



Saturday, 27 June 2015

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

Dear Ms Langstaff,

Data Submission May 2015

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

May 2015

Prepared by G.Forrest
28th June 2015

APPENDIX 1

Field Logs

Field log report

Ruabon

04-May-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	16:45
Time ON	12:47
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

06-May-2015

Equipment 01 Calibration Due	13/09/2015
Equipment 01 Last Calibration	08/05/2015
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
Personnel 01	KEMPSTONE
Time OFF	09:05
Time OFF	15:40
Time ON	08:50
Time ON	09:00
Weather	Unknown
Weather	Raining

Issued By:

Signed By :

Name :

Field log report

Ruabon

07-May-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	15:39
Time ON	09:26
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Ruabon

08-May-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	15:21
Time ON	08:28
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Ruabon

11-May-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	09:01
Time ON	08:32
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

12-May-2015

Personnel 01	Kempston Lab - FCC
Time OFF	09:50
Time ON	09:00
Weather	Unknown

Issued By:

Signed By :

Name :

Field log report

Ruabon

13-May-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 Alan.Parry
Time OFF	13:17
Time ON	09:37
Weather	Wet

Issued By:

Signed By :

Name :

Field log report

Ruabon

15-May-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	12:00
Time ON	09:10
Weather	Sunny

Issued By:

Signed By :

Name :

Field log report

Ruabon

21-May-2015

Equipment 01 Last Calibration	08/04/2015
Equipment 01 Serial No.	GEM2000Plus + GM10338
Personnel 01	INF00925 alan.parry
Time OFF	13:06
Time ON	08:43
Weather	Clear

Issued By:

Signed By :

Name :

Field log report

Ruabon

22-May-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	12:10
Time ON	09:00
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Ruabon

26-May-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	15:50
Time ON	13:20
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Ruabon

29-May-2015

Equipment 01 Serial No.	79281-10
Equipment 01 Type	Geotechnical Atex Dip Meter
Personnel 01	G Forrest
Time OFF	12:00
Time ON	10:45
Weather	showers, cool

Issued By:

Signed By :

Name :

APPENDIX 2

Perimeter Borehole Gas Data

Ruabon Perimeter Borehole Gas & Level Data - May 2015



From : 01/05/2015
 To : 26/05/2015

01/05/2015

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	1001	12.4	3.5	0	8.9	-0.02
RUBH0007	1001	22.8	4	0	0.4	-0.05
RUBH0008	1001	0	2.8	0	17.8	0.64
RUBH0009	1001	0	0.7	0	19	-0.02
RUBH0010	1000	0	0.5	0	20.1	-0.03
RUBH0013	999	0	0.1	0	20.5	-0.03
RUBH0014	998	0	1	0	19.9	-0.03
RUBH0015	1000	0	0.1	0	18.1	0
RUBH0016	999	0	0.1	0	20.4	0
RUBH001A	1001	0	0.6	0	19.3	-0.07
RUBH001B	1001	0	1	0	18.3	-0.05
RUBH002A	1002	0	0.1	0	20	-0.07
RUBH002B	1000	0	0.3	0	19.8	0.19
RUBH003A	1001	0	0.4	0	19.4	-0.1
RUBH003B	1001	0	0.2	0	20	0.86
RUBH004A	1001	0	1.3	0	19.3	0.03
RUBH004B	1002	0	1.5	0	19.3	-0.09
RUBH011A	999	0	0.7	0	19.8	-18.58
RUBH011P	999	0	0.1	0	20.5	0.29
RUBH012A	999	0	5.1	0	2.6	-0.07
RUGBH001	1001	0	4.5	0	16.9	-0.15
RUGBH002	1001	0	3.1	0	18.2	-0.17
RUGBH003	1002	0	5.6	0	14.4	-0.07
RUGBH004	1001	24.4	7.4	0	11.7	-0.21
RUGBH005	1001	0	0.1	0	20.4	0.05
RUGBH006	1001	0	0.8	0	19.9	0.21
RUGBH007	999	0	0.1	0	20.8	-0.15
RUGBH008	999	0	0.4	0	20.4	-0.05
RUGBH009	999	0	0.1	0	20.7	0.05
RUGBH010	1000	0	0.2	0	20.6	-0.02
RUGBH02A	1002	0	0.1	0	20.8	0.05
RUGP0001	1000	25.8	2	0	13.5	0.05
RUGP0002	1001	0	0.2	0	19.7	-0.07
RUGP0003	1001	0	0.1	0	19.8	-0.03
RUGP0004	1001	0	4.2	0	14	-0.05
RUGP0008	1001	0	0.1	0	20.1	-0.03
RUGP0009	995	10.3	13.9	0	2.4	0.09
RUGP0010	1001	0	1.7	0	18.9	0.07
RUGP0011	1001	0	2.2	0	18	-0.15
RUGP0012	1001	0	0.1	0	20.4	0.55
RUGP0013	1001	0	0.5	0	20.3	-0.07
RUGP0014	1001	0	4	0	17.4	0.59
RUGP0015	1000	0	0.2	0	20.3	-0.07
RUGP0016	999	0	0.4	0	20.4	-0.07
RUGP0018	999	0	0.1	0	20.6	-0.19
RUGP0019	999	0	0.1	0	20.6	-0.05
RUGP0020	999	0	0.1	0	20.7	-0.17
RUGP0021	999	0	0.9	0	20.2	0.02
RUGP00A1	1002	0	0.1	0	20.4	0.72

Issued By:

Ruabon Perimeter Borehole Gas & Level Data - May 2015



From : 01/05/2015
 To : 26/05/2015

01/05/2015

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A2	1001	1.6	0.3	0	19	0.03
RUGP00A3	1002	0	0.1	0	20.4	-0.14
RUGP00B1	1001	0	0.1	0	20.2	0.59
RUGP00B2	1001	3.3	0.7	0	13.9	-0.14
RUGP00B3	1002	0	0.1	0	20.4	-0.07
RUGP00C1	1002	0	0.1	0	20.5	-0.14
RUGP00C2	1001	0	0.1	0	19.6	0
RUGP00C3	1002	0	0.1	0	20.5	0.02
RUGP00D1	1002	0	0.1	0	20.6	0.26
RUGP00D2	1001	0	0.1	0	20.5	-0.21
RUGP00D3	1002	0	0.1	0	20.5	-0.02
RUGP00E1	1002	0	0.1	0	20.7	-0.31
RUGP00E2	1001	0	0.1	0	20.7	-0.19
RUGP00E3	1001	0	0.1	0	20.6	0.53
RUGP00F1	1002	0	0.1	0	20.8	-0.02
RUGP00F2	1001	0	0.1	0	20.3	-0.26
RUGP00F3	1001	0	0.1	0	20.8	-0.17
RUWB001A	1001	0	0.2	0	19.5	-0.03
RUWB001B	1001	0	1.4	0	17.2	0.07
RUWB002A	1001	0	0.1	0	20.4	0.24
RUWB002B	1001	0	0.7	0	20.3	0.57
RUWB002C	1002	0	0.4	0	20.4	-0.05
RUWB002D	1001	0	0.2	0	20.5	-0.07
RUWB003A	999	0	0.4	0	16.2	-0.09
RUWB003B	999	0	0.1	0	18.6	0.05
RUWB004A	999	0	0.1	0	19.3	0.03
RUWB004B	999	0	0.4	0	19.3	-0.09
RUWB005A	1000	0	0.1	0	20.6	-0.14
RUWB005B	1001	0	0.5	0	20.3	-0.05

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Ruabon Perimeter Borehole Gas & Level Data - May 2015



From : 01/05/2015
To : 26/05/2015

06/05/2015

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	983	8.8	2.6	2.45	0	11.7	-0.07	11.71
RUBH0007	983	17.1	2.9	3.52	0	6.7	-0.09	38.67
RUBH0008	983	0	2.8	5.94	0	17.9	-0.05	42.38
RUBH0009	982	0	0.6	3.66	0	19.9	-0.05	7.5
RUBH0010	982	0	0.7	3.68	0	20.3	-0.09	36.14
RUBH0013	981	0	0.1	1.1	0	20.5	-0.09	34.63
RUBH0014	981	0	0.5	2.22	0	20.4	5.47	10.72
RUBH0015	981	0	0.1	5.82	0	17	-0.05	41.58
RUBH0016	979	0	0.1	10.35	0	20.7	-0.14	47.14
RUBH001A	982	0	0.6	4.8	0	19.9	-0.05	12.77
RUBH001B	982	0	0.6	5.04	0	19.5	-0.09	6.38
RUBH002A	982	0	0.1	5.08	0	20.5	-0.05	6.48
RUBH002B	981	0	0.3	5.14	0	20.4	0.34	11.71
RUBH003A	983	0	0.5	5.61	0	19.8	-0.17	13.08
RUBH003B	982	0	0.1	5.57	0	20.6	-0.1	6.37
RUBH004A	982	0	1.5	5.6	0	19.1	0.43	9.58
RUBH004B	982	0	1.7	5.51	0	18.9	-0.15	6.33
RUBH011A	981	0	0.8	1.87	0	19.9	-17.81	12.79
RUBH011P	981	0	0.1	3.6	0	20.6	-0.05	14.42
RUBH012A	981	0	3.4	1.35	0	16.2	-0.09	5.37
RUGBH001	982	0	4.5	6.05	0	17	-0.05	6.05
RUGBH002	982	0	0.1	2.78	0	20.6	-0.07	7
RUGBH003	983	0	3.4	3.12	0	10.2	0.05	4.9
RUGBH004	983	6.5	1.7	3.22	0	18.5	-0.24	21.89
RUGBH005	983	3.2	1.2	3.35	0	19.1	-0.05	6.31
RUGBH006	983	0	0.9	2.28	0	20.2	0.21	6.88
RUGBH007	981	0	0.1	0.82	0	20.7	-0.02	2.94
RUGBH008	981	0	0.3	0.96	0	20.5	0	6.17
RUGBH009	981	0	0.1	1.2	0	20.5	-0.34	8.23
RUGBH010	982	0	0.2	0.69	0	20.4	-0.09	3.95
RUGBH02A	983	0	0.1	1.36	0	20.6	-0.05	1.4
RUGP0001	980	2.4	0.3		0	19.3	-0.02	
RUGP0002	982	0	0.2		0	19.9	-0.12	
RUGP0003	982	0	0.1		0	20	0.31	
RUGP0004	982	0	4.4		0	15.1	-0.05	
RUGP0008	982	0	0.3		0	20.2	0.26	
RUGP0009	982	10.3	13.3		0	3.7	-0.15	
RUGP0010	982	0	3		0	17.9	-0.07	
RUGP0011	982	0	2.4		0	18.1	-0.05	
RUGP0012	982	0	0.1		0	20.5	-0.05	
RUGP0013	982	0	0.8		0	20.1	-0.03	
RUGP0014	982	0	4.3		0	17.1	-0.02	
RUGP0015	982	0	0.2		0	20.3	-0.24	
RUGP0016	981	0	1		0	19.5	-0.09	
RUGP0018	982	0	0.1		0	20.5	0.02	
RUGP0019	981	0	0.1		0	20.4	4.49	
RUGP0020	981	0	0.1		0	20.5	5.49	
RUGP0021	981	0	0.3		0	20.4	-0.03	
RUGP00A1	983	0	0.1		0	20.6	-0.05	

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Ruabon Perimeter Borehole Gas & Level Data - May 2015



From : 01/05/2015
 To : 26/05/2015

06/05/2015

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	Dip to Water (m)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)	TD (m)
RUGP00A2	982	4.2	0.8		0	17.1	-0.07	
RUGP00A3	983	0	0.1		0	20.6	-0.05	
RUGP00B1	983	0	0.1		0	20.4	-0.26	
RUGP00B2	982	7.3	1.2		0	16	-0.12	
RUGP00B3	983	0	0.1		0	20.6	-0.12	
RUGP00C1	983	0	0.1		0	20.7	-0.05	
RUGP00C2	982	0	0.1		0	19.9	-0.14	
RUGP00C3	983	0	0.1		0	20.6	-0.29	
RUGP00D1	983	0	0.1		0	20.4	-0.1	
RUGP00D2	982	0	0.1		0	20.5	0.29	
RUGP00D3	982	0	0.1		0	20.3	-0.28	
RUGP00E1	983	0	0.1		0	20.6	-0.03	
RUGP00E2	982	0	0.1		0	20.6	-0.1	
RUGP00E3	983	0	0.1		0	20.5	-0.09	
RUGP00F1	983	0	0.1		0	20.5	-0.1	
RUGP00F2	982	0	0.1		0	20.1	0.52	
RUGP00F3	982	0	0.1		0	20.6	0.1	
RUWB001A	982	0	0.3	2.81	0	19.5	0	48.9
RUWB001B	982	0	2.9	4.18	0	15.4	-0.03	7.87
RUWB002A	982	0	0.1	4.73	0	20.2	-0.03	21.37
RUWB002B	982	0	2.1	6	0	18.8	-0.03	10.46
RUWB002C	982	0	0.9	6.26	0	20.2	-0.05	8.05
RUWB002D	982	0	0.2	5.95	0	20.6	-0.1	21.65
RUWB003A	981	0	0.5	9.01	0	15.8	-0.03	10.7
RUWB003B	980	0	0.1	0.63	0	18.4	-0.07	7.56
RUWB004A	981	0	0.1	2.98	0	19	-0.14	48.83
RUWB004B	981	0	0.5	0.83	0	18.8	-0.02	8.54
RUWB005A	983	0	0.1	2.88	0	20.3	-0.07	25.31
RUWB005B	984	0	0.7	5.27	0	19.9	-0.1	8.4

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Ruabon Perimeter Borehole Gas & Level Data - May 2015



From : 01/05/2015
To : 26/05/2015

15/05/2015

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	1011	1.9	1.2	0	15.8	-0.21
RUBH0007	1011	17.9	3.5	0	2.7	-0.07
RUBH0008	1010	0	2.6	0	18.3	0.14
RUBH0009	1010	0	0.5	0	19.9	-0.12
RUBH0010	1010	0	0.6	0	20.2	-0.1
RUBH0013	1008	0	0.1	0	20.3	-0.02
RUBH0014	1008	0	0.9	0	19.7	0.02
RUBH0015	1009	0	0.1	0	12.8	-0.09
RUBH0016	1009	0	0.1	0	20.5	-0.02
RUBH001A	1010	0	0.6	0	19.4	-0.09
RUBH001B	1010	0	0.7	0	18.8	-0.12
RUBH002A	1010	0	0.1	0	19.9	-0.1
RUBH002B	1009	0	0.3	0	19.7	-0.02
RUBH003A	1010	0	0.3	0	19.7	-0.05
RUBH003B	1009	0	0.1	0	20.2	0.09
RUBH004A	1010	0	1.3	0	19.1	0.03
RUBH004B	1010	0	1.5	0	19.2	0.12
RUBH011A	1008	0	0.7	0	19.9	14.26
RUBH011P	1009	0	0.1	0	20.5	0.17
RUBH012A	1009	0	4.5	0	10.8	0.02
RUGBH001	1010	0	4.4	0	16.6	-0.07
RUGBH002	1011	0	0.1	0	20.7	-0.19
RUGBH003	1011	0	0.9	0	19	0.09
RUGBH004	1011	2.8	1	0	19.1	-0.15
RUGBH005	1011	0	0.1	0	20.5	0.31
RUGBH006	1011	0	0.4	0	20.3	0.33
RUGBH007	1008	0	0.1	0	20.3	0.14
RUGBH008	1008	0	0.1	0	20.2	0.02
RUGBH009	1009	0	0.1	0	20.2	-1.94
RUGBH010	1009	0	0.2	0	20.2	-0.15
RUGBH02A	1010	0	0.2	0	20.6	-0.02
RUGP0001	1008	25.7	2.5	0	12.8	2.01
RUGP0002	1010	0	0.2	0	19.8	-0.1
RUGP0003	1009	0	0.1	0	19.9	0
RUGP0004	1009	0	3.9	0	16	0.03
RUGP0008	1010	0	0.3	0	19.6	-0.05
RUGP0009	1010	10	13.9	0	3.4	0.81
RUGP0010	1010	0	1.4	0	18.8	-0.07
RUGP0011	1010	0	2.4	0	17.3	0.02
RUGP0012	1010	0	0.1	0	20.1	0
RUGP0013	1010	0	0.6	0	19.9	0
RUGP0014	1010	0	4.2	0	16	0
RUGP0015	1010	0	0.1	0	20.2	-0.07
RUGP0016	1008	0	1.5	0	18.7	-0.02
RUGP0018	1009	0	0.1	0	20.2	-0.53
RUGP0019	1009	0	0.1	0	20.1	-0.05
RUGP0020	1008	0	0.1	0	20.2	-0.05
RUGP0021	1008	0	0.2	0	20.1	-0.03
RUGP00A1	1011	0	0.1	0	20.5	0.26

Issued By:

Ruabon Perimeter Borehole Gas & Level Data - May 2015



From : 01/05/2015
To : 26/05/2015

15/05/2015

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A2	1010	0	0.2	0	19.9	0.02
RUGP00A3	1011	0	0	0	20.5	0
RUGP00B1	1011	0	0.1	0	20.3	0
RUGP00B2	1010	4.6	0.8	0	14.2	0
RUGP00B3	1011	0	0.1	0	20.4	-0.22
RUGP00C1	1011	0	0.1	0	20.3	-0.1
RUGP00C2	1010	0	0	0	17.5	-0.24
RUGP00C3	1011	0	0.1	0	20.3	-1.74
RUGP00D1	1011	0	0.1	0	20.4	0.69
RUGP00D2	1010	0	0.1	0	20.3	-0.38
RUGP00D3	1011	0	0.1	0	20	-0.19
RUGP00E1	1011	0	0.1	0	20.4	-0.05
RUGP00E2	1010	0	0.1	0	20.4	0.29
RUGP00E3	1010	0	0.1	0	20.4	-0.21
RUGP00F1	1011	0	0.1	0	20.6	-0.09
RUGP00F2	1010	0	0.1	0	20.2	0.89
RUGP00F3	1006	0	0.1	0	20.5	-0.02
RUWB001A	1010	0	0.3	0	18.2	-0.14
RUWB001B	1010	0	0.6	0	19.3	-0.07
RUWB002A	1010	0	0.2	0	19	0.83
RUWB002B	1010	0	0.9	0	19.7	0.72
RUWB002C	1010	0	0.4	0	20.1	-0.09
RUWB002D	1010	0	0.1	0	20.2	-0.05
RUWB003A	1008	0	0.4	0	16.1	-0.02
RUWB003B	1008	0	0.1	0	18.9	-0.17
RUWB004A	1009	0	0.1	0	18.9	-0.05
RUWB004B	1009	0	0.4	0	18.4	-0.09
RUWB005A	1010	0	0	0	20.4	0
RUWB005B	1010	0	0.7	0	20	-0.21

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Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	1014	0.9	1.6	0	16.6	-0.31
RUBH0007	1013	18.2	3.5	0	3.2	0
RUBH0008	1013	0	2.1	0	18.7	0.03
RUBH0009	1013	0	0.6	0	20.5	0
RUBH0010	1012	0	0.7	0	20.4	-0.02
RUBH0013	1011	0	0.1	0	20.9	-0.05
RUBH0014	1011	0	0.7	0	20.5	-0.07
RUBH0015	1012	0	0.1	0	14.3	-0.12
RUBH0016	1012	0	0.1	0	20.8	-0.05
RUBH001A	1013	0	0.6	0	19.3	-0.03
RUBH001B	1012	0	0.8	0	18.5	-0.07
RUBH002A	1012	0	0.1	0	20.8	-0.03
RUBH002B	1012	0	0.3	0	20.7	-0.22
RUBH003A	1013	0	0.3	0	20.4	-0.02
RUBH003B	1012	0	0.1	0	20.8	0.34
RUBH004A	1013	0	1.4	0	19.6	-13.46
RUBH004B	1013	0	0.2	0	20.9	-0.28
RUBH011A	1011	0	0.7	0	20.3	-8.88
RUBH011P	1011	0	0.1	0	20.9	-0.05
RUBH012A	1011	0	5	0	6.3	0
RUGBH001	1013	0	4.3	0	17.2	-0.21
RUGBH002	1013	0	0.1	0	20.8	0.03
RUGBH003	1013	0	1.5	0	18.6	-0.17
RUGBH004	1013	2.3	1.3	0	19.7	-0.03
RUGBH005	1013	0	0.1	0	20.9	-0.09
RUGBH006	1013	0	0.4	0	20.7	0.57
RUGBH007	1011	0	0.1	0	20.8	-0.17
RUGBH008	1011	0	0.1	0	20.8	-0.03
RUGBH009	1012	0	0.1	0	20.8	-0.72
RUGBH010	1012	0	0.1	0	20.7	0.03
RUGBH02A	1013	0	0.1	0	20.8	-0.1
RUGP0001	1011	39.8	3.5	0	9	-0.1
RUGP0002	1013	0	0.2	0	19.7	-0.28
RUGP0003	1013	0	0.1	0	19.7	-5.33
RUGP0004	1012	0	4.3	0	14.4	-0.1
RUGP0008	1013	0	0.3	0	20.5	-0.07
RUGP0009	1013	9.9	13.8	0	4.9	-0.07
RUGP0010	1013	0	1.9	0	18.9	-0.09
RUGP0011	1013	0	2.6	0	18.2	-0.07
RUGP0012	1012	0	0.1	0	20.8	0.03
RUGP0013	1013	0	0.6	0	20.5	0.03
RUGP0014	1013	0	4.4	0	16.5	0.15
RUGP0015	1011	0	0.2	0	20.4	-0.14
RUGP0016	1011	0	1.6	0	19.4	-0.07
RUGP0018	1011	0	0.1	0	20.7	0
RUGP0019	1011	0	0.1	0	20.8	0.03
RUGP0020	1011	0	0.1	0	20.8	-0.03
RUGP0021	1011	0	0.2	0	20.7	-0.03
RUGP00A1	1013	0	0.1	0	20.9	0.07

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	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A2	1013	0	0.2	0	20.7	0.22
RUGP00A3	1013	0	0.1	0	20.9	-0.05
RUGP00B1	1013	0	0.1	0	20.6	0
RUGP00B2	1014	13.8	2.3	0	6	-0.07
RUGP00B3	1013	0	0.1	0	20.8	-0.05
RUGP00C1	1013	0	0.1	0	20.9	0
RUGP00C2	1013	0	0.1	0	17.9	0.05
RUGP00C3	1013	0	0.1	0	20.9	-0.43
RUGP00D1	1013	0	0.1	0	20.9	0.14
RUGP00D2	1013	0	0.1	0	20.8	0.48
RUGP00D3	1013	0	0.1	0	20.4	0.12
RUGP00E1	1013	0	0.1	0	20.8	-0.15
RUGP00E2	1013	0	0.1	0	20.8	-0.12
RUGP00E3	1013	0	0.1	0	20.9	-0.14
RUGP00F1	1013	0	0.1	0	20.9	-0.09
RUGP00F2	1013	0	0.1	0	20.3	0.31
RUGP00F3	1012	0	0.1	0	20.9	0.09
RUWB001A	1013	0	0.3	0	19	-0.17
RUWB001B	1013	0	0.5	0	20	0.21
RUWB002A	1013	0	0.2	0	19.4	-0.19
RUWB002B	1013	0	1.6	0	19.2	0
RUWB002C	1013	0	0.5	0	20.4	-0.05
RUWB002D	1013	0	0.1	0	20.9	-0.09
RUWB003A	1011	0	0.4	0	16.5	0.03
RUWB003B	1011	0	0.1	0	19	0.02
RUWB004A	1011	0	0.2	0	18.7	0.03
RUWB004B	1011	0	0.3	0	19.9	0.1
RUWB005A	1013	0	0.1	0	20.7	-0.07
RUWB005B	1013	0	0.3	0	20.5	0

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Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	1016	0	1.9	0	14.6	-0.19
RUBH0007	1016	11.3	8.1	0	4.1	-0.05
RUBH0008	1015	0	2.6	0	16.9	-0.21
RUBH0009	1015	0	1.5	0	18.3	-0.07
RUBH0010	1015	0	0.6	0	20	-0.09
RUBH0013	1013	0	0.1	0	20.5	-0.05
RUBH0014	1013	0	0.7	0	19.7	1.39
RUBH0015	1014	0	0.1	0	14.8	-0.03
RUBH0016	1014	0	0.1	0	20.4	0
RUBH001A	1016	0	0.5	0	19.3	0
RUBH001B	1015	0	0.6	0	18.8	0
RUBH002A	1016	0	0.1	0	20.2	-0.02
RUBH002B	1015	0	0.2	0	20.1	0.53
RUBH003A	1016	0	0.1	0	20.8	-0.05
RUBH003B	1016	0	0.1	0	20.9	0.07
RUBH004A	1016	0	1.2	0	19.4	-8.24
RUBH004B	1016	0	1.4	0	19.5	0.15
RUBH011A	1013	0	0.7	0	19.8	-23.11
RUBH011P	1014	0	0.1	0	20.5	0
RUBH012A	1014	0	5.2	0	6.8	-0.02
RUGBH001	1016	0	4.1	0	17.1	-0.05
RUGBH002	1015	0	0.2	0	20.7	-0.05
RUGBH003	1016	0	0.7	0	19.3	-0.12
RUGBH004	1016	2	1.5	0	18.8	-0.07
RUGBH005	1016	0	0.1	0	20.3	0
RUGBH006	1016	0	0.6	0	19.8	-0.07
RUGBH007	1013	0	0.1	0	20.3	-0.24
RUGBH008	1013	0	0.1	0	20.1	-0.05
RUGBH009	1014	0	0.1	0	20.1	-0.02
RUGBH010	1014	0	0.1	0	20.1	0.03
RUGBH02A	1014	0	0.1	0	20.9	-0.07
RUGP0001	1016	41.5	3.3	0	8.2	-0.09
RUGP0002	1016	0	0.1	0	19.4	-0.19
RUGP0003	1016	0	0	0	19.5	-0.09
RUGP0004	1016	0	4.4	0	13.5	-0.07
RUGP0008	1016	0	0.2	0	20	-0.05
RUGP0009	1016	8.7	13.1	0	4.3	0
RUGP0010	1016	0	1.7	0	18.7	-0.03
RUGP0011	1016	0	2.5	0	18	-0.02
RUGP0012	1016	0	0.1	0	20.8	0.07
RUGP0013	1016	0	0.5	0	20.7	-0.07
RUGP0014	1016	0	4.3	0	16.3	-0.12
RUGP0015	1015	0	0.3	0	19.6	-0.12
RUGP0016	1013	0	1.8	0	18.4	-0.05
RUGP0018	1014	0	0.1	0	20.2	-0.29
RUGP0019	1013	0	0.1	0	19.9	-0.1
RUGP0020	1013	0	0.1	0	20.2	0.05
RUGP0021	1013	0	0.2	0	20.1	-0.12
RUGP00A1	1016	0	0.1	0	20.3	0.02

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	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A2	1015	0	0.1	0	20.3	0.72
RUGP00A3	1015	0	0	0	20.3	0.07
RUGP00B1	1016	0	0.1	0	20.2	-0.02
RUGP00B2	1015	20.4	1.6	0	4.1	-0.03
RUGP00B3	1016	0	0.1	0	20.2	-0.07
RUGP00C1	1016	0	0.1	0	20.4	-0.03
RUGP00C2	1016	0	0	0	18.5	-0.19
RUGP00C3	1016	0	0.1	0	20.4	-2.55
RUGP00D1	1016	0	0.1	0	20.5	-0.02
RUGP00D2	1015	0	0.1	0	20.5	-0.03
RUGP00D3	1015	0	0.1	0	20.4	-0.17
RUGP00E1	1016	0	0.1	0	20.6	0
RUGP00E2	1015	0	0.1	0	20.6	0.14
RUGP00E3	1016	0	0.1	0	20.6	-0.4
RUGP00F1	1015	0	0.1	0	20.7	-0.05
RUGP00F2	1015	0	0.1	0	20.2	0.02
RUGP00F3	1016	0	0.1	0	20.7	0.26
RUWB001A	1016	0	0.2	0	18.8	0.05
RUWB001B	1016	0	0.9	0	19.1	0.96
RUWB002A	1016	0	0.1	0	19.5	-0.1
RUWB002B	1016	0	0.8	0	20.2	-0.1
RUWB002C	1016	0	0.3	0	20.5	-0.15
RUWB002D	1016	0	0.1	0	20.8	-0.05
RUWB003A	1013	0	0.3	0	16.8	-0.09
RUWB003B	1013	0	0.1	0	18.8	-0.12
RUWB004A	1013	0	0.2	0	18.7	0.81
RUWB004B	1014	0	0.3	0	19.3	1.6
RUWB005A	1015	0	0	0	20.3	-0.03
RUWB005B	1015	0	0.6	0	19.8	-0.15

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APPENDIX 3

Landfill Gas Field Extraction and Balancing Data

RUABON LANDFILL GAS EXTRACTION & BALANCING DATA - MAY 2015

Well ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	Original Valve (%)	Depart Valve (%)
RUAW0007	04/05/2015 13:30	33.1	20.1	0.4	46.4	-1.92	986	12	0	0	0
RUAW0062	04/05/2015 13:32	30.3	23.7	0	46	-4.11	986	12	0	5	0
RUAW0062	04/05/2015 13:33	30.1	23.8	0	46.1	-4.74	986	12	0	0	0
RUAMW07R	04/05/2015 13:35	33.2	24.8	0.8	41.2	-5.32	986	13	0	10	5
RUAMW07R	04/05/2015 13:36	33	25	0.8	41.2	-4.36	986	14	0	5	5
RUAW0044	04/05/2015 13:38	27.1	19.7	4.1	49.1	-19.33	987	14	0	5	0
RUAW0044	04/05/2015 13:39	28	20.4	3.4	48.2	-17.5	987	15	0	0	0
RUAW0014	04/05/2015 13:42	71.9	27.8	0.3	0	-44.46	986	16	0	5	5
RUAW0015	04/05/2015 13:45	66.5	33.3	0.4	0	-8.52	986	16	0	10	10
RUAW0045	04/05/2015 13:47	60.8	21.1	1	17.1	-6.21	986	16	0	10	10
RUAMW08R	04/05/2015 13:49	72.8	30.1	0	0	-2.67	986	17	0	1	1
RUAW0064	04/05/2015 13:55	63.4	35.6	0.1	0.9	-5.9	985	15	0	20	20
RUAW0018	04/05/2015 13:57	28.4	16.1	4.5	51	-37.85	985	14	0	10	0
RUAW0018	04/05/2015 13:58	28.1	16.9	3.5	51.5	-44.06	985	14	0	0	0
RUAW0019	04/05/2015 14:00	41	29.4	0	29.6	-5.33	985	14	0	10	10
RUAMW09R	04/05/2015 14:04	39.4	29.8	0.1	30.7	-5.01	986	14	0	10	10
RUAW0061	04/05/2015 14:08	41.6	25.9	0	32.5	-5.16	986	13	0	5	5
RUAMW006	04/05/2015 14:09	61.8	34.2	0	4	-5.54	986	14	0	10	10
RUAMW005	04/05/2015 14:11	45.2	25.6	0	29.2	-5.75	986	14	0	10	10
RUAW011R	04/05/2015 14:13	43.2	26	2.5	28.3	-1.17	986	13	0	1	1
RUAW0012	07/05/2015 09:35	4.4	9	17.1	69.5	-12.14	999	0	0	1	1
RUAW0020	07/05/2015 09:44	18.8	24.7	1	55.5	-6.93	996	0	0	10	1
RUAW0020	07/05/2015 09:45	18.5	24.9	0.9	55.7	-5.41	996	0	0	0	0
RUAW0021	07/05/2015 09:47	43.2	31.9	0.3	24.6	-21.56	996	1	0	20	20
RUAW0068	07/05/2015 09:49	55.1	31.1	2.6	11.2	-43.84	997	1	1	5	5
RUAW0049	07/05/2015 09:51	54.4	30.7	2.5	12.4	0.24	997	4	0	0	1
RUAW0049	07/05/2015 09:52	52.5	29.9	3.1	14.5	-26.4	997	3	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 (%)
RUAW029R	07/05/2015 09:55	45	33.2	1.3	20.5	-15.29	997	2	0	10	10
RUAW0022	07/05/2015 09:57	49.2	33.6	0.1	17.1	-22.26	997	4	0	20	20
RUAW0066	07/05/2015 09:59	47.9	34.1	0	18	-25.57	997	4	0	10	10
RUAW0023	07/05/2015 10:02	58.7	35.3	0.1	5.9	-43.5	997	3	0	20	30
RUAW0023	07/05/2015 10:04	58.8	35.4	0	5.8	-43.26	997	4	0	30	30
RUAW0024	07/05/2015 10:07	61.1	37.6	0.3	1	-6.67	998	4	0	0	10
RUAW0024	07/05/2015 10:10	61	37.8	0.2	1	-24.93	998	5	0	20	20
RUAW0028	07/05/2015 10:11	22.8	31.9	5.9	39.4	-12.24	998	6	0	0	0
RUAW056R	07/05/2015 10:13	49.9	36	2.7	11.4	-11.77	998	5	0	1	1
RUAW0027	07/05/2015 10:15	66.7	32.5	0	0.8	92.49	998	5	0	0	1
RUAW0027	07/05/2015 10:17	66.7	32.5	0	0.8	0.94	998	5	0	1	1
RUALCM10	07/05/2015 10:22	64.9	32.6	0.8	1.7	-0.39	999	5	0	0	10
RUALCM10	07/05/2015 10:31	61.1	31.7	1.5	5.7	-1.01	999	4	0	10	10
RUAW026R	07/05/2015 10:33	76	25.3	0	0	-7.81	999	3	0	0	10
RUAW026R	07/05/2015 10:34	75	25.6	0	0	-15.31	999	4	0	10	10
RUAW025R	07/05/2015 10:37	60.5	27.3	0.3	11.9	-9.72	999	5	0	0	10
RUAW025R	07/05/2015 10:39	60.4	28.2	0	11.4	-19.54	999	4	0	10	10
RUARW037	07/05/2015 10:43	71.6	29.9	0	0	-0.17	1000	3	0	0	10
RUARW037	07/05/2015 10:45	71.1	30	0	0	-14.96	1000	4	0	10	10
RUARW038	07/05/2015 10:48	71.5	29.2	0	0	69.15	1000	4	0	0	10
RUARW038	07/05/2015 10:49	71.4	29.1	0	0	-37.07	1000	4	0	10	10
RUARW039	07/05/2015 10:53	75.3	26.3	0	0	71.67	1000	4	0	0	10
RUARW039	07/05/2015 10:55	75	26.5	0	0	-22.1	1000	2	0	10	10
RUARW040	07/05/2015 10:57	70.7	27.9	0.1	1.3	-49.44	1000	4	0	10	10
RUAP1411	07/05/2015 11:02	77.5	20.3	0.5	1.7	7.13	1000	3	0	0	10
RUAP1411	07/05/2015 11:03	71.5	19.6	1.7	7.2	-6.75	1000	4	0	10	10
RUAP1410	07/05/2015 11:05	2.1	1.8	16.7	79.4	0	999	3	0	0	0
RUAP1409	07/05/2015 11:07	12.3	6.8	15.9	65	-3.9	999	21	0	0	0
RUAP1408	07/05/2015 11:09	0	0.9	20.9	77.8	-8.52	999	3	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 (%)
RUAP1407	07/05/2015 11:11	2.4	1.7	20.4	75.5	-8.61	999	4	0	0	0
RUAP1406	07/05/2015 11:13	7.5	9.6	4.7	78.2	-11.93	999	165	1	0	0
RUAW025R	07/05/2015 11:17	58	27.2	0	14.8	-23.74	999	7	0	10	10
RUALCM10	07/05/2015 11:21	67.7	33.6	0.1	0	-1.02	999	4	0	10	10
RUAW026R	07/05/2015 11:24	70.2	28.3	0	1.5	-21.78	999	4	0	10	10
RUAW030R	07/05/2015 11:27	74	27.9	0	0	-50.53	999	2	0	60	60
RUAW033R	07/05/2015 11:29	70.5	31.5	0	0	-52.21	999	2	0	10	10
RUAW0035	07/05/2015 11:37	53.1	31.4	0.6	14.9	-1.18	999	3	0	1	10
RUAW0035	07/05/2015 11:38	52.2	32.2	0.3	15.3	-6.63	999	3	0	10	10
RUAW0052	07/05/2015 11:40	61.6	22.9	2.5	13	-44.72	999	3	0	1	1
RUAW0005	07/05/2015 11:46	45.1	26.5	1.4	27	-5.35	999	2	0	5	5
RUAW0004	07/05/2015 11:47	27.2	21	0.2	51.6	-2.44	999	1	0	0	0
RUAW0054	07/05/2015 11:52	0	8	6.7	85.3	-2.19	999	1	0	0	0
RUALCM10	08/05/2015 08:33	60.3	31.2	1.8	6.7	-31.72	998	0	0	10	10
RUALCM10	11/05/2015 09:01	67.9	32.9	0.1	0	-2.67	998	0	14	10	10
RUALCM10	11/05/2015 09:01	67.9	32.9	0.1	0	-2.67	998	0	14	10	10
RUAW0001	13/05/2015 09:48	42.2	18.9	4.3	34.6	-0.22	1005	0	0	1	1
RUAW0002	13/05/2015 09:49	0.1	3.9	19.7	76.3	-0.69	1005	0	0	0	0
RUAMW001	13/05/2015 09:52	34.4	20.9	0.3	44.4	-0.65	1005	0	0	0	5
RUAMW001	13/05/2015 09:53	34.8	21.7	0	43.5	-1.06	1005	0	0	5	5
RUAW0003	13/05/2015 09:55	48.4	15.8	0	35.8	-0.23	1005	0	0	0	5
RUAW0003	13/05/2015 09:56	48.4	15.9	0	35.7	-3.66	1005	0	0	5	5
RUAW0053	13/05/2015 09:58	1.2	4.5	16.4	77.9	-0.96	1005	0	0	0	0
RUAMW002	13/05/2015 10:00	47.5	20.8	0	31.7	-1.84	1005	0	0	1	1
RUAW065R	13/05/2015 10:02	49.3	23	0	27.7	-2.28	1005	0	0	0	5
RUAW065R	13/05/2015 10:03	49.1	23.4	0	27.5	-3.57	1005	0	0	5	5
RUAW011R	13/05/2015 10:05	35.3	19.9	6.3	38.5	-2.85	1004	0	0	0	0
RUAMW005	13/05/2015 10:07	44.1	24.5	0	31.4	-7.05	1004	0	0	10	10
RUAW0061	13/05/2015 10:11	40.1	25.4	0	34.5	-5.3	1004	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 (%)
RUAMW006	13/05/2015 10:14	50.9	30.4	0	18.7	-9.9	1004	0	0	10	10
RUAMW09R	13/05/2015 10:16	41	28.7	0	30.3	-5.07	1004	0	0	5	5
RUAW0060	13/05/2015 10:20	8.7	17	5.4	68.9	-0.91	1004	0	0	0	0
RUAW0048	13/05/2015 10:22	44.2	32	3.8	20	0.23	1003	1	0	0	0
RUAW050R	13/05/2015 10:24	38.2	32	0.9	28.9	-1.37	1003	2	0	1	1
RUAW0067	13/05/2015 10:26	44.9	31.9	0.2	23	-11.74	1004	0	0	10	10
RUAW0051	13/05/2015 10:29	51.9	40	1.5	6.6	0.03	1004	2	0	0	5
RUAW0051	13/05/2015 10:30	49.6	39.4	2.2	8.8	-7.05	1004	2	0	0	0
RUAW057R	13/05/2015 10:32	61.8	36	0.6	1.6	2.5	1004	0	0	0	5
RUAW057R	13/05/2015 10:34	54.9	34.7	2.1	8.3	-5.44	1004	0	0	10	10
RUAW032R	13/05/2015 10:37	48.2	34.9	0.1	16.8	-29.99	1004	0	0	10	10
RUAW031R	13/05/2015 10:39	39.2	31.6	0.1	29.1	-38.14	1004	0	0	10	10
RUAW034R	13/05/2015 10:41	45.4	29	1.2	24.4	-28.96	1005	0	0	15	15
RUAW0036	13/05/2015 10:43	60	29.9	2.3	7.8	-45.09	1005	0	0	5	5
RUAW0059	13/05/2015 10:44	66.9	33.4	0.2	0	0.12	1004	0	0	0	0
RUAMW003	13/05/2015 10:47	37	21.5	3.5	38	-6.72	1005	0	0	0	0
RUAW0052	13/05/2015 10:48	23.1	11.4	13.1	52.4	-36.44	1005	0	0	10	0
RUAW0052	13/05/2015 10:49	23.3	10.7	13.3	52.7	-50.37	1005	0	0	0	0
RUARW042	13/05/2015 10:51	72.6	27.4	0.5	0	-36.06	1006	0	0	5	5
RUARW041	13/05/2015 10:52	80.8	20.7	0.5	0	-18.05	1006	0	0	10	10
RUARW040	13/05/2015 10:56	71.6	24.1	0.6	3.7	-31.36	1006	0	0	10	10
RUARW039	13/05/2015 10:58	72.1	26.6	0.5	0.8	-38.87	1006	0	0	10	10
RUARW038	13/05/2015 11:00	48.7	20.3	6.2	24.8	-40.11	1006	0	0	5	5
RUARW037	13/05/2015 11:02	15.1	7.5	16.3	61.1	-33.03	1006	0	0	5	5
RUALCM10	13/05/2015 11:07	56.3	27.2	3.3	13.2	-52.72	1005	0	0	10	10
RUAW0019	13/05/2015 13:01	42.9	21.9	1	34.2	-4.27	1002	0	0	10	10
RUAW0018	13/05/2015 13:02	54.5	19.8	0.2	25.5	-1.88	1002	0	0	0	5
RUAW0018	13/05/2015 13:03	52.4	21.3	0.1	26.2	-3.9	1002	0	0	5	5
RUAW0017	13/05/2015 13:05	29.9	24.6	0.1	45.4	-0.79	1002	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 (%)
RUAW0016	13/05/2015 13:07	0.3	4.6	15.1	80	-0.01	1002	0	0	0	0
RUAW0046	13/05/2015 13:09	46.6	26	0.1	27.3	-0.75	1003	0	0	0	5
RUAW0046	13/05/2015 13:10	46.1	27.2	0	26.7	-1.48	1003	0	0	5	5
RUARW037	21/05/2015 09:57	75.3	24.4	0.3	0	0.92	1010	0	0	0	10
RUARW037	21/05/2015 09:59	69.8	29.9	0.1	0.2	-43.08	1010	0	0	10	10
RUAW0047	21/05/2015 10:45	49.3	25.5	3.2	22	-0.89	1008	1	0	0	1
RUAW0047	21/05/2015 10:46	47.1	25.2	3.7	24	-41.19	1008	0	0	0	0
RUAW0064	21/05/2015 10:48	31.4	26.2	0.1	42.3	-5.78	1009	0	0	5	5
RUAW0008	21/05/2015 10:51	65.2	29	0	5.8	-5.7	1009	0	0	5	5
RUAW0043	21/05/2015 10:54	1.3	17.2	2.5	79	-19.87	1009	0	0	5	0
RUAW0043	21/05/2015 10:55	1.3	17.3	2.4	79	-13.56	1009	0	0	0	0
RUAW0013	21/05/2015 11:02	24.8	19.2	5.3	50.7	-1.34	1010	0	0	1	1
RUAMW004	21/05/2015 11:04	37.3	21.3	0.1	41.3	-2.45	1010	0	0	0	0
RUAW0063	21/05/2015 11:06	0.3	15.6	0.5	83.6	-1	1010	0	0	0	0
RUAW0055	21/05/2015 11:08	15.5	18.1	0.5	65.9	-0.73	1010	0	0	1	1
RUALCM10	21/05/2015 11:40	62.8	31.2	0	6	-5.48	1010	5	0	20	20
RUAW026R	21/05/2015 11:42	22.2	18.4	2.9	56.5	-30.23	1010	49	0	20	5
RUAW026R	21/05/2015 11:45	21.7	18.1	3	57.2	-27.26	1010	47	0	0	0
RUAW025R	21/05/2015 11:47	58.1	29.5	0.6	11.8	-18.64	1010	0	0	20	20
RUAW0024	21/05/2015 11:50	59.4	34.8	0.1	5.7	-30.84	1010	0	0	20	20

APPENDIX 4

Leachate Level Data

Ruabon Leachate Level Data - May 2015



From : 15/05/2015
To : 29/05/2015

29/05/2015

Sample Point	Depth of Liq (m)	Dip to Water (m)	TD (m)	Water Level (mAOD)
LMP006R	1.52	18.4	19.03	112.92
LMP007R	1.63	17.16	18.98	112.43
LMP008R	1.84	20.63	21.94	111.84
LMP009R	1.73	21.25	21.67	112.03
RUGW00M1	0.63	13.54	14.62	111.08
RUGW00M3	1.43	11.46	11.84	113.68
RUGW00M5	1.01	20.31	21.07	111.51
RUGW0M10	1.84	25.66	26.48	97.84
RUGWM4r	1.43	16.4	17.55	111.51
RULMP2r	1.60	14.61	15.93	111.60

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APPENDIX 5

Groundwater Quality Data

Ruabon Groundwater Levels and Quality - May 2015



From : 06/05/2015
To : 06/05/2015

06/05/2015

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)
RUBH0013	334	0.2	<2.0	125	<0.0001	8	9	738	750	<0.001
RUWB002A	150	1.7	6.4	88	<0.0001	445	12	1700	1730	<0.001
RUWB002B	292	0.5	<2.0	76	<0.0001	136	<5	971	1030	<0.001
RUWB002C	931	0.8	<2.0	190	<0.0001	358	18	2650	2630	<0.001
RUWB002D	305	0.2	<2.0	13	<0.0001	26	<5	724	730	<0.001
RUWB003A	359	1.5	7.1	10	<0.0001	23	49	720	730	<0.001
RUWB004A	515	0.3	5.1	3	<0.0001	21	<5	1030	1050	<0.001
RUWB005A	345	1	7.4	2	<0.0001	37	8	1110	1160	<0.001
RUWB005B	145	0.18	<2.0	63	<0.0001	59	6	580	530	<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	1.1	0.11	5	12	0.501	0.002	<0.001	6.9	6.86
RUWB002A	<0.001	4.73	0.34	26	44	0.391	0.005	<0.001	7.1	7.16
RUWB002B	<0.001	6	0.1	10	15	0.11	0.01	<0.001	7.4	7.39
RUWB002C	<0.001	6.26	0.15	15	20	1.677	0.034	<0.001	6.9	6.89
RUWB002D	<0.001	5.95	0.02	8	3	0.014	<0.001	<0.001	7.8	7.5
RUWB003A	0.001	9.01	0.08	17	12	0.292	0.001	<0.001	7.6	7.65
RUWB004A	<0.001	2.98	0.28	9	<1	0.004	0.001	<0.001	9.1	9.27
RUWB005A	<0.001	2.88	0.26	4	<1	0.005	<0.001	<0.001	10	10.08
RUWB005B	<0.001	5.27	0.11	15	15	0.027	0.001	<0.001	7.7	8.2

Sample Point	Na(D) (mg/l)	S.Solids (mg/l)	TD (m)	TOC (mg/l)	TON (mg/l)	Total S(D) SO4:mg/l	WtrTemp (Deg C)	Zn(D) (mg/l)
RUBH0013	36	194	34.63	4.8	2.9	62	10.2	<0.002
RUWB002A	165	261	21.37	4.2	<0.2	<3	10.9	<0.002
RUWB002B	105	78	10.46	2.4	<0.2	<3	10.8	<0.002
RUWB002C	357	2515	8.05	6.5	<0.2	42	10.4	0.002
RUWB002D	150	20	21.65	1.6	<0.2	36	10.7	0.005
RUWB003A	130	318	10.7	2.5	0.6	<3	10.2	0.01
RUWB004A	265	156	48.83	1.4	<0.2	16	10	<0.002
RUWB005A	260	68	25.31	0.37	<0.2	225	11.2	<0.002
RUWB005B	22	124	8.4	3.1	<0.2	48	10.2	0.646

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APPENDIX 6

Surface Water Quality Data

Ruabon Surface Water Quality Data - May 2015



From : 06/05/2015
 To : 06/05/2015

06/05/2015

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	0.4	3.1	47	24	729	740	8.9

Sample Point	pH (Lab)	pH(Fld)	S.Solids (mg/l)	WtrTemp (Deg C)
RUWP004A	7.6	7.07	11	11.9

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APPENDIX 7

Leachate Quality Data

Ruabon Leachate Quality Data - May 2015



From : 06/05/2015
To : 06/05/2015

06/05/2015

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)	Cr(D) (mg/l)
RULT0001	9000	1040	372	86	<0.001	2240	0.14

Sample Point	COD (mg/l)	Cond (uS / cm)	Cond(Fld) (uS / cm)	Cu(D) (mg/l)	Fe(D) (mg/l)	IonicBal (%)	Pb(D) (mg/l)
RULT0001	3375	20400	19600	1.058	7.5	-8.4	0.059

Sample Point	K(D) (mg/l)	Mg(D) (mg/l)	Mn(D) (mg/l)	Ni(D) (mg/l)	Nitrate (N:mg/l)	pH (Lab)	pH(Fld)
RULT0001	802	101	0.181	0.21	1	7.5	7.44

Sample Point	Na(D) (mg/l)	T.Anions (meq/l)	T.Cations (meq/l)	TOC (mg/l)	TON (mg/l)	Total S(D) SO4:mg/l	WtrTemp (Deg C)
RULT0001	2300	246	208	880	0.9	132	15.5

Sample Point	Zn(D) (mg/l)
RULT0001	0.83

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