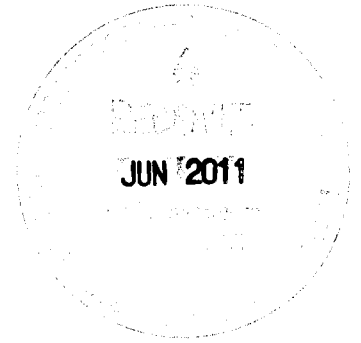




 **ENTERED**

Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221



MAY 27 2011

Mr. John Kieling, Acting Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Subject: Notification of Results of Evaluation of Sampling Line Loss, Waste Isolation Pilot Plant

Dear Mr. Kieling:

As required under Permit Section 4.6.5.5, the Permittees are hereby notifying the New Mexico Environment Department (NMED) of the results of the evaluation of a loss of a hydrogen and methane monitoring sampling line.

The sampling line involved was in Panel 4, Room 4. This line is identified as 4E (exhaust side). This line loss was previously reported to the NMED on April 12, 2011.

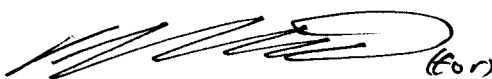
The evaluation was performed per the specifications in Permit Attachment N1, Section N1-5b. The evaluation indicates that the line can be grouped with adjacent lines for methane. The evaluation further indicates that line 4E can be grouped with line 3E for hydrogen. The previous concentration measurement for hydrogen was also below Action Level 1. These results indicate that no further action is necessary and, per Section N1-5b, monitoring in Panel 4 will continue.

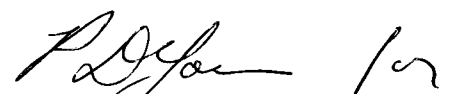
The results of the evaluation indicate that there is no impact on the hydrogen and methane monitoring program as a result of the loss of the sampling line. The complete evaluation is enclosed.

We certify under penalty of law that this document was prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief true, accurate and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions regarding this notification, please contact Mr. George T. Basabilvazo at (575) 234-7488.

Sincerely,


Edward Ziemianski, Acting Manager
Carlsbad Field Office


M. F. Sharif, General Manager
Washington TRU Solutions, LLC



Mr. John Kieling

-2-

MAY 27 2011

Enclosure

cc: w/enclosure

J. Davis, NMED

*ED

R. Maestas, NMED

ED

T. Hall, NMED

ED

C. Walker, Trinity Engineering

ED

CBFO M&RC

*ED denotes electronic distribution

Evaluation of Inability to Purge a Sample Line

Panel 4, Line 4E (Exhaust Side)

Line 4E

Can Panel 4 line 4E be purged? No, the sample line on the exhaust side of Panel 4, Room 4 (Line 4E) was determined to be unusable on April 7, 2011.

Is the line a Bulkhead Line? No, the line is not a Bulkhead line.

Are adjacent lines working? Yes, adjacent lines 5E, 3E, and 4I are working.

Can this line be grouped with another line?

Hydrogen: When grouped with 5E and 4I, the answer is no. When grouped with 3E, the answer is yes. The information obtained from the statistical evaluation using the Student's "t" test to evaluate differences (Attachments 1&2) indicate that the sampling results for hydrogen is not statistically similar with adjacent sample lines 5E and 4I, but is statistically similar with adjacent sample line 3E.

Methane: Yes. All the methane results are non-detectable (Attachment 4). The adjacent monitoring lines had identical results with the failed line, yielding good confidence that the lines are similar but the Student's "t" cannot be performed because of the zero measurement variability between lines.

Was the most recent sample above the first action level (4,000 ppm for hydrogen and 5,000 ppm for methane)? No. For hydrogen, the most recent sample results for Line 4E was 561.46 ppmv (Attachment 3), only 14% of the first action level of 4000 ppmv. For methane the most recent sample results from Line 4E were non-detectable (Attachment 4).

Do the results of the evaluation require any further action other than reporting of the results? No, no action necessary.

Line-Loss Evaluation using Hydrogen Data

(Note: No Methane detected in any sample over the sampling period. Therefore, no meaningful difference-testing possible.)

Line determined as plugged

Room 4 Exhaust

Date	H ₂ (ppmv)
5/27/2009	52.26
6/8/2009	14.93
7/21/2009	145.02
8/13/2009	256.40
9/15/2009	239.74
10/5/2009	107.02
11/9/2009	293.96
12/30/2009	525.70
1/20/2010	298.72
2/10/2010#	15.17
3/17/2010	512.92
4/13/2010	516.80
5/17/2010	479.40
6/15/2010	144.16
7/27/2010	597.18
8/25/2010	779.30
9/14/2010	561.66
10/20/2010	643.42
11/16/2010	640.36
12/8/2010	570.10
1/12/2011	656.70
2/7/2011	479.42
3/2/2011	561.46

Compared to:

Room 4 Inlet

Date	H ₂ (ppmv)
5/27/2009	46.62
6/9/2009	66.00
7/20/2009	162.30
8/11/2009	184.72
9/14/2009#	15.17
10/5/2009	167.38
11/11/2009	390.88
12/30/2009	476.76
1/19/2010	302.16
2/9/2010	73.90
3/16/2010	532.06
4/14/2010	91.48
5/17/2010	537.96
6/14/2010	111.78
7/26/2010	275.10
8/24/2010	709.50
9/13/2010	728.04
10/19/2010	670.12
11/15/2010	672.26
12/7/2010	610.84
1/11/2011	597.58
2/1/2011#	14.03
3/1/2011	622.32

R4E - R4I

delta
5.64
-51.07
-17.28
71.68
224.57
-60.36
-96.92
48.94
-3.44
-58.73
-19.14
425.32
-58.56
32.38
322.08
69.80
-166.38
-26.70
-31.90
-40.74
59.12
465.39
-60.86

= the analytical results for this date was non-detect or was less than method detection limit (MDL) corrected for a 2X dilution; the values used for this statistical analysis are 1/2 the dilution corrected MDL

d-bar (Avg.) = 44.906
s (Std. Dev.) = 162.401
n (Obs.) = 23

H₀: Average difference over time, $\mu_d = 0.0$
R4E - R4I (Reject H₀; t >/= 1.321)

$$t = \frac{|d\text{-bar}|}{s/\sqrt{n}}$$

$$t = \frac{|44.906|}{162.401/\sqrt{23}}$$

t = 1.326
(Not Similar t >/= 1.321)

α =Probability level for a Two-tailed confidence Interval
n-1= 22 **T_{crit}($\alpha=0.20$)¹ = 1.321** ¹ As required by N1-5b of Permit Attachment N1

Line-Loss Evaluation using Hydrogen Data

(Note: No Methane detected in any sample over the sampling period. Therefore, no meaningful difference-testing possible.)

Line determined as plugged		Compared to:		Compared to:		R4E - R5E	R4E- R3E
Room 4 Exhaust		Room 5 Exhaust		Room 3 Exhaust		delta	delta
Date	H ₂ (ppmv)	Date	H ₂ (ppmv)	Date	H ₂ (ppmv)		
5/27/2009	52.26	5/27/2009	143.28	5/26/2009	135.72	-91.02	-83.46
6/8/2009	14.93	6/8/2009	65.66	6/10/2009	46.60	-50.73	-31.67
7/21/2009	145.02	7/21/2009	175.06	7/21/2009	137.72	-30.04	7.30
8/13/2009	256.40	8/11/2009	33.02	8/13/2009	160.64	223.38	95.76
9/15/2009	239.74	9/15/2009	172.86	9/15/2009	166.84	66.88	72.90
10/5/2009	107.02	10/5/2009	129.82	10/5/2009	33.06	-22.80	73.96
11/9/2009	293.96	11/9/2009	406.36	11/9/2009	391.36	-112.40	-97.40
12/30/2009	525.70	12/30/2009	468.60	12/30/2009	538.14	57.10	-12.44
1/20/2010	298.72	1/20/2010	408.40	1/20/2010	407.96	-109.68	-109.24
2/10/2010#	15.17	2/10/2010#	15.17	2/10/2010#	15.17	0.00	0.00
3/17/2010	512.92	3/17/2010	575.58	3/17/2010	554.86	-62.66	-41.94
4/13/2010	516.80	4/13/2010	510.30	4/13/2010	458.06	6.50	58.74
5/17/2010	479.40	5/17/2010	747.14	5/17/2010	377.58	-267.74	101.82
6/15/2010	144.16	6/15/2010#	7.00	6/15/2010#	7.00	137.16	137.16
7/27/2010	597.18	7/27/2010	601.06	7/27/2010	647.24	-3.88	-50.06
8/25/2010	779.30	8/25/2010	688.94	8/25/2010	241.08	90.36	538.22
9/14/2010	561.66	9/14/2010	792.94	9/14/2010	622.18	-231.28	-60.52
10/20/2010	643.42	10/20/2010	655.86	10/20/2010	533.98	-12.44	109.44
11/16/2010	640.36	11/16/2010	756.48	11/16/2010	691.12	-116.12	-50.76
12/8/2010	570.10	12/8/2010	583.38	12/8/2010	620.50	-13.28	-50.40
1/12/2011	656.70	1/12/2011	709.40	1/12/2011	656.18	-52.70	0.52
2/7/2011	479.42	2/7/2011	677.24	2/7/2011	661.56	-197.82	-182.14
3/2/2011	561.46	3/2/2011	683.92	3/2/2011	573.94	-122.46	-12.48

= the analytical results for this date was non-detect or was less than method detection limit (MDL) corrected for a 2X dilution; the values used for this statistical analysis are 1/2 the dilution corrected MDL

d-bar (Avg.) = -39.812
 s (Std. Dev.) = 113.814
 n (Obs.) = 23

d-bar (Avg.) = 17.970
 s (Std. Dev.) = 138.628
 n (Obs.) = 23

H₀: Average difference over time, μ_d = 0.0

R4E - R5E	(Reject H ₀ ; t >= 1.321)
R4E- R3E	(Accept H ₀ ; t < 1.321)

$$t = \frac{|d\text{-bar}|}{s/\sqrt{n}}$$

$$t = \frac{|d\text{-bar}|}{s/\sqrt{n}}$$

$$t = \frac{|-39.812|}{113.814/\sqrt{23}}$$

$$t = 1.678$$

(Not Similar t >= 1.321)

$$t = \frac{|17.97|}{138.628/\sqrt{23}}$$

$$t = 0.622$$

(Similar t < 1.321)

α=Probability level for a Two-tailed confidence Interval		
n-1= 22	T _{crit(α=0.20)} ¹ = 1.321	¹ As required by N1-5b of Permit Attachment N1

Hydrogen Data-Panel 4

All samples were sampled at sub-atmospheric pressure, then diluted 2x by the lab, prior to analysis, to achieve a pressurized sample
 MDL (Method Detection Limit) = the sample quantitation limit determined in accordance with 40 CFR Part 136; will be corrected for any sample dilutions

- 8/27/07-7/24/08 MDL = 10.79 ppmv
- 7/25/08-6/16/09 MDL = 14.93 ppmv
- 6/17/09-6/8/10 MDL = 15.17 ppmv
- 6/9/10-12/28/10 MDL = 7.00 ppmv
- 12/29/10-present MDL = 14.03 ppmv

PQL (Practical Quantitation Limit) = 25 ppmv; must be corrected for any sample dilutions. For all analysis results here, it is 50 ppmv.
 MRL/CRQL = 150 ppmv; must be corrected for any sample dilutions. For all analysis results here, it is 300 ppmv.

- U = Contract Laboratory assigned data flag to show that the results of the analytical sample was not detected above the PQL (i.e. < 50 ppmv)
- J = Contract Laboratory assigned data flag to show that the results of the analytical sample was not detected above the MRL/CRQL (i.e. < 300 ppmv)
- N.D. = Not detected
- * = When the Reported Results is N.D. or < dilution corrected MDL, the value for line loss evaluation is 1/2 the dilution corrected MDL.

Hydrogen (H₂)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	*Value for line loss evaluation (ppmv)
Panel 4 Room 5e	4030	5/27/2009	143.28	J	Hydrogen	1333-74-0	29.86	143.28
Panel 4 Room 5e	4067	6/8/2009	65.66	J	Hydrogen	1333-74-0	29.86	65.66
Panel 4 Room 5e	4141	7/21/2009	175.06	J	Hydrogen	1333-74-0	30.34	175.06
Panel 4 Room 5e	4202	8/11/2009	33.02	U	Hydrogen	1333-74-0	30.34	33.02
Panel 4 Room 5e	4276	9/15/2009	172.86	J	Hydrogen	1333-74-0	30.34	172.86
Panel 4 Room 5e	4317	10/5/2009	129.82	J	Hydrogen	1333-74-0	30.34	129.82
Panel 4 Room 5e	4402	11/9/2009	406.36		Hydrogen	1333-74-0	30.34	406.36
Panel 4 Room 5e	4533	12/30/2009	468.60		Hydrogen	1333-74-0	30.34	468.60
Panel 4 Room 5e	4597	1/20/2010	408.40		Hydrogen	1333-74-0	30.34	408.40
Panel 4 Room 5e	4682	2/10/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 4 Room 5e	4835	3/17/2010	575.58		Hydrogen	1333-74-0	30.34	575.58
Panel 4 Room 5e	4917	4/13/2010	510.30		Hydrogen	1333-74-0	30.34	510.30
Panel 4 Room 5e	5052	5/17/2010	747.14		Hydrogen	1333-74-0	30.34	747.14
Panel 4 Room 5e	5177	6/15/2010	N.D.	U	Hydrogen	1333-74-0	14.00	7.00

Attachment 3

Hydrogen (H₂)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	*Value for line loss evaluation (ppmv)
Panel 4 Room 5e	5312	7/27/2010	601.06		Hydrogen	1333-74-0	14.00	601.06
Panel 4 Room 5e	5398	8/25/2010	688.94		Hydrogen	1333-74-0	14.00	688.94
Panel 4 Room 5e	5452	9/14/2010	792.94		Hydrogen	1333-74-0	14.00	792.94
Panel 4 Room 5e	5571	10/20/2010	655.86		Hydrogen	1333-74-0	14.00	655.86
Panel 4 Room 5e	5663	11/16/2010	756.48		Hydrogen	1333-74-0	14.00	756.48
Panel 4 Room 5e	5720	12/8/2010	583.38		Hydrogen	1333-74-0	14.00	583.38
Panel 4 Room 5e	5818	1/12/2011	709.40		Hydrogen	1333-74-0	28.06	709.40
Panel 4 Room 5e	5894	2/7/2011	677.24		Hydrogen	1333-74-0	28.06	677.24
Panel 4 Room 5e	5982	3/2/2011	683.92		Hydrogen	1333-74-0	28.06	683.92
Panel 4 Room 4e	4029	5/27/2009	52.26	J	Hydrogen	1333-74-0	29.86	52.26
Panel 4 Room 4e	4066	6/8/2009	29.26	U	Hydrogen	1333-74-0	29.86	14.93
Panel 4 Room 4e	4142	7/21/2009	145.02	J	Hydrogen	1333-74-0	30.34	145.02
Panel 4 Room 4e	4203	8/13/2009	256.40	J	Hydrogen	1333-74-0	30.34	256.40
Panel 4 Room 4e	4277	9/15/2009	239.74	J	Hydrogen	1333-74-0	30.34	239.74
Panel 4 Room 4e	4318	10/5/2009	107.02	J	Hydrogen	1333-74-0	30.34	107.02
Panel 4 Room 4e	4401	11/9/2009	293.96	J	Hydrogen	1333-74-0	30.34	293.96
Panel 4 Room 4e	4534	12/30/2009	525.70		Hydrogen	1333-74-0	30.34	525.70
Panel 4 Room 4e	4598	1/20/2010	298.72	J	Hydrogen	1333-74-0	30.34	298.72
Panel 4 Room 4e	4683	2/10/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 4 Room 4e	4836	3/17/2010	512.92		Hydrogen	1333-74-0	30.34	512.92
Panel 4 Room 4e	4918	4/13/2010	516.80		Hydrogen	1333-74-0	30.34	516.80
Panel 4 Room 4e	5053	5/17/2010	479.40		Hydrogen	1333-74-0	30.34	479.40
Panel 4 Room 4e	5178	6/15/2010	144.16	J	Hydrogen	1333-74-0	14.00	144.16
Panel 4 Room 4e	5313	7/27/2010	597.18		Hydrogen	1333-74-0	14.00	597.18
Panel 4 Room 4e	5399	8/25/2010	779.30		Hydrogen	1333-74-0	14.00	779.30
Panel 4 Room 4e	5453	9/14/2010	561.66		Hydrogen	1333-74-0	14.00	561.66
Panel 4 Room 4e	5572	10/20/2010	643.42		Hydrogen	1333-74-0	14.00	643.42
Panel 4 Room 4e	5664	11/16/2010	640.36		Hydrogen	1333-74-0	14.00	640.36
Panel 4 Room 4e	5721	12/8/2010	570.10		Hydrogen	1333-74-0	14.00	570.10
Panel 4 Room 4e	5819	1/12/2011	656.70		Hydrogen	1333-74-0	28.06	656.70
Panel 4 Room 4e	5895	2/7/2011	479.42		Hydrogen	1333-74-0	28.06	479.42
Panel 4 Room 4e	5983	3/2/2011	561.46		Hydrogen	1333-74-0	28.06	561.46

Attachment 3

Hydrogen (H₂)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	*Value for line loss evaluation (ppmv)
Panel 4 Room 4i	4025	5/27/2009	46.62	U	Hydrogen	1333-74-0	29.86	46.62
Panel 4 Room 4i	4070	6/9/2009	66.00	J	Hydrogen	1333-74-0	29.86	66.00
Panel 4 Room 4i	4133	7/20/2009	162.30	J	Hydrogen	1333-74-0	30.34	162.30
Panel 4 Room 4i	4194	8/11/2009	184.72	J	Hydrogen	1333-74-0	30.34	184.72
Panel 4 Room 4i	4268	9/14/2009	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 4 Room 4i	4309	10/5/2009	167.38	J	Hydrogen	1333-74-0	30.34	167.38
Panel 4 Room 4i	4410	11/11/2009	390.88		Hydrogen	1333-74-0	30.34	390.88
Panel 4 Room 4i	4525	12/30/2009	476.76		Hydrogen	1333-74-0	30.34	476.76
Panel 4 Room 4i	4589	1/19/2010	302.16		Hydrogen	1333-74-0	30.34	302.16
Panel 4 Room 4i	4674	2/9/2010	73.90	J	Hydrogen	1333-74-0	30.34	73.90
Panel 4 Room 4i	4827	3/16/2010	532.06		Hydrogen	1333-74-0	30.34	532.06
Panel 4 Room 4i	4928	4/14/2010	91.48	J	Hydrogen	1333-74-0	30.34	91.48
Panel 4 Room 4i	5044	5/17/2010	537.96		Hydrogen	1333-74-0	30.34	537.96
Panel 4 Room 4i	5169	6/14/2010	111.78	J	Hydrogen	1333-74-0	14.00	111.78
Panel 4 Room 4i	5304	7/26/2010	275.10	J	Hydrogen	1333-74-0	14.00	275.10
Panel 4 Room 4i	5390	8/24/2010	709.50		Hydrogen	1333-74-0	14.00	709.50
Panel 4 Room 4i	5444	9/13/2010	728.04		Hydrogen	1333-74-0	14.00	728.04
Panel 4 Room 4i	5563	10/19/2010	670.12		Hydrogen	1333-74-0	14.00	670.12
Panel 4 Room 4i	5655	11/15/2010	672.26		Hydrogen	1333-74-0	14.00	672.26
Panel 4 Room 4i	5712	12/7/2010	610.84		Hydrogen	1333-74-0	14.00	610.84
Panel 4 Room 4i	5810	1/11/2011	597.58		Hydrogen	1333-74-0	28.06	597.58
Panel 4 Room 4i	5884	2/1/2011	N.D.	U	Hydrogen	1333-74-0	28.06	14.03
Panel 4 Room 4i	5974	3/1/2011	622.32		Hydrogen	1333-74-0	28.06	622.32
Panel 4 Room 3e	4019	5/26/2009	135.72	J	Hydrogen	1333-74-0	29.86	135.72
Panel 4 Room 3e	4077	6/10/2009	46.60	U	Hydrogen	1333-74-0	29.86	46.60
Panel 4 Room 3e	4143	7/21/2009	137.72	J	Hydrogen	1333-74-0	30.34	137.72
Panel 4 Room 3e	4204	8/13/2009	160.64	J	Hydrogen	1333-74-0	30.34	160.64
Panel 4 Room 3e	4278	9/15/2009	166.84	J	Hydrogen	1333-74-0	30.34	166.84
Panel 4 Room 3e	4319	10/5/2009	33.06	U	Hydrogen	1333-74-0	30.34	33.06
Panel 4 Room 3e	4400	11/9/2009	391.36		Hydrogen	1333-74-0	30.34	391.36
Panel 4 Room 3e	4535	12/30/2009	538.14		Hydrogen	1333-74-0	30.34	538.14
Panel 4 Room 3e	4599	1/20/2010	407.96		Hydrogen	1333-74-0	30.34	407.96

Attachment 3

Hydrogen (H₂)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	*Value for line loss evaluation (ppmv)
Panel 4 Room 3e	4684	2/10/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 4 Room 3e	4837	3/17/2010	554.86		Hydrogen	1333-74-0	30.34	554.86
Panel 4 Room 3e	4919	4/13/2010	458.06		Hydrogen	1333-74-0	30.34	458.06
Panel 4 Room 3e	5054	5/17/2010	377.58		Hydrogen	1333-74-0	30.34	377.58
Panel 4 Room 3e	5179	6/15/2010	N.D.	U	Hydrogen	1333-74-0	14.00	7.00
Panel 4 Room 3e	5314	7/27/2010	647.24		Hydrogen	1333-74-0	14.00	647.24
Panel 4 Room 3e	5400	8/25/2010	241.08	J	Hydrogen	1333-74-0	14.00	241.08
Panel 4 Room 3e	5454	9/14/2010	622.18		Hydrogen	1333-74-0	14.00	622.18
Panel 4 Room 3e	5573	10/20/2010	533.98		Hydrogen	1333-74-0	14.00	533.98
Panel 4 Room 3e	5665	11/16/2010	691.12		Hydrogen	1333-74-0	14.00	691.12
Panel 4 Room 3e	5722	12/8/2010	620.50		Hydrogen	1333-74-0	14.00	620.50
Panel 4 Room 3e	5820	1/12/2011	656.18		Hydrogen	1333-74-0	28.06	656.18
Panel 4 Room 3e	5896	2/7/2011	661.56		Hydrogen	1333-74-0	28.06	661.56
Panel 4 Room 3e	5984	3/2/2011	573.94		Hydrogen	1333-74-0	28.06	573.94

Methane Data-Panel 4

All samples were sampled at sub-atmospheric pressure, then diluted 2x by the lab, prior to analysis, to achieve a pressurized sample
 MDL (Method Detection Limit) = the sample quantitation limit determined in accordance with 40 CFR Part 136; will be corrected for any sample dilutions

- 8/27/07-7/24/08 MDL = 17.99 ppmv
- 7/25/08-6/16/09 MDL = 23.74 ppmv
- 6/17/09-6/8/10 MDL = 22.21 ppmv
- 6/9/10-12/28/10 MDL = 21.39 ppmv
- 12/29/10-present MDL = 23.97 ppmv

PQL (Practical Quantitation Limit) = 25 ppmv; must be corrected for any sample dilutions. For all analysis results here, it is 50 ppmv.
 MRL/CRQL = 150 ppmv; must be corrected for any sample dilutions. For all analysis results here, it is 300 ppmv.

- U = Contract Laboratory assigned data flag to show that the results of the analytical sample was not detected above the PQL (i.e. < 50 ppmv)
- J = Contract Laboratory assigned data flag to show that the results of the analytical sample was not detected above the MRL/CRQL (i.e. < 300 ppmv)
- N.D. = Not detected
- * = When the Reported Results is N.D. or < dilution corrected MDL, the value for line loss evaluation is 1/2 the dilution corrected MDL.

Methane (CH₄)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	*Value for line loss evaluation (ppmv)
Panel 4 Room 5e	4030	5/27/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 4 Room 5e	4067	6/8/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 4 Room 5e	4141	7/21/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4202	8/11/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4276	9/15/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4317	10/5/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4402	11/9/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4533	12/30/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4597	1/20/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4682	2/10/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4835	3/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	4917	4/13/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	5052	5/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 5e	5177	6/15/2010	N.D.	U	Methane	74-82-8	42.78	21.39

Methane (CH₄)

Location	Sample ID	Sample Date	Reported	Reported	Analyte	CAS #	Dilution	*Value for line loss evaluation (ppmv)
			Results (ppmv)	Data Flags			corrected MDL (ppmv)	
Panel 4 Room 5e	5312	7/27/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 5e	5398	8/25/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 5e	5452	9/14/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 5e	5571	10/20/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 5e	5663	11/16/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 5e	5720	12/8/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 5e	5818	1/12/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 5e	5894	2/7/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 5e	5982	3/2/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 4e	4029	5/27/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 4 Room 4e	4066	6/8/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 4 Room 4e	4142	7/21/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4203	8/13/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4277	9/15/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4318	10/5/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4401	11/9/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4534	12/30/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4598	1/20/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4683	2/10/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4836	3/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	4918	4/13/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	5053	5/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4e	5178	6/15/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4e	5313	7/27/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4e	5399	8/25/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4e	5453	9/14/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4e	5572	10/20/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4e	5664	11/16/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4e	5721	12/8/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4e	5819	1/12/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 4e	5895	2/7/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 4e	5983	3/2/2011	N.D.	U	Methane	74-82-8	47.94	23.97

Attachment 4

Methane (CH₄)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	*Value for line loss evaluation (ppmv)
Panel 4 Room 4i	4025	5/27/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 4 Room 4i	4070	6/9/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 4 Room 4i	4133	7/20/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4194	8/11/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4268	9/14/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4309	10/5/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4410	11/11/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4525	12/30/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4589	1/19/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4674	2/9/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4827	3/16/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	4928	4/14/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	5044	5/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 4i	5169	6/14/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4i	5304	7/26/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4i	5390	8/24/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4i	5444	9/13/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4i	5563	10/19/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4i	5655	11/15/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4i	5712	12/7/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 4i	5810	1/11/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 4i	5884	2/1/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 4i	5974	3/1/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 3e	4019	5/26/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 4 Room 3e	4077	6/10/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 4 Room 3e	4143	7/21/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	4204	8/13/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	4278	9/15/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	4319	10/5/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	4400	11/9/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	4535	12/30/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	4599	1/20/2010	N.D.	U	Methane	74-82-8	44.42	22.21

Methane (CH₄)

Location	Sample ID	Sample Date	Reported	Reported	Analyte	CAS #	Dilution	*Value for line loss evaluation (ppmv)
			Results (ppmv)	Data Flags			corrected MDL (ppmv)	
Panel 4 Room 3e	4684	2/10/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	4837	3/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	4919	4/13/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	5054	5/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 4 Room 3e	5179	6/15/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 3e	5314	7/27/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 3e	5400	8/25/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 3e	5454	9/14/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 3e	5573	10/20/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 3e	5665	11/16/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 3e	5722	12/8/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 4 Room 3e	5820	1/12/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 3e	5896	2/7/2011	N.D.	U	Methane	74-82-8	47.94	23.97
Panel 4 Room 3e	5984	3/2/2011	N.D.	U	Methane	74-82-8	47.94	23.97