Petroglyph Operating Company, Inc. Monthly Report – November 2008

Petroglyph Operating Company, Inc. (Petroglyph) is submitting this monthly report for the activities that have occurred at their Little Creek Field in the Raton Basin from the last date of data collection for the October Monthly Report (November 3, 2008) through December 16, 2008. Along with this monthly report, Petroglyph is submitting an electronic copy of all data including Microsoft Excel spreadsheets from which the attached summaries and graphs were created.

1.0 Phase 1 Remediation System

The Phase 1 remediation system was put into operation on December 8th. Since this monthly report is being generated shortly after start up of the system, very little information is available on monitoring results or how the system is affecting adjacent wells.

The system was started with pumping from only Recovery 1 Kittleson and Recovery 3 PEI. As agreed to with EPA, Recovery 4 Barrett will be cleaned out prior to use as a pumping well. It took approximately 2 days for the recovery and injection water lines to be filled. Recovery 3 PEI was pumped for approximately 2.5 hours and the pump shut off. The pump will not be restarted until the system is stabilized. Recovery 1 pump also went down near the end of the reporting period. The plan is to replace that pump and restart the system as soon as possible.

The injection wells take variable amounts of water and the system is still being stabilized. It is anticipated that once the system is stabilized, future reports will provide details on average pumping and injection rates as well as maximum amounts pumped and injected during the period for each well. Operation data for the first week of operation is summarized below.

Monday 12/8/08

Mitigation system start-up. Started Recovery 1 Kittleson and Recovery 3 PEI at 9:30. Filled up recovery flow lines. Water at separator at 13:00. filled separator and FRP tank. Recovery 3 shut down due to pump off at 11:00, did not restart. Shut Recovery 1 down at 19:00.

Tuesday 12/9/08

Started Rec 1 at 9:00 rate of 15.5 gpm stopped at 18:45 total pumped for day 8016gal. Transfer pump started at 10:00 and stopped at 16:15 pumped a total of 5166 gal. Spent most of the day filling injection pipeline. Started injection at Inj 04 and injected a total of 972 gal. Started Inj 01 and injected a total of 245 gal. Inj 05 and 08 would not take water (orifice plugged). Did not get water to the Inj 07 and 08 until late. Shut system down, filled up FRP tank to top.

Wednesday 12/10/08

Resumed injection into Inj 01 and 04. Started injection 06, 07, 02. Pulled Inj 05 tubing cleaned out orifice started injection at 4 gpm. Pulled Inj 08 cleaned out orifice, injected shortly and plugged up orifice again. Bucket tested Inj 08 flow meter, actual

14 gpm, meter showed 2 gpm. Inj 03, plugged orfice. Adjusting liquid level control at transfer pump. Ran out of daylight. Too many bugs to let run all night. Shut down and drain up.

Thursday 12/11/08

Started up Rec 1 and transfer pump. Inject into Inj 01, 02, 04, 05, 06, 07. Unplug Inj 03 and 08 and start injection. Bucket test turbine meters at Inj 01, 03, 04, 05, 08. System stable enough to run all night. Checked system at 19:00 and was ok. Flare was off, restart flare at 17:00.

Friday 12/12/08

System operated overnight. Inj 08,filled up casing with water, well accepts about 2 gallons per hour. Adjust system to increase line pressure and reduce overall rate. Overall rate 14 gpm at end of day.

Saturday 12/13/08

System operated overnight at overall rate of 14 gpm.

Sunday 12/14/08

Found system down. Rec 1 went down on over current (at about midnight) and will not restart. Transfer pump shut down on low tank. Drained up separator and FRP tank and inj well piping.

Monday 12/15/08

Ordering and getting parts to replace pump in Recovery 01. Will pull old pump on 12/16/08 and install new pump with pressure transducer on 12/17/08 (if weather allows).

2.0 Ongoing Investigation

<u>Aquifer Characterization</u>: The Methane Mitigation Well Aquifer Testing Report was submitted to the COGCC and EPA for review on September 25, 2008. The report submittal was followed by a meeting on September 29th to summarize the report and report findings and discuss the next steps. COGCC consultant, Whetstone Associates provided comments on the report which were transmitted to Petroglyph on November 4th. A response to the comments was developed and submitted on November 25th.

Petroglyph continues to monitor gas production from the recovery wells. Both the Recovery 1 Kittleson and Recovery 3 PEI showed a jump in gas measurements at the start of pumping on December 8th. The Recovery 1 Kittleson well had declining readings throughout the period reaching a low of 11.10 mcf/day just before the start of pumping. Flows increased to 25.72 mcf/day at the start of pumping (December 8th) and then declined the next day to 22.09 mcf/day (which is the last reading available for this reporting period).

Recovery 3 PEI showed a low of 0.2464 mcf/day just before the start of pumping. At the start of pumping the measurement increased to 0.7373 mcf/day and then dropped to 0.3462 mcf/day the next day (which is the last reading available for this reporting period).

Recovery 4 Barrett did not show any response to pumping. This well is not being pumped until additional clean out occurs. The low reading for the period occurred just before the remedial system pumping started and was 0.2616 mcf/day. After one day of pumping, the gas increased to 0.3711 mcf/day, but the high reading for the period occurred on November 20^{th} and was 0.4915 mcf/day.

POCI 55 is no longer producing gas at the surface. Attachment 1 shows the changes in gas production at POCI 55 and each of the recovery wells. Actual measurements for each well are included in the data disk.

<u>Dissolved Methane Sampling</u>: Petroglyph's consultant, Norwest Applied Hydrology, has completed initial sampling for dissolved methane in water wells within a one mile radius of the remediation system. Sampling results were included in the April monthly report with additional results during the August monthly report. Dissolved methane will be resampled after the remediation system has been in operation for approximately one month. One new dissolved methane sample analysis was received during the reporting period. A sample was collected by Petroglyph from the Fritzner well on December 1, 2008. The sample results showed 4,600 ug/l of dissolved methane in the water.

Methane Source Investigation

In an ongoing effort to understand the source of the methane which has migrated from the Vermejo Formation and the zones in which migration is occurring (as well as the potential role of dikes in the methane movement), Petroglyph has applied to the Bureau of Land Management (BLM) for permission to drill an exploratory hole on BLM land in the vicinity of the Bounds property. This hole will be located to determine if gas is present, at what level the gas occurs and whether or not additional venting or treatment is needed at that location. The hole should provide additional information on gas that may be contributing to the Bounds well. The current date for a BLM decision on the well is not known.

3.0 Monitoring

Down-hole Pressure and Fluid Level Monitoring

Barrett, Bergman, Coleman, and Meyer have continuous pressure monitoring for fluid levels that have been installed by Petroglyph. Information from these wells is downloaded monthly by Petroglyph and included in electronic format with this monthly report. The POCI 55 Monitoring Well also has a pressure gage. In addition, pressure transducers were also installed in the Evendon and Garza-Vela wells during the last reporting period and information from those wells has been added to the data disk with graphs included in the monthly reports. Attachment 2 shows graphically the changes in pressure for each of these wells. As can be seen on the graphs, some wells have pressure and associated water levels trending downward (Bergman, Coleman and Meyer), while other wells have pressure and associated water levels trending slightly upward (POCI 55, Garza, Barrett, Bruington, Meyer) or remaining relatively steady (Evendon). In general the slopes are low indicating a leveling off of water levels and pressures. There are no significant changes from previous monthly reports. Garza, Barrett and Meyer are exhibiting a slight upward trend in water pressures and associated water levels where in previous months the trend has been downward or steady.

Gas Flow Monitoring

Gas flow monitors have been installed by Petroglyph at the Angely, Bruington, Coleman, and Smith wells. Continuous gas flow monitoring occurs at Coleman and Smith, while gas flow is spot monitored with a gage and orifice tester at Angely and Bruington. Gas pressure at Bounds and Angely wells is currently monitored by COGCC or their consultant; however the data is presented in this report. The data from this monitoring is provided in Attachment 3.

While gas flow can be variable, in general gas flow has shown an overall decrease in all wells ranging from over the last year to over the last several months. However, the latest measurements taken just after the start of the remediation system pumping have shown a slight increase in methane levels in the Angely and Bruington wells. Gas flow from the Smith well has been at zero for a sustained period of time and has shown no changes during the reporting period. The Angely well had registered zero since February 6, 2008, but showed a slight increase to 0.168 mcf/day in the one reading taken during this reporting period just after the start of pumping. The Bruington well had decreased to a consistent zero reading in mid-October and has stayed at that level until the last reading of this reporting period where it increased to 0.747 mcf/day. Again the reading was taken after the start of the remedial pumping. It is difficult to determine if there is a relationship to the remedial pumping since the data set is limited to one or two points taken just as the system start up occurred. Future data will be examined to determine if these wells are showing a response to pumping.

The Bounds well had shown a decrease from late October to near the end of this reporting period where values again increased from the low in late October of 0.168 mcf/day to the last reading during the reporting period of 0.747 mcf/day. The methane readings in this well have been somewhat variable and began to increase in November before the pumping started so the increases do not appear to be tied to the remedial pumping.

The Coleman well only shows gas flows when the well is pumped and has not been tested since the start of remedial pumping effects from the pumping are not known at this point in time. The gas flows stop after some period of well pumping. Measurements during this reporting period have not shown much change from previous reporting periods with gas flows varying between 47 and 20 mcf/day for a duration of between as low as 5 minutes and as high as 30 minutes.

Figure 1 shows the monitored gas flows in each well and the timing for drilling and testing of Petroglyph remediation system wells as well as start up of the remediation system. As shown on this figure, the drop in gas flow in the domestic wells appears to have occurred in correlation with the drilling of remediation system wells and venting of gas through these wells. This would indicate that the remediation system has been correctly located to remediate the area of largest gas concentration in the domestic wells. In addition, the recent start up of the remedial pumping system may have had an effect on

gas measurements in certain wells, but additional data collection is necessary to confirm if these effects can be linked to the remediation system pumping.

Fluid Levels in Petroglyph Production Wells

Eleven Petroglyph production wells are monitored for fluid level and casing pressure. An additional four Petroglyph production wells are continuously monitored for fluid level pressures. Three monitoring wells are also monitored for water levels. The monitoring occurs in the formation into which the wells are completed, the Vermejo Formation Changes in fluid levels in Petroglyph's production wells are shown graphically in Attachment 4. As shown in the attachment and as would be expected since Petroglyph is no longer pumping these wells to draw down water levels, pressure is equalizing within the Vermejo coals and consequently water levels are rising in all wells although the rate of rise is slowing. There are no significant changes in the data from previous monthly reports. All but three wells are showing leveling off for the rate of rise with measurements showing little to no variation during the reporting period. There is no data provided for the Rohr 09-05 well because the power in the well is off and waiting some repair work. The pressure data for Lively 03-03 is missing because the down hole gage failed and will need to be replaced.

Bi-Weekly and Monthly Water Well Monitoring

Petroglyph currently monitors approximately 78 wells in the vicinity of the site. No new wells were added during this reporting period. Table 1 shows all of the wells that have ever been sampled, the sampling start date, the date of the last sample, the number of samples since the last reporting period and a description of the sampling results and any changes from the previous reporting period.

Of the 78 wells, 12 were not sampled during this reporting period due to a lack of access. These wells will continue to be sampled when access is available. Sampling may vary during any one reporting period due to a variety of reasons. During this reporting period 11 wells were sampled once, 17 wells were sampled twice, 26 wells were sampled three times, 6 wells were sampled four times, 4 wells were sampled five times, one well was sampled six times, and one well was sampled seven times.

As shown on Table 1, the monitoring results for the 66 wells sampled showed that 44 wells had no or minimal change from the previous monitoring period measurements. Changes in % LEL, % by volume CH4, and % volume O2 were evaluated to determine if the wells where showing an indication of increasing or decreasing methane gas content. Of the remaining 22 wells, 13 showed increases in methane, with 5 of those only slight increases and 9 showed decreases with 4 of those well showing slight decrease.

Table 2 shows the current monitoring schedule including which wells are monitored biweekly and which wells are monitored monthly or at a different frequency. The schedule also includes those wells which will be monitored semi-weekly or weekly at the start up of the injection system for any changes as a result of system start up.

Hand Held Measurements

Petroglyph conducts periodic ground surveys using a hand held methane detector at locations where gas has previously been detected, at locations where a property owner requests such a survey or at locations where previous surveys such as the helicopter survey have detected gas seepage. These surveys are conducted based on need or urgency so can range from several times a week to a one time survey based on concerns from a property owner. During this reporting period no hand held measurements occurred.

Helicopter Survey

Petroglyph completed a helicopter survey for methane seepage (May 16, 17, and 18) and provided that data to the COGCC under separate cover. Hand held methane detector ground surveys have been conducted for areas where the helicopter survey indicated a potential new presence of methane or to confirm other helicopter readings. These hand held surveys have been completed for the May helicopter survey.

4.0 Mitigation

Methane Alarms

There are currently a total of 14 homes with alarm systems provided by Petroglyph and that number has not changed from previous reports. Petroglyph's contractor has completed the updating of alarm systems for 9 homeowners who requested the updated system with both visual and audible alarms. No alarms have ever been triggered by the presence of methane.

Water Supply

Petroglyph is currently providing water to 15 homes. No new names were added to the list during this reporting period. Table 4 provides a list of the homes currently receiving water. Water is delivered as needed and can vary from month to month due to residential water use and whether or not the homes are occupied.

Other

For this reporting period other activities included collecting water samples from 6 wells for either dissolved gas analysis or for drinking water quality analyses. As previously discussed a water sample was collected December 1st from Fitzner for dissolved methane analysis. A second sample was collected December 8th for isotopic gas analysis. Water samples were collected for analysis of drinking water parameters from McPherson, Wolahan, Conley, English, and Searle.

Public Outreach

Public outreach during the reporting period consisted primarily of notification of the start of the remediation pumping. A detailed public outreach occurred just prior to the start up of the injection system in accordance with the requests of the COGCC. This public outreach included the following elements:

- Public Notice provided in the local newspaper
- A directing mailing of the notice to those in the vicinity of the remediation system

• Hand delivery of the notice to those in the immediate vicinity of the remediation system.

Both the letter and flyer included a proviso to contact PEI and/or the COGCC should the well owner observe changes in their well (gas discharge, water production change, etc.) after the startup of Phase One. All notices provided the start up date of December 8, 2008.

In addition, to notification of the remediation system start up, Petroglyph personnel also attended a public meeting on November 15, 2008 and provided information on the relative safety of the low levels of methane observed in the area.

Health and Safety/Emergency Planning

No changes to Petroglyph's health, safety and emergency planning occurred during the reporting period.

4.0 Schedule

The following is the currently anticipated schedule for Phase 1 and Phase 2 of the Methane Investigation Monitoring and Mitigation Program.

- Continued pumping and injection of the Phase 1 system with ongoing monitoring to evaluate the response in surrounding wells.
- Submittal of the Phase 2 application to the Environmental Protection Agency under the Underground Injection Control Program in early January.
- At approximately the same time application will be made through the Colorado Division of Water Resources for a change in the permitted pumping and injection wells to allow for the injection of Vermejo Formation water under Phase Two.
- Routine bi-weekly and monthly sampling will continue with new sampling sites added as needed. Sampling will be adjusted based on the monitoring results in accordance with the Petroglyph Monitoring and Response Plan submitted to the COGCC on April 7, 2008 and commitments made to COGCC and EPA for monitoring during injection start up.
- Hand held seep monitoring will continue as needed.



Table 1 Water Well Measurements for the Period of September 30 to November 3, 2008								
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period			
20783	Goemmer Cattle	9/24/07	10/20/08	Not sampled during this reporting period				
230572	Willis	7/11/07	11/19/08	11/5/08 and 11/19/08	No change from previous measurements with no detectable methane and O2% volume at 20.9			
84106	Rohr	7/06/07	10/27/08	Not sampled during this reporting period				
93386	Lowry	7/12/07	10/20/08	Not sampled during this reporting period				
203536	Hurley	8/2/07	12/2/08	11/5/08, 11/19/08, and 12/2/08	 At the well head: No change in LEL at >100 CH4 % volume increased from 17 to 36 (11/19/08) and dropped to 31 (12/2/08) H2S decreased from 3 ppm to 1.5, up to 5.5 and back to 0 ppm O2 % volume decreased from 17.4 to 11.1% CO remained at 0 No change at the cistern with no detectable methane and O2% volume at 20.9 			
121013	Schafer	8/15/07	10/20/08	Not sampled during this reporting period	No change from previous measurements with no detectable methane and O2% volume at 20.9			
123144	Searle	7/11/07	12/2/08	11/4/08 and 12/2/08	No change from previous measurements with no detectable methane and O2% volume at 20.9			
169043	Burge	7/11/07	12/9/08	11/19/08, 12/2/08, and 12/9/08	No change from previous measurements with 0% LEL, no detectable methane and O2% volume at 20.9. H2S was 0 ppm			
181278	Bounds	7/12/07	12/10/08	11/12/08, 11/26/08 and 12/10/08	No change from previous sampling with %LEL at 100; CH4% at 100, and CO at 0, except O2% dropped from 0.3 to 0 in November and increased to 0.2 % 12/10/08 and H2S was 0 ppm through November until it increased to 0.3 ppm in 12/10/08 reading.			

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Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period						
191079	Brian Dale	8/15/07	11/14/08	11/14/08	At well #1: • %LEL increased from 32 to >100 • CH4 % volume increased from 2 to 5 • O2 % volume decreased from 17 to 8.4 • CO remained at 0 ppm • H2S increased from 0 to 2 ppm At Well #2: • %LEL increased from 0 to 33 • CH4 % volume increased from 0 to 2 • O2 % volume decreased from 20.9 to 13.9 • CO and H2S remained at 0 ppm						
192144	Snow	8/2/07	11/14/08	11/14/08	No change from previous measurements with 0% LEL, no detectable methane and O2% volume at 20.9. H2S was 0 ppm						
192203	Rankins	7/12/07	10/20/08	Not sampled during this reporting period							
193520X	McEntee	8/2/07	12/3/08	11/4/08, 11/18/08 and 12/3/08	 At wellhead the 11/4/08 sample showed an increase from 0 to 10 %LEL, and increase from 0.0 to 0.5 CH4 %, and a decrease of O2 % Vol from 20.9 to 16.9. CO and H2S stayed constant at 0 ppm. Measurements returned to 0 % LEL, and CH4% 11/18/08. O2 % increased from 16.9 to 20.9 and then decreased to 20.3. CO and H2S were 0 ppm throughout the period. At east wellhead there were no changes from the previous month's measurements with %LEL and CH4 % at 0, O2 % at 20.9, and CO and H2S remain at 0 						
196371	Lyon	8/15/07	11/14/08	11/14/08	No change from previous measurements with 0% LEL, no detectable methane and O2% volume at 20.9. H2S was 0 ppm						
197472	Williams/Bartlett	8/15/07	11/19/08	11/19/08	No changes from previous measurements with 0% LEL, no detectable methane and O2% volume at 20.9. H2S was 0 ppm						

		Water Well N	leasuremer	Table 1 Its for the Period of S	September 30 to November 3, 2008
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period
205195	Johnson	8/15/07	12/3/08	11/18/08 and 12/3/08	At well head, no changes in previous measurements except for a decrease in H2s from 0.5 ppm to 0 with a slight odor noted on 12/3/08. Values at the cistern have remained unchanged with no detectable methane and O2% volume at 20.9. The second wellhead was unchanged and had values of zero for %LEL, CH4%, ppm CO and H2S, with O2 remaining at 20.9 on 11/18/08, but exhibited an increase in %LEL to >100, an increase in CH4% from 0 to 5, and a light odor of H2S on 12/3/08.
210526	Bruington	8/7/07	12/10/08	11/6/08, 11/13/08, 11/19/08,11/26/08, 12/2/08, 12/10/08	 %LEL has not changed at >100 CH4% has been variable increasing from 80 to 98 and ultimately decreasing to 91 at the end of the period O2 % has decreased from 9.8 to 0.4 CO has remained at 0 ppm H2S has decreased from 5.5 to 2.5 ppm Values at the cistern were unchanged at 0 for all except O2 which was 20.9.
215706	Brice	7/12/07	12/2/08	11/4/08 and 12/2/08	No change from previous measurements with no detectable methane and O2% volume at 20.9
219376	White	8/2/07	11/14/08	11/14/08	 %LEL decreased to 0 CH4 % decreased from 5.00 to 0 O2 % increased from 8.1 to 20.9 CO decreased from 2 to 0 H2S decreased from 3.5 to 0 ppm
221465	Evenden	8/2/07	12/3/08	11/18/08 and 12/3/08	 %LEL increased from 0 to 5 at the last reading CH4 % increased from 0 to 0.25 at the last reading O2 % decreased from 20.9 to 12 CO stayed the same at 0 ppm H2S decreased from 1.5 to 0 ppm
222294	Cramer	8/3/07	11/14/08	11/14/08	No change from previous measurements with no detectable methane and O2% volume at 20.9
222539	Lively	7/6/07	12/3/08	11/4/08, 11/18/08, and 12/3/08	No change from previous measurements with no detectable methane and O2% volume at 20.9

	Table 1 Water Well Measurements for the Period of September 30 to November 3, 2008									
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period					
35292	Kerman/Hanson	7/6/07	12/9/08	11/18/08, 12/2/08, and 12/9/08	No change at wellhead at end of period, however methane showed an increase with an accompanying O2% decrease for one measurement during the reporting period No change at the cistern with all values at 0 except O2% which is 20.9.					
235516	Colorado Switzer	7/12/07	12/1/08	11/4/08 and 12/1/08	No change from previous measurements with no detectable methane and O2% volume at 20.9					
236272	Houghtling	7/6/07	12/11/08	11/17/08, 12/2/08, 12/9/08, 12/11/08	 % LEL remains unchanged at >100 CH4 % volume has increased from 13 to 75 O2% volume decreased from 18.3 to 2.5 CO remain unchanged at 0 ppm H2S increased to 1.5 from 0 ppm, and the decreased to 0.5 ppm Cistern exhibited 0% LEL, no detectable methane and O2% volume at 20.9. CO and H2S were 0 ppm 					
238689	Angely	7/5/07	12/10/08	11/12/08, 11/26/08 and 12/10/08	 %LEL decreased from 5 to 0 and then increased to 100 at the end of the period. CH4 % volume has increased from 0 to 5 at the end of the period O2% volume remained the same at 0 CO and H2S remained unchanged at 0 ppm 					
239657	Smith	7/5/07	12/11/08	11/18/08, 12/2/08, 12/9/08, 12/11/08	 At Wellhead: All values at 0 except O2% which is at 20.9 At Well Vent: % LEL no change from >100 CH4 % increased from 27 to 43 O2% volume decreased from 16.5 to 6.1 H2S and CO remain at 0 ppm, except 12/2/08 H2S was 4.5 ppm The cistern showed unchanged values with 0%LEL, no detectable methane, O2% at 20.9, and CO and H2S were 0 ppm. 					

Table 1 Water Well Measurements for the Period of September 30 to November 3, 2008									
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period				
240947	Wolahan	7/12/07	12/9/08	11/4/08, 11/17/08, 12/3/08 and 12/9/08	No change from previous measurements with 0 % LEL, no detectable methane, O2% ended the period at 20.9, CO and H2S at 0 ppm. O2 % dropped from 20.9 to 16 11/4/08, and then returned to 20.9 11/17/08. No change at the cistern with no detectable methane and O2% at 20.9.				
244403	Bergman	7/6/07	12/11/08	11/4/08, 11/18/08, 12/3/08, 12/9/08, 12/11/08	 % LEL remains unchanged at >100 CH4 % volume has decreased from 81 from 50 O2% volume has decreased from 6.9 to 3.5 after briefly reaching 19.1 on 11/18/08 H2S and CO remain unchanged at 0 ppm 				
246775	Sharp	9/9/07	12/3/08	11/5/08, 11/18/08, and 12/3/08	No change from previous measurements with no detectable methane and O2% volume at 20.9				
248680	Campbell	8/14/07	12/2/08	11/18/08, and 12/2/08	No change from previous measurements with no detectable methane and O2% volume at 20.9				
248862	Meyer	8/14/07	12/3/08	11/5/08, 11/18/08, and 12/3/08	 % LEL decreased from >100 to 71 11/18/08 and then returned to >100 CH4 % volume has decreased slightly from 78 to 75 O2% volume has increased from 9 to 16.8 11/5/08 and dropped to 0 at the end of the period CO remains at 0 H2S has decreased from 1.5 to 0. 				
248983	Tobyas	8/3/07	12/2/08	11/4/08, 11/18/08, and 12/2/08	 % LEL increased from to 51 to >100 and then decreased to 85 CH4 % volume has increased from 2.55 to 4.25 with a value of 17.00 11/18/08 O2 has decreased slightly from 20.9 to 19.4 No change for CO at 0 ppm H2S was 0 except when it increased to 0.5 11/18/08 				
249181	Hentschel	9/9/07	12/3/08	11/5/08, 11/18/08, and 12/3/08	No change from previous measurements with no detectable methane and O2% volume at 20.9. A light odor of H2S was noted 12/3/08.				
250369	Martin	7/12/07	10/6/08	11/4/08	No change from previous measurements with no detectable methane and O2% volume at 20.9				

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Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period
252931	Derowitsch	7/6/07	12/11/08	11/18/08, 12/1/08, 12/9/08, 12/11/08	 No change from previous measurements at wellhead with no detectable methane and O2% at 20.9. At well vent: %LEL increased from 0 to 5 to 24 and then returned to 5 CH4 % increased from 0 to 1.2 before decreasing to 0.25 O2 % remained at 20.9 CO and H2S remained at 0 At the cistern: %LEL increased from 0 to 5 for the last two readings of period CH4 % increased from 0 to 0.25 for the last two readings of period CH4 % increased from 0 to 0.25 for the last two readings of period CH4 % increased from 0 to 0.25 for the last two readings of period CC and H2S remained at 20.9 CO remained at 20.9
253317	Gonzalez	7/12/07	12/3/08	11/4/08, 11/17/08, 12/3/08	No change from previous measurements with 0 % LEL, no detectable methane and O2% volume at 20.9, and 0 ppm CO and H2S, except that O2% volume decreased in one sampling from 20.9 to 20.6 11/4/08 before returning to 20.9 ppm.
254577	Ryerson	9/9/07	12/3/08	11/5/08, 11/18/08, 12/3/08	No change from previous measurements with no detectable methane and O2% volume at 20.9
255929	Conley	7/11/07	9/22/08	Not sampled during this reporting period	Sample collection attempted 10/6/08, 11/4/08, and 12/2/08 but gate was locked so no access.
256504	Hopke	7/5/07	12/11/08	11/18/08, 12/1/08, 12/9/08, 12/11/08	 At wellhead: No change in % LEL at >100 CH4 % volume has increased from 22 to 35 with a high reading of 38 O2% volume has decreased from 17.8 to 8.1 CO remains at 0 H2S decreased from 2 to 0 ppm and then increased to 2.5 ppm No change at cistern with no detectable methane and O2% volume at 20.9
257113	Masters #2	7/6/07	12/11/08	11/4/08, 11/18/08, 12/2/08, 12/9/08, 12/11/08	No change from previous measurements with no detectable methane and O2% volume at 20.9

	Table 1 Water Well Measurements for the Period of September 30 to November 3, 2008										
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period						
257994	Barrett	7/12/07	12/11/08	11/4/08, 11/18/08, 12/2/08, 12/9/08, 12/11/08	 % LEL remained at >100 at end of reporting period with variations during the period. CH4 % volume increased from 21 to 22 with a low of 1% during the monitoring period O2% volume decreased slightly from 17 to 13.1 with a high during the period o 20.9% 11/4/08. CO remained at 0 ppb H2S increased from 0 to 1.5 ppb at the end of the period. 						
259122	Higgins	9/26/07	12/2/08	11/5/08, 11/19/08, and 12/2/08	No change from previous measurements with no detectable methane and O2% volume at 20.9						
260097	Dee	7/5/07	12/1/08	11/4/08 and 12/1/08	No change from previous measurements with no detectable methane and O2% volume at 20.9.						
264581	Ireland	7/12/07	12/9/08	11/18/08, 12/2/08 and 12/9/08	 No change from previous measurements 11/18/08 and 12/9/08 with no detectable methane and O2% volume at 20.9 But 12/2/08 >100 % LEL, 5 % CH4 Vol, 1.8% O2 Vol, 18 ppm CO and 2.5 ppm H2S. 						
267694	Coleman	7/5/07	12/11/08	11/18/08, 12/1/08, 12/9/08, 12/11/08	 No changes from previous measurements for wellhead with no detectable methane and O2% volume at 20.9. At well vent: %LEL increased from 26 to >100 following a low of 5% CH4 % increased from 1.3 to 8 with a maximum of 11 O2 % decreased from 20.6 to 17.1 with a high of 20.9 CO and H2S remained at 0 with H2S reading of 3.5 ppm on 12/9 						
267695	Speh	9/4/07	12/2/08	11/4/08, 11/18/08 and 12/2/08	No change from previous measurements with no detectable methane and O2% volume at 20.9. A slight odor of H2S was noted 12/2/08.						
269435	Goacher	7/11/07	10/6/08	Not sampled during this reporting period							
270552	Chaves	9/9/07	12/3/08	11/5/08, 11/18/08, 12/3/08	No change from previous measurements with no detectable methane and O2% at 20.9.						

	Table 1 Water Well Measurements for the Period of September 30 to November 3, 2008									
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period					
271136	May	7/12/07	12/2/08	11/4/08 and 12/2/08	No change from previous measurements with no detectable methane and O2% volume at 20.9					
274468	Roloff	9/9/07	11/18/08	Not sampled during this reporting period	Readings attempted 11/4 and 12/2 but gate was locked so no access; No change from previous measurements with no detectable methane and O2% volume at 20.9					
235515	English	8/16/07	12/1/08	12/1/08	No change from previous measurements with no detectable methane and O2% volume at 20.9.					
258815	Goodwin	7/12/07	12/9/08	11/18/08, 12/2/08, 12/9/08	 At wellhead, %LEL increased from 0 to 16 %CH4 increased from 0 to 0.8 O2% decreased from 20.9 to 17 CO stayed the same at 0 ppm H2S decreased from 1.5 to 0 No change at cistern from previous measurements with no detectable methane and O2% volume at 20.9 except that H2S increased to 2.5 ppm before returning to 0 ppm 					
16861-F	Golden Cycle Land	7/12/07	12/12/08	11/4/08, 11/14/08, 12/1/08, 12/8/08, 12/9/08, 12/11/08 and 12/12/08	 In last reading at wellhead: %LEL remained >100, although there was a low of 17 during period %CH4 increased to 6 from 69 O2% decreased from 20.7 to 0 CO increased from 3 to 225 H2S increased from 0 to 15 					
84108-A	McPherson	7/6/07	12/9/08	11/4/08, 11/14/08, 12/1/08 and 12/9/08	No change from previous measurements with no detectable methane and O2% volume at 20.9.					
16861-F	Masters #1	8/13/07	12/11/08	11/4/08, 11/18/08, 12/2/08, 12/9/08, and 12/11/08	No change from previous measurements with no detectable methane and O2% volume at 20.9					
	Andreatta	8/14/07	11/5/08	11/5/08	No change from previous measurements with no detectable methane and O2% volume at 20.9					
	Dernell	8/15/07	11/14/08	11/14/08	No change from previous measurements with no detectable methane and O2% volume at 20.9					

	Table 1 Water Well Measurements for the Period of September 30 to November 3, 2008									
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period					
	Lang	10/29/07	7/28/08	Not sampled during this reporting period	Sampling attempted 12/2/08, but gate was locked preventing access.					
220100	Cordova	10/30/07	12/2/08	11/19/08 and 12/2/08	 %LEL decreased from 10 to 0 CH4% decreased from 0.5 to 0.00 All other values remained unchanged with O2 % Vol at 20.9 					
234836	White, Jim	1/4/08	12/1/08	11/17/08 and 12/1/08	 At wellhead % LEL decreased from >100 to 9 with a 0 reading during the period CH4 % volume decreased from 5 to 0.45with a 0 reading during the period O2% volume increased from 6.3 to 16.5 with a 20.9 reading during the period CO remains at 0 H2S decreased from 4.5 to 0 with a 2.5 reading during the period No change at cistern with no detectable methane and O2% at 20.9. 					
192509	Eddleman, Paul	1/17/08	12/1/08	11/17/08 and 12/1/08	 At the wellhead: % LEL decreased from 71 to 0 CH4 % volume decreased from 3.6 to 0 O2% volume increased from 9.1 to 20.3 with an intermediate high of 20.9 CO decreased from 9 to 0 ppm H2S increased from 3.5 to 4.0 ppm with a 0 reading during the period 					
226536	Eddleman, Todd	1/17/08	12/1/08	11/17/08 and 12/1/08	 %LEL decreased from 7 to 6 with a low of 0 CH4 % decreased from 0.35 to 0.3 with a low of 0 O2 % decreased from 14.4 to 12.8 with a high of 20.9 CO decreased from 9 to 0 H2S increased from 1.5 to 0. 					

		Water Well I	Measureme	Table 1 nts for the Period of	September 30 to November 3, 2008
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period
31935	Garza-Vela	1/30/08	12/3/08	11/18/08 and 12/3/08	 %LEL decreased from 5 to 0 CH4 % decreased from 0.25 to 0 O2 % increased from 14.5 to 20.9 CO decreased from 4 to 0 ppm H2S decreased from 3.5 to 0 ppm
271524-A	Modlish	1/30/08	12/1/08	11/4/08, 11/17/08 and 12/1/08	 %LEL decreased from >100 to 0 CH4 % decreased from 5.0 to 0.0 O2 % increased from 6.1 to 20.9 CO remains at 0 H2S decreased from 0.5 to 0.0 ppm
271748	Sample	3/10/08	12/1/08	11/17/08 and 12/1/08	 %LEL decreased from 5 to 0 CH4 % decreased from 0.25 to 0 CO remains at 0 H2S decreased from 1.5 to 0 O2 % volume increased from 18.5 to 19.1 with an intermediate reading of 20.9 No change at the cistern with all values at 0 except for O2% at 20.9 and a single reading of 3.5 ppm H2S on 11/17/08.
197128	Roberts	4/08/08	12/1/08	12/1/08	H2S increased from 0 to 3 ppm but no changes in other parameters with no detectable methane and all values at 0 except O2% at 20.9. Unable to access on 11/17/08 due to locked gate.
258651	Gonzalez	5/22/08	12/2/08	11/5/08, 11/19/08, and 12/2/08	 At wellhead: %LEL did not change at >100 CH4 % volume decreased from 46 to 37 with intermediate values of 35 and 22 O2 % decreased from 15.5 to 9.7 with intermediate values of 17.2 and 12.5 CO remained at 0 ppm H2S increased from 0 to 0.5 ppm No measurement at well vent and cistern showed no change with all values at 0 except for O2% which is 20.9.

	Table 1 Water Well Measurements for the Period of September 30 to November 3, 2008										
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period						
246350	Gumpert	7/29/08	12/1/08	11/4/08, 11/17/08 and 12/1/08	No change from previous measurements with no detectable methane and all values at 0 except for O2 % Vol at 20.9 except on 11/4/08 when %LEL increased to >100, CH4% increased from 0 to 5, O2% Vol decreased from 20.9 to 7.3, CO remained at 0 ppm and H2S increased from 0 to 2.5.						
268180	Billstrand	8/12/08	12/1/08	11/17/08 and 12/1/08	At wellhead no detectable methane with 0%LEL and 0%CH4. O2% increased from 17.5 to 20.9.CO remained at 0 ppm. H2S decreased from 2.5 to 0 ppm.						
213070	Stephens	8/12/08	12/1/08	11/4/08, 11/17/08 and 12/1/08	 No change from previous measurements with no detectable methane with all values at 0 except O2% Vol increased from 6.8 to 16.5 with intermediate values of 17.3 and 20.9 and H2S increased from 1.5 ppm to 3 with a maximum value of 5.5 ppm. 						
190327	Palmer	8/12/08	12/1/08	11/4/08, 11/17/08 and 12/1/08	No change from previous measurements with no detectable methane and all values at 0 except O2% at 20.9 with intermediate values of 20.3 and 20.4. H2S decreased from 1 to 0 ppm with a high of 6.5 ppm.						
196372	Geiselbrecht	8/12/08	12/1/08	11/4/08, 11/17/08 and 12/1/08	No detectable methane with all values at 0 except O2% at 20.9. Also H2S decreased from 1.5 to 0 ppm.						
234839	Waltz	8/12/08	12/1/08	11/4/08 and 12/1/08	No change from previous measurements with no detectable methane and all values at 0 except O2% at 20.9						
193092	Degan	8/25/08	12/3/08	11/4/08, 11/18/08 and 12/3/08	 %LEL increased from 0 to >100 CH4 % increased from 0 to 5 CO remains at 0 H2S remains at 0 but there was a light odor on 11/4/08 O2 % volume increased from 20.9 to 0 with an intermediate readings of 18.3 and 20.9 						
28093MH	Morine	9/10/08	11/4/08	11/4/08	No change from previous measurements with no detectable methane and all measurements at 0 except for %O2 which was 20.9.						

	Table 1 Water Well Measurements for the Period of September 30 to November 3, 2008									
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	If sampled, comparison of results from this period to last period					
	Garbs	9/10/08	9/23/08	Not sampled during this reporting period.						
35227MH	Morris	10/8/08	10/8/08	Not sampled during this reporting period.	Will start sampling again in spring.					

Table 2 Methane Readings Schedule (to be Implemented at start of injection as per Petroglyph commitment)											
l en deumen	Subdivision Varter Vart										
Landowner	Subdivision	Level	Cistern	weekiy	weekiy	weekiy	wontniy	Quarterly			
Kathy Dee	River Ridge						х	-			
Wolahan	River Ridge		x		x	x					
R. Gonzalez	River Ridge					x					
Martin	River Ridge						x				
McPherson	River Ridge				x	x					
Rohr	River Ridge			Х				x			
Houghtling	River Ridge		x	Х		x					
Kent Smith	River Ridge		x	Х		x					
Bergman	River Ridge			x		x					
Lively	River Ridge					x					
Kerman	River Ridge		x		x	X					
Speh	River Ridge					Х					
Lang	River Ridge		X				x				

Table 2										
Methane Readings Schedule										
(to be Implemented at start of injection as per Petroglyph commitment)										
	Water Semi- Bi-									
Landowner	<u>Subdivision</u>	Level	<u>Cistern</u>	Weekly	<u>Weekly</u>	Weekly	<u>Monthly</u>	<u>Quarterly</u>		
Conlov	Divor Didgo						v			
Conney	River Riuge						^			
Searle	River Ridge						Х			
Roloff	River Ridge	x				х				
Норре	0									
(Goacher)	River Ridge					Х				
				Ň		Ň				
Deroswitsch	River Ridge		X	X		X				
Switzer	River Ridge					Х				
Bobby	¥									
English	River Ridge		Х				Х			
Мау	River Ridge						x			
Brice	River Ridge						x			
Richard										
Goodwin	River Ridge		X		Х	Х				
Ireland	River Ridge				Х	х				
Golden Cycle										
Land (Goemmer)	River Ridge			Х		Х				
Burge	River Ridge				Х	Х				

Table 2									
INIETNANE REAGINGS SCHEQUIE (to be Implemented at start of injection as per Petroglyph commitment)									
Schedule Good Through End of 2008									
<u>Landowner</u>	<u>Subdivision</u>	<u>Water</u> Level	<u>Cistern</u>	<u>Semi-</u> Weekly	<u>Weekly</u>	<u>Bi-</u> Weekly	<u>Monthly</u>	Quarterly	
Barrett	River Ridge			х		х			
Bruce Hopke	River Ridge		x	Х		Х			
Masters # 1	River Ridge			Х		Х			
Masters # 2	River Ridge	Х		Х		Х			
Coleman	River Ridge			Х		Х			
Sharp	River Ridge		x			Х			
Ryerson	River Ridge					Х			
Meyers	River Ridge					Х			
Chaves	River Ridge					Х			
Hentschel	River Ridge					Х			
Rankins	River Ridge							x	
Lowry	River Ridge							x	
Goemmer Cattle	River Ridge							X	

Table 2										
Methane Readings Schedule (to be Implemented at start of injection as per Petroglyph commitment)										
Schedule Good Through End of 2008										
Landowner	Subdivision	<u>Water</u> Level	Cistern	<u>Semi-</u> Weekly	Weekly	<u>Bi-</u> Weekly	Monthly	Quarterly		
							<u>_</u>			
T. Gonzalez	Bear Creek		Х			X				
Michael Hurlev	Bear Creek	x	x			x				
Tobyas	Bear Creek					Х				
Higgins	Bear Creek	x				x				
Andreatta/	Boar brook									
Carsella	Bear Creek						Х			
Willis	Bear Creek					x				
Janet	Bear Oreek									
Campbell	River Ridge						Х			
Dale	City Ranch						x			
McEntee	City Ranch					x				
Johnson	City Ranch		x			x				
Cordova	City Ranch		x			x				
Dernell	City Ranch						x			
Schaefer	City Ranch							x		

Table 2									
Methane Readings Schedule (to be Implemented at start of injection as per Petroglyph commitment)									
Schedule Good Through End of 2008									
Landowner	Subdivision	<u>Water</u> Level	Cistern	<u>Semi-</u> Weekly	Weekly	<u>Bi-</u> Weekly	Monthly	Quarterly	
Bruington									
Bruington	VVEERLI								
Orlie White	Silver Spurs	X					х		
Evenden	Silver Spurs					x			
Roberts	Silver Spurs					x			
Snow	Silver Spurs	x					x		
Cramer	Silver Spurs	x	x				x		
Lyon	Silver Spurs						x		
Jim White	Silver Spurs		x			x			
Garza-Vela	Silver Spurs					X			
Modlish	Silver Spurs					X			
Todd Eddleman	Silver Spurs					x			
Paul Eddleman	Silver Spurs					Х			
Mitch Sample	Silver Spurs		X			х			

Table 2 Methane Readings Schedule (to be Implemented at start of injection as per Petroglyph commitment) Schedule Good Through End of 2008								
<u>Landowner</u>	<u>Subdivision</u>	<u>Water</u> Level	<u>Cistern</u>	<u>Semi-</u> <u>Weekly</u>	<u>Weekly</u>	<u>Bi-</u> Weekly	Monthly	Quarterly
Gumpert	Silver Spurs					Х		
Scott Billstrand	Silver Spurs					x		
Lawrence Waltz	Silver Spurs						x	
Stephens	Silver Spurs					Х		
Palmer (G/S)	Silver Spurs					Х		
Geiselbrecht	Silver Spurs					Х		
Morine	Silver Spurs						x	
Bartlett	City Ranch							x
Deagan	City Ranch					x		

Table 3 Residences Receiving Water

Jerry Angely Kent Smith Alan Cramer Tom Gonzales Spencer/Carol Snow Bruington Todd Eddleman Paul Eddleman Jim White Edward Lyon Donald Sharp Edward Johnson Richard McEntee P.C. Roberts Ireland-Murphy Has received water provided by PEI New to list as of 3/12/08 New to list as of 3/14/08 New to list as of 6/6/08 New to list as of 7/08/08 New to list as of 8/8/08 New to list as of 8/8/08

Note no changes from November Monthly Report.

Attachment 1 Gas Flow in Monitoring Well POCI 55, Recovery 1 Kittleson, Recovery 3 PEI and Recovery 4 Barrett

POCI 55 MW Gas Flow from 3/6/08 to 12/12/08



MCFD

Recovery 1 Kittleson Gas Flow from 3/25/08 to12/9/08



Recovery 3 PEI Gas Flow from 4/15/08 to 12/9/08



Recovery 4 Barrett Gas Flow from 5/15/08 to 12/9/08



Attachment 2 Graphs of Pressure and Fluid Level Data From POCI 55, Barrett, Bergman, Coleman, Evendon, Garza-Vela and Meyer

POCI 55 Monitor Well from 4/2/08 to 12/10/08 Permit # 275819 Lot 55 RRR SE SW Sec 3 29S 67W GL elev. 6690'











Barrett WW Permit # 257994 Lot 57 RRR NW, SE Sec 3, T29S R67W





Bergman WW pressure data from 8/9/07 to 12/10/08 Permit # 24403, SW NW Sec 3 29S 67W Lot 48 RRR







Coleman WW (GL elev. 6848') Pressure Data from 11/21/08 to 11/24/08



Coleman WW (GL elev. 6848') Pressure Data from 12/1/08 to 12/8/08

Coleman WW Pressure Data from 10/31/07 to12/10/08 Permit # 267964 NE SW Sec 10 29S 67W Lot 70 RRR G.L. elev. 6848'



Pressure at 595' from 10/3/08 to 12/10/08 Evenden WW, Permit # 221465 Lot 117 Silver Spurs Ranch Elevation 6712'





Meyer WW Water Level from 6/24/05 to 12/10/08 Permit # 248862 Lot 120 RRR SW, NE Sec 30 T28S R66W



Meyers WW BHP from 12/1/05 to 12/10/08



PSIG



Meyers WW 11/30/05 to 12/10/08 Permit # 248862

Hrs

Attachment 3 Gas Flow Measurements at Bruington, Coleman, Angely, Bounds, and Smith

Bruington WW # 210526 Measured Gas Flow from 8/22/07 to 12/10/08



MCFD

Coleman WW #267294 Measured Gas Flow from 9/1/07 to 12/7/08



MCFD

Angely WW # 238689 Measured Gas Flow from 9/27/07 to 12/10/08



Bounds WW #181278 Measured Gas Flow from 10/3/07 to 12/10/08



MCFD

Smith WW # 239657 Measured Gas Flow from 8/22/07 to 12/9/08



MCFD

Attachment 4 Fluid Levels in Petroglyph Production Wells

Monitor Well Fluid Levels PBU from 1/1/07 to 12/10/08











Lively 03-01



































Rohr 04-14 PBU from 7/1/07 to 12/5/08



Rohr 08-01 PBU from 7/1/07 to 12/5/08



Rohr 09-04 PBU data (psia) 7/1/07 to 12/5/08

