

Personnel	Company	Job Title
Patrick Ritchie	MP&A	Environmental Scientist
John McGuire	MP&A	Environmental Scientist

Site Activities: Start Time 8:30 End Time 16:30

Equipment On-site: Airboat

Daily Activity:
 Observe, video, measure bubble sites
 Conduct in-situ monitoring of industrial water wells
 Measure water level for the industrial water wells and MRAA wells
 Collect laboratory samples from the industrial water wells

Estimated time of completion:
 On-going

Proposed schedule:
 Conduct in-situ monitoring of industrial water wells
 Measure water level for the industrial water wells and MRAA wells
 Measure pressure and water level at TBC Geoprobe locations
 Collect laboratory samples from the industrial water wells
 Observe, video, measure bubble sites

Estimated time of completion:
 On-going

Initials: PMR