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

October 12, 2010

Mr. James Bearzi, 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 Hazardous Waste Facility Permit Number NM4890139088 – TSDF

Dear Mr. Bearzi:

As required under Permit Condition IV.F.5.e, the Permittees are hereby notifying the New Mexico Environment Department (NMED) of the results of the evaluation of the loss of two hydrogen and methane monitoring sampling lines.

The sampling lines involved were in Panel 3 Rooms 7 and 6. These lines are identified as 7E (exhaust side) and 6I (inlet side). These line losses were previously reported to the NMED on September 2, 2010 and September 28, 2010, respectively.

The evaluation was performed per the specifications in Permit Attachment N1, Section N1-5b. The evaluation indicates that the lines can be grouped with adjacent lines for methane. The evaluation further indicates that line 6I can be grouped with line 5I for hydrogen; however, line 7E cannot be grouped with another line for hydrogen. With regard to line 7E, the previous concentration measurement for hydrogen was well below Action Level 1. These results indicate that no further action is necessary and, per Section N1-5b, monitoring in Panel 3 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 these two sampling lines. The complete evaluation is attached.

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.

CBFO:ORC:GTB:MDA:10-1648:UFC 5486.00

Please feel free to contact George T. Basabilvazo at (575) 234-7488 if you have any questions regarding this notification.

Sincerely,

Edward J. Ziemianski, Acting Manager
Carlsbad Field Office

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

Enclosure

cc: w/enclosure
S. Zappe, NMED *ED
C. Walker, Trinity Engineering ED
CBFO M&RC

cc: w/o enclosure
J. Kieling, NMED ED
*ED denotes electronic distribution

Evaluation of Inability to Purge a Sample Line

Panel 3, Lines 7E (Exhaust Side) and 6I (Inlet Side)

Line 7E

Can Panel 3 line 7E be purged? No, the sample line on the exhaust side of room seven (Line 7E) was determined to be unusable on August 30, 2010.

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

Are adjacent lines working? Yes, adjacent line 6E (the sample line on the exhaust side of Room 6) is working.

Can this line be grouped with another line?

Hydrogen: No. The information obtained from the statistical evaluation using the Student's "t" test to evaluate differences (Attachment 1) indicates that the sampling results for hydrogen for adjacent sample line 6E is not statistically similar.

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 7E was 127.94 ppmv (Attachment 3), only 3.2% of the first action level of 4000 ppmv. For methane the most recent sample results from Line 7E were non-detectable (Attachment 4).

Line 6I

Can Panel 3 line 6I be purged? No, the sample line on the inlet side of room six (Line 6I) was determined to be unusable on September 22, 2010

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

Are adjacent lines working? Yes, adjacent lines 6E (the sample line on the exhaust side of Room 6) and line 5I (the sample line on the inlet side of Room 5) are working.

Can this line be grouped with another line?

Hydrogen: When grouped with 6E, the answer is no. When grouped with 5I, the answer is yes. The information obtained from the statistical evaluation using the Student's "t" test to evaluate differences (Attachment 2) indicates that the sampling results for hydrogen is not statistically similar with adjacent sample line 6E, but is statistically similar with adjacent sample line 5I.

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 6I was 96.30 ppmv (Attachment 3), only 2.4% of the first action level of 4000 ppmv. For methane the most recent sample results from Line 6I were non-detectable (Attachment 4).

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 7 Exhaust		Compared to: Room 6 Exhaust		R7E - R6E
Date	$H_{2\ (ppmv)}$	Date	$H_{2\ (ppmv)}$	delta
4/24/2008	59.74	4/24/2008	27.34	32.40
5/15/2008	86.52	5/14/2008 #	10.79	75.73
6/19/2008	103.78	6/19/2008	69.22	34.56
7/16/2008	178.92	7/16/2008	145.62	33.30
8/19/2008	353.02	8/20/2008	228.66	124.36
9/10/2008	209.46	9/10/2008	136.30	73.16
10/8/2008	352.68	10/8/2008 #	14.93	337.75
11/13/2008	146.54	11/13/2008	35.30	111.24
12/3/2008	89.50	12/3/2008	76.10	13.40
1/13/2009	83.18	1/13/2009	64.12	19.06
2/10/2009	53.76	2/10/2009	43.60	10.16
3/11/2009	53.88	3/10/2009	67.46	-13.58
4/14/2009	51.82	4/14/2009	53.12	-1.30
5/12/2009	88.94	5/12/2009	76.46	12.48
6/2/2009	68.52	6/2/2009	39.94	28.58
7/7/2009	123.32	7/7/2009	110.02	13.30
8/5/2009	84.52	8/5/2009	79.50	5.02
9/1/2009	130.44	9/1/2009	106.26	24.18
10/12/2009	95.60	10/12/2009 #	15.17	80.43
11/2/2009	90.80	11/2/2009	51.54	39.26
12/8/2009 #	15.17	12/8/2009 #	15.17	0.00
1/26/2010 #	15.17	1/26/2010 #	15.17	0.00
2/17/2010	84.12	2/17/2010 #	15.17	68.95
3/9/2010	64.72	3/9/2010	77.26	-12.54
4/20/2010	57.18	4/20/2010 #	15.17	42.01
5/25/2010 #	15.17	5/25/2010 #	15.17	0.00
6/1/2010 #	15.17	6/1/2010 #	15.17	0.00
7/13/2010	127.94	7/13/2010 #	7.00	120.94

= 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.) = 45.459
s (Std. Dev.) = 69.495
n (Obs.) = 28

H_o: Average difference over time, μ_d, = 0.0

R7E - R6E (Reject Ho; t >/= 1.314)

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

$$t = \frac{|45.459|}{69.495/\sqrt{28}}$$

t = 3.461
(Not Similar t >/= 1.314)

α=Probability level for a Two-tailed confidence Interval

n-1= 27 $\quad T_{crit(\alpha=0.20)}$[1] = **1.314**

[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:		R6I - R6E	R6I- R5I
Room 6 Inlet		Room 6 Exhaust		Room 5 Inlet			
Date	$H_{2\ (ppmv)}$	Date	$H_{2\ (ppmv)}$	Date	$H_{2\ (ppmv)}$	delta	delta
4/24/2008	21.80	4/24/2008	27.34	4/24/2008	24.18	-5.54	-2.38
5/15/2008	23.28	5/14/2008 #	10.79	5/15/2008 #	10.79	12.49	12.49
6/19/2008	78.90	6/19/2008	69.22	6/19/2008	60.62	9.68	18.28
7/16/2008	126.18	7/16/2008	145.62	7/16/2008	166.08	-19.44	-39.90
8/20/2008	185.26	8/20/2008	228.66	8/19/2008	247.14	-43.40	-61.88
9/10/2008	311.62	9/10/2008	136.30	9/10/2008	220.32	175.32	91.30
10/8/2008 #	14.93	10/8/2008 #	14.93	10/8/2008	57.40	0.00	-42.47
11/13/2008 #	14.93	11/13/2008	35.30	11/13/2008 #	14.93	-20.37	0.00
12/3/2008 #	14.93	12/3/2008	76.10	12/3/2008 #	14.93	-61.17	0.00
1/14/2009 #	14.93	1/13/2009	64.12	1/13/2009 #	14.93	-49.19	0.00
2/11/2009 #	14.93	2/10/2009	43.60	2/11/2009 #	14.93	-28.67	0.00
3/11/2009 #	14.93	3/10/2009	67.46	3/11/2009 #	14.93	-52.53	0.00
4/14/2009	32.58	4/14/2009	53.12	4/14/2009 #	14.93	-20.54	17.65
5/12/2009 #	14.93	5/12/2009	76.46	5/12/2009 #	14.93	-61.53	0.00
6/2/2009 #	14.93	6/2/2009	39.94	6/2/2009	32.80	-25.01	-17.87
7/8/2009	71.36	7/7/2009	110.02	7/8/2009	99.70	-38.66	-28.34
8/5/2009	44.14	8/5/2009	79.50	8/6/2009	81.66	-35.36	-37.52
9/2/2009	60.60	9/1/2009	106.26	9/2/2009	62.66	-45.66	-2.06
10/13/2009 #	15.17	10/12/2009 #	15.17	10/13/2009 #	15.17	0.00	0.00
11/3/2009	36.66	11/2/2009	51.54	11/3/2009	32.30	-14.88	4.36
12/9/2009 #	15.17	12/8/2009 #	15.17	12/9/2009 #	15.17	0.00	0.00
1/27/2010 #	15.17	1/26/2010 #	15.17	1/27/2010 #	15.17	0.00	0.00
2/18/2010 #	15.17	2/17/2010 #	15.17	2/18/2010 #	15.17	0.00	0.00
3/10/2010 #	15.17	3/9/2010	77.26	3/10/2010 #	15.17	-62.09	0.00
4/21/2010 #	15.17	4/20/2010 #	15.17	4/21/2010 #	15.17	0.00	0.00
5/26/2010 #	15.17	5/25/2010 #	15.17	5/26/2010 #	15.17	0.00	0.00
6/2/2010	50.92	6/1/2010 #	15.17	6/2/2010 #	15.17	35.75	35.75
7/14/2010 #	7.00	7/13/2010 #	7.00	7/14/2010 #	7.00	0.00	0.00
8/10/2010	96.30	8/9/2010	97.04	8/10/2010	93.94	-0.74	2.36

= 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

R6I - R6E	R6I- R5I
d-bar (Avg.) = -12.122	d-bar (Avg.) = -1.732
s (Std. Dev.) = 43.994	s (Std. Dev.) = 26.805
n (Obs.) = 29	n (Obs.) = 29

H_o: Average difference over time, μ_d, = 0.0

R6I - R6E	(Reject Ho; t >/= 1.313)
R6I- R5I	(Accept Ho; t < 1.313)

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

$$t = \frac{|-12.122|}{43.994/\sqrt{29}} \qquad t = \frac{|-1.732|}{26.805/\sqrt{29}}$$

t = 1.484 (Not Similar t >/= 1.313)

t = 0.348 (Similar t < 1.313)

α=Probability level for a Two-tailed confidence Interval

n-1= 28 $T_{crit(\alpha=0.20)}$[1] = **1.313**

[1] As required by N1-5b of Permit Attachment N1

Hydrogen Data

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-present MDL = 7.00 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 < dilution corrected MDL, the value for line loss evaluation is 1/2 the dilution corrected MDL

Hydrogen (H_2)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 7e	3176	4/24/2008	59.74	J	Hydrogen	1333-74-0	21.58	59.74
Panel 3 Room 7e	3213	5/15/2008	86.52	J	Hydrogen	1333-74-0	21.58	86.52
Panel 3 Room 7e	3281	6/19/2008	103.78	J	Hydrogen	1333-74-0	21.58	103.78
Panel 3 Room 7e	3340	7/16/2008	178.92	J	Hydrogen	1333-74-0	21.58	178.92
Panel 3 Room 7e	3405	8/19/2008	353.02		Hydrogen	1333-74-0	29.86	353.02
Panel 3 Room 7e	3453	9/10/2008	209.46	J	Hydrogen	1333-74-0	29.86	209.46
Panel 3 Room 7e	3509	10/8/2008	352.68		Hydrogen	1333-74-0	29.86	352.68
Panel 3 Room 7e	3582	11/13/2008	146.54	J	Hydrogen	1333-74-0	29.86	146.54
Panel 3 Room 7e	3621	12/3/2008	89.50	J	Hydrogen	1333-74-0	29.86	89.50
Panel 3 Room 7e	3720	1/13/2009	83.18	J	Hydrogen	1333-74-0	29.86	83.18
Panel 3 Room 7e	3777	2/10/2009	53.76	J	Hydrogen	1333-74-0	29.86	53.76
Panel 3 Room 7e	3844	3/11/2009	53.88	J	Hydrogen	1333-74-0	29.86	53.88
Panel 3 Room 7e	3919	4/14/2009	51.82	J	Hydrogen	1333-74-0	29.86	51.82
Panel 3 Room 7e	3990	5/12/2009	88.94	J	Hydrogen	1333-74-0	29.86	88.94
Panel 3 Room 7e	4048	6/2/2009	68.52	J	Hydrogen	1333-74-0	29.86	68.52

Hydrogen (H_2)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 7e	4106	7/7/2009	123.32	J	Hydrogen	1333-74-0	30.34	123.32
Panel 3 Room 7e	4165	8/5/2009	84.52	J	Hydrogen	1333-74-0	30.34	84.52
Panel 3 Room 7e	4236	9/1/2009	130.44	J	Hydrogen	1333-74-0	30.34	130.44
Panel 3 Room 7e	4333	10/12/2009	95.60	J	Hydrogen	1333-74-0	30.34	95.60
Panel 3 Room 7e	4375	11/2/2009	90.80	J	Hydrogen	1333-74-0	30.34	90.80
Panel 3 Room 7e	4465	12/8/2009	23.62	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 7e	4626	1/26/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 7e	4724	2/17/2010	84.12	J	Hydrogen	1333-74-0	30.34	84.12
Panel 3 Room 7e	4790	3/9/2010	64.72	J	Hydrogen	1333-74-0	30.34	64.72
Panel 3 Room 7e	4958	4/20/2010	57.18	J	Hydrogen	1333-74-0	30.34	57.18
Panel 3 Room 7e	5082	5/25/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 7e	5117	6/1/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 7e	5255	7/13/2010	127.94	J	Hydrogen	1333-74-0	14.00	127.94
Panel 3 Room 6e	3178	4/24/2008	27.34	U	Hydrogen	1333-74-0	21.58	27.34
Panel 3 Room 6e	3212	5/14/2008	N.D.	U	Hydrogen	1333-74-0	21.58	10.79
Panel 3 Room 6e	3280	6/19/2008	69.22	J	Hydrogen	1333-74-0	21.58	69.22
Panel 3 Room 6e	3339	7/16/2008	145.62	J	Hydrogen	1333-74-0	21.58	145.62
Panel 3 Room 6e	3426	8/20/2008	228.66	J	Hydrogen	1333-74-0	29.86	228.66
Panel 3 Room 6e	3452	9/10/2008	136.30	J	Hydrogen	1333-74-0	29.86	136.30
Panel 3 Room 6e	3508	10/8/2008	12.42	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6e	3581	11/13/2008	35.30	U	Hydrogen	1333-74-0	29.86	35.30
Panel 3 Room 6e	3620	12/3/2008	76.10	J	Hydrogen	1333-74-0	29.86	76.10
Panel 3 Room 6e	3719	1/13/2009	64.12	J	Hydrogen	1333-74-0	29.86	64.12
Panel 3 Room 6e	3776	2/10/2009	43.60	U	Hydrogen	1333-74-0	29.86	43.60
Panel 3 Room 6e	3843	3/10/2009	67.46	J	Hydrogen	1333-74-0	29.86	67.46
Panel 3 Room 6e	3918	4/14/2009	53.12	J	Hydrogen	1333-74-0	29.86	53.12
Panel 3 Room 6e	3989	5/12/2009	76.46	J	Hydrogen	1333-74-0	29.86	76.46
Panel 3 Room 6e	4047	6/2/2009	39.94	U	Hydrogen	1333-74-0	29.86	39.94
Panel 3 Room 6e	4107	7/7/2009	110.02	J	Hydrogen	1333-74-0	30.34	110.02
Panel 3 Room 6e	4166	8/5/2009	79.50	J	Hydrogen	1333-74-0	30.34	79.50
Panel 3 Room 6e	4237	9/1/2009	106.26	J	Hydrogen	1333-74-0	30.34	106.26

Hydrogen (H_2)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 6e	4334	10/12/2009	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6e	4376	11/2/2009	51.54	J	Hydrogen	1333-74-0	30.34	51.54
Panel 3 Room 6e	4466	12/8/2009	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6e	4627	1/26/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6e	4725	2/17/2010	24.60	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6e	4791	3/9/2010	77.26	J	Hydrogen	1333-74-0	30.34	77.26
Panel 3 Room 6e	4959	4/20/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6e	5083	5/25/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6e	5118	6/1/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6e	5256	7/13/2010	N.D.	U	Hydrogen	1333-74-0	14.00	7.00
Panel 3 Room 6e	5349	8/9/2010	97.04	J	Hydrogen	1333-74-0	14.00	97.04
Panel 3 Room 6i	3166	4/24/2008	21.80	U	Hydrogen	1333-74-0	21.58	21.80
Panel 3 Room 6i	3221	5/15/2008	23.28	U	Hydrogen	1333-74-0	21.58	23.28
Panel 3 Room 6i	3289	6/19/2008	78.90	J	Hydrogen	1333-74-0	21.58	78.90
Panel 3 Room 6i	3348	7/16/2008	126.18	J	Hydrogen	1333-74-0	21.58	126.18
Panel 3 Room 6i	3412	8/20/2008	185.26	J	Hydrogen	1333-74-0	29.86	185.26
Panel 3 Room 6i	3460	9/10/2008	311.62		Hydrogen	1333-74-0	29.86	311.62
Panel 3 Room 6i	3516	10/8/2008	19.46	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6i	3589	11/13/2008	N.D.	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6i	3628	12/3/2008	N.D.	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6i	3723	1/14/2009	25.66	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6i	3784	2/11/2009	22.22	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6i	3847	3/11/2009	27.96	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6i	3922	4/14/2009	32.58	U	Hydrogen	1333-74-0	29.86	32.58
Panel 3 Room 6i	3986	5/12/2009	N.D.	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6i	4055	6/2/2009	28.90	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 6i	4114	7/8/2009	71.36	J	Hydrogen	1333-74-0	30.34	71.36
Panel 3 Room 6i	4171	8/5/2009	44.14	U	Hydrogen	1333-74-0	30.34	44.14
Panel 3 Room 6i	4244	9/2/2009	60.60	J	Hydrogen	1333-74-0	30.34	60.60
Panel 3 Room 6i	4341	10/13/2009	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6i	4383	11/3/2009	36.66	U	Hydrogen	1333-74-0	30.34	36.66

Hydrogen (H_2)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 6i	4473	12/9/2009	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6i	4634	1/27/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6i	4732	2/18/2010	15.74	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6i	4800	3/10/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6i	4966	4/21/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6i	5090	5/26/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 6i	5125	6/2/2010	50.92	J	Hydrogen	1333-74-0	30.34	50.92
Panel 3 Room 6i	5263	7/14/2010	N.D.	U	Hydrogen	1333-74-0	14.00	7.00
Panel 3 Room 6i	5356	8/10/2010	96.30	J	Hydrogen	1333-74-0	14.00	96.30
Panel 3 Room 5i	3177	4/24/2008	24.18	U	Hydrogen	1333-74-0	21.58	24.18
Panel 3 Room 5i	3220	5/15/2008	17.68	U	Hydrogen	1333-74-0	21.58	10.79
Panel 3 Room 5i	3288	6/19/2008	60.62	J	Hydrogen	1333-74-0	21.58	60.62
Panel 3 Room 5i	3347	7/16/2008	166.08	J	Hydrogen	1333-74-0	21.58	166.08
Panel 3 Room 5i	3411	8/19/2008	247.14	J	Hydrogen	1333-74-0	29.86	247.14
Panel 3 Room 5i	3459	9/10/2008	220.32	J	Hydrogen	1333-74-0	29.86	220.32
Panel 3 Room 5i	3515	10/8/2008	57.40	J	Hydrogen	1333-74-0	29.86	57.40
Panel 3 Room 5i	3588	11/13/2008	N.D.	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 5i	3627	12/3/2008	N.D.	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 5i	3722	1/13/2009	26.62	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 5i	3783	2/11/2009	N.D.	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 5i	3846	3/11/2009	16.56	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 5i	3921	4/14/2009	18.66	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 5i	3985	5/12/2009	N.D.	U	Hydrogen	1333-74-0	29.86	14.93
Panel 3 Room 5i	4054	6/2/2009	32.80	U	Hydrogen	1333-74-0	29.86	32.80
Panel 3 Room 5i	4115	7/8/2009	99.70	J	Hydrogen	1333-74-0	30.34	99.70
Panel 3 Room 5i	4176	8/6/2009	81.66	J	Hydrogen	1333-74-0	30.34	81.66
Panel 3 Room 5i	4245	9/2/2009	62.66	J	Hydrogen	1333-74-0	30.34	62.66
Panel 3 Room 5i	4342	10/13/2009	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 5i	4384	11/3/2009	32.30	U	Hydrogen	1333-74-0	30.34	32.30
Panel 3 Room 5i	4474	12/9/2009	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 5i	4635	1/27/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17

Hydrogen (H_2)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 5i	4733	2/18/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 5i	4801	3/10/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 5i	4967	4/21/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 5i	5091	5/26/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 5i	5126	6/2/2010	N.D.	U	Hydrogen	1333-74-0	30.34	15.17
Panel 3 Room 5i	5264	7/14/2010	N.D.	U	Hydrogen	1333-74-0	14.00	7.00
Panel 3 Room 5i	5357	8/10/2010	93.94	J	Hydrogen	1333-74-0	14.00	93.94

Methane Data

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-present MDL = 21.39 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 < dilution corrected MDL, the value for line loss evaluation is 1/2 the dilution corrected MDL

Methane (CH_4)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 7e	3176	4/24/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 7e	3213	5/15/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 7e	3281	6/19/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 7e	3340	7/16/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 7e	3405	8/19/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3453	9/10/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3509	10/8/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3582	11/13/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3621	12/3/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3720	1/13/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3777	2/10/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3844	3/11/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3919	4/14/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	3990	5/12/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 7e	4048	6/2/2009	N.D.	U	Methane	74-82-8	47.48	23.74

Methane (CH_4)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 7e	4106	7/7/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4165	8/5/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4236	9/1/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4333	10/12/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4375	11/2/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4465	12/8/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4626	1/26/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4724	2/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4790	3/9/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	4958	4/20/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	5082	5/25/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	5117	6/1/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 7e	5255	7/13/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 3 Room 6e	3178	4/24/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 6e	3212	5/14/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 6e	3280	6/19/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 6e	3339	7/16/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 6e	3426	8/20/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3452	9/10/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3508	10/8/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3581	11/13/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3620	12/3/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3719	1/13/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3776	2/10/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3843	3/10/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3918	4/14/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	3989	5/12/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	4047	6/2/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6e	4107	7/7/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	4166	8/5/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	4237	9/1/2009	N.D.	U	Methane	74-82-8	44.42	22.21

Methane (CH_4)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 6e	4334	10/12/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	4376	11/2/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	4466	12/8/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	4627	1/26/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	4725	2/17/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	4791	3/9/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	4959	4/20/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	5083	5/25/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	5118	6/1/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6e	5256	7/13/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 3 Room 6e	5349	8/9/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 3 Room 6i	3166	4/24/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 6i	3221	5/15/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 6i	3289	6/19/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 6i	3348	7/16/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 6i	3412	8/20/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3460	9/10/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3516	10/8/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3589	11/13/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3628	12/3/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3723	1/14/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3784	2/11/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3847	3/11/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3922	4/14/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	3986	5/12/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	4055	6/2/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 6i	4114	7/8/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	4171	8/5/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	4244	9/2/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	4341	10/13/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	4383	11/3/2009	N.D.	U	Methane	74-82-8	44.42	22.21

Methane (CH_4)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 6i	4473	12/9/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	4634	1/27/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	4732	2/18/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	4800	3/10/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	4966	4/21/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	5090	5/26/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	5125	6/2/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 6i	5263	7/14/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 3 Room 6i	5356	8/10/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 3 Room 5i	3177	4/24/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 5i	3220	5/15/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 5i	3288	6/19/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 5i	3347	7/16/2008	N.D.	U	Methane	74-82-8	35.98	17.99
Panel 3 Room 5i	3411	8/19/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3459	9/10/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3515	10/8/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3588	11/13/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3627	12/3/2008	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3722	1/13/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3783	2/11/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3846	3/11/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3921	4/14/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	3985	5/12/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	4054	6/2/2009	N.D.	U	Methane	74-82-8	47.48	23.74
Panel 3 Room 5i	4115	7/8/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	4176	8/6/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	4245	9/2/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	4342	10/13/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	4384	11/3/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	4474	12/9/2009	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	4635	1/27/2010	N.D.	U	Methane	74-82-8	44.42	22.21

Methane (CH_4)

Location	Sample ID	Sample Date	Reported Results (ppmv)	Reported Data Flags	Analyte	CAS #	Dilution corrected MDL (ppmv)	Value for line loss evaluation (ppmv)*
Panel 3 Room 5i	4733	2/18/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	4801	3/10/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	4967	4/21/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	5091	5/26/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	5126	6/2/2010	N.D.	U	Methane	74-82-8	44.42	22.21
Panel 3 Room 5i	5264	7/14/2010	N.D.	U	Methane	74-82-8	42.78	21.39
Panel 3 Room 5i	5357	8/10/2010	N.D.	U	Methane	74-82-8	42.78	21.39