Texas Brine Company, LLC
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July 12, 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	Eric Rucinski - 07:45 - 09:00 Darlene McManus (Code Red) - 07:00 - 17:00	7/11/2013	NA	NA	NA	AreaRAE Monitors	7/12/2013	
	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	7/11/2013	NA	NA	NA	NA	NA	
	Well Gas Sampling	No work performed	7/11/2013	NA	NA	NA	NA	NA	
	Under Slab Gas Sampling	No work performed	7/11/2013	NA	NA	NA	NA	NA	
	Indoor Air Monitoring	No work performed	7/11/2013	NA	NA	NA	NA	NA	
Respec	Inclinometers/Tilt Meters	7/11/2013 NA	NA NA	NA	NA	NA		NA	NA
	InSAR Reflector Installations	7/11/2013 NA	NA NA	NA	NA	NA		NA	NA
	Subsidence Survey-Fenstermaker	7/11/2013 NA	NA NA	NA	NA	NA		NA	NA
	Shallow Geophone Installation	7/11/2013 NA	NA NA	NA	NA	NA		NA	NA
	Deep Geophone Installation	7/11/2013 NA	NA NA	NA	NA	NA		NA	NA
	Amendment #3, Directive #2	7/11/2013 NA	NA NA	NA	NA	NA		NA	NA
	Expansion of geoprobe gas sampling locations	7/11/2013 NA	NA NA	NA	NA	NA		NA	NA
Miller	Weekly Stability Survey	No Work Performed	July 11, 2013	NA	NA	NA	NA	NA	
	Misc. Survey Work	No Work Performed	July 11, 2013	NA	NA	NA	NA	NA	
	Sinkhole Hydro/Perimeter Survey	No Work Performed	July 11, 2013	NA	NA	NA	NA	NA	
Pisani	Surface Water	NA	July 11, 2013	NA	NA	NA	NA	NA	
	Industrial Well Water	NA	July 11, 2013	NA	NA	NA	NA	NA	
	MRAA Well Water	NA	July 11, 2013	NA	NA	NA	NA	NA	
	GP/ORW Water	NA	July 11, 2013	NA	NA	NA	NA	NA	
	Cavern Brine	NA	July 11, 2013	NA	NA	NA	NA	NA	
	Geoprobe Wells	NA	July 11, 2013	NA	NA	NA	NA	NA	

Grand Bayou Well 3A	
Daily Operations at 3A	Summary of Today's events
	Oxy 3A
7/12/2013	7am 600.23 7/12/2013
	Relief Well #1
7/12/2013	See ORW-01 Flare Spreadsheet

Attachments

Daily Action Summary

July 11, 2013

Stationary Air Monitoring

- Eric Rucinski onsite from 07:45 to 09:00. Changed out the monitors between 08:05 and 08:45. Collected data from the monitoring database and forwarded to Marshall Heltz 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

- Not Scheduled

  Note: No additional 14C methane analyses were conducted for gas seep samples as referenced below for well gas samples.

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 and July 9, 2013 Daily Action Summaries. Isotech has revised the analytical report to include 14C methane analysis results for applicable samples. 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)

	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				
Date-Time *	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 (%)
07/11/2013 01:00:00 AM	0.0	0.0	0.0	4.1	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	21.2	0.0	0.0	0.0	0.0	20.9
07/11/2013 02:00:00 AM	0.0	0.0	0.0	4.1	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<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
07/11/2013 03:00:00 AM	0.0	0.0	0.0	4.2	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<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
07/11/2013 04:00:00 AM	0.0	0.0	0.0	4.3	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<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
07/11/2013 05:00:00 AM	0.0	0.0	0.0	4.3	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	0.0	0.0	0.0	0.0	20.9
07/11/2013 06:00:00 AM	0.0	0.0	0.0	4.4	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<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
07/11/2013 07:00:00 AM	0.0	0.0	0.0	4.1	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	0.0	0.0	0.0	0.0	20.9
07/11/2013 08:00:00 AM	0.0	0.0	0.0	2.6	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	<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
07/11/2013 09:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 10:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 11:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9
07/11/2013 12:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9
07/11/2013 01:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 02:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 03:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9
07/11/2013 04:00:00 PM	0.0	0.0	0.0	0.0	21.0	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 05:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.0	0.0	0.0	0.0	0.0	20.9
07/11/2013 06:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 07:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 08:00:00 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	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 09:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 10:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 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	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/12/2013 12:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	1.1	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9

Notes:
RTU-9, located at ST-3, began recording elevated LEL readings at approximately 7:46 PM on 7/10/2013. RTU-4 replaced RTU-9 at 8:45 AM on 7/11/2013 and readings returned to normal. RTU-9 will be inspected by the onsite technician and serviced as necessary before being redeployed.

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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
Carbon Monoxide	nd				
Helium	nd				
Hydrogen	0.0036				
Argon	0.112				
Oxygen	1.92				
Nitrogen	8.05				
Carbon Dioxide	8.98	-3.77			
Methane	80.93	-69.64	-221.3	53.9 ± 0.2	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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	2.0 ± 0.1	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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	9.5 ± 0.1	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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	1.3 ± 0.1	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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	3.2 ± 0.1	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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	1.1 ± 0.1	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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	0.6 ± 0.1	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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	2.7 ± 0.1	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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	0.7 ± 0.1	
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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 %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
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
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Lab # 359139
Sample Name: ORW-36
Date Sampled: 5/24/2013

Component	mol %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
Carbon Monoxide	nd				
Helium	0.0066				
Hydrogen	nd				
Argon	0.0410				
Oxygen	0.031				
Nitrogen	2.41				
Carbon Dioxide	1.78	-7.93			
Methane	93.36	-48.03	-168.1		
Ethane	1.78	-26.72			
Ethylene	nd				
Propane	0.439	-22.94			
Propylene	nd				
Iso-butane	0.102				
N-butane	0.0454				
Iso-pentane	0.0082				
N-pentane	0.0012				
Hexanes +	0.0006				
BTU/cf	995				
Specific gravity	0.597				

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

Component	mol %	$\delta^{13}C$ ‰	δD ‰	$^{14}C_1$ pMC	Tritium TU
Carbon Monoxide	nd				
Helium	0.0079				
Hydrogen	0.0338				
Argon	0.0605				
Oxygen	0.077				
Nitrogen	3.87				
Carbon Dioxide	1.69	-7.14			
Methane	91.80	-46.42	-161.6		
Ethane	1.93	-27.15			
Ethylene	nd				
Propane	0.438	-22.62			
Propylene	nd				
Iso-butane	0.0694				
N-butane	0.0199				
Iso-pentane	0.0012				
N-pentane	nd				
Hexanes +	nd				
BTU/cf	979				
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)

	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				
Date-Time *	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 (%)
07/11/2013 05:00:00 AM	0.0	0.0	0.0	4.3	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	0.0	0.0	0.0	0.0	20.9
07/11/2013 06:00:00 AM	0.0	0.0	0.0	4.4	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<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
07/11/2013 07:00:00 AM	0.0	0.0	0.0	4.1	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	0.0	0.0	0.0	0.0	20.9
07/11/2013 08:00:00 AM	0.0	0.0	0.0	2.6	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	<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
07/11/2013 09:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 10:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 11:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9
07/11/2013 12:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9
07/11/2013 01:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 02:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 03:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9
07/11/2013 04:00:00 PM	0.0	0.0	0.0	0.0	21.0	0.0	<1.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 05:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	21.0	0.0	0.0	0.0	0.0	20.9
07/11/2013 06:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 07:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 08:00:00 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	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 09:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 10:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/11/2013 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	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/12/2013 12:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	1.1	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/12/2013 01:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	1.2	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/12/2013 02:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	1.2	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/12/2013 03:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	1.3	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/12/2013 04:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	1.4	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
07/12/2013 05:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	1.3	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9

Notes:
RTU-9, located at ST-3, began recording elevated LEL readings at approximately 7:46 PM on 7/10/2013. RTU-4 replaced RTU-9 at 8:45 AM on 7/11/2013 and readings returned to normal. RTU-9 will be inspected by the onsite technician and serviced as necessary before being redeployed.

ME&A Daily Action Summary

July 11, 2013

Subsidence Survey:

- No Work Done

Sinkhole Perimeter/Hydrographic Survey:

- No Work Done

Support Sinkhole Cleanup

- No Work Done

Misc. Survey Work

- No Work Done