



Monday, 12 October 2015

Ms Amanda Langstaff,
Natural Resources Wales,
Chester Road,
Buckley,
Flintshire.
CH7 3AJ

Dear Ms Langstaff,

Data Submission September 2015

Please find enclosed the monthly data submission for routine environmental monitoring undertaken at our Ruabon Landfill Site during September 2015.

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

**Yours sincerely,
for FCC ENVIRONMENT**

Geoff Forrest

Compliance Advisor, North Wales



Ruabon Landfill Site

Routine Environmental Monitoring Data Submission

September 2015

Prepared by G.Forrest
28th October 2015

APPENDIX 1

Field Logs

Field log report

Ruabon

01-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	15:50
Time ON	08:26
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

02-September-2015

Equipment 01 Calibration Due	13/09/2015
Equipment 01 Last Calibration	06/08/2015
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	15:15
Time ON	09:25
Weather	Raining

Issued By:

Signed By :

Name :

Field log report

Ruabon

04-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	13:34
Time ON	08:45
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Ruabon

07-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	15:24
Time ON	08:39
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

09-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	15:22
Time ON	08:44
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

10-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	16:02
Time ON	08:45
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

11-September-2015

Equipment 01 Calibration Due	13/09/2015
Equipment 01 Last Calibration	12/03/2015
Equipment 01 Serial No.	G501869
Equipment 01 Type	GA5000
Personnel 01	L Terrace
Time OFF	14:40
Time ON	11:40
Weather	Sunny

Issued By:

Signed By :

Name :

Field log report

Ruabon

14-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	09:18
Time ON	08:14
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

15-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	13:10
Time ON	09:22
Weather	Cold

Issued By:

Signed By :

Name :

Field log report

Ruabon

17-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Equipment 01 Serial No.	79281-10
Equipment 01 Type	Geotechnical Atex Dip Meter
Personnel 01	S Williams
Personnel 01	INF00925 alan.parry
Time OFF	11:19
Time OFF	11:30
Time ON	09:00
Time ON	08:27
Weather	Clear
Weather	o/c, cool

Issued By:

Signed By :

Name :

Field log report

Ruabon

18-September-2015

Equipment 01 Calibration Due	21/10/2015
Equipment 01 Last Calibration	21/04/2015
Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Equipment 01 Serial No.	GA11581
Equipment 01 Type	GA2000plus
Personnel 01	L Terrace
Personnel 01	INF00925 alan.parry
Time OFF	13:55
Time OFF	12:00
Time ON	08:30
Time ON	08:45
Weather	Cold
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Ruabon

21-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	09:54
Time ON	08:39
Weather	Cold

Issued By:

Signed By :

Name :

Field log report

Ruabon

22-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	11:57
Time ON	08:38
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

23-September-2015

Equipment 01 Calibration Due	21/10/2015
Equipment 01 Last Calibration	21/04/2015
Equipment 01 Serial No.	GA11581
Equipment 01 Type	GA2000plus
Personnel 01	L Terrace
Time OFF	12:00
Time ON	09:10
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Ruabon

25-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	14:31
Time ON	14:31
Weather	Cold

Issued By:

Signed By :

Name :

Field log report

Ruabon

28-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	15:09
Time ON	08:58
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

30-September-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	14:19
Time ON	08:55
Weather	Clear

Issued By:

Signed By :

Name :

APPENDIX 2

Perimeter Borehole Gas Data

Ruabon Perimeter Borehole Gas Data - September 2015



From : 02/09/2015

To : 23/09/2015

02/09/2015

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	Dip to Water (m)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)	TD (m)
RUBH0006	1007	0	2.4	3.4	0	10.8	-0.12	11.71
RUBH0007	1007	8.1	7	4.42	0	1.5	-0.1	38.67
RUBH0008	1007	0	1.8	6.32	0	19.2	-0.19	42.38
RUBH0009	1007	0	1.1	5.11	0	19.9	-0.17	7.5
RUBH0010	1006	0	0.8	5.35	0	20.2	-0.26	36.14
RUBH0013	1004	0	1.5	2.55	0	19.5	-0.17	34.63
RUBH0014	1004	0	3.5	5.23	0	14.7	0	10.72
RUBH0015	1006	0	0.7	6.14	0	19.7	-0.19	41.58
RUBH0016	1006	0	0.2	10.81	0	20.7	-0.17	47.14
RUBH001A	1008	0	0.6	4.84	0	20.4	-0.21	12.77
RUBH001B	1008	0	0.8	5.24	0	19.7	-0.17	6.38
RUBH002A	1007	0	0.2	5.17	0	20.6	-0.1	6.48
RUBH002B	1007	0	0.2	5.21	0	20.7	-0.14	11.71
RUBH003A	1008	0	0.7	5.83	0	19.8	-0.6	13.08
RUBH003B	1007	0	0.4	5.77	0	20.4	0.02	6.37
RUBH004A	1007	0	1.1	6.24	0	20.2	1.17	9.58
RUBH004B	1001	0	0.4	6.18	0	20.8	-0.12	6.33
RUBH011A	1004	0	1.7	2.9	0	19.5	0.34	12.79
RUBH011P	1005	0	0.1	3.99	0	20.7	3.77	14.42
RUBH012A	1005	0	2	4.37	0	19	-0.26	5.37
RUGBH001	1007	0	2.9	6.05	0	19.1	-0.19	6.05
RUGBH002	1007	0	4.3	3.95	0	16.1	-0.14	7
RUGBH003	1007	0	0.1	4.18	0	20.8	-0.15	4.9
RUGBH004	1007	0	0.1	4.22	0	20.8	-0.26	21.89
RUGBH005	1006	0	1	4.21	0	19.2	-0.28	6.31
RUGBH006	1007	0	3.6	3.7	0	18.2	-0.17	6.88
RUGBH007	1004	0	0.1	1.57	0	20.5	-0.15	2.94
RUGBH008	1004	0	0.6	1.6	0	20	-0.34	6.17
RUGBH009	1005	0	0.1	1.41	0	20.5	0.09	8.23
RUGBH010	1004	0	0.2	0.7	0	20.5	-0.09	3.95
RUGBH02A	1007	0	0.8	1.3	0	20.4	-0.34	1.4
RUGP0001	1007	0	0.2		0	20.7	-1.29	
RUGP0002	1007	0	5.3		0	16.5	-0.14	
RUGP0003	1008	0	0.7		0	20.3	-30.94	
RUGP0004	1008	0	2.5		0	19.3	-0.17	
RUGP0008	1007	0	1.5		0	19.9	-0.14	
RUGP0009	1008	0	1.7		0	19.1	-0.12	
RUGP0010	1008	0	2.3		0	19.2	-0.1	
RUGP0011	1008	0	1.8		0	19.8	-0.05	
RUGP0012	1007	0	1		0	20.1	-0.22	
RUGP0013	1008	0	0.7		0	20.1	-0.12	
RUGP0014	1008	0	4.3		0	18.4	-0.17	
RUGP0015	1005	0	4.1		0	14.7	-0.34	
RUGP0016	1004	0	1.2		0	19.9	-0.36	
RUGP0018	1005	0	0.2		0	20.3	8.04	
RUGP0019	1005	0	0.1		0	20.2	9.77	
RUGP0020	1004	0	0.1		0	20.5	-0.21	
RUGP0021	1003	0	1		0	19.4	-0.24	
RUGP00A1	1007	0	0.1		0	20.6	0.28	

Issued By:

Ruabon Perimeter Borehole Gas Data - September 2015



From : 02/09/2015

To : 23/09/2015

02/09/2015

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	Dip to Water (m)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)	TD (m)
RUGP00A2	1007	0	0.7		0	19	0.24	
RUGP00A3	1007	0	0.1		0	19.8	0.6	
RUGP00B1	1007	0	0.1		0	19.8	-0.17	
RUGP00B2	1007	5.3	7.2		0	5.8	-1.17	
RUGP00B3	1008	0	0.1		0	20.6	3.68	
RUGP00C1	1007	0	0.1		0	20.8	-0.22	
RUGP00C2	1007	0	0.1		0	17.9	0.21	
RUGP00C3	1007	0	0.1		0	20.2	-0.72	
RUGP00D1	1006	0	0.1		0	20.1	-0.12	
RUGP00D2	1007	0	0.1		0	20.7	-1.86	
RUGP00D3	1007	0	0.1		0	20.7	-0.09	
RUGP00E1	1007	0	0.2		0	20.7	-0.26	
RUGP00E2	1007	0	0.1		0	20.8	-0.09	
RUGP00E3	1007	0	0.1		0	20.2	0.83	
RUGP00F1	1007	0	0.2		0	19.4	-0.12	
RUGP00F2	1007	0	0.1		0	19.5	-0.1	
RUGP00F3	1007	0	0.3		0	19.1	-0.02	
RUWB001A	1008	0	0.2	3	0	20.3	1.7	48.9
RUWB001B	1007	0	2.8	4.6	0	17.5	0	7.87
RUWB002A	1007	0	0.2	4.98	0	20.3	-0.03	21.37
RUWB002B	1007	0	1.1	6.13	0	20.1	-0.05	10.46
RUWB002C	1007	0	1.2	6.34	0	20.2	-0.19	8.05
RUWB002D	1008	0	0.2	6.29	0	20.7	0.19	21.65
RUWB003A	1004	0	0.5	9.07	0	16	0.22	10.7
RUWB003B	1004	0	0.6	1.5	0	12.8	-1.27	7.56
RUWB004A	1005	0	0.3	3.18	0	17.6	6.92	48.83
RUWB004B	997	0	3.5	1.43	0	16.8	-0.38	8.54
RUWB005A	1006	0	0.1	3.37	0	20.5	-0.31	25.31
RUWB005B	1007	0	0.8	5.82	0	20	-0.45	8.4

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Ruabon Perimeter Borehole Gas Data - September 2015



From : 02/09/2015

To : 23/09/2015

11/09/2015

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	1002	0	0.5	0	18.6	-0.02
RUBH0007	1002	6.3	7.1	0	0.6	0.05
RUBH0008	1002	0	1.7	0	18.7	0
RUBH0009	1002	0	1.4	0	19.5	-0.07
RUBH0010	1001	0	0.7	0	19.9	-0.12
RUBH0013	1000	0	1.1	0	19.7	-0.05
RUBH0014	999	0	3.1	0	14.6	-0.02
RUBH0015	1001	0	0.8	0	19.2	-0.1
RUBH0016	1001	0	0.1	0	20.5	-0.02
RUBH001A	1003	0	0.5	0	19.4	-0.02
RUBH001B	1003	0	1	0	18.5	-0.1
RUBH002A	1003	0.9	5	0	1.9	-0.1
RUBH002B	1003	0	0.1	0	19.9	0.07
RUBH003A	1003	0	0.1	0	20.2	-0.05
RUBH003B	1003	0	1.1	0	19.8	0.67
RUBH004A	1003	0	1.3	0	19.4	-0.03
RUBH004B	1002	0	3.1	0	17.6	0.02
RUBH011A	1000	0	1.6	0	19.2	-0.22
RUBH011P	1000	0	0	0	20.6	-0.24
RUBH012A	1000	0	2	0	18.6	-0.07
RUGBH001	1003	0	2.5	0	18.6	0.14
RUGBH002	1003	0	4.1	0	14.6	-0.21
RUGBH003	1003	0	0.1	0	20.6	0.4
RUGBH004	1003	0	0.1	0	20.5	0.07
RUGBH005	1002	2.1	9.1	0	7.9	-0.05
RUGBH006	1002	0	3.2	0	18	-0.1
RUGBH007	1000	0	0.1	0	20.6	0.05
RUGBH008	1000	0	0.6	0	19.9	-0.12
RUGBH009	1000	0	0.2	0	20.5	0
RUGBH010	1000	0	0.2	0	20.6	-0.03
RUGBH02A	1003	0	1.3	0	19.2	-0.02
RUGP0001	1004	4.8	8.2	0	2.2	-0.03
RUGP0002	1003	0	4.8	0	16	-0.19
RUGP0003	1003	0	0.5	0	18.5	-15.09
RUGP0004	1002	0	2.7	0	17.8	-0.05
RUGP0008	1003	0	1.5	0	18.4	-0.1
RUGP0009	1003	0	2.3	0	16.3	0
RUGP0010	1003	0	1.9	0	18.4	-0.05
RUGP0011	1003	0	1.6	0	18.8	-0.1
RUGP0012	1003	0	0.8	0	19.7	-0.14
RUGP0013	1003	0	0.5	0	20	-0.14
RUGP0014	1003	0	3.5	0	18.4	-0.14
RUGP0015	1000	0	3	0	14	-0.09
RUGP0016	1000	0	1.9	0	19	-0.1
RUGP0018	1000	0	0.1	0	20.6	-0.15
RUGP0019	1000	0	0.1	0	20.6	-0.07
RUGP0020	999	0	0.1	0	20.7	-0.17
RUGP0021	1000	0	1.1	0	19.3	-0.03
RUGP00A1	1003	0	0.1	0	20.4	-0.07

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Ruabon Perimeter Borehole Gas Data - September 2015



From : 02/09/2015

To : 23/09/2015

11/09/2015

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A2	1002	0.5	2.8	0	12.8	-0.19
RUGP00A3	1003	0	0	0	20.3	-0.1
RUGP00B1	1002	0	0.1	0	19	-0.12
RUGP00B2	1002	3.5	8.7	0	1.5	0.03
RUGP00B3	1003	0	0.1	0	20.4	0.03
RUGP00C1	1003	0	0	0	20.5	-0.1
RUGP00C2	1002	0	0	0	18.2	-0.24
RUGP00C3	1003	0	0	0	20.5	-0.33
RUGP00D1	1002	0	0.1	0	20.4	-0.02
RUGP00D2	1002	0	0.1	0	20.5	0.19
RUGP00D3	1002	0	0.1	0	20.5	-0.1
RUGP00E1	1003	0	0.1	0	20.5	-0.02
RUGP00E2	1002	0	0.1	0	20.6	0.6
RUGP00E3	1002	0	0.1	0	20.6	0.74
RUGP00F1	1003	0	0.1	0	20.3	-0.07
RUGP00F2	1002	0	0.1	0	19.5	-0.12
RUGP00F3	1002	0	0.1	0	20.6	-0.02
RUWB001A	1003	0	0.1	0	19.7	0.09
RUWB001B	1002	0	1.3	0	18.8	-0.02
RUWB002A	1003	0	0.1	0	19	-0.09
RUWB002B	1003	0	2	0	18.5	0.03
RUWB002C	1003	0	2.9	0	17.8	-0.1
RUWB002D	1003	0	0.1	0	20.4	-0.15
RUWB003A	1000	0	0.3	0	17.5	-0.22
RUWB003B	1000	0	0.5	0	13.3	-2.63
RUWB004A	1000	0	0.2	0	17.8	2.58
RUWB004B	1000	0	2.8	0	17.6	-0.03
RUWB005A	1003	0	0.1	0	20	0
RUWB005B	1003	0	0.2	0	19.8	-0.17

Issued By:

Ruabon Perimeter Borehole Gas Data - September 2015



From : 02/09/2015
To : 23/09/2015

18/09/2015

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	997	0	1.4	0	15.4	-0.11
RUBH0007	997	7.1	7	0	1.7	-0.04
RUBH0008	997	0	2.1	0	18.5	-0.04
RUBH0009	997	0	0.8	0	20.1	-0.07
RUBH0010	996	0	0.6	0	20.3	-0.05
RUBH0013	995	0	0.8	0	19.8	-0.05
RUBH0014	994	0	3.3	0	14.3	-0.07
RUBH0015	996	0	1.4	0	18	-0.07
RUBH0016	996	0	0.1	0	20.6	-0.06
RUBH001A	996	0	0.6	0	19.8	-0.8
RUBH001B	996	0	0.9	0	19	-0.7
RUBH002A	996	0	0	0	20.3	-0.23
RUBH002B	996	0	0.1	0	20.3	-0.26
RUBH003A	996	0	0.4	0	20	0.3
RUBH003B	996	0	0	0	20.5	-0.55
RUBH004A	996	0	1.5	0	19	-1.66
RUBH004B	996	0	3.8	0	16.5	-0.23
RUBH011A	995	0	1.8	0	19.2	-0.06
RUBH011P	995	0	0	0	20.6	-0.05
RUBH012A	995	0	2.4	0	17.5	-0.04
RUGBH001	996	0	2.7	0	18.8	-0.14
RUGBH002	997	0	1.7	0	18.2	-0.17
RUGBH003	997	0	0.1	0	20.6	-0.15
RUGBH004	997	0	0.1	0	20.7	-0.14
RUGBH005	997	0	0	0	20.7	-0.07
RUGBH006	997	0	3.7	0	18	-0.04
RUGBH007	995	0	0.1	0	20.6	0.13
RUGBH008	995	0	0.7	0	19.6	-0.03
RUGBH009	995	0	0.3	0	20.4	0.02
RUGBH010	995	0	0.2	0	20.6	0.05
RUGBH02A	996	0	1	0	19.5	-0.19
RUGP0001	996	19.6	7.8	0	3	-1.07
RUGP0002	996	0	5.8	0	15.4	-0.79
RUGP0003	996	0	0.6	0	17.8	-19.83
RUGP0004	996	0	2.9	0	18.2	0.13
RUGP0008	996	0	1.6	0	18.7	-0.13
RUGP0009	996	0	2.8	0	17.3	-0.61
RUGP0010	996	0	2.3	0	18.5	0.48
RUGP0011	996	0	1.9	0	19	-0.57
RUGP0012	996	0	0.9	0	19.7	-0.55
RUGP0013	996	0	0.5	0	20.2	-0.55
RUGP0014	996	0	4	0	18.2	-0.12
RUGP0015	996	0	2.3	0	16.6	-0.02
RUGP0016	995	0	0.9	0	20	-0.01
RUGP0018	996	0	0.2	0	20.2	1.44
RUGP0019	995	0	0.1	0	20.5	0.01
RUGP0020	995	0	0.1	0	20.5	0.08
RUGP0021	995	0	1.2	0	18.5	-0.03
RUGP00A1	997	0	0	0	20.5	-0.09

Issued By:

Ruabon Perimeter Borehole Gas Data - September 2015



From : 02/09/2015
To : 23/09/2015

18/09/2015

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A2	997	0.8	2.7	0	13.1	-0.12
RUGP00A3	997	0	0	0	20.4	-0.08
RUGP00B1	997	0	0	0	18.8	-0.16
RUGP00B2	997	4.1	8	0	3.1	-0.11
RUGP00B3	997	0	0	0	20.6	-0.1
RUGP00C1	997	0	0	0	20.7	-0.09
RUGP00C2	997	0	0	0	18.2	-0.28
RUGP00C3	997	0	0	0	20.6	-0.43
RUGP00D1	997	0	0	0	20.4	-0.17
RUGP00D2	997	0	0	0	20.5	-0.24
RUGP00D3	997	0	0	0	20.6	-0.02
RUGP00E1	997	0	0.1	0	20.6	-0.15
RUGP00E2	997	0	0	0	20.5	-0.16
RUGP00E3	997	0	0	0	20.7	-0.18
RUGP00F1	997	0	0	0	20.1	-0.19
RUGP00F2	997	0	0	0	19.2	-0.28
RUGP00F3	997	0	0	0	20.5	-0.33
RUWB001A	996	0	0.1	0	19.7	0.17
RUWB001B	996	0	1.7	0	18.5	-0.57
RUWB002A	996	0	0.1	0	18.5	-0.34
RUWB002B	996	0	0.8	0	19.9	-0.12
RUWB002C	996	0	0.2	0	20.4	-0.13
RUWB002D	996	0	0.1	0	20.4	-0.57
RUWB003A	994	0	0.4	0	16.6	0.13
RUWB003B	994	0	0.6	0	11.7	-9.23
RUWB004A	995	0	0.2	0	16.8	0.03
RUWB004B	995	0	3	0	16.6	-0.01
RUWB005A	997	0	0	0	20.5	0.01
RUWB005B	997	0	0.4	0	20.2	0

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Ruabon Perimeter Borehole Gas Data - September 2015



From : 02/09/2015

To : 23/09/2015

23/09/2015

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	998	0	4.3	0	4.3	0
RUBH0007	998	6.5	7.5	0	1	0.18
RUBH0008	997	0	2.3	0	18.2	0.09
RUBH0009	997	0	0.6	0	20.1	0.12
RUBH0010	997	0	0.8	0	19.9	0.12
RUBH0013	995	0	1.2	0	19.4	0.19
RUBH0014	995	0	3.2	0	14	0.58
RUBH0015	996	0	1.4	0	18.1	-0.23
RUBH0016	996	0	0.1	0	20.4	0.13
RUBH001A	997	0	0.6	0	19.9	-0.33
RUBH001B	997	0	0.9	0	19.1	-0.3
RUBH002A	997	0	0.1	0	20.5	-0.26
RUBH002B	997	0	0.1	0	20.4	-0.24
RUBH003A	997	0	0.6	0	19.9	0.01
RUBH003B	997	0	0.1	0	20.6	0.54
RUBH004A	997	0	1.3	0	19.4	1.31
RUBH004B	997	0	0.1	0	20.6	-0.02
RUBH011A	995	0	1.7	0	19	0.14
RUBH011P	995	0	0.1	0	20.5	0.06
RUBH012A	995	0	2.7	0	17.1	0.16
RUGBH001	997	0	3	0	18.7	0.01
RUGBH002	997	0	2.4	0	17.1	-0.02
RUGBH003	998	0	0.1	0	20.7	0.02
RUGBH004	998	0	0.1	0	20.7	0.05
RUGBH005	998	0	0.1	0	20.7	0.1
RUGBH006	998	0	3.7	0	18.1	0.1
RUGBH007	995	0	0.1	0	20.4	0.23
RUGBH008	995	0	0.6	0	19.5	0.3
RUGBH009	996	0	0.3	0	20.3	4.46
RUGBH010	996	0	0.2	0	20.4	0.37
RUGBH02A	997	0	1.2	0	19.4	0
RUGP0001	997	26.5	8.4	0	1.1	0.01
RUGP0002	997	0	5.9	0	15.3	-0.38
RUGP0003	997	0	0.3	0	17.4	-15.05
RUGP0004	997	0	3	0	18.3	-0.2
RUGP0008	997	0	1.6	0	18.9	-0.38
RUGP0009	997	0	2.9	0	17.6	-0.24
RUGP0010	997	0	2.6	0	18.4	-0.09
RUGP0011	997	0	1.9	0	18.7	0.01
RUGP0012	997	0	0.9	0	20	0.02
RUGP0013	997	0	0.8	0	20.1	0.01
RUGP0014	997	0	4.2	0	18.2	0.01
RUGP0015	996	0	1.6	0	16.7	0.16
RUGP0016	995	0	1	0	19.8	0.3
RUGP0018	996	0	0.1	0	20.4	1.51
RUGP0019	995	0	0.1	0	20.4	0.43
RUGP0020	995	0	0	0	20.3	0.06
RUGP0021	995	0	0.9	0	19	0.22
RUGP00A1	998	0	0.1	0	20.5	0.12

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Ruabon Perimeter Borehole Gas Data - September 2015



From : 02/09/2015

To : 23/09/2015

23/09/2015

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A2	998	0.6	3	0	12.5	0.1
RUGP00A3	998	0	0	0	20.2	-0.24
RUGP00B1	998	0	0	0	19	0.07
RUGP00B2	998	3.8	8.9	0	1.7	0.06
RUGP00B3	998	0	0	0	20.5	0.08
RUGP00C1	998	0	0	0	20.6	0.06
RUGP00C2	998	0	0	0	19.1	0.48
RUGP00C3	998	0	0	0	20.6	-0.44
RUGP00D1	998	0	0.1	0	20.2	0.03
RUGP00D2	998	0	0	0	20.6	-0.09
RUGP00D3	998	0	0	0	20.6	-0.04
RUGP00E1	998	0	0.1	0	20.6	0
RUGP00E2	998	0	0.1	0	20.7	0.02
RUGP00E3	998	0	0	0	20.7	-0.1
RUGP00F1	998	0	0.1	0	20.4	0.01
RUGP00F2	998	0	0.1	0	19.8	0.01
RUGP00F3	998	0	0	0	20.1	0.03
RUWB001A	997	0	0.1	0	19.5	0
RUWB001B	997	0	5.5	0	14	0.01
RUWB002A	997	0	0.2	0	18.6	-0.1
RUWB002B	997	0	1	0	19.9	0.02
RUWB002C	997	0	0.6	0	20.3	0.02
RUWB002D	997	0	0.2	0	20.6	0.01
RUWB003A	995	0	0.4	0	16	0.19
RUWB003B	995	0	0.6	0	11	-18.67
RUWB004A	996	0	0.2	0	16.6	0.37
RUWB004B	995	0	3	0	16.1	0.44
RUWB005A	997	0	0	0	20	-0.49
RUWB005B	997	0	0.9	0	19.5	-0.46

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APPENDIX 3

Landfill Gas Field Extraction and Balancing Data

RUABON LANDFILL GAS EXTRACTION AND BALANCING DATA - SEPTEMBER 2015

Well ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
RUAW0024	01/09/2015 09:07	49.9	33	0.9	16.2	-37.88	1002	4	2	40	40
RUAW025R	01/09/2015 09:12	14.1	19.5	2.7	63.7	-3.26	1003	4	2	5	5
RUAW026R	01/09/2015 09:17	18.4	20.9	1.3	59.4	-6.27	1003	4	3	5	5
RUAW030R	01/09/2015 09:22	7.2	5.6	16.2	71	-48.1	1004	4	2	5	5
RUAW033R	01/09/2015 09:26	1.8	2.1	18.3	77.8	-22.87	1004	4	2	5	5
RUARW037	01/09/2015 09:33	39.2	28.3	0.4	32.1	-48.67	1004	4	2	50	50
RUAW0001	01/09/2015 10:16	23.8	23.8	0.1	52.3	-1.36	1004	4	2	5	5
RUAW0002	01/09/2015 10:18	0	1.9	19.8	78.3	-0.28	1004	4	1	0	0
RUAMW001	01/09/2015 10:23	24.5	18.8	2.2	54.5	-0.6	1004	4	1	0	0
RUAW0003	01/09/2015 10:26	28.9	19.1	0	52	-0.05	1004	4	1	1	1
RUAW0053	01/09/2015 10:28	6.7	15.3	1.9	76.1	-0.39	1004	4	1	0	0
RUALMP2a	01/09/2015 10:30	44.5	17.3	1.9	36.3	-3.97	1004	4	2	1	1
RUAMW002	01/09/2015 10:32	40.5	20.5	0	39	-1.58	1004	4	1	5	5
RUAW1405	01/09/2015 10:34	39.7	24.9	0	35.4	-3.05	1003	4	2	10	10
RUAW065R	01/09/2015 10:36	49.2	24	0	26.8	-1.85	1004	4	2	1	5
RUAW065R	01/09/2015 10:37	42.6	23.9	0	33.5	-3.02	1004	4	1	5	5
RUAW011R	01/09/2015 10:40	25	14.1	11.3	49.6	-1.94	1004	4	1	0	0
RUAMW005	01/09/2015 10:42	42	25.1	0	32.9	-6.53	1003	4	2	20	20
RUAW0061	01/09/2015 10:44	27.7	24.1	0	48.2	-3.03	1003	4	2	10	1
RUAW0061	01/09/2015 10:45	27.6	24.2	0	48.2	-2.71	1003	4	2	1	1
RUAMW006	01/09/2015 10:48	46.5	29.7	0	23.8	-7.35	1003	4	2	10	10
RUAW0060	01/09/2015 10:50	58.9	34.6	0	6.5	0.33	1003	4	2	0	1
RUAW0060	01/09/2015 10:51	26.8	20.3	6.3	46.6	-3.49	1003	4	1	0	0
RUAW1401	01/09/2015 11:23	25.4	26	0.2	48.4	-4.68	1003	4	2	10	0
RUAW1401	01/09/2015 11:24	25.3	26.5	0	48.2	-3.24	1003	4	2	0	0
RUAW1402	01/09/2015 11:27	8.2	16.9	4.8	70.1	-6.55	1003	4	3	10	0
RUAW1402	01/09/2015 11:28	7.6	17	4.8	70.6	-1.63	1003	4	3	0	0

Well ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
RUAMW09R	01/09/2015 11:30	28.6	25.6	0.6	45.2	-2.22	1004	4	2	10	0
RUAMW09R	01/09/2015 11:31	28.2	25.9	0.5	45.4	-2.07	1004	4	0	0	0
RUAW0048	01/09/2015 11:33	0	2.7	19.4	77.9	-12.52	1003	4	1	1	0
RUAW0048	01/09/2015 11:34	0	1.4	19.9	78.7	-10.93	1003	4	1	0	0
RUAW050R	01/09/2015 11:36	35.1	30	0.4	34.5	-0.36	1003	4	1	1	1
RUAW0067	01/09/2015 11:37	37.6	30.8	0	31.6	-17.07	1003	4	2	10	10
RUAW0051	01/09/2015 11:39	59.4	38.9	0.1	1.6	-0.93	1003	4	3	1	1
RUAW057R	01/09/2015 11:41	59.9	37.5	0.9	1.7	3.06	1003	4	2	0	5
RUAW057R	01/09/2015 11:42	60.3	38.6	0	1.1	-0.87	1003	4	2	5	5
RUAW032R	01/09/2015 11:44	36.5	30.7	0	32.8	-40.1	1003	4	2	10	10
RUAW031R	01/09/2015 11:46	38.8	29.8	3.2	28.2	-7.47	1004	4	3	10	10
RUAW034R	01/09/2015 11:48	31.5	27.4	0.1	41	-7.32	1004	4	2	10	10
RUAW0036	01/09/2015 11:50	21.3	21.9	1.8	55	-23.18	1004	4	2	10	0
RUAW0036	01/09/2015 11:51	21.3	23	1.7	54	-26.29	1004	4	2	0	0
RUAW1403	01/09/2015 11:53	39.5	30.8	0	29.7	-1.55	1004	4	2	1	1
RUAMW003	01/09/2015 11:55	17.5	15.8	0	66.7	0.3	1004	4	1	0	0
RUAW030R	04/09/2015 13:23	10.1	7.1	16.2	66.6	-61.54	1004	4	6	10	10
RUAW026R	04/09/2015 13:27	16.9	21.7	0.3	61.1	-18.47	1004	4	14	10	10
RUAW025R	04/09/2015 13:29	21.7	24.1	0	54.2	-3.5	1004	4	24	5	5
RUAW0024	04/09/2015 13:33	50.3	32	0.9	16.8	-60.89	1003	4	56	40	40
RUAW0024	07/09/2015 09:00	48.3	30.1	1.5	20.1	-67.68	1016	4	1	40	40
RUAW025R	07/09/2015 09:03	48.7	27.8	0.2	23.3	-1.62	1016	4	0	5	10
RUAW025R	07/09/2015 09:05	48.3	28.5	0	23.2	-6.37	1016	4	0	10	10
RUAW026R	07/09/2015 09:09	13	20.6	0.4	66	-9.57	1016	4	0	5	5
RUAW030R	07/09/2015 09:13	38.5	29.7	1.5	30.3	-64.28	1017	4	0	10	10
RUAW033R	07/09/2015 09:18	4.6	3.8	18.3	73.3	-55.64	1017	4	0	5	5
RUARW037	09/09/2015 14:00	33.8	23.1	0.6	42.5	-49.04	1009	4	0	50	50
RUAW0027	09/09/2015 14:05	63.9	36.5	0	0	-43.53	1008	4	0	20	30
RUAW0027	09/09/2015 14:06	63.7	36.7	0	0	-49.33	1008	4	0	0	30

Well ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
RUAW056R	09/09/2015 14:08	60.3	40.2	0	0	-1.12	1007	4	0	5	5
RUAW0028	09/09/2015 14:10	57.1	39.9	0.4	2.6	-0.21	1007	4	0	1	1
RUAW0023	09/09/2015 14:12	59	27.7	2.3	11	-8.03	1006	4	0	5	5
RUAW0066	09/09/2015 14:13	36.4	29	0.2	34.4	-8.23	1006	4	0	10	10
RUAW0022	09/09/2015 14:15	37.7	30.7	0	31.6	-5.17	1006	4	0	20	20
RUAW0068	09/09/2015 14:16	69.4	32.3	0.3	0	14.62	1006	4	0	0	10
RUAW0068	09/09/2015 14:19	67.4	33.7	0	0	-5.42	1006	4	0	5	5
RUAW0021	09/09/2015 14:22	53.1	34.4	0	12.5	-8.24	1005	4	0	20	20
RUAW0020	09/09/2015 14:24	39.6	28.8	0	31.6	-5.25	1005	4	0	10	10
RUAW0019	09/09/2015 14:27	57.9	31.1	0	11	-1.12	1005	4	0	5	10
RUAW0019	09/09/2015 14:28	54.9	31.4	0	13.7	-5.34	1005	4	0	10	10
RUAW0047	09/09/2015 14:30	63.6	29.6	1.1	5.7	0.72	1006	4	0	0	5
RUAW0047	09/09/2015 14:32	54.9	27.8	3	14.3	-45.43	1006	4	0	0	0
RUAMW08R	09/09/2015 14:35	45.4	24.4	0	30.2	-0.28	1006	4	0	0	5
RUAMW08R	09/09/2015 14:36	44.7	25.3	0	30	-2.37	1006	4	0	5	5
RUAW0008	09/09/2015 14:42	22.9	18.7	0	58.4	0	1007	4	0	5	5
RUAW0024	10/09/2015 09:36	50	32.9	0	17.1	-46.81	1006	0	41	50	60
RUAW0024	10/09/2015 09:38	50.6	32.7	0	16.7	-48.18	1006	0	46	60	60
RUAW0027	10/09/2015 09:42	63.5	37	0	0	-49.63	1007	0	18	20	20
RUAW025R	10/09/2015 09:47	16.8	22.9	0	60.3	-5.78	1007	0	4	5	5
RUAW026R	10/09/2015 09:49	16.2	22.3	0	61.5	-6.39	1007	4	12	5	5
RUAW030R	10/09/2015 09:55	73.5	23.6	0.5	2.4	-49.78	1007	4	2	10	10
RUAW031R	10/09/2015 10:16	43.2	33.3	1.7	21.8	-5.25	1006	4	22	10	10
RUAW034R	10/09/2015 10:29	38.1	29.8	0.2	31.9	-29.88	1006	4	23	10	10
RUAW033R	10/09/2015 10:36	19.2	15.4	8	57.4	-48.65	1006	4	16	10	10
RUAMW09R	10/09/2015 14:56	65	33.3	0.6	1.1	0.44	1005	4	7	0	5
RUAMW09R	10/09/2015 14:57	65.4	33.4	0.1	1.1	-5.95	1005	4	11	5	5
RUAW0060	10/09/2015 15:08	32.6	17.2	9	41.2	-17.81	1004	4	5	0	0
RUAW057R	10/09/2015 15:24	61.7	37.8	0.2	0.3	0.96	1004	4	23	0	10

Well ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
RUAW057R	10/09/2015 15:28	61.8	37.7	0	0.5	-5.64	1004	4	34	10	10
RUAW0024	14/09/2015 08:28	51.7	31.6	1.9	14.8	-50.1	978	4	2	4	40
RUAW025R	14/09/2015 08:30	21.7	24	0.7	53.6	-5.54	978	4	2	5	5
RUAW026R	14/09/2015 08:33	20	22.3	1.2	56.5	-5.53	979	4	2	5	5
RUAW030R	14/09/2015 08:37	40.9	31.5	1.6	26	-55.17	979	4	2	10	10
RUAW031R	14/09/2015 08:41	38.3	30.6	2.1	29	-10.65	978	4	1	10	10
RUAW034R	14/09/2015 08:45	30.7	26	0.8	42.5	-7.92	978	4	1	10	10
RUAW033R	14/09/2015 08:49	4.3	7.9	13.2	74.6	-46.9	978	4	1	5	5
RUAW0012	15/09/2015 09:40	53.9	30.6	2.8	12.7	-6.07	978	4	1	5	5
RUAW0012	15/09/2015 09:44	57.6	33.1	1.5	7.8	-16.38	978	4	1	5	5
RUAW0008	15/09/2015 09:57	36.9	23.2	1.2	38.7	-2.62	976	4	1	5	5
RUAW0016	15/09/2015 10:05	23.7	21.7	0.2	54.4	-0.34	976	4	1	0	0
RUAW0048	15/09/2015 13:10	0.5	0.9	20	78.6	-10.93	978	4	1	0	0
RUAW0055	17/09/2015 08:57	30	24.5	0.1	45.4	-0.38	981	0	1	1	1
RUAW0055	17/09/2015 08:59	29.4	25.8	0	44.8	-2.72	981	0	0	5	5
RUAW0008	17/09/2015 09:02	11.9	18	0	70.1	-1	981	0	0	1	1
RUAW0063	17/09/2015 09:09	16.8	19.4	0	63.8	-1.19	981	0	0	0	0
RUAW0007	17/09/2015 09:17	45.2	20.1	0	34.7	-2.46	981	4	0	1	5
RUAW0007	17/09/2015 09:19	36.9	20.9	0	42.2	-5.18	981	4	0	5	5
RUAW0062	17/09/2015 09:23	5.3	15.5	7	72.2	-2.82	981	4	0	0	0
RUAMW07R	17/09/2015 09:26	33.9	24.1	2.3	39.7	-5.17	981	4	0	5	5
RUAMW004	17/09/2015 09:28	17.2	21.9	0.7	60.2	-2.63	981	4	0	0	0
RUALMP4a	17/09/2015 09:32	52.6	20.7	1.7	25	-75.3	981	4	0	1	1
RUAW0044	17/09/2015 09:35	53.7	28.9	1.8	15.6	-5.73	982	4	0	5	5
RUAW0043	17/09/2015 09:36	38	25.1	0.8	36.1	-17.15	982	4	0	5	5
RUAW0013	17/09/2015 10:44	33	26.1	0.5	40.4	-0.6	983	4	0	1	1
RUAW0014	17/09/2015 10:46	68.4	32.4	0.2	0	35.52	983	4	0	0	1
RUAW0014	17/09/2015 10:47	68	32	0	0	-51.27	983	4	0	-	1
RUAW0015	17/09/2015 10:49	38.6	25.2	0.3	35.9	-3.07	983	4	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 (%)
RUAW0046	17/09/2015 10:51	51.5	26.9	0.2	21.4	-1.05	983	4	0	1	1
RUAW0016	17/09/2015 10:53	5	16.2	1.9	76.9	0.02	983	0	0	0	0
RUAW0017	17/09/2015 10:55	64.7	33.5	0	1.8	-1.24	982	0	0	1	1
RUAW0064	17/09/2015 10:57	62	30.4	0.3	7.3	-4.9	982	0	0	10	10
RUAW0018	17/09/2015 10:59	50.3	26.7	0.4	22.6	-2.1	982	0	0	1	1
RUAW0049	17/09/2015 11:02	55	29.8	2.4	12.8	0.09	982	0	0	0	1
RUAW0049	17/09/2015 11:04	50.3	28.6	3.6	17.5	-48.13	982	0	1	0	0
RUAW029R	17/09/2015 11:06	50.2	33.9	0.5	15.4	-5.34	982	0	0	5	5
RUALCM10	17/09/2015 11:11	64.5	35.1	0	0.4	-16.78	984	0	0	20	20
RUARW037	17/09/2015 11:17	37.9	26.1	0.2	35.8	-48.8	985	0	0	50	50
RUARW038	17/09/2015 11:19	72.7	27.3	0.3	0	22.86	985	0	0	0	0
RUARW039	17/09/2015 11:20	46.4	26.2	0.8	26.6	-42.05	985	0	0	50	50
RUARW040	17/09/2015 11:22	29.4	21.1	2	47.5	-30.38	985	0	0	10	10
RUARW041	17/09/2015 11:25	0	1.4	20.1	78.5	-10.91	985	0	0	50	-
RUARW041	17/09/2015 11:26	0	0.9	20.2	78.9	-11.32	985	0	0	0	0
RUARW042	17/09/2015 11:27	70.4	29.7	0.3	0	-7.61	985	0	0	10	10
RUAW0035	17/09/2015 11:30	53.7	29.4	0.3	16.6	17.37	984	0	0	0	5
RUAW0035	17/09/2015 11:31	52.8	30.1	0	17.1	-43.74	984	0	0	5	5
RUAW0052	17/09/2015 11:34	49.8	20.5	4.8	24.9	-30.84	985	0	0	5	5
RUAW1404	17/09/2015 11:35	53.4	28	0.5	18.1	-4.87	985	0	0	5	5
RUAW0005	17/09/2015 11:40	53.3	23.6	0.4	22.7	-1.44	985	0	0	1	1
RUAW0004	17/09/2015 11:42	42.9	23.4	0	33.7	-0.68	985	0	0	1	1
RUAW0054	17/09/2015 11:45	0.1	4.7	16.1	79.1	-0.06	985	0	0	0	0
RUAW0024	18/09/2015 08:59	52.1	32	1.5	14.4	-50.37	993	4	1	40	10
RUAW0027	18/09/2015 09:03	65.8	35	0.5	0	-4.72	993	4	1	10	10
RUAW025R	18/09/2015 09:06	18.3	22.2	0.9	58.6	-7.91	994	4	1	5	5
RUAW026R	18/09/2015 09:09	14.5	20.2	1.5	63.8	-11.74	994	0	0	5	5
RUAW030R	18/09/2015 09:15	38.6	27.4	1.5	32.5	-52.95	995	0	0	10	10
RUAW031R	18/09/2015 09:20	31.4	27.7	1.8	39.1	-36.14	993	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 (%)
RUAW034R	18/09/2015 09:24	27.9	26	0.3	45.8	-10.99	994	0	0	10	10
RUAW033R	18/09/2015 09:28	7.9	11.3	10.6	70.2	-48.41	995	0	0	5	5
RUARW042	18/09/2015 09:32	71.6	30.1	0.5	0	-8.08	995	0	0	10	10
RUARW041	18/09/2015 09:34	0.1	1.9	19.8	78.2	-11.6	995	0	0	5	0
RUARW041	18/09/2015 09:35	0	1	20.3	78.7	-12.18	995	0	0	0	0
RUARW040	18/09/2015 09:37	30.2	19.7	1.9	48.2	-44.88	995	0	0	10	10
RUARW039	18/09/2015 09:38	49.4	26.8	0.2	23.6	-42.75	995	0	0	20	20
RUARW037	18/09/2015 09:40	36	26.2	0.7	37.1	-39.32	995	0	0	50	50
RUAW0024	21/09/2015 08:58	53.3	31.7	1.7	13.3	-48.67	993	0	0	40	40
RUAW0027	21/09/2015 09:02	65.3	36.1	0.4	0	-50.46	993	0	1	20	20
RUAW025R	21/09/2015 09:06	22.4	24.7	0.2	52.7	-7.54	994	0	0	10	10
RUAW026R	21/09/2015 09:10	13.9	23	0	63.1	-5.59	994	0	0	5	5
RUAW030R	21/09/2015 09:15	38.1	29	1.5	31.4	-51.57	994	0	0	10	10
RUAW031R	21/09/2015 09:20	31	28.9	1.6	38.5	-13.7	993	0	0	10	10
RUAW034R	21/09/2015 09:25	27.9	27.5	0	44.6	-10.37	993	0	0	10	10
RUAW033R	21/09/2015 09:30	4.6	10.4	12.4	72.6	-68.79	994	0	0	5	1
RUAW033R	21/09/2015 09:32	9.3	8.3	15	67.4	-51.23	994	0	0	1	1
RUARW042	21/09/2015 09:36	27.8	25.5	0.4	46.3	-31.15	994	0	0	5	5
RUARW041	21/09/2015 09:37	0	2.2	20	77.8	-18.02	994	4	0	0	0
RUARW040	21/09/2015 09:40	22.1	20.2	2.4	55.3	-34.91	994	4	0	10	10
RUARW039	21/09/2015 09:42	49.2	27	0.5	23.3	-49.79	994	4	0	20	20
RUARW038	21/09/2015 09:44	62.8	27.3	0.1	9.8	-49.04	994	4	0	20	20
RUARW037	21/09/2015 09:45	34.6	27.5	0.4	37.5	-50.47	994	4	0	60	60
RUAW0045	22/09/2015 09:06	28.4	24.1	0	47.5	-24.82	984	0	0	20	5
RUAW0045	22/09/2015 09:09	28.4	24.1	0	47.5	-5.19	984	0	0	5	5
RUAW0048	22/09/2015 09:14	21.3	19	11.5	48.2	-35.96	983	4	0	0	0
RUAW050R	22/09/2015 09:16	36.1	30.4	1.6	31.9	-1.45	983	4	1	5	5
RUAW0060	22/09/2015 09:18	16.4	9.9	14.4	59.3	-0.1	983	4	0	0	0
RUAW0067	22/09/2015 09:21	29	28.7	0.1	42.2	-18.89	983	4	0	20	1

Well ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
RUAW0067	22/09/2015 09:22	28.9	29	0.1	42	-33.82	983	4	0	1	1
RUAW0051	22/09/2015 09:25	61.9	39.2	0	0	-0.39	983	4	0	1	1
RUAW057R	22/09/2015 09:27	51.8	36.9	0	11.3	-32.78	984	4	0	10	20
RUAW057R	22/09/2015 09:34	51.5	37.1	0.1	11.3	-35.16	984	4	0	20	20
RUAW0059	22/09/2015 09:36	64.9	34.1	0.4	0.6	10.11	984	0	1	0	5
RUAW0059	22/09/2015 09:38	65.1	34.6	0.1	0.2	-27.63	984	0	0	5	5
RUAW032R	22/09/2015 09:40	45.7	33.2	0	21.1	-21.04	984	0	3	10	10
RUAW031R	22/09/2015 09:42	31.2	27.7	2.1	39	-19.31	984	1	0	10	10
RUAW034R	22/09/2015 09:44	26.2	26	0.2	47.6	-13.74	985	4	0	10	1
RUAW034R	22/09/2015 09:45	26.4	26.8	0	46.8	-13.39	985	4	0	1	1
RUARW042	22/09/2015 09:48	27.8	26.4	0	45.8	-35.5	986	4	0	5	5
RUARW041	22/09/2015 09:50	0	1.5	20.6	77.9	-18.89	986	4	0	0	0
RUARW040	22/09/2015 09:53	21.9	20.8	2.2	55.1	-38.39	986	4	0	10	10
RUARW039	22/09/2015 09:55	47.7	27.8	0.2	24.3	-53.92	986	4	0	30	30
RUARW038	22/09/2015 09:57	68.9	31.9	0.1	0	-56.78	986	4	0	20	20
RUARW037	22/09/2015 09:59	37.9	28.7	0.1	33.3	-56.72	986	4	0	50	50
RUAW025R	22/09/2015 10:05	47.2	28.4	0	24.4	-1.8	984	4	0	5	10
RUAW025R	22/09/2015 10:06	43.6	29.3	0	27.1	-13.39	984	4	0	10	10
RUALCM10	22/09/2015 10:09	55.2	34.1	0	10.7	-52.53	985	4	0	30	40
RUALCM10	22/09/2015 10:11	55.1	34.2	0	10.7	-55.54	985	4	1	40	40
RUAW0024	25/09/2015 09:21	49.7	31	1.9	17.4	-61.98	1004	4	3	40	40
RUAW0027	25/09/2015 09:25	63.9	36	0.6	0	-64.06	1005	4	3	20	20
RUALCM10	25/09/2015 09:29	15	8.9	14.6	61.5	-30.79	1006	0	3	20	5
RUALCM10	25/09/2015 09:32	25.3	16.2	9.9	48.6	-47.09	1006	0	3	5	5
RUAW025R	25/09/2015 09:34	19.4	22.3	1	57.3	-5.22	1006	0	3	5	5
RUAW026R	25/09/2015 09:37	14.2	20.9	0.5	64.4	-8.19	1006	0	3	5	5
RUAW030R	25/09/2015 09:44	32.8	26.9	1.5	38.8	-64.7	1007	0	2	5	5
RUAW031R	25/09/2015 09:48	25.6	25.9	1.8	46.7	-21.24	1005	0	2	5	5
RUAW034R	25/09/2015 09:52	22.2	24.1	0.5	53.2	-12.36	1006	0	2	5	5

Well ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
RUAW033R	25/09/2015 09:55	4.3	3.9	16.9	74.9	-53.21	1006	4	2	1	1
RUARW042	25/09/2015 10:04	25.5	23.6	0.6	50.3	-43.62	1007	4	2	5	5
RUARW041	25/09/2015 10:05	0	1.5	18.7	79.8	-28.95	1007	4	2	0	0
RUARW040	25/09/2015 10:08	16.1	17.9	2.9	63.1	-57.21	1007	4	2	5	5
RUARW039	25/09/2015 10:09	42.4	25.1	0.4	32.1	-50.58	1007	4	3	30	30
RUARW038	25/09/2015 10:11	66.3	31.2	0.3	2.2	-51.26	1007	4	2	30	30
RUARW037	25/09/2015 10:13	29.2	26.4	0.5	43.9	-67.96	1007	4	2	60	60
RUAW0024	28/09/2015 09:22	51.1	32.2	0	16.7	-55.99	1020	0	0	40	40
RUAW0027	28/09/2015 09:26	63.7	36.3	0	0	-57.66	1021	0	0	20	20
RUAW025R	28/09/2015 09:29	17.9	21.3	0	60.8	-5.36	1021	0	1	5	5
RUAW026R	28/09/2015 09:32	13	20.7	0	66.3	-7.57	1021	0	1	5	5
RUAW030R	28/09/2015 09:37	35.7	29.4	0.8	34.1	-59.73	1022	0	0	5	5
RUAW031R	28/09/2015 09:41	30	27.5	1.8	40.7	-8.74	1021	0	1	5	5
RUAW034R	28/09/2015 09:46	25.4	24.9	0.7	49	-7.62	1021	0	1	5	5
RUAW033R	28/09/2015 09:50	9.4	7.5	14.6	68.5	-59.39	1022	0	0	1	1
RUARW042	28/09/2015 09:54	25.5	21.7	2.2	50.6	-34.53	1023	0	1	5	5
RUARW041	28/09/2015 09:55	0	1.2	18.8	80	-23.04	1023	0	0	-	0
RUARW040	28/09/2015 09:57	13.7	18.4	2.5	65.4	-37.58	1023	0	0	5	5
RUARW039	28/09/2015 09:58	42	25.1	0.3	32.6	-55.79	1023	0	1	20	20
RUARW038	28/09/2015 10:00	65.5	32.3	0.2	2	-57.4	1023	4	0	40	40
RUARW037	28/09/2015 10:02	27.1	26.7	0.3	45.9	-58.61	1022	4	0	40	40
RUAW0055	30/09/2015 08:55	0	0	20.3	79.7	-0.22	1019	4	1	5.41	5.41

APPENDIX 4

Leachate Level Data

Ruabon Leachate Level Data - September 2015



From : 17/09/2015

To : 17/09/2015

17/09/2015

Sample Point	Depth of Liq (m)	Dip to Water (m)	TD (m)	Water Level (mAOD)
LMP006R	0.95	18.97	19.03	112.35
LMP007R	0.76	18.03	18.98	111.56
LMP008R	1.91	20.56	21.94	111.91
LMP009R	1.35	21.63	21.67	111.65
RUGW00M1	1.00	13.17	14.62	111.45
RUGW00M3	1.45	11.44	11.84	113.70
RUGW00M5	0.60	20.72	21.07	111.10
RUGW00M10	1.82	25.68	26.48	97.82
RUGWM4r	0.64	17.19	17.55	110.72
RULMP2r	0.73	15.48	15.93	110.73

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APPENDIX 5

Groundwater Quality Data

Ruabon Groundwater Quality & Level Data - September 2015



From : 02/09/2015

To : 02/09/2015

02/09/2015

Sample Point	Alk (CaCO ₃ :m g/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)
RUBH0013	343	0.14	<2.0	140	0.0004	11	<5	763	740	<0.001
RUWB002A	170	1.8	2.7	85	0.0003	453	6	1860	1750	<0.001
RUWB002B	305	0.6	2.2	82	0.0003	139	<5	1050	1120	<0.001
RUWB002C	961	1.9	<2.0	192	0.0005	357	15	2800	2720	<0.001
RUWB002D	361	0.2	<2.0	11	0.0003	27	<5	849	840	<0.001
RUWB003A	368	1.2	<2.0	7	0.0003	23	<5	756	740	<0.001
RUWB004A	532	0.5	<2.0	2	0.0005	20	<5	1100	1060	<0.001
RUWB005A	435	0.9	5.2	2	0.0003	35	<5	1260	1190	<0.001
RUWB005B	162	0.5	6.9	66	0.0005	98	<5	647	650	<0.001

Sample Point	Cu(D) (mg/l)	Dip to Water (m)	Fe(D) (mg/l)	K(D) (mg/l)	Mg(D) (mg/l)	Mn(D) (mg/l)	Ni(D) (mg/l)	Pb(D) (mg/l)	pH (Lab)	pH(Fld)
RUBH0013	0.001	2.55	0.12	3	10	0.299	0.002	<0.001	7.3	7
RUWB002A	<0.001	4.98	0.09	27	47	0.231	0.006	<0.001	7.4	7.51
RUWB002B	<0.001	6.13	0.09	10	16	0.13	0.011	<0.001	7.7	7.8
RUWB002C	0.001	6.34	0.15	15	20	2.397	0.037	<0.001	7.2	7.05
RUWB002D	<0.001	6.29	0.03	7	3	0.019	0.001	<0.001	8.1	7.76
RUWB003A	<0.001	9.07	<0.01	12	14	0.122	0.001	<0.001	7.8	7.88
RUWB004A	<0.001	3.18	0.42	8	<1	0.004	0.002	<0.001	9.3	9.56
RUWB005A	<0.001	3.37	0.17	4	<1	0.005	0.001	<0.001	10	10.26
RUWB005B	<0.001	5.82	0.09	14	14	0.197	0.002	<0.001	7.4	8.49

Sample Point	Na(D) (mg/l)	S.Solids (mg/l)	TD (m)	TOC (mg/l)	TON (mg/l)	Total S(D) SO ₄ :mg/l	WtrTemp (Deg C)	Zn(D) (mg/l)
RUBH0013	22	341	34.63	1.9	0.5	46	13.2	0.003
RUWB002A	175	489	21.37	3	0.6	<3	11.5	0.002
RUWB002B	107	105	10.46	2.6	0.6	<3	11.4	<0.002
RUWB002C	378	1765	8.05	7.2	0.5	43	11.9	0.004
RUWB002D	179	15	21.65	1.8	0.8	36	12.2	0.004
RUWB003A	139	70	10.7	2	1.1	<3	12.1	0.003
RUWB004A	260	58	48.83	1.7	1.4	15	12.2	<0.002
RUWB005A	279	69	25.31	0.74	<0.2	180	11.5	0.002
RUWB005B	27	48	8.4	2.5	<0.2	<3	12	<0.002

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APPENDIX 6

Surface Water Quality Data

Ruabon Surface Water Quality Data - September 2015



From : 02/09/2015

To : 02/09/2015

02/09/2015

Sample Point	Amm-N (N:mg/l)	BOD (mg/l)	Chloride (mg/l)	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	DO(Lab) (mg/l)
RUWP004A	0.08	<2.0	48	40	885	900	6.9

Sample Point	pH (Lab)	pH(Fld)	S.Solids (mg/l)	WtrTemp (Deg C)
RUWP004A	7.5	6.98	6	12.2

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