



Wednesday, 28 January 2015

Mr Stuart Ross,
Natural Resources Wales,
Chester Road,
Buckley,
Flintshire
CH7 3AJ

Dear Mr Ross,

Pen-Y-Bont Quarter 4 Environmental Report for 2014

Please find enclosed the report for routine environmental monitoring undertaken at our Pen-Y-Bont Landfill Site between 1st October and 31st December 2014.

We trust this is satisfactory, please do not hesitate to contact us should you require further clarification.

**Yours sincerely,
for FCC ENVIRONMENT**

**Geoff Forrest
Environment Manager North Wales**



PEN-Y-BONT LANDFILL SITE

PPC PERMIT GP3830BG

QUARTERLY ENVIRONMENTAL MONITORING REPORT

1st October – 31st December 2014

28th January 2015

**FCC Environment,
Pen-Y-Bont Landfill Site,
Pentre,
LL1 5AR.**

1.0 Introduction

This report has been produced in accordance with the requirements of the PPC permit (GP3830BG) and subsequent variation notices PP3032LN (issued on the 27th June 2007) and GP3830BG/V007 (issued on 04/11/14), detailing the results of environmental monitoring undertaken in the fourth quarter of the year between the 1st October and 31st December 2014 at Pen-Y-Bont Landfill Site.

2.0 Landfill Gas Migration

Landfill gas monitoring has been undertaken on a monthly basis throughout the review period in accordance with Table S4.5 of the site Permit. All data collected is attached with this report.

There were no trigger breaches of the methane limit of 1% recorded during the review period.

The monitoring of borehole T11 (which contained methane prior to landfilling operations and was subsequently proved not to be of landfill origin) has been removed from the monitoring schedule as agreed in writing with Natural Resources Wales.

Small amounts of methane were detected in borehole T10 at concentrations of 0.4% to 0.9% from October to December. Borehole T10 is only 10m away from T11 and it may be that a small volume of the methane in T11 is being detected at this location.

Small amounts of methane were also detected in borehole G11 at concentrations of 0.7% and 0.8% in November and December.

We will continue to monitor trends in these 2 boreholes in the coming months.

The dates and details of CO2 breaches in perimeter boreholes are;

- 3rd October – G1, G3, G4, G8 and G12 plus T1, T3, T8, T10 and T11 with a peak level of 9.6% (v/v) in T11.

A reassessment of the use of Carbon Dioxide as an indicator of landfill gas migration (with reference to the 2011 ICoP) has now been included in a variation of the site Permit (GP3830BG/V007) issued on 4th November 2014. Trigger levels for Carbon Dioxide have now been discontinued and replaced by action limits from November 2014 onwards.

Schedule 6 notifications of any methane breaches will continue to be submitted to Natural Resources Wales within 24 hours of monitoring taking place.

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3.0 Water Quality

Water quality is scheduled to be analysed at 27 groundwater monitoring boreholes, the discharge points to the River Dee and Grass Plots and at three clearly defined surface water monitoring locations, WP1 (upstream), WP2 (downstream) and WP3 (adjacent to the site) along the river.

3.1 Groundwater Quality

Groundwater samples were taken throughout the monitoring period in accordance with Tables S4.4 and S4.10 and results of the monitoring are attached with this report. Monthly sample suites were analysed during October and December with a quarterly suite of laboratory tests performed on samples collected during November.

Additional boreholes required by Improvement Condition 1.4.1.1 were added to the monitoring schedule in March 2007, with trigger levels applied to them in 2010, in accordance with Improvement Condition 1.4.1.2.

There were no breaches of the ammoniacal nitrogen trigger limit during the reporting period or any other determinand.

We will continue to review all laboratory data for the determinands tested for signs of any increasing trends in any of them.

Whenever possible groundwater sampling is all undertaken consistently and on the same day by our own in-house technician, however this is not always practical and some samples may be taken on a second day of monitoring.

3.2 Surface Water Quality

Surface water sampling was carried out in accordance with Table S4.9 of the site permit during the review period. There are currently no trigger limits specified for surface water sampling points.

There were no elevated concentrations of the determinands tested for from the samples collected that would suggest any impact from the landfilling operations.

3.3 Surface Water Discharge Quality

Surface water emissions sampling was scheduled to be carried out the surface water discharge points, WP4 'Discharge to Grass Plots' and WP5 'Discharge to River Dee'. There was no discharge through these points during the review period.

4.0 Leachate Monitoring

4.1 Leachate Quality

Leachate sampling has been carried out in accordance with the revised Table S4.8 of the latest Permit variation site Permit with leachate sampling reduced to quarterly, as previously agreed in writing with NRW in April 2013.

Leachate sampling therefore took place in November during the fourth quarter with results attached to this report.

4.2 Leachate Levels

Leachate levels are monitored on a monthly basis in accordance with the revised Table S4.1, of the recently issued (04/11/14) Permit variation GP3830BG/V007. However, leachate level monitoring at this frequency was agreed in writing with NRW in April 2013.

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One leachate level breach occurred in this reporting period, during December, due to the silting up of one of the wells. The electric pump in well LM4 had become clogged up with silt/debris and had to be cleaned and then reinstalled above the basal silt by one metre, making the required 1m compliance level impossible to achieve. The recorded level for this well in December was 1.62m which was as low as the leachate could be maintained without clogging up the pump again. Desilting of this and all the other deep leachate wells on site was programmed in for January 2015.

The leachate pumping system repairs and maintenance plus the tankered export of leachate continue to be closely managed at the site in order to maintain full compliance.

Leachate level data for quarter 4 of 2014 is attached with this report.

5.0 Landfill Gas Management

Monitoring of the landfill gas extraction system has been completed in accordance with the requirements of Tables S4.2 and S4.7 of the site Permit.

5.1 Flare/Gas Engine Emissions

Annual monitoring of the flare and gas engine emissions for 2014 were carried out in the final quarter of the year in accordance with the IPPC permit. The results will be submitted to Natural Resources Wales in the Annual Monitoring Report in March 2015.

5.2 In Waste Gas Quality

In waste gas quality monitoring was completed in accordance with Table S4.7 of the site Permit during the review period.

There was a total of 496 gas well readings obtained with increased field balancing taking place in order to prevent the escape of fugitive odours from the uncapped, operational areas of the site.

Oxygen concentrations in excess of 5% were recorded on 78 occasions, however, 45 of these readings were from gas wells with their extraction valves closed or closed following field balancing. Two of the remaining 33 wells were closed down post monitoring with a further 27 'cracked' open for 'environmental control' to prevent the release of fugitive emissions.

Total Carbon Dioxide and Methane concentrations of less than 80% were recorded on 137 occasions with 70 of these results recorded from wells with closed extraction valves or wells which had their valve positions closed down or switched off completely, post field balancing. Of the remaining 67 wells, 32 were 'cracked' open for 'environmental control' to prevent the release of fugitive emissions.

There were no Carbon Monoxide values recorded in excess of 100ppm during this reporting period.

Assessments of air ingress into the system and any other 'Gas Operating Parameter' breaches are communicated to FCC by our gas contractors on a regular basis and subsequent remediations are carried out in accordance with the requirements of Table S4.7 of the site Permit.

A full set of gas field balancing data has been appended at the end of this report.

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APPENDIX 1

Field Logs

Field log report

Pen-Y-Bont

03-October-2014

Equipment 01 Calibration Due	21/02/2015
Equipment 01 Last Calibration	20/08/2014
Equipment 01 Serial No.	G501869
Equipment 01 Type	GA5000
Personnel 01	L Terrace
Personnel 01	Kempspton Lab - FCC
Time OFF	09:15
Time OFF	11:20
Time ON	08:50
Time ON	09:00
Weather	Unknown
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

06-October-2014

Equipment 01 Last Calibration	02/05/2014
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00307 Alan.Parry
Time OFF	14:51
Time ON	08:39
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

10-October-2014

Equipment 01 Last Calibration	02/05/2014
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00307 Alan.Parry
Time OFF	15:52
Time ON	08:52
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

13-October-2014

Equipment 01 Last Calibration	02/05/2014
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00307 Alan.Parry
Time OFF	12:00
Time ON	08:24
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

20-October-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 Alan.Parry
Time OFF	09:42
Time ON	09:18
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

22-October-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 Alan.Parry
Time OFF	13:57
Time ON	08:58
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

24-October-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 alan.parry
Time OFF	13:04
Time ON	10:31
Weather	Cold

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

27-October-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 Alan.Parry
Time OFF	15:33
Time ON	13:31
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

28-October-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Last Calibration	08/10/2014
Equipment 01 Serial No.	LT1
Equipment 01 Serial No.	GA5000 + G500863
Equipment 01 Type	Hannah Instruments HI98130
Equipment 02 Last Calibration	N/A
Equipment 02 Serial No.	30858
Equipment 02 Type	Dip Meter, In Situ Rugged Level tape 200
Personnel 01	L.Terrace
Personnel 01	INF00307 Alan.Parry
Time OFF	15:32
Time OFF	16:45
Time ON	08:50
Time ON	12:51
Weather	Wet
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

03-November-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 alan.parry
Time OFF	11:01
Time ON	09:59
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

05-November-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 alan.parry
Time OFF	14:02
Time ON	13:06
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

07-November-2014

Equipment 01 Calibration Due	21/02/2015
Equipment 01 Last Calibration	20/08/2014
Equipment 01 Serial No.	G501869
Equipment 01 Type	GA5000
Personnel 01	L Terrace
Time OFF	13:00
Time ON	08:50
Weather	Raining

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

10-November-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 alan.parry
Time OFF	11:15
Time ON	10:07
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

12-November-2014

Equipment 01 Last Calibration	06/11/2014
Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	LT1
Equipment 01 Serial No.	GA5000 + G500863
Equipment 01 Type	Hannah Instruments HI98130
Equipment 02 Last Calibration	N/A
Equipment 02 Serial No.	30858
Equipment 02 Type	Dip Meter, In Situ Rugged Level tape 200
Personnel 01	L.Terrace
Personnel 01	INF00307 alan.parry
Time OFF	14:54
Time OFF	16:55
Time ON	10:00
Time ON	08:51
Weather	Clear
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

14-November-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 alan.parry
Time OFF	15:07
Time ON	09:15
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

17-November-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 alan.parry
Time OFF	14:06
Time ON	10:27
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

18-November-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 alan.parry
Time OFF	15:11
Time ON	08:51
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

24-November-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 alan.parry
Time OFF	14:33
Time ON	14:33
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

25-November-2014

Equipment 01 Last Calibration	24/09/2014
Equipment 01 Serial No.	GA5000 + G500863
Personnel 01	INF00307 Alan.Parry
Time OFF	13:39
Time ON	08:50
Weather	Cold

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

01-December-2014

Equipment 01 Last Calibration	30/10/2014
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00307 alan.parry
Time OFF	14:28
Time ON	08:54
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

03-December-2014

Equipment 01 Last Calibration	30/10/2014
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00307 alan.parry
Time OFF	15:02
Time ON	09:42
Weather	Cold

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

05-December-2014

Equipment 01 Calibration Due	21/02/2015
Equipment 01 Last Calibration	20/08/2014
Equipment 01 Serial No.	G501869
Equipment 01 Type	GA5000
Personnel 01	L Terrace
Time OFF	12:30
Time ON	08:22
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

08-December-2014

Equipment 01 Last Calibration	30/10/2014
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00307 alan.parry
Time OFF	15:01
Time ON	08:51
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

09-December-2014

Equipment 01 Last Calibration	30/10/2014
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00307 Alan.Parry
Time OFF	12:11
Time ON	08:44
Weather	Cold

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

16-December-2014

Equipment 01 Last Calibration	03/12/2014
Equipment 01 Serial No.	LT1
Equipment 01 Type	Hannah Instruments HI98130
Equipment 02 Last Calibration	N/A
Equipment 02 Serial No.	30858
Equipment 02 Type	Dip Meter, In Situ Rugged Level tape 200
Personnel 01	L.Terrace
Time OFF	16:15
Time ON	09:10
Weather	Sunny

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

18-December-2014

Equipment 01 Last Calibration	30/10/2014
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00307 Alan.Parry
Time OFF	15:36
Time ON	13:30
Weather	Cold

Issued By:

Signed By :

Name :

Field log report

Pen-Y-Bont

30-December-2014

Equipment 01 Last Calibration	30/10/2014
Equipment 01 Serial No.	72/62-08
Equipment 01 Serial No.	GEM2000Plus + GM10338
Equipment 01 Type	Geotechnical Atex Dip Meter
Personnel 01	INF00307 Alan.Parry
Personnel 01	L Terrace
Time OFF	15:28
Time OFF	16:00
Time ON	10:57
Time ON	14:45
Weather	Cold
Weather	sun, cold

Issued By:

Signed By :

Name :

APPENDIX 2

Perimeter Borehole Gas Data

Pen-Y-Bont Perimeter Borehole Gas Data - Oct to Dec 2014



From : 03/10/2014

To : 05/12/2014

03/10/2014

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
PBGB00G1	1012	0	1.8	0	19.1	-0.07
PBGB00G2	1012	0	1.8	0	18.7	-0.02
PBGB00G3	1011	0	2.3	0	15.1	-0.09
PBGB00G4	1011	0	3.9	0	17.4	-0.16
PBGB00G5	1012	0	1.6	0	19.6	-0.02
PBGB00G6	1012	0	0.3	0	19.9	-0.14
PBGB00G7	1014	0	1.8	0	19.2	-0.09
PBGB00G8	1012	0	5.4	0	13.8	-0.14
PBGB00G9	1010	0	3.2	0	15.7	0.02
PBGB0G10	1010	0	0.5	0	20.3	-0.09
PBGB0G11	1010	0	3.1	0	3.4	-0.03
PBGB0G12	1010	0	1.1	0	19.2	-0.1
PBGB0G13	1011	0	1.6	0	15.6	0.02
PBGB0G14	1011	0	0.4	0	20.2	-0.03
PBGB0G15	1011	0	1.3	0	19.7	-0.19
PBGB0G16	1011	0	1.3	0	18.5	-0.12
PBGB0G17	1011	0	1.2	0	19.5	-0.05
PBT00001	1014	0	4.7	0	14.7	-0.16
PBT00002	1014	0	1.7	0	19.1	-0.03
PBT00003	1014	0	5.7	0	14	-0.09
PBT00004	1014	0	1.6	0	19.4	-0.16
PBT00005	1014	0	0.9	0	19.7	-0.16
PBT00006	1014	0	2.7	0	18.5	-0.03
PBT00007	1013	0	2	0	19	-0.09
PBT00008	1014	0	5.5	0	10.2	-0.05
PBT00009	1014	0	1.3	0	19.1	-0.12
PBT00010	1013	0.8	8.1	0	1.9	-0.07
PBT00012	1014	0	0.7	0	19.6	-0.02
PBT00013	1014	0	0.6	0	19.7	-0.09

Issued By:

Pen-Y-Bont Perimeter Borehole Gas Data - Oct to Dec 2014



From : 03/10/2014
To : 05/12/2014

07/11/2014

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
PBGB00G1	978	0	1.2	0	19.8	-0.07
PBGB00G2	978	0	2.3	0	18.6	-0.28
PBGB00G3	978	0	2.4	0	15.5	21.74
PBGB00G4	978	0	3.7	0	18.6	-0.16
PBGB00G5	978	0	1.1	0	20.4	-0.16
PBGB00G6	979	0	0.6	0	19.8	-0.14
PBGB00G7	980	0	1.1	0	20.2	-0.12
PBGB00G8	978	0	4.8	0	15	-0.12
PBGB00G9	976	0	3.6	0	15.5	-0.05
PBGB00G10	977	0	0.8	0	20.2	-0.14
PBGB00G11	977	0.8	4.4	0	0.4	-0.24
PBGB00G12	977	0	1.2	0	19.4	0.1
PBGB00G13	977	0	2.5	0	14	-0.16
PBGB00G14	977	0	0.7	0	20.3	-0.07
PBGB00G15	977	0	2	0	19	-0.48
PBGB00G16	977	0	1.7	0	18.7	-0.14
PBGB00G17	978	0	2.3	0	18.6	-0.14
PBT00001	980	0	3.4	0	16	10.09
PBT00002	980	0	0.3	0	20.5	-0.17
PBT00003	981	0	2.5	0	18	-5.31
PBT00004	981	0	1.6	0	19.3	-0.05
PBT00005	981	0	1.7	0	18.9	-0.12
PBT00006	981	0	2.6	0	18	-0.07
PBT00007	981	0	2.8	0	18.5	-0.07
PBT00008	980	0	1.7	0	18.8	-0.22
PBT00009	980	0	1.5	0	20	6.33
PBT00010	980	0.4	14.9	0	3.6	-0.21
PBT00012	981	0	1.2	0	20.1	-0.14
PBT00013	981	0	1.7	0	20.6	-0.17

Issued By:

Pen-Y-Bont Perimeter Borehole Gas Data - Oct to Dec 2014



From : 03/10/2014

To : 05/12/2014

05/12/2014

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
PBGB00G1	1011	0	1.2	0	19.9	-0.09
PBGB00G2	1011	0	3.2	0	17.1	-0.05
PBGB00G3	1011	0	2.7	0	14.7	10.53
PBGB00G4	1011	0	2.3	0	16.9	-0.71
PBGB00G5	1010	0	1.3	0	20	-0.14
PBGB00G6	1012	0	0.6	0	20.2	-0.07
PBGB00G7	1014	0	1.5	0	19.4	-0.05
PBGB00G8	1011	0	4.4	0	16.7	-0.05
PBGB00G9	1010	0	3.2	0	14.3	0.03
PBGB0G10	1010	0	1.2	0	19.4	-0.05
PBGB0G11	1010	0.7	9.6	0	3.8	-0.22
PBGB0G12	1010	0	1.7	0	18.4	-0.03
PBGB0G13	1010	0	3.4	0	10.7	0.02
PBGB0G14	1010	0	1.3	0	18.9	-0.09
PBGB0G15	1010	0	2	0	17.9	-0.02
PBGB0G16	1010	0	1.8	0	18.3	-0.09
PBGB0G17	1011	0	2.8	0	18.5	-0.03
PBT00001	1014	0	3.4	0	17.1	-26.15
PBT00002	1014	0	0.1	0	20.9	-0.02
PBT00003	1014	0	0.6	0	20.3	-0.1
PBT00004	1014	0	1.6	0	19.2	0
PBT00005	1014	0	1.8	0	18.7	-0.24
PBT00006	1014	0	2.4	0	18.1	-0.02
PBT00007	1014	0	2.7	0	18.1	-0.02
PBT00008	1014	0	3.4	0	18.7	-26.76
PBT00009	1014	0	2.4	0	19	-8.94
PBT00010	1013	0.9	13.2	0	0.4	-0.1
PBT00012	1011	0	0.5	0	19.9	0.03
PBT00013	1014	0	8.4	0	17.3	-0.16

Issued By:

APPENDIX 3

Landfill Gas Field Extraction and Balancing Data

PEN-Y-BONT LANDFILL GAS EXTRACTION AND BALANCING DATA - October to December 2014

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0094	06/10/2014 09:43	0.1	1.2	20.4	78.3	-1.84	988	0	0	0	0
CHIW0021	06/10/2014 10:56	37	31.7	6.5	24.8	-58.53	986	8	1	10	10
CHIW0115	06/10/2014 10:37	50.3	39.8	0	9.9	-13.84	986	0	46	20	20
CHIW0110	06/10/2014 10:11	55.3	44.4	0	0.3	-24.04	986	9	5	20	20
CHIW0021	06/10/2014 10:59	55.3	46.2	0	0	-26.83	986	17	3	10	10
CHIW0110	06/10/2014 10:08	55.6	44.3	0	0.1	-17.28	986	9	4	20	30
CHIR0072	06/10/2014 10:04	55.8	45.4	0	0	-5.96	986	8	0	10	20
CHIR0072	06/10/2014 10:06	55.8	45.4	0	0	-37.32	986	13	1	20	20
CHIW0111	06/10/2014 10:15	56	45	0	0	-9.76	986	10	6	30	30
CHIW0111	06/10/2014 10:13	56.1	44.6	0	0	-8.1	986	5	6	20	30
CHIW0076	06/10/2014 10:40	56.1	45.2	0	0	-21.89	986	0	19	20	20
CHIW0087	06/10/2014 11:10	56.4	44.4	0	0	-27.8	986	6	2	30	30
CHIR0041	06/10/2014 10:49	56.5	43.5	0	0	-26.76	986	6	4	30	30
CHIW0087	06/10/2014 11:07	56.6	44.2	0	0	-26.29	986	7	0	20	30
CHIR0077	06/10/2014 11:12	56.6	44.4	0	0	-24.63	986	5	4	0	30
CHIR0041	06/10/2014 10:46	56.7	43	0	0.3	-14.7	986	3	3	20	30
CHIW0112	06/10/2014 10:01	56.9	43.9	0	0	-5.55	986	7	23	20	20
CHIW0114	06/10/2014 10:35	57	44.4	0	0	-6.91	986	14	1	20	20
CHIW0116	06/10/2014 11:03	57	43.9	0	0	-7.16	986	4	0	10	20
CHIW0112	06/10/2014 10:00	57.1	43.8	0	0	-3.7	986	0	1	10	20
CHIW0114	06/10/2014 10:30	57.1	44	0	0	-0.41	986	23	2	10	20
CHIW0116	06/10/2014 11:02	57.2	43.7	0	0	-2.02	986	3	2	10	20
CHIW0117	06/10/2014 10:44	57.6	43.7	0	0	-24.2	986	0	32	30	30
CHIW0117	06/10/2014 10:43	57.7	43.4	0	0	-23	986	0	27	20	30
CHIW0113	06/10/2014 10:18	57.8	43.7	0	0	-11.21	986	12	51	20	20
CHIW0118	06/10/2014 10:53	57.8	43.3	0	0	-6.02	986	10	27	20	20
CHIR0077	06/10/2014 11:14	56.7	44.3	0	0	-29.4	986	5	7	30	30

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIR0037	06/10/2014 11:18	57.9	42.7	0	0	-2.68	986	1	4	10	20
CHIR0037	06/10/2014 11:20	57.8	43	0	0	-6.7	986	4	9	20	20
CHIR0040	06/10/2014 11:28	60	41.5	0	0	-9.79	986	3	9	10	10
CHILC01B	06/10/2014 11:42	2.5	5.2	15.5	76.8	-0.19	986	0	0	-	-
CHIW0039	06/10/2014 11:46	53.1	42	0	4.9	-7.03	986	5	4	10	10
CHIR0070	10/10/2014 11:11	59	39.2	0.6	1.2	-18.82	998	6	0	2	30
CHIR0070	10/10/2014 11:13	57.5	40.5	0	2	-22.4	998	11	0	30	30
CHIR0069	10/10/2014 11:16	56	42.5	0.1	1.4	-24.27	998	12	2	20	30
CHIR0069	10/10/2014 11:17	55.7	42.7	0.1	1.5	-38.23	998	11	0	30	30
CHIR0055	10/10/2014 11:20	59.2	41.1	0.4	0	-2.9	998	3	3	30	40
CHIR0055	10/10/2014 11:22	60.1	41.1	0	0	-27.98	998	5	0	30	30
CHIW0119	10/10/2014 11:24	58.3	40.9	0	0.8	-16.19	997	6	20	20	30
CHIW0119	10/10/2014 11:25	58.2	41	0	0.8	-18.89	997	6	22	40	40
CHIW0086	10/10/2014 11:27	57.9	41.7	0	0.4	-51.17	997	8	6	30	30
CHIR0074	10/10/2014 11:29	57.4	42.6	0	0	-66.64	997	5	7	20	20
CHIW0081	10/10/2014 13:58	58.6	40	0	1.4	-36.28	998	1	0	20	30
CHIW0081	10/10/2014 14:00	58.3	40.2	0	1.5	-69.47	998	2	1	30	30
CHIW0090	10/10/2014 14:02	56.4	41.9	0	1.7	-58.53	998	13	0	20	20
CHIR0071	10/10/2014 14:04	59	42	0	0	-61.55	997	14	6	20	20
CHIW0089	10/10/2014 14:06	54.6	43.5	0	1.9	-12.67	998	27	20	10	20
CHIW0089	10/10/2014 14:09	54.2	44.2	0	1.6	-33.62	998	33	12	30	30
CHIW0088	10/10/2014 14:11	56.5	41.7	0	1.8	-27.17	997	18	1	20	30
CHIW0088	10/10/2014 14:13	56.1	42.1	0	1.8	-42.82	997	17	0	30	30
CHIW0083	10/10/2014 14:15	35.6	30.4	0.5	33.5	-17.75	998	26	1	30	20
CHIW0083	10/10/2014 14:17	35.2	30.9	0.5	33.4	-15.36	998	25	0	10	10
CHIW0073	10/10/2014 14:19	56.6	42.4	0	1	-55.57	998	20	5	20	20
CHILW07B	10/10/2014 14:21	13	9.9	15.7	61.4	-68.14	998	14	0	5	5
CHIW0091	10/10/2014 14:23	58	41.1	0	0.9	-66.29	998	20	0	20	20
CHIW0093	10/10/2014 14:27	57	41.9	0	1.1	-2.78	997	19	0	20	30

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0093	10/10/2014 14:29	56.8	42.1	0	1.1	-22.21	997	21	0	30	30
CHIW0101	10/10/2014 14:31	58	40.7	0	1.3	1.97	998	8	0	0	10
CHIW0101	10/10/2014 14:33	57.6	41.4	0	1	-3.15	998	6	2	10	10
CHIW0100	10/10/2014 14:35	58.6	39.9	0	1.5	4.52	998	6	3	10	20
CHIW0100	10/10/2014 14:37	58.4	40.4	0	1.2	-4.48	998	6	4	30	30
CHIW0099	10/10/2014 14:40	56.4	39.9	0	3.7	-6.14	999	9	0	20	20
CHIW0098	10/10/2014 14:42	58.7	37.7	0	3.6	-5.95	999	2	0	10	20
CHIW0098	10/10/2014 14:44	58.6	38	0	3.4	-7.25	999	2	0	20	20
CHIW0109	13/10/2014 09:18	1.5	0.3	20.1	78.1	-0.93	999	0	0	1	1
CHIW0108	13/10/2014 09:21	59.9	39.7	0	0.4	-0.24	999	0	0	1	1
CHILMP01	13/10/2014 09:24	61.1	39.5	0	0	-2.65	999	0	0	10	10
CHIW0084	13/10/2014 09:27	53.5	39.4	0	7.1	-28.29	999	0	0	20	20
CHIW0107	13/10/2014 09:28	58.4	39.4	0.6	1.6	0.38	999	0	0	1	5
CHIW0107	13/10/2014 09:30	55.7	38.8	1.1	4.4	-18.53	999	0	0	5	5
CHIW025R	13/10/2014 09:33	56	42	0	2	-6.49	998	0	0	20	20
CHIW0085	13/10/2014 09:35	58.6	42.5	0	0	0.14	998	0	0	0	10
CHIW0085	13/10/2014 09:37	58.6	42.5	0	0	-1.96	998	8	3	10	10
CHIW0056	13/10/2014 09:42	58.6	41.5	0.1	0	-1.91	998	0	0	10	20
CHIW0056	13/10/2014 09:43	57.9	42.5	0	0	-5.39	998	2	0	20	20
CHIW0106	13/10/2014 09:46	61.1	40.3	0.1	0	-3.7	998	0	10	10	20
CHIW0106	13/10/2014 09:47	60.2	41.1	0	0	-5.25	998	0	9	20	20
CHIW0105	13/10/2014 09:49	60.5	40.6	0	0	0.61	998	0	0	0	10
CHIW0105	13/10/2014 09:52	60.1	41	0	0	-3.46	998	0	0	10	10
CHIW0064	13/10/2014 09:55	57.4	40.6	0	2	-2.05	998	0	0	10	10
CHIR017R	13/10/2014 09:56	2.5	13.3	8.6	75.6	-37.89	998	0	0	0	0
CHIW0065	13/10/2014 09:58	0.1	1.7	20.9	77.1	-1.11	998	0	0	0	0
CHIW0044	13/10/2014 09:59	54.3	39	0.1	6.6	-7.85	998	5	0	10	10
CHIW0018	13/10/2014 10:02	58.6	41.6	0.1	0	-2.05	998	0	0	5	5
CHIWA10R	13/10/2014 10:05	54.9	43.3	0.4	1.4	-1.61	999	3	0	5	5

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0104	13/10/2014 10:07	53.5	40.4	0	6.1	-7.67	998	0	4	20	20
CHIW0103	13/10/2014 10:10	50.7	37.5	0	11.8	-6.62	998	0	0	20	20
CHIW0057	13/10/2014 10:12	57.5	42.9	0	0	-12.59	998	19	5	20	20
CHIW0066	13/10/2014 10:14	54.5	41.4	0.3	3.8	-20.59	998	75	0	20	5
CHIW0066	13/10/2014 10:16	53.6	42.3	0	4.1	-10.4	998	73	1	0	0
CHIW0067	13/10/2014 10:19	33.6	38.5	0	27.9	-5.61	998	0	1	10	0
CHIW0067	13/10/2014 10:20	33.6	39.1	0	27.3	-5.66	998	0	6	0	0
CHIW0102	13/10/2014 10:28	0	0.9	20.9	77.9	-2.1	998	0	0	0	0
CHIW0068	13/10/2014 10:30	41	37.2	0.5	21.3	-13.12	998	14	0	10	10
CHILW05A	20/10/2014 09:18	2	0.5	20.4	77.1	-77.12	1006	3	0	10	0
CHILW05A	20/10/2014 09:19	2	1	20.5	76.5	-75.21	1006	4	0	0	0
CHILW5BR	20/10/2014 09:22	3.4	2.2	19.4	75	-72.58	1006	9	0	0	0
CHIW0112	20/10/2014 09:24	47.3	39.1	0.1	13.5	-8.62	1006	15	25	10	10
CHIW0110	20/10/2014 09:28	53.9	43.7	0	2.4	-23.96	1005	19	26	10	20
CHIW0110	20/10/2014 09:30	52.6	44.1	0	3.3	-31.49	1005	18	1	20	20
CHIW0111	20/10/2014 09:33	53.8	44.7	0	1.5	-11.78	1007	7	0	20	30
CHIW0111	20/10/2014 09:35	53.6	44.7	0	1.7	-15.48	1007	9	0	20	20
CHILW4AR	20/10/2014 09:37	45.8	42.2	0.8	11.2	-0.1	1007	5	0	0	0
CHILWM4B	20/10/2014 09:41	64	36.5	0.1	0	-0.22	1007	5	0	0	0
CHIW0075	22/10/2014 09:12	0.1	3.1	20.2	76.6	-20.31	1016	0	0	0	0
CHIW0114	22/10/2014 09:19	39.2	36.7	0.1	24	-19.02	1017	22	1	30	20
CHIW0114	22/10/2014 09:21	41.3	37.8	0	20.9	-10.9	1017	12	1	20	20
CHIW0030	22/10/2014 10:13	61.3	39.2	0.1	0	-7.09	1015	0	0	10	10
CHIW0007	22/10/2014 10:16	42	34.3	0.1	23.6	-6.75	1019	0	0	10	10
CHIW0029	22/10/2014 10:19	47.4	33.4	3.5	15.7	-10.93	1017	0	0	5	5
CHIW0028	22/10/2014 10:23	3.2	3.2	20.5	73.1	-8.44	1017	0	0	0	0
CHIW0003	22/10/2014 10:26	55.1	35.2	0.7	9	-18.32	1018	0	0	10	10
CHIW0092	22/10/2014 11:52	39.9	30.8	0.7	28.6	-29.16	1018	0	0	20	20
CHIW0078	22/10/2014 11:56	49	37.3	0.3	13.4	-60.55	1018	1	0	20	20

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIP0111	22/10/2014 11:58	60.8	39	0.1	0.1	-19.63	1017	0	0	10	10
CHIP0110	22/10/2014 12:03	0.2	3.9	17.8	78.1	-0.31	1018	0	0	1	1
CHILMP02	22/10/2014 12:06	0.1	0.9	20.9	77.2	-70.17	1018	0	0	20	10
CHILMP02	22/10/2014 12:09	0.1	0.6	20.9	77.4	-55.69	1018	0	0	1	1
CHILMP02	22/10/2014 12:14	0.1	0.5	20.9	77.6	-24.5	1016	0	0	1	1
CHIP0112	22/10/2014 12:17	58.2	40.2	0.1	1.5	-24.1	1017	0	0	10	10
CHIW0079	22/10/2014 12:21	56.1	43.9	0	0	13.55	1016	2	9	20	20
CHIW0080	22/10/2014 12:24	55	44.7	0	0.3	77.88	1018	2	0	10	10
CHIW0082	22/10/2014 12:29	52.7	40.4	0	6.9	-14.17	1018	0	0	30	30
CHIW0095	22/10/2014 12:32	0.1	3.2	20.9	75.4	-2.31	1017	0	0	20	1
CHIW0095	22/10/2014 12:34	0.1	1	20.9	76.9	-2.1	1017	0	0	1	1
CHIW0096	22/10/2014 12:36	0.1	1.5	20.9	77.5	-2.81	1019	0	0	1	1
CHIW0097	22/10/2014 12:40	25.6	24.4	4.7	45.3	-7.87	1019	11	0	1	1
CHIW0048	22/10/2014 12:47	0.1	2.4	20.9	75.6	-0.21	1018	0	0	0	0
CHILRIS2	22/10/2014 12:50	4.5	4.2	20.4	70.9	-0.22	1027	0	0	1	1
CHILRIS1	24/10/2014 10:42	5.2	2.7	19.5	72.6	-0.29	1010	0	0	1	1
CHIW0001	24/10/2014 10:54	56.6	36.2	0.2	7	-9.11	1005	0	0	10	10
CHIW0082	27/10/2014 13:31	45.7	36.4	0.2	17.7	-23.17	1007	0	0	20	20
CHIW0083	27/10/2014 13:34	15.3	22.7	0.7	61.3	-10.29	1008	44	0	10	0
CHIW0083	27/10/2014 13:35	15.2	23.4	0.6	60.8	-6.39	1008	44	0	0	0
CHIW0073	27/10/2014 13:37	52.1	43.8	0	4.1	-66.98	1007	5	0	20	20
CHILW07B	27/10/2014 13:40	55.3	44.3	0	0.4	106.65	1007	1	0	1	1
CHIW0091	27/10/2014 13:43	56.2	43.1	0	0.7	-60.61	1008	3	0	20	20
CHIW0114	27/10/2014 13:46	55.6	43.5	0	0.9	-2.51	1006	10	0	10	20
CHIW0114	27/10/2014 13:48	55.2	43.9	0	0.9	-5.56	1006	9	0	20	20
CHIW0113	27/10/2014 13:51	55.8	43.7	0	0.5	-13.34	1006	7	0	20	20
CHIW0076	27/10/2014 13:53	55.8	43.6	0	0.6	-21.62	1006	8	48	20	20
CHIW0115	27/10/2014 13:55	44.3	37.8	0	17.9	-16.73	1007	2	0	50	50
CHIR0041	27/10/2014 13:58	46.5	40.4	0	13.1	-34.95	1005	4	0	20	20

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0117	27/10/2014 14:01	56.3	43	0	0.7	-11.67	1006	3	0	20	20
CHIW0021	27/10/2014 14:04	53.2	46.1	0	0.7	-4.48	1006	6	0	20	20
CHIW0116	27/10/2014 14:06	55.4	43.9	0	0.7	-11.88	1007	5	0	20	30
CHIW0116	27/10/2014 14:08	55.1	44.4	0	0.5	-12.17	1007	5	0	30	30
CHIR0037	27/10/2014 14:10	54.6	44.4	0	1	-5.04	1006	6	0	20	20
CHIR0040	27/10/2014 14:15	50.2	43.8	0	6	-15.01	1006	1	0	40	40
CHIW0086	27/10/2014 14:50	58.3	39.7	0.5	1.5	-52.63	1005	6	0	20	20
CHIR0074	27/10/2014 14:53	55.3	43.3	0.1	1.3	-63.75	1006	4	26	3	30
CHIW0092	27/10/2014 15:00	40.7	35.1	0	24.2	-27.18	1008	1	0	50	50
CHIW0083	28/10/2014 12:59	37.1	34.2	0	28.7	-4.84	1001	23	0	5	5
CHIW0073	28/10/2014 13:02	52.8	43.3	0	3.9	-69.51	1001	3	0	20	20
CHILW07B	28/10/2014 13:04	40.7	27.1	6	26.2	-79.53	1001	0	0	10	10
CHIW0091	28/10/2014 13:09	57.1	41.9	0	1	-63.44	1002	0	2	20	20
CHIW0110	28/10/2014 13:12	52.7	42	0	5.3	-32.02	1001	16	3	20	30
CHIW0110	28/10/2014 13:14	52.2	41.9	0	5.9	-44.5	1001	15	1	30	30
CHIR0072	28/10/2014 13:17	56	43.3	0	0.7	-52.89	1000	4	9	30	30
CHIR0069	28/10/2014 13:48	49.5	41.5	0	9	-49.98	999	8	0	30	30
CHIR0070	28/10/2014 13:51	56.3	40.8	0	2.9	-25.25	999	4	0	20	30
CHIR0070	28/10/2014 13:53	56	40.8	0	3.2	-33.05	999	4	8	30	30
CHIW0090	28/10/2014 13:55	56.5	43.2	0	0.3	-62.94	1000	5	0	20	20
CHIR0071	28/10/2014 13:57	57.6	42.3	0	0.1	-62.2	1000	5	2	20	20
CHIW0089	28/10/2014 14:01	52.9	45.3	0	1.8	-56.62	1001	6	4	20	20
CHIW0088	28/10/2014 14:03	55.5	42.7	0.1	1.7	-49.44	1001	3	0	20	30
CHIW0088	28/10/2014 14:05	54.5	42.6	0.3	2.6	-62.04	1001	3	0	30	30
CHIW0081	03/11/2014 09:57	58.4	41.1	0	0.5	-66.19	982	0	0	10	10
CHIW0090	03/11/2014 09:59	55.9	43.6	0	0.5	-64.33	982	3	15	20	20
CHIW0090	03/11/2014 09:59	55.9	43.6	0	0.5	-64.33	982	3	15	20	20
CHIR0071	03/11/2014 10:02	57.1	42.7	0	0.2	-64.97	982	2	0	30	30
CHIR0070	03/11/2014 10:05	50.7	39.8	0.3	9.2	-52.23	982	3	0	50	50

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIR0069	03/11/2014 10:08	50.9	42	0	7.1	-50.35	981	4	2	20	20
CHIR0055	03/11/2014 10:11	51.8	40	0.4	7.8	-58.58	982	1	0	20	20
CHIW0079	03/11/2014 10:14	55.7	44	0	0.3	20.18	983	2	6	20	30
CHIW0079	03/11/2014 10:17	55.6	44	0	0.4	-34.65	983	1	0	30	30
CHIW0080	03/11/2014 10:20	55.3	44.5	0	0.2	-77	983	3	24	20	20
CHIP0110	03/11/2014 10:23	57.5	40.2	0	2.3	-25.31	982	0	0	20	20
CHILMP02	03/11/2014 10:25	1	5.4	20.5	73.1	0.43	982	0	0	0	0
CHILMP02	03/11/2014 10:25	1	5.4	20.5	73.1	0.43	982	0	0	0	0
CHIP0111	03/11/2014 10:28	59.5	39.6	0	0.9	-20.43	982	0	0	10	10
CHIW0078	03/11/2014 10:31	50.7	38.4	0.1	10.8	-68.72	983	0	0	20	20
CHIP0110	03/11/2014 10:34	0.5	3.3	18.4	77.8	0.1	982	0	0	1	1
CHIW0092	03/11/2014 10:37	43.7	35.7	0	20.6	-27.7	982	0	0	30	30
CHIW0092	03/11/2014 10:37	43.7	35.7	0	20.6	-27.7	982	0	0	30	30
CHIW0109	03/11/2014 10:41	6.6	4.7	19.5	69.2	-0.17	982	0	0	1	1
CHIW0108	03/11/2014 10:43	31.9	22.1	9.7	36.3	-0.19	982	0	0	1	1
CHIW0108	03/11/2014 10:43	31.9	22.1	9.7	36.3	-0.19	982	0	0	1	1
CHILMP01	03/11/2014 10:46	60	38.7	0	1.3	-3	982	0	0	1	1
CHIW0084	03/11/2014 10:48	53.6	38.3	0	8.1	-29.58	981	0	0	20	20
CHIW0107	03/11/2014 10:51	58.4	40.2	0	1.4	-45.19	981	0	0	10	10
CHIW025R	03/11/2014 10:54	49.8	39.8	0	10.4	-8.33	981	0	1	20	20
CHIW0085	03/11/2014 10:56	52.4	39	0	8.6	-1.89	980	5	65	10	20
CHIW0085	03/11/2014 10:58	52.1	39.2	0	8.7	-6.35	980	4	86	20	20
CHIW0106	03/11/2014 11:07	53.4	36.8	0.1	9.7	-7.47	980	1	0	20	20
CHIW0105	03/11/2014 11:11	43.5	34.5	0.1	21.9	-1.05	982	1	0	10	20
CHIW0105	03/11/2014 11:13	43.1	34.9	0	22	-7.37	982	1	0	20	20
CHIW0001	03/11/2014 11:17	56.5	37.1	0	6.4	-8.57	980	0	0	10	10
CHIW0028	03/11/2014 11:20	52.2	36.5	0	11.3	0.02	981	0	0	0	10
CHIW0028	03/11/2014 11:22	52.4	36.8	0	10.8	-1.07	981	1	0	10	10
CHIW0003	03/11/2014 11:25	55	37	0.1	7.9	-8.88	981	0	0	10	10

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0029	03/11/2014 11:28	58.1	37.8	0.1	4	-0.77	980	0	0	0	5
CHIW0029	03/11/2014 11:30	58.7	38.3	0	3	-3	980	0	0	5	5
CHIW0007	03/11/2014 11:33	61.5	37	0	1.5	-0.83	981	0	0	5	10
CHIW0007	03/11/2014 11:35	60.8	38	0	1.2	-4.36	981	0	0	10	10
CHIW0030	03/11/2014 11:40	60.8	38.7	0	0.5	-6.21	982	0	0	10	10
CHIWA10R	03/11/2014 11:43	54.4	44.4	0	1.2	-5.25	980	14	0	5	5
CHIW0018	03/11/2014 11:45	57.8	40.8	0	1.4	0.15	981	0	0	0	5
CHIW0018	03/11/2014 11:48	56.7	42.2	0	1.1	-5.06	981	0	2	5	5
CHIW0082	05/11/2014 13:03	43	34.3	0.3	22.4	-23.76	999	1	0	30	30
CHIW0094	05/11/2014 13:06	0.1	0.9	20.9	77.5	-0.1	1002	0	0	0	0
CHIW0094	05/11/2014 13:06	0.1	0.9	20.9	77.5	-0.1	1002	0	0	0	0
CHIW0083	05/11/2014 13:11	34.3	33.3	0	32.4	-8.26	1001	23	0	10	10
CHIW0095	05/11/2014 13:13	0.1	1.6	20.9	76.8	-0.71	1001	0	0	5	0
CHIW0095	05/11/2014 13:14	0	0.8	20.9	77.4	-1.27	1001	0	0	0	3
CHIW0096	05/11/2014 13:17	0.1	0.8	20.9	77.4	-0.79	1003	0	0	0	0
CHIW0097	05/11/2014 13:20	3.9	3.2	19.4	73.5	-7.97	1003	0	0	10	0
CHIW0097	05/11/2014 13:23	5.2	4.7	18.4	71.7	-8.02	1003	0	0	0	0
CHIW0098	05/11/2014 13:26	24.1	28.3	0	47.6	-16.41	1003	0	0	20	0
CHIW0098	05/11/2014 13:28	24.3	28.5	0	47.2	-11.79	1003	1	0	0	0
CHIW0099	05/11/2014 13:32	55.1	38.8	0	6.1	-38.65	1003	1	0	30	40
CHIW0099	05/11/2014 13:35	52.8	38.5	0	8.7	-43.55	1003	0	0	40	40
CHIW0100	05/11/2014 13:38	41.1	36.9	0	22	-17.13	1002	1	1	30	30
CHIW0101	05/11/2014 13:40	36.4	36.8	0	26.8	-7.21	1002	0	0	20	10
CHIW0101	05/11/2014 13:40	36.4	36.8	0	26.8	-7.21	1002	0	0	20	10
CHIW0101	05/11/2014 13:43	36.3	37.5	0	26.2	-6.2	1002	0	0	10	10
CHIW0102	05/11/2014 13:47	0.2	1.6	20.9	76.3	-4.56	1002	0	0	0	0
CHIW0103	05/11/2014 13:50	42.1	35.5	0	22.4	-11.03	1001	2	0	20	20
CHIW0104	05/11/2014 13:53	52.5	38.1	0	9.4	-11.03	1001	0	0	10	20
CHIW0104	05/11/2014 13:55	52.3	38.5	0	9.2	-12.52	1001	0	1	20	20

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0104	05/11/2014 13:55	52.3	38.5	0	9.2	-12.52	1001	0	1	20	20
CHIW0057	05/11/2014 13:57	53.5	41.4	0	5.1	-20.61	1000	23	0	20	20
CHIW0066	05/11/2014 14:01	21	16.5	13.7	48.8	-9.92	1001	0	0	10	0
CHIW0066	05/11/2014 14:02	22.4	18	13	46.6	-10.14	1001	0	0	0	0
CHIW0066	05/11/2014 14:02	22.4	18	13	46.6	-10.14	1001	0	0	0	0
CHIW0067	05/11/2014 14:06	35.7	35.6	0.2	28.5	-7.61	1001	2	0	5	5
CHIW0066	05/11/2014 14:08	38.8	34.9	0.1	26.2	-12.84	1002	9	0	10	10
CHIW0093	05/11/2014 14:11	38.8	35	1.3	24.9	-26.49	1000	5	0	20	20
CHIW0091	05/11/2014 14:14	56.5	42.8	0	0.7	-65.42	1001	3	0	20	20
CHILW07B	05/11/2014 14:17	34.2	22.8	8.9	34.1	-64.14	1002	0	0	1	0
CHIW0073	05/11/2014 14:19	51.1	42.1	0.1	6.7	-69.5	1000	3	0	10	10
CHIR0072	10/11/2014 09:31	58.3	41.1	0.7	0	-60.79	990	7	0	20	20
CHIW0110	10/11/2014 09:35	50.2	42	0.1	7.7	-51.96	992	9	0	30	30
CHIW0111	10/11/2014 09:38	53.7	43.2	0	3.1	-17.71	992	3	0	30	40
CHIW0111	10/11/2014 09:40	53.5	43.3	0	3.2	-23.02	992	4	0	40	40
CHILW4AR	10/11/2014 09:43	10.6	14.2	12.1	63.1	-0.07	992	12	0	1	1
CHILWM4B	10/11/2014 09:45	37.8	31.8	5.3	25.1	-12.88	992	0	0	1	1
CHIW0113	10/11/2014 09:47	57.2	43.1	0	0	-14.65	991	11	8	20	30
CHIW0113	10/11/2014 09:50	57	43.5	0	0	-17.54	991	8	11	40	40
CHIW0114	10/11/2014 09:56	49	41	0	10	-10.14	991	5	5	20	20
CHIW0115	10/11/2014 10:03	43.1	38	0	18.9	-19.23	992	5	9	40	40
CHIW0076	10/11/2014 10:06	57.9	38.1	4.8	0	-24.43	993	10	29	20	30
CHIW0076	10/11/2014 10:07	56.1	44.4	0	0	-36.84	993	9	64	40	40
CHIW0076	10/11/2014 10:07	56.1	44.4	0	0	-36.84	993	9	64	40	40
CHIW0117	10/11/2014 10:09	57.6	42.5	0.1	0	-14.05	992	1	0	20	30
CHIW0117	10/11/2014 10:11	56.7	43.8	0	0	-16.73	992	4	44	30	30
CHIR0041	10/11/2014 10:13	48.4	40	0	11.6	-37.84	992	5	9	30	30
CHIR0041	10/11/2014 10:13	48.4	40	0	11.6	-37.84	992	5	9	30	30
CHIW0118	10/11/2014 10:16	50.4	40.3	0	9.3	-13.67	990	6	13	20	30

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0118	10/11/2014 10:18	50.4	41	0	8.6	-21.26	990	6	0	30	30
CHIW0039	10/11/2014 10:24	1.7	5.1	20	73.2	-75.42	990	0	0	0	0
CHIR0040	10/11/2014 10:26	53	42.2	0	4.8	-16.91	993	3	6	30	40
CHIR0040	10/11/2014 10:28	52.5	42.9	0	4.6	-18.51	993	4	20	30	30
CHILC01B	10/11/2014 10:31	0.1	2.5	20.9	75.9	-0.12	992	0	0	3	3
CHIR0037	10/11/2014 10:44	56.2	43.5	0.1	0.2	-6.75	991	9	0	20	30
CHIR0037	10/11/2014 10:46	55.9	44.3	0	0	-8.59	991	7	10	30	30
CHIW02AR	10/11/2014 10:48	0	0.2	20.9	77.6	-9.71	993	0	0	0	0
CHIW0086	10/11/2014 10:51	57	43	0.1	0	-57.77	992	6	0	20	20
CHIW0086	10/11/2014 10:51	57	43	0.1	0	-57.77	992	6	0	20	20
CHIW0119	10/11/2014 10:53	54.1	42.2	0	3.7	-38.51	991	4	0	20	30
CHIW0119	10/11/2014 10:55	54	42.5	0	3.5	-39.94	991	4	3	30	30
CHIR0074	10/11/2014 10:57	55.5	43.2	0.4	0.9	-67.48	991	3	20	30	30
CHIW0112	10/11/2014 11:02	56.3	44	0	0	-18.49	991	5	0	20	20
CHIW0112	10/11/2014 11:02	56.3	44	0	0	-18.49	991	5	0	20	20
CHIR0077	10/11/2014 11:03	2.5	16.5	9.6	71.4	-	992	1	0	-	-
CHIR0077	10/11/2014 11:05	56.5	43.7	0	0	-36.15	992	6	24	20	30
CHIR0077	10/11/2014 11:06	56.3	44.2	0	0	-51.18	992	7	99	30	30
CHIR0077	10/11/2014 11:06	56.3	44.2	0	0	-51.18	992	7	99	30	30
CHIW0087	10/11/2014 11:10	56.7	42.3	0.5	0.5	-39.37	993	6	4	30	30
CHIW0116	10/11/2014 11:11	56.4	43.3	0.1	0.2	-13.62	992	7	5	20	30
CHIW0116	10/11/2014 11:13	55.7	43.9	0	0.4	-14.36	992	7	0	30	30
CHIW0075	12/11/2014 09:02	0.3	2.2	20.8	76.7	-0.17	985	0	0	0	0
CHIW0085	12/11/2014 09:51	31.4	29.7	0.7	38.2	-8.18	981	8	0	20	10
CHIW0085	12/11/2014 09:57	27.4	29.7	0.4	42.5	-4.73	981	8	0	0	0
CHIW0044	12/11/2014 09:59	42.1	40.6	0	17.3	-13.32	982	4	0	20	20
CHIWA10R	12/11/2014 10:08	51.7	44.2	0	4.1	-17.37	983	13	1	5	5
CHIW0021	12/11/2014 10:10	53.7	47.2	0	0	-19.42	982	3	10	20	20
CHILW05A	12/11/2014 10:15	29.3	10.4	13.3	47	-70.12	983	0	0	0	0

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHILW5BR	12/11/2014 10:16	0.3	3.3	20.9	74.3	-0.21	983	0	0	0	0
CHILW06R	12/11/2014 10:19	0.3	1.6	20.9	75.5	-0.24	984	0	0	0	0
CHIW0068	12/11/2014 10:30	39.3	36.7	0.1	23.9	-13.63	984	7	0	20	20
CHIW0088	12/11/2014 10:33	54.9	43.2	0.4	1.5	-67.76	983	0	0	20	20
CHIW0089	12/11/2014 10:35	53.5	46.1	0	0.4	-54.49	984	5	0	20	20
CHIW0073	12/11/2014 13:10	54	43.7	0.1	2.2	-54.54	984	6	2	30	30
CHIW0091	12/11/2014 13:19	55.1	42	0.3	2.6	-63.37	985	1	0	20	20
CHILRIS1	14/11/2014 09:41	46.3	17.7	6.7	29.3	-0.1	989	0	0	1	1
CHILRIS2	14/11/2014 09:43	4	4.6	19.9	71.5	-0.24	989	0	0	1	1
CHIW0082	17/11/2014 12:57	45.9	35.6	0.1	18.4	-23.74	995	1	0	30	30
CHIW0088	17/11/2014 13:00	56.6	42.1	0	1.3	-58.2	994	3	0	40	40
CHIW0083	17/11/2014 13:03	49.1	39.2	0	11.7	-5.13	995	3	3	20	20
CHIW0098	17/11/2014 13:06	48.1	36.8	0	15.1	-5.37	996	3	0	5	5
CHIW0099	17/11/2014 13:07	0.5	5	19.4	75.1	-	997	0	0	-	-
CHIW0099	17/11/2014 13:09	52.8	37.8	0	9.4	-44.52	997	2	0	50	50
CHIW0073	17/11/2014 13:13	53	42.8	0	4.2	-62.23	996	5	8	30	30
CHIW0091	17/11/2014 13:15	56.7	42.8	0	0.5	-50.54	995	4	0	30	30
CHIW0110	17/11/2014 13:18	51.9	41.9	0.1	6.1	-48.65	994	27	0	40	40
CHIR0072	17/11/2014 13:23	56.3	42.8	0.2	0.7	-66.33	995	4	0	20	20
CHIR0074	17/11/2014 13:24	54.7	44.1	0	1.2	-67.74	993	1	0	20	20
CHIW0092	17/11/2014 13:50	37.8	33.4	0.1	28.7	-28.41	993	2	3	20	20
CHIP0110	17/11/2014 13:52	0.1	2.5	20.9	75.4	-27.73	995	0	0	5	5
CHIW0078	17/11/2014 13:54	51.8	36.4	0.3	11.5	-67.78	995	1	3	20	20
CHIP0111	17/11/2014 13:57	24.7	16	12.9	46.4	-16.89	994	5	0	1	1
CHIP0112	17/11/2014 14:01	59.9	39.8	0	0.3	-15.73	996	0	0	20	20
CHIW0084	18/11/2014 10:21	50.9	39.3	0	9.8	-29.11	1003	1	5	20	20
CHIW0085	18/11/2014 10:24	46.7	36.8	0	16.5	-2.81	1005	6	0	10	20
CHIW0085	18/11/2014 10:27	45.7	37	0	17.3	-7.59	1005	6	0	20	20
CHIW0056	18/11/2014 10:30	56.9	42.5	0	0.6	-7.01	1005	7	0	10	20

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0056	18/11/2014 10:34	56.4	43	0	0.6	-8.88	1005	1	0	20	20
CHIW0064	18/11/2014 10:36	50	40.4	0.5	9.1	-8.33	1004	0	0	10	20
CHIW0064	18/11/2014 10:38	51	41.4	0.1	7.5	-9.19	1004	0	0	20	20
CHIR0040	18/11/2014 10:51	51.7	42.6	0	5.7	-20.85	1004	4	5	30	30
CHIR0037	18/11/2014 10:54	53.5	44.1	0	2.4	-11.24	1004	8	0	20	30
CHIR0037	18/11/2014 10:56	53.6	44.2	0	2.2	-11.67	1004	7	0	20	20
CHIW0116	18/11/2014 10:58	56.5	42.9	0.1	0.5	-16.82	1004	6	0	20	30
CHIW0116	18/11/2014 11:00	55.8	43.5	0	0.7	-17.01	1004	6	0	30	30
CHIW0118	18/11/2014 11:07	46.6	39.4	0	14	-29.56	1004	8	23	20	20
CHIW0117	18/11/2014 11:10	57.2	42.4	0	0.4	-37.2	1004	7	0	20	1
CHIW0076	18/11/2014 11:13	52.4	41.6	0	6	-56.71	1004	10	57	20	20
CHIW0113	18/11/2014 11:16	57.1	42.7	0	0.2	-28.3	1004	12	5	20	20
CHIW0048	18/11/2014 12:54	28.8	31.1	3	37.1	-10.35	1004	23	0	1	1
CHIR0055	25/11/2014 09:25	56.4	40.7	0.5	2.4	-46.67	1015	3	0	20	30
CHIR0055	25/11/2014 09:27	55.9	41.9	0.2	2	-57.36	1015	4	0	30	30
CHIW0092	25/11/2014 09:30	35.7	32.8	0.2	31.3	-28.8	1018	2	0	40	20
CHIW0092	25/11/2014 09:32	34.6	33	0.2	32.2	-20.43	1018	3	0	20	20
CHIW0078	25/11/2014 09:35	50.1	38.3	0	11.6	-66.69	1017	1	0	20	20
CHIP0111	25/11/2014 09:38	60.4	40	0	0	-8.83	1018	0	0	5	10
CHIP0111	25/11/2014 09:40	60.3	40	0	0	-35.65	1018	1	0	10	10
CHIW0079	25/11/2014 09:46	57.8	42.2	0	0	-62.75	1018	2	0	20	20
CHIW0080	25/11/2014 09:49	56.5	44.1	0	0	-74.23	1018	3	0	10	10
CHIW0081	25/11/2014 09:52	60.2	40.6	0	0	-67.4	1018	0	0	10	10
CHIW0090	25/11/2014 09:55	56.3	44	0	0	-63.92	1017	4	0	10	10
CHIR0071	25/11/2014 09:57	57.2	43.3	0	0	-66.88	1015	4	0	20	20
CHIW0089	25/11/2014 10:00	51.8	44.6	0	3.6	-70.36	1017	5	0	10	10
CHIW0088	25/11/2014 10:03	54.9	42.8	0	2.3	-64.71	1017	2	0	10	10
CHIW0073	25/11/2014 10:08	53.4	43.9	0	2.7	-74.97	1016	5	24	10	10
CHIW0082	25/11/2014 10:10	44.9	36.5	0.2	18.4	-25.15	1016	1	0	20	20

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0082	01/12/2014 09:19	43.1	32.6	0.1	24.2	-27.6	1007	3	0	30	30
CHIW0083	01/12/2014 09:22	18.9	24	0.5	56.6	-60.05	1007	50	0	20	0
CHIW0083	01/12/2014 09:24	18.8	25.2	0.4	55.6	-50	1007	46	0	0	0
CHIW0094	01/12/2014 09:27	22.8	22.6	5.1	49.5	-9.17	1007	2	0	1	1
CHIW0095	01/12/2014 09:30	0.1	0.8	20.9	78	-2.36	1007	0	0	1	1
CHIW0096	01/12/2014 09:32	0.1	0.9	20.5	78.5	-2.14	1008	0	0	-	0
CHIW0097	01/12/2014 09:35	36	25.8	3.7	34.5	-5.81	1008	0	0	1	1
CHIW0098	01/12/2014 09:38	46.7	36.7	0	16.6	-6.78	1008	3	0	10	10
CHIW0099	01/12/2014 09:41	53.6	38	0.2	8.2	-45.34	1008	2	0	20	20
CHIW0100	01/12/2014 09:44	43.4	37	0.1	19.5	-16.23	1008	1	0	20	20
CHIW0101	01/12/2014 09:46	55.9	42.1	0.1	1.9	-5.33	1008	2	3	10	20
CHIW0101	01/12/2014 09:48	52.4	42.1	0	5.5	-6.03	1008	1	1	20	20
CHIW0102	01/12/2014 09:50	0.1	1.4	20.9	77.2	-3.26	1007	0	0	-	-
CHIW0048	01/12/2014 09:52	33.3	31.9	1.7	33.1	-7.72	1007	22	1	1	1
CHIW0103	01/12/2014 09:55	39.2	33.7	0	27.1	-10.37	1007	2	0	20	10
CHIW0103	01/12/2014 09:57	38.9	33.9	0	27.2	-10.1	1007	1	0	10	10
CHIW0104	01/12/2014 09:59	49	39.3	0	11.7	-10.04	1006	0	0	20	20
CHIWA10R	01/12/2014 10:01	54	43.4	0	2.6	-13.91	1006	5	0	5	5
CHIW0018	01/12/2014 10:03	38.5	34.6	0.4	26.5	-14.47	1006	0	0	5	5
CHIW0044	01/12/2014 10:06	56.2	41.2	0.2	2.4	-12.15	1006	1	0	10	10
CHIW0066	01/12/2014 10:07	0.3	7.5	18.6	73.6	-36.45	1006	0	0	-	-
CHIW0064	01/12/2014 10:09	43.3	41.6	1.3	13.8	-8.57	1006	1	0	10	10
CHIW0056	01/12/2014 10:12	52.5	45	0	2.5	-8.67	1006	3	0	10	10
CHIW0105	01/12/2014 10:14	28.5	35.7	0	35.8	-9.1	1006	0	0	10	0
CHIW0105	01/12/2014 10:15	30.7	36.7	0	32.6	-9.79	1006	0	0	0	0
CHIW0106	01/12/2014 10:17	47.7	38.1	0.1	14.1	-12.56	1006	0	1	10	10
CHIW0085	01/12/2014 10:33	45.2	41.7	0	13.1	-5.23	1006	4	0	10	10
CHIW0107	01/12/2014 10:36	36.6	26.9	5.9	30.6	-6.13	1006	0	0	1	1
CHIW0084	01/12/2014 10:38	59.3	39.5	0	1.2	-21.44	1006	0	0	20	20

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHILMP01	01/12/2014 10:41	64.1	38.8	0.1	0	-1.17	1006	0	0	1	1
CHIW0108	01/12/2014 10:44	25.1	17.3	12.4	45.2	-1.15	1006	0	0	1	1
CHIW0109	01/12/2014 10:47	60.7	38.3	0.5	0.5	-0.47	1006	0	0	10	10
CHIW0092	01/12/2014 10:49	62	35.6	0.9	1.5	-3.9	1007	0	8	10	20
CHIW0092	01/12/2014 10:51	59.2	37.3	0	3.5	-10.19	1007	0	30	20	20
CHIP0110	01/12/2014 10:53	0.1	2.6	20.9	76.4	-23.76	1007	0	0	1	1
CHIW0078	01/12/2014 10:54	56.6	36.3	0.2	6.9	-69.01	1007	0	0	20	20
CHIP0111	01/12/2014 10:56	62.1	38.4	0.2	0	-28.64	1007	0	0	10	10
CHILMP02	01/12/2014 11:00	53.7	34.7	2.1	9.5	-14.59	1007	0	0	10	10
CHIW0079	01/12/2014 11:02	61.1	41.4	0.2	0	-54.3	1007	0	0	30	30
CHIP0112	01/12/2014 11:04	61.6	41	0	0	-3.48	1007	0	0	10	10
CHIW0080	01/12/2014 11:06	58.6	44.1	0	0	-59.17	1007	2	27	20	20
CHIW0081	01/12/2014 11:08	61.9	40.6	0	0	-51.12	1007	0	1	10	10
CHIW0090	01/12/2014 11:11	57.9	44.5	0	0	-52.42	1006	2	0	20	20
CHIR0071	01/12/2014 11:13	59.2	43.1	0.1	0	-51.59	1006	2	0	20	20
CHIW0089	01/12/2014 11:15	53.2	44.7	0.1	2	-61.45	1006	3	0	20	20
CHIW0088	01/12/2014 11:17	55.6	42.9	0	1.5	-45.39	1006	2	0	20	20
CHIW0073	01/12/2014 11:19	54.6	44.1	0	1.3	-65.8	1006	2	3	20	20
CHILW07B	01/12/2014 11:22	8.7	9.8	17.1	64.4	-79.47	1007	2	0	1	1
CHIW0091	01/12/2014 11:24	58.7	43.7	0	0	-45.13	1006	3	3	20	20
CHIW0093	01/12/2014 11:26	55	42.5	0	2.5	-6	1006	3	12	20	20
CHIW0075	01/12/2014 11:30	0.1	3.8	20.4	75.7	-78.66	1006	0	0	10	0
CHIW0075	01/12/2014 11:31	0.1	1.6	20.9	77.1	-82	1006	0	0	0	0
CHIW0110	01/12/2014 11:34	54	42.7	0.1	3.2	-54.89	1005	21	0	20	20
CHIW0112	03/12/2014 09:58	41.5	37.2	0.2	21.1	-5.51	1019	8	1	10	10
CHIR0072	03/12/2014 10:00	56.8	43.2	0.3	0	-59.68	1019	6	0	10	10
CHIW0110	03/12/2014 10:03	53.3	42.1	0.2	4.4	-57.73	1019	19	0	20	20
CHIW0111	03/12/2014 10:18	50.8	41	0.1	8.1	-26.23	1018	5	0	20	20
CHIW0113	03/12/2014 10:21	58	42.5	0	0	-30.55	1018	7	1	20	30

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0113	03/12/2014 10:23	57.5	42.9	0	0	-34.88	1018	7	2	30	30
CHIW0114	03/12/2014 10:25	38.4	35.8	0.3	25.5	-13.95	1018	15	0	20	10
CHIW0114	03/12/2014 10:27	41.3	36.8	0	21.9	-9.52	1018	11	0	10	10
CHIW0115	03/12/2014 10:30	34.6	33.5	0	31.9	-22.07	1018	3	14	30	20
CHIW0115	03/12/2014 10:31	37.4	34.6	0	28	-18.09	1018	3	30	20	20
CHIW0076	03/12/2014 10:34	51.5	41.6	0	6.9	-40.06	1018	5	3	20	20
CHIW0117	03/12/2014 10:35	57.6	42.5	0.1	0	-37.56	1018	4	3	10	20
CHIW0117	03/12/2014 10:37	57.5	42.5	0	0	-39	1018	4	4	20	20
CHIR0041	03/12/2014 10:39	45.1	38.3	0.1	16.5	-37.79	1018	5	19	50	50
CHIW0118	03/12/2014 10:41	50.3	40.3	0	9.4	-25.04	1018	6	7	20	20
CHIW0021	03/12/2014 10:44	53.5	40.7	1.2	4.6	-4.15	1018	2	19	20	20
CHIW0116	03/12/2014 10:46	58.9	41.2	0.1	0	-4.4	1018	3	1	22	20
CHIW0087	03/12/2014 10:48	56.5	42.1	0.3	1.1	-32.95	1018	5	1	30	30
CHIR0077	03/12/2014 10:50	56.7	42.9	0	0.4	-53.38	1018	4	0	20	20
CHIW02AR	03/12/2014 11:17	56.7	41.2	1.5	0.6	-0.29	1018	6	0	10	10
CHIR0037	03/12/2014 11:19	58.3	42.1	0	0	-1.68	1017	6	26	20	20
CHILC01B	03/12/2014 11:22	0.3	4.9	13.3	81.5	-16.43	1017	3	4	-	-
CHIR0040	03/12/2014 11:24	59.5	40.3	0.5	0	-2.35	1017	2	1	10	10
CHIW0086	03/12/2014 11:28	58.1	41.5	0.4	0	-48.57	1018	5	0	20	20
CHIW0119	03/12/2014 11:30	56.3	42.8	0.3	0.6	-39.27	1018	4	0	30	30
CHILRIS1	03/12/2014 13:49	69.9	29.9	0.3	0	-0.16	1019	0	0	1	1
CHILRIS2	03/12/2014 13:52	18.8	8.1	14.9	58.2	-0.2	1019	0	0	1	1
CHIR0071	08/12/2014 09:06	49.6	38.4	1.3	10.7	-59.35	1008	5	0	50	50
CHILW05A	08/12/2014 09:08	39.1	24.6	6.8	29.5	-0.34	1007	5	0	0	0
CHILW5BR	08/12/2014 09:46	67.6	33	0.4	0	-8.43	1007	0	0	10	10
CHILW4AR	08/12/2014 09:48	0.6	2.3	19.3	77.8	-36.27	1008	0	0	0	0
CHILWM4B	08/12/2014 09:50	19.4	18.7	8.3	53.6	-67.88	1008	3	0	-	-
CHILW06R	08/12/2014 09:51	19.4	18.8	8.4	53.4	-11.61	1008	3	0	-	-
CHIR0074	08/12/2014 09:54	57.2	44.3	0.1	0	-65.07	913	5	0	20	20

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIR0055	08/12/2014 09:57	54.6	41.2	0.6	3.6	-60.33	1008	4	0	20	20
CHIR0069	08/12/2014 09:58	53	41.3	1.1	4.6	-53.67	1008	5	1	20	20
CHIW0084	08/12/2014 10:03	57.7	42.2	0	0.1	-48.38	1009	2	0	20	20
CHIW0065	08/12/2014 10:05	0.2	2.4	20.1	77.3	-0.32	1008	0	0	-	-
CHIW0001	08/12/2014 10:11	56.4	37.8	0.1	5.7	-11.77	1008	0	0	10	-
CHIW0028	08/12/2014 10:16	51.8	41.3	0.2	6.7	-9.73	1009	0	0	10	10
CHIW0003	08/12/2014 10:18	58.3	37.6	0.6	3.5	-11.69	1009	1	0	10	10
CHIW0029	08/12/2014 10:21	53.7	39.9	0	6.4	-12.03	1009	0	0	15	15
CHIW0007	08/12/2014 10:24	40.3	34.8	0	24.9	-13.38	1010	0	0	10	10
CHIW0030	08/12/2014 10:29	56.7	37.9	0.3	5.1	-14.91	1010	0	0	10	10
CHIW0057	08/12/2014 10:32	49.9	40.3	0.3	9.5	-19.18	1008	14	1	20	20
CHIW0067	08/12/2014 10:35	16.7	14.2	15	54.1	-6.39	1008	0	0	10	0
CHIW0067	08/12/2014 10:36	30.7	29.6	3.6	36.1	-7.65	1008	1	0	0	0
CHIW0068	08/12/2014 12:50	49.3	39.8	0.8	10.1	-4.89	1008	6	0	10	10
CHIR0055	09/12/2014 09:45	54.7	40.8	0.6	3.9	-63.05	1012	1	0	20	20
CHIR0069	09/12/2014 09:47	52.7	41.5	0.2	5.6	-59.4	1012	5	8	20	20
CHIR0070	09/12/2014 09:49	48.3	38	1.2	12.5	-64.98	1012	5	0	50	50
CHIW0090	09/12/2014 09:51	57.6	44.1	0.1	0	-66.85	1013	5	1	30	30
CHIR0071	09/12/2014 09:52	58.4	43.1	0.4	0	-69.06	1012	5	1	30	30
CHIW0089	09/12/2014 09:54	52.6	44	0.2	3.2	-72.2	1013	6	0	30	30
CHIW0088	09/12/2014 09:56	56	42.4	0.6	1	-69.47	1013	4	0	20	20
CHIW0112	09/12/2014 10:24	38.3	36.2	0.2	25.3	-14.75	1011	12	1	20	20
CHIR0072	09/12/2014 10:25	57.7	43.7	1.6	0	-55.37	1011	6	0	20	20
CHIW0110	09/12/2014 10:27	53.7	42.6	0.1	3.6	-56.9	1012	21	0	30	30
CHIW0075	09/12/2014 10:29	0.7	5.5	19.5	74.3	-39.87	1012	5	0	0	0
CHIW0114	09/12/2014 10:31	51.5	40.8	0.5	7.2	-5.18	1012	7	2	20	20
CHIW0113	09/12/2014 10:33	59.1	43.4	0.1	0	-10.43	1011	9	28	20	30
CHIW0113	09/12/2014 10:34	58.7	43.6	0	0	-13.92	1011	8	35	30	30
CHIW0076	09/12/2014 10:36	54.4	42.4	0.1	3.1	-47.62	1011	5	17	50	50

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0115	09/12/2014 10:37	44.2	37.7	0.2	17.9	-11.77	1011	3	30	20	201
CHIR0041	09/12/2014 10:39	47.8	39.6	0.2	12.4	-33.46	1011	4	3	2	20
CHIW0117	09/12/2014 10:40	58.8	43.2	0.3	0	-29.11	1011	4	43	30	30
CHIW0078	09/12/2014 10:47	43.9	36.1	0.9	19.1	-68.22	1012	3	14	20	20
CHIW0079	09/12/2014 10:49	59.3	42	0.4	0	-46.87	1012	3	0	20	20
CHIW0080	09/12/2014 10:50	57.9	43.8	0.3	0	-59.94	1012	3	10	30	30
CHILW06R	18/12/2014 13:50	0.3	1.3	20.1	78.3	-0.53	994	0	0	1	1
CHIW0111	18/12/2014 13:55	54.6	40.8	0.3	4.3	-21.08	994	9	1	30	40
CHIW0111	18/12/2014 13:56	54.2	41.7	0	4.1	-24.68	994	8	1	40	40
CHIW0114	18/12/2014 13:59	51.4	41.1	0.1	7.4	-4.66	994	9	1	20	30
CHIW0114	18/12/2014 14:01	50.6	41.7	0	7.7	-12.53	994	8	1	30	30
CHILW05A	18/12/2014 14:08	67.7	30	0.6	1.7	16.07	993	1	0	5	5
CHIW0083	30/12/2014 11:13	48.6	36.4	0.3	14.7	-14.12	1030	2	0	0	0
CHIW0082	30/12/2014 11:15	36.5	33	0.5	30	-35.44	1030	2	0	20	10
CHIW0082	30/12/2014 11:18	36.3	32.9	0	30.8	-28.25	1030	1	0	10	10
CHIW0088	30/12/2014 11:20	56.6	41.4	0.2	1.8	-76.93	1030	3	2	30	10
CHIW0088	30/12/2014 11:23	58.8	41.5	0	0	-38.21	1030	3	2	10	10
CHIW0073	30/12/2014 11:26	52.5	42.4	0	5.1	-84.29	1029	6	23	20	10
CHIW0073	30/12/2014 11:28	52.5	42.4	0	5.1	-41.93	1029	6	17	10	10
CHILW07B	30/12/2014 11:32	62.6	38.8	0	0	269.16	1030	4	1	1	10
CHILW07B	30/12/2014 11:37	63.6	37.5	0	0	-21.39	1030	1	2	10	10
CHIW0099	30/12/2014 11:40	47.6	35.9	0.5	16	-54.73	1030	2	0	30	10
CHIW0099	30/12/2014 11:42	48.6	36.3	0.4	14.7	-27.91	1030	3	0	10	10
CHIW0098	30/12/2014 11:45	32.7	31.3	0	36	-12.64	1030	4	1	20	10
CHIW0098	30/12/2014 11:48	32.4	31.1	0	36.5	-11.84	1030	4	1	5	5
CHIR0074	30/12/2014 14:15	57.9	42.5	0	0	-88.34	1026	4	10	30	20
CHIR0074	30/12/2014 14:22	57.7	42.4	0	0	-50.84	1026	5	22	10	10
CHIR0055	30/12/2014 14:26	56	41.6	0	2.4	-84.03	1026	4	1	40	20
CHIR0055	30/12/2014 14:29	55.3	41.3	0	3.4	-49.13	1026	3	1	10	10

Well ID	Date/Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
CHIW0119	30/12/2014 14:32	58.8	41.6	0	0	-71.82	1026	4	18	40	10
CHIW0119	30/12/2014 14:38	58.9	41.3	0	0	-49.75	1026	4	11	10	10
CHIW0086	30/12/2014 14:42	57.8	41.7	0	0.5	-92.88	1025	6	41	20	20
CHIW0117	30/12/2014 14:49	58.3	42.3	0	0	-49.93	1025	6	43	20	20
CHIR0041	30/12/2014 14:51	45.5	37.8	0	16.7	-46.64	1025	6	43	20	20

APPENDIX 4

Leachate Level Data

Pen-Y-Bont Leachate Level Data - October to December 2014



From : 29/10/2014

To : 30/12/2014

29/10/2014

Sample Point	Depth of Liq (m)	Dip to Water (m)	TD (m)	Water Level (mAOD)
LC0003	0.70	5.69	6.36	64.71
LC01B	0.87	50.33	51.22	41.51
LM04B	0.85	49.56	50.42	41.48
LM05B	0.86	49.61	50.48	41.44
LM07B	0.90	40.09	41.01	40.50
PBLC004B	0.87	49.53	50.38	41.69
PBLC5B	0.90	47.77	48.65	42.13
PBLM6B	0.93	47.01	47.92	41.40

Issued By:

Pen-Y-Bont Leachate Level Data - October to December 2014



From : 29/10/2014

To : 30/12/2014

27/11/2014

Sample Point	Depth of Liq (m)	Dip to Water (m)	TD (m)	Water Level (mAOD)
LC0003	0.79	5.6	6.36	64.80
LC01B	0.83	50.37	51.22	41.47
LM04B	0.86	49.55	50.42	41.49
LM05B	0.79	49.68	50.48	41.37
LM07B	0.89	40.1	41.01	40.49
PBLC004B	0.94	49.46	50.38	41.76
PBLC5B	0.73	47.94	48.65	41.96
PBLM6B	0.95	46.99	47.92	41.42

Issued By:

Pen-Y-Bont Leachate Level Data - October to December 2014



From : 29/10/2014

To : 30/12/2014

30/12/2014

Sample Point	Depth of Liq (m)	Dip to Water (m)	TD (m)	Water Level (mAOD)
LC0003	0.79	5.6	6.36	64.80
LC01B	0.83	50.37	51.22	41.47
LM04B	1.62	48.79	50.42	42.25
LM05B	0.79	49.68	50.48	41.37
LM07B	0.89	40.1	41.01	40.49
PBLC004B	0.96	49.44	50.38	41.78
PBLC5B	0.94	47.73	48.65	42.17
PBLM6B	0.95	46.99	47.92	41.42

Issued By:

APPENDIX 5

Leachate Quality Data

Pen-Y-Bont Leachate Quality Data - October to December 2014



From : 13/11/2014

To : 13/11/2014

13/11/2014

Sample Point	Alk (CaCO3:mg/l)	Amm-N (N:mg/l)	BOD (mg/l)	Ca(D) (mg/l)	Cd(D) (mg/l)	Chloride (mg/l)	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	Cr(D) (mg/l)
LC0003	11600	2390	568	51	0.0012	838	1900	27100	>20000	0.045
LC01B	18400	2720	1012	36	0.003	2320	6250	31000	>20000	0.269
LM04B	21200	2880	24026	<100	<0.001	1940	26200	38900	>20000	0.571
LM05B	23800	4270	43235	<100	0.0011	2740	33000	41900	>20000	0.63
LM07B	17000	2820	4840	54	<0.001	2090	10650	29600	>20000	0.518
PBLC004B	21800	3070	22829	<100	<0.001	2040	24200	38000	>20000	0.519
PBLC5B	20800	3860	27845	<100	<0.001	2500	24900	38400	>20000	0.53
PBLM6B	16800	2630	6680	109	0.0011	1940	10800	29200	>20000	0.483

Sample Point	Cu(D) (mg/l)	Fe(D) (mg/l)	Hg (mg/l)	MCPP (UG/L)	Mg(D) (mg/l)	Mn(D) (mg/l)	Naphthalen e (UG/L)	Ni(D) (mg/l)	Pb(D) (mg/l)	pH(Fld)
LC0003	<0.01	1.2	<0.001	17.5	74	0.254	1.39	0.104	<0.01	7.68
LC01B	<0.01	5.06	<0.001	39.9	66	0.114	5.74	0.334	<0.01	7.48
LM04B	0.082	6.77	<0.001	33	72	0.285	8.23	0.338	0.136	7.65
LM05B	0.152	6.99	<0.001	9.64	67	0.085	9.23	0.364	0.317	7.72
LM07B	0.109	3.57	<0.001	59.7	60	0.287	2.02	0.306	0.09	7.4
PBLC004B	0.098	7.02	<0.001	38.3	71	0.256	6.86	0.323	0.159	7.65
PBLC5B	0.103	8.01	<0.001	46	71	0.303	7.57	0.345	0.166	7.76
PBLM6B	0.121	3.73	<0.001	50	66	0.271	1.86	0.289	0.084	7.43

Sample Point	K(D) (mg/l)	Na(D) (mg/l)	pH (Lab)	TOC (mg/l)	TON (mg/l)	Total S(D) SO4:mg/l	WtrTemp (Deg C)	Zn(D) (mg/l)
LC0003	355	834	7.9	570	<0.2	50	16.5	<0.02
LC01B	1200	2950	7.9	2100	<0.2	149	35.7	0.084
LM04B	1432	3400	8.2	8600	<0.2	235	37.4	0.152
LM05B	1630	3700	8.3	10800	<0.2	271	35.8	0.221
LM07B	895	2400	7.8	3900	<0.2	147	30.6	0.152
PBLC004B	1388	3200	8.2	9000	<0.2	221	35.8	0.154
PBLC5B	1494	3300	8.2	8700	<0.2	229	33.5	0.189
PBLM6B	1055	2600	7.9	4100	<0.2	178	29.2	0.156

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APPENDIX 6

Groundwater Quality Data

Pen-Y-Bont Groundwater Quality & Level Data - Oct to Dec 2014



From : 28/10/2014

To : 16/12/2014

28/10/2014

Sample Point	Amm-N (N:mg/l)	BOD (mg/l)	Chloride (mg/l)	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	Dip to Water (m)
PBBH0001	0.02	<2.0	36	<5	523	760	15.94
PBBH0002	0.7	<2.0	21	<5	781	850	2.86
PBBH0003	0.3	<2.9	45	<5	1080	1200	7.64
PBBH0004	0.8	<2.9	120	13	1520	1660	1.41
PBBH0005	0.22	<2.0	35	<5	767	850	7.87
PBBH0007	0.4	<2.9	65	<5	887	1060	20.86
PBBH0008	0.06	<2.9	20	<5	698	760	14.95
PBBH0009	0.04	3.1	23	<5	1580	1740	23.38
PBBH0010	0.6	3.9	20	<5	845	890	23.88
PBBH0011	0.08	<2.9	35	<5	1230	1370	2.95
PBBH0012	3.1	4.6	400	15	6400	6700	0
PBBH0013	0.6	<2.9	208	<5	2520	2820	20.4
PBBH0014	0.22	<2.9	211	<5	1730	1950	16.01
PBBH003A	0.08	3.8	60	<5	1050	1180	7.19
PBT00001	0.03	<2.9	18	<5	684	750	1.72
PBT00002	0.02	<2.9	15	8	1440	1520	2.14
PBT00003	0.2	<2.9	54	12	1670	1810	2.46
PBT00004	0.02	<2.9	22	6	903	1000	2.06
PBT00005	0.02	<2.9	27	5	936	1070	1.83
PBT00006	0.06	<3.6	75	12	1320	1420	2.19
PBT00007	0.07	<2.9	42	<5	815	880	2
PBT00008	2.3	<2.9	68	18	1780	1980	1.48
PBT00009	1.6	<2.9	60	16	1480	1610	2.04
PBT00010	1.7	3	122	9	2710	3000	5.12
PBT00011	0.6	5.2	85	15	1020	1220	7.36
PBT00012	0.04	<3.6	72	12	1870	2070	1.09
PBT00013	0.4	<2.9	70	10	1560	1780	1.15

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Pen-Y-Bont Groundwater Quality & Level Data - Oct to Dec 2014



From : 28/10/2014
To : 16/12/2014

28/10/2014

Sample Point	DO(Lab) (mg/l)	pH (Lab)	pH(Fld)	TD (m)	WtrTemp (Deg C)
PBBH0001	6.3	7.2	7.83	21.4	13.5
PBBH0002	5.5	7.4	7.2	8.29	12.6
PBBH0003	3.8	8.6	8.83	16.27	11.7
PBBH0004	4.3	7.7	7.58	20.08	11.5
PBBH0005	5.2	7.4	7.38	12.01	12
PBBH0007	3.8	8	8.46	38.3	14.2
PBBH0008	5.4	7.6	7.68	47.49	11.6
PBBH0009	5.6	7.6	7.12	39.73	12.6
PBBH0010	4.3	7.5	7.68	36.87	12.1
PBBH0011	4.8	7.4	6.97	18.07	12
PBBH0012	1.5	6.9	6.65	16.96	13.4
PBBH0013	4.6	7.2	7.44	15.85	12.4
PBBH0014	3.7	7.1	7.25	35.49	13.6
PBBH003A	0.8	8.2	8.46	20.4	12.1
PBT00001	5.2	7.1	7.12	3.87	12.5
PBT00002	4.9	7	7	4.05	12.7
PBT00003	5.2	7	6.91	5	12.3
PBT00004	7.7	7.1	7.59	3.99	12.8
PBT00005	7	7.4	7.21	5.16	12.8
PBT00006	5.4	7.1	6.95	5.81	12.7
PBT00007	4.6	7.2	6.91	4.8	12.8
PBT00008	3	7.6	6.78	4.38	12.4
PBT00009	5	7.4	6.79	4.47	13.3
PBT00010	2.5	7	6.67	6.31	14.8
PBT00011	3.4	7	6.8	10.45	13.6
PBT00012	4.7	6.8	6.94	3.74	13
PBT00013	5.4	7.2	6.76	4.68	12.9

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Pen-Y-Bont Groundwater Quality & Level Data - Oct to Dec 2014



From : 28/10/2014

To : 16/12/2014

12/11/2014

Sample Point	Alk (CaCO ₃ :mg/l)	Amm-N (N:mg/l)	BOD (mg/l)	Ca(D) (mg/l)	Cd(D) (mg/l)	Chloride (mg/l)	Cr(D) (mg/l)
PBBH0001	155	0.01	<2.0	66	<0.0001	28	0.002
PBBH0002	360	1.3	4	110	<0.0001	20	0.001
PBBH0003	523	0.3	<2.0	2	<0.0001	47	<0.001
PBBH0004	614	0.8	<2.0	14	<0.0001	121	0.002
PBBH0005	363	0.2	<2.0	36	<0.0001	33	0.002
PBBH0007	420	0.3	<2.0	4	<0.0001	64	0.002
PBBH0008	338	0.13	<2.0	15	<0.0001	18	0.002
PBBH0009	357	0.05	<2.9	215	<0.0001	20	<0.001
PBBH0010	223	0.14	<2.9	115	<0.0001	16	0.002
PBBH0011	213	0.11	<2.0	145	<0.0001	32	0.001
PBBH0012	948	3.1	3.4	411	<0.0001	386	0.006
PBBH0013	418	0.6	<2.0	56	<0.0001	203	0.003
PBBH0014	414	0.16	<2.0	185	0.0002	180	0.002
PBBH003A	523	0.08	<2.9	5	<0.0001	59	0.003
PBT00001	218	0.03	<2.0	125	<0.0001	17	0.001
PBT00002	128	0.04	<2.0	175	<0.0001	16	<0.001
PBT00003	232	0.13	<2.0	225	<0.0001	51	0.001
PBT00004	69	0.05	<2.0	115	<0.0001	15	<0.001
PBT00005	316	0.05	<2.0	105	<0.0001	23	<0.001
PBT00006	368	0.04	<2.0	195	<0.0001	70	0.001
PBT00007	247	0.21	<3.6	100	<0.0001	40	<0.001
PBT00008	263	3.3	<2.9	295	0.0001	66	<0.001
PBT00009	410	1.6	<3.6	245	<0.0001	57	0.002
PBT00010	282	1.2	<2.9	421	<0.0001	100	<0.001
PBT00011	368	0.7	7.4	50	<0.0001	78	<0.001
PBT00012	230	0.13	<2.0	345	0.0001	85	<0.001
PBT00013	407	0.2	<3.6	185	<0.0001	67	0.001

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Pen-Y-Bont Groundwater Quality & Level Data - Oct to Dec 2014



From : 28/10/2014
To : 16/12/2014

12/11/2014

Sample Point	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	Dip to Water (m)	DO(Lab) (mg/l)	Mg(D) (mg/l)	Pb(D) (mg/l)
PBBH0001	<5	482	540	15.56	8	12	<0.001
PBBH0002	9	756	860	3.25	2	24	<0.001
PBBH0003	<5	1100	1220	7.54	3.7	<1	<0.001
PBBH0004	11	1470	1660	1.26	3.8	2	<0.001
PBBH0005	<5	752	840	7.2	4.9	14	<0.001
PBBH0007	<5	886	960	10.55	2.4	<1	<0.001
PBBH0008	<5	685	730	14.87	5.2	4	<0.001
PBBH0009	<5	1640	1840	22.89	6.4	52	<0.001
PBBH0010	<5	912	1010	23.34	5.8	24	<0.001
PBBH0011	<5	1230	1410	2.4	4.6	28	<0.001
PBBH0012	11	5930	6590	0	1.1	90	<0.001
PBBH0013	9	2490	2760	1.85	5	9	<0.001
PBBH0014	6	1680	1870	15.81	3.6	44	<0.001
PBBH003A	<5	1050	1160	5.99	1.8	<1	<0.001
PBT00001	5	669	740	0.91	5.2	14	<0.001
PBT00002	7	1260	1360	1.27	5.9	50	<0.001
PBT00003	13	1560	1740	1.1	6	43	<0.001
PBT00004	6	813	890	1.41	8.7	31	<0.001
PBT00005	<5	879	960	1.61	7	24	<0.001
PBT00006	12	1320	1440	1.95	6.5	30	<0.001
PBT00007	<5	785	850	1.92	5.7	12	<0.001
PBT00008	18	1860	2060	0.7	6	36	<0.001
PBT00009	13	1440	1570	1.81	5.6	32	<0.001
PBT00010	<5	2660	2830	4.98	4.3	97	<0.001
PBT00011	16	965	1020	7.21	3.4	53	<0.001
PBT00012	12	1910	2110	0.74	5.8	41	<0.001
PBT00013	6	1540	1720	1.03	5.2	56	<0.001

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Pen-Y-Bont Groundwater Quality & Level Data - Oct to Dec 2014



From : 28/10/2014
To : 16/12/2014

12/11/2014

Sample Point	Hg (mg/l)	K(D) (mg/l)	MCP (UG/L)	Naphthalene (UG/L)	pH (Lab)	pH(Fld)	TD (m)
PBBH0001	<0.0001	8	<0.02	<0.02	7.7	70.6	21.4
PBBH0002	<0.0001	8	<0.02	<0.02	7.4	7.42	8.31
PBBH0003	<0.0001	3	0.03	<0.02	8.6	8.64	16.26
PBBH0004	<0.0001	5	<0.02	<0.02	7.9	7.62	20.1
PBBH0005	<0.0001	6	<0.02	<0.02	7.5	7.32	12.04
PBBH0007	<0.0001	4	<0.02	0.05	8.2	8.38	38.33
PBBH0008	<0.0001	8	<0.02	<0.02	7.8	7.63	47.47
PBBH0009	<0.0001	11	0.02	<0.02	7.3	7.11	39.72
PBBH0010	<0.0001	9	<0.02	<0.02	7.4	7.44	36.83
PBBH0011	<0.0001	9	<0.02	<0.02	7	6.86	18.02
PBBH0012	<0.0001	39	<0.02	<0.02	7	6.67	17.01
PBBH0013	<0.0001	9	<0.02	<0.02	7.4	7.34	15.85
PBBH0014	<0.0001	10	<0.02	<0.02	7.2	6.98	35.46
PBBH003A	<0.0001	3	<0.02	<0.02	8.3	8.45	20.42
PBT00001	<0.0001	6	<0.02	<0.02	7.3	6.99	3.88
PBT00002	<0.0001	11	<0.02	0.07	7.4	7.1	4.04
PBT00003	<0.0001	11	<0.02	0.07	7.1	6.9	5.02
PBT00004	<0.0001	8	<0.02	0.058	7.2	7.55	3.99
PBT00005	<0.0001	8	<0.02	0.042	7.5	7.34	5.14
PBT00006	<0.0001	8	<0.02	0.035	7.2	6.93	5.77
PBT00007	<0.0001	6	<0.02	<0.02	6.8	6.79	4.85
PBT00008	<0.0001	14	<0.02	<0.02	6.8	6.88	4.38
PBT00009	<0.0001	6	0.02	<0.02	7.3	6.76	4.47
PBT00010	<0.0001	28	<0.02	<0.02	6.5	6.51	6.33
PBT00011	<0.0001	3	<0.02	<0.02	6.7	6.8	10.45
PBT00012	<0.0001	9	0.03	<0.02	6.7	6.68	3.74
PBT00013	<0.0001	8	<0.02	<0.02	6.9	6.86	4.68

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Pen-Y-Bont Groundwater Quality & Level Data - Oct to Dec 2014



From : 28/10/2014
To : 16/12/2014

12/11/2014

Sample Point	TOC (mg/l)	TON (mg/l)	Total S(D) SO4:mg/l	WtrTemp (Deg C)
PBBH0001	2.1	4.8	46	11.2
PBBH0002	2.3	<0.2	68	10.8
PBBH0003	1.3	<0.2	35	10.1
PBBH0004	4.9	<0.2	69	10.2
PBBH0005	0.59	<0.2	35	10.2
PBBH0007	0.7	<0.2	<3	11
PBBH0008	1.3	0.4	27	9.9
PBBH0009	1.7	0.4	650	11.4
PBBH0010	2.4	<0.2	285	10.6
PBBH0011	2.6	1.7	460	10.1
PBBH0012	5.1	<0.2	2750	11.1
PBBH0013	4.7	<0.2	650	10.7
PBBH0014	2.5	<0.2	305	11.6
PBBH003A	0.87	<0.2	<3	10.5
PBT00001	3.8	0.8	135	10.8
PBT00002	4.2	0.5	630	10.6
PBT00003	4.6	4.9	630	10
PBT00004	3	2.1	355	10.7
PBT00005	2.1	2.3	160	10.9
PBT00006	5	6.3	300	10.8
PBT00007	2.4	<0.2	155	10.6
PBT00008	9.2	3.8	840	11
PBT00009	7.5	<0.2	415	11.2
PBT00010	3.2	<0.2	1420	11.6
PBT00011	8	<0.2	75	11
PBT00012	6.2	2.8	940	10.9
PBT00013	4.7	0.3	465	11.1

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Pen-Y-Bont Groundwater Quality & Level Data - Oct to Dec 2014



From : 28/10/2014

To : 16/12/2014

16/12/2014

Sample Point	Amm-N (N:mg/l)	BOD (mg/l)	Chloride (mg/l)	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	Dip to Water (m)
PBBH0001	<0.01	<2.0	27	6	475	520	15.52
PBBH0002	0.5	<2.0	20	6	735	820	2.97
PBBH0003	0.3	<2.0	46	6	1070	1160	7.28
PBBH0004	0.5	<2.0	116	<5	1450	1610	1.22
PBBH0005	0.24	<2.0	35	<5	729	820	6.73
PBBH0007	0.4	<2.0	65	<5	865	930	20.46
PBBH0008	0.1	<2.0	19	<5	664	720	14.35
PBBH0009	<0.01	<2.0	22	<5	1510	1680	22.25
PBBH0010	0.4	<2.0	17	<5	831	940	22.75
PBBH0011	0.05	<2.0	32	9	1140	1280	2.54
PBBH0012	2.9	<2.0	384	85	6240	6460	0
PBBH0013	0.5	<2.0	195	12	2430	2670	1.32
PBBH0014	0.14	<2.0	183	8	1710	1910	15.5
PBBH003A	0.11	<2.0	58	<5	1020	1150	6.82
PBT00001	<0.01	<2.0	20	9	713	810	1.01
PBT00002	0.01	<2.0	15	7	1300	1450	1.45
PBT00003	<0.01	<2.0	47	10	1490	1680	1.61
PBT00004	<0.01	<2.0	20	6	1060	1210	1.55
PBT00005	<0.01	<2.0	23	<5	784	1000	1.59
PBT00006	0.02	<2.0	86	11	1540	1740	1.87
PBT00007	0.01	<2.0	38	<5	737	790	1.65
PBT00008	1.4	<2.0	62	21	1770	1980	0.85
PBT00009	1.6	<2.0	58	18	1400	1610	1.87
PBT00010	1.3	<2.0	91	6	2510	2760	5.01
PBT00011	0.8	<2.9	84	23	968	1120	7.19
PBT00012	0.22	<2.0	79	14	1660	1850	0.77
PBT00013	0.8	<2.0	70	10	1570	1780	1.03

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Pen-Y-Bont Groundwater Quality & Level Data - Oct to Dec 2014



From : 28/10/2014

To : 16/12/2014

16/12/2014

Sample Point	DO(Lab) (mg/l)	pH (Lab)	pH(Fld)	TD (m)	WtrTemp (Deg C)
PBBH0001	10.4	7.7	6.86	21.4	9.2
PBBH0002	10.4	7.8	7.29	8.31	9.8
PBBH0003	10.4	8.7	8.81	16.26	9.3
PBBH0004	10.5	8.3	7.6	20.1	9.6
PBBH0005	10.4	8.1	7.3	12.04	9.3
PBBH0007	10.4	8.6	8.3	38.34	9.8
PBBH0008	10.4	8.3	7.38	47.47	9.4
PBBH0009	10.4	7.9	6.97	39.72	11.1
PBBH0010	10.4	8.1	7.42	36.84	10.1
PBBH0011	10.4	7.6	6.91	18.02	9.3
PBBH0012	10.3	7.6	6.73	17.01	10.1
PBBH0013	10.4	8.1	7.43	15.85	9.5
PBBH0014	10.4	7.8	7.09	35.46	10.1
PBBH003A	10	8.8	8.52	20.42	9.3
PBT00001	10.3	7.8	7.1	3.88	8.4
PBT00002	10.4	7.6	6.99	4.04	8.7
PBT00003	10.3	8.1	7.15	5.02	8.6
PBT00004	10.3	8	7.71	3.99	8.5
PBT00005	10.3	8	7.37	5.14	9
PBT00006	10.3	7.9	6.99	5.76	9.4
PBT00007	10.3	7.4	7.23	4.85	9.4
PBT00008	10.3	7.5	7	4.38	9.7
PBT00009	10.3	7.7	6.99	4.47	10.1
PBT00010	10.2	7.4	6.59	6.34	10.8
PBT00011	10.3	7.5	6.69	10.45	10.2
PBT00012	10.3	7.4	6.74	3.74	8.8
PBT00013	10.3	7.5	6.8	4.68	9.5

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APPENDIX 7

Surface Water Quality Data

Pen-Y-Bont Surface Water Quality Data - Oct to Dec 2014



From : 28/10/2014

To : 16/12/2014

28/10/2014

Sample Point	Amm-N (N:mg/l)	Chloride (mg/l)	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	DO(Lab) (mg/l)	pH (Lab)	pH(Fld)	S.Solids (mg/l)	WtrTemp (Deg C)
PBWP0001	0.02	13	9	132	700	10.3	7.8	7.88	5	13.4
PBWP0002	0.03	12	9	121	900	10.1	7.8	8.22	<5	13
PBWP0003	0.02	12	6	122	200	10.3	7.8	8.16	<5	13.4

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Pen-Y-Bont Surface Water Quality Data - Oct to Dec 2014



From : 28/10/2014

To : 16/12/2014

12/11/2014

Sample Point	Alk (CaCO ₃ :m g/l)	Amm-N (N:mg/l)	Ca(D) (mg/l)	Cd(D) (mg/l)	Chloride (mg/l)	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	Cr(D) (mg/l)	Cu(D) (mg/l)
PBWP0001	62	0.04	9	<0.0001	11	15	<100	60	<0.001	<0.001
PBWP0002	38	0.03	9	<0.0001	12	14	<100	10.3	<0.001	<0.001
PBWP0003	36	0.02	9	<0.0001	12	15	<100	10.3	<0.001	<0.001

Sample Point	DO(Lab) (mg/l)	Fe(D) (mg/l)	K(D) (mg/l)	Mg(D) (mg/l)	Mn(D) (mg/l)	Ni(D) (mg/l)	o-Phosphat e (P:mg/l)	Pb(D) (mg/l)	pH (Lab)	pH(Fld)
PBWP0001	10.5	0.17	1	2	0.005	<0.001	0.02	<0.001	7.7	7.83
PBWP0002	9.8	0.15	1	2	0.005	<0.001	0.02	<0.001	7.5	8
PBWP0003	10.6	0.15	1	2	0.005	<0.001	0.02	<0.001	7.5	7.98

Sample Point	Na(D) (mg/l)	S.Solids (mg/l)	TOC (mg/l)	TON (mg/l)	Total S(D) SO ₄ :mg/l	TPH-FTIR (mg/l)	WtrTemp (Deg C)	Zn(D) (mg/l)
PBWP0001	8	15	6.6	0.6	7	<0.3	10.3	0.005
PBWP0002	8	15	6.3	0.6	7	<0.3	110	0.004
PBWP0003	8	12	6.4	0.5	7	<0.3	80	0.005

Issued By:

Pen-Y-Bont Surface Water Quality Data - Oct to Dec 2014



From : 28/10/2014

To : 16/12/2014

16/12/2014

Sample Point	Amm-N (N:mg/l)	Chloride (mg/l)	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	DO(Lab) (mg/l)	pH (Lab)	pH(Fld)	S.Solids (mg/l)	WtrTemp (Deg C)
PBWP0001	<0.01	14	12	101	800	9.5	7.8	7.84	7	7.1
PBWP0002	<0.01	13	11	<100	600	9.3	7.5	8.02	7	6.8
PBWP0003	<0.01	13	13	<100	800	9.5	7.6	8.48	6	6.8

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