



Sunday, 28 February 2016

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

Dear Ms Langstaff,

Data Submission January 2016

Please find enclosed the monthly data submission for routine environmental monitoring undertaken at our Ruabon Landfill Site during January 2016.

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

APPENDIX 1

Field Logs

Field log report

Ruabon

07-January-2016

Equipment 01 Calibration Due	28/04/2016
Equipment 01 Last Calibration	28/10/2015
Equipment 01 Serial No.	GA11581
Equipment 01 Type	GA2000plus
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	15:50
Time ON	09:00
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Ruabon

15-January-2016

Equipment 01 Calibration Due	28/04/2016
Equipment 01 Last Calibration	28/10/2015
Equipment 01 Serial No.	GA11581
Equipment 01 Type	GA2000plus
Personnel 01	L Terrace
Time OFF	11:45
Time ON	08:50
Weather	Overcast

Issued By:

Signed By :

Name :

Field log report

Ruabon

22-January-2016

Equipment 01 Calibration Due	28/04/2016
Equipment 01 Last Calibration	28/10/2015
Equipment 01 Serial No.	GA11581
Equipment 01 Serial No.	79281-10
Equipment 01 Type	Geotechnical Atex Dip Meter
Equipment 01 Type	GA2000plus
Personnel 01	L Terrace
Personnel 01	S Williams
Time OFF	12:00
Time OFF	12:00
Time ON	08:45
Time ON	10:30
Weather	o/c, cold
Weather	Light Rain

Issued By:

Signed By :

Name :

Field log report

Ruabon

26-January-2016

Equipment 01 Calibration Due	23/04/2016
Equipment 01 Last Calibration	23/10/2015
Equipment 01 Serial No.	GA10109
Equipment 01 Type	GA2000+
Personnel 01	J Crawford, G Forrest
Time OFF	13:00
Time ON	09:30
Weather	Rain

Issued By:

Signed By :

Name :

APPENDIX 2

Perimeter Borehole Gas Data

Ruabon Perimeter Borehole Gas Data - January 2016



From : 07/01/2016

To : 26/01/2016

07/01/2016

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	973	0	1	0.75	0	12	2.45	11.71
RUBH0007	974	2.9	2.2	1.8	0	10.6	-13.87	38.66
RUBH0008	973	0	0	0.23	0	20.7	-0.75	42.36
RUBH0009	973	0	0.8	1	0	20.5	5.47	7.5
RUBH0010	973	0	0.4	1.09	0	20.3	-0.41	36.11
RUBH0013	972	0	0.2	0.79	0	20.7	-0.57	34.59
RUBH0014	972	0	2.7	2.38	0	18.7	-3.05	10.72
RUBH0015	972	0	0.6	1.41	0	19.4	-0.5	41.58
RUBH0016	973	0	0.4	10.1	0	20.5	-0.46	47.15
RUBH001A	969	0	0.4	4.76	0	20.6	-0.19	12.86
RUBH001B	969	0	0.7	4.73	0	19.7	-0.16	6.38
RUBH002A	970	0	0	4.96	0	20.9	-0.68	6.49
RUBH002B	971	0	0.2	5.05	0	20.8	-2.23	11.71
RUBH003A	971	0	0.9	5.39	0	19.7	0.39	13.09
RUBH003B	971	0	0	4.9	0	20.9	-0.52	6.37
RUBH004A	972	0	1.9	4.95	0	19	1.13	9.6
RUBH004B	972	0	2.3	5	0	18.9	-0.46	6.32
RUBH011A	972	0	0.9	1.37	0	20.3	18.37	12.78
RUBH011P	972	0	0.2	3	0	20.2	5.88	14.42
RUBH012A				0.03				5.38
RUGBH001	972	0	4.5	6.06	0	16.3	-0.49	6.06
RUGBH002	973	0	0.2	1.4	0	20.7	-0.52	7
RUGBH003	973	0	0.3	1.49	0	20.6	-0.49	4.93
RUGBH004	973	0	0.6	1.43	0	19.7	-0.46	21.9
RUGBH005	974	0	0.1	1.57	0	20.7	0.08	6.32
RUGBH006	974	0	1.4	0.36	0	20	-0.41	6.86
RUGBH007	972	0	0.5	0.35	0	20.6	-0.44	2.94
RUGBH008	972	0	0.3	0.3	0	20.6	-0.46	6.16
RUGBH009	973	0	0.8	0.65	0	19.8	1.12	8.22
RUGBH010	973	0	0.9	0.22	0	20.2	-0.18	3.95
RUGBH02A	973	0	0.1	0.75	0	20.7	-0.49	1.4
RUGP0001	968	2	0.3		0	19.5	0.58	
RUGP0002	969	0	1.2		0	18.7	-1.13	
RUGP0003	969	0	0.4		0	16.7	10.12	
RUGP0004	970	0	1.8		0	18.4	-0.39	
RUGP0008	971	0	0.2		0	20.3	-2.31	
RUGP0009	971	0	3.7		0	9	-0.41	
RUGP0010	971	0	2.3		0	18.3	-0.47	
RUGP0011	971	0	1.7		0	19.5	-0.46	
RUGP0012	971	0	0.1		0	20.8	-2.49	
RUGP0013	971	0	1.2		0	19.4	-0.43	
RUGP0014	972	0	4.7		0	16.6	-0.5	
RUGP0015	974	0	0.2		0	20.6	-1.71	
RUGP0016	973	0	2.7		0	15.6	11.65	
RUGP0018	974	0	0.2		0	20	0.39	
RUGP0019	973	0	0		0	20.6	-0.59	
RUGP0020	973	0	0.1		0	20.8	-0.51	
RUGP0021	972	0	0.7		0	19	0.13	
RUGP00A1	974	0	0		0	20.1	-0.55	

Issued By:

Ruabon Perimeter Borehole Gas Data - January 2016



From : 07/01/2016

To : 26/01/2016

07/01/2016

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	Dip to Water (m)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)	TD (m)
RUGP00A2	974	0.4	0.8		0	13	18.24	
RUGP00A3	974	0	0		0	19.3	0.05	
RUGP00B1	974	0	0		0	20.3	9.22	
RUGP00B2	974	0	0.1		0	20.3	-0.46	
RUGP00B3	974	0	0		0	20	0.26	
RUGP00C1	973	0	0		0	20.7	-0.44	
RUGP00C2	973	0	0		0	19.4	-0.51	
RUGP00C3	973	0	0		0	20.7	-0.97	
RUGP00D1	973	0	0.1		0	19.9	-0.59	
RUGP00D2	973	0	0		0	20.4	-0.77	
RUGP00D3	973	0	0		0	18.8	-0.22	
RUGP00E1	973	0	0.1		0	20.5	-0.47	
RUGP00E2	973	0	0		0	20.8	-0.48	
RUGP00E3	973	0	0		0	20.7	-0.49	
RUGP00F1	973	0	0.1		0	20.3	-3.28	
RUGP00F2	973	0	0		0	20	-0.65	
RUGP00F3	973	0	0		0	18.5	-1.96	
RUWB001A	971	0	0.2	2.88	0	16.7	5.88	48.95
RUWB001B	971	0	3.8	4.06	0	14.9	-0.57	7.88
RUWB002A	972	0	0.1	4.46	0	19.8	-0.89	21.44
RUWB002B	972	0	2.3	5.9	0	19.2	-0.51	10.49
RUWB002C	971	0	4	6.09	0	17.6	-0.45	8
RUWB002D	971	0	0.3	5.73	0	20.6	-0.54	21.66
RUWB003A	971	0	0.5	9.09	0	12.6	3.52	10.68
RUWB003B	972	0	0.1	0.2	0	19.4	-0.58	7.54
RUWB004A	973	0	0.1	2.99	0	15.9	-3.37	48.8
RUWB004B	973	0	0.9	0.73	0	14.3	-11.92	8.55
RUWB005A	975	0	0	2.61	0	20.1	-0.83	25.33
RUWB005B	975	0	0.4	1.08	0	20.4	-0.46	8.38

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Ruabon Perimeter Borehole Gas Data - January 2016



From : 07/01/2016

To : 26/01/2016

15/01/2016

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	1007	0	0.9	0	14.8	-0.28
RUBH0007	1007	1.6	1.3	0	14.5	-7.38
RUBH0008	1007	0	0.9	0	20.4	-1.04
RUBH0009	1006	0	1.3	0	20.1	-3.7
RUBH0010	1006	0	0.3	0	20.3	-0.02
RUBH0013	1005	0	0.1	0	20.5	-0.4
RUBH0014	1005	0	1.4	0	19.7	8.33
RUBH0015	1005	0	0.3	0	19.2	-0.32
RUBH0016	1006	0	0.5	0	20.3	-0.37
RUBH001A	1006	0	0.3	0	20.3	-0.06
RUBH001B	1006	0	0.5	0	19.5	0.1
RUBH002A	1006	0.5	4.5	0	4.1	-0.11
RUBH002B	1006	0	0.1	0	20.5	-0.47
RUBH003A	1006	0	0.6	0	20	-6.05
RUBH003B	1006	0	0	0	20.9	-0.05
RUBH004A	1006	0	1.5	0	19.2	-11.05
RUBH004B	1006	0	1.9	0	19.5	-0.14
RUBH011A	1005	0	0.3	0	20.5	-4.93
RUBH011P	1005	0	0.3	0	20.1	1.54
RUGBH001	1006	0	4.3	0	15.7	-0.11
RUGBH002	1007	0	0.2	0	20.8	-0.16
RUGBH003	1007	0	0.2	0	20.6	-0.34
RUGBH004	1007	0	0.3	0	19.8	-0.48
RUGBH005	1007	0	0.1	0	20.7	-0.3
RUGBH006	1007	0	1.2	0	19.9	-0.33
RUGBH007	1004	0	0.3	0	20.4	-0.4
RUGBH008	1005	0	0.4	0	20.4	-0.36
RUGBH009	1005	0	0.2	0	20.4	5.76
RUGBH010	1005	0	1	0	20.1	-1.39
RUGBH02A	1006	0	0	0	20.8	-0.16
RUGP0001	1006	1.4	0.2	0	19.7	-4.29
RUGP0002	1006	0	0.4	0	19.7	0.79
RUGP0003	1006	0	0.1	0	19.8	-0.04
RUGP0004	1006	0	1.9	0	16.4	0.02
RUGP0008	1006	0	0.2	0	20.2	-2
RUGP0009	1006	0	4.5	0	2.1	-0.31
RUGP0010	1006	0	0.2	0	20.7	-0.16
RUGP0011	1006	0	1.7	0	18.6	-0.01
RUGP0012	1006	0	0.1	0	20.6	-0.04
RUGP0013	1006	0	0.6	0	20.2	-0.04
RUGP0014	1006	0	3.6	0	16.6	-0.12
RUGP0015	1006	0	0.4	0	20.3	-2.3
RUGP0016	1005	0	0	0	20.4	-13.19
RUGP0018	1006	0	0.1	0	20.5	-0.11
RUGP0019	1005	0	0	0	20.4	-0.35
RUGP0020	1005	0	0	0	20.5	-0.43
RUGP0021	1005	0	0.7	0	19.3	-0.54
RUGP00A1	1007	0	0	0	20.1	-0.02
RUGP00A2	1007	0.2	0.6	0	15.8	12.63

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Ruabon Perimeter Borehole Gas Data - January 2016



From : 07/01/2016

To : 26/01/2016

15/01/2016

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A3	1007	0	0	0	19.4	-0.17
RUGP00B1	1007	0	0	0	19.4	-0.02
RUGP00B2	1007	0	0.1	0	20.5	-0.48
RUGP00B3	1007	0	0	0	20.6	0.71
RUGP00C1	1007	0	0	0	20.6	-0.23
RUGP00C2	1007	0	0	0	19.5	-0.44
RUGP00C3	1007	0	0	0	20.6	-1.29
RUGP00D1	1007	0	0	0	19.9	0.01
RUGP00D2	1007	0	0	0	20.4	-0.22
RUGP00D3	1007	0	0	0	19.7	-0.34
RUGP00E1	1007	0	0	0	20.6	-0.33
RUGP00E2	1007	0	0	0	20.6	-0.33
RUGP00E3	1007	0	0	0	20.5	-0.15
RUGP00F1	1007	0	0	0	20.7	-2.77
RUGP00F2	1007	0	0	0	20.7	-0.22
RUGP00F3	1007	0	0	0	19.2	-5.88
RUWB001A	1006	0	0.2	0	16.7	-7.01
RUWB001B	1006	0	3.1	0	15	0
RUWB002A	1006	0	0.1	0	18.8	-15.11
RUWB002B	1006	0	0.7	0	20.3	-0.1
RUWB002C	1006	0	3.1	0	17.9	-0.07
RUWB002D	1006	0	0.2	0	20.5	-5.62
RUWB003A	1004	0	0.4	0	14.4	-14.85
RUWB003B	1004	0	0.1	0	17.4	-5.68
RUWB004A	1005	0	0.1	0	17.1	2.24
RUWB004B	1005	0	0.4	0	14.2	-7.72
RUWB005A	1006	0	0	0	20	-3.07
RUWB005B	1007	0	0.3	0	20.2	-3.47

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Ruabon Perimeter Borehole Gas Data - January 2016



From : 07/01/2016

To : 26/01/2016

22/01/2016

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	994	0	1.1	0	15.7	-1.57
RUBH0007	994	0.9	0.9	0	16.9	-10.58
RUBH0008	993	0	1.1	0	20.4	-1.73
RUBH0009	993	0	1	0	20.2	-0.15
RUBH0010	993	0	0.3	0	20.5	-1.43
RUBH0013	992	0	0.8	0	20.3	-0.8
RUBH0014	991	0	3.2	0	18.4	-0.67
RUBH0015	992	0	0.4	0	18	-4.4
RUBH0016	993	0	0.5	0	20.4	-2.23
RUBH001A	993	0	0.3	0	20.9	-0.02
RUBH001B	993	0	0.5	0	20.1	0
RUBH002A	993	1.4	5.3	0	2.5	0.01
RUBH002B	993	0	0.1	0	20.9	-0.38
RUBH003A	993	0	0.7	0	19.6	0.71
RUBH003B	993	0	0	0	20.8	0.31
RUBH004A	993	0	1.6	0	19.1	-4.72
RUBH004B	993	0	2	0	19.3	-0.11
RUBH011A	992	0	0.5	0	20.5	-0.24
RUBH011P	992	0	0.2	0	20.1	9.66
RUGBH001	993	0	4.5	0	15.7	-0.18
RUGBH002	994	0	0.4	0	20.7	-0.05
RUGBH003	994	0	0.3	0	20.4	-0.47
RUGBH004	994	0	0.3	0	20.2	-0.4
RUGBH005	994	0	0.2	0	20.6	-0.69
RUGBH006	994	0	1.2	0	20	-0.95
RUGBH007	991	0	0.3	0	20.5	-2
RUGBH008	992	0	0.2	0	20.5	-0.18
RUGBH009	992	0	1	0	19.7	-1.34
RUGBH010	993	0	0.9	0	20.2	-2.04
RUGBH02A	993	0	0.1	0	20.8	-4.02
RUGP0001	993	2.3	0.3	0	18.9	0.27
RUGP0002	993	0	1.2	0	18.9	0.3
RUGP0003	993	0	0.8	0	14.5	8.6
RUGP0004	993	0	2	0	15.7	0
RUGP0008	993	0	0.5	0	19.7	-0.71
RUGP0009	993	1.5	5.5	0	1.4	-0.14
RUGP0010	993	0	1.3	0	19.6	-0.18
RUGP0011	993	0	1.8	0	18.1	-0.07
RUGP0012	993	0	0.1	0	20.6	-0.04
RUGP0013	993	0	0.6	0	20.1	-0.71
RUGP0014	993	0	3.5	0	17	-1.14
RUGP0015	993	0	0.4	0	20.3	-1.53
RUGP0016	992	0	1.3	0	19.6	-0.01
RUGP0018	993	0	0.1	0	20.6	0.52
RUGP0019	992	0	0	0	20.6	-2.71
RUGP0020	992	0	0	0	20.6	-0.19
RUGP0021	992	0	0.9	0	18.9	-0.45
RUGP00A1	994	0	0	0	20.6	-0.5
RUGP00A2	994	0.7	1.9	0	4.4	3.77

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Ruabon Perimeter Borehole Gas Data - January 2016



From : 07/01/2016

To : 26/01/2016

22/01/2016

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A3	994	0	0	0	20.1	6.1
RUGP00B1	994	0	0	0	18.3	-0.35
RUGP00B2	994	0	0.1	0	20.5	-0.75
RUGP00B3	994	0	0	0	20.7	0.24
RUGP00C1	994	0	0	0	20.7	-0.54
RUGP00C2	994	0	0	0	15.4	-0.34
RUGP00C3	994	0	0	0	20.6	-2.87
RUGP00D1	994	0	0	0	20.4	1.44
RUGP00D2	994	0	0	0	20.6	-0.26
RUGP00D3	994	0	0	0	16.7	-0.27
RUGP00E1	994	0	0	0	20.7	-3.3
RUGP00E2	994	0	0	0	20.7	-0.41
RUGP00E3	994	0	0	0	20.7	0.77
RUGP00F1	994	0	0	0	20.4	0.66
RUGP00F2	994	0	0	0	20.4	-0.17
RUGP00F3	994	0	0	0	17.9	9.17
RUWB001A	993	0	0.2	0	15.9	-3.96
RUWB001B	993	0	3	0	14.9	-0.23
RUWB002A	993	0	0.1	0	18.3	-4.01
RUWB002B	993	0	2.4	0	18.6	-0.08
RUWB002C	993	0	3.9	0	17	-0.66
RUWB002D	993	0	0.3	0	20.5	4.56
RUWB003A	991	0	0.5	0	13.1	-1.61
RUWB003B	991	0	0.1	0	18.3	-7.71
RUWB004A	992	0	0.1	0	17.9	1.12
RUWB004B	992	0	0.5	0	15.3	-1.55
RUWB005A	994	0	0	0	20.2	-1.55
RUWB005B	994	0	0.3	0	20.4	-0.24

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Ruabon Perimeter Borehole Gas Data - January 2016



From : 07/01/2016

To : 26/01/2016

26/01/2016

Sample Point	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUBH0006	990	0	0	0	21	0.22
RUBH0007	988	0.5	0.7	0	18.5	0.22
RUBH0008	989	0	1.1	0	20.6	0
RUBH0009	989	0	0.3	0	20.8	-0.02
RUBH0010	989	0	0.4	0	20.8	-0.42
RUBH0013	990	0	1.3	0	20.3	0.63
RUBH0014	988	0	0.3	0	16.1	-0.01
RUBH0015	990	0	0	0	20.9	1.07
RUBH0016	988	0	0.9	0	20.7	-0.77
RUBH001A	987	0	0.3	0	20.8	-0.14
RUBH001B	987	0	0.6	0	20	-0.33
RUBH002A	987	1.4	5.5	0	2.4	-0.15
RUBH002B	987	0	0.3	0	20.2	-0.22
RUBH003A	987	0	0.1	0	20.9	-0.21
RUBH003B	987	0	0.8	0	19.9	0.17
RUBH004A	989	0	0	0	21	0.74
RUBH004B	989	0	1.4	0	19.7	0.03
RUBH011A	988	0	0.8	0	20.8	-0.07
RUBH011P	987	0	0.5	0	19	-0.1
RUGBH001	989	0	3.8	0	16.8	1.29
RUGBH002	989	0	0.1	0	20.7	1.29
RUGBH003	990	0	0	0	21	0.13
RUGBH004	990	0	0	0	19.2	-0.03
RUGBH005	990	0	0	0	20.1	0.46
RUGBH006	990	0	0.7	0	20.8	0.37
RUGBH007	988	0	3.3	0	18.5	0.91
RUGBH008	988	0	1	0	19.2	-0.07
RUGBH009	989	0	0.5	0	15.8	-0.29
RUGBH010	990	0	0.9	0	20.4	-0.12
RUGBH02A	990	0	0	0	21	0.02
RUGP0001	987	1.8	0.3	0	19.9	0.78
RUGP0002	987	0	1	0	20.1	0.58
RUGP0003	987	0	0.9	0	16.1	0.34
RUGP0004	987	0	2.1	0	18.9	-0.36
RUGP0008	987	0	0	0	20.7	-0.26
RUGP0009	987	1.7	5.9	0	2.1	-0.43
RUGP0010	987	0	0.2	0	19.1	-0.22
RUGP0011	988	0	1.9	0	18.6	-0.24
RUGP0012	987	0	0	0	20.9	-0.59
RUGP0013	988	0	0.8	0	20.4	-0.37
RUGP0014	989	0	1.9	0	19.6	1.33
RUGP0015	991	0	0	0	20.8	-1.43
RUGP0016	989	0	0	0	21	0.42
RUGP0018	990	0	0.4	0	20.5	-0.16
RUGP0019	989	0	1.7	0	19.8	-0.09
RUGP0020	988	0	0.2	0	20.9	-0.09
RUGP0021	988	0	0.2	0	21	-0.12
RUGP00A1	990	0.3	1	0	12.1	-1.17
RUGP00A2	990	0	0	0	20.6	-0.07

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Ruabon Perimeter Borehole Gas Data - January 2016



From : 07/01/2016

To : 26/01/2016

26/01/2016

	AtPress (mBar)	CH4 (%v/v) (%)	CO2 (%v/v) (%)	H2S (ppm)	O2 (%v/v)	Rel Press (mBar)
RUGP00A3	990	0	0	0	21	-0.08
RUGP00B1	990	0	0	0	20.7	-0.16
RUGP00B2	990	0	0	0	20.9	-0.27
RUGP00B3	990	0	0.1	0	20.9	-0.04
RUGP00C1	990	0	0.9	0	17.7	0.64
RUGP00C2	990	0	0	0	21	1.29
RUGP00C3	990	0	0	0	20.2	1.17
RUGP00D1	990	0	0.6	0	20.2	1.04
RUGP00D2	990	0	0	0	20.1	0.08
RUGP00D3	990	0	0	0	20.8	-0.22
RUGP00E1	990	0	0.3	0	20.4	1.11
RUGP00E2	990	0	0.1	0	20.9	0.35
RUGP00E3	990	0	0	0	21	1.33
RUGP00F1	990	0	0	0	21	1.46
RUGP00F2	990	0	0	0	20.3	0.82
RUGP00F3	990	0	0	0	19.4	1.28
RUWB001A	987	0	1.4	0	19.8	-0.42
RUWB001B	987	0	0.4	0	20.5	-0.19
RUWB002A	988	0	4.6	0	15.6	0.01
RUWB002B	988	0	0.1	0	19.4	0.26
RUWB002C	988	0	3.4	0	18	0.26
RUWB002D	988	0	4	0	17.4	0.62
RUWB003A	988	0	0.5	0	13.4	-0.69
RUWB003B	990	0	0.5	0	20.8	0.06
RUWB004A	989	0	0.1	0	18.2	0.96
RUWB004B	989	0	0	0	20.9	0.33
RUWB005A	991	0	0	0	20.8	-0.17
RUWB005B	991	0	0.3	0	20.7	-0.21

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APPENDIX 3

Landfill Gas Field Extraction and Balancing Data

RUABON IN-WASTE LANDFILL GAS EXTRACTION & BALANCING DATA

Asset ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	CH4 + CO2 (%)	Original Valve (%)	Depart Valve (%)
RUAW0024	05/01/2016 09:45	51.5	34.4	0.4	13.7	-58.77	965	0	0	85.9	40	40
RUAW0027	05/01/2016 09:50	67.8	21	0.2	11	-44.72	965	0	0	88.8	30	30
RUAW025R	05/01/2016 09:56	52.1	33.7	0.4	13.8	-35.62	966	0	0	85.8	0	30
RUAW026R	05/01/2016 10:02	34	28.5	0.4	37.1	-18.96	966	0	0	62.5	5	5
RUAP1411	05/01/2016 10:07	0.2	0.7	20.9	78	-21.48	966	0	0	0.9	0	0
RUAW030R	05/01/2016 10:09	75.1	27.6	0.4	0	-58.65	966	0	0	102.7	10	10
RUAW031R	05/01/2016 10:16	44.8	33.9	0.7	20.6	-42.19	965	0	0	78.7	10	10
RUAW034R	05/01/2016 10:22	44.1	31.2	0.4	24.3	-43.57	965	0	0	75.3	15	15
RUAW033R	05/01/2016 10:29	2.2	5.1	14.9	77.8	-59.46	966	0	0	7.3	20	10
RUAW033R	05/01/2016 10:32	10.9	10.6	11.7	66.8	-61.34	966	1	0	21.5	10	10
RUARW042	05/01/2016 10:37	48.5	28.1	1.2	22.2	-60.36	967	0	0	76.6	10	10
RUARW040	05/01/2016 10:41	27	24.1	0.4	48.5	-49.72	967	0	0	51.1	20	20
RUARW039	05/01/2016 10:43	69.3	31.4	0.4	0	-61.64	967	0	0	100.7	100	100
RUARW038	05/01/2016 10:46	64	36.4	0.1	0	-60.75	967	0	0	100.4	100	100
RUARW037	05/01/2016 10:48	55.5	35.7	0.1	8.7	-60.2	967	0	0	91.2	100	100
RUAW0024	08/01/2016 09:26	46.4	33.2	0.7	19.7	-64.78	976	0	0	79.6	40	40
RUAW0027	08/01/2016 09:30	60.3	22.3	1.5	15.9	-65.36	977	0	0	82.6	30	30
RUALCM10	08/01/2016 09:33	64.9	35.2	0.3	0	-64.79	977	0	0	100.1	50	50
RUAW025R	08/01/2016 09:36	53	34.8	0	12.2	-53.96	977	0	0	87.8	30	30
RUAW026R	08/01/2016 09:40	23.1	27.3	0.1	49.5	-27.41	977	0	0	50.4	5	5
RUAW030R	08/01/2016 09:46	38.1	30.5	2.7	28.7	-64.94	977	0	0	68.6	10	10
RUAW031R	08/01/2016 09:52	40.4	34.1	0.1	25.4	-50.8	976	0	0	74.5	10	10
RUAW034R	08/01/2016 09:57	41.5	30.2	1.3	27	-50.7	976	0	0	71.7	10	10
RUAW033R	08/01/2016 10:02	1.8	2.8	19.6	75.8	-60.43	977	0	0	4.6	10	5
RUAW033R	08/01/2016 10:04	26.6	18.7	9.9	44.8	-66.5	977	0	0	45.3	5	5
RUARW042	08/01/2016 10:09	49.2	28.6	0.9	21.3	-66.2	977	0	0	77.8	20	20
RUARW041	08/01/2016 10:12	0.2	1	20.9	77.8	-44.62	978	0	0	1.2	0	0

Asset ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	CH4 + CO2 (%)	Original Valve (%)	Depart Valve (%)
RUARW040	08/01/2016 10:14	26.4	24	1	48.6	-66.76	978	0	0	50.4	20	20
RUARW039	08/01/2016 10:17	69	31.1	0.3	0	-66.77	978	0	1	100.1	100	100
RUARW038	08/01/2016 10:19	64.8	36.3	0.2	0	-66.08	978	0	0	101.1	100	100
RUARW037	08/01/2016 10:20	58.2	36.3	0.8	4.7	-65.66	978	0	0	94.5	100	100
RUAW0001	08/01/2016 12:18	26.6	23.5	0.5	49.4	-4.43	977	0	0	50.1	5	5
RUAW0002	08/01/2016 12:20	3.7	12.9	6.4	77	-2.85	977	0	0	16.6	0	0
RUAMW001	08/01/2016 12:23	28.3	20.8	2.5	48.4	-3.21	976	0	0	49.1	1	1
RUAW0003	08/01/2016 12:25	8.7	18.6	0.1	72.6	-3.87	977	0	0	27.3	0	0
RUAW0053	08/01/2016 12:27	2.6	17.1	1.6	78.7	-2.95	977	0	0	19.7	0	0
RUALMP2a	08/01/2016 12:30	54.4	20.2	0	25.4	6.29	976	0	0	74.6	1	5
RUALMP2a	08/01/2016 12:31	54	20.3	0	25.7	-48.85	976	0	0	74.3	5	5
RUAMW002	08/01/2016 12:33	36	22.3	0	41.7	-6.11	976	0	0	58.3	1	1
RUAW065R	08/01/2016 12:35	44.3	24	0	31.7	-6.2	976	0	0	68.3	1	1
RUAW011R	08/01/2016 12:39	17.6	10.3	14	58.1	-6.98	976	0	0	27.9	5	0
RUAW011R	08/01/2016 12:40	17.4	10.1	14.1	58.4	-6.95	976	0	0	27.5	0	0
RUAW1405	08/01/2016 12:43	37.5	25.8	0	36.7	-6.35	976	0	0	63.3	5	5
RUAMW005	08/01/2016 12:46	42.2	27.1	0	30.7	-9.77	975	0	0	69.3	20	20
RUAW0061	08/01/2016 12:49	51.6	29.3	0	19.1	-6.35	975	0	0	80.9	5	5
RUAMW006	08/01/2016 12:52	46.3	30.2	0	23.5	-16.93	976	0	0	76.5	10	10
RUAW0060	08/01/2016 12:54	14.4	8.1	15.3	62.2	-40.77	975	0	0	22.5	0	0
RUAMW09R	08/01/2016 12:56	35.2	27.6	0.1	37.1	-9.47	975	0	0	62.8	5	5
RUAW1402	08/01/2016 12:59	45	29.7	0	25.3	-6.38	975	0	0	74.7	10	10
RUAW1401	08/01/2016 13:02	60.6	36.5	0	2.9	-6.93	975	0	0	97.1	10	10
RUAW0048	08/01/2016 13:05	35.7	28.6	5.7	30	-45.32	975	0	0	64.3	0	0
RUAW050R	08/01/2016 13:07	31.9	29.3	1.2	37.6	-3.21	975	0	0	61.2	0	0
RUAW0067	08/01/2016 13:10	37.2	30.1	0.6	32.1	-15.18	975	0	0	67.3	5	5
RUAW057R	08/01/2016 13:13	47.1	34.9	0	18	-21.65	975	0	0	82	10	10
RUAW0051	08/01/2016 13:15	61.6	36.5	0.4	1.5	-47.36	975	0	0	98.1	10	10
RUAW0059	08/01/2016 13:21	41.6	30.9	0	27.5	-42.19	975	0	0	72.5	10	10

Asset ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	CH4 + CO2 (%)	Original Valve (%)	Depart Valve (%)
RUAW1403	08/01/2016 13:23	34.3	26.2	0	39.5	-6.47	975	0	0	60.5	0	0
RUAMW003	08/01/2016 13:25	81.4	15.5	0	3.1	-0.98	976	0	0	96.9	0	1
RUAMW003	08/01/2016 13:26	77.6	20.9	0	1.5	-22.54	976	0	0	98.5	1	1
RUAW0036	08/01/2016 13:29	30.2	26.1	0.2	43.5	-31.54	976	0	0	56.3	0	0
RUAW0036	08/01/2016 13:30	30	26.4	0	43.6	-35.32	976	0	0	56.4	1	1
RUAW0035	08/01/2016 13:32	42.7	31.7	1.3	24.3	-44.22	976	0	0	74.4	10	10
RUAW0052	08/01/2016 13:34	20.1	8.7	15.1	56.1	-53.3	976	0	0	28.8	10	0
RUAW0052	08/01/2016 13:37	19.4	7.9	15.3	57.4	-53.45	976	0	0	27.3	0	0
RUAW1404	08/01/2016 13:39	65.9	30	0.5	3.6	-3.21	976	0	0	95.9	5	5
RUARW042	15/01/2016 13:59	39.3	26.1	2.3	32.3	-51.66	1005	0	0	65.4	10	10
RUARW041	15/01/2016 14:01	0.2	1.1	20.6	78.1	-29.62	1005	0	0	1.3	0	0
RUARW040	15/01/2016 14:04	34.6	26.1	1.2	38.1	-53.09	1005	0	0	60.7	20	20
RUARW039	15/01/2016 14:13	25.8	11.6	12.8	49.8	-53.31	1005	0	0	37.4	100	50
RUARW039	15/01/2016 14:14	27.8	12.2	12.4	47.6	-53.57	1005	0	0	40	50	50
RUARW038	15/01/2016 14:16	17.8	10.3	15	56.9	-53.39	1005	0	0	28.1	100	50
RUARW038	15/01/2016 14:18	20.1	11.8	13.9	54.2	-53.66	1005	0	0	31.9	500	50
RUARW037	15/01/2016 14:20	59.5	34.5	0.2	5.8	-53.49	1005	0	0	94	100	100
RUAW0024	15/01/2016 14:26	47.6	31.6	1.5	19.3	-53.69	1003	0	0	79.2	40	40
RUAW0027	15/01/2016 14:29	61.3	17.6	1.4	19.7	-54.18	1004	0	0	78.9	40	40
RUAW025R	15/01/2016 14:33	53.4	33.2	0.5	12.9	-50.14	1004	0	0	86.6	40	40
RUAW026R	15/01/2016 14:36	29.4	25.5	0.4	44.7	-33.87	1005	0	0	54.9	5	5
RUAW030R	15/01/2016 14:43	74.2	24.9	0.4	0.5	-59.02	1005	0	0	99.1	10	10
RUAW031R	15/01/2016 14:48	37.9	31.1	0.9	30.1	-29.41	1004	0	0	69	10	10
RUAW034R	15/01/2016 14:52	40.6	29	0.8	29.6	-31.62	1004	0	0	69.6	10	10
RUAW033R	15/01/2016 14:56	64.5	30	0.9	4.6	-58.91	1005	0	0	94.5	5	5
RUAW0024	18/01/2016 09:24	51.4	33.4	0.4	14.8	-56.9	994	0	0	84.8	40	40
RUAW0027	18/01/2016 09:29	46.9	16.1	3.7	33.3	-57.32	994	0	0	63	40	40
RUAW025R	18/01/2016 09:33	48.4	31.5	0.6	19.5	-47.28	994	0	0	79.9	40	40
RUAW026R	18/01/2016 09:37	38.3	27.4	0.1	34.2	-18.36	994	0	0	65.7	5	5

Asset ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	CH4 + CO2 (%)	Original Valve (%)	Depart Valve (%)
RUAW030R	18/01/2016 09:42	59.7	20.4	3.2	16.7	-54.87	995	0	0	80.1	10	10
RUAW031R	18/01/2016 09:48	35.7	31	0.4	32.9	-43.78	994	0	0	66.7	10	10
RUAW034R	18/01/2016 09:53	38	29.2	0.6	32.2	-40.64	994	0	0	67.2	10	10
RUAW033R	18/01/2016 09:57	66.9	30.2	1	1.9	-52.36	994	0	0	97.1	5	10
RUAW033R	18/01/2016 09:59	60	29.1	1.5	9.4	-52.59	994	0	0	89.1	10	10
RUARW042	18/01/2016 10:03	46	27.7	0.8	25.5	-53.67	995	0	0	73.7	10	10
RUARW040	18/01/2016 10:08	21.3	22.8	0.2	55.7	-55.65	995	0	0	44.1	20	20
RUARW039	18/01/2016 10:10	20.6	9.9	14.7	54.8	-55.67	995	0	0	30.5	50	50
RUARW038	18/01/2016 10:12	19.2	11.5	14.4	54.9	-55.44	995	0	0	30.7	50	50
RUARW037	18/01/2016 10:14	56.5	33.8	2.4	7.3	-55.15	995	0	0	90.3	100	100
RUAW0024	22/01/2016 09:11	46.7	32	0.6	20.7	-48.54	990	0	0	78.7	40	40
RUAW0027	22/01/2016 09:16	39.6	15	5.7	39.7	-48.95	990	0	0	54.6	40	40
RUAW025R	22/01/2016 09:22	53.7	33.5	0.3	12.5	-41.57	990	0	0	87.2	40	50
RUAW025R	22/01/2016 09:23	53.5	34	0	12.5	-46.33	990	0	0	87.5	50	50
RUAW026R	22/01/2016 09:26	29.3	27.7	0.1	42.9	-29.59	990	0	0	57	5	5
RUAW030R	22/01/2016 09:33	37.5	31.1	0.8	30.6	-48.47	991	0	0	68.6	20	20
RUAW031R	22/01/2016 09:38	38.5	32.3	0.4	28.8	-38.67	989	0	3	70.8	10	10
RUAW034R	22/01/2016 09:42	38.4	28.4	1.2	32	-37.6	989	0	0	66.8	10	10
RUAW033R	22/01/2016 09:46	5.3	3.4	20.3	71	-49.42	990	0	0	8.7	5	5
RUARW042	22/01/2016 10:18	41.2	24.9	2.9	31	-48.42	991	0	0	66.1	10	10
RUARW041	22/01/2016 10:19	0.2	1.3	20.6	77.9	-31.18	991	0	0	1.5	0	0
RUARW040	22/01/2016 10:23	22	22.9	0.1	55	-54.27	992	0	0	44.9	20	20
RUARW039	22/01/2016 10:47	49.4	23.4	5.7	21.5	-54.8	991	0	0	72.8	50	50
RUARW038	22/01/2016 10:49	13	7.7	16.6	62.7	-53.95	991	0	0	20.7	50	50
RUARW037	22/01/2016 10:51	56.9	34.6	1	7.5	-54.98	992	0	0	91.5	100	100
RUAW056R	22/01/2016 11:22	23.3	16.8	12.3	47.6	-4.81	990	9	0	40.1	0	0
RUAW0028	22/01/2016 11:24	43.8	40.5	1.9	13.8	-5.42	990	1	0	84.3	5	5
RUAW029R	22/01/2016 11:26	49.2	35.5	0.9	14.4	-14.15	990	0	0	84.7	10	10
RUAW0048	22/01/2016 11:27	0.5	2.3	19.6	77.6	-24.34	989	0	0	2.8	5	0

Asset ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	CH4 + CO2 (%)	Original Valve (%)	Depart Valve (%)
RUAW0048	22/01/2016 11:28	0.5	1.6	20.5	77.4	-43.82	989	0	0	2.1	0	0
RUAW0023	22/01/2016 11:36	52.8	33.8	0.2	13.2	-26.35	989	0	0	86.6	20	30
RUAW0023	22/01/2016 11:37	53.3	34.4	0	12.3	-52.55	989	0	0	87.7	30	30
RUAW0066	22/01/2016 11:39	54	35.6	1.3	9.1	-8.25	989	0	1	89.6	10	10
RUAW0022	22/01/2016 11:40	58.9	38.7	0	2.4	-7.28	989	0	0	97.6	20	20
RUAW0068	22/01/2016 11:42	65.4	31.6	0.8	2.2	-2.29	989	0	0	97	1	1
RUAW0021	22/01/2016 11:44	42.1	33.4	0.5	24	-16.36	989	0	0	75.5	20	20
RUAW0020	22/01/2016 11:46	18.9	22.6	2	56.5	-13.21	989	0	0	41.5	10	5
RUAW0020	22/01/2016 11:48	19.8	23.1	1.7	55.4	-9.28	989	1	0	42.9	5	5
RUAW0055	22/01/2016 14:24	0.6	17.1	1.2	81.1	-3.32	994	0	0	17.7	1	1
RUAW0008	22/01/2016 14:25	0.1	12.1	5.7	82.1	-3.58	994	0	0	12.2	1	1
RUAW0063	22/01/2016 14:27	0.1	10.6	8.6	80.7	-4.82	994	0	0	10.7	0	0
RUAW0007	22/01/2016 14:30	25.4	20.4	0	54.2	-7.53	993	0	0	45.8	0	0
RUAW0062	22/01/2016 14:31	59.3	27.3	0	13.4	-8.69	993	0	0	86.6	1	1
RUAMW07R	22/01/2016 14:34	41	27.6	0.8	30.6	-10.62	993	0	0	68.6	5	5
RUAMW004	22/01/2016 14:36	29.4	18.2	0	52.4	-6.64	993	0	0	47.6	0	0
RUALMP4a	22/01/2016 14:38	72.5	21.5	0.4	5.6	-39.14	993	0	0	94	5	5
RUAW0044	22/01/2016 14:39	15.8	14.8	8.6	60.8	-21.39	994	0	0	30.6	5	1
RUAW0044	22/01/2016 14:41	15.4	14.6	8.9	61.1	-27.91	994	0	0	30	1	1
RUAW0043	22/01/2016 14:42	39.8	21.4	4.4	34.4	-42.66	994	0	0	61.2	5	5
RUAW0013	22/01/2016 14:46	8.8	17.1	0.2	73.9	-1.03	994	0	0	25.9	0	0
RUAW0024	25/01/2016 09:26	44.8	32.2	0.4	22.6	-51.34	994	0	0	77	45	45
RUAW0027	25/01/2016 09:30	39.9	16.2	5.5	38.4	-51.62	994	0	0	56.1	40	40
RUAW025R	25/01/2016 09:34	52.1	33.7	0.1	14.1	-44.45	994	0	0	85.8	10	10
RUAW026R	25/01/2016 09:39	26.8	27.1	0	46.1	-29.92	994	0	0	53.9	5	5
RUAW030R	25/01/2016 09:45	38.2	30.2	1.5	30.1	-52.66	994	0	0	68.4	10	10
RUAW031R	25/01/2016 09:50	38.9	32.3	0.3	28.5	-25.36	993	0	0	71.2	10	10
RUAW034R	25/01/2016 09:55	35.2	29.3	0.4	35.1	-46.69	993	0	0	64.5	10	10
RUAW033R	25/01/2016 10:02	11.5	10.7	14.8	63	-54.55	993	1	0	22.2	5	5

Asset ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	CH4 + CO2 (%)	Original Valve (%)	Depart Valve (%)
RUARW042	25/01/2016 10:06	43.7	27.8	0.2	28.3	-53.56	994	0	0	71.5	10	10
RUARW041	25/01/2016 10:08	0.1	1	20.9	77.8	-33.84	994	0	0	1.1	0	0
RUARW040	25/01/2016 10:11	21.4	22.7	0.1	55.8	-55.67	994	0	0	44.1	20	20
RUARW039	25/01/2016 10:13	20.1	9.2	15	55.7	-55.46	994	0	0	29.3	50	50
RUARW038	25/01/2016 10:15	17.5	9.8	15.2	57.5	-52.45	994	0	0	27.3	50	50
RUARW037	25/01/2016 10:18	55.6	35.5	0	8.9	-54.54	994	0	0	91.1	100	100
RUAW0024	29/01/2016 09:41	44.4	31.3	0.6	23.7	-50.23	990	0	0	75.7	45	45
RUAW0027	29/01/2016 09:46	42	17.9	4.3	35.8	-49.85	990	0	0	59.9	20	20
RUAW025R	29/01/2016 09:52	49.1	32.8	0.1	18	-39.37	991	0	0	81.9	10	10
RUAW026R	29/01/2016 09:56	23.8	26.1	0	50.1	-48.89	991	0	0	49.9	5	5
RUAP1411	29/01/2016 10:00	0.1	2	20.6	77.3	-15.94	991	0	0	2.1	-	-
RUAW030R	29/01/2016 10:02	41.3	29.1	1.5	28.1	-48.27	991	0	0	70.4	10	10
RUAW031R	29/01/2016 10:07	44.2	33.7	0.2	21.9	-23.15	990	0	0	77.9	10	10
RUAW034R	29/01/2016 10:12	33.8	28.1	0.6	37.5	-39.87	990	0	0	61.9	10	10
RUAW033R	29/01/2016 10:17	69.3	29.9	0.2	0.6	-37.71	991	0	0	99.2	10	10
RUAW0005	29/01/2016 10:23	48.9	24.6	3	23.5	-14.58	991	0	0	73.5	5	5
RUAW0004	29/01/2016 10:26	22.4	20.4	0.3	56.9	-4.81	991	0	0	42.8	0	0
RUAW0054	29/01/2016 10:28	0.1	5.7	15.5	78.7	-2.66	992	0	0	5.8	0	0
RUARW042	29/01/2016 10:36	44.4	23.8	1	30.8	-51.75	993	0	0	68.2	10	10
RUARW041	29/01/2016 10:38	0.1	2	20.7	77.2	-30.54	993	0	0	2.1	0	0
RUARW040	29/01/2016 10:41	23.5	21.1	0.2	55.2	-52.66	993	0	0	44.6	20	20
RUARW039	29/01/2016 10:42	21.6	8.9	14.6	54.9	-52.33	993	0	0	30.5	50	50
RUARW038	29/01/2016 10:44	0.1	1.4	20.9	77.5	-52.45	993	0	0	1.5	50	20
RUARW038	29/01/2016 10:45	0.1	1	20.9	77.8	-52.54	993	0	0	1.1	20	20
RUARW037	29/01/2016 10:47	54.8	33	0.2	12	-52.31	993	0	0	87.8	100	100
RUAW0019	29/01/2016 11:28	50.6	30.8	0.3	18.3	-5.46	991	0	0	81.4	5	5
RUAW0047	29/01/2016 11:30	34.4	19.8	7.9	37.9	3.36	992	0	0	54.2	0	0
RUAMW08R	29/01/2016 11:32	62.2	28.7	0.3	8.8	-7.13	992	0	0	90.9	10	10
RUAW0045	29/01/2016 11:34	0.7	5.6	16.4	77.3	-1.95	992	0	0	6.3	0	0

Asset ID	Date & Time	CH4 (%)	CO2 (%)	O2 (%)	Balance Gas (%)	Vacuum (mbar)	Atm Press (mbar)	CO (ppm)	H2S (ppm)	CH4 + CO2 (%)	Original Valve (%)	Depart Valve (%)
RUAW0015	29/01/2016 11:36	68.4	27.9	0.1	3.6	-17.97	992	0	0	96.3	5	5
RUAW0046	29/01/2016 11:39	26.6	25.5	0.1	47.8	-2.68	992	0	0	52.1	0	0
RUAW0016	29/01/2016 11:42	0.2	2.3	19.9	77.6	-0.46	992	0	0	2.5	0	0
RUAW0017	29/01/2016 11:44	25.1	26.1	0.1	48.7	-2.32	992	0	0	51.2	0	0
RUAW0018	29/01/2016 11:46	39.4	29.7	0.2	30.7	-28.45	992	0	0	69.1	10	10

APPENDIX 4

Leachate Level Data

Ruabon Leachate Level Data - January 2016



From : 22/01/2016

To : 22/01/2016

22/01/2016

Sample Point	Depth of Liq (m)	Dip to Water (m)	TD (m)	Water Level (mAOD)
LMP006R	1.05	18.87	19.03	112.45
LMP007R	0.73	18.06	18.98	111.53
LMP008R	1.80	20.67	21.94	111.80
LMP009R	1.44	21.54	21.67	111.74
RUGW00M1	1.24	12.93	14.62	111.69
RUGW00M3	1.45	11.44	11.84	113.70
RUGW00M5	0.62	20.7	21.07	111.12
RUGW00M10	1.73	25.77	26.48	97.73
RUGWM4r	1.24	16.59	17.55	111.32
RULMP2r	0.77	15.44	15.93	110.77

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APPENDIX 5

Groundwater Quality Data

Ruabon Groundwater Quality & Level Data - January 2016



From : 07/01/2016

To : 07/01/2016

07/01/2016

Sample Point	Alk (CaCO3: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)	Cr(D) (mg/l)	Cu(D) (mg/l)
RUBH0013	307	0.14	<2	110	<0.0001	10	10	686	<0.001	0.003
RUWB002A	108	1.7	3.5	60	<0.0001	441	<5	1710	<0.001	<0.001
RUWB002B	296	0.7	2	69	<0.0001	131	<5	943	<0.001	<0.001
RUWB002C	1010	2.6	<2	193	<0.0001	344	16	2670	<0.001	<0.001
RUWB002D	282	0.2	2	15	<0.0001	27	<5	647	<0.001	<0.001
RUWB003A	363	1.1	7.4	8	<0.0001	21	6	710	<0.001	<0.001
RUWB004A	555	0.3	2.4	2	<0.0001	20	<5	1040	<0.001	<0.001
RUWB005A	373	0.7	6	1	<0.0001	36	5	1120	<0.001	<0.001
RUWB005B	239	0.3	<2	108	<0.0001	70	10	752	<0.001	<0.001

Sample Point	Dip to Water (m)	Fe(D) (mg/l)	K(D) (mg/l)	Mg(D) (mg/l)	Mn(D) (mg/l)	Na(D) (mg/l)	Ni(D) (mg/l)	Pb(D) (mg/l)	pH (Lab)	S.Solids (mg/l)
RUBH0013	0.79	0.14	4	11	0.265	32	0.001	<0.001	7.7	1286
RUWB002A	4.46	0.09	24	40	0.231	187	0.004	<0.001	7.6	275
RUWB002B	5.9	0.1	9	15	0.119	101	0.01	<0.001	7.9	150
RUWB002C	6.09	0.18	14	21	2.679	411	0.035	<0.001	7.1	592
RUWB002D	5.73	0.03	8	4	0.059	130	<0.001	<0.001	8.2	14
RUWB003A	9.09	0.04	20	13	0.324	130	<0.001	<0.001	8	185
RUWB004A	2.99	0.49	8	<1	0.007	266	<0.001	<0.001	9.2	52
RUWB005A	2.61	0.14	4	<1	0.003	267	<0.001	<0.001	9.7	108
RUWB005B	1.08	0.13	13	18	0.154	22	<0.001	<0.001	7.9	52

Sample Point	TD (m)	TOC (mg/l)	TON (mg/l)	Total S(D) SO4:mg/l	Zn(D) (mg/l)
RUBH0013	34.59	5.5	<0.2	78	<0.002
RUWB002A	21.44	3.2	<0.2	<3	<0.002
RUWB002B	10.49	2.8	<0.2	<3	<0.002
RUWB002C	8	7.3	<0.2	44	0.005
RUWB002D	21.66	1.5	<0.2	35	<0.002
RUWB003A	10.68	2.5	0.3	<3	0.004
RUWB004A	48.8	1.7	<0.2	10	<0.002
RUWB005A	25.33	0.51	<0.2	179	<0.002
RUWB005B	8.38	4.2	<0.2	68	<0.002

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APPENDIX 6

Surface Water Quality Data

Ruabon Surface Water Quality Data - January 2016



From : 07/01/2016

To : 07/01/2016

07/01/2016

Sample Point	Amm-N (N:mg/l)	BOD (mg/l)	Chloride (mg/l)	COD (mg/l)	Cond (uS / cm)	DO(Lab) (mg/l)	pH (Lab)
RUWP004A	0.2	<2	31	23	632	6.8	7.8

Sample Point	S.Solids (mg/l)
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RUWP004A	19
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