



July 28, 2005

Ms. Margaret Ash, P.G.  
Colorado Oil and Gas Conservation Commission  
1120 Lincoln Street, Suite 801  
Denver, Colorado 80203

RE: Laboratory Results Addendum - June 2005 Methane Survey  
Mondragon Property  
Trinidad, Colorado

Dear Ms. Ash:

LT Environmental, Inc. (LTE) has prepared this letter as an addendum to the June 24, 2005 Methane Seep Survey Summary Letter. During the June 24, 2005 methane survey, LTE collected a soil gas sample for laboratory analysis of gas composition and of carbon and hydrogen isotopes of methane. The laboratory analytical results were recently received by LTE, prompting this addendum.

The gas sample (labeled as Mondragon) was collected in an area found to contain methane seeps located north of the Mondragon residence and north of US Highway 12. The sample location is illustrated on Figure 1 and denoted by a yellow star.

The sample was collected by advancing a steel rod into the subsurface to a depth of approximately three feet below ground surface (bgs). The steel rod was removed from the ground and a small diameter polyethylene tubing was inserted into the borehole. A hand pump was used to pull a vacuum on the tubing bringing soil gas at depth into the sample bag at the ground surface. The gas sample was submitted to Isotech Laboratories, Inc. (Isotech) in Champaign, Illinois for analysis.

The analytical results are summarized on the laboratory analytical report included at Attachment 1. LTE plotted the isotope data on a graph and also included the results of previous gas samples collected from the Mondragon and Saint water wells (Well 1 and Well 2, respectively) on July 28, 2004. The three gas samples plot in close proximity to each other on the graph and fall within the region of the graph characterized as thermogenic gas. The graphical display of the isotopic analysis results for the three samples is included as Attachment 2. The copy of the laboratory report from the July 28, 2004 sampling event is included as Attachment 3 for reference.

*LT Environmental, Inc.*

*Compliance • Engineering • Remediation*

*4400 W. 46<sup>th</sup> Avenue Denver Colorado 80212 T 303.433.9788 F 303.433.1432 E info@LTEnv.com*



LTE appreciates the opportunity to provide environmental services to the COGCC. If you have any questions regarding this letter, please contact us at (303) 433-9788.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read "J.D. Peterson", written over a horizontal line.

John D. Peterson, P.G.  
Project Manager

Attachments (4)



# LEGEND

- |                       |                                 |
|-----------------------|---------------------------------|
| ● Methane Seeps       | Subsurface Methane Measurements |
| ★ Gas Sample Location | ○ 0 ppm                         |
| Trees                 | ○ 1 ppm - 5%                    |
| ▲ Stressed Pine       | ○ 5% - 15%                      |
| ▲ Stressed Cottonwood | ○ 5% - 25%                      |
| ▲ Dead Scrub Oak      | ○ 25% - 50%                     |
| ▲ Dead Pine           | ○ 50% - 75%                     |
| ▲ Dead Juniper        | ○ 75% - 100%                    |
| ▲ Dead Cottonwood     |                                 |
| Vegetation            |                                 |
| □ Stressed Vegetation |                                 |
| □ Dead Vegetation     |                                 |



FIGURE 1  
MONDRAGON - SAINT  
DETAILED SEEP MAPPING  
JUNE 2005

**ATTACHMENT 1**  
**JUNE 7, 2005 GAS SAMPLE ANALYTICAL REPORT**



# ANALYSIS REPORT

Lab #: 83943 Job #: 6256  
Sample Name/Number: Mondragon  
Company: LT Environmental  
Date Sampled: 6/07/2005  
Container: Cali-5-Bond Bag  
Field/Site Name: Trinidad  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 6/21/2005 Date Reported: 7/14/2005

Component	Chemical mol. %	Chemical Air Free vol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd	nd			
Hydrogen Sulfide -----	nd	nd			
Helium -----	nd	nd			
Hydrogen -----	nd	nd			
Argon -----	0.47	0.032			
Oxygen -----	10.17				
Nitrogen -----	38.63	1.39			
Carbon Dioxide -----	0.82	1.59			
Methane -----	49.90	96.98	-46.70	-214.2	
Ethane -----	0.0067	0.013			
Ethylene -----	nd	nd			
Propane -----	nd	nd			
Iso-butane -----	nd	nd			
N-butane -----	nd	nd			
Iso-pentane -----	nd	nd			
N-pentane -----	nd	nd			
Hexanes + -----	nd	nd			

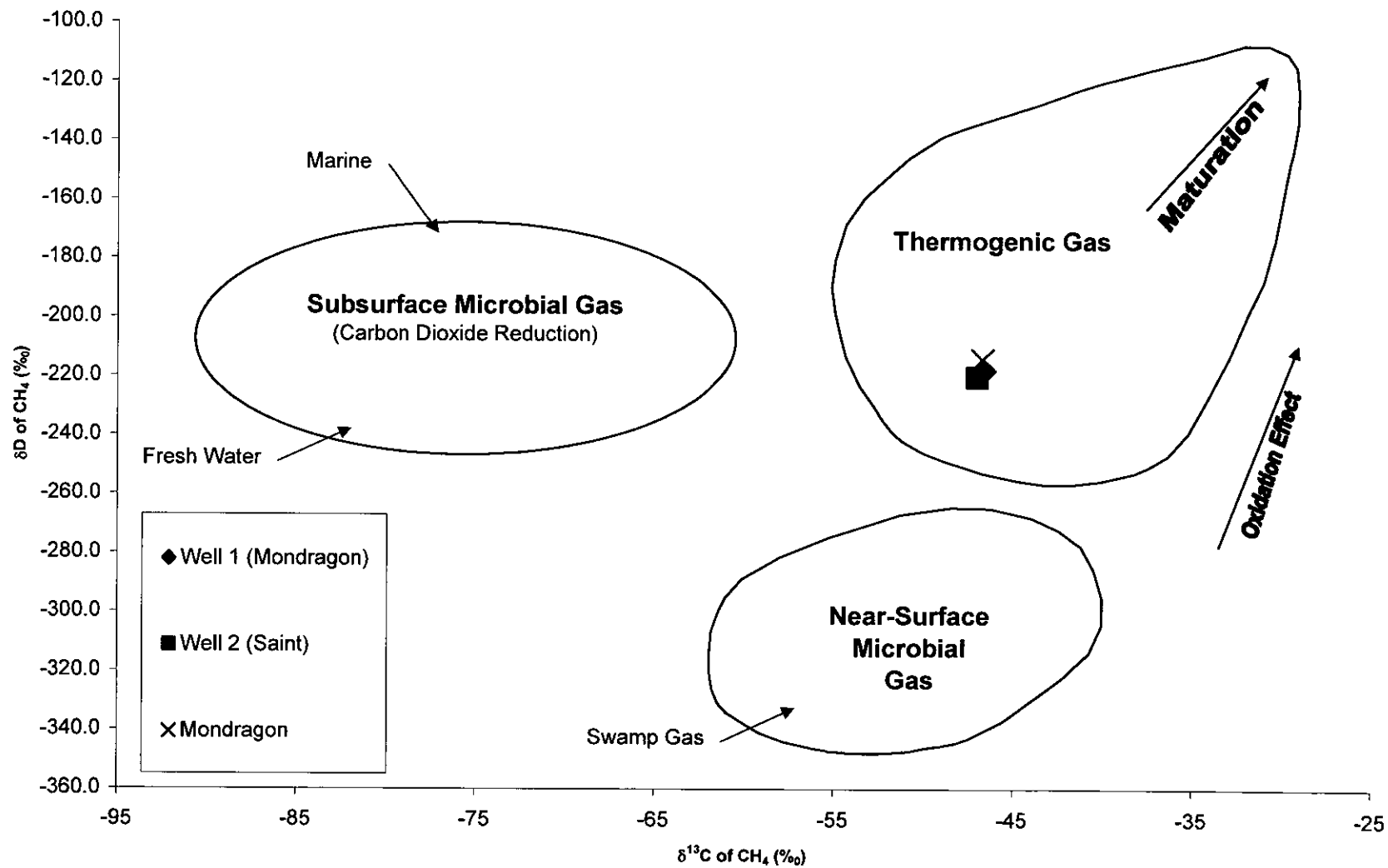
Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 506  
Specific gravity, calculated: 0.781

nd = not detected. na = not analyzed. Isotopic composition of carbon is relative to VPDB. Isotopic composition of hydrogen is relative to VSMOW. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100 percent. Mol. % is approximately equal to vol. %

**ATTACHMENT 2**  
**GRAPHICAL DISPLAY OF ISOTOPIC ANALYSIS RESULTS**



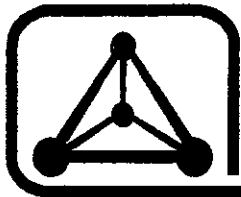
**Isotopic Analysis  
Gas Samples - Mondragon Property**



**ATTACHMENT 3**  
**JULY 28, 2004 GAS SAMPLES ANALYTICAL REPORT**







# ISOTECH®

[www.isotechlabs.com](http://www.isotechlabs.com) [mail@isotechlabs.com](mailto:mail@isotechlabs.com)

Isotech Laboratories, Inc. 1308 Parkland Court Champaign, IL 61821-1826 Telephone 217/398-3490 FAX 217/398-3493

August 26, 2004

Kyle Siesser  
LT Environmental  
4400 W. 46<sup>th</sup> Ave.  
Denver, CO 80212

Dear Mr. Siesser:

Enclosed are the analysis reports for the 2 gas samples recently submitted from your Trinidad project. These samples were assigned to Isotech job number 5300. These are the same data that were faxed to you earlier. If you have any questions, or if there is anything else we can do for you, please do not hesitate to contact us.

We will hold the samples until 09/20/04 in case you should want any additional analyses carried out and will then dispose of the remaining sample material. If you should need us to hold them longer, please contact us. The invoice for this work is being sent to Colorado Oil & Gas; along with copies of the data. Thank you for choosing Isotech for your analysis needs, we appreciate your business.

Sincerely,

Steven R. Pelphrey  
Laboratory Manager

Enclosure

SRP:cw

# ANALYSIS REPORT

Lab #: 70906 Job #: 5300  
Sample Name/Number: Well 1 *Mondragon*  
Company: LT Environmental  
Date Sampled: 7/28/2004  
Container: Tedlar Bag  
Field/Site Name: Trinidad  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 7/30/2004 Date Reported: 8/04/2004

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	0.0016			
Hydrogen -----	nd			
Argon -----	0.766			
Oxygen -----	16.91			
Nitrogen -----	68.83			
Carbon Dioxide -----	0.65			
Methane -----	12.84	-46.59	-218.0	
Ethane -----	0.0016			
Ethylene -----	nd			
Propane -----	nd			
iso-butane -----	nd			
N-butane -----	nd			
iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	0.0037			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 130

Specific gravity, calculated: 0.944

nd = not detected. na = not analyzed. Isotopic composition of carbon is relative to VPDB. Isotopic composition of hydrogen is relative to VSMOW. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Chemical analysis based on standards accurate to within 2%



**ISOTECH** Laboratories, Inc. 1308 Parkland Ct. Champaign, IL 61821 217/398-3490

# ANALYSIS REPORT

Lab #: 70907 Job #: 5300  
Sample Name/Number: Well 2 SAINT  
Company: LT Environmental  
Date Sampled: 7/28/2004  
Container: Tedlar Bag  
Field/Site Name: Trinidad  
Location:  
Formation/Depth:  
Sampling Point:  
Date Received: 7/30/2004 Date Reported: 8/04/2004

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 15N per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	0.0016			
Hydrogen -----	nd			
Argon -----	0.861			
Oxygen -----	19.94			
Nitrogen -----	77.14			
Carbon Dioxide -----	0.054			
Methane -----	2.00	-46.99	-220.2	
Ethane -----	nd			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 20

Specific gravity, calculated: 0.990

nd = not detected. na = not analyzed. Isotopic composition of carbon is relative to VPDB. Isotopic composition of hydrogen is relative to VSMOW. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Chemical analysis based on standards accurate to within 2%



**ISOTECH** Laboratories, Inc. 1308 Parkland Ct. Champaign, IL 61821 217/398-3490