

Caulmert Limited

Engineering, Environmental & Planning
Consultancy Services

Standard Landfill Site

Flintshire County Council Waste Management Services

Quarterly Monitoring Review

October - December 2014

Prepared by:

Caulmert Limited

InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG

Tel: 01248 672666

Fax: 01248 672601

Email: jimmcclymont@caulmert.com

Web: www.caulmert.com

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Project Director: Mike Caulfield
Project Manager: Jim McClymont
Caulmert Limited: Intec, Parc Menai, Bangor, Gwynedd, LL57 4FG
Tel: 01248 672666

Author	Sean O'Brien	Date	28.01.2015
Reviewer	Jim McClymont	Date	28.01.2015
Approved	Jim McClymont	Date	30.01.2015

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1.0 INTRODUCTION

1.1 Background

- 1.1.1 This report has been compiled in accordance with the Environmental Permit for Standard Landfill Site, Buckley, which requires a quarterly review of the environmental monitoring data collected at the site. The data reviewed by this report was collected between the 1st of October and the 31st of December 2014.
- 1.1.2 This report records and discusses the monitoring data collected for landfill gas, groundwater, leachate, and surface water. For details regarding the site location, surrounding land-use, site history and development and environmental context please refer to the Standard Landfill Site Annual Monitoring Review 2013, document reference 1902.3.FCC.SDB.JDM.A0, submitted to Natural Resources Wales by Caulmert Ltd, on behalf of Flintshire County Council Waste Management Services in February 2014.

2.0 LANDFILL GAS

2.1 Introduction

- 2.1.1 Routine landfill gas (LFG) monitoring was carried out on a weekly basis at 29 perimeter boreholes during the review period. Methane, carbon dioxide, oxygen, relative pressure and atmospheric pressure were recorded at each borehole.
- 2.1.2 Borehole locations are shown on the drawing entitled 'Environmental Monitoring Locations' enclosed. A summary table displaying methane and carbon dioxide concentrations and can be found in Appendix 1.

2.2 Methane

- 2.2.1 Methane was only detected in BH22, with an average concentration of 0.8 %. A methane trigger level of 1.0 % was proposed for BH22 in EPR Compliance Assessment Report (CAR) ID 37073/0202764 issued by Natural Resources Wales (NRW) on the 27th of February 2014. The proposed trigger level was not exceeded at BH22 during this review period, with a maximum concentration of 1.0 %.

2.3 Carbon Dioxide

- 2.3.1 Carbon dioxide trigger levels were agreed with the Environment Agency during Q3 of 2011 and can be found in Appendix 1 along with the monitoring data. The carbon dioxide trigger values for boreholes BH16 and BH22, 3.0 % and 3.1 % respectively, were approved in EPR Compliance Assessment Report (CAR) ID 37073/0202764.
- 2.3.2 Carbon dioxide concentrations remained below the trigger levels in all locations throughout the review period.

3.0 GROUNDWATER

3.1 Introduction

- 3.1.1 During the review period groundwater levels were recorded on a monthly basis at seven groundwater monitoring boreholes, GW1, GW2, GW3, GW4R, GW5, GW6 and GW7R. Samples were collected from GW1, GW3, GW5 and GW6 and analysed for the annual suite of parameters listed below:

Carbon, Inorganics, Filtered (Dissolved) Metals, Mineral Oil/Oil & Greases, TPH CWG, Semi-Volatile Organic Compounds (SVOCs), Volatile Organic Compounds (VOCs), combined Pesticides and Herbicides and miscellaneous Organics.

3.2 Groundwater Levels

- 3.2.1 Groundwater level data was recorded on a monthly basis in meters below ground level (mbgl), where borehole cover level data was available this also resulted in a calculation for groundwater level in metres above Ordnance Datum (mAOD).
- 3.2.2 Groundwater levels, in mBGL and mAOD are displayed in a summary table included in Appendix 2. Groundwater levels increased over the review period in GW1, GW3 and GW6 and remained stable at all other locations. GW2 was dry during the review period.

3.3 Groundwater Quality

- 3.3.1 Samples were collected from GW1, GW3, GW5 and GW6 on the 23rd of December 2014. A groundwater quality summary table for this review period is included in Appendix 2.
- 3.3.2 GW6 continues to exhibit elevated concentrations of several parameters, following the leachate outbreak which was detected at the north west edge of the site, close to gas monitoring borehole 2.2 in May 2013.
- 3.3.3 Ammoniacal nitrogen concentration in GW6 was 82.9 mg/l, slightly lower than the 111.0 mg/l recorded in the previous review period. Highest concentrations of the metals cadmium, copper, lead, magnesium, manganese, nickel, potassium, sodium and zinc were detected in GW6. Chemical oxygen demand at GW6 was 316 mg/l.
- 3.3.4 Ammoniacal nitrogen concentrations were comparatively low in GW1 (<0.2 mg/l), GW3 (1.8 mg/l) and GW5 (5.0 mg/l). COD in GW1, GW3 and GW5 was 19.9 mg/l, 14.4 mg/l and 218 mg/l respectively.
- 3.3.5 No cyanide, mercury, mineral oil, xylenes, toluene, SVOCs or VOCs were detected in any of the groundwater locations. A trace concentration of the herbicide Mecoprop was detected in GW6, 0.0067 mg/l.

4.0 LEACHATE

4.1 Introduction

- 4.1.1 Leachate levels were recorded monthly at nine leachate monitoring locations, LC2.1, LC3, LC4, LC7, S1, S2, S3, SSR5 (LS5) and SSR6 (LS6). Additionally, samples from all chambers were analysed for the annual suite of determinants listed below:

Carbon, Inorganics, Filtered (Dissolved) Metals, Mineral Oil/Oil & Greases, TPH CWG, Semi-Volatile Organic Compounds (SVOCs), Volatile Organic Compounds (VOCs), combined Pesticides and Herbicides and miscellaneous Organics.

- 4.1.2 Well locations are shown on the Environmental Monitoring Location drawing enclosed.

4.2 Leachate Levels

- 4.2.1 Leachate levels were recorded on a monthly basis. A summary table displaying leachate levels, in metres below ground level (mbgl) and in metres above Ordnance Datum (mAOD), can be found in Appendix 3.
- 4.2.2 Table 1 below displays minimum, maximum and average leachate head levels in metres above well base. Average levels range between 1.21 m above well base in LC4 to 1.77 m above well base in LC3.

Table 1: Leachate Head Levels in metres above well base

Location	Leachate head (m above cell base)		
	Min	Max	Average
LC2.1	1.45	1.51	1.48
LC3	1.73	1.80	1.77
LC4	1.18	1.25	1.21
LC7	1.49	1.60	1.54
LS5	1.35	1.39	1.37
LS6	1.56	1.59	1.57
S1	1.43	1.52	1.48
S2	1.53	1.73	1.63
S3	1.17	1.40	1.26

4.3 Leachate Quality

- 4.3.1 Annual leachate quality sampling was undertaken at four monitoring locations (LC2, LC3, LC4 and LC7). A summary of the analysis is shown in Table 3.2 in Appendix 3.
- 4.3.2 Concentrations of ammoniacal nitrogen within the leachate ranged between 85.1 mg/l in S1 and a maximum concentration of 1560 mg/l in LC2.
- 4.3.3 Several hazardous parameters were detected within the leachate, as detailed in Table 2 below:

Table 2: Hazardous Substances detected within the Leachate

Parameter	Units	S1	S2	S3	SSR5	SSR6	LC2	LC3	LC4	LC7
Mineral Oil / Oils & Greases										
Mineral oil >C10 C40 (aq)	mg/l	<0.01	<0.01	<0.01	0.0493	0.0737	0.0284	0.129	<0.01	0.0296
Semi-Volatile Organic Compounds (SVOCs)										
bis(2-Ethylhexyl) phthalate (aq)	mg/l	<0.002	<0.002	<0.002	0.0103	<0.01	<0.01	<0.01	<0.002	<0.002
Volatile Organic Compounds (VOCs)										
1,2,4-Trimethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.0192	<0.001	<0.001	0.00665
1,3,5-Trimethylbenzene	mg/l	<0.001	<0.001	0.00207	0.0021	0.00224	0.00392	<0.001	<0.001	0.00177
4-iso-Propyltoluene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.00731	<0.001	<0.001	<0.001
Benzene	mg/l	<0.001	<0.001	0.00148	0.00148	0.00164	0.00484	<0.001	0.00251	0.00292
Chlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.0106	<0.001	<0.001	0.00418
Ethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.0195	<0.001	<0.001	0.00839
Isopropylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.00453	<0.001	<0.001	<0.001
m,p-Xylene	mg/l	0.00202	<0.001	0.00127	<0.001	<0.001	0.0361	<0.001	<0.001	0.017
Naphthalene	mg/l	<0.001	<0.001	0.00225	<0.001	<0.001	0.0161	<0.001	<0.001	0.00464
o-Xylene	mg/l	0.00259	0.00194	0.0074	0.00807	0.00895	0.0136	0.002	<0.001	0.00663
Toluene	mg/l	<0.001	<0.001	<0.001	0.00147	0.00185	0.0104	<0.001	<0.001	0.00304
Combined Pesticides / Herbicides										
Heptachlor	mg/l	<0.00001	0.000127	0.000091	0.00008	<0.00001	0.000307	<0.00001	0.00022	0.000136
Miscellaneous Organics										
Dibutyl tin	mg/l	<0.000005	<0.00003	<0.00003	<0.00003	<0.000005	<0.00015	<0.00015	<0.00003	0.000034
Subcontracted: Organics										
Mecoprop (MCP)*	mg/l	-	0.0354	0.0387	0.0831	0.0609	0.0273	0.0379	0.0276	0.0261

5.0 SURFACE WATER

5.1 Introduction

5.1.1 Surface water samples are collected at four locations; SW1, SW2, SW4 and SW5 which are shown on the Environmental Monitoring Locations drawing enclosed.

5.1.2 During this review period surface water samples were analysed on a weekly basis for:

Ammoniacal nitrogen, chloride, chemical oxygen demand (COD), electrical conductivity and pH.

5.1.3 Surface water samples were also analysed for the annual suite below:

Carbon, Inorganics, Filtered (Dissolved) Metals, Mineral Oil/Oil & Greases, TPH CWG, Semi-Volatile Organic Compounds (SVOCs), Volatile Organic Compounds (VOCs), combined Pesticides and Herbicides and miscellaneous Organics.

5.1.4 Summary tables displaying the weekly and annual surface water analysis results are presented in Appendix 4.

5.2 Surface Water Quality

5.2.1 Average ammoniacal nitrogen concentrations ranged between 0.2 mg/l in SW4 and 1.4 mg/l in SW1. Average chloride concentrations ranged between 56 mg/l in SW1 to 74 mg/l in SW2. Average chemical oxygen demand ranged between 23 mg/l in SW4 and 593 mg/l in SW1. pH in the surface water ranged between an average of 7.5 in SW1 to 7.9 in SW4. Conductivity ranged between an average of 0.6 mS/cm in SW1 and SW4 and 0.8 mS/cm in SW2.

5.2.2 Average chemical oxygen demand in SW5, a surface water lagoon used for the collection of surface water runoff from the Site, was 48 mg/l. Average ammoniacal nitrogen concentration was 0.3 mg/l and average chloride concentration was 43 mg/l. Average pH in SW5 was 7.7.

5.2.3 Three hazardous substances were detected in upstream monitoring location SW1, mineral oils at a concentration of 1.52 mg/l, the SVOC bis(2-ethylhexyl)phthalate at a concentration of 0.00489 mg/l, and the herbicide Mecoprop at a concentration of 0.00003 mg/l. Mecoprop was also detected in SW4 at a concentration of 0.00015 mg/l.

6.0 CONCLUSIONS

6.1 Landfill gas

- 6.1.1 None of the permitted trigger levels for carbon dioxide were exceeded during this review period.
- 6.1.2 Methane was only detected BH22, remaining below the trigger level of 1.0 % throughout the review period, with an average concentration of 0.8 %.

6.2 Groundwater

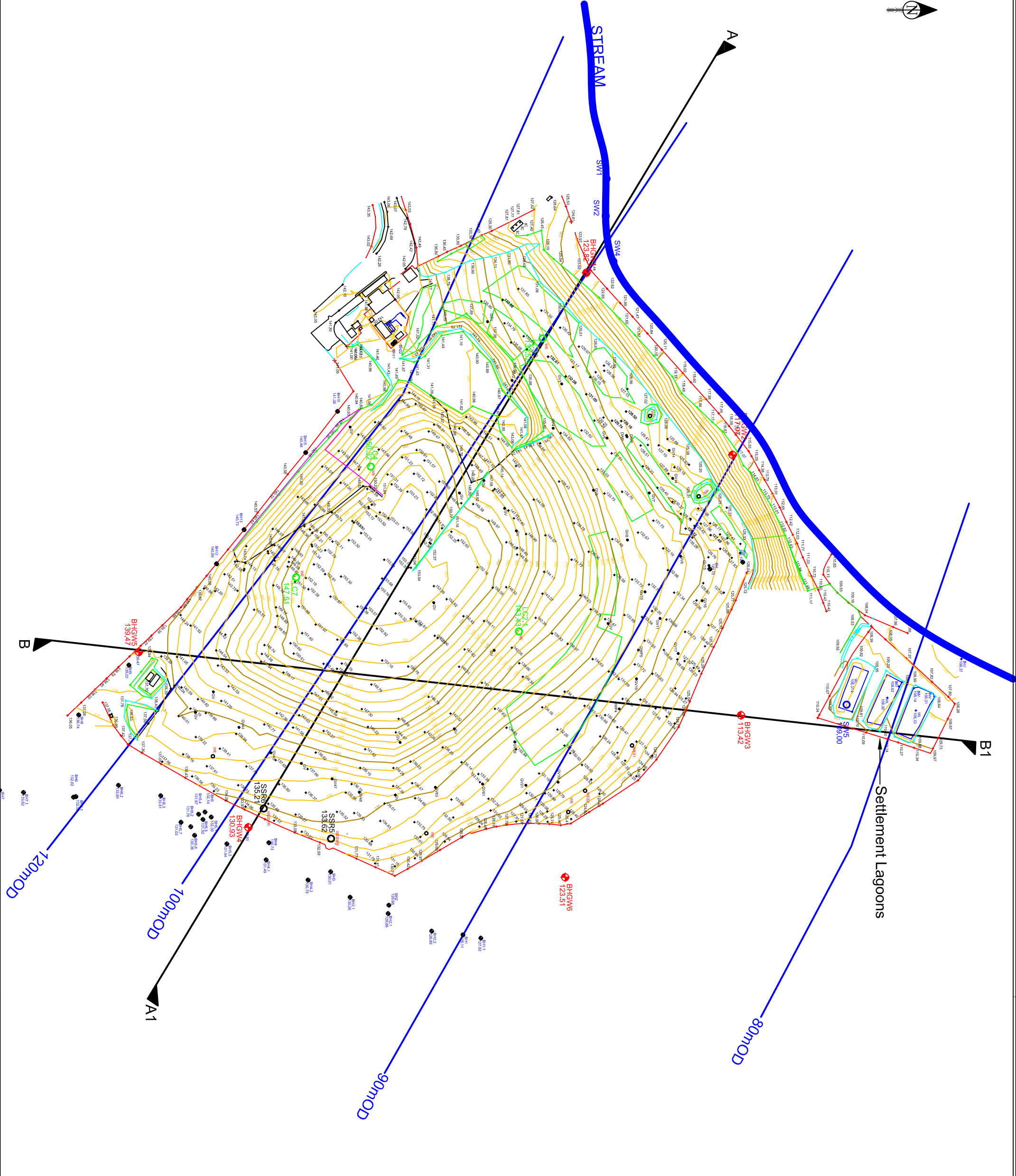
- 6.2.1 Groundwater quality was generally good in all locations, with the exception of GW6.
- 6.2.2 GW6 continued to display the highest concentrations of most parameters potentially due to the residual impact of the leachate outbreak close to this borehole which was detected in May 2013.

6.3 Leachate

- 6.3.1 Leachate levels remained low for the duration of the review period.
- 6.3.2 Leachate quality results indicate that a leachate of medium to strong strength is present. This is to be expected given the age of the waste mass and the closed and capped nature of the site.
- 6.3.3 Sixteen hazardous substances were detected within the leachate in the Annual Suite.

6.4 Surface Water

- 6.4.1 Surface water quality was relatively good.
- 6.4.2 Three hazardous substances were detected in upstream monitoring location SW1 – mineral oils, one SVOC and Mecoprop.



Notes

- Groundwater Borehole
- Side Slope Riser
- Leachate Chamber
- Surface Water Monitoring Point
- Cross Section
- Ground Water Contours

Notes

Monitoring Point Height (mOD)
Given Below Identity Number

Ground Water Contour Based on
2005 Levels



Bold Business Centre, Bold Lane,
Sutton, St Helens WA9 4TX



Site
**Standard Landfill
Buckley**

Title
**Environmental Monitoring
Locations**

Scale	1:1500	@ A2
Drawing No.	0987/1/002	
Rev	Date	Description
File	Standard Landfill3863a-TCL Revision001.dwg	
Date	03/09	Engineer CB
Drawn	SH	Checked JB

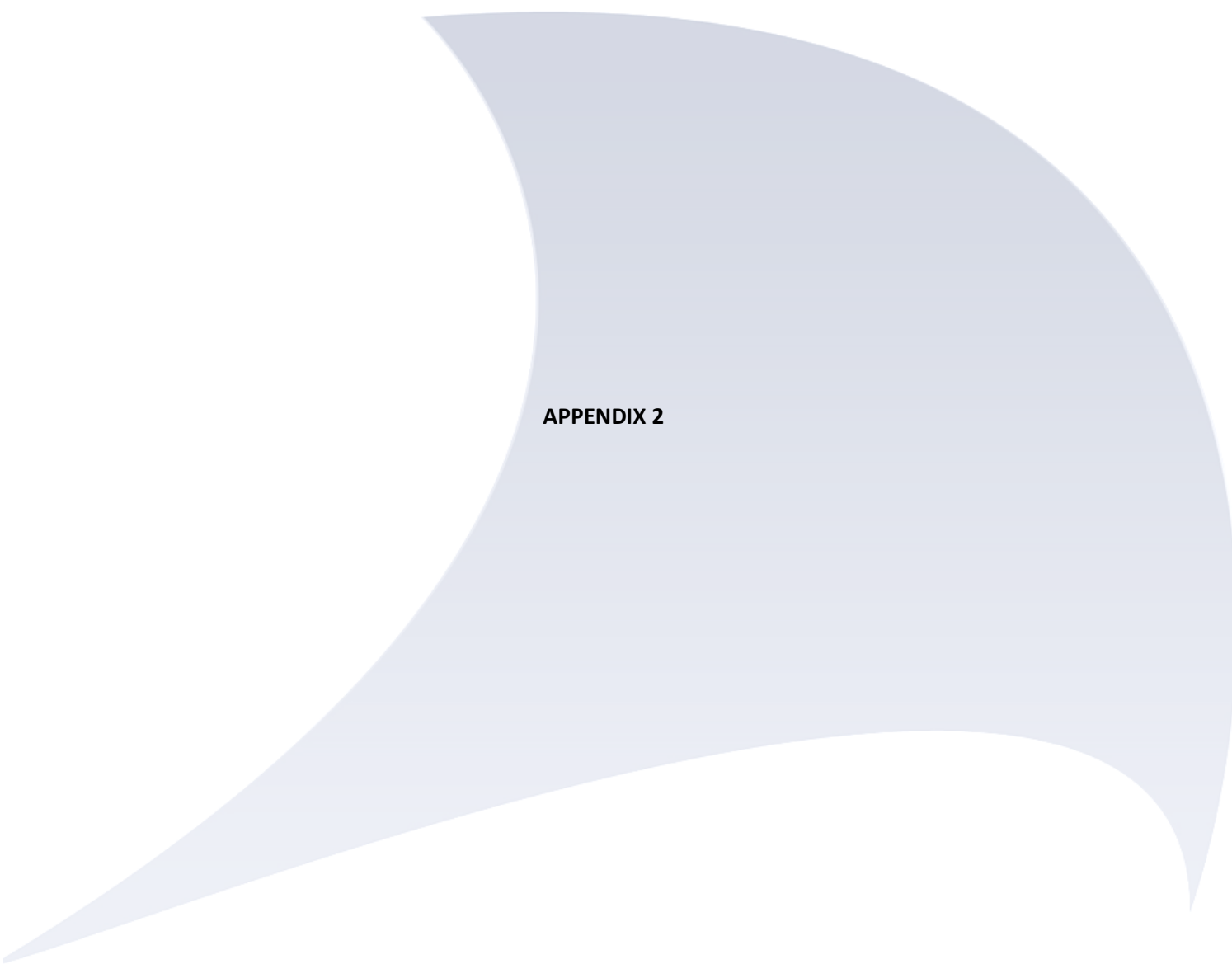
APPENDIX 1

APPENDIX 1

Table 1 – Summary of Landfill Gas Concentrations

Location		CH4 (%v/v)	Trigger (%v/v)	CO2 (%v/v)	Trigger (%v/v)	Location		CH4 (%v/v)	Trigger (%v/v)	CO2 (%v/v)	Trigger (%v/v)
BH 1	Min	0.0	1.0	3.0	5.37	BH 4.1	Min	0.0	1.0	1.2	7.12
	Max	0.0		4.2			Max	0.0		1.9	
	Ave	0.0		3.6			Ave	0.0		1.6	
	Count	13		13			Count	13		13	
BH 1.1	Min	0.0	1.0	2.1	5.35	BH 4.2	Min	0.0	1.0	1.1	8.59
	Max	0.0		2.8			Max	0.0		2.1	
	Ave	0.0		2.4			Ave	0.0		1.6	
	Count	13		13			Count	13		13	
BH 2.0	Min	0.0	1.0	1.0	7.05	BH 5.0	Min	0.0	1.0	1.5	19.42
	Max	0.0		2.5			Max	0.0		3.5	
	Ave	0.0		1.8			Ave	0.0		2.4	
	Count	13		13			Count	13		13	
BH 2.1	Min	0.0	1.0	1.8	7.57	BH 5.1	Min	0.0	1.0	1.0	5.80
	Max	0.0		3.2			Max	0.0		1.9	
	Ave	0.0		2.8			Ave	0.0		1.3	
	Count	13		13			Count	13		13	
BH 2.2	Min	0.0	1.0	2.5	5.82	BH 5.2	Min	0.0	1.0	1.0	9.64
	Max	0.0		5.2			Max	0.0		1.8	
	Ave	0.0		3.5			Ave	0.0		1.3	
	Count	13		13			Count	13		13	
BH 3.0	Min	0.0	1.0	2.0	6.70	BH 5.3	Min	0.0	1.0	1.0	6.00
	Max	0.0		4.2			Max	0.0		2.3	
	Ave	0.0		2.8			Ave	0.0		1.6	
	Count	13		13			Count	13		13	
BH 3.1	Min	0.0	1.0	1.6	7.76	BH 5.4	Min	0.0	1.0	1.5	16.03
	Max	0.0		3.5			Max	0.0		3.6	
	Ave	0.0		2.7			Ave	0.0		2.8	
	Count	13		13			Count	13		13	
BH 4.0	Min	0.0	1.0	1.1	10.65	BH 5.5	Min	0.0	1.0	2.2	17.06
	Max	0.0		1.9			Max	0.0		4.0	
	Ave	0.0		1.5			Ave	0.0		3.1	
	Count	13		13			Count	13		13	

Location		CH4 (%v/v)	Trigger (%v/v)	CO2 (%v/v)	Trigger (%v/v)	Location		CH4 (%v/v)	Trigger (%v/v)	CO2 (%v/v)	Trigger (%v/v)
BH 5.7	Min	0.0	1.0	1.9	7.07	BH 12	Min	0.0	1.0	1.4	6.48
	Max	0.0		3.5			Max	0.0		2.6	
	Ave	0.0		2.7			Ave	0.0		2.1	
	Count	13		13			Count	13		13	
BH 6.0	Min	0.0	1.0	1.4	8.92	BH 13	Min	0.0	1.0	1.1	5.20
	Max	0.0		2.1			Max	0.0		2.0	
	Ave	0.0		1.7			Ave	0.0		1.6	
	Count	13		13			Count	13		13	
BH 6.1	Min	0.0	1.0	1.1	3.72	BH 15	Min	0.0	1.0	1.2	8.30
	Max	0.0		1.8			Max	0.0		3.5	
	Ave	0.0		1.4			Ave	0.0		2.5	
	Count	13		13			Count	13		13	
BH 6.2	Min	0.0	1.0	1.1	6.12	BH 16	Min	0.0	1.0	1.2	3.00
	Max	0.0		2.3			Max	0.0		2.8	
	Ave	0.0		1.8			Ave	0.0		1.7	
	Count	13		13			Count	13		13	
BH 6.3	Min	0.0	1.0	1.0	8.24	BH 22	Min	0.5	1.0	2.0	3.10
	Max	0.0		1.9			Max	1.0		2.9	
	Ave	0.0		1.5			Ave	0.8		2.4	
	Count	13		13			Count	13		13	
BH 7.0	Min	0.0	1.0	1.1	6.20						
	Max	0.0		2.3							
	Ave	0.0		1.9							
	Count	13		13							
BH 7.1	Min	0.0	1.0	1.0	5.49						
	Max	0.0		2.5							
	Ave	0.0		1.7							
	Count	13		13							
BH 9.0	Min	0.0	1.0	2.0	10.72						
	Max	0.0		3.6							
	Ave	0.0		2.4							
	Count	13		13							



APPENDIX 2

APPENDIX 2

Table 2.1 - Groundwater Levels

Location	Date	Dip Level (mBGL)	GW Level (mAOD)
GW 1	14/10/2014	25.21	98.87
	11/11/2014	20.19	103.89
	09/12/2014	18.65	105.43
GW 2	14/10/2014	9.10	108.11
	11/11/2014	9.10	108.11
	09/12/2014	9.10	108.11
GW 3	14/10/2014	27.59	85.83
	11/11/2014	23.69	89.73
	09/12/2014	19.68	93.74
GW 4R	14/10/2014	52.00	79.00
	11/11/2014	52.33	78.67
	09/12/2014	52.69	78.31
GW 5	14/10/2014	3.29	131.57
	11/11/2014	3.06	131.80
	09/12/2014	3.01	131.85
GW 6	14/10/2014	24.58	98.99
	11/11/2014	21.79	101.78
	09/12/2014	18.93	104.64
GW 7R	14/10/2014	60.28	81.72
	11/11/2014	60.21	81.79
	09/12/2014	60.01	81.99

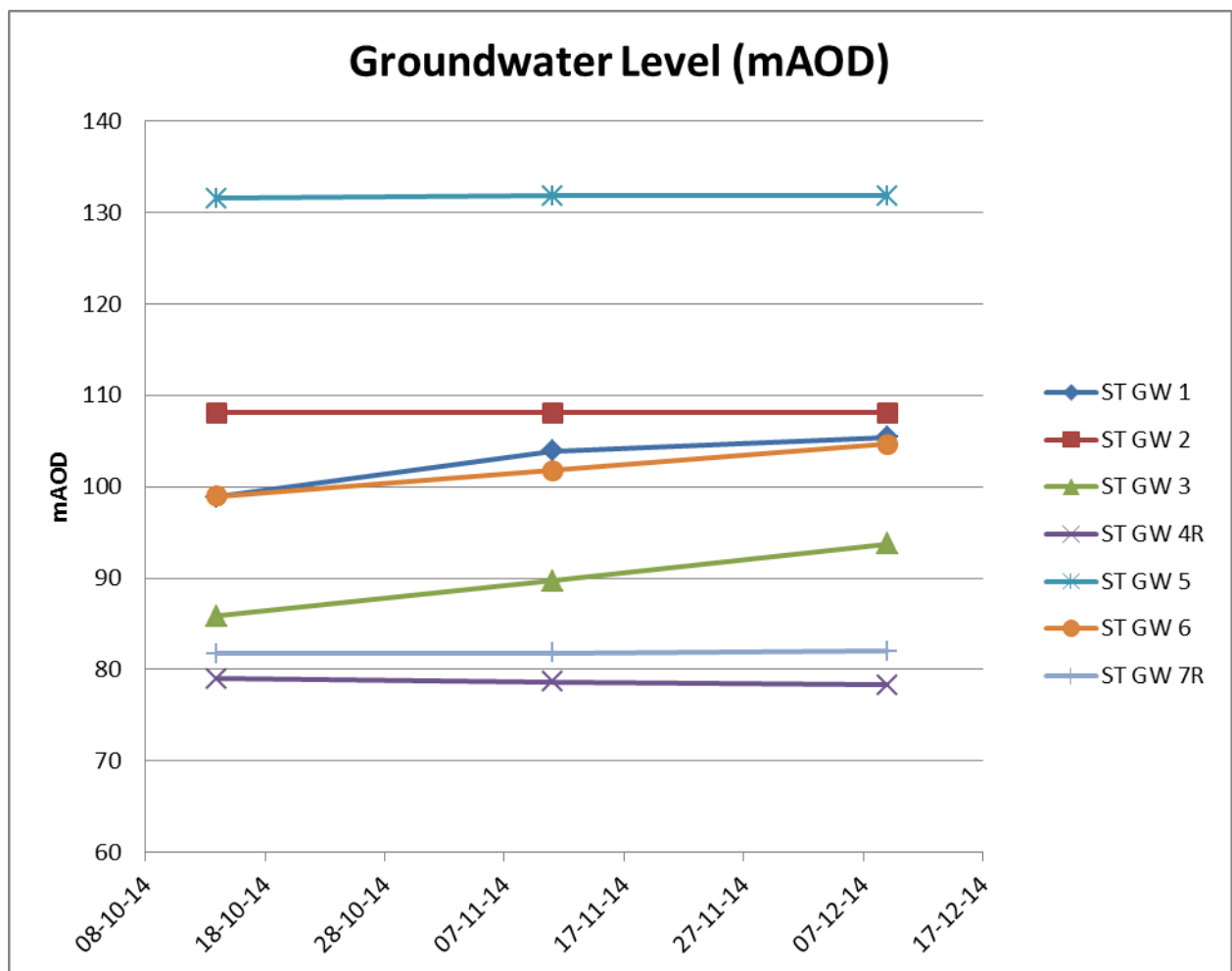


Table 2.2 - Groundwater Quality Data Summary (Annual)

Parameter	Units	GW1	GW3	GW5	GW6
Carbon					
Organic Carbon, Total	mg/l	24.5	<3	48.7	60.7
Inorganics					
Alkalinity, Total as CaCO ₃	mg/l	50.6	238	386	108
Ammoniacal Nitrogen as N	mg/l	<0.2	1.76	4.98	82.9
Chloride	mg/l	49.1	28.6	14.8	567
COD, unfiltered	mg/l	19.9	14.4	218	316
Conductivity @ 20 deg.C	mS/cm	0.596	0.743	0.663	3.23
Cyanide, Free	mg/l	<0.05	<0.05	<0.05	<0.05
Cyanide, Total	mg/l	<0.05	<0.05	<0.05	<0.05
Oxygen, dissolved	mg/l	5.31	5.29	0.37	4.55
pH	-	6.39	7.52	6.7	5.86
Sulphate	mg/l	224	166	40.1	374
Total Oxidised Nitrogen as N	mg/l	0.62	0.0469	0.0124	>106
Filtered (Dissolved) Metals					
Cadmium (diss.filt)	mg/l	<0.0001	<0.0001	<0.0001	0.00466
Calcium (diss.filt)	mg/l	53.5	88.6	86.7	72.4
Chromium (diss.filt)	mg/l	0.0012	<0.00022	<0.00022	<0.00022
Copper (diss.filt)	mg/l	<0.00085	0.00267	0.00108	0.0123
Iron (diss.filt)	mg/l	<0.019	<0.019	28.9	0.0778
Lead (diss.filt)	mg/l	<0.00002	0.000059	<0.00002	0.00121
Magnesium (diss.filt)	mg/l	25.9	32.2	13.3	42.2
Manganese (diss.filt)	mg/l	0.682	0.154	4.41	9.27
Mercury (diss.filt)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Nickel (diss.filt)	mg/l	0.00175	0.00174	0.00556	0.135
Potassium (diss.filt)	mg/l	9.85	16	8.54	60.4
Sodium (diss.filt)	mg/l	27.4	23.5	18.4	381
Zinc (diss.filt)	mg/l	0.00856	0.00445	0.000881	0.137
Mineral Oil / Oils & Greases					
Mineral oil >C10 C40 (aq)	mg/l	<0.01	<0.01	<0.01	-
TPH Criteria Working Group (TPH CWG)					
Sum of detected Xylenes	mg/l	<0.011	<0.011	<0.011	<0.011
Toluene	mg/l	<0.004	<0.004	<0.004	<0.004
Semi-Volatile Organic Compounds (SVOCs)					
1,2,4-Trichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4,5-Trichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4,6-Trichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4-Dichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4-Dimethylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001

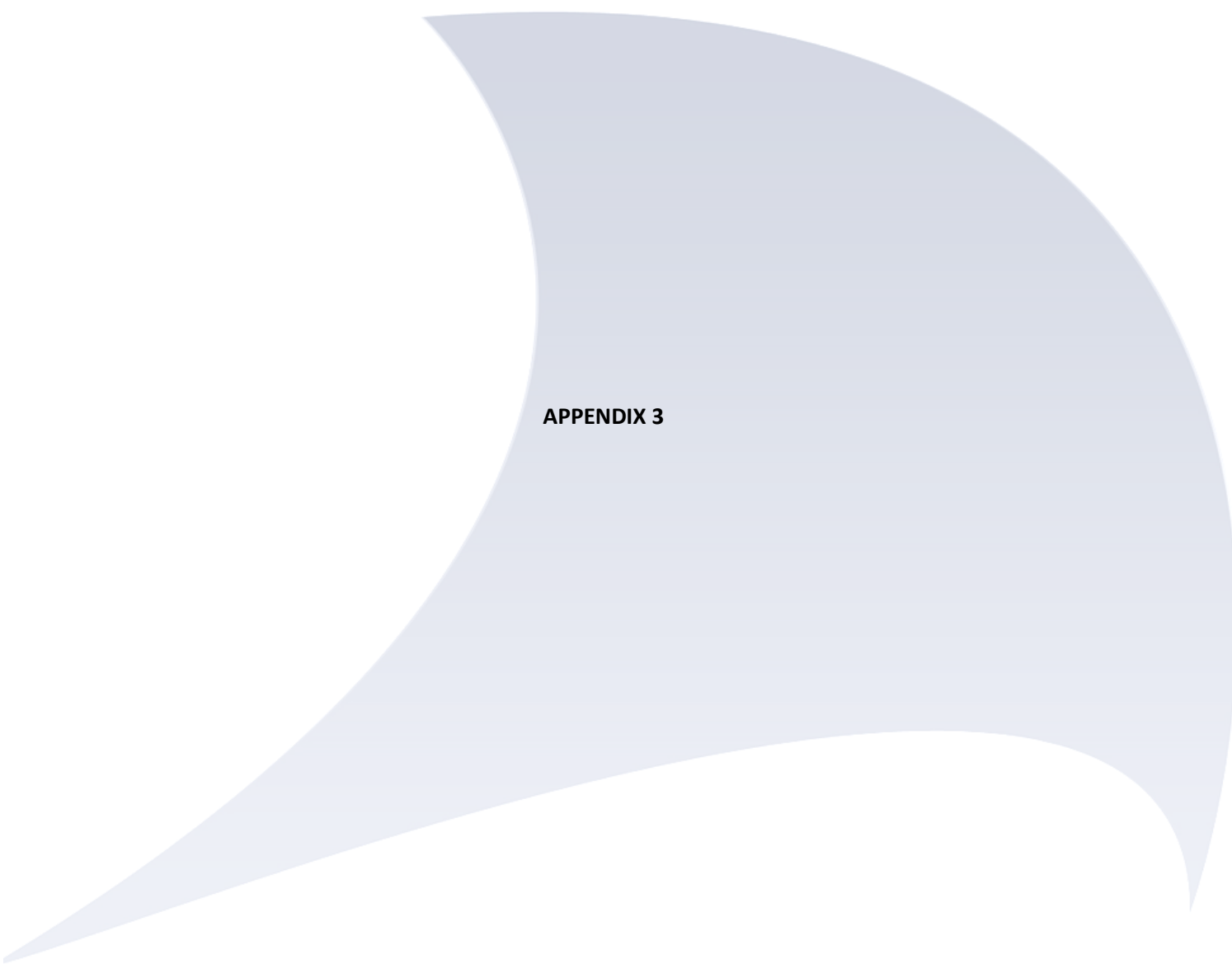
2,4-Dinitrotoluene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,6-Dinitrotoluene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Chloronaphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Chlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Methylnaphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Nitrophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
3-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Bromophenylphenylether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Chloro-3-methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Chloroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Chlorophenylphenylether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Nitrophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Acenaphthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Acenaphthylene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Azobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(a)anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(b)fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(k)fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Chloroethoxy)methane (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Chloroethyl)ether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Ethylhexyl) phthalate (aq)	mg/l	<0.002	<0.002	<0.002	<0.002
Butylbenzyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Carbazole (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Chrysene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Dibenzofuran (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Diethyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Dimethyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Fluorene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobutadiene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorocyclopentadiene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachloroethane (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-cd)pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Isophorone (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Naphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
n-Dibutyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001

n-Dioctyl phthalate (aq)	mg/l	<0.005	<0.005	<0.005	<0.005
Nitrobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
n-Nitroso-n-dipropylamine (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Pentachlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Phenanthrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Phenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Volatile Organic Compounds (VOCs)					
1,1,1,2-Tetrachloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/l	<0.001	<0.001	<0.001	<0.001
4-Bromofluorobenzene**	%	99.2	98.7	99.6	95.9
4-Chlorotoluene	mg/l	<0.001	<0.001	<0.001	<0.001
4-iso-Propyltoluene	mg/l	<0.001	<0.001	<0.001	<0.001
Benzene	mg/l	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Bromoform	mg/l	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/l	<0.001	<0.001	<0.001	<0.001
Carbon disulphide	mg/l	<0.001	<0.001	<0.001	<0.001
Carbontetrachloride	mg/l	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
Chloroform	mg/l	<0.001	<0.001	<0.001	<0.001

Chloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dibromofluoromethane**	%	111	109	108	107
Dibromomethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dichloromethane	mg/l	<0.003	<0.003	<0.003	<0.003
Ethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobutadiene	mg/l	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
m,p-Xylene	mg/l	<0.001	<0.001	<0.001	<0.001
Methyl tertiary butyl ether (MTBE)	mg/l	<0.001	<0.001	<0.001	<0.001
Naphthalene	mg/l	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/l	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Styrene	mg/l	<0.001	<0.001	<0.001	<0.001
tert-Amyl methyl ether (TAME)	mg/l	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
Toluene	mg/l	<0.001	<0.001	<0.001	<0.001
Toluene-d8**	%	99.8	98.9	99.7	99.7
trans-1,2-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Vinyl chloride	mg/l	<0.001	<0.001	<0.001	<0.001
Combined Pesticides / Herbicides					
Aldrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
alpha-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Atrazine	mg/l	<0.001	<0.001	<0.001	<0.001
Azinphos-ethyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Azinphos-methyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
beta-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Carbophenothion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorfenvinphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorothalonil	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Chlorpyrifos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorpyrifos methyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
cis-Chlordane	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Diazinon	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Dichlorvos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Dieldrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001

Dimethoate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan I	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan II	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan sulphate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Ethion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Etrimphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Fenitrothion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Fenthion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
gamma-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Heptachlor	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Heptachlor epoxide	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Hexachlorobenzene	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Isodrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Malathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Methyl parathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Mevinphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-DDE	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-DDT	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-Methoxychlor	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-TDE (DDD)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-DDE	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-DDT	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-Methoxychlor	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-TDE (DDD)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Parathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Pendimethalin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Permethrin I	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Permethrin II	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Phosalone	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Pirimiphos-methyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Propetamphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Quintozone (PCNB)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Simazine	mg/l	<0.001	<0.001	<0.001	<0.001
Tecnazene	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Telodrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Trans-chlordane	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triadimefon	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triallate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triazophos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Trifluralin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Miscellaneous Organics					
Dibutyl tin	mg/l	<0.00001	<0.000005	<0.000015	<0.00001
Surrogate	%	94.8	63	73.7	77.9
Tetrabutyl tin	mg/l	<0.000004	<0.000002	<0.000006	<0.000004

Tributyl tin	mg/l	<0.000002	<0.000001	<0.000003	<0.000002
Triphenyl tin	mg/l	<0.000002	<0.000001	<0.000003	<0.000002
Subcontracted: Organics					
2,3,6-Trichlorobenzoic acid (2,3,6-TBA)*	mg/l	-	-	<0.00002	<0.00002
2,4,5-Trichlorophenol (2,4,5-T)*	mg/l	-	-	<0.00002	<0.00002
2,4-Dichlorophenoxy acetic acid (2,4-D)*	mg/l	-	-	<0.00002	<0.00002
2-Methyl-4-chlorophenoxyacetic acid (MCPA)*	mg/l	-	-	<0.00002	<0.00002
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)*	mg/l	-	-	<0.00002	<0.00002
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)*	mg/l	-	-	<0.00002	<0.00002
4-Chlorophenoxyacetic acid (4-CPA)*	mg/l	-	-	<0.00002	<0.00002
Benazolin*	mg/l	-	-	<0.00002	<0.00002
Bentazone*	mg/l	-	-	<0.00002	<0.00002
Bromoxynil*	mg/l	-	-	<0.00002	<0.00002
Dicamba*	mg/l	-	-	<0.00002	<0.00002
Dichlorprop (2,4-DP)*	mg/l	-	-	<0.00002	<0.00002
Diclofop*	mg/l	-	-	<0.00002	<0.00002
Fenoprop*	mg/l	-	-	<0.00002	<0.00002
Flamprop*	mg/l	-	-	<0.00002	<0.00002
Flamprop-isopropyl*	mg/l	-	-	<0.00002	<0.00002
Ioxynil*	mg/l	-	-	<0.00002	<0.00002
Mecoprop (MCP)*	mg/l	-	-	<0.00002	0.0067
Pentachlorophenol*	mg/l	-	-	<0.00002	<0.00002
Picloram	mg/l	-	-	<0.00002	<0.00002
Triclopyr*	mg/l	-	-	<0.00002	<0.00002



APPENDIX 3

APPENDIX 3

Table 3.1 - Leachate Levels

Location	Date	Dip Level (mBGL)	Leachate Level (mAOD)	Leachate Level Head (m)
LC2.1	06/10/2014	29.55	111.50	1.45
	18/11/2014	29.52	111.53	1.48
	15/12/2014	29.49	111.56	1.51
LC3	06/10/2014	3.06	130.90	1.78
	18/11/2014	3.04	130.92	1.80
	15/12/2014	3.11	130.85	1.73
LC4	06/10/2014	17.75	130.90	1.25
	18/11/2014	17.79	130.86	1.21
	15/12/2014	17.82	130.83	1.18
LC7	06/10/2014	18.71	132.58	1.60
	18/11/2014	18.79	132.50	1.52
	15/12/2014	18.82	132.47	1.49
LS5	06/10/2014	28.61	104.70	1.35
	18/11/2014	28.52	104.79	1.39
	15/12/2014	28.59	104.72	1.36
LS6	06/10/2014	29.01	105.85	1.59
	18/11/2014	29.06	105.80	1.57
	15/12/2014	29.09	105.77	1.56
S1	06/10/2014	2.91	125.07	1.52
	18/11/2014	2.95	125.03	1.48
	15/12/2014	3	124.98	1.43
S2	06/10/2014	1.62	127.24	1.73
	18/11/2014	1.71	127.15	1.64
	15/12/2014	1.82	127.04	1.53
S3	06/10/2014	3.69	124.81	1.40
	18/11/2014	3.89	124.61	1.20
	15/12/2014	3.92	124.58	1.17

Table 3.2 - Leachate Quality Data Summary LC Wells (Annual Parameters)

Parameter	Units	LC2	LC3	LC4	LC7
Carbon					
Organic Carbon, Total	mg/l	685	569	258	313
Inorganics					
Alkalinity, Total as CaCO ₃	mg/l	8140	5200	4120	4640
Ammoniacal Nitrogen as N	mg/l	1560	1040	716	740
BOD, unfiltered	mg/l	128	131	32.7	79.1
Chloride	mg/l	2170	1340	1140	1070
COD, unfiltered	mg/l	2250	1750	760	944
Cyanide, Free	mg/l	<0.05	<0.05	<0.05	<0.05
Cyanide, Total	mg/l	<0.05	<0.05	<0.05	<0.05
pH	pH Units	7.75	8.18	7.84	7.75
Sulphate	mg/l	<2	64	1.29	1.6
Total Oxidised Nitrogen as N	mg/l	<0.01	0.248	0.467	<0.01
Filtered (Dissolved) Metals					
Cadmium (diss.filt)	mg/l	<0.001	<0.001	<0.001	<0.001
Calcium (diss.filt)	mg/l	55.1	106	101	78.9
Chromium (diss.filt)	mg/l	0.0488	0.0359	0.0154	0.0243
Copper (diss.filt)	mg/l	<0.0085	0.00914	<0.0085	0.0103
Iron (diss.filt)	mg/l	5.86	4.16	1.17	3.59
Lead (diss.filt)	mg/l	0.00433	0.00302	<0.0002	0.00296
Magnesium (diss.filt)	mg/l	94.2	80.9	78.1	96.7
Manganese (diss.filt)	mg/l	0.2	0.246	0.232	0.246
Mercury (diss.filt)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Nickel (diss.filt)	mg/l	0.486	0.252	0.142	0.21
Potassium (diss.filt)	mg/l	738	526	352	433
Sodium (diss.filt)	mg/l	1910	1180	966	1100
Zinc (diss.filt)	mg/l	<0.0041	<0.0041	<0.0041	<0.0041
Mineral Oil / Oils & Greases					
Mineral oil >C10 C40 (aq)	mg/l	0.0284	0.129	<0.01	0.0296
Semi-Volatile Organic Compounds (SVOCs)					
1,2,4-Trichlorobenzene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
1,2-Dichlorobenzene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
1,3-Dichlorobenzene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
1,4-Dichlorobenzene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2,4,5-Trichlorophenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2,4,6-Trichlorophenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2,4-Dichlorophenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2,4-Dimethylphenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2,4-Dinitrotoluene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2,6-Dinitrotoluene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2-Chloronaphthalene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2-Chlorophenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2-Methylnaphthalene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2-Methylphenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001

2-Nitroaniline (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
2-Nitrophenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
3-Nitroaniline (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
4-Bromophenylphenylether (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
4-Chloro-3-methylphenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
4-Chloroaniline (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
4-Chlorophenylphenylether (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
4-Methylphenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
4-Nitroaniline (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
4-Nitrophenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Acenaphthene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Acenaphthylene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Anthracene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Azobenzene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Benzo(a)anthracene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Benzo(a)pyrene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Benzo(b)fluoranthene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Benzo(g,h,i)perylene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Benzo(k)fluoranthene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
bis(2-Chloroethoxy)methane (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
bis(2-Chloroethyl)ether (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
bis(2-Ethylhexyl) phthalate (aq)	mg/l	<0.01	<0.01	<0.002	<0.002
Butylbenzyl phthalate (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Carbazole (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Chrysene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Dibenzo(a,h)anthracene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Dibenzofuran (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Diethyl phthalate (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Dimethyl phthalate (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Fluoranthene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Fluorene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Hexachlorobenzene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Hexachlorobutadiene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Hexachlorocyclopentadiene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Hexachloroethane (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Indeno(1,2,3-cd)pyrene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Isophorone (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Naphthalene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
n-Dibutyl phthalate (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
n-Dioctyl phthalate (aq)	mg/l	<0.025	<0.025	<0.005	<0.005
Nitrobenzene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
n-Nitroso-n-dipropylamine (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Pentachlorophenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Phenanthrene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Phenol (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Pyrene (aq)	mg/l	<0.005	<0.005	<0.001	<0.001
Volatile Organic Compounds (VOCs)					

1,1,1,2-Tetrachloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/l	0.0192	<0.001	<0.001	0.00665
1,2-Dibromo-3-chloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/l	0.00392	<0.001	<0.001	0.00177
1,3-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/l	<0.001	<0.001	<0.001	<0.001
4-Bromofluorobenzene**	%	99.1	96.1	97	98.4
4-Chlorotoluene	mg/l	<0.001	<0.001	<0.001	<0.001
4-iso-Propyltoluene	mg/l	0.00731	<0.001	<0.001	<0.001
Benzene	mg/l	0.00484	<0.001	0.00251	0.00292
Bromobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Bromoform	mg/l	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/l	<0.001	<0.001	<0.001	<0.001
Carbon disulphide	mg/l	<0.001	<0.001	<0.001	<0.001
Carbontetrachloride	mg/l	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/l	0.0106	<0.001	<0.001	0.00418
Chloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
Chloroform	mg/l	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dibromofluoromethane**	%	106	106	107	101
Dibromomethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dichloromethane	mg/l	<0.003	<0.003	<0.003	<0.003
Ethylbenzene	mg/l	0.0195	<0.001	<0.001	0.00839
Hexachlorobutadiene	mg/l	<0.001	<0.001	<0.001	<0.001

Isopropylbenzene	mg/l	0.00453	<0.001	<0.001	<0.001
m,p-Xylene	mg/l	0.0361	<0.001	<0.001	0.017
Methyl tertiary butyl ether (MTBE)	mg/l	<0.001	<0.001	<0.001	<0.001
Naphthalene	mg/l	0.0161	<0.001	<0.001	0.00464
n-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/l	0.0136	0.002	<0.001	0.00663
Propylbenzene	mg/l	0.00155	<0.001	<0.001	<0.001
sec-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Styrene	mg/l	<0.001	<0.001	<0.001	<0.001
tert-Amyl methyl ether (TAME)	mg/l	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
Toluene	mg/l	0.0104	<0.001	<0.001	0.00304
Toluene-d8**	%	99.4	99	99.9	100
trans-1,2-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Vinyl chloride	mg/l	<0.001	<0.001	<0.001	<0.001
Combined Pesticides / Herbicides					
Aldrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
alpha-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Atrazine	mg/l	<0.001	<0.001	<0.001	<0.001
Azinphos-ethyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Azinphos-methyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
beta-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Carbophenothion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorfenvinphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorothalonil	mg/l	<0.00005	<0.00005	<0.00005	<0.00005
Chlorpyrifos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorpyrifos methyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
cis-Chlordane	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Diazinon	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Dichlorvos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Dieldrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Dimethoate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan I	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan II	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan sulphate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Ethion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Etrimphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Fenitrothion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Fenthion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
gamma-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001

Heptachlor	mg/l	0.000307	<0.00001	0.00022	0.000136
Heptachlor epoxide	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Hexachlorobenzene	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Isodrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Malathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Methyl parathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Mevinphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-DDE	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-DDT	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-Methoxychlor	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-TDE (DDD)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-DDE	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-DDT	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-Methoxychlor	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-TDE (DDD)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Parathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Pendimethalin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Permethrin I	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Permethrin II	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Phosalone	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Pirimiphos-methyl	mg/l	<0.00001	0.00018	<0.00001	<0.00001
Propetamphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Quintozone (PCNB)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Simazine	mg/l	<0.001	<0.001	<0.001	<0.001
Tecnazene	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Telodrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Trans-chlordane	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triadimefon	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triallate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triazophos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Trifluralin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Miscellaneous Organics					
Dibutyl tin	mg/l	<0.00015	<0.00015	<0.00003	0.000034
Surrogate	%	85.7	83	76.4	75.9
Tetrabutyl tin	mg/l	<0.00006	<0.00006	<0.000012	<0.000012
Tributyl tin	mg/l	<0.00003	<0.00003	<0.000006	<0.000006
Triphenyl tin	mg/l	<0.00003	<0.00003	<0.000006	<0.000006
Subcontracted: Organics					
2,3,6-Trichlorobenzoic acid (2,3,6-TBA)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
2,4,5-Trichlorophenol (2,4,5-T)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
2,4-Dichlorophenoxy acetic acid (2,4-D)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
2-Methyl-4-chlorophenoxyacetic acid (MCPA)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
4-Chlorophenoxyacetic acid (4-CPA)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002

Benazolin*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Bentazone*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Bromoxynil*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Dicamba*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Dichlorprop (2,4-DP)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Diclofop*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Fenoprop*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Flamprop*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Flamprop-isopropyl*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Ioxynil*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Mecoprop (MCP)*	mg/l	0.0273	0.0379	0.0276	0.0261
Pentachlorophenol*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Picloram	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Triclopyr*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002

Table 3.2 - Leachate Quality Data Summary S Wells (Annual Parameters)

Parameter	Units	S1	S2	S3	SSR5	SSR6
Carbon						
Organic Carbon, Total	mg/l	18.9	221	286	474	480
Inorganics						
Alkalinity, Total as CaCO ₃	mg/l	1460	3460	3500	5820	5860
Ammoniacal Nitrogen as N	mg/l	85.1	403	748	1050	1040
BOD, unfiltered	mg/l	14.8	60.3	66	94.2	111
Chloride	mg/l	347	893	908	1420	1440
COD, unfiltered	mg/l	66.3	587	850	1450	1530
Cyanide, Free	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
Cyanide, Total	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
pH	pH Units	8.03	7.72	7.54	7.86	7.91
Sulphate	mg/l	575	361	138	162	162
Total Oxidised Nitrogen as N	mg/l	0.0437	<0.01	<0.01	<0.01	0.105
Filtered (Dissolved) Metals						
Cadmium (diss.filt)	mg/l	<0.0001	<0.001	<0.001	<0.001	<0.001
Calcium (diss.filt)	mg/l	232	195	128	105	114
Chromium (diss.filt)	mg/l	0.032	0.0204	0.0166	0.0454	0.0419
Copper (diss.filt)	mg/l	0.00645	0.0274	<0.0085	0.00936	0.0107
Iron (diss.filt)	mg/l	0.478	1.64	1.01	2.84	3.07
Lead (diss.filt)	mg/l	0.000299	0.00105	<0.0002	0.00855	0.00877
Magnesium (diss.filt)	mg/l	47.2	69.5	72.7	73.3	78.9
Manganese (diss.filt)	mg/l	0.313	0.285	0.84	0.231	0.206
Mercury (diss.filt)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Nickel (diss.filt)	mg/l	0.0603	0.191	0.18	0.313	0.29
Potassium (diss.filt)	mg/l	107	309	277	549	596
Sodium (diss.filt)	mg/l	267	846	774	1330	1440
Zinc (diss.filt)	mg/l	0.0243	<0.0041	<0.0041	<0.0041	<0.0041
Mineral Oil / Oils & Greases						
Mineral oil >C ₁₀ C ₄₀ (aq)	mg/l	<0.01	<0.01	<0.01	0.0493	0.0737
Semi-Volatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
1,2-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
1,3-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
1,4-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2,4,5-Trichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2,4,6-Trichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2,4-Dichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2,4-Dimethylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2,4-Dinitrotoluene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2,6-Dinitrotoluene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2-Chloronaphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2-Chlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2-Methylnaphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005

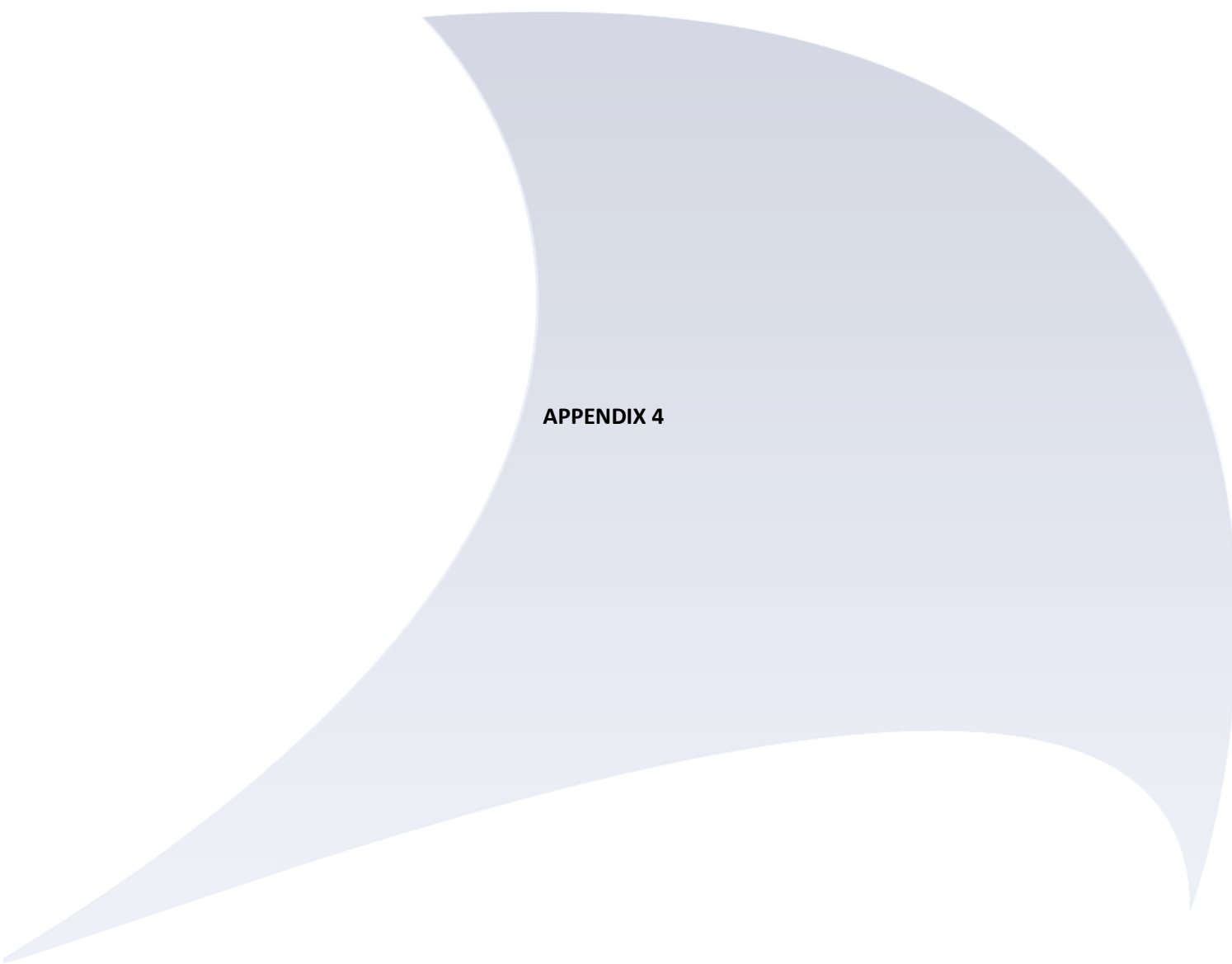
2-Methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
2-Nitrophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
3-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
4-Bromophenylphenylether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
4-Chloro-3-methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
4-Chloroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
4-Chlorophenylphenylether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
4-Methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
4-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
4-Nitrophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Acenaphthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Acenaphthylene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Azobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Benzo(a)anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Benzo(a)pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Benzo(b)fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Benzo(g,h,i)perylene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Benzo(k)fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
bis(2-Chloroethoxy)methane (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
bis(2-Chloroethyl)ether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
bis(2-Ethylhexyl) phthalate (aq)	mg/l	<0.002	<0.002	<0.002	0.0103	<0.01
Butylbenzyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Carbazole (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Chrysene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Dibenzo(a,h)anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Dibenzofuran (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Diethyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Dimethyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Fluorene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Hexachlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Hexachlorobutadiene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Hexachlorocyclopentadiene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Hexachloroethane (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Indeno(1,2,3-cd)pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Isophorone (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Naphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
n-Dibutyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
n-Dioctyl phthalate (aq)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.025
Nitrobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
n-Nitroso-n-dipropylamine (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Pentachlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Phenanthrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Phenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005
Pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.005

Volatile Organic Compounds (VOCs)						
1,1,1,2-Tetrachloroethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/l	<0.001	<0.001	0.00207	0.0021	0.00224
1,3-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
4-Bromofluorobenzene**	%	99.6	98.4	97.3	97.4	97.7
4-Chlorotoluene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
4-iso-Propyltoluene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Benzene	mg/l	<0.001	<0.001	0.00148	0.00148	0.00164
Bromobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Bromoform	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Carbon disulphide	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Carbontetrachloride	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Dibromofluoromethane**	%	107	108	107	118	109
Dibromomethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane	mg/l	<0.003	<0.003	<0.003	<0.003	<0.003
Ethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001

Hexachlorobutadiene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
m,p-Xylene	mg/l	0.00202	<0.001	0.00127	<0.001	<0.001
Methyl tertiary butyl ether (MTBE)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Naphthalene	mg/l	<0.001	<0.001	0.00225	<0.001	<0.001
n-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/l	0.00259	0.00194	0.0074	0.00807	0.00895
Propylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Styrene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
tert-Amyl methyl ether (TAME)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	mg/l	<0.001	<0.001	<0.001	0.00147	0.00185
Toluene-d8**	%	101	101	99.5	99.9	100
trans-1,2-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl chloride	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Combined Pesticides / Herbicides						
Aldrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
alpha-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Atrazine	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Azinphos-ethyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Azinphos-methyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
beta-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Carbophenothion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chlorfenvinphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chlorothalonil	mg/l	<0.00005	<0.00005	<0.00001	<0.00005	<0.00001
Chlorpyrifos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chlorpyrifos methyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
cis-Chlordane	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Diazinon	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Dichlorvos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Dieldrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Dimethoate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan I	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan II	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan sulphate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Endrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Ethion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Etrimphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fenitrothion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fenthion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
gamma-Hexachlorocyclohexane (HCH /	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001

Lindane)						
Heptachlor	mg/l	<0.00001	0.000127	0.000091	0.00008	<0.00001
Heptachlor epoxide	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Hexachlorobenzene	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Isodrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Malathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Methyl parathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Mevinphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
o,p-DDE	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
o,p-DDT	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
o,p-Methoxychlor	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
o,p-TDE (DDD)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
p,p-DDE	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
p,p-DDT	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
p,p-Methoxychlor	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
p,p-TDE (DDD)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Parathion	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Pendimethalin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Permethrin I	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Permethrin II	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Phosalone	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Pirimiphos-methyl	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Propetamphos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Quintozone (PCNB)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Simazine	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Tecnazene	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Telodrin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Trans-chlordane	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Triadimefon	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Triallate	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Triazophos	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Trifluralin	mg/l	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Miscellaneous Organics						
Dibutyl tin	mg/l	<0.000005	<0.00003	<0.00003	<0.00003	<0.000005
Surrogate	%	74.6	87.4	82.6	76.8	75.1
Tetrabutyl tin	mg/l	<0.000002	<0.000012	<0.000012	<0.000012	<0.000002
Tributyl tin	mg/l	<0.000001	<0.000006	<0.000006	<0.000006	<0.000001
Triphenyl tin	mg/l	<0.000001	<0.000006	<0.000006	<0.000006	<0.000001
Subcontracted: Organics						
2,3,6-Trichlorobenzoic acid (2,3,6-TBA)*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
2,4,5-Trichlorophenol (2,4,5-T)*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
2,4-Dichlorophenoxy acetic acid (2,4-D)*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
2-Methyl-4-chlorophenoxyacetic acid (MCPA)*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
4-Chlorophenoxyacetic acid (4-CPA)*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002

Benazolin*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Bentazone*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Bromoxynil*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Dicamba*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Dichlorprop (2,4-DP)*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Diclofop*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Fenoprop*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Flamprop*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Flamprop-isopropyl*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Ioxynil*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Mecoprop (MCP)*	mg/l	-	0.0354	0.0387	0.0831	0.0609
Pentachlorophenol*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Picloram	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002
Triclopyr*	mg/l	-	<0.00002	<0.00002	<0.00002	<0.00002



APPENDIX 4

APPENDIX 4

Table 4.1 – Weekly Surface Water Quality Data Summary

Location		Ammoniacal Nitrogen	Chloride	COD	Conductivity	pH
		mg/l	mg/l	mg/l	mS/cm	pH Units
SW1	Min	0.5	13	240	0.5	7.2
	Max	1.9	112	1030	0.7	8.1
	Average	1.4	56	593	0.6	7.5
	Count	3	3	3	2	3
SW2	Min	0.2	42	15	0.8	7.4
	Max	0.4	103	52	0.8	8.3
	Average	0.3	74	39	0.8	7.8
	Count	3	3	3	2	3
SW4	Min	<0.2	29	14	0.5	7.7
	Max	0.2	85	36	0.7	8.3
	Average	0.2	61	23	0.6	7.9
	Count	3	3	3	2	3
SW5	Min	<0.2	29	30	0.4	7.5
	Max	0.5	58	80	0.4	8.0
	Average	0.3	43	48	0.4	7.7
	Count	3	3	3	2	3

Table 4.2 –Surface Water Quality (Annual Data)

Parameter	Units	SW1	SW2	SW4	SW5
Carbon					
Organic Carbon, Total	mg/l	22.8	6.67	6.65	14
Inorganics					
Alkalinity, Total as CaCO ₃	mg/l	295	210	175	120
Ammoniacal Nitrogen as N	mg/l	1.92	0.247	0.218	<0.2
BOD, unfiltered	mg/l	63	3.04	<1	2.29
Chloride	mg/l	112	103	84.7	57.5
COD, unfiltered	mg/l	1030	52	14	80.2
Cyanide, Free	mg/l	<0.05	<0.05	<0.05	<0.05
Cyanide, Total	mg/l	<0.05	<0.05	<0.05	<0.05
pH	pH Units	7.2	7.42	7.85	7.49
Sulphate	mg/l	97.2	181	155	84.9
Total Oxidised Nitrogen as N	mg/l	0.198	1.66	1.55	0.613
Filtered (Dissolved) Metals					
Cadmium (diss.filt)	mg/l	<0.0001	<0.0001	<0.0001	<0.0001
Calcium (diss.filt)	mg/l	71.6	112	97.3	47.9
Chromium (diss.filt)	mg/l	0.00361	<0.00022	<0.00022	<0.00022
Copper (diss.filt)	mg/l	<0.00085	0.00459	0.00519	0.00589
Iron (diss.filt)	mg/l	0.0497	<0.019	0.0367	0.122
Lead (diss.filt)	mg/l	<0.00002	0.000109	0.000121	0.000296
Magnesium (diss.filt)	mg/l	23.6	17.2	14	14.1
Manganese (diss.filt)	mg/l	0.363	0.0657	0.0135	0.0108
Mercury (diss.filt)	mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Nickel (diss.filt)	mg/l	0.00301	0.00601	0.00591	0.00457
Potassium (diss.filt)	mg/l	7.05	9.2	8.44	7.91
Sodium (diss.filt)	mg/l	64.3	59	49	32.6
Zinc (diss.filt)	mg/l	<0.00041	0.00211	0.00517	0.00107
Mineral Oil / Oils & Greases					
Mineral oil >C ₁₀ C ₄₀ (aq)	mg/l	1.52	<0.01	<0.01	<0.01
Semi-Volatile Organic Compounds (SVOCs)					
1,2,4-Trichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4,5-Trichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4,6-Trichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4-Dichlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4-Dimethylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,4-Dinitrotoluene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2,6-Dinitrotoluene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Chloronaphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Chlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Methylnaphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
2-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001

2-Nitrophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
3-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Bromophenylphenylether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Chloro-3-methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Chloroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Chlorophenylphenylether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Methylphenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Nitroaniline (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
4-Nitrophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Acenaphthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Acenaphthylene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Azobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(a)anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(b)fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(k)fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Chloroethoxy)methane (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Chloroethyl)ether (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Ethylhexyl) phthalate (aq)	mg/l	0.00489	<0.002	<0.002	<0.002
Butylbenzyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Carbazole (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Chrysene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Dibenzofuran (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Diethyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Dimethyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Fluoranthene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Fluorene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobutadiene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorocyclopentadiene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachloroethane (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-cd)pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Isophorone (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Naphthalene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
n-Dibutyl phthalate (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
n-Dioctyl phthalate (aq)	mg/l	<0.005	<0.005	<0.005	<0.005
Nitrobenzene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
n-Nitroso-n-dipropylamine (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Pentachlorophenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Phenanthrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Phenol (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Pyrene (aq)	mg/l	<0.001	<0.001	<0.001	<0.001
Volatile Organic Compounds (VOCs)					
1,1,1,2-Tetrachloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001

1,1,2,2-Tetrachloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane	mg/l	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	mg/l	<0.001	<0.001	<0.001	<0.001
4-Bromofluorobenzene**	%	95.9	96.8	96.8	97.6
4-Chlorotoluene	mg/l	<0.001	<0.001	<0.001	<0.001
4-iso-Propyltoluene	mg/l	<0.001	<0.001	<0.001	<0.001
Benzene	mg/l	<0.001	<0.001	<0.001	<0.001
Bromobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Bromochloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Bromoform	mg/l	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/l	<0.001	<0.001	<0.001	<0.001
Carbon disulphide	mg/l	<0.001	<0.001	<0.001	<0.001
Carbontetrachloride	mg/l	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Chloroethane	mg/l	<0.001	<0.001	<0.001	<0.001
Chloroform	mg/l	<0.001	<0.001	<0.001	<0.001
Chloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dibromofluoromethane**	%	112	114	112	112
Dibromomethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Dichloromethane	mg/l	<0.003	<0.003	<0.003	<0.003
Ethylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobutadiene	mg/l	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
m,p-Xylene	mg/l	<0.001	<0.001	<0.001	<0.001
Methyl tertiary butyl ether (MTBE)	mg/l	<0.001	<0.001	<0.001	<0.001

Naphthalene	mg/l	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
o-Xylene	mg/l	<0.001	<0.001	<0.001	<0.001
Propylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Styrene	mg/l	<0.001	<0.001	<0.001	<0.001
tert-Amyl methyl ether (TAME)	mg/l	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	mg/l	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
Toluene	mg/l	<0.001	<0.001	<0.001	<0.001
Toluene-d8**	%	99.7	100	101	99.9
trans-1,2-Dichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	mg/l	<0.001	<0.001	<0.001	<0.001
Trichloroethene	mg/l	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	mg/l	<0.001	<0.001	<0.001	<0.001
Vinyl chloride	mg/l	<0.001	<0.001	<0.001	<0.001
Combined Pesticides / Herbicides					
Aldrin	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
alpha-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Atrazine	mg/l	<0.01	<0.001	<0.001	<0.001
Azinphos-ethyl	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Azinphos-methyl	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
beta-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Carbophenothion	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Chlorfenvinphos	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Chlorothalonil	mg/l	<0.0001	<0.00005	<0.00001	<0.00001
Chlorpyrifos	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Chlorpyrifos methyl	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
cis-Chlordane	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Diazinon	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Dichlorvos	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Dieldrin	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Dimethoate	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Endosulphan I	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Endosulphan II	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Endosulphan sulphate	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Endrin	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Ethion	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Etrimphos	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Fenitrothion	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Fenthion	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
gamma-Hexachlorocyclohexane (HCH / Lindane)	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Heptachlor	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Heptachlor epoxide	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Hexachlorobenzene	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Isodrin	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Malathion	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Methyl parathion	mg/l	<0.0001	<0.00001	<0.00001	<0.00001

Mevinphos	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
o,p-DDE	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
o,p-DDT	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
o,p-Methoxychlor	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
o,p-TDE (DDD)	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
p,p-DDE	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
p,p-DDT	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
p,p-Methoxychlor	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
p,p-TDE (DDD)	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Parathion	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Pendimethalin	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Permethrin I	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Permethrin II	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Phosalone	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Pirimiphos-methyl	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Propetamphos	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Quintozone (PCNB)	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Simazine	mg/l	<0.01	<0.001	<0.001	<0.001
Tecnazene	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Telodrin	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Trans-chlordane	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Triadimefon	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Triallate	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Triazophos	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Trifluralin	mg/l	<0.0001	<0.00001	<0.00001	<0.00001
Miscellaneous Organics					
Dibutyl tin	mg/l	<0.00003	<0.000005	<0.000005	<0.000005
Surrogate	%	76.8	74.5	81.9	78.1
Tetrabutyl tin	mg/l	<0.000012	<0.000002	<0.000002	<0.000002
Tributyl tin	mg/l	<0.000006	<0.000001	<0.000001	<0.000001
Triphenyl tin	mg/l	<0.000006	<0.000001	<0.000001	<0.000001
Subcontracted: Organics					
2,3,6-Trichlorobenzoic acid (2,3,6-TBA)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
2,4,5-Trichlorophenol (2,4,5-T)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
2,4-Dichlorophenoxy acetic acid (2,4-D)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
2-Methyl-4-chlorophenoxyacetic acid (MCPA)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
4-Chlorophenoxyacetic acid (4-CPA)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Benazolin*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Bentazone*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Bromoxynil*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Dicamba*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Dichlorprop (2,4-DP)*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Diclofop*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Fenoprop*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Flamprop*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Flamprop-isopropyl*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002

loxynil*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Mecoprop (MCP)*	mg/l	0.00003	<0.00002	0.00015	<0.00002
Pentachlorophenol*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Picloram	mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Triclopyr*	mg/l	<0.00002	<0.00002	<0.00002	<0.00002

APPENDIX 5

Standard Landfill Borehole Gas Monitoring

Date 03-10-14
 Weather: Dry
 Wind conditions: Calm
 Air Temperature: 12 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	11:43	0	3.5	20.1	76.4	0	0	999	-0.18	1	5.4
STBH 1.1	11:40	0	2.1	19.8	78.1	0	0	999	-0.02	1	5.4
STBH 2.0	11:47	0	1	20.1	78.9	0	0	999	-0.53	1	7
STBH 2.1	11:35	0	3.1	20.2	76.7	0	0	999	-0.85	1	7.6
STBH 2.2	11:38	0	5.2	19.5	75.3	0	0	999	-0.65	1	5.8
STBH 3.0	11:52	0	4.2	20.1	75.7	0	0	999	-0.26	1	6.7
STBH 3.1	11:33	0	1.6	20	78.4	0	0	999	0.36	1	7.8
STBH 4.0	11:56	0	1.4	19.8	78.8	0	0	999	0.88	10	10.6
STBH 4.1	11:24	0	1.2	19.6	79.2	0	0	999	1.3	1	7.1
STBH 4.2	11:29	0	1.5	19.9	78.6	0	0	999	0.96	1	8.6
STBH 5.0	11:59	0	3.5	20.1	76.4	0	0	999	0.64	15	19.4
STBH 5.1	12:03	0	1.9	19.6	78.5	0	0	999	0.43	1	5.8
STBH 5.2	11:16	0	1	20.2	78.8	0	0	999	0.25	1	9.6
STBH 5.3	11:19	0	1	19.8	79.2	0	0	999	-0.13	1	6
STBH 6.0	12:21	0	1.9	20.1	78	0	0	999	-0.92	1	5.4
STBH 6.1	11:05	0	1.1	19.9	79	0	0	999	-0.28	1	5.4
STBH 6.2	11:09	0	1.5	20.2	78.3	0	0	999	1.22	1	5.4
STBH 6.3	11:13	0	1.2	19.8	79	0	0	999	1.05	1	8.2
STBH 7.0	12:25	0	1.1	19.8	79.1	0	0	999	0.51	1	6.2
STBH 7.1	11:01	0	2.3	20.3	77.4	0	0	999	0.6	1	5.5
STBH 9.0	12:36	0	3	20.1	76.9	0	0	999	0.63	1	10.7
STBH 12	12:39	0	2.5	19.8	77.7	0	0	999	-0.91	10	6.5
STBH 13	12:43	0	1.2	20.1	78.7	0	0	999	-0.2	10	5.2
STBH 15	12:47	0	2.5	20.3	77.2	0	0	999	0.89	1	8.3
STBH 16	12:51	0	2.1	20.1	77.8	0	0	999	-0.81	1	3
STBH 22	12:55	0.9	2.2	19.8	77.1	0	0	999	0.62	1.6	3.1
STMBH 5.4	12:07	0	3.2	20	76.8	0	0	999	-0.7	1	16
STMBH 5.5	12:09	0	4	19.8	76.2	0	0	999	-0.01	1	17.1
STMBH 5.7	12:12	0	3	20.1	76.9	0	0	999	-0.12	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 10-10-14
 Weather: Dry
 Wind conditions: Breezy
 Air Temperature: 13 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	11:35	0	3.9	19.9	76.2	0	0	999	-0.12	1	5.4
STBH 1.1	11:32	0	2.5	19.6	77.9	0	0	999	-0.05	1	5.4
STBH 2.0	11:39	0	1.2	20.3	78.5	0	0	999	-0.55	1	7
STBH 2.1	11:27	0	3.2	20.4	76.4	0	0	999	-0.77	1	7.6
STBH 2.2	11:30	0	4.5	19.8	75.7	0	0	999	-0.58	1	5.8
STBH 3.0	11:44	0	3.9	20.2	75.9	0	0	999	-0.26	1	6.7
STBH 3.1	11:25	0	2	20.3	77.7	0	0	999	0.3	1	7.8
STBH 4.0	11:48	0	1.3	19.6	79.1	0	0	999	0.86	10	10.6
STBH 4.1	11:16	0	1.6	19.5	78.9	0	0	999	1.22	1	7.1
STBH 4.2	11:21	0	1.4	19.8	78.8	0	0	999	1.03	1	8.6
STBH 5.0	11:51	0	3.2	20.3	76.5	0	0	999	0.62	15	19.4
STBH 5.1	11:55	0	1.6	19.8	78.6	0	0	999	0.44	1	5.8
STBH 5.2	11:08	0	1	20.1	78.9	0	0	999	0.27	1	9.6
STBH 5.3	11:11	0	1.2	19.9	78.9	0	0	999	-0.1	1	6
STBH 6.0	12:13	0	1.5	20.3	78.2	0	0	999	-0.94	1	5.4
STBH 6.1	10:57	0	1.2	19.5	79.3	0	0	999	-0.3	1	5.4
STBH 6.2	11:01	0	1.4	20.1	78.5	0	0	999	1.19	1	5.4
STBH 6.3	11:05	0	1	19.9	79.1	0	0	999	1.08	1	8.2
STBH 7.0	12:17	0	1.4	19.7	78.9	0	0	999	0.46	1	6.2
STBH 7.1	10:53	0	2	20.1	77.9	0	0	999	0.58	1	5.5
STBH 9.0	12:28	0	3.6	20	76.4	0	0	999	0.64	1	10.7
STBH 12	12:31	0	2.3	19.6	78.1	0	0	999	-0.9	10	6.5
STBH 13	12:35	0	1.5	20	78.5	0	0	999	-0.19	10	5.2
STBH 15	12:39	0	2.2	20.1	77.7	0	0	999	0.87	1	8.3
STBH 16	12:43	0	2.4	19.9	77.7	0	0	999	-0.78	1	3
STBH 22	12:47	0.8	2.6	19.6	77	0	0	999	0.65	1.6	3.1
STMBH 5.4	11:59	0	3	19.9	77.1	0	0	999	-0.64	1	16
STMBH 5.5	12:01	0	3.9	19.5	76.6	0	0	999	0.01	1	17.1
STMBH 5.7	12:04	0	3.2	20	76.8	0	0	999	-0.14	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 17-10-14
 Weather: Slight rain
 Wind conditions: Breezy
 Air Temperature: 13 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	10:24	0	4	20	76	0	0	1002	0.03	1	5.4
STBH 1.1	10:21	0	2.2	19.8	78	0	0	1002	-0.07	1	5.4
STBH 2.0	10:28	0	1.1	20.1	78.8	0	0	1002	-0.45	1	7
STBH 2.1	10:16	0	3	20.2	76.8	0	0	1002	-0.18	1	7.6
STBH 2.2	10:19	0	4.1	19.9	76	0	0	1002	-0.25	1	5.8
STBH 3.0	10:33	0	3.5	20.3	76.2	0	0	1002	-0.13	1	6.7
STBH 3.1	10:14	0	2.3	20.1	77.6	0	0	1002	0.28	1	7.8
STBH 4.0	10:37	0	1.1	19.9	79	0	0	1002	0.45	10	10.6
STBH 4.1	10:05	0	1.4	19.6	79	0	0	1002	0.65	1	7.1
STBH 4.2	10:10	0	1.2	20	78.8	0	0	1002	-0.97	1	8.6
STBH 5.0	10:40	0	3	20.1	76.9	0	0	1002	0.79	15	19.4
STBH 5.1	10:44	0	1.4	19.8	78.8	0	0	1002	0.24	1	5.8
STBH 5.2	9:57	0	1.1	20	78.9	0	0	1002	0.4	1	9.6
STBH 5.3	10:00	0	1	19.6	79.4	0	0	1002	-0.38	1	6
STBH 6.0	11:02	0	1.6	20	78.4	0	0	1002	-0.14	1	5.4
STBH 6.1	9:46	0	1.5	19.8	78.7	0	0	1002	-0.37	1	5.4
STBH 6.2	9:50	0	1.1	20	78.9	0	0	1002	0.96	1	5.4
STBH 6.3	9:54	0	1.2	19.5	79.3	0	0	1002	0.7	1	8.2
STBH 7.0	11:06	0	1.6	19.9	78.5	0	0	1002	0.25	1	6.2
STBH 7.1	9:42	0	2.5	20.2	77.3	0	0	1002	0.25	1	5.5
STBH 9.0	11:17	0	2.9	20	77.1	0	0	1002	-0.25	1	10.7
STBH 12	11:20	0	2.1	19.9	78	0	0	1002	0.81	10	6.5
STBH 13	11:24	0	1.6	20.1	78.3	0	0	1002	0.06	10	5.2
STBH 15	11:28	0	2.3	19.8	77.9	0	0	1002	0.35	1	8.3
STBH 16	11:32	0	2.8	20.1	77.1	0	0	1002	-0.17	1	3
STBH 22	11:36	1	2.4	19.8	76.8	0	0	1002	0.47	1.6	3.1
STMBH 5.4	10:48	0	3.2	20	76.8	0	0	1002	-0.23	1	16
STMBH 5.5	10:50	0	3.5	19.2	77.3	0	0	1002	-0.05	1	17.1
STMBH 5.7	10:53	0	3.5	20.1	76.4	0	0	1002	-0.94	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 24-10-14
Weather: Slight rain
Wind conditions: Calm
Air Temperature: 13 °C

Instrument: GA2000
Serial No: GA10692
Calibrated To: 18-02-15
Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	11:17	0	4.2	19.9	75.9	0	0	997	0.03	1	5.4
STBH 1.1	11:14	0	2.5	20	77.5	0	0	997	0	1	5.4
STBH 2.0	11:21	0	1.5	19.8	78.7	0	0	997	-0.5	1	7
STBH 2.1	11:09	0	3.2	20	76.8	0	0	997	-0.19	1	7.6
STBH 2.2	11:12	0	3.8	19.6	76.6	0	0	997	-0.28	1	5.8
STBH 3.0	11:26	0	3.1	20.1	76.8	0	0	997	-0.03	1	6.7
STBH 3.1	11:07	0	2.5	19.9	77.6	0	0	997	0.29	1	7.8
STBH 4.0	11:30	0	1.3	19.6	79.1	0	0	997	0.45	10	10.6
STBH 4.1	10:58	0	1.5	19.4	79.1	0	0	997	0.7	1	7.1
STBH 4.2	11:03	0	1.4	19.8	78.8	0	0	997	-0.58	1	8.6
STBH 5.0	11:33	0	2.8	20.3	76.9	0	0	997	0.76	15	19.4
STBH 5.1	11:37	0	1.4	19.6	79	0	0	997	0.22	1	5.8
STBH 5.2	10:50	0	1	19.6	79.4	0	0	997	0.41	1	9.6
STBH 5.3	10:53	0	1.3	19.7	79	0	0	997	-0.21	1	6
STBH 6.0	11:55	0	2	20.1	77.9	0	0	997	-0.13	1	5.4
STBH 6.1	10:39	0	1.2	19.9	78.9	0	0	997	-0.4	1	5.4
STBH 6.2	10:43	0	1.5	19.9	78.6	0	0	997	0.95	1	5.4
STBH 6.3	10:47	0	1.4	19.6	79	0	0	997	0.68	1	8.2
STBH 7.0	11:59	0	1.8	20.3	77.9	0	0	997	0.26	1	6.2
STBH 7.1	10:35	0	1	20.1	78.9	0	0	997	0.14	1	5.5
STBH 9.0	12:10	0	2.5	20	77.5	0	0	997	-0.27	1	10.7
STBH 12	12:13	0	2.3	19.6	78.1	0	0	997	0.8	10	6.5
STBH 13	12:17	0	2	19.8	78.2	0	0	997	0.02	10	5.2
STBH 15	12:21	0	2.9	20.1	77	0	0	997	0.34	1	8.3
STBH 16	12:25	0	1.5	20	78.5	0	0	997	-0.2	1	3
STBH 22	12:29	0.8	2.1	19.6	77.5	0	0	997	0.55	1.6	3.1
STMBH 5.4	11:41	0	3.5	19.8	76.7	0	0	997	-0.18	1	16
STMBH 5.5	11:43	0	3	19.5	77.5	0	0	997	-0.06	1	17.1
STMBH 5.7	11:46	0	3.2	20.2	76.6	0	0	997	0.18	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 31-10-14
 Weather: Slight rain
 Wind conditions: Breezy
 Air Temperature: 13 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	10:28	0	4.1	20.3	75.6	0	0	1002	0.1	1	5.4
STBH 1.1	10:25	0	2.2	20.1	77.7	0	0	1002	-0.07	1	5.4
STBH 2.0	10:32	0	1.4	19.5	79.1	0	0	1002	0.5	1	7
STBH 2.1	10:20	0	3	19.9	77.1	0	0	1002	0.85	1	7.6
STBH 2.2	10:23	0	3.5	19.9	76.6	0	0	1002	0.51	1	5.8
STBH 3.0	10:37	0	2.8	20.1	77.1	0	0	1002	0.58	1	6.7
STBH 3.1	10:18	0	2.2	20.1	77.7	0	0	1002	0.28	1	7.8
STBH 4.0	10:41	0	1.5	19.9	78.6	0	0	1002	1.25	10	10.6
STBH 4.1	10:09	0	1.2	19.8	79	0	0	1002	1.26	1	7.1
STBH 4.2	10:14	0	1.1	19.1	79.8	0	0	1002	1.05	1	8.6
STBH 5.0	10:44	0	2.5	20.1	77.4	0	0	1002	0.64	15	19.4
STBH 5.1	10:48	0	1.4	19.8	78.8	0	0	1002	0.42	1	5.8
STBH 5.2	10:01	0	1.2	20.1	78.7	0	0	1002	0.22	1	9.6
STBH 5.3	10:04	0	2.3	19.6	78.1	0	0	1002	0.94	1	6
STBH 6.0	11:06	0	1.8	20.1	78.1	0	0	1002	-0.88	1	5.4
STBH 6.1	9:50	0	1.2	19.6	79.2	0	0	1002	0.69	1	5.4
STBH 6.2	9:54	0	1.4	20.1	78.5	0	0	1002	1.37	1	5.4
STBH 6.3	9:58	0	1.9	19.8	78.3	0	0	1002	1.04	1	8.2
STBH 7.0	11:10	0	2	20.3	77.7	0	0	1002	0.12	1	6.2
STBH 7.1	9:46	0	1.2	19.8	79	0	0	1002	0.56	1	5.5
STBH 9.0	11:21	0	2.1	19.6	78.3	0	0	1002	0.66	1	10.7
STBH 12	11:24	0	2	19.7	78.3	0	0	1002	0.82	10	6.5
STBH 13	11:28	0	1.8	20.1	78.1	0	0	1002	-0.16	10	5.2
STBH 15	11:32	0	3.5	19.9	76.6	0	0	1002	0.86	1	8.3
STBH 16	11:36	0	1.2	19.6	79.2	0	0	1002	0.59	1	3
STBH 22	11:40	0.6	2.3	20	77.1	0	0	1002	0.51	1.6	3.1
STMBH 5.4	10:52	0	3.2	19.2	77.6	0	0	1002	0.58	1	16
STMBH 5.5	10:54	0	3.6	19.2	77.2	0	0	1002	-0.16	1	17.1
STMBH 5.7	10:57	0	2.8	19.9	77.3	0	0	1002	-0.18	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 07-11-14
 Weather: Slight rain
 Wind conditions: Calm
 Air Temperature: 10 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	9:45	0	3.9	20.1	76	0	0	1003	0	1	5.4
STBH 1.1	9:42	0	2.6	19.6	77.8	0	0	1003	0.02	1	5.4
STBH 2.0	9:49	0	1.5	19.2	79.3	0	0	1003	-0.51	1	7
STBH 2.1	9:37	0	3.2	19.6	77.2	0	0	1003	-0.22	1	7.6
STBH 2.2	9:40	0	3.3	19.7	77	0	0	1003	-0.31	1	5.8
STBH 3.0	9:54	0	2.5	20.2	77.3	0	0	1003	-0.16	1	6.7
STBH 3.1	9:35	0	3	20	77	0	0	1003	0.26	1	7.8
STBH 4.0	9:58	0	1.8	20.2	78	0	0	1003	0.42	10	10.6
STBH 4.1	9:26	0	1.4	19.3	79.3	0	0	1003	0.68	1	7.1
STBH 4.2	9:31	0	1.3	19.4	79.3	0	0	1003	-1	1	8.6
STBH 5.0	10:01	0	2.7	20	77.3	0	0	1003	0.75	15	19.4
STBH 5.1	10:05	0	1	19.5	79.5	0	0	1003	0.21	1	5.8
STBH 5.2	9:18	0	1.8	19.9	78.3	0	0	1003	0.4	1	9.6
STBH 5.3	9:21	0	2.1	19.3	78.6	0	0	1003	-0.44	1	6
STBH 6.0	10:23	0	1.6	20	78.4	0	0	1003	-0.14	1	5.4
STBH 6.1	9:07	0	1.5	19.8	78.7	0	0	1003	-0.37	1	5.4
STBH 6.2	9:11	0	1.9	20.2	77.9	0	0	1003	0.97	1	5.4
STBH 6.3	9:15	0	1.6	19.6	78.8	0	0	1003	0.71	1	8.2
STBH 7.0	10:27	0	2.1	20.1	77.8	0	0	1003	0.32	1	6.2
STBH 7.1	9:03	0	1.4	19.9	78.7	0	0	1003	0.17	1	5.5
STBH 9.0	10:38	0	2	19.5	78.5	0	0	1003	-0.3	1	10.7
STBH 12	10:41	0	2.3	19.9	77.8	0	0	1003	0.79	10	6.5
STBH 13	10:45	0	1.9	20.3	77.8	0	0	1003	0.03	10	5.2
STBH 15	10:49	0	3.3	19.6	77.1	0	0	1003	0.32	1	8.3
STBH 16	10:53	0	1.5	19.9	78.6	0	0	1003	-0.13	1	3
STBH 22	10:57	0.8	2.9	20.1	76.2	0	0	1003	0.5	1.6	3.1
STMBH 5.4	10:09	0	3.6	19.9	76.5	0	0	1003	-0.19	1	16
STMBH 5.5	10:11	0	3.1	19.5	77.4	0	0	1003	-0.06	1	17.1
STMBH 5.7	10:14	0	2.7	20	77.3	0	0	1003	-0.98	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 14-11-14
 Weather: dry/overcast
 Wind conditions: Calm
 Air Temperature: 8 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	9:55	0	4	19.9	76.1	0	0	1000	0.04	1	5.4
STBH 1.1	9:52	0	2.5	19.2	78.3	0	0	1000	-0.02	1	5.4
STBH 2.0	9:59	0	1.9	20.1	78	0	0	1000	-0.47	1	7
STBH 2.1	9:47	0	3.1	20	76.9	0	0	1000	-0.23	1	7.6
STBH 2.2	9:50	0	3	19.5	77.5	0	0	1000	-0.29	1	5.8
STBH 3.0	10:04	0	2.6	20.1	77.3	0	0	1000	-0.12	1	6.7
STBH 3.1	9:45	0	3.2	19.6	77.2	0	0	1000	0.27	1	7.8
STBH 4.0	10:08	0	1.6	19.8	78.6	0	0	1000	0.47	10	10.6
STBH 4.1	9:36	0	1.9	19.7	78.4	0	0	1000	0.68	1	7.1
STBH 4.2	9:41	0	1.4	19.6	79	0	0	1000	-0.93	1	8.6
STBH 5.0	10:11	0	2.5	19.9	77.6	0	0	1000	0.79	15	19.4
STBH 5.1	10:15	0	1.2	19.8	79	0	0	1000	0.24	1	5.8
STBH 5.2	9:28	0	1.5	20	78.5	0	0	1000	0.38	1	9.6
STBH 5.3	9:31	0	2.3	19.5	78.2	0	0	1000	-0.38	1	6
STBH 6.0	10:33	0	1.4	20.2	78.4	0	0	1000	-0.13	1	5.4
STBH 6.1	9:17	0	1.2	19.6	79.2	0	0	1000	-0.38	1	5.4
STBH 6.2	9:21	0	2	20.1	77.9	0	0	1000	0.88	1	5.4
STBH 6.3	9:25	0	1.6	19.9	78.5	0	0	1000	0.7	1	8.2
STBH 7.0	10:37	0	2.3	19.6	78.1	0	0	1000	0.32	1	6.2
STBH 7.1	9:13	0	1.6	20	78.4	0	0	1000	0.22	1	5.5
STBH 9.0	10:48	0	2.1	19.8	78.1	0	0	1000	-0.23	1	10.7
STBH 12	10:51	0	2.6	20	77.4	0	0	1000	0.81	10	6.5
STBH 13	10:55	0	1.5	19.9	78.6	0	0	1000	0.06	10	5.2
STBH 15	10:59	0	3	19.9	77.1	0	0	1000	0.31	1	8.3
STBH 16	11:03	0	1.8	20.2	78	0	0	1000	-0.19	1	3
STBH 22	11:07	0.9	2.7	19.7	76.7	0	0	1000	0.44	1.6	3.1
STMBH 5.4	10:19	0	3.2	19.6	77.2	0	0	1000	-0.24	1	16
STMBH 5.5	10:21	0	3	19.8	77.2	0	0	1000	-0.14	1	17.1
STMBH 5.7	10:24	0	2.6	19.6	77.8	0	0	1000	-0.95	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 21-11-14
 Weather: dry/overcast
 Wind conditions: Breezy
 Air Temperature: 7 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	10:02	0	3.5	20.1	76.4	0	0	1006	0.11	1	5.4
STBH 1.1	9:59	0	2.1	19.8	78.1	0	0	1006	-0.16	1	5.4
STBH 2.0	10:06	0	2.4	19.6	78	0	0	1006	0.55	1	7
STBH 2.1	9:54	0	3	20.3	76.7	0	0	1006	0.84	1	7.6
STBH 2.2	9:57	0	3.3	19.6	77.1	0	0	1006	0.52	1	5.8
STBH 3.0	10:11	0	2.4	19.8	77.8	0	0	1006	0.58	1	6.7
STBH 3.1	9:52	0	3.5	19.5	77	0	0	1006	0.29	1	7.8
STBH 4.0	10:15	0	1.2	19.4	79.4	0	0	1006	1.21	10	10.6
STBH 4.1	9:43	0	1.5	19.1	79.4	0	0	1006	1.28	1	7.1
STBH 4.2	9:48	0	1.6	20	78.4	0	0	1006	1	1	8.6
STBH 5.0	10:18	0	2.1	20.2	77.7	0	0	1006	0.59	15	19.4
STBH 5.1	10:22	0	1	19.6	79.4	0	0	1006	0.47	1	5.8
STBH 5.2	9:35	0	1.2	19.7	79.1	0	0	1006	0.31	1	9.6
STBH 5.3	9:38	0	2	19.2	78.8	0	0	1006	0.91	1	6
STBH 6.0	10:40	0	1.6	19.8	78.6	0	0	1006	-0.98	1	5.4
STBH 6.1	9:24	0	1.4	19.4	79.2	0	0	1006	0.72	1	5.4
STBH 6.2	9:28	0	2.3	19.6	78.1	0	0	1006	1.33	1	5.4
STBH 6.3	9:32	0	1.8	20.1	78.1	0	0	1006	0.99	1	8.2
STBH 7.0	10:44	0	2.1	20.3	77.6	0	0	1006	0.17	1	6.2
STBH 7.1	9:20	0	1.5	19.8	78.7	0	0	1006	0.58	1	5.5
STBH 9.0	10:55	0	2.2	19.4	78.4	0	0	1006	0.7	1	10.7
STBH 12	10:58	0	2.3	19.5	78.2	0	0	1006	0.87	10	6.5
STBH 13	11:02	0	1.8	19.9	78.3	0	0	1006	-0.17	10	5.2
STBH 15	11:06	0	2.4	19.6	78	0	0	1006	0.84	1	8.3
STBH 16	11:10	0	1.4	20.1	78.5	0	0	1006	0.67	1	3
STBH 22	11:14	0.7	2.9	19.6	76.8	0	0	1006	0.58	1.6	3.1
STMBH 5.4	10:26	0	3	19.9	77.1	0	0	1006	0.61	1	16
STMBH 5.5	10:28	0	3.2	20	76.8	0	0	1006	-0.17	1	17.1
STMBH 5.7	10:31	0	2.8	20.1	77.1	0	0	1006	-0.22	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 28-11-14
 Weather: dry/overcast
 Wind conditions: Breezy
 Air Temperature: 9 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	10:37	0	3.2	20	76.8	0	0	1002	0.22	1	5.4
STBH 1.1	10:34	0	2.4	19.6	78	0	0	1002	0.11	1	5.4
STBH 2.0	10:41	0	2.1	19.7	78.2	0	0	1002	-0.46	1	7
STBH 2.1	10:29	0	2.8	19.8	77.4	0	0	1002	-0.24	1	7.6
STBH 2.2	10:32	0	3	20.1	76.9	0	0	1002	-0.26	1	5.8
STBH 3.0	10:46	0	2.1	19.6	78.3	0	0	1002	-0.17	1	6.7
STBH 3.1	10:27	0	3.2	20.1	76.7	0	0	1002	0.21	1	7.8
STBH 4.0	10:50	0	1.5	19.9	78.6	0	0	1002	0.47	10	10.6
STBH 4.1	10:18	0	1.9	19.5	78.6	0	0	1002	0.66	1	7.1
STBH 4.2	10:23	0	2	19.6	78.4	0	0	1002	-0.96	1	8.6
STBH 5.0	10:53	0	2	20	78	0	0	1002	0.75	15	19.4
STBH 5.1	10:57	0	1.4	19.5	79.1	0	0	1002	0.23	1	5.8
STBH 5.2	10:10	0	1.5	20.1	78.4	0	0	1002	0.4	1	9.6
STBH 5.3	10:13	0	1.8	19.5	78.7	0	0	1002	-0.36	1	6
STBH 6.0	11:15	0	1.7	19.6	78.7	0	0	1002	-0.17	1	5.4
STBH 6.1	9:59	0	1.5	19.2	79.3	0	0	1002	-0.4	1	5.4
STBH 6.2	10:03	0	2	19.5	78.5	0	0	1002	0.9	1	5.4
STBH 6.3	10:07	0	1.5	20.1	78.4	0	0	1002	0.75	1	8.2
STBH 7.0	11:19	0	2	20	78	0	0	1002	0.3	1	6.2
STBH 7.1	9:55	0	1.9	20.1	78	0	0	1002	0.16	1	5.5
STBH 9.0	11:30	0	2.3	19.5	78.2	0	0	1002	-0.29	1	10.7
STBH 12	11:33	0	2	19.9	78.1	0	0	1002	0.77	10	6.5
STBH 13	11:37	0	1.5	19.6	78.9	0	0	1002	0.04	10	5.2
STBH 15	11:41	0	2	20.1	77.9	0	0	1002	0.27	1	8.3
STBH 16	11:45	0	1.6	19.9	78.5	0	0	1002	-0.19	1	3
STBH 22	11:49	0.9	2.5	19.5	77.1	0	0	1002	0.48	1.6	3.1
STMBH 5.4	11:01	0	2.8	20.1	77.1	0	0	1002	-0.21	1	16
STMBH 5.5	11:03	0	3	19.8	77.2	0	0	1002	-0.11	1	17.1
STMBH 5.7	11:06	0	2.4	20.1	77.5	0	0	1002	-0.97	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 05-12-14
 Weather: Slight rain
 Wind conditions: Breezy
 Air Temperature: 9 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	9:55	0	3.5	20.2	76.3	0	0	999	0.04	1	5.4
STBH 1.1	9:52	0	2.6	19.8	77.6	0	0	999	-0.02	1	5.4
STBH 2.0	9:59	0	2.3	19.9	77.8	0	0	999	-0.47	1	7
STBH 2.1	9:47	0	2.1	20.1	77.8	0	0	999	-0.23	1	7.6
STBH 2.2	9:50	0	3.2	19.6	77.2	0	0	999	-0.29	1	5.8
STBH 3.0	10:04	0	2.5	19.9	77.6	0	0	999	-0.12	1	6.7
STBH 3.1	9:45	0	3	20.2	76.8	0	0	999	0.27	1	7.8
STBH 4.0	10:08	0	1.8	20.3	77.9	0	0	999	0.47	10	10.6
STBH 4.1	9:36	0	1.6	20.1	78.3	0	0	999	0.68	1	7.1
STBH 4.2	9:41	0	2.1	19.9	78	0	0	999	-0.93	1	8.6
STBH 5.0	10:11	0	1.8	19.6	78.6	0	0	999	0.79	15	19.4
STBH 5.1	10:15	0	1.2	19.9	78.9	0	0	999	0.24	1	5.8
STBH 5.2	9:28	0	1.6	19.8	78.6	0	0	999	0.38	1	9.6
STBH 5.3	9:31	0	1.5	19.6	78.9	0	0	999	-0.38	1	6
STBH 6.0	10:33	0	1.5	20.1	78.4	0	0	999	-0.13	1	5.4
STBH 6.1	9:17	0	1.8	19.9	78.3	0	0	999	-0.38	1	5.4
STBH 6.2	9:21	0	2.1	19.7	78.2	0	0	999	0.88	1	5.4
STBH 6.3	9:25	0	1.2	19.9	78.9	0	0	999	0.7	1	8.2
STBH 7.0	10:37	0	2.3	19.8	77.9	0	0	999	0.32	1	6.2
STBH 7.1	9:13	0	1.7	19.6	78.7	0	0	999	0.22	1	5.5
STBH 9.0	10:48	0	2.1	20.1	77.8	0	0	999	-0.23	1	10.7
STBH 12	10:51	0	1.8	19.4	78.8	0	0	999	0.81	10	6.5
STBH 13	10:55	0	1.2	19.2	79.6	0	0	999	0.06	10	5.2
STBH 15	10:59	0	2.3	19.6	78.1	0	0	999	0.31	1	8.3
STBH 16	11:03	0	1.4	19.7	78.9	0	0	999	-0.19	1	3
STBH 22	11:07	0.7	2.1	19.8	77.4	0	0	999	0.44	1.6	3.1
STMBH 5.4	10:19	0	2.5	20.3	77.2	0	0	999	-0.24	1	16
STMBH 5.5	10:21	0	2.8	19.9	77.3	0	0	999	-0.14	1	17.1
STMBH 5.7	10:24	0	1.9	19.6	78.5	0	0	999	-0.95	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 12-12-14
 Weather: Slight rain
 Wind conditions: calm
 Air Temperature: 6 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	10:02	0	3.3	19.9	76.8	0	0	996	0.09	1	5.4
STBH 1.1	9:59	0	2.8	19.6	77.6	0	0	996	0.02	1	5.4
STBH 2.0	10:06	0	2.5	19.8	77.7	0	0	996	-0.48	1	7
STBH 2.1	9:54	0	2.3	20.2	77.5	0	0	996	-0.18	1	7.6
STBH 2.2	9:57	0	3	19.8	77.2	0	0	996	-0.3	1	5.8
STBH 3.0	10:11	0	2.9	19.6	77.5	0	0	996	-0.2	1	6.7
STBH 3.1	9:52	0	2.7	20.1	77.2	0	0	996	0.22	1	7.8
STBH 4.0	10:15	0	1.5	19.6	78.9	0	0	996	0.5	10	10.6
STBH 4.1	9:43	0	1.9	20.2	77.9	0	0	996	0.66	1	7.1
STBH 4.2	9:48	0	2	19.8	78.2	0	0	996	-0.94	1	8.6
STBH 5.0	10:18	0	1.5	19.5	79	0	0	996	0.75	15	19.4
STBH 5.1	10:22	0	1	20.1	78.9	0	0	996	0.22	1	5.8
STBH 5.2	9:35	0	1.2	19.9	78.9	0	0	996	0.39	1	9.6
STBH 5.3	9:38	0	1.3	19.8	78.9	0	0	996	-0.41	1	6
STBH 6.0	10:40	0	1.4	20	78.6	0	0	996	-0.16	1	5.4
STBH 6.1	9:24	0	1.6	19.4	79	0	0	996	-0.36	1	5.4
STBH 6.2	9:28	0	2	19.6	78.4	0	0	996	0.95	1	5.4
STBH 6.3	9:32	0	1.5	19.5	79	0	0	996	0.72	1	8.2
STBH 7.0	10:44	0	2.1	19.2	78.7	0	0	996	0.33	1	6.2
STBH 7.1	9:20	0	1.5	19.9	78.6	0	0	996	0.18	1	5.5
STBH 9.0	10:55	0	2	20.2	77.8	0	0	996	-0.21	1	10.7
STBH 12	10:58	0	1.5	20	78.5	0	0	996	0.83	10	6.5
STBH 13	11:02	0	1.3	19.5	79.2	0	0	996	0.1	10	5.2
STBH 15	11:06	0	2	20.1	77.9	0	0	996	0.29	1	8.3
STBH 16	11:10	0	1.9	19.9	78.2	0	0	996	-0.17	1	3
STBH 22	11:14	0.9	2	19.8	77.3	0	0	996	0.45	1.6	3.1
STMBH 5.4	10:26	0	2.1	20.2	77.7	0	0	996	-0.2	1	16
STMBH 5.5	10:28	0	2.5	20.1	77.4	0	0	996	-0.11	1	17.1
STMBH 5.7	10:31	0	2	19.9	78.1	0	0	996	-0.94	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 19-12-14
 Weather: Slight rain
 Wind conditions: calm
 Air Temperature: 6 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	9:44	0	3	20.1	76.9	0	0	999	-0.19	1	5.4
STBH 1.1	9:43	0	2.5	19.8	77.7	0	0	999	-0.02	1	5.4
STBH 2.0	9:46	0	2.2	19.9	77.9	0	0	999	-0.51	1	7
STBH 2.1	9:39	0	2	20.1	77.9	0	0	999	-0.86	1	7.6
STBH 2.2	9:42	0	2.8	19.5	77.7	0	0	999	-0.6	1	5.8
STBH 3.0	9:50	0	2.1	19.2	78.7	0	0	999	-0.26	1	6.7
STBH 3.1	9:37	0	3.2	20.3	76.5	0	0	999	0.37	1	7.8
STBH 4.0	9:54	0	1.9	19.8	78.3	0	0	999	0.8	10	10.6
STBH 4.1	9:33	0	1.5	20.1	78.4	0	0	999	1.25	1	7.1
STBH 4.2	9:35	0	1.8	19.9	78.3	0	0	999	1	1	8.6
STBH 5.0	9:57	0	1.7	19.6	78.7	0	0	999	0.66	15	19.4
STBH 5.1	9:59	0	1.2	20	78.8	0	0	999	0.49	1	5.8
STBH 5.2	9:29	0	1.4	19.6	79	0	0	999	0.26	1	9.6
STBH 5.3	9:31	0	1.2	19.8	79	0	0	999	-0.15	1	6
STBH 6.0	10:19	0	1.9	19.9	78.2	0	0	999	-0.95	1	5.4
STBH 6.1	9:23	0	1.2	19.1	79.7	0	0	999	-0.27	1	5.4
STBH 6.2	9:26	0	2.3	19.9	77.8	0	0	999	1.19	1	5.4
STBH 6.3	10:23	0	1.9	20.1	78	0	0	999	1.04	1	8.2
STBH 7.0	10:26	0	2.3	19.8	77.9	0	0	999	0.43	1	6.2
STBH 7.1	9:21	0	1.4	20.2	78.4	0	0	999	0.55	1	5.5
STBH 9.0	10:33	0	2.3	20.1	77.6	0	0	999	0.68	1	10.7
STBH 12	10:36	0	1.4	19.9	78.7	0	0	999	-0.92	10	6.5
STBH 13	10:38	0	1.1	19.6	79.3	0	0	999	-0.16	10	5.2
STBH 15	10:41	0	2.3	19.9	77.8	0	0	999	0.87	1	8.3
STBH 16	10:44	0	1.5	19.5	79	0	0	999	-0.84	1	3
STBH 22	10:48	0.8	2.1	19.6	77.5	0	0	999	0.67	1.6	3.1
STMBH 5.4	10:01	0	1.8	20.3	77.9	0	0	999	-0.65	1	16
STMBH 5.5	10:04	0	2.2	19.7	78.1	0	0	999	-0.02	1	17.1
STMBH 5.7	10:10	0	2.3	19.5	78.2	0	0	999	-0.17	1	7.1

Standard Landfill Borehole Gas Monitoring

Date 26-12-14
 Weather: Slight rain
 Wind conditions: Breezy
 Air Temperature: 5 °C

Instrument: GA2000
 Serial No: GA10692
 Calibrated To: 18-02-15
 Operatives AS

Monitoring Point	Time Hrs	CH4 %	CO2 %	O2 %	Balance %	CO ppm	H2S ppm	Baro mb	Rel Pressure mb	Trigger lev CH4 %	Trigger lev CO2
STBH 1	11:11	0	3.1	20	76.9	0	0	997	0.04	1	5.4
STBH 1.1	11:08	0	2.4	19.5	78.1	0	0	997	-0.01	1	5.4
STBH 2.0	11:15	0	2	19.6	78.4	0	0	997	0.41	1	7
STBH 2.1	11:03	0	1.8	19.9	78.3	0	0	997	0.32	1	7.6
STBH 2.2	11:06	0	2.5	19.6	77.9	0	0	997	1.01	1	5.8
STBH 3.0	11:20	0	2	19.4	78.6	0	0	997	0.26	1	6.7
STBH 3.1	11:01	0	3.1	20.1	76.8	0	0	997	0.01	1	7.8
STBH 4.0	11:24	0	1.5	19.5	79	0	0	997	0.2	10	10.6
STBH 4.1	10:52	0	1.9	20	78.1	0	0	997	0.59	1	7.1
STBH 4.2	10:57	0	1.9	19.6	78.5	0	0	997	0.96	1	8.6
STBH 5.0	11:27	0	2.1	19.2	78.7	0	0	997	1.06	15	19.4
STBH 5.1	11:31	0	1.5	20.1	78.4	0	0	997	1.23	1	5.8
STBH 5.2	10:44	0	1.8	19.8	78.4	0	0	997	1.09	1	9.6
STBH 5.3	10:47	0	1.5	19.9	78.6	0	0	997	0.34	1	6
STBH 6.0	11:49	0	2.1	19.5	78.4	0	0	997	-0.09	1	5.4
STBH 6.1	10:33	0	1.4	19.2	79.4	0	0	997	0.05	1	5.4
STBH 6.2	10:37	0	2.1	19.6	78.3	0	0	997	0.1	1	5.4
STBH 6.3	10:41	0	1.5	19.6	78.9	0	0	997	0.62	1	8.2
STBH 7.0	11:53	0	2.2	20.1	77.7	0	0	997	0.35	1	6.2
STBH 7.1	10:29	0	1.9	19.9	78.2	0	0	997	0.23	1	5.5
STBH 9.0	12:04	0	2.1	20	77.9	0	0	997	0.21	1	10.7
STBH 12	12:07	0	1.9	19.9	78.2	0	0	997	0.86	10	6.5
STBH 13	12:11	0	2	19.4	78.6	0	0	997	0.91	10	5.2
STBH 15	12:15	0	1.2	19.9	78.9	0	0	997	-0.08	1	8.3
STBH 16	12:19	0	1.4	20.2	78.4	0	0	997	0.14	1	3
STBH 22	12:23	0.5	2.3	19.9	77.3	0	0	997	0.32	1.6	3.1
STMBH 5.4	11:35	0	1.5	19.9	78.6	0	0	997	0.87	1	16
STMBH 5.5	11:37	0	2.3	19.8	77.9	0	0	997	-0.19	1	17.1
STMBH 5.7	11:40	0	3	20.1	76.9	0	0	997	0.29	1	7.1

Standard Groundwater Monitoring

Date 14-10-14

Weather: Dry

Wind conditions: calm

Air Temperature: 14 °C

Instrument: Dip-Metre

Operative AS

Monitoring Point	Time Hrs	Dip-Lev Metres	Dip-Base Metres	Water-Lev Metres	
ST GW 1	10:50	25.21	55.77	30.56	
ST GW 2	11:05	9.1	9.1	0	DRY
ST GW 3	12:05	27.59	53.25	25.66	
ST GW 4R	12:40	52	53	1	
ST GW 5	11:30	3.29	10	6.71	
ST GW 6	11:50	24.58	45.46	20.88	
ST GW 7R	11:20	60.28	71	10.72	Not accurate

Standard Groundwater Monitoring

Date 11-11-14
 Weather: slight rain
 Wind conditions: calm
 Air Temperature: 11 °C

Instrument: Dip-Metre

Operative AS

Monitoring Point	Time Hrs	Dip-Lev Metres	Dip-Base Metres	Water-Lev Metres	
ST GW 1	16:00	20.19	55.77	35.58	
ST GW 2	16:05	9.1	9.1	0	DRY
ST GW 3	16:15	23.69	53.25	29.56	
ST GW 4R	16:35	52.33	53	0.67	
ST GW 5	16:25	3.06	10	6.94	
ST GW 6	16:42	21.79	45.46	23.67	
ST GW 7R	16:53	60.21	71	10.79	Not accurate

Standard Groundwater Monitoring

Date 09-12-14
 Weather: slight rain
 Wind conditions: calm
 Air Temperature: 9 °C

Instrument: Dip-Metre

Operative AS

Monitoring Point	Time Hrs	Dip-Lev Metres	Dip-Base Metres	Water-Lev Metres	
ST GW 1	10:28	18.65	55.77	37.12	
ST GW 2	10:43	9.1	9.1	0	DRY
ST GW 3	11:43	19.68	53.25	33.57	
ST GW 4R	12:18	52.69	53	0.31	
ST GW 5	11:08	3.01	10	6.99	
ST GW 6	11:28	18.93	45.46	26.53	
ST GW 7R	10:58	60.01	71	10.99	Not accurate

Standard Leachate Monitoring

Date 06-10-14
 Weather: Dry
 Wind conditions: Breezy
 Air Temperature: 16 °C

Instrument: Dip-Metre

Operative AS

Monitoring Point	Time Hrs	Dip Level (m)	Base Level	Leachate Depth	Pumping Yes/No	Comments
LC2.1	10:15	29.55	31	1.45	YES	Pneumatic pumps
LC3	10:30	3.06	4.84	1.78	YES	Pneumatic pumps
LC4	10:40	17.75	19	1.25	YES	Pneumatic pumps
LC7	11:00	18.71	20.31	1.6	YES	Pneumatic pumps
LS5	11:15	28.61	32	1.35	YES	Electric Pump - Direct To Tanks
LS6	11:30	29.01	33	1.59	YES	Electric Pump - Direct To Tanks
S1	11:45	2.91	4.43	1.52	YES	Pneumatic pumps
S2	12:05	1.62	3.35	1.73	YES	Pneumatic pumps
S3	12:25	3.69	5.09	1.4	YES	Pneumatic pumps

Standard Leachate Monitoring

Date 18-11-14
 Weather: slight rain
 Wind conditions: Breezy
 Air Temperature: 12 °C

Instrument: Dip-Metre

Operative AS

Monitoring Point	Time Hrs	Dip Level (m)	Base Level	Leachate Depth	Pumping Yes/No	Comments
LC2.1	10:18	29.52	31	1.48	YES	Pneumatic pumps
LC3	10:33	3.04	4.84	1.8	YES	Pneumatic pumps
LC4	10:43	17.79	19	1.21	YES	Pneumatic pumps
LC7	11:03	18.79	20.31	1.52	YES	Pneumatic pumps
LS5	11:18	28.52	32	1.39	YES	Electric Pump - Direct To Tanks
LS6	11:33	29.06	33	1.57	YES	Electric Pump - Direct To Tanks
S1	11:48	2.95	4.43	1.48	YES	Pneumatic pumps
S2	12:08	1.71	3.35	1.64	YES	Pneumatic pumps
S3	12:28	3.89	5.09	1.2	YES	Pneumatic pumps

Standard Leachate Monitoring

Date 15-12-14
 Weather: slight rain
 Wind conditions: Breezy
 Air Temperature: 12 °C

Instrument: Dip-Metre

Operative AS

Monitoring Point	Time Hrs	Dip Level (m)	Base Level	Leachate Depth	Pumping Yes/No	Comments
LC2.1	10:00	29.49	31	1.51	YES	Pneumatic pumps
LC3	10:12	3.11	4.84	1.73	YES	Pneumatic pumps
LC4	10:47	17.82	19	1.18	YES	Pneumatic pumps
LC7	10:58	18.82	20.31	1.49	YES	Pneumatic pumps
LS5	11:16	28.59	32	1.36	YES	Electric Pump - Direct To Tanks
LS6	11:26	29.09	33	1.56	YES	Electric Pump - Direct To Tanks
S1	11:47	3	4.43	1.43	YES	Pneumatic pumps
S2	12:01	1.82	3.35	1.53	YES	Pneumatic pumps
S3	12:24	3.92	5.09	1.17	YES	Pneumatic pumps



Flintshire County Council
Waste Management Services
Standard Landfill Site
Spencers Industrial Estate
Buckley
Flintshire
CH7 3LY

Attention: Paul Murphy

CERTIFICATE OF ANALYSIS

Date: 25 November 2014
Customer: H_FLINTCCO_BUC
Sample Delivery Group (SDG): 141117-26
Your Reference:
Location: Standard Monthly
Report No: 293173

We received 1 sample on Monday November 17, 2014 and 1 of these samples were scheduled for analysis which was completed on Tuesday November 25, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

Sonia McWhan

Operations Manager





SDG:	141117-26	Location:	Standard Monthly	Order Number:	
Job:	H_FLINTCCO_BUC-57	Customer:	Flintshire County Council	Report Number:	293173
Client Reference:		Attention:	Paul Murphy	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10395111	GW6-15-11-14			15/11/2014

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

SDG: 141117-26
Job: H_FLINTCCO_BUC-57
Client Reference:

Location: Standard Monthly
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 293173
Superseded Report:

LIQUID**Results Legend**

Test

No Determination
Possible**Lab Sample No(s)**

10396111

**Customer
Sample Reference**

GWM-15-11-14

AGS Reference**Depth (m)****Container**

11plastic (ALE221)

Ammoniacal Nitrogen

All

NDPs: 0
Tests: 1

Anions by ion Chromatography

All

NDPs: 0
Tests: 1

Conductivity (at 20 deg.C)

All

NDPs: 0
Tests: 1

Dissolved Oxygen by Probe

All

NDPs: 0
Tests: 1

pH Value

All

NDPs: 0
Tests: 1

Order Number:
Report Number: 293173
Superseded Report:

Page 4 of 7



SDG:	141117-26	Location:	Standard Monthly	Order Number:	
Job:	H_FLINTCCO_BUC-57	Customer:	Flintshire County Council	Report Number:	293173
Client Reference:		Attention:	Paul Murphy	Superseded Report:	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM226	In-House Method	Determination of Anions in Waters using Ion Chromatography		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



SDG:	141117-26	Location:	Standard Monthly	Order Number:	
Job:	H_FLINTCCO_BUC-57	Customer:	Flintshire County Council	Report Number:	293173
Client Reference:		Attention:	Paul Murphy	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	10395111
Customer Sample Ref.	GW6-15-11-14
AGS Ref.	
Depth	
Type	LIQUID

Ammoniacal Nitrogen	20-Nov-2014
Anions by ion Chromatography	21-Nov-2014
Conductivity (at 20 deg.C)	20-Nov-2014
Dissolved Oxygen by Probe	21-Nov-2014
pH Value	25-Nov-2014



CERTIFICATE OF ANALYSIS

SDG:	141117-26	Location:	Standard Monthly	Order Number:	
Job:	H_FLINTCCO_BUC-57	Customer:	Flintshire County Council	Report Number:	293173
Client Reference:		Attention:	Paul Murphy	Superseded Report:	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.
2. Samples will be run in duplicate upon request, but an additional charge may be incurred.
3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.
4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.
6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.
7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.
8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.
9. NDP -No determination possible due to insufficient/unsuitable sample.
10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.
11. Results relate only to the items tested.
12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.
13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.
14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.
15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).
16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).
17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.
19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.
21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.
22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill /made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
\$	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than :
- Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.



Flintshire County Council
Waste Management Services
Standard Landfill Site
Spencers Industrial Estate
Buckley
Flintshire
CH7 3LY

Attention: Paul Murphy

CERTIFICATE OF ANALYSIS

Date: 27 January 2015
Customer: H_FLINTCCO_BUC
Sample Delivery Group (SDG): 141224-8
Your Reference:
Location: Standard Annual
Report No: 299766

We received 13 samples on Tuesday December 23, 2014 and 13 of these samples were scheduled for analysis which was completed on Tuesday January 27, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

Sonia McWhan

Operations Manager





SDG:	141224-8	Location:	Standard Annual	Order Number:	
Job:	H_FLINTCCO_BUC-10	Customer:	Flintshire County Council	Report Number:	299766
Client Reference:		Attention:	Paul Murphy	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10615731	LC2			23/12/2014
10615732	LC3			23/12/2014
10615733	LC4			23/12/2014
10615734	LC7			23/12/2014
10615726	S1			23/12/2014
10615727	S2			23/12/2014
10615728	S3			23/12/2014
10615729	SSR5			23/12/2014
10615730	SSR6			23/12/2014
10615721	SW1			23/12/2014
10615722	SW2			23/12/2014
10615723	SW4			23/12/2014
10615725	SW5			23/12/2014

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

LIQUID Results Legend X Test N No Determination Possible	Lab Sample No(s)														
	Customer Sample Reference														
	AGS Reference														
	Depth (m)														
	Container														
			10615731	10615732	10615733	10615734	10615726	10615727	10615728						
			LC2	LC3	LC4	LC7	S1	S2	S3						

Order Number:
Report Number: 299766
Superseded Report:

Page 4 of 41



SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

LIQUID Results Legend X Test N No Determination Possible	Lab Sample No(s)		Customer Sample Reference		AGS Reference		Depth (m)		Container	
	10615728		S3						H2SO4 (ALE245)	
	10615729		SSR5						H2SO4 (ALE244)	
	10615730		SSR6						Dissolved Metals Pr	
	10615721		SW1						250ml BOD (ALE21)	
Acid Herbicide Suite 1 (W) *	10615722		SW2						1l Glass bottle (ALE	
	10615723		SW4						H2SO4 (ALE245)	
Alkalinity as CaCO3	10615725		SW5						Dissolved Metals Pr	
									250ml BOD (ALE21)	
Ammoniacal Nitrogen									1l Glass bottle (ALE	
									H2SO4 (ALE244)	
Anions by ion Chromatography									Dissolved Metals Pr	
									250ml BOD (ALE21)	
BOD True Total									1l Glass bottle (ALE	
									H2SO4 (ALE245)	
COD Unfiltered									Dissolved Metals Pr	
									250ml BOD (ALE21)	
Cyanide Comp/Free/Total/Thiocyanate									1l Glass bottle (ALE	
									H2SO4 (ALE244)	
Dissolved Metals by ICP-MS									Dissolved Metals Pr	
									250ml BOD (ALE21)	
Mercury Dissolved									1l Glass bottle (ALE	
									H2SO4 (ALE245)	
Metals by iCap-OES Dissolved (W)									Dissolved Metals Pr	
									250ml BOD (ALE21)	
Mineral Oil C10-40 Aqueous (W)									1l Glass bottle (ALE	
									H2SO4 (ALE244)	
OC, OP Pesticides and Triazine Herb									Dissolved Metals Pr	
									250ml BOD (ALE21)	
Organotins in Aqueous Samples									1l Glass bottle (ALE	
									H2SO4 (ALE245)	
pH Value									Dissolved Metals Pr	
									250ml BOD (ALE21)	
SVOC MS (W) - Aqueous									1l Glass bottle (ALE	
									H2SO4 (ALE244)	



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

LIQUID																			
Results Legend X Test N No Determination Possible	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container														
	10615725	SW5			NaOH (ALE245) H2SO4 (ALE244) Dissolved Metals Pr 250ml BOD (ALE21 1l plastic (ALE221) 1l Glass bottle (ALE														
	10615723	SW4			NaOH (ALE245) H2SO4 (ALE244) Dissolved Metals Pr 250ml BOD (ALE21 1l plastic (ALE221) 1l Glass bottle (ALE														
	10615722	SW2			NaOH (ALE245) H2SO4 (ALE244) Dissolved Metals Pr 250ml BOD (ALE21 1l plastic (ALE221) 1l Glass bottle (ALE														
	10615721	SW1			NaOH (ALE245) H2SO4 (ALE244) Dissolved Metals Pr 250ml BOD (ALE21 1l plastic (ALE221) 1l Glass bottle (ALE														
	10615730	SSR6			NaOH (ALE245) H2SO4 (ALE244) Dissolved Metals Pr 250ml BOD (ALE21 1l plastic (ALE221) 1l Glass bottle (ALE														
	10615729	SSR5			NaOH (ALE245) H2SO4 (ALE244) Dissolved Metals Pr 250ml BOD (ALE21 1l plastic (ALE221) 1l Glass bottle (ALE														
10615728	S3			H2SO4 (ALE244)															
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 13																	
VOC MS (W)	All	NDPs: 0 Tests: 13																	



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

Results Legend			Customer Sample R		LC2	LC3	LC4	LC7	S1	S2
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014
M	mCERTS accredited.									
aq	Aqueous / settled sample.									
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery									
(F)	Trigger breach confirmed									
1-5	@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
2,3,6-Trichlorobenzoic acid (2,3,6-TBA)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
2,4,5-Trichlorophenol (2,4,5-T)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
2,4-Dichlorophenoxy acetic acid (2,4-D)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
4-Chlorophenoxyacetic acid (4-CPA)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Benazolin*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Bentazone*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Bromoxynil*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Dicamba*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Dichlorprop (2,4-DP)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Diclofop*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Fenoprop*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Flamprop*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Flamprop-isopropyl*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Ioxynil*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
2-Methyl-4-chlorophenoxy acetic acid (MCPA)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Mecoprop (MCP)*	<0.00002 mg/l	SUB			0.0273	0.0379	0.0276	0.0261		0.0354
Pentachlorophenol*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Triclopyr*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Picloram	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Alkalinity, Total as CaCO3	<2 mg/l	TM043			8140	5200	4120	4640	1460	3460
BOD, unfiltered	<1 mg/l	TM045			128	131	32.7	79.1	14.8	60.3
Organic Carbon, Total	<3 mg/l	TM090			685	569	258	313	18.9	221
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099			1560	1040	716	740	85.1	403
COD, unfiltered	<7 mg/l	TM107			2250	1750	760	944	66.3	587
Cadmium (diss.filt)	<0.0001 mg/l	TM152			<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001
Chromium (diss.filt)	<0.00022 mg/l	TM152			0.0488	0.0359	0.0154	0.0243	0.032	0.0204
Copper (diss.filt)	<0.00085 mg/l	TM152			<0.0085	0.00914	<0.0085	0.0103	0.00645	0.0274
Lead (diss.filt)	<0.00002 mg/l	TM152			0.00433	0.00302	<0.0002	0.00296	0.000299	0.00105
Manganese (diss.filt)	<0.00004 mg/l	TM152			0.2	0.246	0.232	0.246	0.313	0.285
Nickel (diss.filt)	<0.00015 mg/l	TM152			0.486	0.252	0.142	0.21	0.0603	0.191

Order Number:
Report Number: 299766
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

Results Legend			Customer Sample R		S3	SSR5	SSR6	SW1	SW2	SW4
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
M	mCERTS accredited.				23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014
aq	Aqueous / settled sample.									
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery									
(F)	Trigger breach confirmed				23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014
1-5÷	Sample deviation (see appendix)				141224-8	141224-8	141224-8	141224-8	141224-8	141224-8
					10615728	10615729	10615730	10615721	10615722	10615723
Component	LOD/Units	Method								
2,3,6-Trichlorobenzoic acid (2,3,6-TBA)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
2,4,5-Trichlorophenol (2,4,5-T)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
2,4-Dichlorophenoxy acetic acid (2,4-D)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Chlorophenoxyacetic acid (4-CPA)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Benazolin*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bentazone*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bromoxynil*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Dicamba*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Dichlorprop (2,4-DP)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Diclofop*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fenoprop*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Flamprop*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Flamprop-isopropyl*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Ioxynil*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
2-Methyl-4-chlorophenoxy acetic acid (MCPA)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Mecoprop (MCP)*	<0.00002 mg/l	SUB			0.0387	0.0831	0.0609	0.00003	<0.00002	0.00015
Pentachlorophenol*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Triclopyr*	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Picloram	<0.00002 mg/l	SUB			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Alkalinity, Total as CaCO3	<2 mg/l	TM043			3500	5820	5860	295	210	175
BOD, unfiltered	<1 mg/l	TM045			66	94.2	111	63	3.04	<1
Organic Carbon, Total	<3 mg/l	TM090			286	474	480	22.8	6.67	6.65
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099			748	1050	1040	1.92	0.247	0.218
COD, unfiltered	<7 mg/l	TM107			850	1450	1530	1030	52	14
Cadmium (diss.filt)	<0.0001 mg/l	TM152			<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001
Chromium (diss.filt)	<0.00022 mg/l	TM152			0.0166	0.0454	0.0419	0.00361	<0.00022	<0.00022
Copper (diss.filt)	<0.00085 mg/l	TM152			<0.0085	0.00936	0.0107	<0.00085	0.00459	0.00519
Lead (diss.filt)	<0.00002 mg/l	TM152			<0.0002	0.00855	0.00877	<0.00002	0.000109	0.000121
Manganese (diss.filt)	<0.00004 mg/l	TM152			0.84	0.231	0.206	0.363	0.0657	0.0135
Nickel (diss.filt)	<0.00015 mg/l	TM152			0.18	0.313	0.29	0.00301	0.00601	0.00591

Order Number:
Report Number: 299766
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

Results Legend		Customer Sample R		SW5			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 23/12/2014				
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
1-5	@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
2,3,6-Trichlorobenzoic acid (2,3,6-TBA)*	<0.00002 mg/l	SUB	<0.00002				
2,4,5-Trichlorophenol (2,4,5-T)*	<0.00002 mg/l	SUB	<0.00002				
2,4-Dichlorophenoxy acetic acid (2,4-D)*	<0.00002 mg/l	SUB	<0.00002				
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)*	<0.00002 mg/l	SUB	<0.00002				
4-Chlorophenoxyacetic acid (4-CPA)*	<0.00002 mg/l	SUB	<0.00002				
Benazolin*	<0.00002 mg/l	SUB	<0.00002				
Bentazone*	<0.00002 mg/l	SUB	<0.00002				
Bromoxynil*	<0.00002 mg/l	SUB	<0.00002				
Dicamba*	<0.00002 mg/l	SUB	<0.00002				
Dichlorprop (2,4-DP)*	<0.00002 mg/l	SUB	<0.00002				
Diclofop*	<0.00002 mg/l	SUB	<0.00002				
Fenoprop*	<0.00002 mg/l	SUB	<0.00002				
Flamprop*	<0.00002 mg/l	SUB	<0.00002				
Flamprop-isopropyl*	<0.00002 mg/l	SUB	<0.00002				
Ioxynil*	<0.00002 mg/l	SUB	<0.00002				
2-Methyl-4-chlorophenoxy acetic acid (MCPA)*	<0.00002 mg/l	SUB	<0.00002				
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)*	<0.00002 mg/l	SUB	<0.00002				
Mecoprop (MCP)*	<0.00002 mg/l	SUB	<0.00002				
Pentachlorophenol*	<0.00002 mg/l	SUB	<0.00002				
Triclopyr*	<0.00002 mg/l	SUB	<0.00002				
Picloram	<0.00002 mg/l	SUB	<0.00002				
Alkalinity, Total as CaCO3	<2 mg/l	TM043	120	#			
BOD, unfiltered	<1 mg/l	TM045	2.29	#			
Organic Carbon, Total	<3 mg/l	TM090	14	◆ #			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	<0.2	#			
COD, unfiltered	<7 mg/l	TM107	80.2	#			
Cadmium (diss.filt)	<0.0001 mg/l	TM152	<0.0001	#			
Chromium (diss.filt)	<0.00022 mg/l	TM152	<0.00022	#			
Copper (diss.filt)	<0.00085 mg/l	TM152	0.00589	#			
Lead (diss.filt)	<0.00002 mg/l	TM152	0.000296	#			
Manganese (diss.filt)	<0.00004 mg/l	TM152	0.0108	#			
Nickel (diss.filt)	<0.00015 mg/l	TM152	0.00457	#			

Order Number:
Report Number: 299766
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CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

OC, OP Pesticides and Triazine Herb

Results Legend			Customer Sample R	LC2	LC3	LC4	LC7	S1	S2
#	ISO17025 accredited.								
M	mCERTS accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014
aq	Aqueous / settled sample.								
diss.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
*	Subcontracted test.								
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery								
(F)	Trigger breach confirmed								
1-5&*\$@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Atrazine	<0.001 mg/l	TM231		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Simazine	<0.001 mg/l	TM231		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dichlorvos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Mevinphos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Tecnazene	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Hexachlorobenzene	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Trifluralin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Quintozone (PCNB)	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Diazinon	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Triallate	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Etrimphos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Propetamphos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Heptachlor	<0.00001 mg/l	TM231		0.000307	<0.00001	0.00022	0.000136	<0.00001	0.000127
Chlorpyrifos methyl	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Dimethoate	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Aldrin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chlorothalonil	<0.00001 mg/l	TM231		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Pirimiphos-methyl	<0.00001 mg/l	TM231		<0.00001	0.00018	<0.00001	<0.00001	<0.00001	<0.00001
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chlorpyrifos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Telodrin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Methyl parathion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Isodrin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Malathion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fenthion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fenitrothion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Heptachlor epoxide	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Triadimefon	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Pendimethalin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Parathion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001

Order Number:
Report Number: 299766
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

OC, OP Pesticides and Triazine Herb

Results Legend			Customer Sample R	S3	SSR5	SSR6	SW1	SW2	SW4
#	ISO17025 accredited.								
M	mCERTS accredited.								
aq	Aqueous / settled sample.								
diss.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
*	Subcontracted test.								
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery								
(F)	Trigger breach confirmed								
1-5&\$@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Atrazine	<0.001 mg/l	TM231		<0.001	<0.001	<0.001	<0.01	<0.001	<0.001
Simazine	<0.001 mg/l	TM231		<0.001	<0.001	<0.001	<0.01	<0.001	<0.001
Dichlorvos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Mevinphos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Tecnazene	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Hexachlorobenzene	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Trifluralin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Quintozone (PCNB)	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Diazinon	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Triallate	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Etrimphos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Propetamphos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Heptachlor	<0.00001 mg/l	TM231		0.000091	0.00008	<0.00001	<0.0001	<0.00001	<0.00001
Chlorpyrifos methyl	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Dimethoate	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Aldrin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Chlorothalonil	<0.00001 mg/l	TM231		<0.00001	<0.00005	<0.00001	<0.0001	<0.00005	<0.00001
Pirimiphos-methyl	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Chlorpyrifos	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Telodrin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Methyl parathion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Isodrin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Malathion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Fenthion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Fenitrothion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Heptachlor epoxide	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Triadimefon	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Pendimethalin	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001
Parathion	<0.00001 mg/l	TM231		<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001

Order Number:
Report Number: 299766
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

OC, OP Pesticides and Triazine Herb

Results Legend		Customer Sample R					
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	SW5				
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
1-5&*\$@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
Atrazine	<0.001 mg/l	TM231	<0.001				
Simazine	<0.001 mg/l	TM231	<0.001				
Dichlorvos	<0.00001 mg/l	TM231	<0.00001				
Mevinphos	<0.00001 mg/l	TM231	<0.00001				
Tecnazene	<0.00001 mg/l	TM231	<0.00001				
Hexachlorobenzene	<0.00001 mg/l	TM231	<0.00001				
Trifluralin	<0.00001 mg/l	TM231	<0.00001				
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231	<0.00001				
Quintozone (PCNB)	<0.00001 mg/l	TM231	<0.00001				
Diazinon	<0.00001 mg/l	TM231	<0.00001				
Triallate	<0.00001 mg/l	TM231	<0.00001				
Etrimphos	<0.00001 mg/l	TM231	<0.00001				
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231	<0.00001				
Propetamphos	<0.00001 mg/l	TM231	<0.00001				
Heptachlor	<0.00001 mg/l	TM231	<0.00001				
Chlorpyrifos methyl	<0.00001 mg/l	TM231	<0.00001				
Dimethoate	<0.00001 mg/l	TM231	<0.00001				
Aldrin	<0.00001 mg/l	TM231	<0.00001				
Chlorothalonil	<0.00001 mg/l	TM231	<0.00001				
Pirimiphos-methyl	<0.00001 mg/l	TM231	<0.00001				
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.00001 mg/l	TM231	<0.00001				
Chlorpyrifos	<0.00001 mg/l	TM231	<0.00001				
Telodrin	<0.00001 mg/l	TM231	<0.00001				
Methyl parathion	<0.00001 mg/l	TM231	<0.00001				
Isodrin	<0.00001 mg/l	TM231	<0.00001				
Malathion	<0.00001 mg/l	TM231	<0.00001				
Fenthion	<0.00001 mg/l	TM231	<0.00001				
Fenitrothion	<0.00001 mg/l	TM231	<0.00001				
Heptachlor epoxide	<0.00001 mg/l	TM231	<0.00001				
Triadimefon	<0.00001 mg/l	TM231	<0.00001				
Pendimethalin	<0.00001 mg/l	TM231	<0.00001				
Parathion	<0.00001 mg/l	TM231	<0.00001				

Order Number:
Report Number: 299766
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample R		LC2	LC3	LC4	LC7	S1	S2
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014
M	mCERTS accredited.									
aq	Aqueous / settled sample.									
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery				23/12/2014 141224-8 10615731	23/12/2014 141224-8 10615732	23/12/2014 141224-8 10615733	23/12/2014 141224-8 10615734	23/12/2014 141224-8 10615726	23/12/2014 141224-8 10615727
(F)	Trigger breach confirmed									
1-5	@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176			<0.005	<0.005	<0.001	<0.001	<0.001	<0.001
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2-Chlorophenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2-Methylphenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2-Nitroaniline (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
2-Nitrophenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
3-Nitroaniline (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
4-Bromophenylphenylethe r (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
4-Chloroaniline (aq)	<0.001 mg/l	TM176			<0.005	<0.005	<0.001	<0.001	<0.001	<0.001
4-Chlorophenylphenylethe r (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
4-Methylphenol (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
4-Nitroaniline (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
4-Nitrophenol (aq)	<0.001 mg/l	TM176			<0.005	<0.005	<0.001	<0.001	<0.001	<0.001
Azobenzene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Acenaphthylene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Acenaphthene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Anthracene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
bis(2-Chloroethoxy)metha ne (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176			<0.01 #	<0.01 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample R		LC2	LC3	LC4	LC7	S1	S2
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014
M	mCERTS accredited.									
aq	Aqueous / settled sample.									
dis.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery									
(F)	Trigger breach confirmed				141224-8	141224-8	141224-8	141224-8	141224-8	141224-8
1-5&+5@	Sample deviation (see appendix)				10615731	10615732	10615733	10615734	10615726	10615727
Component	LOD/Units	Method								
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Carbazole (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Chrysene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Dibenzofuran (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Diethyl phthalate (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Dimethyl phthalate (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176			<0.025 #	<0.025 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Fluorene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Hexachlorobenzene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Pentachlorophenol (aq)	<0.001 mg/l	TM176			<0.005	<0.005	<0.001	<0.001	<0.001	<0.001
Phenol (aq)	<0.001 mg/l	TM176			<0.005	<0.005	<0.001	<0.001	<0.001	<0.001
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Hexachloroethane (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Nitrobenzene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Naphthalene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Isophorone (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176			<0.005	<0.005	<0.001	<0.001	<0.001	<0.001
Phenanthrene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #
Pyrene (aq)	<0.001 mg/l	TM176			<0.005 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #	<0.001 #



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample R		S3	SSR5	SSR6	SW1	SW2	SW4
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
M	mCERTS accredited.				23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014
aq	Aqueous / settled sample.									
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.				23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery				141224-8	141224-8	141224-8	141224-8	141224-8	141224-8
(F)	Trigger breach confirmed				10615728	10615729	10615730	10615721	10615722	10615723
1-5	@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176			<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2-Chlorophenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2-Methylphenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2-Nitroaniline (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
2-Nitrophenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
3-Nitroaniline (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
4-Bromophenylphenylethe r (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
4-Chloroaniline (aq)	<0.001 mg/l	TM176			<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
4-Chlorophenylphenylethe r (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
4-Methylphenol (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
4-Nitroaniline (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
4-Nitrophenol (aq)	<0.001 mg/l	TM176			<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
Azobenzene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Acenaphthylene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Acenaphthene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Anthracene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
bis(2-Chloroethoxy)metha ne (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176			<0.002 #	0.0103 #	<0.01 #	0.00489 #	<0.002 #	<0.002 #
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample R		S3	SSR5	SSR6	SW1	SW2	SW4
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014
M	mCERTS accredited.									
aq	Aqueous / settled sample.									
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery									
(F)	Trigger breach confirmed									
1-5&+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Carbazole (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Chrysene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Dibenzofuran (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Diethyl phthalate (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Dimethyl phthalate (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176			<0.005 #	<0.005 #	<0.025 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Fluorene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Hexachlorobenzene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Pentachlorophenol (aq)	<0.001 mg/l	TM176			<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
Phenol (aq)	<0.001 mg/l	TM176			<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Hexachloroethane (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Nitrobenzene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Naphthalene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Isophorone (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176			<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
Phenanthrene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #
Pyrene (aq)	<0.001 mg/l	TM176			<0.001 #	<0.001 #	<0.005 #	<0.001 #	<0.001 #	<0.001 #



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend		Customer Sample R		SW5			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 23/12/2014 23/12/2014 141224-8 10615725				
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
1-5&*\$@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176	<0.001	#			
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.001	#			
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.001	#			
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.001				
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.001	#			
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.001	#			
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176	<0.001	#			
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176	<0.001	#			
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.001	#			
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.001	#			
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176	<0.001	#			
2-Chlorophenol (aq)	<0.001 mg/l	TM176	<0.001	#			
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176	<0.001	#			
2-Methylphenol (aq)	<0.001 mg/l	TM176	<0.001	#			
2-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.001	#			
2-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.001	#			
3-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.001	#			
4-Bromophenylphenylether (aq)	<0.001 mg/l	TM176	<0.001	#			
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176	<0.001	#			
4-Chloroaniline (aq)	<0.001 mg/l	TM176	<0.001				
4-Chlorophenylphenylether (aq)	<0.001 mg/l	TM176	<0.001	#			
4-Methylphenol (aq)	<0.001 mg/l	TM176	<0.001	#			
4-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.001	#			
4-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.001				
Azobenzene (aq)	<0.001 mg/l	TM176	<0.001	#			
Acenaphthylene (aq)	<0.001 mg/l	TM176	<0.001	#			
Acenaphthene (aq)	<0.001 mg/l	TM176	<0.001	#			
Anthracene (aq)	<0.001 mg/l	TM176	<0.001	#			
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176	<0.001	#			
bis(2-Chloroethoxy)methane (aq)	<0.001 mg/l	TM176	<0.001	#			
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176	<0.002	#			
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176	<0.001	#			



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend		Customer Sample R	SW5					
#	ISO17025 accredited.							
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 23/12/2014 23/12/2014 141224-8 10615725					
aq	Aqueous / settled sample.							
dis.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-5&+5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176	<0.001 #					
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176	<0.001 #					
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176	<0.001 #					
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176	<0.001 #					
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176	<0.001 #					
Carbazole (aq)	<0.001 mg/l	TM176	<0.001 #					
Chrysene (aq)	<0.001 mg/l	TM176	<0.001 #					
Dibenzofuran (aq)	<0.001 mg/l	TM176	<0.001 #					
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176	<0.001 #					
Diethyl phthalate (aq)	<0.001 mg/l	TM176	<0.001 #					
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176	<0.001 #					
Dimethyl phthalate (aq)	<0.001 mg/l	TM176	<0.001 #					
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176	<0.005 #					
Fluoranthene (aq)	<0.001 mg/l	TM176	<0.001 #					
Fluorene (aq)	<0.001 mg/l	TM176	<0.001 #					
Hexachlorobenzene (aq)	<0.001 mg/l	TM176	<0.001 #					
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176	<0.001 #					
Pentachlorophenol (aq)	<0.001 mg/l	TM176	<0.001					
Phenol (aq)	<0.001 mg/l	TM176	<0.001					
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176	<0.001 #					
Hexachloroethane (aq)	<0.001 mg/l	TM176	<0.001 #					
Nitrobenzene (aq)	<0.001 mg/l	TM176	<0.001 #					
Naphthalene (aq)	<0.001 mg/l	TM176	<0.001 #					
Isophorone (aq)	<0.001 mg/l	TM176	<0.001 #					
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176	<0.001					
Phenanthrene (aq)	<0.001 mg/l	TM176	<0.001 #					
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176	<0.001 #					
Pyrene (aq)	<0.001 mg/l	TM176	<0.001 #					



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

VOC MS (W)

Results Legend		Customer Sample R	LC2		LC3		LC4		LC7		S1		S2	
#	ISO17025 accredited.		Water(GW/SW)		Water(GW/SW)		Water(GW/SW)		Water(GW/SW)		Water(GW/SW)		Water(GW/SW)	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	23/12/2014		23/12/2014		23/12/2014		23/12/2014		23/12/2014		23/12/2014	
aq	Aqueous / settled sample.		141224-8		141224-8		141224-8		141224-8		141224-8		141224-8	
diss.filt	Dissolved / filtered sample.		10615731		10615732		10615733		10615734		10615726		10615727	
tot.unfilt	Total / unfiltered sample.													
*	Subcontracted test.													
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery													
(F)	Trigger breach confirmed													
1-5&5@	Sample deviation (see appendix)													
Component	LOD/Units	Method												
Dibromofluoromethane**	%	TM208	106	1	106	1	107	1	101	1	107	1	108	1
Toluene-d8**	%	TM208	99.4	1	99	1	99.9	1	100	1	101	1	101	1
4-Bromofluorobenzene**	%	TM208	99.1	1	96.1	1	97	1	98.4	1	99.6	1	98.4	1
Dichlorodifluoromethane	<0.001 mg/l	TM208	<0.001	1	<0.001	1	<0.001	1	<0.001	1	<0.001	1	<0.001	1
Chloromethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Vinyl chloride	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Bromomethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Chloroethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Trichlorofluoromethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
1,1-Dichloroethene	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Carbon disulphide	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Dichloromethane	<0.003 mg/l	TM208	<0.003	1 #	<0.003	1 #	<0.003	1 #	<0.003	1 #	<0.003	1 #	<0.003	1 #
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
trans-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
1,1-Dichloroethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
cis-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
2,2-Dichloropropane	<0.001 mg/l	TM208	<0.001	1	<0.001	1	<0.001	1	<0.001	1	<0.001	1	<0.001	1
Bromochloromethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Chloroform	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
1,1,1-Trichloroethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
1,1-Dichloropropene	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Carbontetrachloride	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
1,2-Dichloroethane	<0.001 mg/l	TM208	<0.001	1	<0.001	1	<0.001	1	<0.001	1	<0.001	1	<0.001	1
Benzene	<0.001 mg/l	TM208	0.00484	1 #	<0.001	1 #	0.00251	1 #	0.00292	1 #	<0.001	1 #	<0.001	1 #
Trichloroethene	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
1,2-Dichloropropane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Dibromomethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Bromodichloromethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
cis-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
Toluene	<0.001 mg/l	TM208	0.0104	1 #	<0.001	1 #	<0.001	1 #	0.00304	1 #	<0.001	1 #	<0.001	1 #
trans-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #
1,1,2-Trichloroethane	<0.001 mg/l	TM208	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #	<0.001	1 #



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

VOC MS (W)

Results Legend			Customer Sample R		LC2	LC3	LC4	LC7	S1	S2
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014
M	mCERTS accredited.									
aq	Aqueous / settled sample.									
dis.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery									
(F)	Trigger breach confirmed									
1-5&+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,3-Dichloropropane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Tetrachloroethene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Dibromochloromethane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,2-Dibromoethane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Chlorobenzene	<0.001 mg/l	TM208			0.0106 1 #	<0.001 1 #	<0.001 1 #	0.00418 1 #	<0.001 1 #	<0.001 1 #
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Ethylbenzene	<0.001 mg/l	TM208			0.0195 1 #	<0.001 1 #	<0.001 1 #	0.00839 1 #	<0.001 1 #	<0.001 1 #
m,p-Xylene	<0.001 mg/l	TM208			0.0361 1 #	<0.001 1 #	<0.001 1 #	0.017 1 #	0.00202 1 #	<0.001 1 #
o-Xylene	<0.001 mg/l	TM208			0.0136 1 #	0.002 1 #	<0.001 1 #	0.00663 1 #	0.00259 1 #	0.00194 1 #
Styrene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Bromoform	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Isopropylbenzene	<0.001 mg/l	TM208			0.00453 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208			<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1
1,2,3-Trichloropropane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Bromobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Propylbenzene	<0.001 mg/l	TM208			0.00155 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
2-Chlorotoluene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208			0.00392 1 #	<0.001 1 #	<0.001 1 #	0.00177 1 #	<0.001 1 #	<0.001 1 #
4-Chlorotoluene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
tert-Butylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208			0.0192 1 #	<0.001 1 #	<0.001 1 #	0.00665 1 #	<0.001 1 #	<0.001 1 #
sec-Butylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
4-iso-Propyltoluene	<0.001 mg/l	TM208			0.00731 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,3-Dichlorobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,4-Dichlorobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
n-Butylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,2-Dichlorobenzene	<0.001 mg/l	TM208			<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208			<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Hexachlorobutadiene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Naphthalene	<0.001 mg/l	TM208			0.0161 1 #	<0.001 1 #	<0.001 1 #	0.00464 1 #	<0.001 1 #	<0.001 1 #

Order Number:
Report Number: 299766
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

VOC MS (W)

Results Legend		Customer Sample R						
#	ISO17025 accredited.		S3	SSR5	SSR6	SW1	SW2	SW4
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
aq	Aqueous / settled sample.		23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014
(F)	Trigger breach confirmed		141224-8	141224-8	141224-8	141224-8	141224-8	141224-8
1-5&5@	Sample deviation (see appendix)		10615728	10615729	10615730	10615721	10615722	10615723
Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	107	118	109	112	114	112
			1	1	1	1	1	1
Toluene-d8**	%	TM208	99.5	99.9	100	99.7	100	101
			1	1	1	1	1	1
4-Bromofluorobenzene**	%	TM208	97.3	97.4	97.7	95.9	96.8	96.8
			1	1	1	1	1	1
Dichlorodifluoromethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1	1	1	1	1	1
Chloromethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Vinyl chloride	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Bromomethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Chloroethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Trichlorofluoromethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
1,1-Dichloroethene	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Carbon disulphide	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Dichloromethane	<0.003 mg/l	TM208	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
			1 #	1 #	1 #	1 #	1 #	1 #
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
trans-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
1,1-Dichloroethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
cis-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
2,2-Dichloropropane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1	1	1	1	1	1
Bromochloromethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Chloroform	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
1,1,1-Trichloroethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
1,1-Dichloropropene	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Carbontetrachloride	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
1,2-Dichloroethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1	1	1	1	1	1
Benzene	<0.001 mg/l	TM208	0.00148	0.00148	0.00164	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Trichloroethene	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
1,2-Dichloropropane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Dibromomethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Bromodichloromethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
cis-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
Toluene	<0.001 mg/l	TM208	<0.001	0.00147	0.00185	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
trans-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #
1,1,2-Trichloroethane	<0.001 mg/l	TM208	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
			1 #	1 #	1 #	1 #	1 #	1 #



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

VOC MS (W)

Results Legend			Customer Sample R		S3	SSR5	SSR6	SW1	SW2	SW4
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014	Water(GW/SW) 23/12/2014
M	mCERTS accredited.									
aq	Aqueous / settled sample.									
dis.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.				23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery				141224-8	141224-8	141224-8	141224-8	141224-8	141224-8
(F)	Trigger breach confirmed				10615728	10615729	10615730	10615721	10615722	10615723
1-5&5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,3-Dichloropropane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Tetrachloroethene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Dibromochloromethane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,2-Dibromoethane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Chlorobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Ethylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
m,p-Xylene	<0.001 mg/l	TM208			0.00127 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
o-Xylene	<0.001 mg/l	TM208			0.0074 1 #	0.00807 1 #	0.00895 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Styrene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Bromoform	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Isopropylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208			<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1
1,2,3-Trichloropropane	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Bromobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Propylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
2-Chlorotoluene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208			0.00207 1 #	0.0021 1 #	0.00224 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
4-Chlorotoluene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
tert-Butylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
sec-Butylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
4-iso-Propyltoluene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,3-Dichlorobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,4-Dichlorobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
n-Butylbenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
1,2-Dichlorobenzene	<0.001 mg/l	TM208			<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208			<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1	<0.001 1
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Hexachlorobutadiene	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208			<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #
Naphthalene	<0.001 mg/l	TM208			0.00225 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #	<0.001 1 #

Order Number:
Report Number: 299766
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

VOC MS (W)

Results Legend		Customer Sample R					
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	SW5 Water(GW/SW) 23/12/2014 23/12/2014 141224-8 10615725				
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
1-5&\$@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	112	1			
Toluene-d8**	%	TM208	99.9	1			
4-Bromofluorobenzene**	%	TM208	97.6	1			
Dichlorodifluoromethane	<0.001 mg/l	TM208	<0.001	1			
Chloromethane	<0.001 mg/l	TM208	<0.001	1 #			
Vinyl chloride	<0.001 mg/l	TM208	<0.001	1 #			
Bromomethane	<0.001 mg/l	TM208	<0.001	1 #			
Chloroethane	<0.001 mg/l	TM208	<0.001	1 #			
Trichlorofluoromethane	<0.001 mg/l	TM208	<0.001	1 #			
1,1-Dichloroethene	<0.001 mg/l	TM208	<0.001	1 #			
Carbon disulphide	<0.001 mg/l	TM208	<0.001	1 #			
Dichloromethane	<0.003 mg/l	TM208	<0.003	1 #			
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208	<0.001	1 #			
trans-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001	1 #			
1,1-Dichloroethane	<0.001 mg/l	TM208	<0.001	1 #			
cis-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001	1 #			
2,2-Dichloropropane	<0.001 mg/l	TM208	<0.001	1			
Bromochloromethane	<0.001 mg/l	TM208	<0.001	1 #			
Chloroform	<0.001 mg/l	TM208	<0.001	1 #			
1,1,1-Trichloroethane	<0.001 mg/l	TM208	<0.001	1 #			
1,1-Dichloropropene	<0.001 mg/l	TM208	<0.001	1 #			
Carbontetrachloride	<0.001 mg/l	TM208	<0.001	1 #			
1,2-Dichloroethane	<0.001 mg/l	TM208	<0.001	1			
Benzene	<0.001 mg/l	TM208	<0.001	1 #			
Trichloroethene	<0.001 mg/l	TM208	<0.001	1 #			
1,2-Dichloropropane	<0.001 mg/l	TM208	<0.001	1 #			
Dibromomethane	<0.001 mg/l	TM208	<0.001	1 #			
Bromodichloromethane	<0.001 mg/l	TM208	<0.001	1 #			
cis-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001	1 #			
Toluene	<0.001 mg/l	TM208	<0.001	1 #			
trans-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001	1 #			
1,1,2-Trichloroethane	<0.001 mg/l	TM208	<0.001	1 #			



SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

VOC MS (W)

Results Legend		Customer Sample R	SW5				
#	ISO17025 accredited.						
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 23/12/2014 23/12/2014 141224-8 10615725				
aq	Aqueous / settled sample.						
dis.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
1-5&+5@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
1,3-Dichloropropane	<0.001 mg/l	TM208	<0.001	1 #			
Tetrachloroethene	<0.001 mg/l	TM208	<0.001	1 #			
Dibromochloromethane	<0.001 mg/l	TM208	<0.001	1 #			
1,2-Dibromoethane	<0.001 mg/l	TM208	<0.001	1 #			
Chlorobenzene	<0.001 mg/l	TM208	<0.001	1 #			
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001	1 #			
Ethylbenzene	<0.001 mg/l	TM208	<0.001	1 #			
m,p-Xylene	<0.001 mg/l	TM208	<0.001	1 #			
o-Xylene	<0.001 mg/l	TM208	<0.001	1 #			
Styrene	<0.001 mg/l	TM208	<0.001	1 #			
Bromoform	<0.001 mg/l	TM208	<0.001	1 #			
Isopropylbenzene	<0.001 mg/l	TM208	<0.001	1 #			
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001	1			
1,2,3-Trichloropropane	<0.001 mg/l	TM208	<0.001	1 #			
Bromobenzene	<0.001 mg/l	TM208	<0.001	1 #			
Propylbenzene	<0.001 mg/l	TM208	<0.001	1 #			
2-Chlorotoluene	<0.001 mg/l	TM208	<0.001	1 #			
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208	<0.001	1 #			
4-Chlorotoluene	<0.001 mg/l	TM208	<0.001	1 #			
tert-Butylbenzene	<0.001 mg/l	TM208	<0.001	1 #			
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208	<0.001	1 #			
sec-Butylbenzene	<0.001 mg/l	TM208	<0.001	1 #			
4-iso-Propyltoluene	<0.001 mg/l	TM208	<0.001	1 #			
1,3-Dichlorobenzene	<0.001 mg/l	TM208	<0.001	1 #			
1,4-Dichlorobenzene	<0.001 mg/l	TM208	<0.001	1 #			
n-Butylbenzene	<0.001 mg/l	TM208	<0.001	1 #			
1,2-Dichlorobenzene	<0.001 mg/l	TM208	<0.001	1			
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208	<0.001	1			
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208	<0.001	1 #			
Hexachlorobutadiene	<0.001 mg/l	TM208	<0.001	1 #			
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208	<0.001	1 #			
Naphthalene	<0.001 mg/l	TM208	<0.001	1 #			

Order Number:
Report Number: 299766
Superseded Report:

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CERTIFICATE OF ANALYSIS

Validated

SDG:	141224-8	Location:	Standard Annual	Order Number:	
Job:	H_FLINTCCO_BUC-10	Customer:	Flintshire County Council	Report Number:	299766
Client Reference:		Attention:	Paul Murphy	Superseded Report:	

Notification of NDPs (No determination possible)

Date Received : 24/12/2014 08:32:44

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
10615726	S1		Acid Herbicide Suite 1 (W) *	Insufficient Sample



CERTIFICATE OF ANALYSIS

SDG: 141224-8
Job: H_FLINTCCO_BUC-10
Client Reference:

Location: Standard Annual
Customer: Flintshire County Council
Attention: Paul Murphy

Order Number:
Report Number: 299766
Superseded Report:

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
SUB		Subcontracted Test		
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM186	Determination of Acidic Herbicides in Groundwater and Potable Water by LC/MSD Using Selective Ion Monitoring. Agilent Technologies Inc. Application Note 5988-5882EN.	The Determination of Acid Herbicides in Environmental Water Samples and Leachates by LC/MS QQQ.		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM226	In-House Method	Determination of Anions in Waters using Ion Chromatography		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM231	Agilent 6890 Gas Chromatograph system using an Agilent 5973 Mass Selective Detector (MSD)	Determination of Organochlorine and Organophosphorus Pesticides and Triazine Herbicides by GCMS		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM328				

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



CERTIFICATE OF ANALYSIS

Validated

SDG:	141224-8	Location:	Standard Annual	Order Number:	
Job:	H_FLINTCCO_BUC-10	Customer:	Flintshire County Council	Report Number:	299766
Client Reference:		Attention:	Paul Murphy	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	10615731	10615732	10615733	10615734	10615726	10615727	10615728	10615729	10615730	10615721
Customer Sample Ref.	LC2	LC3	LC4	LC7	S1	S2	S3	SSR5	SSR6	SW1
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Acid Herbicide Suite 1 (W) *	27-Jan-2015	27-Jan-2015	27-Jan-2015	27-Jan-2015		27-Jan-2015	27-Jan-2015	27-Jan-2015	27-Jan-2015	27-Jan-2015
Alkalinity as CaCO3	09-Jan-2015	09-Jan-2015	09-Jan-2015	09-Jan-2015	09-Jan-2015	09-Jan-2015	09-Jan-2015	09-Jan-2015	09-Jan-2015	09-Jan-2015
Ammoniacal Nitrogen	07-Jan-2015	07-Jan-2015	09-Jan-2015	07-Jan-2015	09-Jan-2015	09-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	09-Jan-2015
Anions by ion Chromatography	13-Jan-2015	13-Jan-2015	13-Jan-2015	05-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015
BOD True Total	29-Dec-2014	29-Dec-2014	29-Dec-2014	29-Dec-2014	29-Dec-2014	29-Dec-2014	29-Dec-2014	29-Dec-2014	29-Dec-2014	29-Dec-2014
COD Unfiltered	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	06-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015
Cyanide Comp/Free/Total/Thiocyanate	31-Dec-2014	31-Dec-2014	31-Dec-2014	31-Dec-2014	31-Dec-2014	31-Dec-2014	31-Dec-2014	31-Dec-2014	31-Dec-2014	31-Dec-2014
Dissolved Metals by ICP-MS	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	09-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	09-Jan-2015
Mercury Dissolved	13-Jan-2015	09-Jan-2015	09-Jan-2015	13-Jan-2015	06-Jan-2015	06-Jan-2015	09-Jan-2015	09-Jan-2015	13-Jan-2015	13-Jan-2015
Metals by iCap-OES Dissolved (W)	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015
Mineral Oil C10-40 Aqueous (W)	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015	05-Jan-2015
OC, OP Pesticides and Triazine Herb	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015	12-Jan-2015
Organotins in Aqueous Samples	14-Jan-2015	14-Jan-2015	14-Jan-2015	14-Jan-2015	14-Jan-2015	14-Jan-2015	14-Jan-2015	14-Jan-2015	14-Jan-2015	14-Jan-2015
pH Value	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015
SVOC MS (W) - Aqueous	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015	13-Jan-2015
Total Organic and Inorganic Carbon	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015
VOC MS (W)	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015	07-Jan-2015

Lab Sample No(s)	10615722	10615723	10615725
Customer Sample Ref.	SW2	SW4	SW5
AGS Ref.			
Depth			
Type	LIQUID	LIQUID	LIQUID
Acid Herbicide Suite 1 (W) *	27-Jan-2015	27-Jan-2015	27-Jan-2015
Alkalinity as CaCO3	09-Jan-2015	09-Jan-2015	09-Jan-2015
Ammoniacal Nitrogen	09-Jan-2015	09-Jan-2015	09-Jan-2015
Anions by ion Chromatography	13-Jan-2015	13-Jan-2015	13-Jan-2015
BOD True Total	29-Dec-2014	29-Dec-2014	29-Dec-2014
COD Unfiltered	07-Jan-2015	07-Jan-2015	07-Jan-2015
Cyanide Comp/Free/Total/Thiocyanate	31-Dec-2014	31-Dec-2014	31-Dec-2014
Dissolved Metals by ICP-MS	12-Jan-2015	12-Jan-2015	12-Jan-2015
Mercury Dissolved	13-Jan-2015	09-Jan-2015	09-Jan-2015
Metals by iCap-OES Dissolved (W)	05-Jan-2015	05-Jan-2015	05-Jan-2015
Mineral Oil C10-40 Aqueous (W)	05-Jan-2015	05-Jan-2015	05-Jan-2015
OC, OP Pesticides and Triazine Herb	12-Jan-2015	13-Jan-2015	12-Jan-2015
Organotins in Aqueous Samples	14-Jan-2015	14-Jan-2015	14-Jan-2015
pH Value	08-Jan-2015	08-Jan-2015	08-Jan-2015
SVOC MS (W) - Aqueous	13-Jan-2015	13-Jan-2015	13-Jan-2015
Total Organic and Inorganic Carbon	06-Jan-2015	06-Jan-2015	06-Jan-2015
VOC MS (W)	07-Jan-2015	07-Jan-2015	07-Jan-2015

Certificate of Analysis

Report No.: 15-41499-2

Issue No.: 2

Date of Issue 27/01/2015

Customer Details: ALcontrol Hawarden, Unit7-8, Hawarden Business Park, Manor Road (off Manor Lane), Hawarden, Deeside, Flintshire, CH5 3US

Customer Contact: Alcontrol Chester (Schedulers)

Customer Order No.: 199552

Customer Reference: 141224-8

Quotation Reference: 140718/04

Description: 13 water samples

Date Received: 12/01/2015

Date Started: 14/01/2015

Date Completed: 26/01/2015

Test Methods: Details available on request (refer to SOP code against relevant result/s)

Notes: This report replaces issue 1 in its entirety



Approved By: Scott Idiens, Laboratory Manager

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service.

Observations and interpretations are outside of the scope of UKAS accreditation.

Results reported herein relate only to the items supplied to the laboratory for testing.

Results Summary

Report No.: 15-41499-2

Customer Reference: 141224-8

Customer Order No: 199552

Customer Sample No						10621485	10621902	10648703	10621105	10621302	10621394	10621687	10621688	10621479	10621565	10621559	10621475	10621466
Customer Sample ID						LC2	LC3	LC4	LC7	S1	S2	S3	SSR5	SSR6	SW1	SW2	SW4	SW5
RPS Sample No						261460	261461	261462	261463	261464	261465	261466	261467	261468	261469	261470	261471	261472
Sample Type						WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date						23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014	23/12/2014
Determinand	CAS No	Codes	SOP	Units	RL													
2,3,6-TBA	50-31-7		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
2,4,5-TP (fenoprop, silvex)	93-72-1		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	93-76-5		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
2,4-DB	94-82-6		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
dichloroprop (2,4-DP)	120-36-5		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
2,4-D (2,4-dichlorophenoxyacetic acid)	94-75-7		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
4-chlorophenoxyacetic acid (4-CPA)	122-88-3		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
benazolin	3813-05-6		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
bentazone	25057-89-0		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
bromoxynil	1689-84-5		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
clopyralid	1702-17-6		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
dicamba	1918-00-9		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
diclofop	40843-25-2		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
flamprop	58667-63-3		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
flamprop-isopropyl	52756-22-6		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
fluroxypyr	69377-81-7		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
ioxynil	1689-83-4		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
MCPA (4-chloro-o-tolyloxyacetic acid)	94-74-6		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
MCPB	94-81-5		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
mecoprop (MCP)	93-65-2		303	ug/l	0.02	27.3	37.9	27.6	26.1	I/S	35.4	38.7	83.1	60.9	0.03	< 0.02	0.15	< 0.02
pentachlorophenol (PCP)	87-86-5		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
picloram	1918-02-1		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
triclopyr	55335-06-3		303	ug/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	I/S	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02



2 Shaftesbury Industrial Centre, Icknield Way, Letchworth Garden City, Hertfordshire, SG6 1HE
T +44 (0)1462 480 400, F +44 (0)1462 480 403, E rpsmh@rpsgroup.com, W rpsgroup.com

Report No.: 15-41499-2
Customer Reference: 141224-8
Customer Order No: 199552

Comments

RPS Sample Number	Customer Number	Sample Comments
261464	10621302	Please Note: - The original analysis for this job was rejected due to a Quality failure and there was no sample left to carry out a repeat. Due to this, the sample has been reported as I/S.

Report Information

Key to Report Codes

U	UKAS Accredited
M	MCERTS Accredited
S	Subcontracted to approved laboratory
US	Subcontracted to approved laboratory UKAS Accredited for the test
MS	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SI	Subcontracted to internal RPS Group laboratory
USI	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
MSI	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
DW (in units)	Results are expressed on a dry weight basis

Sample Retention and Disposal

Samples will generally* be retained for the following times prior to disposal:

Perishables, e.g. foodstuffs	1 month (if frozen) from the issue date of this report
Waters	1 month from the issue date of this report
Other Liquids	2 months from the issue date of this report
Solids (including Soils)	2 months from the issue date of this report

*Sample retention may be subject to agreement with the customer for particular projects



SDG:	141224-8	Location:	Standard Annual	Order Number:	
Job:	H_FLINTCCO_BUC-10	Customer:	Flintshire County Council	Report Number:	299766
Client Reference:		Attention:	Paul Murphy	Superseded Report:	

Appendix General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.
2. Samples will be run in duplicate upon request, but an additional charge may be incurred.
3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.
4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.
6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.
7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.
8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.
9. NDP -No determination possible due to insufficient/unsuitable sample.
10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.
11. Results relate only to the items tested.
12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.
13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.
14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.
15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).
16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).
17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.
19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.
21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.
22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill /made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
\$	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than :
- Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

	10615290	10615291	10615292	10615293
Order details				
SDG ID.	141224-2	141224-2	141224-2	141224-2
Status	In Progress	In Progress	In Progress	In Progress
Project Site	Standard Annual	Standard Annual	Standard Annual	Standard Annual
Project				
Contact	Paul Murphy	Paul Murphy	Paul Murphy	Paul Murphy
Sampling details				
Sample Description	GW1	GW3	GW5	GW6
Status	Complete	Complete	Authorised	Authorised
Sample Depth	-	-	-	-
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID
AGS Sample Type				
AGS Sample Reference				
Date Sampled	23/12/2014	23/12/2014	23/12/2014	23/12/2014
Received On	24/12/2014	24/12/2014	24/12/2014	24/12/2014
Date Complete			27/01/2015	27/01/2015
Laboratory data				
Carbon				
Organic Carbon, Total mg/l	24.5	<3	48.7	60.7
Inorganics				
Alkalinity, Total as CaCO3 mg/l	50.6	238	386	108
Ammoniacal Nitrogen as N mg/l	<0.2	1.76	4.98	82.9
Chloride mg/l	49.1	28.6	14.8	567
COD, unfiltered mg/l	19.9	14.4	218	316
Conductivity @ 20 deg.C mS/cm	0.596	0.743	0.663	3.23
Cyanide, Free mg/l	<0.05	<0.05	<0.05	<0.05
Cyanide, Total mg/l	<0.05	<0.05	<0.05	<0.05
Oxygen, dissolved mg/l	5.31	5.29	0.37	4.55
pH pH Units	6.39	7.52	6.7	5.86
Sulphate mg/l	224	166	40.1	374
Total Oxidised Nitrogen as N mg/l	0.62	0.0469	0.0124	>106
Filtered (Dissolved) Metals				
Cadmium (diss.filt) mg/l	<0.0001	<0.0001	<0.0001	0.00466
Calcium (diss.filt) mg/l	53.5	88.6	86.7	72.4
Chromium (diss.filt) mg/l	0.0012	<0.00022	<0.00022	<0.00022
Copper (diss.filt) mg/l	<0.00085	0.00267	0.00108	0.0123
Iron (diss.filt) mg/l	<0.019	<0.019	28.9	0.0778
Lead (diss.filt) mg/l	<0.00002	0.000059	<0.00002	0.00121
Magnesium (diss.filt) mg/l	25.9	32.2	13.3	42.2
Manganese (diss.filt) mg/l	0.682	0.154	4.41	9.27
Mercury (diss.filt) mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Nickel (diss.filt) mg/l	0.00175	0.00174	0.00556	0.135
Potassium (diss.filt) mg/l	9.85	16	8.54	60.4
Sodium (diss.filt) mg/l	27.4	23.5	18.4	381
Zinc (diss.filt) mg/l	0.00856	0.00445	0.000881	0.137
Mineral Oil / Oils & Greases				
Mineral oil >C10 C40 (aq) mg/l	<0.01	<0.01	<0.01	-
TPH Criteria Working Group (TPH CWG)				
Sum of detected Xylenes mg/l	<0.011	<0.011	<0.011	<0.011

Toluene mg/l	<0.004	<0.004	<0.004	<0.004
Semi-Volatile Organic Compounds (SVOCs)				
1,2,4-Trichlorobenzene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2,4,5-Trichlorophenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2,4,6-Trichlorophenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2,4-Dichlorophenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2,4-Dimethylphenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2,4-Dinitrotoluene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2,6-Dinitrotoluene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2-Chloronaphthalene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2-Chlorophenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2-Methylnaphthalene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2-Methylphenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2-Nitroaniline (aq) mg/l	<0.001	<0.001	<0.001	<0.001
2-Nitrophenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
3-Nitroaniline (aq) mg/l	<0.001	<0.001	<0.001	<0.001
4-Bromophenylphenylether (aq) mg/l	<0.001	<0.001	<0.001	<0.001
4-Chloro-3-methylphenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
4-Chloroaniline (aq) mg/l	<0.001	<0.001	<0.001	<0.001
4-Chlorophenylphenylether (aq) mg/l	<0.001	<0.001	<0.001	<0.001
4-Methylphenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
4-Nitroaniline (aq) mg/l	<0.001	<0.001	<0.001	<0.001
4-Nitrophenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Acenaphthene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Acenaphthylene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Anthracene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Azobenzene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(a)anthracene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(b)fluoranthene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Benzo(k)fluoranthene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Chloroethoxy)methane (aq) mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Chloroethyl)ether (aq) mg/l	<0.001	<0.001	<0.001	<0.001
bis(2-Ethylhexyl) phthalate (aq) mg/l	<0.002	<0.002	<0.002	<0.002
Butylbenzyl phthalate (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Carbazole (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Chrysene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Dibenzofuran (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Diethyl phthalate (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Dimethyl phthalate (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Fluoranthene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Fluorene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobenzene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobutadiene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorocyclopentadiene (aq) mg/l	<0.001	<0.001	<0.001	<0.001

Hexachloroethane (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-cd)pyrene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Isophorone (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Naphthalene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
n-Dibutyl phthalate (aq) mg/l	<0.001	<0.001	<0.001	<0.001
n-Dioctyl phthalate (aq) mg/l	<0.005	<0.005	<0.005	<0.005
Nitrobenzene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
n-Nitroso-n-dipropylamine (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Pentachlorophenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Phenanthrene (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Phenol (aq) mg/l	<0.001	<0.001	<0.001	<0.001
Pyrene (aq) mg/l	<0.001	<0.001	<0.001	<0.001

Volatile Organic Compounds (VOCs)

1,1,1,2-Tetrachloroethane mg/l	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane mg/l	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane mg/l	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene mg/l	<0.001	<0.001	<0.001	<0.001
1,1-Dichloropropene mg/l	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene mg/l	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane mg/l	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene mg/l	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane mg/l	<0.001	<0.001	<0.001	<0.001
1,2-Dichloropropane mg/l	<0.001	<0.001	<0.001	<0.001
1,3,5-Trichlorobenzene mg/l	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene mg/l	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane mg/l	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene mg/l	<0.001	<0.001	<0.001	<0.001
2,2-Dichloropropane mg/l	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene mg/l	<0.001	<0.001	<0.001	<0.001
4-Bromofluorobenzene** %	99.2	98.7	99.6	95.9
4-Chlorotoluene mg/l	<0.001	<0.001	<0.001	<0.001
4-iso-Propyltoluene mg/l	<0.001	<0.001	<0.001	<0.001
Benzene mg/l	<0.001	<0.001	<0.001	<0.001
Bromobenzene mg/l	<0.001	<0.001	<0.001	<0.001
Bromochloromethane mg/l	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane mg/l	<0.001	<0.001	<0.001	<0.001
Bromoform mg/l	<0.001	<0.001	<0.001	<0.001
Bromomethane mg/l	<0.001	<0.001	<0.001	<0.001
Carbon disulphide mg/l	<0.001	<0.001	<0.001	<0.001
Carbontetrachloride mg/l	<0.001	<0.001	<0.001	<0.001
Chlorobenzene mg/l	<0.001	<0.001	<0.001	<0.001
Chloroethane mg/l	<0.001	<0.001	<0.001	<0.001
Chloroform mg/l	<0.001	<0.001	<0.001	<0.001

Chloromethane mg/l	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene mg/l	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene mg/l	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane mg/l	<0.001	<0.001	<0.001	<0.001
Dibromofluoromethane** %	111	109	108	107
Dibromomethane mg/l	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane mg/l	<0.001	<0.001	<0.001	<0.001
Dichloromethane mg/l	<0.003	<0.003	<0.003	<0.003
Ethylbenzene mg/l	<0.001	<0.001	<0.001	<0.001
Hexachlorobutadiene mg/l	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene mg/l	<0.001	<0.001	<0.001	<0.001
m,p-Xylene mg/l	<0.001	<0.001	<0.001	<0.001
Methyl tertiary butyl ether (MTBE) mg/l	<0.001	<0.001	<0.001	<0.001
Naphthalene mg/l	<0.001	<0.001	<0.001	<0.001
n-Butylbenzene mg/l	<0.001	<0.001	<0.001	<0.001
o-Xylene mg/l	<0.001	<0.001	<0.001	<0.001
Propylbenzene mg/l	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene mg/l	<0.001	<0.001	<0.001	<0.001
Styrene mg/l	<0.001	<0.001	<0.001	<0.001
tert-Amyl methyl ether (TAME) mg/l	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene mg/l	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene mg/l	<0.001	<0.001	<0.001	<0.001
Toluene mg/l	<0.001	<0.001	<0.001	<0.001
Toluene-d8** %	99.8	98.9	99.7	99.7
trans-1,2-Dichloroethene mg/l	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene mg/l	<0.001	<0.001	<0.001	<0.001
Trichloroethene mg/l	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane mg/l	<0.001	<0.001	<0.001	<0.001
Vinyl chloride mg/l	<0.001	<0.001	<0.001	<0.001

Combined Pesticides / Herbicides

Aldrin mg/l	<0.00001	<0.00001	<0.00001	<0.00001
alpha-Hexachlorocyclohexane (HCH / Lindane) mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Atrazine mg/l	<0.001	<0.001	<0.001	<0.001
Azinphos-ethyl mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Azinphos-methyl mg/l	<0.00001	<0.00001	<0.00001	<0.00001
beta-Hexachlorocyclohexane (HCH / Lindane) mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Carbophenothion mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorfenvinphos mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorothalonil mg/l	<0.00002	<0.00002	<0.00002	<0.00002
Chlorpyrifos mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Chlorpyrifos methyl mg/l	<0.00001	<0.00001	<0.00001	<0.00001
cis-Chlordane mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Diazinon mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Dichlorvos mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Dieldrin mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Dimethoate mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan I mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan II mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endosulphan sulphate mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Endrin mg/l	<0.00001	<0.00001	<0.00001	<0.00001

Ethion mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Etrimphos mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Fenitrothion mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Fenthion mg/l	<0.00001	<0.00001	<0.00001	<0.00001
gamma-Hexachlorocyclohexane (HCH / Lindane) mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Heptachlor mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Heptachlor epoxide mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Hexachlorobenzene mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Isodrin mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Malathion mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Methyl parathion mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Mevinphos mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-DDE mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-DDT mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-Methoxychlor mg/l	<0.00001	<0.00001	<0.00001	<0.00001
o,p-TDE (DDD) mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-DDE mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-DDT mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-Methoxychlor mg/l	<0.00001	<0.00001	<0.00001	<0.00001
p,p-TDE (DDD) mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Parathion mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Pendimethalin mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Permethrin I mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Permethrin II mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Phosalone mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Pirimiphos-methyl mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Propetamphos mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Quintozene (PCNB) mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Simazine mg/l	<0.001	<0.001	<0.001	<0.001
Tecnazene mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Telodrin mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Trans-chlordane mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triadimefon mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triallate mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Triazophos mg/l	<0.00001	<0.00001	<0.00001	<0.00001
Trifluralin mg/l	<0.00001	<0.00001	<0.00001	<0.00001

Miscellaneous Organics

Dibutyl tin mg/l	<0.00001	<0.000005	<0.000015	<0.00001
Surrogate %	94.8	63	73.7	77.9
Tetrabutyl tin mg/l	<0.000004	<0.000002	<0.000006	<0.000004
Tributyl tin mg/l	<0.000002	<0.000001	<0.000003	<0.000002
Triphenyl tin mg/l	<0.000002	<0.000001	<0.000003	<0.000002

Subcontracted: Organics

2,3,6-Trichlorobenzoic acid (2,3,6-TBA)* mg/l	-	-	<0.00002	<0.00002
2,4,5-Trichlorophenol (2,4,5-T)* mg/l	-	-	<0.00002	<0.00002
2,4-Dichlorophenoxy acetic acid (2,4-D)* mg/l	-	-	<0.00002	<0.00002
2-Methyl-4-chlorophenoxyacetic acid (MCPA)* mg/l	-	-	<0.00002	<0.00002
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)* mg/l	-	-	<0.00002	<0.00002
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)* mg/l	-	-	<0.00002	<0.00002
4-Chlorophenoxyacetic acid (4-CPA)* mg/l	-	-	<0.00002	<0.00002

Benazolin* mg/l	-	-	<0.00002	<0.00002
Bentazone* mg/l	-	-	<0.00002	<0.00002
Bromoxynil* mg/l	-	-	<0.00002	<0.00002
Dicamba* mg/l	-	-	<0.00002	<0.00002
Dichlorprop (2,4-DP)* mg/l	-	-	<0.00002	<0.00002
Diclofop* mg/l	-	-	<0.00002	<0.00002
Fenoprop* mg/l	-	-	<0.00002	<0.00002
Flamprop* mg/l	-	-	<0.00002	<0.00002
Flamprop-isopropyl* mg/l	-	-	<0.00002	<0.00002
Ioxynil* mg/l	-	-	<0.00002	<0.00002
Mecoprop (MCP)* mg/l	-	-	<0.00002	0.0067
Pentachlorophenol* mg/l	-	-	<0.00002	<0.00002
Picloram mg/l	-	-	<0.00002	<0.00002
Triclopyr* mg/l	-	-	<0.00002	<0.00002



Registered Office:
InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG
Tel: 01248 672666
Fax: 01248 672601
Email: contact@caulmert.com
Web: www.caulmert.com