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

OCT 29 2012

RECEIVED
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NMED Hazardous Waste Bureau

Mr. John E. Kieling, 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 3 Room 6. This line is identified as 6E (exhaust side). This line loss was previously reported to the NMED on October 16, 2012.

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 line 5E for hydrogen and methane. The previous concentration measurements for hydrogen and methane were also 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 the sampling line. The complete evaluation is enclosed.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision according to 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 fines and imprisonment for knowing violations.

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

Sincerely,

Jose R. Franco, Manager
Carlsbad Field Office

M. Farok Sharif, Project Manager
Nuclear Waste Partnership, LLC

Enclosures

cc: w/enclosures

S. Holmes, NMED	*ED	C. Walker, Trinity Engineering	ED
T. Kliphuis, NMED	ED	CBFO M&RC	
R. Maestas, NMED	ED	*ED denotes electronic distribution	

CBFO:OESH:GTB:ANC:12-0808:UFC 5487.00

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Enclosures

Title

- Enclosure 1-Evaluation of Inability to Purge a Sample Line
- Enclosure 2-Line-Loss Evaluation using Hydrogen Data
- Enclosure 3-Hydrogen Data-Panel 3 Rooms 6 and 5 (exhaust)
- Enclosure 4-Methane Data-Panel 3 Rooms 6 and 5 (exhaust)

Enclosure 1

Evaluation of Inability to Purge a Sample Line

Pages: 1

Enclosure 1

Evaluation of Inability to Purge a Sample Line

Panel 3 Room 6, Line 6E (Exhaust Side)

Line 6E

Can Panel 3 line 6E be purged? No, the sample line on the exhaust side of Panel 3 Room 6 (line 6E) was determined to be unusable on October 10, 2012.

Is the line a bulkhead line? No.

Are adjacent lines working? Yes, adjacent sample line 5E is working.

Can this line be grouped with another line?

Hydrogen: Yes, the information obtained from the statistical evaluation using the student's t-test to evaluate differences (enclosure 2) indicates that the sampling results for hydrogen are statistically similar with adjacent sample line 5E.

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

Was the most recent sample above the first action level (4,000 ppmv for hydrogen and 5,000 ppmv for methane)? No, for hydrogen, the most recent sample results for line 6E was 31.18 ppmv (enclosure 3), only 0.8% of the first action level of 4,000 ppmv. For methane the most recent sample results from line 6E were non-detectable (enclosure 4).

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

Enclosure 2

Line-Loss Evaluation Using Hydrogen Data

Pages: 1

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 unusable		Compared to:		
Panel 3 Room 6 Exhaust		Panel 3 Room 5 Exhaust		6E - 5E
Date	**H_2 (ppmv)**	**Date**	**H_2 (ppmv)**	**delta**
4/24/2008	27.34	4/24/2008	45.70	-18.36
5/14/2008 *	10.79	5/14/2008 *	10.79	0.00
6/19/2008	69.22	6/17/2008	91.62	-22.40
7/16/2008	145.62	7/16/2008	156.04	-10.42
8/20/2008	228.66	8/19/2008	221.24	7.42
9/10/2008	136.30	9/10/2008	207.98	-71.68
10/8/2008 *	14.93	10/8/2008	187.98	-173.05
11/13/2008	35.30	11/13/2008	101.64	-66.34
12/3/2008	76.10	12/3/2008	66.24	9.86
1/13/2009	64.12	1/13/2009	61.18	2.94
2/10/2009	43.60	2/10/2009 *	14.93	28.67
3/10/2009	67.46	3/10/2009	63.18	4.28
4/14/2009	53.12	4/14/2009	51.28	1.84
5/12/2009	76.46	5/12/2009 *	14.93	61.53
6/2/2009	39.94	6/1/2009	42.80	-2.86
7/7/2009	110.02	7/7/2009	102.20	7.82
8/5/2009	79.50	8/5/2009	57.74	21.76
9/1/2009	106.26	9/1/2009	59.18	47.08
10/12/2009 *	15.17	10/12/2009 *	15.17	0.00
11/2/2009	51.54	11/2/2009	65.18	-13.64
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	49.20	2/17/2010	76.68	-27.48
3/9/2010	77.26	3/9/2010	61.28	15.98
4/20/2010 *	15.17	4/20/2010 *	15.17	0.00
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 *	7.00	7/13/2010	49.72	-42.72
8/9/2010	97.04	8/9/2010	101.44	-4.40
9/21/2010	114.26	9/21/2010	100.80	13.46
10/11/2010	98.94	10/11/2010	80.42	18.52
11/8/2010	93.20	11/8/2010	50.66	42.54
12/14/2010	92.60	12/14/2010	89.50	3.10
1/18/2011	140.32	1/18/2011	125.50	14.82
2/15/2011	62.32	2/15/2011	69.84	-7.52
3/8/2011	87.88	3/8/2011	88.68	-0.80
4/19/2011 *	14.03	4/19/2011	47.86	-33.83
5/9/2011	48.58	5/9/2011	51.18	-2.60
6/14/2011	53.46	6/14/2011	56.52	-3.06
7/18/2011	36.06	7/18/2011	50.44	-14.38
8/15/2011	76.68	8/15/2011	59.04	17.64
9/19/2011	46.88	9/19/2011	41.84	5.04
10/17/2011	38.82	10/17/2011 *	14.03	24.79
11/7/2011	32.08	11/7/2011	32.00	0.08
12/5/2011 *	14.40	12/5/2011	44.44	-30.04
1/9/2012	52.82	1/9/2012	51.44	1.38
2/16/2012	34.02	2/16/2012 *	14.40	19.62
3/6/2012	45.38	3/6/2012	52.86	-7.48
4/2/2012	29.00	4/2/2012	43.68	-14.68
5/1/2012	32.72	5/1/2012	48.28	-15.56
6/4/2012	34.30	6/4/2012 *	14.40	19.90
7/16/2012	37.86	7/16/2012	29.78	8.08
8/6/2012	29.30	8/6/2012	44.24	-14.94
9/4/2012	31.18	9/4/2012	37.76	-6.58

* 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.) = -3.827
s (Std. Dev.) = 32.996
n (Obs.) = 54

H_o: Average difference over time, μ_d, = 0.0

6E - 5E	(Accept Ho; t < 1.298)

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

$$t = \frac{|-3.827|}{32.996/\sqrt{54}}$$

t = 0.852
(Similar t < 1.298)

α=Probability level for a Two-tailed confidence Interval

n-1= 53 $T_{crit(\alpha=0.20)}$[1] = **1.298**

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

Enclosure 3

Hydrogen Data-Panel 3 Rooms 6 and 5 (exhaust)

Pages: 4

Hydrogen Data-Panel 3 Rooms 6 and 5 (exhaust)

All samples were collected using sub-atmospheric sampling methods and were pressurized by the lab before analysis; dilution factors included in data set. The MDL (method detection limit) is the sample quantitation limit determined in accordance with 40 CFR Part 136; actual and dilution corrected MDLs included in data set.

4/30/08-7/24/08 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
12/29/10-11/30/11 MDL = 14.03 ppmv
12/1/11-? MDL = 14.40 ppmv ← MDL end date not yet determined

Some values in column "Results" are less than dilution corrected MDLs. These values are not included in the statistical evaluation. When results are N.D. (not-detected) or less than dilution corrected MDLs, the values used for the statistical evaluation are 1/2 the corrected MDL.

Hydrogen (H_2) **CAS# 1333-74-0**

Location	Sample ID	Sample Date	Analysis Date	Results (ppmv)	Dilution Factor	MDL (ppmv)	Dilution corrected MDL (ppmv)	Concentration for statistical evaluation (ppmv)
Panel 3 Room 6e	3178	4/24/2008	4/30/2008	27.34	2	10.79	21.58	27.34
Panel 3 Room 6e	3212	5/14/2008	5/23/2008	N.D.	2	10.79	21.58	10.79
Panel 3 Room 6e	3280	6/19/2008	6/25/2008	69.22	2	10.79	21.58	69.22
Panel 3 Room 6e	3339	7/16/2008	7/22/2008	145.62	2	10.79	21.58	145.62
Panel 3 Room 6e	3426	8/20/2008	8/22/2008	228.66	2	14.93	29.86	228.66
Panel 3 Room 6e	3452	9/10/2008	9/12/2008	136.30	2	14.93	29.86	136.30
Panel 3 Room 6e	3508	10/8/2008	10/10/2008	12.42	2	14.93	29.86	14.93
Panel 3 Room 6e	3581	11/13/2008	11/18/2008	35.30	2	14.93	29.86	35.30
Panel 3 Room 6e	3620	12/3/2008	12/6/2008	76.10	2	14.93	29.86	76.10
Panel 3 Room 6e	3719	1/13/2009	1/21/2009	64.12	2	14.93	29.86	64.12
Panel 3 Room 6e	3776	2/10/2009	2/13/2009	43.60	2	14.93	29.86	43.60
Panel 3 Room 6e	3843	3/10/2009	3/27/2009	67.46	2	14.93	29.86	67.46
Panel 3 Room 6e	3918	4/14/2009	4/22/2009	53.12	2	14.93	29.86	53.12

Hydrogen (H_2) **CAS# 1333-74-0**

Location	Sample ID	Sample Date	Analysis Date	Results (ppmv)	Dilution Factor	MDL (ppmv)	Dilution corrected MDL (ppmv)	Concentration for statistical evaluation (ppmv)
Panel 3 Room 6e	3989	5/12/2009	5/15/2009	76.46	2	14.93	29.86	76.46
Panel 3 Room 6e	4047	6/2/2009	6/8/2009	39.94	2	14.93	29.86	39.94
Panel 3 Room 6e	4107	7/7/2009	7/10/2009	110.02	2	15.17	30.34	110.02
Panel 3 Room 6e	4166	8/5/2009	8/13/2009	79.50	2	15.17	30.34	79.50
Panel 3 Room 6e	4237	9/1/2009	9/4/2009	106.26	2	15.17	30.34	106.26
Panel 3 Room 6e	4334	10/12/2009	10/15/2009	N.D.	2	15.17	30.34	15.17
Panel 3 Room 6e	4376	11/2/2009	11/12/2009	51.54	2	15.17	30.34	51.54
Panel 3 Room 6e	4466	12/8/2009	12/15/2009	N.D.	2	15.17	30.34	15.17
Panel 3 Room 6e	4627	1/26/2010	2/2/2010	N.D.	2	15.17	30.34	15.17
Panel 3 Room 6e	4725	2/17/2010	2/23/2010	49.20	2	15.17	30.34	49.20
Panel 3 Room 6e	4791	3/9/2010	3/12/2010	77.26	2	15.17	30.34	77.26
Panel 3 Room 6e	4959	4/20/2010	4/28/2010	N.D.	2	15.17	30.34	15.17
Panel 3 Room 6e	5083	5/25/2010	5/28/2010	N.D.	2	15.17	30.34	15.17
Panel 3 Room 6e	5118	6/1/2010	6/7/2010	N.D.	2	15.17	30.34	15.17
Panel 3 Room 6e	5256	7/13/2010	7/19/2010	N.D.	2	7.00	14.00	7.00
Panel 3 Room 6e	5349	8/9/2010	8/17/2010	97.04	2	7.00	14.00	97.04
Panel 3 Room 6e	5475	9/21/2010	9/27/2010	114.26	2	7.00	14.00	114.26
Panel 3 Room 6e	5534	10/11/2010	10/18/2010	98.94	2	7.00	14.00	98.94
Panel 3 Room 6e	5627	11/8/2010	11/15/2010	93.20	2	7.00	14.00	93.20
Panel 3 Room 6e	5746	12/14/2010	12/20/2010	92.60	2	7.00	14.00	92.60
Panel 3 Room 6e	5844	1/18/2011	1/24/2011	140.32	2	14.03	28.06	140.32
Panel 3 Room 6e	5930	2/15/2011	2/21/2011	62.32	2	14.03	28.06	62.32
Panel 3 Room 6e	6018	3/8/2011	3/11/2011	87.88	2	14.03	28.06	87.88
Panel 3 Room 6e	6131	4/19/2011	4/26/2011	N.D.	2	14.03	28.06	14.03
Panel 3 Room 6e	6213	5/9/2011	5/13/2011	48.58	2	14.03	28.06	48.58
Panel 3 Room 6e	6313	6/14/2011	6/21/2011	53.46	2	14.03	28.06	53.46
Panel 3 Room 6e	6427	7/18/2011	7/28/2011	36.06	2	14.03	28.06	36.06
Panel 3 Room 6e	6495	8/15/2011	8/22/2011	76.68	2	14.03	28.06	76.68
Panel 3 Room 6e	6573	9/19/2011	9/27/2011	46.88	2	14.03	28.06	46.88
Panel 3 Room 6e	6646	10/17/2011	10/25/2011	38.82	2	14.03	28.06	38.82
Panel 3 Room 6e	6718	11/7/2011	11/11/2011	32.08	2	14.03	28.06	32.08
Panel 3 Room 6e	6773	12/5/2011	12/9/2011	27.48	2	14.40	28.80	14.40
Panel 3 Room 6e	6858	1/9/2012	1/13/2012	52.82	2	14.40	28.80	52.82

Hydrogen (H_2) **CAS# 1333-74-0**

Location	Sample ID	Sample Date	Analysis Date	Results (ppmv)	Dilution Factor	MDL (ppmv)	Dilution corrected MDL (ppmv)	Concentration for statistical evaluation (ppmv)
Panel 3 Room 6e	6961	2/16/2012	2/22/2012	34.02	2	14.40	28.80	34.02
Panel 3 Room 6e	7011	3/6/2012	3/9/2012	45.38	2	14.40	28.80	45.38
Panel 3 Room 6e	7084	4/2/2012	4/9/2012	29.00	2	14.40	28.80	29.00
Panel 3 Room 6e	7162	5/1/2012	5/4/2012	32.72	2	14.40	28.80	32.72
Panel 3 Room 6e	7235	6/4/2012	6/8/2012	34.30	2	14.40	28.80	34.30
Panel 3 Room 6e	7362	7/16/2012	7/23/2012	37.86	2	14.40	28.80	37.86
Panel 3 Room 6e	7420	8/6/2012	8/10/2012	29.30	2	14.40	28.80	29.30
Panel 3 Room 6e	7505	9/4/2012	9/7/2012	31.18	2	14.40	28.80	31.18
Panel 3 Room 5e	3179	4/24/2008	4/30/2008	45.70	2	10.79	21.58	45.70
Panel 3 Room 5e	3211	5/14/2008	5/23/2008	N.D.	2	10.79	21.58	10.79
Panel 3 Room 5e	3279	6/17/2008	6/25/2008	91.62	2	10.79	21.58	91.62
Panel 3 Room 5e	3338	7/16/2008	7/22/2008	156.04	2	10.79	21.58	156.04
Panel 3 Room 5e	3403	8/19/2008	8/22/2008	221.24	2	14.93	29.86	221.24
Panel 3 Room 5e	3451	9/10/2008	9/12/2008	207.98	2	14.93	29.86	207.98
Panel 3 Room 5e	3507	10/8/2008	10/10/2008	187.98	2	14.93	29.86	187.98
Panel 3 Room 5e	3580	11/13/2008	11/18/2008	101.64	2	14.93	29.86	101.64
Panel 3 Room 5e	3619	12/3/2008	12/6/2008	66.24	2	14.93	29.86	66.24
Panel 3 Room 5e	3718	1/13/2009	1/21/2009	61.18	2	14.93	29.86	61.18
Panel 3 Room 5e	3775	2/10/2009	2/13/2009	N.D.	2	14.93	29.86	14.93
Panel 3 Room 5e	3842	3/10/2009	3/27/2009	63.18	2	14.93	29.86	63.18
Panel 3 Room 5e	3917	4/14/2009	4/22/2009	51.28	2	14.93	29.86	51.28
Panel 3 Room 5e	3988	5/12/2009	5/15/2009	N.D.	2	14.93	29.86	14.93
Panel 3 Room 5e	4046	6/1/2009	6/8/2009	42.80	2	14.93	29.86	42.80
Panel 3 Room 5e	4108	7/7/2009	7/10/2009	102.20	2	15.17	30.34	102.20
Panel 3 Room 5e	4167	8/5/2009	8/13/2009	57.74	2	15.17	30.34	57.74
Panel 3 Room 5e	4238	9/1/2009	9/4/2009	59.18	2	15.17	30.34	59.18
Panel 3 Room 5e	4335	10/12/2009	10/15/2009	N.D.	2	15.17	30.34	15.17
Panel 3 Room 5e	4377	11/2/2009	11/12/2009	65.18	2	15.17	30.34	65.18
Panel 3 Room 5e	4467	12/8/2009	12/15/2009	12.40	2	15.17	30.34	15.17
Panel 3 Room 5e	4628	1/26/2010	2/2/2010	N.D.	2	15.17	30.34	15.17
Panel 3 Room 5e	4726	2/17/2010	2/23/2010	76.68	2	15.17	30.34	76.68
Panel 3 Room 5e	4792	3/9/2010	3/12/2010	61.28	2	15.17	30.34	61.28

Hydrogen (H_2) **CAS# 1333-74-0**

Location	Sample ID	Sample Date	Analysis Date	Results (ppmv)	Dilution Factor	MDL (ppmv)	Dilution corrected MDL (ppmv)	Concentration for statistical evaluation (ppmv)
Panel 3 Room 5e	4960	4/20/2010	4/28/2010	N.D.	2	15.17	30.34	15.17
Panel 3 Room 5e	5084	5/25/2010	5/28/2010	N.D.	2	15.17	30.34	15.17
Panel 3 Room 5e	5119	6/1/2010	6/7/2010	N.D.	2	15.17	30.34	15.17
Panel 3 Room 5e	5257	7/13/2010	7/19/2010	49.72	2	7.00	14.00	49.72
Panel 3 Room 5e	5350	8/9/2010	8/17/2010	101.44	2	7.00	14.00	101.44
Panel 3 Room 5e	5476	9/21/2010	9/27/2010	100.80	2	7.00	14.00	100.80
Panel 3 Room 5e	5535	10/11/2010	10/18/2010	80.42	2	7.00	14.00	80.42
Panel 3 Room 5e	5628	11/8/2010	11/15/2010	50.66	2	7.00	14.00	50.66
Panel 3 Room 5e	5747	12/14/2010	12/20/2010	89.50	2	7.00	14.00	89.50
Panel 3 Room 5e	5845	1/18/2011	1/24/2011	125.50	2	14.03	28.06	125.50
Panel 3 Room 5e	5931	2/15/2011	2/21/2011	69.84	2	14.03	28.06	69.84
Panel 3 Room 5e	6019	3/8/2011	3/11/2011	88.68	2	14.03	28.06	88.68
Panel 3 Room 5e	6132	4/19/2011	4/26/2011	47.86	2	14.03	28.06	47.86
Panel 3 Room 5e	6214	5/9/2011	5/13/2011	51.18	2	14.03	28.06	51.18
Panel 3 Room 5e	6314	6/14/2011	6/21/2011	56.52	2	14.03	28.06	56.52
Panel 3 Room 5e	6428	7/18/2011	7/22/2011	50.44	2	14.03	28.06	50.44
Panel 3 Room 5e	6496	8/15/2011	8/22/2011	59.04	2	14.03	28.06	59.04
Panel 3 Room 5e	6574	9/19/2011	9/27/2011	41.84	2	14.03	28.06	41.84
Panel 3 Room 5e	6647	10/17/2011	10/25/2011	25.74	2	14.03	28.06	14.03
Panel 3 Room 5e	6719	11/7/2011	11/11/2011	32.00	2	14.03	28.06	32.00
Panel 3 Room 5e	6774	12/5/2011	12/9/2011	44.44	2	14.40	28.80	44.44
Panel 3 Room 5e	6859	1/9/2012	1/13/2012	51.44	2	14.40	28.80	51.44
Panel 3 Room 5e	6962	2/16/2012	2/22/2012	22.48	2	14.40	28.80	14.40
Panel 3 Room 5e	7012	3/6/2012	3/9/2012	52.86	2	14.40	28.80	52.86
Panel 3 Room 5e	7085	4/2/2012	4/9/2012	43.68	2	14.40	28.80	43.68
Panel 3 Room 5e	7163	5/1/2012	5/4/2012	48.28	2	14.40	28.80	48.28
Panel 3 Room 5e	7236	6/4/2012	6/8/2012	N.D.	2	14.40	28.80	14.40
Panel 3 Room 5e	7363	7/16/2012	7/23/2012	29.78	2	14.40	28.80	29.78
Panel 3 Room 5e	7421	8/6/2012	8/10/2012	44.24	2	14.40	28.80	44.24
Panel 3 Room 5e	7506	9/4/2012	9/7/2012	37.76	2	14.40	28.80	37.76

Enclosure 4

Methane Data-Panel 3 Rooms 6 and 5 (exhaust)

Pages: 4

Methane Data-Panel 3 Rooms 6 and 5 (exhaust)

All samples were collected using sub-atmospheric sampling methods and were pressurized by the lab before analysis; dilution factors included in data set. The MDL (method detection limit) is the sample quantitation limit determined in accordance with 40 CFR Part 136; actual and dilution corrected MDLs included in data set.

4/30/08-7/24/08 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
12/29/10-11/30/11 MDL = 23.97 ppmv
12/1/11-? MDL = 17.45 ppmv ← MDL end date not yet determined

Some values in column "Results" are less than dilution corrected MDLs. These values are not included in the statistical evaluation. When results are N.D. (not-detected) or less than dilution corrected MDLs, the values used for the statistical evaluation are 1/2 the corrected MDL.

Methane (CH_4) **CAS# 74-82-8**

Location	Sample ID	Sample Date	Analysis Date	Results (ppmv)	Dilution Factor	MDL (ppmv)	Dilution corrected MDL (ppmv)	Concentration for statistical evaluation (ppmv)
Panel 3 Room 6e	3178	4/24/2008	4/30/2008	N.D.	2	17.99	35.98	17.99
Panel 3 Room 6e	3212	5/14/2008	5/23/2008	N.D.	2	17.99	35.98	17.99
Panel 3 Room 6e	3280	6/19/2008	6/25/2008	N.D.	2	17.99	35.98	17.99
Panel 3 Room 6e	3339	7/16/2008	7/22/2008	N.D.	2	17.99	35.98	17.99
Panel 3 Room 6e	3426	8/20/2008	8/22/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	3452	9/10/2008	9/12/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	3508	10/8/2008	10/10/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	3581	11/13/2008	11/18/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	3620	12/3/2008	12/6/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	3719	1/13/2009	1/21/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	3776	2/10/2009	2/13/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	3843	3/10/2009	3/27/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	3918	4/14/2009	4/22/2009	N.D.	2	23.74	47.48	23.74

Methane (CH_4) **CAS# 74-82-8**

Location	Sample ID	Sample Date	Analysis Date	Results (ppmv)	Dilution Factor	MDL (ppmv)	Dilution corrected MDL (ppmv)	Concentration for statistical evaluation (ppmv)
Panel 3 Room 6e	3989	5/12/2009	5/15/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	4047	6/2/2009	6/8/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 6e	4107	7/7/2009	7/10/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4166	8/5/2009	8/13/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4237	9/1/2009	9/4/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4334	10/12/2009	10/15/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4376	11/2/2009	11/12/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4466	12/8/2009	12/15/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4627	1/26/2010	2/2/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4725	2/17/2010	2/23/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4791	3/9/2010	3/12/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	4959	4/20/2010	4/28/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	5083	5/25/2010	5/28/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	5118	6/1/2010	6/7/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 6e	5256	7/13/2010	7/19/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 6e	5349	8/9/2010	8/17/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 6e	5475	9/21/2010	9/27/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 6e	5534	10/11/2010	10/18/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 6e	5627	11/8/2010	11/15/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 6e	5746	12/14/2010	12/20/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 6e	5844	1/18/2011	1/24/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	5930	2/15/2011	2/21/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6018	3/8/2011	3/11/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6131	4/19/2011	4/26/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6213	5/9/2011	5/13/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6313	6/14/2011	6/21/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6427	7/18/2011	7/28/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6495	8/15/2011	8/22/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6573	9/19/2011	9/27/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6646	10/17/2011	10/25/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6718	11/7/2011	11/11/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 6e	6773	12/5/2011	12/9/2011	N.D.	2	17.45	34.9	17.45
Panel 3 Room 6e	6858	1/9/2012	1/13/2012	N.D.	2	17.45	34.9	17.45

Methane (CH_4) **CAS# 74-82-8**

Location	Sample ID	Sample Date	Analysis Date	Results (ppmv)	Dilution Factor	MDL (ppmv)	Dilution corrected MDL (ppmv)	Concentration for statistical evaluation (ppmv)
Panel 3 Room 6e	6961	2/16/2012	2/22/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 6e	7011	3/6/2012	3/9/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 6e	7084	4/2/2012	4/9/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 6e	7162	5/1/2012	5/4/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 6e	7235	6/4/2012	6/8/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 6e	7362	7/16/2012	7/23/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 6e	7420	8/6/2012	8/10/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 6e	7505	9/4/2012	9/7/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	3179	4/24/2008	4/30/2008	N.D.	2	17.99	35.98	17.99
Panel 3 Room 5e	3211	5/14/2008	5/23/2008	N.D.	2	17.99	35.98	17.99
Panel 3 Room 5e	3279	6/17/2008	6/25/2008	N.D.	2	17.99	35.98	17.99
Panel 3 Room 5e	3338	7/16/2008	7/22/2008	N.D.	2	17.99	35.98	17.99
Panel 3 Room 5e	3403	8/19/2008	8/22/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3451	9/10/2008	9/12/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3507	10/8/2008	10/10/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3580	11/13/2008	11/18/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3619	12/3/2008	12/6/2008	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3718	1/13/2009	1/21/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3775	2/10/2009	2/13/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3842	3/10/2009	3/27/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3917	4/14/2009	4/22/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	3988	5/12/2009	5/15/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	4046	6/1/2009	6/8/2009	N.D.	2	23.74	47.48	23.74
Panel 3 Room 5e	4108	7/7/2009	7/10/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	4167	8/5/2009	8/13/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	4238	9/1/2009	9/4/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	4335	10/12/2009	10/15/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	4377	11/2/2009	11/12/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	4467	12/8/2009	12/15/2009	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	4628	1/26/2010	2/2/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	4726	2/17/2010	2/23/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	4792	3/9/2010	3/12/2010	N.D.	2	22.21	44.42	22.21

Methane (CH_4) **CAS# 74-82-8**

Location	Sample ID	Sample Date	Analysis Date	Results (ppmv)	Dilution Factor	MDL (ppmv)	Dilution corrected MDL (ppmv)	Concentration for statistical evaluation (ppmv)
Panel 3 Room 5e	4960	4/20/2010	4/28/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	5084	5/25/2010	5/28/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	5119	6/1/2010	6/7/2010	N.D.	2	22.21	44.42	22.21
Panel 3 Room 5e	5257	7/13/2010	7/19/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 5e	5350	8/9/2010	8/17/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 5e	5476	9/21/2010	9/27/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 5e	5535	10/11/2010	10/18/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 5e	5628	11/8/2010	11/15/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 5e	5747	12/14/2010	12/20/2010	N.D.	2	21.39	42.78	21.39
Panel 3 Room 5e	5845	1/18/2011	1/24/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	5931	2/15/2011	2/21/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6019	3/8/2011	3/11/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6132	4/19/2011	4/26/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6214	5/9/2011	5/13/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6314	6/14/2011	6/21/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6428	7/18/2011	7/22/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6496	8/15/2011	8/22/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6574	9/19/2011	9/27/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6647	10/17/2011	10/25/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6719	11/7/2011	11/11/2011	N.D.	2	23.97	47.94	23.97
Panel 3 Room 5e	6774	12/5/2011	12/9/2011	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	6859	1/9/2012	1/13/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	6962	2/16/2012	2/22/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	7012	3/6/2012	3/9/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	7085	4/2/2012	4/9/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	7163	5/1/2012	5/4/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	7236	6/4/2012	6/8/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	7363	7/16/2012	7/23/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	7421	8/6/2012	8/10/2012	N.D.	2	17.45	34.9	17.45
Panel 3 Room 5e	7506	9/4/2012	9/7/2012	N.D.	2	17.45	34.9	17.45