

CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

# HISTORIC LANDFILL AT NEW INN, CO. GALWAY

#### **ENVIRONMENTAL REPORT 2022**

## **Prepared for:**

**Galway County Council** 



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# HISTORIC LANDFILL AT NEW INN, CO. GALWAY

#### **ENVIRONMENTAL REPORT 2022**

#### REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT

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**Keywords:** Environmental report, surface water, groundwater, leachate sampling, landfill gas

**Abstract:** This report represents the findings of additional environmental monitoring carried out

at New Inn Historic Landfill, Co. Galway. The monitoring was undertaken to determine the extent of the potential environmental impact of historic landfilling at the site.

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#### 1. INTRODUCTION

#### 1.1 Background

As part of a Tier 2 Environmental Risk Assessment for the site, Galway County Council (GCC) appointed Fehily Timoney and Company (FT) to undertake environmental sampling on a historic landfill in New Inn, Co. Galway. Between 2020 and 2021, FT conducted groundwater, leachate, surface water and landfill gas monitoring at the New Inn historic landfill. The monitoring comprised sampling and analysis of groundwater at four existing groundwater wells and surface water sampling at two locations along a tributary stream of Raford River located c.60m north of the site boundary.

New Inn historic landfill covers an area of c.1.5 ha and is located adjacent to the R348, Athenry to Ballinasloe Road, to the west of New Inn. The topography of the site is generally relatively flat, with a gentle slope towards south-west. The surroundings area primarily comprises agricultural land with residential areas found to the south-east. The historic landfill area was initially estimated to be approximately 1.5Ha. Available evidence suggests the site was operated between 1970's to 1989. It was originally part of a quarry operated by GCC which was later infilled.

In 2022, Galway County Council requested one additional round of monitoring be undertaken. For continuity, GCC requested that the monitoring locations and parameters remain the same as the monitoring carried out at New Inn historic landfill in 2020 and 2021.

#### 1.2 Scope of Works

FT's scope of work was to undertake one additional round of groundwater, leachate, surface water and landfill gas. Sampling was undertaken at New Inn Landfill on the 1st June 2022.

Laboratory analysis of surface water, leachate and groundwater samples was conducted to assess and quantify any potential or ongoing environmental impacts. Laboratory analytical reports for 2022 surface water, leachate and groundwater monitoring results are presented in Appendix 1.

This report presents the findings of the assessment.

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#### 2. ENVIRONMENTAL ASSESSMENT

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The results of the environmental assessment at the New Inn historic landfill site between 2020 and 2022 are presented in the following sections.

The surface water, leachate and groundwater results were compared to relevant environmental quality standards to identify the potential and magnitude of any impacts on receiving surface water and groundwater.

#### 2.1 Chemical Assessment Criteria

- European Communities, Environmental Objectives (Groundwater)(Amendment) Regulations, 2016 (S.I. No. 366 of 2016).
- Interim Guideline Values (IGV) set out in the EPAs Groundwater Towards Setting the Guideline Values for the Protection of Groundwater in Ireland.
- European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No. 272 of 2009), as amended 2012 (S.I. No. 327 of 2012), 2015 (S.I. No. 386 of 2015), 2019 (S.I. No. 77 of 2019)
- European Communities (Quality of Surface Water Intended for the Abstraction of Drinking Water)
   Regulations, 1989 (S.I. No. 294/1989).

#### 2.2 Groundwater and Leachate Analysis

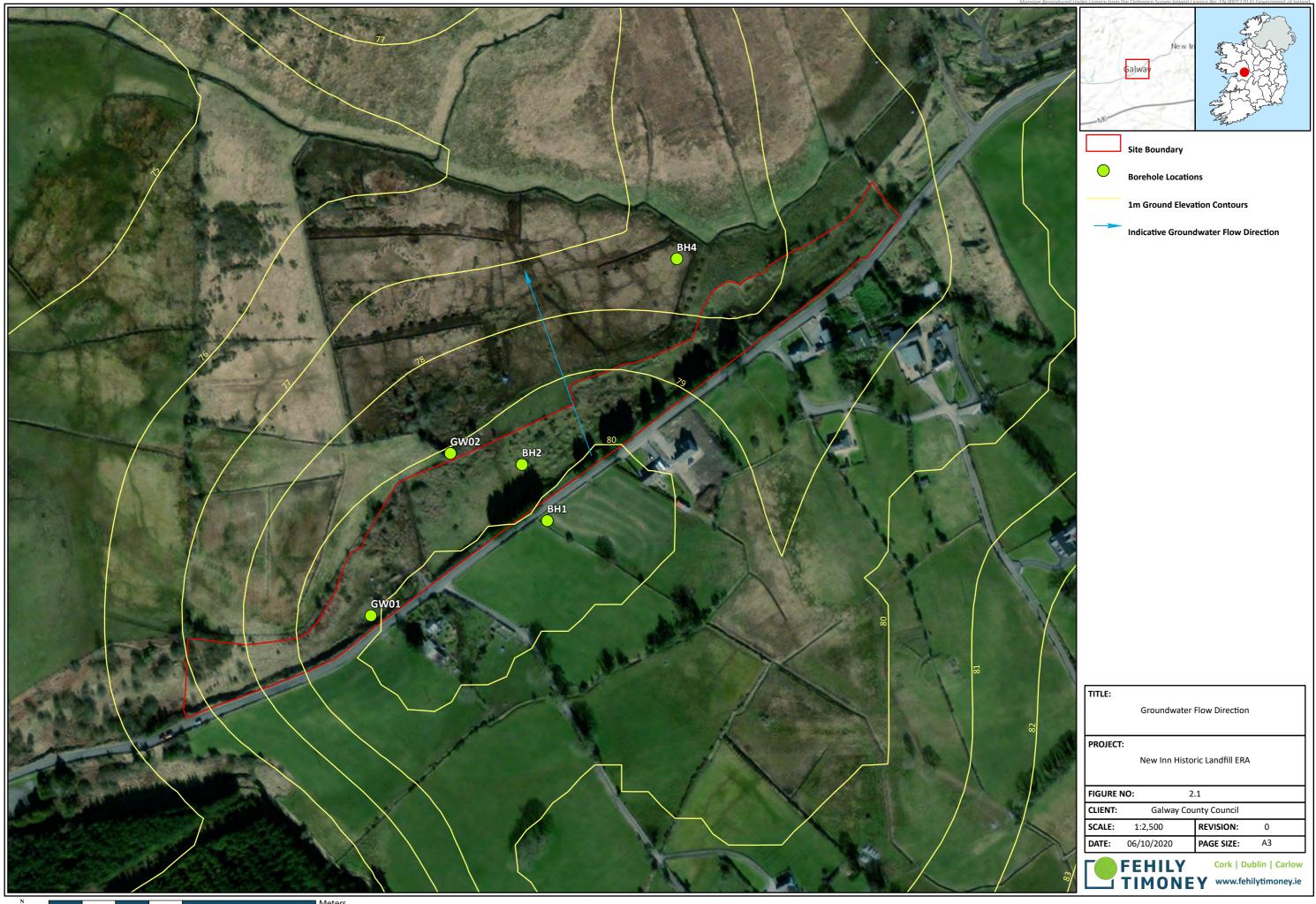
Four groundwater monitoring events have been undertaken since 2020; two rounds of monitoring were undertaken on the 30<sup>th</sup> July 2020 and 25<sup>th</sup> August 2020; another round on 14<sup>th</sup> July 2021 and one additional round on 2<sup>nd</sup> June 2022. The findings from the monitoring and an interpretation of the results are presented in the following sections.

#### 2.2.1 Groundwater Quality Monitoring

The results of groundwater samples analysed from the 4 No. groundwater monitoring wells (BH01, BH04, GW01 and GW02) at the site have been assessed against the EPAs Interim Guideline Values (IGVs) and S.I No. 9 of the European Communities Environmental Objectives (Groundwater) Regulations 2010 (amended) threshold values. A summary of the results reported for each parameter for the monitoring rounds is outlined in Table 2.1, while the laboratory reports for the 2022 monitoring are presented in Appendix 1.

The groundwater sampling locations are presented in Figure 2.1.

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 Table 2-1:
 Groundwater Sampling Results

				R	ound 1 (3	0/07/202	0)	Ro	ound 2 (2	5/08/202	0)	R	ound 3 (1	4/07/2021	L)	Round 4 (02/06/2022)			
Parameter	Units	S.I. No. 9 of 2010 Standards <sup>1</sup>	EPA IGV Standards <sup>2</sup>	BH1	вн4	GW01	GW02	BH1	ВН4	GW01	GW02	BH1	ВН4	GW01	GW02	BH1	ВН4	GW01	GW02
				UG <sup>3</sup>	DG <sup>3</sup>	CG <sup>3</sup>	DG	UG	DG	CG	DG	UG	DG	CG	DG	UG	DG	cg	DG
Inorganics																			
Conductivity @ 20 deg.C	mS/cm	0.8		0.623	0.794	0.748	1.27	0.643	0.798	0.727	1.45	0.646	0.826	0.711	2.9	0.599	0.823	0.746	2.64
Fluoride	mg/l	1	1	<0.5	<0.5	<0.5	0.908	0.786	0.79	<0.5	0.968	<0.5	<0.5	<0.5	1.71	<0.5	<0.5	<0.5	1.46
Oxygen, dissolved	mg/l		NAC	9.68	8.64	10	9.5	-	8.34	-	9.51	5.46	2.58	4.86	5.54	9.8	9.58	12.2	11.5
рН	pH Units	6 – 9										7.26	7.26	7.07	7.74	7.34	7.17	7.11	7.67
Sulphate	mg/l	187.5	200	11.8	11.8	9.3	181	12.5	11.8	16.9	235	11.4	20.2	10.6	492	13.6	13.6	6.5	442
Chloride	mg/l	24	30	13.5	73.6	22.2	46.4	16.1	66	23.1	55.6	10.9	69	22	94.9	7.4	71	15.4	90.1
COD, unfiltered	mg/l			28.7	32.3	99.6	162	8.83	13.4	342	106	16.3	70.2	83.4	214	-	-	-	-
Ammoniacal Nitrogen as N (low level)	mg/l	0.065	0.15	0.0176	0.186	0.0283	0.544	0.0202	0.558	0.0438	0.526	0.122	0.212	0.0656	0.321	0.013	0.139	0.034	0.443
Cyanide, Total	mg/l	0.0375	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Oxidised Nitrogen as N	mg/l		NAC	1.89	<0.1	1.75	0.216	0.573	0.282	1.98	<0.1	1.13	<0.1	1.87	0.291	0.88	<0.1	1.11	0.107
Alkalinity, Total as HCO3	mg/l		NAC	451	482	1570	939	427	434	2280	1230	440	464	1420	1830	432	459	3340	1460
Filtered (Dissolved) Metals																			
Mercury	μg/l	0.75	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic	μg/l	7.5	10	0.521	0.869	<0.5	0.607	<0.5	2.96	<0.5	0.541	<0.5	3.02	<0.5	0.804	<0.5	6.21	<0.5	0.798
Barium	μg/l		100	21.8	33.5	9.12	129	36.9	41.8	1930	111	22.4	38.8	7.87	151	19.1	41.5	7.92	190
Boron	μg/l	750	1000	23.7	43.5	<10	180	64.3	136	348	193	16.6	52.9	14.6	166	21.4	41	15	181
Cadmium	μg/l	3.75	5	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.117	<0.08	<0.08	<0.08
Chromium	μg/l	37.5	30	<1	<1	<1	<1	<1	5.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	μg/l	1500	30	4.98	<0.3	0.828	1.97	7.55	0.618	1.15	1	11.9	<0.3	0.98	1.2	24.9	<0.3	0.374	<0.3
Lead	μg/l	7.5	10	<0.2	<0.2	<0.2	0.356	0.616	1.52	<0.2	<0.2	0.497	<0.2	<0.2	0.252	12.2	1.75	<0.2	<0.2
Manganese	μg/l		50	16	115	9.66	8.05	25.8	105	<3	14.9	7.96	131	<3	117	31.2	136	3.15	146
Nickel	μg/l	15	20	10.5	5.59	3.53	3.47	8.5	17.1	2.71	3.44	7.94	2.57	1.65	3.78	9.18	64.2	1.76	2.72
Zinc	μg/l	75	100	26.6	1.95	3.01	1.98	10	5.81	862	<1	29.7	3.2	9.58	8.15	31.5	19.1	1.27	1.89
Sodium	mg/l	150	150	6.42	45.8	8.43	226	10.6	46.5	19.3	222	7.95	43.6	10.8	670	5.99	47.2	8.63	486
Magnesium	mg/l		50	10.1	8.08	5.7	28.3	18.9	12.8	7.94	35.6	9.22	9.11	5.48	34.5	8.55	8.48	5.99	41
Potassium	mg/l		5	1.18	3.32	1.69	5.26	1.58	4.5	0.627	5.49	1.31	3.88	2.15	6.98	1.42	4.06	1.64	7.23
Calcium	mg/l		200	139	139	143	71.8	109	128	138	64.5	131	142	160	31.9	140	152	170	53.8
Iron	mg/l		0.2	<0.019	<0.019	<0.019	<0.019	0.0509	3.75	<0.019	0.0304	0.0802	2.44	<0.019	0.0509	0.407	5.95	<0.019	0.0415

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				R	ound 1 (3	0/07/202	0)	R	ound 2 (2	5/08/202	0)	R	ound 3 (1	4/07/2021	.)	F	Round 4 (	02/06/202	2)
Parameter	Units	S.I. No. 9 of 2010 Standards <sup>1</sup>	EPA IGV Standards <sup>2</sup>	BH1	вн4	GW01	GW02	BH1	ВН4	GW01	GW02	BH1	вн4	GW01	GW02	BH1	ВН4	GW01	GW02
				UG <sup>3</sup>	DG <sup>3</sup>	CG <sup>3</sup>	DG	UG	DG	CG	DG	UG	DG	CG	DG	UG	DG	CG	DG
Comb	ined Pesticio	des / Herbicides																	
Dieldrin	μg/l	0.075		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.01	0.175	<0.1	<0.05	<0.1	<0.01	<0.01	<0.01	<0.01
Simazine	μg/l	0.075		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	0.0763	<0.02	<0.01	<0.02	0.073	<0.01
N	liscellaneou	s Organics																	
МСРА	μg/l	0.075	1000000	<0.05	<0.05	<0.25	<0.25	<0.05	<0.1	<0.1	<0.1	<0.25	<0.25	<0.25	<0.25	<0.05	<0.1	<0.1	<0.1
Mecoprop	μg/l	0.075	10	<0.04	<0.04	<0.2	<0.2	<0.04	<0.08	<0.08	<0.08	<0.2	<0.2	<0.2	<0.2	<0.04	<0.08	<0.08	<0.08
Dichlorprop	μg/l		100	<0.1	<0.1	<0.5	<0.5	<0.1	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.1	<0.2	<0.2	<0.2
2,4-Dichlorophenoxyacetic acid	μg/l	0.075		<0.05	<0.05	<0.25	<0.25	<0.05	<0.1	<0.1	<0.1	<0.25	<0.25	<0.25	<0.25	<0.05	<0.1	<0.1	<0.1
Bromoxynil	μg/l		5	<0.04	<0.04	<0.2	<0.2	<0.08	<0.08	<0.08	<0.08	<0.2	<0.2	<0.2	<0.2	<0.08	<0.08	<0.08	<0.08
Pentachlorophenol	μg/l		2	<0.04	<0.04	<0.2	<0.2	<0.08	<0.08	<0.08	<0.08	<0.2	<0.2	<0.2	<0.2	<0.08	<0.08	<0.08	<0.08

<sup>&</sup>lt;sup>1</sup> OTV-Overall threshold value, European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010) as amended in 2011, 2012, 2016.

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<sup>&</sup>lt;sup>2</sup> IGV-Interim Guideline Values, from EPA, Towards Setting Guideline Values for the Protection of Groundwater in Ireland, 2003.

<sup>&</sup>lt;sup>3</sup> UG – upgradient / DG – downgradient / CG – cross gradient

<sup>\*</sup> Items shaded in **orange** are in exceedance of the Drinking Water Regulations

<sup>\*</sup> Items shaded in **bold** are in exceedance of the EPA IGV Standards

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#### 2.2.2 <u>Groundwater Analysis Discussion</u>

The results of the groundwater monitoring from BH1, BH4, GW01 and GW02 have reported several exceedances of the IGVs and groundwater regulations overall limit values.

Samples obtained from downgradient monitoring wells reported ammoniacal nitrogen concentrations from 0.0656 mg/l to 0.558 mg/l at BH4 and GW02 which exceed IGV and OTV limit values. The highest concentrations of ammoniacal nitrogen concentration are detected at downgradient wells GW02 and BH4, indicating the site landfill may causing an increase in ammoniacal nitrogen downgradient of the site.

Results from July 2021 and June 2022 show elevated concentrations of chloride above the OTV and IGV continue to be detected in downgradient groundwater monitoring wells BH4 and GW02. Results show higher chloride concentrations at GW02 (46.4 - 94.9 mg/I) compared to BH4 (66 - 73.6 mg/I) which is likely due to the proximity to the landfill waste body.

Sulphate (235 - 492 mg/l) and fluoride (1.46 - 1.71 mg/l) levels at GW02 exceeded the OTV / IGV and are another indicator of the presence of landfill leachate.

Landfill leachate has the potential to contain high concentrations of chloride, sulphate and fluoride ions and may be the source of the concentrations observed at these locations.

Electrical conductivity at GW02 exceeded the OTV during each of the four monitoring events and ranged from 1.27 – 2.9 mS/cm. The EC levels are an indication of the presence of dissolved anions (e.g. chloride and sulphate) in the landfill leachate downgradient of the waste body.

Sodium (222 - 670 mg/I) and potassium (5.26 - 7.23 mg/I) levels at GW02 exceeded the respective OTV and IGV limit during each of the four monitoring events. The presence of sodium and potassium at these levels indicates the presence of leachate migration from the landfill.

Analysis of heavy metal compounds showed the presence of barium at GW02 (129 - 190 mg/I) and nickel detected at BH4 (17.1 - 64.2 mg/I) which exceeds the IGV limit. The detection of these heavy metal compounds are typical indicators of landfill leachate.

Iron levels of 0.33-38.8 mg/l and manganese levels of 105-136 µg/l were detected above the IGV limit at BH4 during the monitoring period since July 2020. Manganese levels of 146 mg/l and 117 mg/l exceeded the IGV at GW02 during the July 2021 and June 2022 monitoring events. Results show iron and manganese levels were broadly below the IGV limit at the upgradient (BH1) and cross-gradient (GW01) wells during each monitoring event since July 2020.

The results of groundwater monitoring when assessed against thresholds for List 1 and List 2 substances – SVOCs, VOCs, PCBs and organics shows all results are below the laboratory limit of detection in all assessments across all four sampling locations on both rounds. Analysis screening of the pesticide and herbicide compounds returned results for dieldrin and simazine at upgradient well BH1 and cross-gradient well GW01, respectively. Dieldrin and simazine are commonly used herbicides, and their presence at these locations are not expected to be attributed to leachate migration from the landfill.

#### 2.2.3 <u>Leachate Monitoring</u>

Leachate monitoring was attempted at location BH02 on 2<sup>nd</sup> June 2022, the location was dry.

Leachate monitoring was also attempted at location BH02 on the 14<sup>th</sup> July 2021, the location was dry.

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Two rounds of leachate monitoring were successfully undertaken at location BH02 on the 30<sup>th</sup> July 2020 and 25<sup>th</sup> August 2020. Results indicated the presence of some pollutants at concentrations typical of Municipal Solid Waste (MSW) leachate i.e., ammoniacal nitrogen, chloride, and COD.

#### 2.3 Landfill Gas Monitoring

FT carried out monitoring of landfill gas (LFG) parameters at each monitoring borehole location BH01, BH02, BH4, GW01 and GW02 inclusive. Methane, carbon dioxide, oxygen and atmospheric pressure were analysed at the 4 No. groundwater monitoring wells located outside the waste body and 1 No. leachate monitoring well (GW02) located within the waste body using a Landfill Gas analyser.

#### 2.3.1 Monitoring Results

The EPA Landfill Manuals - Landfill Monitoring 2nd Edition specifies trigger values for landfill gas monitoring at offsite monitoring locations. The trigger level for methane outside the waste body is 1% v/v and for carbon dioxide is 1.5% v/v. The monitoring results for methane, carbon dioxide and oxygen levels for the perimeter borehole are summarised in Table 2.2.

**Table 2-2:** Perimeter Well Monitoring Results

			Date: 29/07/20	20		
Sample Station	CH₄	CO₂	O <sub>2</sub>	Atmospheric Pressure	Staff Member	Weather
Station	(% v/v)	(% v/v)	(% v/v)	(mbar)	Wielligei	
	Perimeter Mo	nitoring Wells				
BH01	0.1	0.2	21.1			
BH04	0	0.3	20.6			Overcast,
GW01	0.1	3.6	16.4	1001	Daniel Hayden	Light Rain, Warm, 18-
GW02	0.1	0.3	20.7		,	20°C
	In-Waste Mo	nitoring Wells				
BH02	16.8	15.9	5.3			
			Date: 24/8/202	20		
Sample Station	CH <sub>4</sub>	CO₂	<b>O</b> <sub>2</sub>	Atmospheric Pressure	Staff Member	Weather
Station	(% v/v)	(% v/v)	(% v/v)	(mbar)	Member	
	Perimeter Mo	nitoring Wells				
BH01	0	0.6	20.8			Overcast,
BH04	0	0.2	21.2	1002	Daniel Hayden	Light Rain, Warm, 16-
GW01	0	3.3	17.6		,	18°C
GW02	0	0.3	20.9		_	

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In-Waste Monitoring Wells							
BH02	20.8	18.7	2.5				

	Date: 14/07/2021													
Sample	CH₄	CO₂	O <sub>2</sub>	Atmospheric Pressure	Staff	Weather								
Station	(% v/v)	(% v/v)	(% v/v)	(mbar)	Member									
	Perimeter Mo	nitoring Wells												
BH01	0	0.8	20.3											
BH02	18.2	17.5	2.2											
BH04	0	0.4	20.8	1023	Daniel	Sunny, Clear Warm, 16-								
GW01	0	2.8	18.2	1025	Hayden	18°C								
GW02	0	1.2	20.1											
	In-Waste Mo	nitoring Wells												
BH02	18.2	17.5	2.2											

As can be seen in Table 2.3, no methane or only trace quantities of methane are measured at offsite monitoring wells (GW01, GW02, BH01 and BH04). Carbon dioxide is only detected above the trigger value of 1.5% v/v at offsite monitoring well GW01 at concentrations of between 2.8% v/v and 3.6% v/v during the monitoring events since July 2020. These results indicate that a low level of lateral migration of landfill gas may be occurring, the close proximity of GW01 to the waste body is noted.

Monitoring at leachate monitoring borehole BH02 show concentrations for both carbon dioxide and methane indicate that the landfill may still be biologically active with landfill gas continuing to be produced.

#### 2.4 Surface Water Monitoring

#### 2.4.1 Monitoring Locations

The surface water monitoring locations were selected upstream and downstream of the landfill footprint. Monitoring location SW1 was selected as the upstream location on Raford river to the north/north-east of the landfill. Monitoring location SW2 is located on the Raford River to the north-west, and downstream of the site.

The surface water sampling locations at the site are presented in Figure 2.1.

Four rounds of surface water monitoring were carried out on the 30<sup>th</sup> July and 25<sup>th</sup> August 2020, 14<sup>th</sup> July 2021 and 2<sup>nd</sup> June 2022.

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#### 2.4.2 <u>Monitoring Parameters</u>

The results of surface water sampling analysed from the 2 No. sampling locations (SW1 and SW2) have been assessed against the Maximum Admissible Concentration (MAC) and the Environmental Quality Standard (EQS) as per S.I. No. 77/2019 - European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019 where applicable.

A summary of results for each parameter from the monitoring round is outlined in Table 2.4, while the laboratory reports are presented in Appendix 1.

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World Imagery: Maxar, Mic

R:\Map Production\2020\P2282\Workspace\P2282\_Tier2\_ERA\_NewInn\_A3.aprx

World Topographic Map: Esri UK, Esri, HERE, Garmin, USGS



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## **Table 2-3: Surface Water Sampling Results**

				Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
Parameter	Units	EQS <sup>1</sup>	MAC <sup>2</sup>	SW01	SW02	SW01	SW02	SW01	SW02	SW01	SW02
				30/07/2020	30/07/2020	25/08/2020	25/08/2020	14/07/2021	14/07/2021	01/06/2022	01/06/2022
Inorganics											
Conductivity	mS/cm	1	1	0.642	0.64	0.352	0.367	0.629	0.651	0.713	0.709
Fluoride	mg/l	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dissolved Oxygen	mg/l			9.65	9.41	10	10.9	12.5	11.7	9.19	9.27
рН	pH Units	6.0 <ph<9.0< td=""><td></td><td>7.81</td><td>7.73</td><td>7.44</td><td>7.41</td><td>7.75</td><td>7.8</td><td>7.96</td><td>7.99</td></ph<9.0<>		7.81	7.73	7.44	7.41	7.75	7.8	7.96	7.99
Sulphate				11	11.7	<2	<2	6.4	6.6	9.4	8.9
Chloride				27.5	28.1	15.5	15	31.3	31.5	43.1	43.1
COD, unfiltered				21.8	17.6	64	61.9	<7	8.46	<7	8.94
Ammoniacal Nitrogen as N (low level)		≤0.065	0.14	0.0237	0.0319	0.0716	0.0861	0.02	0.032	0.0399	0.049
Cyanide, Total		0.01		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BOD, unfiltered		2.6		<1	<1	2.67	2.97	<1	<1	<1	<1
Suspended solids, Total		25		5.9	8.25	3.75	3.6	<2	<2	-	-
					Filtered (Disso	lved) Metals					
Mercury	μg/l		0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic	μg/l	25		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium	μg/l	0.15	0.9	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

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CLIENT: PROJECT NAME: **Galway County Council** 

Environmental Report – New Inn Historical Landfill

SECTION: Section 2



				Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
Parameter	Units	EQS <sup>1</sup>	MAC <sup>2</sup>	SW01	SW02	SW01	SW02	SW01	SW02	SW01	SW02
				30/07/2020	30/07/2020	25/08/2020	25/08/2020	14/07/2021	14/07/2021	01/06/2022	01/06/2022
Chromium	μg/l	4.7	32	<1	<1	<1	<1	<1	<1	<1	<1
Copper	μg/l	30		1.11	0.699	0.92	1.14	18.9	12.7	0.531	0.418
Lead	μg/l	1.2	14	0.483	0.268	<0.2	0.442	0.891	0.251	<0.2	<0.2
Nickel	μg/l	4	34	1.24	0.795	1.09	1.03	0.709	0.801	0.581	0.538
Zinc	μg/l	100		6.61	8.97	1.7	2.81	21.4	41.5	4.56	2.03
				Semi-V	olatile Organic	Compounds (S	SVOCs)				
1,2,4- Trichlorobenzene	μg/l	0.4	not applicable	<1	<1	<8	<10	<1	<1	<1	<1
Anthracene	μg/l	0.1	0.1	<1	<1	<8	<10	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate	μg/l	1.3	not applicable	<2	<2	<16	<20	<2	<2	<2	<2
Benzo(b)fluoranthene	μg/l		0.017	<1	<1	<8	<10	<1	<1	<1	<1
Benzo(k)fluoranthene	μg/l		0.017	<1	<1	<8	<10	<1	<1	<1	<1
Benzo(a)pyrene	μg/l	0.00017	0.27	<1	<1	<8	<10	<1	<1	<1	<1
Benzo(g,h,i)perylene	μg/l		0.0082	<1	<1	<8	<10	<1	<1	<1	<1
Diethyl phthalate	μg/l	1.3	not applicable	<1	<1	<8	<10	<1	<1	<1	<1
Fluoranthene	μg/l	0.0063	0.12	<1	<1	<8	<10	<1	<1	<1	<1
Hexachlorobenzene	μg/l		0.05	<1	<1	<8	<10	<1	<1	<1	<1
Hexachlorobutadiene	μg/l		0.6	<1	<1	<8	<10	<1	<1	<1	<1

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CLIENT: PROJECT NAME: **Galway County Council** 

Environmental Report - New Inn Historical Landfill

SECTION:

Section 2



				Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
Parameter	Units	EQS <sup>1</sup>	MAC <sup>2</sup>	SW01	SW02	SW01	SW02	SW01	SW02	SW01	SW02
				30/07/2020	30/07/2020	25/08/2020	25/08/2020	14/07/2021	14/07/2021	01/06/2022	01/06/2022
Pentachlorophenol	μg/l	0.4	1	<1	<1	<8	<10	<1	<1	<1	<1
Phenol	μg/l	8	46	<1	<1	<8	<10	<1	<1	<1	<1
Naphthalene	μg/l	2	130	<1	<1	<8	<10	<1	<1	<1	<1
Indeno(1,2,3-cd) pyrene	μg/l		not applicable	<1	<1	<8	<10	<1	<1	<1	<1

#### Notes:

Environmental Quality Standard (EQS) as per European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I No. 272 of 2009). Refers to Annual-Average (AA) EQS for relevant parameters.

Maximum Admissible Concentration (MAC), as classified by European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I No. 272 of 2009).

\*\*\* NAC – no abnormal change

Results presented are those which have a relevant EQS / MAC limit value

CLIENT: PROJECT NAME:

SECTION:

**Galway County Council** 

Environmental Report – New Inn Historical Landfill

Section 2



#### 2.4.3 <u>Surface Water Analysis Discussion</u>

The results of the surface water laboratory analysis as presented in Table 2.4, when assessed against the MAC and EQS quality standards showed one exceedance of the EQS (Good Status) limit for ammoniacal nitrogen. The exceedance of the EQS occurred in August 2020 with concentrations of 0.0716 mg/l and 0.0861 mg/l detected at SW1 and SW2 respectively. Sampling in 2021 and 2022 showed levels remained below the EQS.

Results show little variation in parameter concentrations between upstream and downstream sampling locations during each monitoring event since July 2020. These results indicate that the landfill is not having a deleterious effect on downstream water quality of Raford River north of the site.

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Section 3



#### 3. CONCLUSION

In 2022, Galway County Council requested FT to undertake one additional round of environmental monitoring at New Inn historic landfill The results of this sampling served as a continuation of the monitoring assessments carried out in 2020 and 2021 as part of the Tier 2 environmental risk assessment for the site.

Analysis of groundwater samples recovered from monitoring wells BH1, BH4, GW01 and GW02 in 2021 and 2022 continue to show similar concentrations of ammoniacal nitrogen, sulphate, chloride and some heavy metal compounds detected during the 2020 events. Results for downgradient wells GW02 and BH4 show similar pollutant parameters are being detected that indicate to the presence of landfill leachate. Landfill leachate has the potential to contain high concentrations of ammoniacal N and chloride, fluoride and sulphate ions and may be the source of the concentrations observed at the BH4 and GW02 well locations. Based on the presence of elevated ammoniacal N, sulphate, fluoride and chloride typical of landfill leachate, the shallow soil cap may not be suitable at preventing rainfall infiltration into the waste body and consequently is contributing to leachate generation, subsequent migration of leachate to the underlying groundwater and migration downgradient.

Leachate monitoring was attempted at location BH02 in 2022 and 2021, the location was dry on both occasions. Monitoring results from 2020 indicated the presence of pollutants at elevated concentrations typical of MSW leachate.

Landfill gas monitoring from existing monitoring wells BH01, BH04 and new monitoring wells GW01 and GW02 at the site indicates gas concentrations detected are below threshold levels set by the EPA Landfill Manuals - Landfill Monitoring. The carbon dioxide and methane levels recorded at in-waste well BH02 indicate the landfill may still be biologically active with landfill gas continuing to be produced.

Analysis results for surface water samples recovered from the Raford River located to the north of the site, at locations upstream and downstream of the historic landfill showed only one exceedance of EQS limit values in August 2020. Sampling in 2021 and 2022 showed levels remained below the EQS. Results show little variation in parameter concentrations between upstream and downstream sampling locations during each monitoring event since July 2020. These results indicate that the landfill is not having a deleterious effect on downstream water quality of Raford River north of the site.



CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

# **APPENDIX 1**

Groundwater, Leachate and Surface Water Sampling Analysis Results





Unit 7-8 Hawarden Business Park Manor Road (off Manor Lane) Hawarden Deeside CH5 3US

> Tel: (01244) 528700 Fax: (01244) 528701

email: haward encustomers ervices@alsglobal.com

Website: www.alsenvironmental.co.uk

Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

#### **CERTIFICATE OF ANALYSIS**

Date of report Generation:09 August 2020Customer:Fehily TimoneySample Delivery Group (SDG):200731-90Your Reference:P2282Location:New Inn Landfill

Report No: 562381

We received 2 samples on Friday July 31, 2020 and 2 of these samples were scheduled for analysis which was completed on Sunday August 09, 2020. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager







P2282 SDG: 200731-90 Client Reference: Report Number: 562381 New Inn Landfill Z2189 Superseded Report: Location: Order Number:

# **Received Sample Overview**

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
22583459	SW2 (DS)		0.00 - 0.00	30/07/2020
22583445	SW1 (US)		0.00 - 0.00	30/07/2020

Maximum Sample/Coolbox Temperature (°C):

ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining

a temperature of (5±3)°C.

16.2

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

Validated

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

562381

#### **CERTIFICATE OF ANALYSIS**

SDG: 200731-90 Client Reference: P2282 Report Number: New Inn Landfill Z2189 Superseded Report: Location: Order Number: Results Legend 22583445 22583459 Lab Sample No(s) X Test No Determination Possible SW1 (US) Customer SW2 (DS) Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00-0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent - 0.00 TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 500ml Plastic (ALE208) 250ml BOD (ALE212) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) Vial (ALE297) H2SO4 (ALE244) NaOH (ALE245) H2SO4 (ALE244) NaOH (ALE245) DW - Drinking Water Non-regulatory 500ml Plastic (ALE208) ۷ial 250ml BOD (ALE212) UNL - Unspecified Liquid (ALE297) SL - Sludge Container G - Gas OTH - Other Sample Type WS Acid Herbicides by GCMS All NDPs: 0 Tests: 2 Х Х Ammonium Low All NDPs: 0 Tests: 2 Χ Χ Anions by Kone (w) All NDPs: 0 Tests: 2 Χ X BOD True Total All NDPs: 0 Tests: 2 X X COD Unfiltered All NDPs: 0 Tests: 2 Х Х Conductivity (at 20 deg.C) All NDPs: 0 Tests: 2 Х Х Cyanide Comp/Free/Total/Thiocyanate All NDPs: 0 Tests: 2 Χ Х Dissolved Metals by ICP-MS All NDPs: 0 Tests: 2 X Х Dissolved Oxygen by Probe All NDPs: 0 Tests: 2 Χ Χ Fluoride All NDPs: 0 Tests: 2 Χ X Mercury Dissolved All NDPs: 0 Tests: 2 X Х Mineral Oil C10-40 Aqueous (W) All NDPs: 0 Tests: 2 Х Χ PCB Congeners - Aqueous (W) All NDPs: 0 Tests: 2 Х Х Pesticides (Suite I) by GCMS All NDPs: 0 Tests: 2

Pesticides (Suite II) by GCMS

All

Х

X

Х

X

NDPs: 0 Tests: 2

Validated

562381

#### **CERTIFICATE OF ANALYSIS**

ALS

P2282 SDG: 200731-90 Client Reference: Report Number: Location: New Inn Landfill Z2189 Superseded Report: Order Number: Results Legend 22583459 22583445 Lab Sample No(s) X Test No Determination Possible SW1 (US) SW2 (DS) Customer Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate 0.00-PR - Process Water 0.00 - 0.00 SA - Saline Water Depth (m) - 0.00 TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 500ml Plastic (ALE208) 250ml BOD (ALE212) 0.5I glass bottle (ALE227) 500ml Plastic (ALE208) 250ml BOD (ALE212) 0.51 glass bottle (ALE227) Vial (ALE297) H2SO4 (ALE244) H2SO4 (ALE244) NaOH (ALE245) NaOH (ALE245) DW - Drinking Water Non-regulatory Vial (ALE297) UNL - Unspecified Liquid SL - Sludge Container G - Gas OTH - Other Sample Type WS Pesticides (Suite III) by GCMS All NDPs: 0 Tests: 2 Χ X pH Value All NDPs: 0 Tests: 2 X X Phosphate by Kone (w) All NDPs: 0 Tests: 2 X X Suspended Solids All NDPs: 0 Tests: 2 X Х SVOC MS (W) - Aqueous All NDPs: 0 Tests: 2 X Χ VOC MS (W) All NDPs: 0

Tests: 2

Χ

Χ

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SDG: 200731-90 Clier Location: New Inn Landfill Orde

Client Reference: P2: Order Number: Z2:

P2282 Z2189 Report Number: Superseded Report: 562381

Results Legend		Customer Sample Ref.	SW2 (DS)	SW1 (US)		
# ISO17025 accredited. M mCERTS accredited.		customer cample itel.	SW2 (DS)	SW1 (US)		
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00		
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report accreditation status.	t for	Sample Type Date Sampled	Surface Water (SW) 30/07/2020	Surface Water (SW) 30/07/2020		
** % recovery of the surrogate standard to chec efficiency of the method. The results of indivi	k the	Sample Time				
compounds within samples aren't corrected to recovery		Date Received SDG Ref	31/07/2020 200731-90	31/07/2020 200731-90		
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22583459	22583445		
Component	LOD/Units					
Suspended solids, Total	<2 mg/l	TM022	8.25 #	5.9		
BOD, unfiltered	<1 mg/l	TM045	<1 #	<1 #		
Oxygen, dissolved	<0.3 mg/l	TM046	9.41	9.65		
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.0319	0.0237		
Fluoride	<0.5 mg/l	TM104	<0.5	<0.5		
COD, unfiltered	<7 mg/l	TM107	17.6	21.8		
Conductivity @ 20 deg.C	<0.02	TM120	0.64	0.642		
Arsenic (diss.filt)	mS/cm <0.5 μg/l	TM152	<0.5	<0.5		
Barium (diss.filt)	<0.2 µg/l	TM152	7.6	7.56		
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	<0.08		
Chromium (diss.filt)	<1 µg/l	TM152	2 # <1	2#		
Copper (diss.filt)	<0.3 µg/l	TM152	1.01	0.932		
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2	2 # <0.2		
Manganese (diss.filt)	<3 μg/l	TM152	9.09			
		TM152	1.57	1		
Nickel (diss.filt)	<0.4 µg/l		2#	2#		
Phosphorus (diss.filt)	<10 µg/l	TM152	14.2			
Selenium (diss.filt)	<1 µg/l	TM152	<1 2#			
Thallium (diss.filt)	<2 µg/l	TM152	<2 2#	_		
Zinc (diss.filt)	<1 µg/l	TM152	2.49 2#			
Sodium (Dis.Filt)	<0.076 mg/		16 2#			
Magnesium (Dis.Filt)	<0.036 mg/	TM152	4.69 2#	4.62 2#		
Potassium (Dis.Filt)	<0.2 mg/l	TM152	1.67 2#	1.62		
Calcium (Dis.Filt)	<0.2 mg/l	TM152	134 2#	132		
Iron (Dis.Filt)	<0.019 mg/	TM152	0.0501	0.0507		
Mineral oil >C10 C40 (aq)	<100 µg/l	TM172	<100	<100		
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	<0.01		
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.052	0.053		
Sulphate	<2 mg/l	TM184	11.7	11		
Chloride	<2 mg/l	TM184	28.1	27.5		
Sulphate (soluble) as S	<1 mg/l	TM184	3.9	3.67		
PCB congener 28	<0.015 µg/	TM197	<0.015	<0.015		
PCB congener 52	<0.015 µg/	TM197	<0.015	<0.015		
PCB congener 101	<0.015 µg/	TM197	<0.015	<0.015		
Ť	1.19		•			

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Results Legend		Customer Sample Ref.	CMO (DO)	DAM (LID)	I	I	
# ISO17025 accredited. M mCERTS accredited.	,	sustomer sample Kei.	SW2 (DS)	SW1 (US)			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00			
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor repo	ort for	Sample Type	Surface Water (SW) 30/07/2020	Surface Water (SW) 30/07/2020			
accreditation status.  ** % recovery of the surrogate standard to ch	eck the	Date Sampled Sample Time	30/07/2020	30/07/2020			
efficiency of the method. The results of ind compounds within samples aren't corrected		Date Received	31/07/2020 200731-90	31/07/2020 200731-90			
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	22583459	22583445			
1-3+§@ Sample deviation (see appendix)	I OD#Inite	AGS Reference					
Component PCB congener 118	<b>LOD/Units</b> <0.015 μg/l	Method TM197	<0.015	<0.015			
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015			
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105			
Cyanide, Total	<0.05 mg/l	TM227	<0.05	<0.05			
Н	<1 pH Units	TM256	7.73	7.81			
Trifluralin	<0.01 µg/l	TM343	<0.01	<0.01			
alpha-HCH	<0.01 µg/l	TM343	<0.01	<0.01			
gamma-HCH (Lindane)	<0.01 µg/l	TM343	<0.01	<0.01			
Heptachlor	<0.01 µg/l	TM343	<0.01	<0.01			
Aldrin	<0.01 µg/l	TM343	<0.01	<0.01			
peta-HCH	<0.01 µg/l	TM343	<0.01	<0.01			
sodrin	<0.01 µg/l	TM343	<0.01	<0.01			
delta-HCH	<0.01 µg/l	TM343	<0.01	<0.02			
Heptachlor epoxide	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01			
Endosulphan I	<0.01 µg/l	TM343	<0.01	<0.01			
trans-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01			
sis-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01			
Dieldrin	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01			
Endrin	<0.01 µg/l	TM343	<0.01	<0.01			
p,p'-DDT	<0.01 µg/l	TM343	<0.01	<0.04			
o,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01			
Endosulphan II	<0.02 µg/l	TM343	<0.02	<0.02			
p,p'-DDT	<0.01 µg/l	TM343	<0.01	<0.07			
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.01	<0.04			
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.01	<0.07			
Endosulphan Sulphate	<0.02 µg/l	TM343	<0.02	<0.04			
Permethrin I	<0.01 µg/l	TM343	<0.01	<0.01			
Permethrin II	<0.01 µg/l	TM343	<0.01	<0.01			
	_						

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Results Legend		Customer Sample Ref.	SW2 (DS)	SW1 (US)			1	
# ISO17025 accredited. M mCERTS accredited.		ouctomer oumpro recon	3W2 (D3)	SW1 (03)				
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00				
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report accreditation status.	rt for	Sample Type Date Sampled	Surface Water (SW) 30/07/2020	Surface Water (SW) 30/07/2020				
** % recovery of the surrogate standard to che efficiency of the method. The results of indiv	eck the	Sample Time						
compounds within samples aren't corrected recovery		Date Received SDG Ref	31/07/2020 200731-90	31/07/2020 200731-90				
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22583459	22583445				
Component	LOD/Units	Method						
1,3,5-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01				
Hexachlorobutadiene	<0.01 µg/l	TM344	<0.01	<0.01				
1,2,4-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01				
1,2,3-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01				
Dichlorvos	<0.01 µg/l	TM344	<0.01	<0.01				
Dichlobenil	<0.01 µg/l	TM344	<0.01	<0.01				
Mevinphos	<0.01 µg/l	TM344	<0.01	<0.01				
Tecnazene	<0.01 µg/l	TM344	<0.01	<0.01				
Hexachlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01				
Demeton-S-methyl	<0.01 µg/l	TM344	<0.01	<0.01				
Phorate	<0.01 µg/l	TM344	<0.01	<0.01				
Diazinon	<0.01 µg/l	TM344	<0.01	<0.01				
Triallate	<0.01 µg/l	TM344	<0.01	<0.01				
Atrazine	<0.01 µg/l	TM344	<0.01	<0.01				
Simazine	<0.01 µg/l	TM344	<0.01	<0.01				
Disulfoton	<0.01 µg/l	TM344	<0.01	<0.01				
Propetamphos	<0.01 µg/l	TM344	<0.01	<0.01				
Chlorpyriphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01				
Dimethoate	<0.01 µg/l	TM344	<0.01	<0.01				
Pirimiphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01				
Chlorpyriphos	<0.01 µg/l	TM344	<0.01	<0.01				
Methyl Parathion	<0.01 µg/l	TM344	<0.01	<0.01				
Malathion	<0.01 µg/l	TM344	<0.01	<0.01				
Fenthion	<0.01 µg/l	TM344	<0.01	<0.01				
Fenitrothion	<0.01 µg/l	TM344	<0.01	<0.01				
Triadimefon	<0.01 µg/l	TM344	<0.01	<0.01				
Pendimethalin	<0.01 µg/l	TM344	<0.01	<0.01				
Parathion	<0.01 µg/l	TM344	<0.01	<0.01				
Chlorfenvinphos	<0.01 µg/l	TM344	<0.01	<0.01				
trans-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01				
cis-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01				
Ethion	<0.01 µg/l	TM344	<0.01	<0.01				
Carbophenothion	<0.01 µg/l	TM344	<0.01	<0.01				
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Results Legend # ISO17025 accredited. M mCERTS accredited.		Customer Sample Ref.	SW2 (DS)	SW1 (US)		
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00		
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor rep accreditation status.	ort for	Sample Type Date Sampled	Surface Water (SW) 30/07/2020	Surface Water (SW) 30/07/2020		
** % recovery of the surrogate standard to che efficiency of the method. The results of inc	lividual	Sample Time Date Received	31/07/2020	31/07/2020		
compounds within samples aren't correcte recovery (F) Trigger breach confirmed	d for the	SDG Ref Lab Sample No.(s)	200731-90 22583459	200731-90 22583445		
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference				
Triazophos	<0.01 µg/		<0.01	<0.01		
Phosalone	<0.01 µg/	TM344	<0.01	<0.01		
Azinphos methyl	<0.02 µg/	TM344	<0.02	<0.02		
Azinphos ethyl	<0.02 µg/	TM344	<0.02	<0.02		
Etridiazole	<0.01 µg/	TM345	<0.01	<0.02		
Pentachlorobenzene	<0.01 µg/	TM345	<0.01	<0.01		
Propachlor	<0.01 µg/	TM345	<0.01	<0.01		
Quintozene (PCNB)	<0.01 µg/	TM345	<0.01	<0.01		
Omethoate	<0.01 µg/	TM345	<0.01	<0.01		
Propazine	<0.01 µg/		<0.01	<0.01		
Propyzamide	<0.01 µg/	TM345	<0.01	<0.01		
Alachlor	<0.01 µg/	TM345	<0.01	<0.01		
Prometryn	<0.01 µg/	TM345	<0.01	<0.01		
Telodrin	<0.01 µg/	TM345	<0.01	<0.01		
Terbutryn	<0.01 µg/	TM345	<0.01	<0.01		
Chlorothalonil	<0.01 µg/	TM345	<0.01	<0.03		
Etrimphos	<0.01 µg/	TM345	<0.01	<0.01		
Metazachlor	<0.01 µg/		<0.01	<0.01		
Cyanazine	<0.01 µg/		<0.01	<0.01		
Trietazine	<0.01 µg/	TM345	<0.01	<0.01		
Coumaphos	<0.01 µg/	TM345	<0.01	<0.01		
Phosphamidon I	<0.01 µg/	TM345	<0.01	<0.02		
Phosphamidon II	<0.01 µg/	TM345	<0.01	<0.02		
Dinitro-o-cresol	<0.1 µg/l	TM411	<0.1	<0.1		
Clopyralid	<0.04 µg/		<0.04	<0.04		
MCPA	<0.05 µg/	TM411	<0.05	<0.05		
Mecoprop	<0.04 µg/	TM411	<0.04	<0.04		
Dicamba	<0.04 µg/	TM411	<0.04	<0.04		
MCPB	<0.05 µg/	TM411	<0.05	<0.05		
2,4-DB	<0.1 µg/l	TM411	<0.1	<0.1		
2,3,6-Trichlorobenzoic acid	<0.05 µg/	TM411	<0.05	<0.05		
Dichlorprop	<0.1 µg/l	TM411	<0.1	<0.1		
Triclopyr	<0.05 µg/	TM411	<0.05	<0.05		
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Results Legend		Customer Sample Ref.	SW2 (DS)	SW1 (US)			
# ISO17025 accredited. M mCERTS accredited.		, , ,	5.12 (85)	5(55)			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00			
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	for	Sample Type Date Sampled	Surface Water (SW) 30/07/2020	Surface Water (SW) 30/07/2020			
accreditation status.  ** % recovery of the surrogate standard to check	k the	Sample Time					
efficiency of the method. The results of individence compounds within samples aren't corrected for	dual or the	Date Received SDG Ref	31/07/2020 200731-90	31/07/2020 200731-90			
recovery  (F) Trigger breach confirmed  1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22583459	22583445			
Component	LOD/Units	Method					
Fenoprop (Silvex)	<0.1 µg/l	TM411	<0.1	<0.1			
0.4.5:11	2.05 #	T1444	0.05	0.05			
2,4-Dichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.05	<0.05			
2,4,5-Trichlorophenoxyacetic	<0.05 µg/l	TM411	<0.05	<0.05			
acid	0.00 pg/.		0.00	0.00			
Bromoxynil	<0.04 µg/l	TM411	<0.04	<0.04			
Benazolin	<0.04 µg/l	TM411	<0.04	<0.04			
loxynil	<0.05 µg/l	TM411	<0.05	<0.05			
loxyriii	-0.00 руп	1,,,,,,	.0.00	10.00			
Pentachlorophenol	<0.04 µg/l	TM411	<0.04	<0.04			
Fluoroxypyr	<0.1 µg/l	TM411	<0.1	<0.1			
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 SDG:
 200731-90
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 P2282
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 562381

 Location:
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 Order Number:
 Z2189
 Superseded Report:

SVOC MS (W) - Aqueou	IS						
# ISO17025 accredited.  M mCERTS accredited.  aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Customer Sample Ref.  Depth (m)  Sample Type	SW2 (DS) 0.00 - 0.00 Surface Water (SW)	SW1 (US)  0.00 - 0.00 Surface Water (SW)			
* Subcontracted - refer to subcontractor repo accreditation status. ** % recovery of the surrogate standard to che		Date Sampled Sample Time	30/07/2020	30/07/2020			
efficiency of the method. The results of indi- compounds within samples aren't corrected	vidual	Date Received	31/07/2020	31/07/2020			
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	200731-90 22583459	200731-90 22583445			
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<8	<10			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	# <8	<10			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	# <8	<10			
1,4-Dichlorobenzene (aq)		TM176	# <8	**************************************			
` "	<1 µg/l		#	#			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<10 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<10 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<8 #	<10 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<8	<10			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 "	<10 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	# <8	<10			
2-Chloronaphthalene (aq)	<1 µg/l	TM176	# <8	<10			
		TM176	# <8	**************************************			
2-Chlorophenol (aq)	<1 µg/l		#	#			
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<8 #	<10 #			
2-Methylphenol (aq)	<1 µg/l	TM176	<8 #	<10 #			
2-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<10 #			
2-Nitrophenol (aq)	<1 µg/l	TM176	<8 #	<10			
3-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<10 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<10			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<8 #	<10			
4-Chloroaniline (aq)	<1 µg/l	TM176	<8	<10			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<8	<10			
4-Methylphenol (aq)	<1 µg/l	TM176	<8	<10			
4-Nitroaniline (aq)	<1 µg/l	TM176	<8	<10			
4-Nitrophenol (aq)	<1 µg/l	TM176	# <8	<10			
Azobenzene (aq)	<1 µg/l	TM176	<8	<10			
Acenaphthylene (aq)	<1 μg/l	TM176	# <8				
Acenaphthene (aq)	<1 μg/l	TM176		<10 #			
			#	#			
Anthracene (aq)	<1 µg/l	TM176	<8 #				
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<8 #	<10 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<8 #	<10 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<16 #	<20			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<8	<10			
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<8	<10 #			
			#	#	ļ	<u> </u>	

200731-90 New Inn Landfill P2282 Z2189 Report Number: Superseded Report: SDG: Client Reference: 562381 Location: Order Number:

SVOC MS (W) - Aqueous	6					
Results Legend # IS017025 accredited.		Customer Sample Ref.	SW2 (DS)	SW1 (US)		
M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report!	for	Depth (m) Sample Type Date Sampled	0.00 - 0.00 Surface Water (SW) 30/07/2020	0.00 - 0.00 Surface Water (SW) 30/07/2020		
accreditation status.  ** % recovery of the surrogate standard to check efficiency of the method. The results of individ	dual	Sample Time Date Received	31/07/2020	31/07/2020		
compounds within samples aren't corrected for recovery  (F) Trigger breach confirmed	or the	SDG Ref Lab Sample No.(s)	200731-90 22583459	200731-90 22583445		
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method				
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Carbazole (aq)	<1 µg/l	TM176	<8 #	<10 #		
Chrysene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Dibenzofuran (aq)	<1 µg/l	TM176	<8 #	<10 #		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<8 #	<10 #		
Diethyl phthalate (aq)	<1 µg/l	TM176	<8 #	<10 #		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Dimethyl phthalate (aq)	<1 µg/l	TM176	<8 #	<10 #		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<40 #	<50 #		
Fluoranthene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Fluorene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Hexachlorobenzene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Pentachlorophenol (aq)	<1 µg/l	TM176	<8	<10		
Phenol (aq)	<1 µg/l	TM176	<8	<10		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<8 #	<10 #		
Hexachloroethane (aq)	<1 µg/l	TM176	<8 #	<10 #		
Nitrobenzene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Naphthalene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Isophorone (aq)	<1 µg/l	TM176	<8 #	<10 #		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<8	<10		
Phenanthrene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<8 #	<10 #		
Pyrene (aq)	<1 µg/l	TM176	<8 #	<10 #		

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VOC MS (W)  Results Legend					_		
# ISO17025 accredited. M mCERTS accredited.		Customer Sample Ref.	SW2 (DS)	SW1 (US)			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00	0.00 - 0.00			
<ul> <li>* Subcontracted - refer to subcontractor report accreditation status.</li> </ul>		Date Sampled	Surface Water (SW) 30/07/2020	Surface Water (SW) 30/07/2020			
** % recovery of the surrogate standard to chec efficiency of the method. The results of indivi compounds within samples aren't corrected f	dual	Sample Time Date Received	31/07/2020	31/07/2020			
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	200731-90 22583459	200731-90 22583445			
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method					
Dibromofluoromethane**	%	TM208	107	106			
Toluene-d8**	%	TM208	100	100			
4-Bromofluorobenzene**	%	TM208	99.8	99.8			
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1	#		
Chloromethane	<1 µg/l	TM208	<1 #	<1	#		
Vinyl chloride	<1 µg/l	TM208	<1 #	<1	#		
Bromomethane	<1 µg/l	TM208	<1 #	<1	#		
Chloroethane	<1 µg/l	TM208	<1 #	<1	#		
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1	#		
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1	#		
Carbon disulphide	<1 µg/l	TM208	<1 #	<1	#		
Dichloromethane	<3 µg/l	TM208	<3 #	<3	#		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1	#		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1	#		
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1	#		
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1	#		
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1			
Bromochloromethane Chloroform	<1 µg/l	TM208	<1 # <1	<1	#		
	<1 µg/l		#		#		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1	#		
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1	#		
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1	#		
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1	#		
Benzene	<1 µg/l	TM208	<1 #	<1	#		
Trichloroethene	<1 µg/l	TM208	<1 #	<1	#		
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1	#		
Dibromomethane	<1 µg/l	TM208	<1 #	<1	#		
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1	#		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1	#		
Toluene	<1 µg/l	TM208	<1 #	<1	#		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1	#		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 # <1	<1	#		
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1	#		

200731-90 New Inn Landfill P2282 Z2189 Report Number: Superseded Report: SDG: Client Reference: 562381 Location: Order Number:

Revolute Legond   Customer Sample Ref   SY2 (pS)   SW1 (uS)	
Automate   Intelligent Production   Company   Company	
Striction of the matrices for season of interlocks and composed with samples and recorded to the season of interlocks and composed with samples and recorded to the season of interlocks and seaso	
1.2-Dibromochloromethane   1.4 pg/l   TM208   1   1.	
Description	
Dibromochloromethane	
Dibromochloromethane	
1,2-Dibromoethane	
H	
# # # # # # # # # # # # # # # # # # #	
# # #   #   #	
# # #   #   #	
# # # Styrene	
H	
H	
Isopropylbenzene	
# # # 1,2,3-Trichloropropane <1 µg/l TM208 <1 <1 # #	
# #	
Bromobenzene <1 μg/l TM208 <1 <1 #	
Propylbenzene <1 μg/l TM208 <1 <1 # #	
2-Chlorotoluene <1 μg/l TM208 <1 <1 #	
1,3,5-Trimethylbenzene <1 µg/l TM208 <1 <1 #	
4-Chlorotoluene <1 μg/l TM208 <1 <1 #	
tert-Butylbenzene <1 µg/l TM208 <1 <1 #	
1,2,4-Trimethylbenzene <1 µg/l TM208 <1 <1 #	
sec-Butylbenzene <1 μg/l TM208 <1 <1 #	
4-iso-Propyltoluene <1 μg/l TM208 <1 <1 #	
1,3-Dichlorobenzene <1 µg/l TM208 <1 <1 #	
1,4-Dichlorobenzene <1 µg/l TM208 <1 <1 #	
n-Butylbenzene <1 μg/l TM208 <1 <1 #	
1,2-Dichlorobenzene <1 µg/l TM208 <1 <1 #	
1,2-Dibromo-3-chloropropane <1 µg/l TM208 <1 <1	
1,2,4-Trichlorobenzene <1 μg/l TM208 <1 <1 #	
Hexachlorobutadiene   <1 μg/l   TM208   <1   <1     #	
tert-Amyl methyl ether (TAME) <1 μg/l TM208 <1 <1 #	
Naphthalene <1 μg/l TM208 <1 <1 #	
1,2,3-Trichlorobenzene <1 µg/l TM208 <1 <1 # #	
1,3,5-Trichlorobenzene <1 μg/l TM208 <1 <1	

Validated



#### **CERTIFICATE OF ANALYSIS**

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# **Table of Results - Appendix**

	Table of Results - Appendix									
Method No	Reference	Description								
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters								
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								
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								
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser								
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit								
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter								
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								
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers								
TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters								
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters								
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								
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								
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS								
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS								
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS								
TM411	Acid_Herbs_GCMS	Acid Herbs in Water by GCMS								

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

#### **CERTIFICATE OF ANALYSIS**

ALS

SDG: 200731-90 Location: New Inn Landfill Client Reference: Order Number: P2282 Z2189 Report Number: Superseded Report: 562381

# **Test Completion Dates**

Lab Sample No(s)	22583459	22583445
• • • •	SW2 (DS)	SW1 (US)
Customer Sample Ref.	()	5111 (53)
AGS Ref.		
Depth	0.00 - 0.00	0.00 - 0.00
Туре	Surface Water	Surface Water
Acid Herbicides by GCMS	07-Aug-2020	07-Aug-2020
Ammonium Low	06-Aug-2020	06-Aug-2020
Anions by Kone (w)	03-Aug-2020	03-Aug-2020
BOD True Total	06-Aug-2020	06-Aug-2020
COD Unfiltered	01-Aug-2020	01-Aug-2020
Conductivity (at 20 deg.C)	05-Aug-2020	05-Aug-2020
Cyanide Comp/Free/Total/Thiocyanate	07-Aug-2020	06-Aug-2020
Dissolved Metals by ICP-MS	07-Aug-2020	07-Aug-2020
Dissolved Oxygen by Probe	02-Aug-2020	02-Aug-2020
Fluoride	04-Aug-2020	04-Aug-2020
Mercury Dissolved	05-Aug-2020	05-Aug-2020
Mineral Oil C10-40 Aqueous (W)	07-Aug-2020	07-Aug-2020
PCB Congeners - Aqueous (W)	07-Aug-2020	07-Aug-2020
Pesticides (Suite I) by GCMS	07-Aug-2020	06-Aug-2020
Pesticides (Suite II) by GCMS	07-Aug-2020	07-Aug-2020
Pesticides (Suite III) by GCMS	06-Aug-2020	05-Aug-2020
pH Value	04-Aug-2020	03-Aug-2020
Phosphate by Kone (w)	04-Aug-2020	04-Aug-2020
Suspended Solids	05-Aug-2020	05-Aug-2020
SVOC MS (W) - Aqueous	09-Aug-2020	09-Aug-2020
VOC MS (W)	04-Aug-2020	04-Aug-2020



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# **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. 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 month 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. 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.
- 16. 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.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
§	Sampled on date not provided
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples

#### 19. Asbestos

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 (NDP). The quantity of

#### 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 ALS (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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbe stos Type	Common Name
Chrysof le	White Asbestos
Amosite	Brow nAsbests
Cro d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib to us Anthop hyll ite	-
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.

#### Respirable Fibres

Respirable fibres are defined as fibres of <3  $\mu$ m diameter, longer than 5  $\mu$ m and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, The Quantification of Asbestos in Soil (2017)

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.



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Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

### **CERTIFICATE OF ANALYSIS**

Date of report Generation:03 September 2020Customer:Fehily TimoneySample Delivery Group (SDG):200826-98Your Reference:P2282Location:New Inn LandfillReport No:565823

We received 2 samples on Wednesday August 26, 2020 and 2 of these samples were scheduled for analysis which was completed on Thursday September 03, 2020. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager







Lab Sample No(s) 22723236

22723227

## **CERTIFICATE OF ANALYSIS**

P2282

Z2189

Validated

Report Number: Superseded Report:

0.00 - 0.00

565823

25/08/2020

**Received Sample Overview** 

Client Reference:

Order Number:

Received Cample Overview								
Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date					
SW2 (DS)		0.00 - 0.00	25/08/2020					

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

SW1 (US)

200826-98

New Inn Landfill

SDG: 200826-98 Client Reference: P2282 Report Number: 565823 New Inn Landfill Z2189 Superseded Report: Location: Order Number: Results Legend 22723236 22723227 Lab Sample No(s) X Test No Determination Possible SW2 (DS) SW1 (US) Customer Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water HNO3 Filtered (ALE204) H2SO4 (ALE244) 500ml Plastic (ALE208) 250ml BOD (ALE212) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) H2SO4 (ALE244) HNO3 Filtered (ALE204) NaOH (ALE245) DW - Drinking Water Non-regulatory NaOH (ALE245) (ALE208) 250ml BOD (ALE212) Vial (ALE297) Vial (ALE297) 500ml Plastic UNL - Unspecified Liquid SL - Sludge Container G - Gas OTH - Other Sample Type WS Acid Herbicides by GCMS All NDPs: 0 Tests: 2 Х Х Ammonium Low All NDPs: 0 Tests: 2 Χ Χ Anions by Kone (w) All NDPs: 0 Tests: 2 X X BOD True Total All NDPs: 0 Tests: 2 X X COD Unfiltered All NDPs: 0 Tests: 2 Χ Χ Conductivity (at 20 deg.C) All NDPs: 0 Tests: 2 Х Х Cyanide Comp/Free/Total/Thiocyanate All NDPs: 0 Tests: 2 Х X Dissolved Metals by ICP-MS All NDPs: 0 Tests: 2 Χ X Dissolved Oxygen by Probe All NDPs: 0 Tests: 2 Χ Х Fluoride All NDPs: 0 Tests: 2 Χ X Mercury Dissolved All NDPs: 0 Tests: 2 X X Mineral Oil C10-40 Aqueous (W) All NDPs: 0 Tests: 2 Х X PCB Congeners - Aqueous (W) All NDPs: 0 Tests: 2 Х Х Pesticides (Suite I) by GCMS All NDPs: 0

Pesticides (Suite II) by GCMS

All

Х

X

Tests: 2

NDPs: 0 Tests: 2

Х

Χ

Validated

#### **CERTIFICATE OF ANALYSIS**

Air	

P2282 SDG: 200826-98 Client Reference: Report Number: 565823 Location: New Inn Landfill Z2189 Superseded Report: Order Number: Results Legend 22723236 22723227 Lab Sample No(s) X Test No Determination Possible SW2 (DS) SW1 (US) Customer Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water HNO3 Filtered (ALE204) H2SO4 (ALE244) 500ml Plastic (ALE208) 250ml BOD (ALE212) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) H2SO4 (ALE244) HNO3 Filtered (ALE204) 500ml Plastic (ALE208) 250ml BOD (ALE212) NaOH (ALE245) NaOH (ALE245) DW - Drinking Water Non-regulatory Vial (ALE297) Vial (ALE297) UNL - Unspecified Liquid SL - Sludge Container G - Gas OTH - Other Sample Type WS Pesticides (Suite III) by GCMS All NDPs: 0 Tests: 2 Χ X pH Value All NDPs: 0 Tests: 2 X X Phosphate by Kone (w) All NDPs: 0 Tests: 2 X Х Suspended Solids All NDPs: 0 Tests: 2 X Х SVOC MS (W) - Aqueous All NDPs: 0 Tests: 2 Х Χ VOC MS (W) All NDPs: 0 Tests: 2

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565823

#### **CERTIFICATE OF ANALYSIS**

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Results Legend # ISO17025 accredited. M mCERTS accredited.		Customer Sample Ref.	SW2 (DS)	SW1 (US)			
aq Aqueous / settled sample.  diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00			
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	for	Sample Type Date Sampled	Surface Water (SW) 25/08/2020	Surface Water (SW) 25/08/2020			
accreditation status.  ** % recovery of the surrogate standard to check		Sample Time					
efficiency of the method. The results of indivic compounds within samples aren't corrected for recovery		Date Received SDG Ref	26/08/2020 200826-98	26/08/2020 200826-98			
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22723236	22723227			
Component	LOD/Units	Method			4		
Suspended solids, Total	<2 mg/l	TM022	3.6	3.75	#		
BOD, unfiltered	<1 mg/l	TM045	2.97	2.67	٦		
	2.0 "	714040	#		#		
Oxygen, dissolved	<0.3 mg/l	I TM046	10.9	10			
Ammoniacal Nitrogen as N (low	<0.01 mg/	/I TM099	0.0861	0.0716	┪		
level)	.0.5 //	T1404	#		#		
Fluoride	<0.5 mg/l	I TM104	<0.5	<0.5			
COD, unfiltered	<7 mg/l	TM107	61.9	64	ヿ		
Conductivity @ 20 dog C	<0.02	TM120	0.367	0.352	#		
Conductivity @ 20 deg.C	mS/cm	1101120	0.307	l	#		
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.14	0.91	╛		
Devium (dies filt)	<0.2 · · ~//	TM450	6.70		#		
Barium (diss.filt)	<0.2 µg/l	TM152	6.72 #	6.58	#		
Cadmium (diss.filt)	<0.08 µg/	/I TM152	<0.08	<0.08			
Chromium (diss.filt)	<1 µg/l	TM152	1.5	<1	#		
Chromium (diss.nit)	- 1 μg/i	TIVITUE	1.5	l	#		
Copper (diss.filt)	<0.3 µg/l	TM152	2.93	3.15	П		
Lead (diss.filt)	<0.2 µg/l	TM152	0.43	0.352	#		
Lead (diss.iiit)	-0.2 μg/1	TWITE	0.40 #	l	#		
Manganese (diss.filt)	<3 µg/l	TM152	20	22.4	$\prod$		
Nickel (diss.filt)	<0.4 µg/l	TM152	3.33	4.47	#		
Thore (dioc.iii)	-0.1 μg/1	111102	#_	l	#		
Phosphorus (diss.filt)	<10 µg/l	TM152	148 #	146	#		
Selenium (diss.filt)	<1 µg/l	TM152	<1	<1	#		
			#		#		
Thallium (diss.filt)	<2 µg/l	TM152	<2 #	<2	#		
Zinc (diss.filt)	<1 µg/l	TM152	10.4	8.82	<u>"</u>		
0 11 (7) 510	0.070	# T14450	#		#		
Sodium (Dis.Filt)	<0.076 mg	ı/l TM152	10.7 #	15.1	#		
Magnesium (Dis.Filt)	<0.036 mg	ı/l TM152	3.02	3.31			
Potassium (Dis.Filt)	<0.2 mg/l	I TM152	3.06	3.07	#		
Foldssluff (DIS.Filt)	<0.2 mg/i	1 1101152	3.00		#		
Calcium (Dis.Filt)	<0.2 mg/l	TM152	73.2	78	T		
Iron (Dis.Filt)	<0.019 mg	ı/l TM152	0.603	0.545	#		
non (Dio.i iii)	-0.0191119	y. TIVITUE	0.003		#		
Mineral oil >C10 C40 (aq)	<100 µg/	I TM172	<100	<100	1		
Mercury (diss.filt)	<0.01 µg/	/I TM183	<0.01	<0.01	$\dashv$		
					╝		
Phosphate (Ortho as PO4)	<0.05 mg/	/I TM184	0.175	0.161	"I		
Sulphate	<2 mg/l	TM184	<2	<2	#		
			#	;	#		
Chloride	<2 mg/l	TM184	15 #	15.5	#		
Sulphate (soluble) as S	<1 mg/l	TM184	<1	<1	n'		
			#		#		
PCB congener 28	<0.015 µg	/I TM197	<0.015	<0.015			
PCB congener 52	<0.015 µg	/l TM197	<0.015	<0.015	7		
DOD conson 404	20 045	// T14407	-0.04E	-0.045	4		
PCB congener 101	<0.015 µg	/l TM197	<0.015	<0.015			
		_			_		

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Results Legend		Customer Sample Ref.	omo (Do)	CIMA // ICV		1	
# ISO17025 accredited.  M mCERTS accredited.  aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt total / unfiltered sample.  Subcontracted - refer to subcontractor report		Depth (m) Sample Type	SW2 (DS)  0.00 - 0.00  Surface Water (SW)	SW1 (US)  0.00 - 0.00  Surface Water (SW)			
accreditation status.  ** % recovery of the surrogate standard to check efficiency of the method. The results of individuals	c the	Date Sampled Sample Time	25/08/2020	25/08/2020			
compounds within samples aren't corrected for recovery		Date Received SDG Ref	26/08/2020 200826-98	26/08/2020 200826-98			
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22723236	22723227			
Component PCB congener 118	<b>LOD/Units</b> <0.015 μg/l	Method TM197	<0.015	<0.015			
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015			
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105			
Cyanide, Total	<0.05 mg/l	TM227	<0.05	<0.05			
pH	<1 pH Units	TM256	7.41 #	7.44 #			
Trifluralin	<0.01 µg/l	TM343	<0.01	<0.01			
alpha-HCH	<0.01 µg/l	TM343	<0.01	<0.01			
gamma-HCH (Lindane)	<0.01 µg/l	TM343	<0.01	<0.01			
Heptachlor	<0.01 µg/l	TM343	<0.01	<0.01			
Aldrin	<0.01 µg/l	TM343	<0.01	<0.01			
beta-HCH	<0.01 µg/l	TM343	<0.01	<0.01			
Isodrin	<0.01 µg/l	TM343	<0.01	<0.01			
delta-HCH	<0.01 µg/l	TM343	<0.01	<0.01			
Heptachlor epoxide	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01			
Endosulphan I	<0.01 µg/l	TM343	<0.01	<0.01			
trans-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01			
cis-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01			
p,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01			
Dieldrin	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01			
Endrin	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-DDT	<0.01 µg/l	TM343	<0.01	<0.01			
p,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01			
Endosulphan II	<0.02 µg/l	TM343	<0.02	<0.02			
p,p'-DDT	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.01	<0.01			
p,p'-Methoxychlor	<0.01 µg/l	TM343	<0.01	<0.01			
Endosulphan Sulphate	<0.02 µg/l	TM343	<0.02	<0.02			
Permethrin I	<0.01 µg/l	TM343	<0.01	<0.01			
Permethrin II	<0.01 µg/l	TM343	<0.01	<0.01			
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Results Legend		uetomor Com-l- D.	0110 /05	2004 815	•	1	
# ISO17025 accredited.  M mCERT's accredited.  aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.  Subcontracted - refer to subcontractor report accreditation status.  " % recovery of the surrogate standard to chec efficiency of the method. The results of individ	for c the	Depth (m) Sample Type Date Sampled Sample Time	SW2 (DS)  0.00 - 0.00  Surface Water (SW) 25/08/2020	SW1 (US)  0.00 - 0.00  Surface Water (SW)  25/08/2020			
compounds within samples aren't corrected for recovery (F) Trigger breach confirmed		Date Received SDG Ref Lab Sample No.(s)	26/08/2020 200826-98 22723236	26/08/2020 200826-98 22723227			
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method					
1,3,5-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01			
Hexachlorobutadiene	<0.01 µg/l	TM344	<0.01	<0.01			
1,2,4-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01			
1,2,3-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01			
Dichlorvos	<0.01 µg/l	TM344	<0.01	<0.01			
Dichlobenil	<0.01 µg/l	TM344	<0.01	<0.01			
Mevinphos	<0.01 µg/l	TM344	<0.01	<0.01			
Tecnazene	<0.01 µg/l	TM344	<0.01	<0.01			
Hexachlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01			
Demeton-S-methyl	<0.01 µg/l	TM344	<0.01	<0.01			
Phorate	<0.01 µg/l	TM344	<0.01	<0.01			
Diazinon	<0.01 µg/l	TM344	<0.01	<0.01			
Triallate	<0.01 µg/l	TM344	<0.01	<0.01			
Atrazine	<0.01 µg/l	TM344	<0.01	<0.01			
Simazine	<0.01 µg/l	TM344	<0.01	<0.01			
Disulfoton	<0.01 µg/l	TM344	<0.01	<0.01			
Propetamphos	<0.01 µg/l	TM344	<0.01	<0.01			
Chlorpyriphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01			
Dimethoate	<0.01 µg/l	TM344	<0.01	<0.01			
Pirimiphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01			
Chlorpyriphos	<0.01 µg/l	TM344	<0.01	<0.01			
Methyl Parathion	<0.01 µg/l	TM344	<0.01	<0.01			
Malathion	<0.01 µg/l	TM344	<0.01	<0.01			
Fenthion	<0.01 µg/l	TM344	<0.01	<0.01			
Fenitrothion	<0.01 µg/l	TM344	<0.01	<0.01			
Triadimefon	<0.01 µg/l	TM344	<0.01	<0.01			
Pendimethalin	<0.01 µg/l	TM344	<0.01	<0.01			
Parathion	<0.01 µg/l	TM344	<0.01	<0.01			
Chlorfenvinphos	<0.01 µg/l	TM344	<0.01	<0.01			
trans-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01			
cis-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01			
Ethion	<0.01 µg/l	TM344	<0.01	<0.01			
Carbophenothion	<0.01 µg/l	TM344	<0.01	<0.01			



Results Legend # ISO17025 accredited. M mCERTS accredited.		Customer Sample Ref.	SW2 (DS)	SW1 (US)			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00			
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor rep accreditation status.	ort for	Sample Type Date Sampled	Surface Water (SW) 25/08/2020	Surface Water (SW) 25/08/2020			
accreditation status.  ** % recovery of the surrogate standard to chefficiency of the method. The results of ind		Sample Time Date Received	26/08/2020	26/08/2020			
compounds within samples aren't correcte recovery		SDG Ref	200826-98 22723236	200826-98 22723227			
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22/23230	22123221			
Component Triazophos	<b>LOD/Unit</b> <0.01 μg		<0.01	<0.01			
			0.0 .	0.0.			
Phosalone	<0.01 µg	g/I TM344	<0.01	<0.01			
Azinphos methyl	<0.02 µg	g/I TM344	<0.04	<0.04			
	0.00	" T1011	2.22	0.00			
Azinphos ethyl	<0.02 µg	g/I TM344	<0.02	<0.02			
Etridiazole	<0.01 µg	g/l TM345	<0.01	<0.01			
Pentachlorobenzene	<0.01 µg	ı/l TM345	<0.01	<0.01			
T CHROCHIOTODCHIZOTIC	ιο.στ με	JUL 11010	١٥.٥١	10.01			
Propachlor	<0.01 µg	g/l TM345	<0.01	<0.01			
Quintozene (PCNB)	<0.01 µg	ı/I TM345	<0.01	<0.01			
Omethoate	<0.01 µg	g/I TM345	<0.01	<0.01			
Propazine	<0.01 µg	g/I TM345	<0.01	<0.01			
P	.0.04	// TMO 45	-0.04	.0.04			
Propyzamide	<0.01 µg	g/l TM345	<0.01	<0.01			
Alachlor	<0.01 µg	g/l TM345	<0.01	<0.01			
Prometryn	<0.01 µg	ı/l TM345	<0.01	<0.01			
Frometryn	νο.στ μς	J/1 1101343	<b>~</b> 0.01	<b>\</b> 0.01			
Telodrin	<0.01 µg	g/l TM345	<0.01	<0.01			
Terbutryn	<0.01 µg	ı/I TM345	<0.01	<0.01			
·							
Chlorothalonil	<0.01 µg	g/I TM345	<0.02	<0.02			
Etrimphos	<0.01 µg	g/I TM345	<0.01	<0.01			
Matanashira	40.04	-// TM2.45	-0.04	10.04			
Metazachlor	<0.01 µg	g/l TM345	<0.01	<0.01			
Cyanazine	<0.01 µg	g/l TM345	<0.01	<0.01			
Trietazine	<0.01 µg	g/I TM345	<0.01	<0.01			
Coumaphos	<0.01 µg	g/l TM345	<0.01	<0.01			
Phosphamidon I	<0.01 µg	g/l TM345	<0.01	<0.01			
Di li ii	.0.04	// TA40.45	.0.04	.0.04			
Phosphamidon II	<0.01 µg	g/l TM345	<0.01	<0.01			
Dinitro-o-cresol	<0.1 µg	/I TM411	<0.1	<0.2			
Clopyralid	<0.04 µg	g/I TM411	<0.04	<0.08			
MCPA	<0.05 µg	g/l TM411	<0.05	<0.1			
Mecoprop	<0.04 µg	g/I TM411	<0.04	<0.08			
Dicamba	<0.04 µg	g/l TM411	<0.04	<0.08			
МСРВ	<0.05 µg	g/I TM411	<0.05	<0.1			
2,4-DB	<0.1 µg	/I TM411	<0.1	<0.2			
2, <del>4</del> -UD	<υ.1 μg	/I I IIVI4 I I	<b>SU.</b> I	<b>\U.</b> Z			
2,3,6-Trichlorobenzoic acid	<0.05 µg	y/I TM411	<0.05	<0.1			
Dichlorprop	<0.1 µg	/I TM411	<0.1	<0.2			
Triclopyr	<0.05 µg	g/l TM411	<0.05	<0.1			
					<u>l</u>		



# ISO17025 accredited. # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt / Dissolved / filterot sample. tot.unfilt Total / unfiltered sample.		Customer Sample Ref. Depth (m) Sample Type	SW2 (DS) 0.00 - 0.00 Surface Water (SW)	SW1 (US)  0.00 - 0.00  Surface Water (SW)		
* Subcontracted - refer to subcontractor report to accreditation status.  ** % recovery of the surrogate standard to check		Date Sampled Sample Time	25/08/2020	25/08/2020		
** % recovery of the surrogate standard to check efficiency of the method. The results of individ compounds within samples aren't corrected for	dual	Date Received	26/08/2020	26/08/2020		
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	200826-98 22723236	200826-98 22723227		
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method				
Fenoprop (Silvex)	<0.1 µg/l	TM411	<0.1	<0.2		
2,4-Dichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.05	<0.1		
2,4,5-Trichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.1	<0.1		
Bromoxynil	<0.04 µg/l	TM411	<0.04	<0.08		
Benazolin	<0.04 µg/l	TM411	<0.04	<0.08		
loxynil	<0.05 µg/l	TM411	<0.05	<0.1		
Pentachlorophenol	<0.04 µg/l	TM411	<0.04	<0.08		
Fluoroxypyr	<0.1 µg/l	TM411	<0.1	<0.2		
***	1.0.					

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SVOC MS (	W) - Aqueous
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SVOC MS (W) - Aqueou Results Legend	IS					
Rosults Legend  # ISO17025 accredited.  M mCERTS accredited.  aq Aqueous / settled sample. diss.filit Dissolved filtered sample. tot.unfilt Total / unlitered sample.  *Subcontracted - refer to subcontractor repor		Customer Sample Ref.  Depth (m)  Sample Type	SW2 (DS)  0.00 - 0.00  Surface Water (SW)	SW1 (US)  0.00 - 0.00  Surface Water (SW)		
accreditation status.  ** % recovery of the surrogate standard to che		Date Sampled Sample Time	25/08/2020	25/08/2020		
efficiency of the method. The results of indiv compounds within samples aren't corrected		Date Received SDG Ref	26/08/2020 200826-98	26/08/2020 200826-98		
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	22723236	22723227		
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method				
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<4 #	<4 #		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 #	<4		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<4	<4		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<4	<4		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<4	<4		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<4	<4		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<4	<4		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<4 #	<4		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<4 #	<4		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	# <4 #	<4		
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<4		
2-Chlorophenol (aq)	<1 µg/l	TM176		<4		
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<4 #	<4		
2-Methylphenol (aq)	<1 µg/l	TM176	<4 #	<4 #		
2-Nitroaniline (aq)	<1 µg/l	TM176	<4 #	<4		
2-Nitrophenol (aq)	<1 µg/l	TM176	<4 #	<4		
3-Nitroaniline (aq)	<1 µg/l	TM176	<4 #	<4 #		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<4 #	<4		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<4 #	<4		
4-Chloroaniline (aq)	<1 µg/l	TM176	<4	<4		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<4 #	<4 #		
4-Methylphenol (aq)	<1 µg/l	TM176	<4 #	<4		
4-Nitroaniline (aq)	<1 µg/l	TM176	<4 #	<4 #		
4-Nitrophenol (aq)	<1 µg/l	TM176	<4	<4		
Azobenzene (aq)	<1 µg/l	TM176	<4 #			
Acenaphthylene (aq)	<1 µg/l	TM176	<4 #			
Acenaphthene (aq)	<1 µg/l	TM176	<4 #	<4 #		
Anthracene (aq)	<1 µg/l	TM176	<4 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<4 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<4 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<8 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<4 #			
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<4 #	<4 #		

ALS

 SDG:
 200826-98
 Client Reference:
 P2282
 Report Number:
 565823

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:

SVOC MS (W) - Aqueous									
Results Legend # ISO17025 accredited.		Customer Sample Ref.	SW2 (DS)	SW1 (US)					
M mCERTS accredited. aq Aqueous / settled sample.									
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW)					
* Subcontracted - refer to subcontractor report accreditation status.	for	Date Sampled	25/08/2020	25/08/2020					
** % recovery of the surrogate standard to check efficiency of the method. The results of individ		Sample Time Date Received	26/08/2020	26/08/2020					
compounds within samples aren't corrected for recovery		SDG Ref	200826-98	200826-98					
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22723236	22723227					
Component	LOD/Units								
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<4	<4					
D (1) 1 ()	.4 ()	T14470	#	#					
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<4 #	<4 #					
Carbazole (aq)	<1 µg/l	TM176	<4						
Garbazoic (aq)	νι μ9/ι	1101770	#	#					
Chrysene (aq)	<1 µg/l	TM176	<4	<4					
2 2 2 (2 4)	"3"		#	#					
Dibenzofuran (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Diethyl phthalate (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<4	<4					
Dimethyl abtholete (ex)	-1 · · ~/l	TM176	#	# <4					
Dimethyl phthalate (aq)	<1 µg/l	TM176	<4 #	<4 #					
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<20	<20					
in Blockyr phurialate (uq)	10 μg/1	1101770	120 #	#					
Fluoranthene (aq)	<1 µg/l	TM176	<4	<4					
(-1)	"3"		#	#					
Fluorene (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Hexachlorobenzene (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<4	<4					
2 / // /	4 "	T14470	#	#					
Pentachlorophenol (aq)	<1 µg/l	TM176	<4	<4					
Phenol (aq)	<1 ug/l	TM176	<4	<4					
Frielioi (aq)	<1 µg/l	TIVITIO	\ <del>*</del>	~4					
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<4	<4					
1 17 ( )	'		#	#					
Hexachloroethane (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Nitrobenzene (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Naphthalene (aq)	<1 µg/l	TM176	<4	<4					
learbasses (es)	44 //	TM470	#	# <4					
Isophorone (aq)	<1 µg/l	TM176	<4 #	<4 #					
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<4	<4					
riexaciiorocycloperitadierie (aq)	νι μ9/ι	1101770		, ,					
Phenanthrene (aq)	<1 µg/l	TM176	<4	<4					
(-4)	"3"		#	#					
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
Pyrene (aq)	<1 µg/l	TM176	<4	<4					
			#	#					
		+							

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C	MS	(W)	

VOC MS (W)					_		
Results Legend # ISO17025 accredited.		Customer Sample Ref.	SW2 (DS)	SW1 (US)			
M mCERTS accredited.  aq Aqueous / settled sample.		Donth (m)	0.00	0.00 0.00			
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW)			
<ul> <li>Subcontracted - refer to subcontractor report accreditation status.</li> </ul>		Date Sampled	25/08/2020	25/08/2020			
** % recovery of the surrogate standard to chec efficiency of the method. The results of indivi	idual	Sample Time Date Received	26/08/2020	26/08/2020			
compounds within samples aren't corrected in recovery	for the	SDG Ref	200826-98	200826-98			
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22723236	22723227			
Component	LOD/Units						
Dibromofluoromethane**	%	TM208	120	116			
Toluene-d8**	%	TM208	98.1	97.2			
					_		
4-Bromofluorobenzene**	%	TM208	98.4	97.3			
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	$\dashv$		
Dichiorodinaorometrarie	-1 μg/1	11/12/00	#	-	#		
Chloromethane	<1 µg/l	TM208	<1	<1	_		
	"		#		#		
Vinyl chloride	<1 µg/l	TM208	<1	<1	$\neg$		
			#		#		
Bromomethane	<1 µg/l	TM208	<1	<1			
			#		#		
Chloroethane	<1 µg/l	TM208	<1	<1			
			#		#		
Trichlorofluoromethane	<1 µg/l	TM208	<1 "	<1	ш		
1,1-Dichloroethene	<1 ug/l	TM208	<1	<1	#		
1,1-Dichioroethene	<1 µg/l	11/12/00	<u> </u>		#		
Carbon disulphide	<1 µg/l	TM208	<1	<1	π		
Carbon disalphiae	11 µg/1	11/1200	#	11	#		
Dichloromethane	<3 µg/l	TM208	<3	<3			
	1,5		#		#		
Methyl tertiary butyl ether	<1 µg/l	TM208	<1	<1	$\neg$		
(MTBE)			#		#		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1			
			#		#		
1,1-Dichloroethane	<1 µg/l	TM208	<1	<1			
: 40 P: 11	.4 //	T14000	#	-4	#		
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1	#		
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	#		
2,2-Dichioroproparie	-1 μg/1	11/12/00		-			
Bromochloromethane	<1 µg/l	TM208	<1	<1	$\dashv$		
			#		#		
Chloroform	<1 µg/l	TM208	<1	<1			
			#		#		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1			
			#		#		
1,1-Dichloropropene	<1 µg/l	TM208	<1 "	<1	,,		
Carbantatrashlarida	21 . m/l	TMOOO	#	-1	#		
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1	#		
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1	π		
.,_ 5.55.55	µg/i	1111200	#	"	#		
Benzene	<1 µg/l	TM208	<1	<1	$\dashv$		
			#		#	 	
Trichloroethene	<1 µg/l	TM208	<1	<1			
			#		#		
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1			
			#		#		
Dibromomethane	<1 µg/l	TM208	<1	<1	,,		
Decree districts as at the second	44	TM000	#	-14	#		
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1	#		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	π		
olo 1,0 Diomoropropente	- 1 μg/1	TIVIZUU	-1 #	`'	#		
Toluene	<1 µg/l	TM208	<1	<1			
			#		#		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	$\neg$		
			#		#		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1			
			#		#		
1,3-Dichloropropane	<1 µg/l	TM208	<1	<1	,		
			#		#		

ALS

 SDG:
 200826-98
 Client Reference:
 P2282
 Report Number:
 565823

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:

VOC MS (W)							
Results Legend		Customer Sample Ref.	SW2 (DS)	SW1 (US)			
# ISO17025 accredited. M mCERTS accredited.							
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00			
tot.unfilt Total / unfiltered sample.		Sample Type	Surface Water (SW)	Surface Water (SW)			
* Subcontracted - refer to subcontractor repo accreditation status.	rt for	Date Sampled	25/08/2020	25/08/2020			
** % recovery of the surrogate standard to che		Sample Time					
efficiency of the method. The results of indi- compounds within samples aren't corrected		Date Received	26/08/2020	26/08/2020			
recovery		SDG Ref	200826-98 22723236	200826-98 22723227			
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22123230	22123221			
Component	LOD/Units						
Tetrachloroethene	<1 µg/l	TM208	<1	<1			
retractionoetherie	-1 μg/1	TIVIZOO		1			
			#	#			
Dibromochloromethane	<1 µg/l	TM208	<1	<1			
			#	#			
1,2-Dibromoethane	<1 µg/l	TM208	<1	<1			
			#	#			
Chlorobenzene	<1 µg/l	TM208	<1	<1			
	1		#	#			
1 1 1 2 Tatrophlaraethana	-1 ··//	TMOOO					
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1 "			
			#	#			
Ethylbenzene	<1 µg/l	TM208	<1	<1			
			#	#			
m,p-Xylene	<1 µg/l	TM208	<1	<1			
[ * *	1-3-1		. #	. #			
o Yylono	المدد 1 د	TMACO	<1	<1	<del> </del>		
o-Xylene	<1 µg/l	TM208		1			1
	-		#	#			
Styrene	<1 µg/l	TM208	<1	<1			
			#	#			
Bromoform	<1 µg/l	TM208	<1	<1			
	"3"		#	#			
laanranylhanzana	<1.ug/l	TM208	<1	<1			
Isopropylbenzene	<1 µg/l	TIVIZUO		1			
	_		#	#			
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1			
			#	#			
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	<1			
, ,,	"3"		#	#			
Bromobenzene	<1.ug/l	TM208	<1	<1			
Bromobenzene	<1 µg/l	TIVIZUU		1			
			#	#			
Propylbenzene	<1 µg/l	TM208	<1	<1			
			#	#			
2-Chlorotoluene	<1 µg/l	TM208	<1	<1			
			#	#			
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	<1			
1,0,0 Trimetryiberizerie	11 µg/1	1101200	#	#			
1011	.4 ()	T14000					
4-Chlorotoluene	<1 µg/l	TM208	<1	<1			
			#	#			
tert-Butylbenzene	<1 µg/l	TM208	<1	<1			
			#	#			
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	<1			
,,,	"3"		#	#			
sec-Butylbenzene	<1 µg/l	TM208	<1	<1			
Sec-Butylberizerie	-1 μg/1	TIVIZOO		1			
1. 5 %:			#	#	<del>                                     </del>		
4-iso-Propyltoluene	<1 µg/l	TM208	<1	<1			1
			#	#			
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	<1			1
I			#	#			1
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	<1			
,	. Ma''	200	#	#			
n Putulbonzono	المدد 1 د	TMOOO					
n-Butylbenzene	<1 µg/l	TM208	<1	<1			1
			#	#			
1,2-Dichlorobenzene	<1 µg/l	TM208	<1	<1			1
			#	#			
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1			
0.787.7	"						1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	<1			
1,2,4-111611101000e112e11e	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	I IVI∠UO		1			
	1		#	#			
Hexachlorobutadiene	<1 µg/l	TM208	<1	<1			1
			#	#			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1			
l			#	#			
Naphthalene	<1 µg/l	TM208	<1	<1			
нарниционо	- 1 μg/l	1 101200	- "	<u> </u>			
100 T : II :		T1 1000			-		
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1	<1			1
			#	#			
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1			1
				<u> </u>	1		1
y					-	-	

Validated



New Inn Landfill

Location:

e: P2282 Z2189 Report Number: Superseded Report: 565823

# **Table of Results - Appendix**

Order Number:

Method No	Reference	Description
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters
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
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
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
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
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
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
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS
TM411	Acid_Herbs_GCMS	Acid Herbs in Water by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

## **CERTIFICATE OF ANALYSIS**

ALS

SDG: 200826-98 Location: New Inn Landfill Client Reference: Order Number: P2282 Z2189 Report Number: Superseded Report: 565823

# **Test Completion Dates**

Lab Sample No(s)	22723236	22723227
Customer Sample Ref.	SW2 (DS)	SW1 (US)
Cuctomor Cumpio Item		
AGS Ref.		
Depth	0.00 - 0.00	0.00 - 0.00
Туре	Surface Water	Surface Water
Acid Herbicides by GCMS	03-Sep-2020	28-Aug-2020
Ammonium Low	03-Sep-2020	03-Sep-2020
Anions by Kone (w)	27-Aug-2020	27-Aug-2020
BOD True Total	01-Sep-2020	01-Sep-2020
COD Unfiltered	30-Aug-2020	30-Aug-2020
Conductivity (at 20 deg.C)	27-Aug-2020	27-Aug-2020
Cyanide Comp/Free/Total/Thiocyanate	03-Sep-2020	03-Sep-2020
Dissolved Metals by ICP-MS	01-Sep-2020	01-Sep-2020
Dissolved Oxygen by Probe	28-Aug-2020	28-Aug-2020
Fluoride	01-Sep-2020	01-Sep-2020
Mercury Dissolved	03-Sep-2020	03-Sep-2020
Mineral Oil C10-40 Aqueous (W)	02-Sep-2020	02-Sep-2020
PCB Congeners - Aqueous (W)	03-Sep-2020	03-Sep-2020
Pesticides (Suite I) by GCMS	01-Sep-2020	01-Sep-2020
Pesticides (Suite II) by GCMS	01-Sep-2020	01-Sep-2020
Pesticides (Suite III) by GCMS	01-Sep-2020	01-Sep-2020
pH Value	27-Aug-2020	27-Aug-2020
Phosphate by Kone (w)	27-Aug-2020	27-Aug-2020
Suspended Solids	30-Aug-2020	30-Aug-2020
SVOC MS (W) - Aqueous	30-Aug-2020	30-Aug-2020
VOC MS (W)	03-Sep-2020	03-Sep-2020



 SDG:
 200826-98
 Client Reference:
 P2282
 Report Number:
 565823

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 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. 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. 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.
- 16. 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.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
§	Sampled on date not provided
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples

#### 19. Asbestos

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 (NDP). The quantity of

#### 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 ALS (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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbe stos Type	Common Name					
Chrysof le	White Asbestos					
Amosite	Brow n Asbests					
Cro d dolite	Blue Asbe stos					
Fibrous Act nolite	-					
Fib to us Anthop hyll ite	-					
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.

#### Respirable Fibres

Respirable fibres are defined as fibres of <3  $\mu$ m diameter, longer than 5  $\mu$ m and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, The Quantification of Asbestos in Soil (2017)

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.



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Website: www.alsenvironmental.co.uk

Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

### **CERTIFICATE OF ANALYSIS**

Date of report Generation:26 July 2021Customer:Fehily TimoneySample Delivery Group (SDG):210715-117Your Reference:P2282Location:New Inn LandfillReport No:607013

We received 2 samples on Thursday July 15, 2021 and 2 of these samples were scheduled for analysis which was completed on Monday July 26, 2021. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

**Operations Manager** 







Location:

## **CERTIFICATE OF ANALYSIS**

Z2798

Report Number: Superseded Report: P2282 607013 Client Reference:

Validated

# **Received Sample Overview**

Order Number:

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
24638818	SW1		0.00 - 0.00	14/07/2021
24638827	SW2		0.00 - 0.00	14/07/2021

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

New Inn Landfill

210715-117 New Inn Landfill P2282 Z2798 Report Number: Superseded Report: SDG: Client Reference: 607013 Location: Order Number:

Results Legend  X Test  No Determination Possible	Lab Sample No(s)			24638827							24638827						
Sample Types -	Custome Sample Refer								SW1							SW2	
S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate	AGS Refere	nce															
PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage	Depth (m	)							0.00 - 0.00					NaOH (ALE245) SW  HNO3 Filtered SW (ALE204) SW			
US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Containe	r	Outnit Plastic (ALE208) 250ml BOD (ALE212) 0.5! glass bottle (ALE227) Vial (ALE297) NaOH (ALE297) NaOH (ALE245) HNO3 Filtered (ALE204) H2SO4 (ALE204) H2SO4 (ALE208) 250ml Plastic (ALE208) 250ml BOD (ALE212) 0.5! glass bottle (ALE227)					500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)					
	Sample Ty	pe	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	
Acid Herbicides by GCMS	All	NDPs: 0 Tests: 2	**							3.0							
Alkalinity as CaCO3	All	NDPs: 0 Tests: 2	Х							Х							
Ammonium Low	All	NDPs: 0 Tests: 2			X	Х						X	X				
Anions by Kone (w)	All	NDPs: 0 Tests: 2			Х	^						Х	^				
BOD True Total	All	NDPs: 0 Tests: 2		Х							X						
COD Unfiltered	All	NDPs: 0 Tests: 2		Х							X						
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 2			Х							Х					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2						X							Х		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2					Х							X			
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 2			Х							Х					
Fluoride	All	NDPs: 0 Tests: 2			Х							Х					
Mercury Dissolved	All	NDPs: 0 Tests: 2					Х							Х			
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 2	Х							Х							
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 2	Х							Х							
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 2	Х							Х							

Validated

#### **CERTIFICATE OF ANALYSIS**

ALS

P2282 SDG: 210715-117 Client Reference: Report Number: 607013 Location: New Inn Landfill Z2798 Superseded Report: Order Number: Results Legend 24638818 24638827 Lab Sample No(s) X Test No Determination Possible Customer SW1 SW2 Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water HNO3 Filtered (ALE204) H2SO4 (ALE244) 500ml Plastic (ALE208) 250ml BOD (ALE212) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) H2SO4 (ALE244) HNO3 Filtered (ALE204) NaOH (ALE245) 500ml Plastic (ALE208) 250ml BOD (ALE212) NaOH (ALE245) DW - Drinking Water Non-regulatory Vial (ALE297) Vial (ALE297) UNL - Unspecified Liquid SL - Sludge Container G - Gas OTH - Other Sample Type WS Pesticides (Suite II) by GCMS All NDPs: 0 Tests: 2 Χ X Pesticides (Suite III) by GCMS All NDPs: 0 Tests: 2 Χ X pH Value All NDPs: 0 Tests: 2 X Х Suspended Solids All NDPs: 0 Tests: 2 X Х SVOC MS (W) - Aqueous All NDPs: 0 Tests: 2 Х Х Total Organic and Inorganic Carbon All NDPs: 0 Tests: 2 Х Χ VOC MS (W) All NDPs: 0 Tests: 2

X

Χ

ALS

SDG: 210715-117 Location: New Inn Landfill Client Reference: Forder Number: 2

P2282 Z2798 Report Number: Superseded Report: 607013

Describe Lawrench							
Rosults Legend  # ISO17025 accredited.  M mCERTS accredited.  aq Aqueous / settled sample.  diss.filt: Dissolved / filtered sample.  tot.unfilt total / unfiltered sample.  * Subcontracted - refer to subcontractor repo		Customer Sample Ref. Depth (m) Sample Type	SW1 0.00 - 0.00 Surface Water (SW)	SW2 0.00 - 0.00 Surface Water (SW)			
accreditation status.  ** % recovery of the surrogate standard to che		Date Sampled Sample Time	14/07/2021	14/07/2021			
efficiency of the method. The results of indiv compounds within samples aren't corrected	vidual	Date Received SDG Ref	15/07/2021 210715-117	15/07/2021 210715-117			
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	24638818	24638827			
1-4+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method					
Suspended solids, Total	<2 mg/l	TM022	<2	<2			
Alkalinity, Total as HCO3	<2 mg/l	TM043	420	423	+		
BOD, unfiltered	<1 mg/l	TM045	<1	<1			
	Ť		#	#			
Oxygen, dissolved	<0.3 mg/l	TM046	12.5	11.7			
Organic Carbon, Total	<3 mg/l	TM090	<3 <b>◆</b> #	<3 <b>◆</b> #			
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.02	0.032 #			
Fluoride	<0.5 mg/l	TM104	<0.5	<0.5			
COD, unfiltered	<7 mg/l	TM107	<7 #	8.46			
Conductivity @ 20 deg.C	<0.02	TM120	0.629	0.651			
Arsenic (diss.filt)	mS/cm <0.5 μg/l	TM152	<0.5	<0.5			
Barium (diss.filt)	<0.2 µg/l	TM152	8.03	# 8.68			
Boron (diss.filt)	<10 µg/l	TM152	<10	# 11.7			
			#	#			
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	<0.08 #			
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #			
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3	1.22 #			
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2	0.237 #			
Manganese (diss.filt)	<3 µg/l	TM152	11.3	11.2			
Nickel (diss.filt)	<0.4 µg/l	TM152	0.663	0.926			
Phosphorus (diss.filt)	<10 µg/l	TM152	<10 #	<10 #			
Selenium (diss.filt)	<1 µg/l	TM152	<1	<1			
Thallium (diss.filt)	<2 µg/l	TM152	<2 "	# <2			
Zinc (diss.filt)	<1 µg/l	TM152	1.48	10			
Sodium (Dis.Filt)	<0.076 mg/l	TM152	18.1	18.5			
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	5.24	5.38			
Potassium (Dis.Filt)	<0.2 mg/l	TM152	2.1	2.26			
Calcium (Dis.Filt)	<0.2 mg/l	TM152	138	# 140			
Iron (Dis.Filt)	<0.019 mg/l		0.0735	0.07			
, ,	ľ	TM172	<100	<100			
Mineral oil >C10 C40 (aq)	<100 µg/l						
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	<0.01			
Sulphate	<2 mg/l	TM184	6.4	6.6 #			
Chloride	<2 mg/l	TM184	31.3	31.5 #			
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	0.564 #	0.553 #			
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015			

ALS

SDG: 210715-117 Location: New Inn Landfill Client Reference: Order Number: P2282 Z2798 Report Number: Superseded Report: 607013

		O ataus 2			,		
Results Legend # ISO17025 accredited. M mCERTS accredited.		Customer Sample Ref.	SW1	SW2			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00			
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	t for	Sample Type Date Sampled	Surface Water (SW) 14/07/2021	Surface Water (SW) 14/07/2021			
accreditation status.  ** % recovery of the surrogate standard to chec		Sample Time					
efficiency of the method. The results of indivi compounds within samples aren't corrected to	for the	Date Received SDG Ref	15/07/2021 210715-117	15/07/2021 210715-117			
recovery (F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638818	24638827			
Component	LOD/Units	Method					
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015			
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015			
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105			
Cyanide, Total	<0.05 mg/l	TM227	<0.05	<0.05			
рН	<1 pH Units	TM256	7.75 #	7.8 #			
Trifluralin	<0.01 µg/l	TM343	<0.01	<0.01			
alpha-HCH	<0.01 µg/l	TM343	<0.01	<0.01			
gamma-HCH (Lindane)	<0.01 µg/l	TM343	<0.01	<0.01			
Heptachlor	<0.01 µg/l	TM343	<0.02	<0.01			
Aldrin	<0.01 µg/l	TM343	<0.01	<0.01			
beta-HCH	<0.01 µg/l	TM343	<0.01	<0.01			
Isodrin	<0.01 µg/l	TM343	<0.01	<0.01			
delta-HCH	<0.01 µg/l	TM343	<0.01	<0.01			
Heptachlor epoxide	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01			
Endosulphan I	<0.01 µg/l	TM343	<0.01	<0.01			
trans-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01			
cis-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01			
p,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01			
Dieldrin	<0.01 µg/l	TM343	<0.01	<0.01			
o,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01			
Endrin	<0.01 µg/l	TM343	<0.02	<0.01			
o,p'-DDT	<0.01 µg/l	TM343	<0.05	<0.01			
p,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01			
Endosulphan II	<0.02 µg/l	TM343	<0.02	<0.02			
p,p'-DDT	<0.01 µg/l	TM343	<0.08	<0.02			
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.04	<0.01			
p,p'-Methoxychlor	<0.01 µg/l	TM343	<0.08	<0.02			
Endosulphan Sulphate	<0.02 µg/l	TM343	<0.04	<0.02			

ALS

Results Legend # ISO17025 accredited. M mCERTS accredited.	C	ustomer Sample Ref.	SW1	SW2			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. Subcontracted - refer to subcontractor report accreditation status.		Depth (m) Sample Type Date Sampled Sample Time	0.00 - 0.00 Surface Water (SW) 14/07/2021	0.00 - 0.00 Surface Water (SW) 14/07/2021			
** % recovery of the surrogate standard to chec efficiency of the method. The results of indivi compounds within samples aren't corrected f	dual	Date Received SDG Ref	15/07/2021 210715-117	15/07/2021 210715-117			
recovery (F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638818	24638827			
Component	LOD/Units	Method	0.04	0.04			
Permethrin I	<0.01 µg/l	TM343	<0.01	<0.01			
Permethrin II	<0.01 µg/l	TM343	<0.01	<0.01			
1,3,5-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01			
Hexachlorobutadiene	<0.01 µg/l	TM344	<0.01	<0.01			
1,2,4-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01			
1,2,3-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01			
Dichlorvos	<0.01 µg/l	TM344	<0.01	<0.01			
Dichlobenil	<0.01 µg/l	TM344	<0.01	<0.01			
Mevinphos	<0.01 µg/l	TM344	<0.01	<0.01			
Tecnazene	<0.01 µg/l	TM344	<0.01	<0.01			
Hexachlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01			
Demeton-S-methyl	<0.01 µg/l	TM344	<0.01	<0.01			
Phorate	<0.01 µg/l	TM344	<0.03	<0.03			
Diazinon	<0.01 µg/l	TM344	<0.01	<0.01			
Triallate	<0.01 µg/l	TM344	<0.01	<0.01			
Atrazine	<0.01 µg/l	TM344	<0.01	<0.01			
Simazine	<0.01 µg/l	TM344	<0.01	<0.01			
Disulfoton	<0.01 µg/l	TM344	<0.07	<0.07			
Propetamphos	<0.01 µg/l	TM344	<0.01	<0.01			
Chlorpyriphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01			
Dimethoate	<0.01 µg/l	TM344	<0.01	<0.01			
Pirimiphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01			
Chlorpyriphos	<0.01 µg/l	TM344	<0.01	<0.01			
Methyl Parathion	<0.01 µg/l	TM344	<0.01	<0.01			
Malathion	<0.01 µg/l	TM344	<0.01	<0.01			
Fenthion	<0.01 µg/l	TM344	<0.02	<0.02			
Fenitrothion	<0.01 µg/l	TM344	<0.01	<0.01			
Triadimefon	<0.01 µg/l	TM344	<0.01	<0.01			
Pendimethalin	<0.01 µg/l	TM344	<0.01	<0.01			
Parathion	<0.01 µg/l	TM344	<0.01	<0.01			
Chlorfenvinphos	<0.01 µg/l	TM344	<0.01	<0.01			
trans-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01			
cis-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01			
					<u> </u>		

ALS

Results Legend # ISO17025 accredited.		Customer Sample Ref.	SW1	SW2	
M mCERTS accredited. aq Aqueous / settled sample.		Death (a)			
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	rt for	Depth (m) Sample Type	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW)	
accreditation status.  * % recovery of the surrogate standard to che efficiency of the method. The results of indiv	ck the	Date Sampled Sample Time Date Received	14/07/2021 15/07/2021	14/07/2021 15/07/2021	
compounds within samples aren't corrected recovery		SDG Ref Lab Sample No.(s)	210715-117 24638818	210715-117 24638827	
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference			
Ethion	<0.01 µg/l		<0.01	<0.01	r
Carbophenothion	<0.01 µg/l	TM344	<0.01	<0.01	
Triazophos	<0.01 µg/l	TM344	<0.01	<0.01	
Phosalone	<0.01 µg/l	TM344	<0.01	<0.01	r
Azinphos methyl	<0.02 µg/l	TM344	<0.02	<0.02	Г
Azinphos ethyl	<0.02 µg/l	TM344	<0.02	<0.02	
Etridiazole	<0.01 µg/l	TM345	<0.01	<0.01	
Pentachlorobenzene	<0.01 µg/l	TM345	<0.01	<0.01	
Propachlor	<0.01 µg/l	TM345	<0.01	<0.01	
Quintozene (PCNB)	<0.01 µg/l	TM345	<0.01	<0.01	
Omethoate	<0.01 µg/l	TM345	<0.01	<0.01	
Propazine	<0.01 µg/l	TM345	<0.01	<0.01	
Propyzamide	<0.01 µg/l	TM345	<0.01	<0.01	
Alachlor	<0.01 µg/l	TM345	<0.01	<0.01	
Prometryn	<0.01 µg/l	TM345	<0.01	<0.01	
Telodrin	<0.01 µg/l	TM345	<0.01	<0.01	
Terbutryn	<0.01 µg/l		<0.01	<0.01	
Chlorothalonil	<0.01 µg/l	TM345	<0.01	<0.01	
Etrimphos	<0.01 µg/l		<0.01	<0.01	
Metazachlor	<0.01 µg/l	TM345	<0.01	<0.01	
Cyanazine	<0.01 µg/l	TM345	<0.01	<0.01	
Trietazine	<0.01 µg/l	TM345	<0.01	<0.01	
Coumaphos	<0.01 µg/l	TM345	<0.01	<0.01	
Phosphamidon I	<0.01 µg/l	TM345	<0.01	<0.01	
Phosphamidon II	<0.01 µg/l	TM345	<0.01	<0.01	
Dinitro-o-cresol	<0.1 µg/l	TM411	<0.1	<0.1	
Clopyralid	<0.04 µg/l		<0.04	<0.04	
MCPA	<0.05 µg/l	TM411	<0.05	<0.05	
Mecoprop	<0.04 µg/l		<0.04	<0.04	
Dicamba	<0.04 µg/l		<0.04	<0.04	
МСРВ	<0.05 µg/l		<0.05	<0.05	
2,4-DB	<0.1 µg/l	TM411	<0.1	<0.1	
2,3,6-Trichlorobenzoic acid	<0.05 µg/l	TM411	<0.05	<0.05	
9					 

ALS

SDG: 210715-117 Location: New Inn Landfill Client Reference: Order Number: P2282 Z2798 Report Number: Superseded Report: 607013

8		0			•		
Results Legend # ISO17025 accredited.		Customer Sample Ref.	SW1	SW2			
M mCERTS accredited. aq Aqueous / settled sample.							
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SM)			
<ul> <li>Subcontracted - refer to subcontractor report accreditation status.</li> </ul>	for	Date Sampled	14/07/2021	Surface Water (SW) 14/07/2021			
** % recovery of the surrogate standard to chec	k the	Sample Time					
efficiency of the method. The results of indivi compounds within samples aren't corrected f	dual for the	Date Received	15/07/2021	15/07/2021			
recovery		SDG Ref	210715-117 24638818	210715-117 24638827			
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24000010	24000021			
Component	LOD/Units	Method					
Dichlorprop	<0.1 µg/l	TM411	<0.1	<0.1			
Triclopyr	<0.05 µg/l	TM411	<0.05	<0.05			
Fenoprop (Silvex)	<0.1 µg/l	TM411	<0.1	<0.1			
2,4-Dichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.05	<0.05			
2,4,5-Trichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.05	<0.05			
Bromoxynil	<0.04 µg/l	TM411	<0.04	<0.04			
Benazolin	<0.04 µg/l		<0.04	<0.04			
loxynil	<0.05 µg/l	TM411	<0.05	<0.05			
Pentachlorophenol	<0.04 µg/l	TM411	<0.04	<0.04			
Fluoroxypyr	<0.1 µg/l	TM411	<0.1	<0.1			

			_	
SVAC	MS	(W)	- Aqueous	

SVOC MS (W) - Aqueous	5	0.401.0.4			_	•		
# ISO17025 accredited.  M mCERTS accredited.		Customer Sample Ref.	SW1	SW2				
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00				
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report accreditation status.	for	Sample Type Date Sampled	Surface Water (SW) 14/07/2021	Surface Water (SW) 14/07/2021	1			
** % recovery of the surrogate standard to check efficiency of the method. The results of individe	dual	Sample Time Date Received	15/07/2021	15/07/2021				
compounds within samples aren't corrected for recovery	or the	SDG Ref Lab Sample No.(s)	210715-117 24638818	210715-117 24638827				
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)	100///	AGS Reference	2.000010	2.000021				
1,2,4-Trichlorobenzene (aq)	LOD/Units <1 µg/l	Method TM176	<1	<1				
			#		#			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1	#			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1				
1.4 Dieblerskenzens (es)	-1//	TM176	<1	<1	#			
1,4-Dichlorobenzene (aq)	<1 µg/l	TIVITO	-1 #	\	#			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1				
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1	#			
	. 49		. #	·	#			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1	#			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1	<1	#			
			#		#			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1	#			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	<1	- 11			
0.014	4 "	71470	#		#			
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #	<1	#			
2-Chlorophenol (aq)	<1 µg/l	TM176	<1	<1				
2 Mathylpanhthalana (ag)	-1 · · ~ //	TM176	<1	<1	#			
2-Methylnaphthalene (aq)	<1 µg/l	TIVITO	<u> </u>		#			
2-Methylphenol (aq)	<1 µg/l	TM176	<1	<1				
2-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	#			
2 Willoumino (uq)	iγμg/i	1111170	#	`'	#			
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 "	<1	ш			
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	#			
. "			#		#			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #	<1	#			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1	<1				
4 Chloroppiling (og)	-1//	TM176	<1	<1	#			
4-Chloroaniline (aq)	<1 µg/l	TIVITO	<1					
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1	<1				
4-Methylphenol (aq)	<1 µg/l	TM176	<1	<1	#			
			#	·	#			
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #	<1	#			
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1	#			
Azobenzene (aq)	<1 µg/l	TM176	<1 #	<1	#			
Acenaphthylene (aq)	<1 µg/l	TM176	<1	<1				
Accompatitions (as)	-1 · · ~ //	TM176	<1	<1	#			
Acenaphthene (aq)	<1 µg/l	TIVITO	<u> </u>		#			
Anthracene (aq)	<1 µg/l	TM176	<1	<1				
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1	<1	#			
	- ημη//		#	`'	#			
bis(2-Chloroethoxy)methane	<1 µg/l	TM176	<1 #	<1	щ			
(aq) bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2	<2	#			
			#		#			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1	#			
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1	<1	_π			
		]	#		#			

ALS

 SDG:
 210715-117
 Client Reference:
 P2282
 Report Number:
 607013

 Location:
 New Inn Landfill
 Order Number:
 Z2798
 Superseded Report:

SVOC MS (W) - Aqueous	S						
Results Legend # ISO17025 accredited.		Customer Sample Ref.	SW1	SW2			
M mCERTS accredited. aq Aqueous / settled sample.							
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW)			
<ul> <li>Subcontracted - refer to subcontractor report accreditation status.</li> </ul>	for	Date Sampled	14/07/2021	14/07/2021			
** % recovery of the surrogate standard to check efficiency of the method. The results of individual		Sample Time Date Received	15/07/2021	15/07/2021			
compounds within samples aren't corrected for		SDG Ref	210715-117	210715-117			
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638818	24638827			
Component	LOD/Units						
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	<1 "			
D(-)()	44	TM176	#	#			
Benzo(a)pyrene (aq)	<1 µg/l	1101176	<1 #	<1 #			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	<1			
(3,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			#	#			
Carbazole (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Chrysene (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Dibenzofuran (aq)	<1 µg/l	TM176	<1 *#	<1 #	1		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	# <1	# <1	<del> </del>		
וויטוטוט אווויומומום (ay)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1101170	- "	"#			
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	<1 "			
n Dioctul phtholato (ag)	<5.ug/l	TM176	# <5	# <5			
n-Dioctyl phthalate (aq)	<5 μg/l	TIVITA	\ #	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
Fluoranthene (aq)	<1 µg/l	TM176	<1	<1			
r idotantifono (dq)	T pg/	1111110	#	#			
Fluorene (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1			
T official formation (uq)	T pg/	1111110	, ,	''			
Phenol (aq)	<1 µg/l	TM176	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	<1			
11 11 11 (	4 "	T14470	#	#			
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #	<1 #			
Nitrobenzene (aq)	<1 µg/l	TM176	<1	<1			
(=4)			#	#			
Naphthalene (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Isophorone (aq)	<1 µg/l	TM176	<1	<1			
Havashlaras et al. ( )	-A P	T14470	#	#	-		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176	<1	<1	<del>                                     </del>		
	Ι μ9/1	1	#	#			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
Pyrene (aq)	<1 µg/l	TM176	<1	<1			
			#	#			
		+					<del>                                     </del>
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 SDG:
 210715-117
 Client Reference:
 P2282
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 607013

 Location:
 New Inn Landfill
 Order Number:
 Z2798
 Superseded Report:

VOC MS (W)					_		_	
Rosults Legend  # IS017025 accredited.  M mCERTS accredited. aq Aqueous / settled sample. diss.fills Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.  Subcontracted - refor to subcontractor report accreditation status.  " % recovery of the surrogate standard to checle officiency of the method. The results of indivi-	k the dual	Customer Sample Ref.  Depth (m) Sample Type Date Sampled Sample Time Date Received	SW1  0.00 - 0.00  Surface Water (SW)  14/07/2021  15/07/2021	SW2 0.00 - 0.00 Surface Water (SW) 14/07/2021 15/07/2021				
compounds within samples aren't corrected for recovery  (F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)	or the	SDG Ref Lab Sample No.(s) AGS Reference	210715-117 24638818	210715-117 24638827				
Component	LOD/Unit	s Method			4			
Dibromofluoromethane**	%	TM208	114	111				
Toluene-d8**	%	TM208	99.4	101				
4-Bromofluorobenzene**	%	TM208	96.1	100				
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1	#			
Chloromethane	<1 µg/l	TM208	<1 #	<1	#			
Vinyl chloride	<1 µg/l	TM208	<1 #	<1	#			
Bromomethane	<1 µg/l	TM208	<1 #	<1	#			
Chloroethane	<1 µg/l	TM208	<1 #	<1	#			
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1	#			
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1	#			
Carbon disulphide	<1 µg/l	TM208	<1 #	<1	#			
Dichloromethane	<3 µg/l	TM208	<3 #	<3	#			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1	#			
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1	#			
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1	#			
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1	#			
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1				
Bromochloromethane	<1 µg/l	TM208	<1 #	<1	#			
Chloroform	<1 µg/l	TM208	<1 #	<1	#			
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1	#			
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1	#			
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1	#			
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1	#			
Benzene	<1 µg/l	TM208	<1 #	<1	#			
Trichloroethene	<1 µg/l	TM208	<1 #	<1	#			
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1	#			
Dibromomethane	<1 µg/l	TM208	<1 #	<1	#			
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1	#			
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1	#			
Toluene	<1 µg/l	TM208	<1 #	<1	#			
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1	#			
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1	#			
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1	#			
		_			_			

ALS

VOC MS (W)							
Results Legend	Ci	ustomer Sample Ref.	SW1	SW2			
# ISO/1025 accredited.  M mCERTS accredited.  aq Aqueous / settled sample. diss.filt Dissolved filtered sample. tot.unfilt Total unfiltered sample.  Subcontracted - refer to subcontractor report accreditation status.		Depth (m) Sample Type Date Sampled	0.00 - 0.00 Surface Water (SW) 14/07/2021	0.00 - 0.00 Surface Water (SW) 14/07/2021			
** % recovery of the surrogate standard to check efficiency of the method. The results of individual compounds within samples aren't corrected for recovery  (F) Trigger breach confirmed 1-4+5@ Sample deviation (see appendix)	dual	Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	15/07/2021 210715-117 24638818	15/07/2021 210715-117 24638827			
Component	LOD/Units	Method					
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	4		
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #			
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #			
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #			
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	4		
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #			
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #			
o-Xylene	<1 µg/l	TM208	<1 #	<1 #			
Styrene	<1 µg/l	TM208	<1 #	<1 #			
Bromoform	<1 µg/l	TM208	<1 #	<1 #			
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	:		
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	:		
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	1		
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #			
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #			
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	:		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	ŧ		
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	ŧ		
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	ŧ		
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	ŧ		
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	ŧ		
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	1		
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	t .		
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	t		
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	ŧ		
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	ı		
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1			
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	ŧ		
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	1		
Naphthalene	<1 µg/l	TM208	<1 #	<1 #			
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #			
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1			

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 SDG:
 210715-117
 Client Reference:
 P2282
 Report Number:
 607013

 Location:
 New Inn Landfill
 Order Number:
 Z2798
 Superseded Report:

## **Table of Results - Appendix**

	Table of	Nesults - Appelluix
Method No	Reference	Description
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters
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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
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
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
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
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
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS
TM411	Acid_Herbs_GCMS	Acid Herbs in Water by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

#### **CERTIFICATE OF ANALYSIS**

ALS

SDG: 210715-117 Location: New Inn Landfill Client Reference: Order Number: P2282 Z2798 Report Number: Superseded Report: 607013

# **Test Completion Dates**

Lab Sample No(s)	24638818	24638827
Customer Sample Ref.	SW1	SW2
•		
AGS Ref.		
Depth	0.00 - 0.00	0.00 - 0.00
Туре	Surface Water	Surface Water
Acid Herbicides by GCMS	22-Jul-2021	22-Jul-2021
Alkalinity as CaCO3	21-Jul-2021	21-Jul-2021
Ammonium Low	20-Jul-2021	20-Jul-2021
Anions by Kone (w)	21-Jul-2021	21-Jul-2021
BOD True Total	21-Jul-2021	21-Jul-2021
COD Unfiltered	17-Jul-2021	17-Jul-2021
Conductivity (at 20 deg.C)	21-Jul-2021	21-Jul-2021
Cyanide Comp/Free/Total/Thiocyanate	19-Jul-2021	19-Jul-2021
Dissolved Metals by ICP-MS	20-Jul-2021	20-Jul-2021
Dissolved Oxygen by Probe	16-Jul-2021	16-Jul-2021
Fluoride	16-Jul-2021	16-Jul-2021
Mercury Dissolved	19-Jul-2021	19-Jul-2021
Mineral Oil C10-40 Aqueous (W)	21-Jul-2021	21-Jul-2021
PCB Congeners - Aqueous (W)	20-Jul-2021	20-Jul-2021
Pesticides (Suite I) by GCMS	20-Jul-2021	22-Jul-2021
Pesticides (Suite II) by GCMS	22-Jul-2021	22-Jul-2021
Pesticides (Suite III) by GCMS	26-Jul-2021	26-Jul-2021
pH Value	19-Jul-2021	19-Jul-2021
Suspended Solids	19-Jul-2021	19-Jul-2021
SVOC MS (W) - Aqueous	19-Jul-2021	19-Jul-2021
Total Organic and Inorganic Carbon	23-Jul-2021	23-Jul-2021
VOC MS (W)	16-Jul-2021	18-Jul-2021



 SDG:
 210715-117
 Client Reference:
 P2282
 Report Number:
 607013

 Location:
 New Inn Landfill
 Order Number:
 Z2798
 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. 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 month 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. 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.
- 16. 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.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

#### 19. Asbestos

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 (NDP). The quantity of asbestos present is not determined unless specifically requested.

#### 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 ALS (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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbe stos Type	Common Name
Chrysof le	WhiteAsbests
Amosite	Brown Asbestos
Cro di dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib to us Anthop hyll ite	-
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.

#### Respirable Fibres

Respirable fibres are defined as fibres of <3  $\mu$ m diameter, longer than 5  $\mu$ m and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, The Quantification of Asbestos in Soil (2017).

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.



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email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

### **CERTIFICATE OF ANALYSIS**

Date of report Generation:27 August 2020Customer:Fehily TimoneySample Delivery Group (SDG):200731-89Your Reference:P2282Location:New Inn Landfill

Report No: 564886

This report has been revised and directly supersedes 562407 in its entirety.

We received 4 samples on Friday July 31, 2020 and 4 of these samples were scheduled for analysis which was completed on Monday August 10, 2020. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

**Operations Manager** 







Validated

 SDG:
 200731-89
 Client Reference:
 P2282
 Report Number:
 564886

 Location:
 New Inn Landfill
 Order Number:
 P2282
 Superseded Report:
 562407

# **Received Sample Overview**

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
22583409	BH1		0.00 - 0.00	30/07/2020
22583419	BH4		0.00 - 0.00	30/07/2020
22583387	GW01		0.00 - 0.00	30/07/2020
22583397	GW02		0.00 - 0.00	30/07/2020

Maximum Sample/Coolbox Temperature (°C):

16.2

ISO5667-3 Water quality - Sampling - Part3 -

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

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

ALS

SDG: 200731-89 Client Reference: P2282 Report Number: 564886 New Inn Landfill P2282 Superseded Report: 562407 Location: Order Number: Results Legend 22583409 22583419 22583387 22583397 Lab Sample No(s) X Test No Determination Possible Customer GW01 뭔1 뫈 Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) H2SO4 (ALE244) H2SO4 (ALE244) NaOH (ALE245) NaOH (ALE245) NaOH (ALE245) H2SO4 (ALE244) NaOH (ALE245) H2SO4 (ALE244) DW - Drinking Water Non-regulatory 500ml Plastic (ALE208) 500ml Plastic (ALE208) 500ml Plastic (ALE208) Vial (ALE297) Vial (ALE297) Vial (ALE297) 500ml Plastic UNL - Unspecified Liquid (ALE208) SL - Sludge Container G - Gas OTH - Other GW GW GW Sample Type GW Acid Herbicides by GCMS All NDPs: 0 Tests: 4 Х Χ Χ Χ Alkalinity as CaCO3 NDPs: 0 Tests: 4 X X Χ Χ Ammonium Low All NDPs: 0 Tests: 4 X X X X Anions by Kone (w) All NDPs: 0 Tests: 4 X X X Х BOD True Total All NDPs: 0 Tests: 4 X Χ X Х COD Unfiltered All NDPs: 0 Tests: 4 X X Х X All Conductivity (at 20 deg.C) NDPs: 0 Tests: 4 Χ Χ Х Х All Cyanide Comp/Free/Total/Thiocyanate NDPs: 0 Tests: 4 X Χ Χ Χ Dissolved Metals by ICP-MS All NDPs: 0 Tests: 4 X X X Dissolved Oxygen by Probe All NDPs: 0 Tests: 4 X X X X Faecal Coliforms (W)\* All NDPs: 0 Tests: 4 X Х X Х Fluoride All NDPs: 0 Tests: 4 Х Χ X X All Mercury Dissolved NDPs: 0 Tests: 4 Х Х Х Х PCB Congeners - Aqueous (W) All NDPs: 0 Tests: 4 Х Х X Х Pesticides (Suite I) by GCMS All NDPs: 0 Tests: 4 Χ X Χ X

Validated

### **CERTIFICATE OF ANALYSIS**

ALS	

P2282 SDG: 200731-89 Client Reference: Report Number: 564886 New Inn Landfill P2282 Superseded Report: 562407 Location: Order Number: Results Legend 22583409 22583419 22583387 22583397 Lab Sample No(s) X Test No Determination Possible Customer GW01 GW02 뭔1 BH4 Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate 0.00-PR - Process Water 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) - 0.00 TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) H2SO4 (ALE244) H2SO4 (ALE244) H2SO4 (ALE244) NaOH (ALE245) NaOH (ALE245) H2SO4 (ALE244) NaOH (ALE245) NaOH (ALE245) 500ml Plastic (ALE208) DW - Drinking Water Non-regulatory Vial (ALE297) Vial (ALE297) Vial (ALE297) 500ml Plastic UNL - Unspecified Liquid (ALE208) SL - Sludge Container G - Gas OTH - Other GW GW Sample Type GW GΜ GW GW GW GΜ GW GW GW GΜ GΜ GΜ GW GΜ GW GW Pesticides (Suite II) by GCMS All NDPs: 0 Tests: 4 Χ X X Χ Pesticides (Suite III) by GCMS All NDPs: 0 Tests: 4 Х Х Х X pH Value All NDPs: 0 Tests: 4 X X X Х SVOC MS (W) - Aqueous All NDPs: 0 Tests: 4 Х Х Х Total Coliforms(W)\* All NDPs: 0 Tests: 3 Х X Χ Total Organic and Inorganic Carbon All NDPs: 0 Tests: 4 Х Х Χ Х VOC MS (W) All NDPs: 0 Tests: 4 Χ Χ Χ

564886 562407

# **CERTIFICATE OF ANALYSIS**

ALS

 SDG:
 200731-89
 Client Reference:
 P2282
 Report Number:

 Location:
 New Inn Landfill
 Order Number:
 P2282
 Superseded Report:

Results Legend		Customer Sample Ref.	BH1		BH4		GW01	GW02		
# ISO17025 accredited.  M mCERTS accredited.  aq Aqueous / settled sample.										
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)		0.00 - 0.00 Ground Water (GV	V)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (G	W)	
* Subcontracted - refer to subcontractor report accreditation status.  * % recovery of the surrogate standard to chec		Date Sampled Sample Time	30/07/2020		30/07/2020		30/07/2020	30/07/2020		
efficiency of the method. The results of indivi compounds within samples aren't corrected in	idual	Date Received	31/07/2020 200731-89		31/07/2020 200731-89		31/07/2020 200731-89	31/07/2020 200731-89		
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	22583409		22583419		22583387	22583397		
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method								
Faecal coliforms confirmed	0	SUB	0		0		1	180		
(M7M)*	CFU/100ml	OUD	0	$\dashv$			2			
Total Coliform Presumptive (M16)*	CFU/100ml	SUB	2		7		2			
Total Coliform Confirmed (M14)*	CFU/100ml	SUB	2		7		2			
Alkalinity, Total as HCO3	<2 mg/l	TM043	451		482		1570	939		
BOD, unfiltered	<1 mg/l	TM045	<1	#	<1	#	<1 #	<1	#	
Oxygen, dissolved	<0.3 mg/l	TM046	9.68		8.64		10	9.5		
Organic Carbon, Total	<3 mg/l	TM090	<3	#	3.47	#	<3 #	<3	#	
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.0176	#	0.186	#	0.0283 #	0.544	#	
Fluoride	<0.5 mg/l	TM104	<0.5	#	<0.5	#	<0.5 #	0.908	#	
COD, unfiltered	<7 mg/l	TM107	28.7	#	32.3	#	99.6 #	162	#	
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.623	#	0.794	#	0.748	1.27	#	
Arsenic (diss.filt)	<0.5 µg/l	TM152	0.521	2#	0.869	2#	<0.5 2 #	0.607	2#	
Barium (diss.filt)	<0.2 µg/l	TM152	21.8	2#	33.5	2#	9.12 2 #	129	2#	
Boron (diss.filt)	<10 µg/l	TM152	23.7	2#	43.5	2#	<10 2 #	180	2#	
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	2#	<0.08	2#	<0.08	<0.08	2#	
Chromium (diss.filt)	<1 µg/l	TM152	<1	2#	<1	2#	<1 2 #	<1	2#	
Copper (diss.filt)	<0.3 µg/l	TM152	4.98	2#	<0.3	2#	0.828	1.97	2#	
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2	2#	<0.2	2#	<0.2 2 #	0.356	2#	
Manganese (diss.filt)	<3 µg/l	TM152	16	2#	115	2#	9.66 2 #	8.05	2#	
Nickel (diss.filt)	<0.4 µg/l	TM152	10.5	2#	5.59	2#	3.53 2 #	3.47	2#	
Phosphorus (diss.filt)	<10 µg/l	TM152	<10	2#	<10	2#	<10 2 #	16.5	2#	
Selenium (diss.filt)	<1 µg/l	TM152	<1	2#	<1	2#	<1 2 #	33.5	2#	
Thallium (diss.filt)	<2 µg/l	TM152	<2	2#	<2	2#	<2 2 #	<2	2#	
Zinc (diss.filt)	<1 µg/l	TM152	26.6	2#	1.95	2#	3.01 2 #	1.98	2#	
Sodium (Dis.Filt)	<0.076 mg/l	TM152	6.42	2#	45.8	2#	8.43 2 #	226	2#	
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	10.1	2#	8.08	2#	5.7 2 #	28.3	2#	
Potassium (Dis.Filt)	<0.2 mg/l	TM152	1.18	2#	3.32	2#	1.69 2 #	5.26	2#	
Calcium (Dis.Filt)	<0.2 mg/l	TM152	139	2#	139	2#	143 2 #	71.8	2#	
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.019	2#	<0.019	2#	<0.019 2 #	<0.019	2#	
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	2#	<0.01	2#	<0.01 2 #	<0.01	2#	
Sulphate	<2 mg/l	TM184	11.8	#	11.8	#	9.3	181	#	
Chloride	<2 mg/l	TM184	13.5	#	73.6	#	22.2	46.4	#	
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	1.89	#	<0.1	#	1.75	0.216	#	
				π		#	#		#	 

200731-89 New Inn Landfill P2282 P2282 SDG: Client Reference: Location:

Order Number:

Report Number: Superseded Report:

564886 562407

Results Legend		Customer Sample Ref.	BH1	BH4	GW01	GW02	i	
# ISO17025 accredited. M mCERTS accredited.		automor campio non	bni	DN4	GWUI	GW02		
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)					
* Subcontracted - refer to subcontractor report accreditation status.		Date Sampled Sample Time	30/07/2020	30/07/2020	30/07/2020	30/07/2020		
** % recovery of the surrogate standard to check efficiency of the method. The results of indivic compounds within samples aren't corrected for	dual	Date Received	31/07/2020	31/07/2020	31/07/2020	31/07/2020		
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	200731-89 22583409	200731-89 22583419	200731-89 22583387	200731-89 22583397		
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method						
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015		
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015		
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015		
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015		
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015		
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015		
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015		
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105		
Cyanide, Total	<0.05 mg/l	TM227	<0.05	<0.05 #	<0.05 #	<0.05		
pH	<1 pH Units	TM256	7.97 #	7.33 #	7.22 #	7.85 #		
Trifluralin	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
alpha-HCH	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
gamma-HCH (Lindane)	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
Heptachlor	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
Aldrin	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
beta-HCH	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
Isodrin	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
delta-HCH	<0.01 µg/l	TM343	<0.01	<0.02	<0.02	<0.02		
Heptachlor epoxide	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
o,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
Endosulphan I	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
trans-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
cis-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
p,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
Dieldrin	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
o,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
Endrin	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
o,p'-DDT	<0.01 µg/l	TM343	<0.01	<0.04	<0.04	<0.04		
p,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
Endosulphan II	<0.02 µg/l	TM343	<0.02	<0.02	<0.02	<0.02		
p,p'-DDT	<0.01 µg/l	TM343	<0.01	<0.07	<0.07	<0.07		
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.01	<0.04	<0.04	<0.04		
p,p'-Methoxychlor	<0.01 µg/l	TM343	<0.01	<0.07	<0.07	<0.07		
P							•	

ALS

 SDG:
 200731-89
 Client Reference:
 P2282
 Report Number:
 564886

 Location:
 New Inn Landfill
 Order Number:
 P2282
 Superseded Report:
 562407

Part		Results Legend		Customer Sample Ref.	BH1	BH4	GW01	GW02	İ	
	М	mCERTS accredited.		,	5	5	5	52		
Part	diss.filt	Dissolved / filtered sample. Total / unfiltered sample.				1				
		accreditation status.		Date Sampled		30/07/2020	30/07/2020	30/07/2020		
		efficiency of the method. The results of individ compounds within samples aren't corrected for	dual	Date Received		31/07/2020	31/07/2020	31/07/2020		
Component		Trigger breach confirmed		Lab Sample No.(s)						
Perenthin	Compo	nent		Method	40.00	10.04	10.04	10.04		
Permetric	Endosu	ipriari Suipriate	<0.02 μg/i	1101343	<0.02	<0.04	<0.04	<0.04		
1.3.5 Tribiboberosene	Permeth	hrin I	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
Head-trocatablesee	Permeth	hrin II	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01		
1.2.4-Triciroberoreme	1,3,5-Tr	richlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
1.2.3-finitionibercanes	Hexach	lorobutadiene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Deletione   4001 ppl   1M844   4001	1,2,4-Tr	richlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Decision	1,2,3-Tr	richlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Montphos	Dichlory	/0S	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Promise	Dichlob	enil	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Manachistopherozene	Mevinpl	hos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Demetors Smethy	Tecnazo	ene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Phorate	Hexach	lorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Diazion	Demeto	n-S-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Triellate	Phorate	1	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Altazine	Diazino	n	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Simazine         40.01 µg/l         TM344         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01         <0.01	Triallate	<del>)</del>	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Disulfoton   Control   Timas   Control   Con	Atrazine	)	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Propelamphos   4.0.1 µg/l   TM344   4.0.01   4	Simazin	ne	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Chlorpyriphos-methyl         C.001 µg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01	Disulfot	on	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Dimethoate         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01 <t< td=""><td>Propeta</td><td>mphos</td><td>&lt;0.01 µg/l</td><td>TM344</td><td>&lt;0.01</td><td>&lt;0.01</td><td>&lt;0.01</td><td>&lt;0.01</td><td></td><td></td></t<>	Propeta	mphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Pirimiphos-methyl         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01           Chlorpyriphos         < 0.01 μg/l	Chlorpy	riphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Chlorpyriphos         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01           Methyl Parathion         < 0.01 μg/l	Dimetho	pate	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Methyl Parathion         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01	Pirimiph	nos-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Malathion         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01 <th< td=""><td>Chlorpy</td><td>riphos</td><td>&lt;0.01 µg/l</td><td>TM344</td><td>&lt;0.01</td><td>&lt;0.01</td><td>&lt;0.01</td><td>&lt;0.01</td><td></td><td></td></th<>	Chlorpy	riphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Fenthion         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         Fentitrothion         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01	Methyl I	Parathion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Fenitrothion         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01	Malathio	on	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Triadimefon         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         <	Fenthio	n	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Pendimethalin         < 0.01 μg/l         TM344         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01         < 0.01	Fenitrot	hion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Parathion     < 0.01 μg/l     TM344     < 0.01     < 0.01     < 0.01     < 0.01       Chlorfenvinphos     < 0.01 μg/l	Triadim	efon	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
Chlorfenvinphos <0.01 μg/l TM344 <0.01 <0.01 <0.01 <0.01	Pendim	ethalin	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
	Parathio	on	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
trans-Chlordane <0.01 µg/l TM344 <0.01 <0.01 <0.01 <0.01	Chlorfer	nvinphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		
	trans-Cl	hlordane	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01		

ALS

 SDG:
 200731-89
 Client Reference:
 P2282
 Report Number:
 564886

 Location:
 New Inn Landfill
 Order Number:
 P2282
 Superseded Report:
 562407

#	Results Legend ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M aq diss.filt tot.unfilt *	mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report accreditation status. % recovery of the surrogate standard to check		Depth (m) Sample Type Date Sampled Sample Time	0.00 - 0.00 Ground Water (GW) 30/07/2020				
	efficiency of the method. The results of indivic compounds within samples aren't corrected for recovery Trigger breach confirmed Sample deviation (see appendix)	dual or the	Date Received SDG Ref Lab Sample No.(s) AGS Reference	31/07/2020 200731-89 22583409	31/07/2020 200731-89 22583419	31/07/2020 200731-89 22583387	31/07/2020 200731-89 22583397	
cis-Chlo		LOD/Units <0.01 μg/l		<0.01	<0.01	<0.01	<0.01	
Ethion		<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Carboph	nenothion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Triazopł	nos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Phosalo	ne	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Azinpho	s methyl	<0.02 µg/l	TM344	<0.02	<0.02	<0.02	<0.02	
Azinpho	s ethyl	<0.02 µg/l	TM344	<0.02	<0.02	<0.02	<0.02	
Etridiazo	ple	<0.01 µg/l	TM345	<0.01	<0.02	<0.02	<0.02	
Pentach	lorobenzene	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propach	lor	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Quintoz	ene (PCNB)	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Ometho	ate	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propazii	пе	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propyza	mide	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Alachlor		<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Prometr	yn	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Telodrin		<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Terbutry	'n	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Chloroth	nalonil	<0.01 µg/l	TM345	<0.01	<0.03	<0.03	<0.03	
Etrimph	os	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Metazao	chlor	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Cyanazi	ne	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Trietazir	ne	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Coumar	phos	<0.01 µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Phospha	amidon I	<0.01 µg/l	TM345	<0.01	<0.02	<0.02	<0.02	
Phospha	amidon II	<0.01 µg/l	TM345	<0.01	<0.02	<0.02	<0.02	
Dinitro-c	o-cresol	<0.1 µg/l	TM411	<0.1	<0.1	<0.5	<0.5	
Clopyral	lid	<0.04 µg/l	TM411	<0.04	<0.04	<0.2	<0.2	
MCPA		<0.05 µg/l	TM411	<0.05	<0.05	<0.25	<0.25	
Mecopro	рр	<0.04 µg/l	TM411	<0.04	<0.04	<0.2	<0.2	
Dicamba	3	<0.04 µg/l	TM411	<0.04	<0.04	<0.2	<0.2	
MCPB		<0.05 µg/l	TM411	<0.05	<0.05	<0.25	<0.25	
2,4-DB		<0.1 µg/l	TM411	<0.1	<0.1	<0.5	<0.5	

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Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample.							
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)				
<ul> <li>* Subcontracted - refer to subcontractor report accreditation status.</li> </ul>	t for	Date Sampled	30/07/2020	30/07/2020	30/07/2020	30/07/2020	
** % recovery of the surrogate standard to chec efficiency of the method. The results of indiv	ck the	Sample Time					
compounds within samples aren't corrected	for the	Date Received SDG Ref	31/07/2020 200731-89	31/07/2020 200731-89	31/07/2020 200731-89	31/07/2020 200731-89	
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	22583409	22583419	22583387	22583397	
1-3+§@ Sample deviation (see appendix)	1 100/11/11	AGS Reference					
2,3,6-Trichlorobenzoic acid	LOD/Units <0.05 μg/l		<0.05	<0.05	<0.25	<0.25	
Dichlorprop	<0.1 µg/l	TM411	<0.1	<0.1	<0.5	<0.5	
Triclopyr	<0.05 µg/l	TM411	<0.05	<0.05	<0.25	<0.25	
Fenoprop (Silvex)	<0.1 μg/l	TM411	<0.1	<0.1	<0.5	<0.5	
2,4-Dichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.05	<0.05	<0.25	<0.25	
2,4,5-Trichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.05	<0.05	<0.25	<0.25	
Bromoxynil	<0.04 µg/l		<0.04	<0.04	<0.2	<0.2	
Benazolin	<0.04 µg/l	TM411	<0.04	<0.04	<0.2	<0.2	
loxynil	<0.05 µg/l	TM411	<0.05	<0.05	<0.25	<0.25	
Pentachlorophenol	<0.04 µg/l	TM411	<0.04	<0.04	<0.2	<0.2	
Fluoroxypyr	<0.1 µg/l	TM411	<0.1	<0.1	<0.5	<0.5	

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SVOC MS (W) - Aqueous	5	0 1 0 1 D.1					•	
# ISO17025 accredited.  M mCERTS accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02		
aq Aqueous / settled sample.  diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		,
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	for	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
accreditation status.  ** % recovery of the surrogate standard to check		Date Sampled Sample Time	30/07/2020	30/07/2020	30/07/2020	30/07/2020		
efficiency of the method. The results of individ compounds within samples aren't corrected for		Date Received SDG Ref	31/07/2020 200731-89	31/07/2020 200731-89	31/07/2020 200731-89	31/07/2020 200731-89		
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	22583409	22583419	22583387	22583397		
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
1.2 Dishlershannens (as)	c1//	TM476	#	# <8	# <10	<10		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<b>~</b> 0 #	×10 #	×10 #		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
. , ,			#	#	#	#		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
0.40.T:	.4 ()	T14470	#	#	#	#		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		,
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
0.4.00	4 "	T14470	#	#	#	#		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
_,-, (4)			#	#	#	#		
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
		=	#	#	#	#		
2-Chlorophenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
2-Methylnaphthalene (aq)	<1 µg/l	TM176	# <8	# <8	# <10	<b>*</b>		
2 moury maprialation (aq)			#	#	#	." #		
2-Methylphenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
2-Nitroaniline (aq)	<1 µg/l	TM176	<8 	<8 	<10	<10		
2-Nitrophenol (aq)	<1 µg/l	TM176	# <8	# <8	** <10	<b>*</b>		
2 milophonol (aq)	l r pg//	1111110	#	#	#	#		
3-Nitroaniline (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<8	<8	<10	<b>*</b>		
Tollioro o montyiphonor (aq)	l r pg//	1111110	#	#	#	#		
4-Chloroaniline (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
		=						
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
4-Methylphenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
4-Nitroaniline (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
4-Nitrophenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
Azobenzene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
(uq)	Ι μς//	110	,0 #	***	*10	*10		
Acenaphthylene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
Acenaphthene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
Anthracene (aq)	<1 µg/l	TM176	# <8	# <8	# <10	<b>*</b>		
,	- μg//	1101170	<b>,</b> 0	-0 #	×10 #	<b>~10</b> #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
bis(2-Chloroethoxy)methane	<1 µg/l	TM176	<8	<8	<10	<10		
(aq) bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	* <16	<b>4</b>	<b>4</b>	<b>4</b>		
bio(z-Eurymoxyr) priudiale (aq)	~∠ μy/i	1101170	<10 #	×16 #	~20 #	<20 #		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		

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SVOC MS (W) - Aqueous	s							
Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02		
M mCERTS accredited. aq Aqueous / settled sample.								
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)					
* Subcontracted - refer to subcontractor report accreditation status.		Date Sampled	30/07/2020	30/07/2020	30/07/2020	30/07/2020		
** % recovery of the surrogate standard to check efficiency of the method. The results of indivi-	dual	Sample Time Date Received	31/07/2020	31/07/2020	31/07/2020	31/07/2020		
compounds within samples aren't corrected for recovery	or the	SDG Ref	200731-89 22583409	200731-89 22583419	200731-89 22583387	200731-89 22583397		
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22000100	22300 110	22555557	2230007		
Component  Denne/h/fluerenthene (eg)	LOD/Units		<8	<8	<10	-10		
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<b>~</b> 0	\ #	×10 #	<10 #		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
. ,	, ,		#	#	#	#		
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
2 (1) 1 ()	4 "	T14470	#	#	#	#		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
Carbazole (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
\			#	#	#	#		
Chrysene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
Dibenzofuran (aq)	<1 µg/l	TM176	<8	<8 #	<10	<10		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	# <8	<8	# <10	<b>*</b>		
in Bibatyi pintitatato (aq)	1 49/1	111170	#	#	#	#		
Diethyl phthalate (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
			#	#	#	#		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
Dimethyl phthalate (aq)	<1 µg/l	TM176	<b>*</b>	# <8	<b>*</b>	<b>*</b>		
Difficulty pritifalate (aq)	ν μg/ι	TIVITTO	-0 #	-0 #	<b>~10</b> #	<b>~10</b> #		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<40	<40	<50	<50		
			#	#	#	#		
Fluoranthene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
FI ( )	.4 //	T14470	#	.0	#	#		
Fluorene (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
Hexachlorobenzene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
` "	, ,		#	#	#	#		
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
Dente ship as above ( / e v)	44 //	TM470	#	#	#	#		
Pentachlorophenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
Phenol (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
, <i>"</i>								
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
	.4 //	T14470	#	.0	#	#		
Hexachloroethane (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
Nitrobenzene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
\	"		#	#	#	#		
Naphthalene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
	4 "	T14470	#	#	#	#		
Isophorone (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
7 1	1.3.							
Phenanthrene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
1 1 (100 )	4 "	T14470	#	#	#	#		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
Pyrene (aq)	<1 µg/l	TM176	<8	<8	<10	<10		
7 : : V: W			#	#	#	#		
		+						<del></del>
		-						

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ഗവ	MS	(W)	

VOC MS (W)							
Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample.							
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	
<ul> <li>Subcontracted - refer to subcontractor report accreditation status.</li> </ul>	for	Date Sampled	30/07/2020	30/07/2020	30/07/2020	30/07/2020	
** % recovery of the surrogate standard to checlefficiency of the method. The results of indivi-		Sample Time Date Received	31/07/2020	31/07/2020	31/07/2020	31/07/2020	
compounds within samples aren't corrected for recovery		SDG Ref	200731-89	200731-89	200731-89	200731-89	
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22583409	22583419	22583387	22583397	
Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	108	107	108	107	
Toluene-d8**	%	TM208	99.1	97.2	97.2	96.2	
Toluelle-uo	/0	1101200	33.1	91.2	91.2	90.2	
4-Bromofluorobenzene**	%	TM208	99	99.9	99.9	101	
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	
011 #	4 "	71,1000	#	#	#	#	
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Vinyl chloride	<1 µg/l	TM208	<1	<1	<1	<1	
,.			#	#	#	#	
Bromomethane	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Chloroethane	<1 µg/l	TM208	<1	<1	<1	<1	
Trichlorofluoromethane	<1 µg/l	TM208	<b>*</b>	# <1	# <1	# <1	
monioronaoronicana	-1 μg/1	TIVIZOO	#	#	#	#	
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Carbon disulphide	<1 µg/l	TM208	<1	<1	<1	<1	
Dichloromethane	<2 ua/l	TM208	<3	<3	<3	# <3	
Dichioromethane	<3 µg/l	I IVIZUO	\   	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ #	
Methyl tertiary butyl ether	<1 µg/l	TM208	<1	<1	<1	<1	
(MTBE)			#	#	#	#	
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	
44 8: 11 - 11	4 "	71,1000	#	#	#	#	
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	
,			#	#	#	#	
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	
2 11 "	4 "	71,1000	,	,	,	,	
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Chloroform	<1 µg/l	TM208	<1	<1	<1	3.44	
			#	#	#	#	
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	
		=	#	. #	#	#	
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Carbontetrachloride	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	
		T1 1000	#	#	#	#	
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Trichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	
		250	#	#	#	#	
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	
Dii			#	#	#	#	
Dibromomethane	<1 µg/l	TM208	<1 #	<1 *#	<1 #	<1 #	
Bromodichloromethane	<1 µg/l	TM208	<1	# <1	<1	1.16	
5. Smodionioromounding	- 1 μg/1	1 101200	#	*	*	1.10	
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Toluene	<1 µg/l	TM208	<1	<1 ,	<1	<1	
trans-1,3-Dichloropropene	<1 µg/l	TM208	<b>*</b>	# <1	# <1	# <1	
a and 1,0 Didiliolopiopelie	` µg/i	I IVIZUU	*	*	-1 #	- "	
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,3-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	

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VOC MS (W)							-	
Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	Ì	
M mCERTS accredited. aq Aqueous / settled sample.								
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)					
* Subcontracted - refer to subcontractor report to accreditation status.		Date Sampled Sample Time	30/07/2020	30/07/2020	30/07/2020	30/07/2020		
** % recovery of the surrogate standard to check efficiency of the method. The results of individ compounds within samples aren't corrected for	dual	Date Received	31/07/2020	31/07/2020	31/07/2020	31/07/2020		
recovery  (F) Trigger breach confirmed	or the	SDG Ref Lab Sample No.(s)	200731-89 22583409	200731-89 22583419	200731-89 22583387	200731-89 22583397		
1-3+§@ Sample deviation (see appendix)	100#1	AGS Reference						
Component Tetrachloroethene	LOD/Units <1 µg/l	Method TM208	<1	<1	<1	<1		
Totadomorodatorio	1 49/1	1111200	#	#	#	#		
Dibromochloromethane	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
1,2-Dibromoethane	<1 µg/l	TM208	<1	<1	<1	<1		
Chlorobenzene	<1 µg/l	TM208	# <1	# <1	# <1	# <1		
0111010001120110	1 49/1	1111200	#	#	#	#		
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
Ethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1 "		
m,p-Xylene	<1 µg/l	TM208	* <1	# <1	# <1	# <1		
пі,р хуюпо	11 µ9/1	TWIZOO	#	#	#	#		
o-Xylene	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
Styrene	<1 µg/l	TM208	<1	<1	<1	<1 "		
Bromoform	<1 µg/l	TM208	* <1	# <1	* <1	# <1		
Bromolomi	11 µ9/1	TWIZOO	#	#	#	#		
Isopropylbenzene	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1		
1,2,3-Trichloropropane	<1 µg/l	TM208	* <1	# <1	# <1	# <1		
1,2,0-111011010p10pane	ν μ9/ι	TIVIZOO	#	#	#	#		
Bromobenzene	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
Propylbenzene	<1 µg/l	TM208	<1	<1	<1	<1		
2-Chlorotoluene	<1 µg/l	TM208	* <1	# <1	* <1	* <1		
2 01110101010110	. 129	200	. #	. #	. #	. #		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1		
			#	. #	#	. #		
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
tert-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1		
	13		#	#	#	#		
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1		
D. + Ib	44 //	TMOOO	# <1	# <1	# <1	# <1		
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<u> </u>	<1 #	<1 #		
4-iso-Propyltoluene	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	<1 "	<1	<1 "		
1,4-Dichlorobenzene	<1 µg/l	TM208	# <1	# <1	# <1	# <1		
1,7-01011010001120110	~ i μg/l	I IVIZUO	<u> </u>	- "	- "	<u> </u>		
n-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
.,_ Dibromo o dinoropropario	- 1 μg/1	TIVIZUU	71	<u>'</u>	`'	`'		
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	# <1	<1	<1	<1		
(TAIVIL)	- 1 μg/1	TIVIZUU	#	*	- "	*		
Naphthalene	<1 µg/l	TM208	<1	<1	<1	<1		
			#	#	#	#		
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trichlorobenzene	<1 µg/l	TM208	# <1	<1	<1	# <1		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	. Ma''	200		<u> </u>		<u> </u>		<u> </u>

Validated



ALS

 SDG:
 200731-89
 Client Reference:
 P2282
 Report Number:
 564886

 Location:
 New Inn Landfill
 Order Number:
 P2282
 Superseded Report:
 562407

# **Table of Results - Appendix**

		Nesulis - Appelluix
Method No	Reference	Description
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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
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
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
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
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
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS
TM411	Acid_Herbs_GCMS	Acid Herbs in Water by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

### **CERTIFICATE OF ANALYSIS**

ALS

SDG: 200731-89 Client Reference: Location: New Inn Landfill Order Number:

: P2282 P2282 Report Number: Superseded Report: 564886 562407

# **Test Completion Dates**

				1
Lab Sample No(s)	22583409	22583419	22583387	22583397
Customer Sample Ref.	BH1	BH4	GW01	GW02
o doctomor campio reci-				
AGS Ref.				
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Туре	Ground Water	Ground Water	Ground Water	Ground Water
Acid Herbicides by GCMS	07-Aug-2020	07-Aug-2020	07-Aug-2020	07-Aug-2020
Alkalinity as CaCO3	06-Aug-2020	06-Aug-2020	06-Aug-2020	06-Aug-2020
Ammonium Low	06-Aug-2020	06-Aug-2020	06-Aug-2020	06-Aug-2020
Anions by Kone (w)	04-Aug-2020	04-Aug-2020	04-Aug-2020	04-Aug-2020
BOD True Total	06-Aug-2020	06-Aug-2020	06-Aug-2020	06-Aug-2020
COD Unfiltered	01-Aug-2020	01-Aug-2020	01-Aug-2020	04-Aug-2020
Conductivity (at 20 deg.C)	05-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020
Cyanide Comp/Free/Total/Thiocyanate	07-Aug-2020	06-Aug-2020	07-Aug-2020	07-Aug-2020
Dissolved Metals by ICP-MS	07-Aug-2020	07-Aug-2020	07-Aug-2020	07-Aug-2020
Dissolved Oxygen by Probe	02-Aug-2020	02-Aug-2020	04-Aug-2020	02-Aug-2020
Faecal Coliforms (W)*	10-Aug-2020	10-Aug-2020	10-Aug-2020	10-Aug-2020
Fluoride	04-Aug-2020	04-Aug-2020	04-Aug-2020	04-Aug-2020
Mercury Dissolved	05-Aug-2020	05-Aug-2020	07-Aug-2020	05-Aug-2020
PCB Congeners - Aqueous (W)	10-Aug-2020	10-Aug-2020	10-Aug-2020	10-Aug-2020
Pesticides (Suite I) by GCMS	07-Aug-2020	06-Aug-2020	06-Aug-2020	06-Aug-2020
Pesticides (Suite II) by GCMS	07-Aug-2020	07-Aug-2020	07-Aug-2020	07-Aug-2020
Pesticides (Suite III) by GCMS	06-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020
pH Value	03-Aug-2020	03-Aug-2020	04-Aug-2020	04-Aug-2020
SVOC MS (W) - Aqueous	09-Aug-2020	09-Aug-2020	09-Aug-2020	09-Aug-2020
Total Coliforms(W)*	10-Aug-2020	10-Aug-2020	10-Aug-2020	
Total Organic and Inorganic Carbon	06-Aug-2020	06-Aug-2020	06-Aug-2020	06-Aug-2020
VOC MS (W)	04-Aug-2020	05-Aug-2020	05-Aug-2020	05-Aug-2020



ALS Environmental Ltd Torrington Avenue Coventry CV4 9GU

T: +44 (0)24 7642 1213 F: +44 (0)24 7685 6575 www.alsenvironmental.co.uk

08 August 2020

Test Report: COV/1904559/2020

Dear Subcon Results

Subcon Results

**Torrington Avenue** 

Tile Hill CV4 9GU

ALS Life Sciences Limited

Analysis of your sample(s) received on 01 August 2020 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed:

Name: B. Paige

Title: Microbiology Team Leader







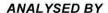
EMS 675527

OHS 54205

This communication has been sent to you by ALS Environmental Ltd. Registered in England and Wales. Registration No.02148934. Registered Office: ALS Environmental Limited, Torrington Avenue, Coventry, CV4 9GU.

# Report Summary

Hawarden Subcon Results ALS Life Sciences Limited Torrington Avenue Tile Hill CV4 9GU







Date of Issue: 08 August 2020

Report Number: COV/1904559/2020 Issue 1

This issue replaces all previous issues

Job Description: 2020 Analysis

**Job Location:** 200731-89

Number of Samples Job Received: 01 August 2020

included in this report 7

Number of Test Results Analysis Commenced: 01 August 2020

included in this report 10

Signed:

Name: B. Paige Date: 08 August 2020

Title: Microbiology Team Leader

ALS Environmental Ltd was not responsible for sampling unless otherwise stated.

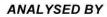
Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested and where relevant sampled.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory. This test report is not a statement of conformity to any specification or standard.

This communication has been sent to you by ALS Environmental Ltd. Registered in England and Wales. Registration No. 02148934. Registered Office: ALS Environmental Limited, Torrington Avenue, Coventry, CV4 9GU.

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Report Number: COV/1904559/2020

19545545 Laboratory Number:

**ALS Life Sciences Limited** 

Sample Point Description:

Sample Source:

22584586 BH1 Sample Description: Sample Matrix: **Ground Water** Sample Date/Time: 30 July 2020 Sample Received: 01 August 2020 08 August 2020 Analysis Complete:

200731-89

Sample Reference: BH1

Test Description	Result	Units	Analysis Date	Accre	ditation	Method
Faecal coliforms confirmed	0	cfu/100ml	08/08/2020	N	Cov	W57

Analyst Comments for 19545545:

This sample has been analysed for Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

This issue replaces all previous issues Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2SW), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Name:

B. Paige

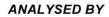
Date: 08 August 2020

Issue

Sample

of 7

Signed: /spaige







COV/1904559/2020 Report Number:

19545546 Laboratory Number:

of 7 2 Sample

Issue

Sample Source: **ALS Life Sciences Limited** 

Sample Point Description:

Sample Description: 22584591 BH1 Sample Matrix: **Ground Water** Sample Date/Time: 30 July 2020 Sample Received: 01 August 2020 08 August 2020 Analysis Complete:

200731-89

Sample Reference: BH1

Test Description	Result	Units	Analysis Date	Accre	ditation	Method
Total Coliform presump	2	cfu/100ml	02/08/2020	Υ	Cov	W10
Total Coliforms confirmed	2	cfu/100ml	02/08/2020	Υ	Cov	W10

Analyst Comments for 19545546:

This sample has been analysed for Total Coliforms confirmed, Total Coliform presump outside recommended stability times. It is therefore possible that the results provided may be compromised. Total coliforms identified as Raoultella terrigena and Lelliottia amnigena.

Signed: /

PTG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. 

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Name: B. Paige Date: 08 August 2020

# ANALYSED BY





Report Number: COV/1904559/2020

19545547 Laboratory Number:

of 7 Sample 3

Issue

**ALS Life Sciences Limited** Sample Source:

Sample Point Description:

Sample Description: 22584606 BH4 Sample Matrix: **Ground Water** Sample Date/Time: 30 July 2020 Sample Received: 01 August 2020 08 August 2020 Analysis Complete:

200731-89

Sample Reference: **BH4** 

Test Description	Result	Units	Analysis Date	Accre	ditation	Method
Faecal coliforms confirmed	0	cfu/100ml	08/08/2020	N	Cov	W57

Analyst Comments for 19545547:

This sample has been analysed for Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

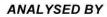
Signed: /spaige

This issue replaces all previous issues Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2SW), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Date: 08 August 2020 Name: B. Paige







COV/1904559/2020 Report Number:

19545548 Laboratory Number:

Sample of 7

Issue

Sample Source: **ALS Life Sciences Limited** 

Sample Point Description:

22584607 BH4 Sample Description: Sample Matrix: **Ground Water** Sample Date/Time: 30 July 2020 Sample Received: 01 August 2020 08 August 2020 Analysis Complete:

200731-89

Sample Reference: **BH4** 

Test Description	Result	Units	Analysis Date	Accre	ditation	Method
Total Coliform presump	7	cfu/100ml	02/08/2020	Υ	Cov	W10
Total Coliforms confirmed	7	cfu/100ml	02/08/2020	Υ	Cov	W10

Analyst Comments for 19545548:

This sample has been analysed for Total Coliforms confirmed, Total Coliform presump outside recommended stability times. It is therefore possible that the results provided may be compromised. Total coliforms identified as Serratia fonticola, Lelliottia amnigena and Citrobacter gillenii.

PTG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. 

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Name: B. Paige Date: 08 August 2020

Signed: / Title: Microbiology Team Leader

# ANALYSED BY





Report Number: COV/1904559/2020

19545549 Laboratory Number:

**ALS Life Sciences Limited** 

Sample Point Description:

Sample Source:

22584572 GW01 Sample Description: Sample Matrix: **Ground Water** Sample Date/Time: 30 July 2020 Sample Received: 01 August 2020 08 August 2020 Analysis Complete:

200731-89 Sample Reference: **GW01** 

Test Description	Result	Units	Analysis Date	Accre	ditation	Method
Faecal coliforms confirmed	1	cfu/100ml	08/08/2020	N	Cov	W57

Analyst Comments for 19545549:

This sample has been analysed for Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Issue

Sample

of 7

5

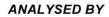
Signed: /spaige

This issue replaces all previous issues Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2SW), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Date: 08 August 2020 Name: B. Paige







COV/1904559/2020 Report Number:

19545550 Laboratory Number:

**ALS Life Sciences Limited** 

Sample Point Description:

Sample Source:

Sample Description: 22584573 GW01 Sample Matrix: **Ground Water** Sample Date/Time: 30 July 2020 Sample Received: 01 August 2020 08 August 2020 Analysis Complete:

200731-89 Sample Reference: **GW01** 

Test Description	Result	Units	Analysis Date	Accre	ditation	Method
Total Coliform presump	2	cfu/100ml	02/08/2020	Υ	Cov	W10
Total Coliforms confirmed	2	cfu/100ml	02/08/2020	Υ	Cov	W10

Analyst Comments for 19545550:

This sample has been analysed for Total Coliforms confirmed, Total Coliform presump outside recommended stability times. It is therefore possible that the results provided may be compromised. Total coliforms identified as Citrobacter gillenii.

Issue

Sample

of 7

Signed: /

This issue replaces all previous issues

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

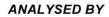
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2SW), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 COVENT), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 OXD), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 OXD), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 OXD), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 OXD), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 OXD), S = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 OXD), S = Subcontracted to Trowbridge(BA14 0XD), S = Subcon

PTG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. 

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Name: B. Paige Date: 08 August 2020







Report Number: COV/1904559/2020

19545551 Laboratory Number:

**ALS Life Sciences Limited** 

Sample Point Description:

Sample Source:

22584574 GW02 Sample Description: Sample Matrix: **Ground Water** Sample Date/Time: 30 July 2020 Sample Received: 01 August 2020 08 August 2020 Analysis Complete:

200731-89 Sample Reference: **GW02** 

Test Description	Result	Units	Analysis Date	Accre	ditation	Method
Faecal coliforms confirmed	180	cfu/100ml	08/08/2020	N	Cov	W57

Analyst Comments for 19545551:

This sample has been analysed for Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Issue

Sample

of 7

Signed: /spaige

This issue replaces all previous issues Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2SW), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Date: 08 August 2020 Name: B. Paige



# ANALYST COMMENTS FOR REPORT COV/1904559/2020

Issue 1

This issue replaces all previous issues

Date of Issue: 08 August 2020

Sample No	Analysis Comments
19545545	This sample has been analysed for Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.
19545546	This sample has been analysed for Total Coliforms confirmed, Total Coliform presump outside recommended stability times. It is therefore possible that the results provided may be compromised. Total coliforms identified as Raoultella terrigena and Lelliottia amnigena.
19545547	This sample has been analysed for Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.
19545548	This sample has been analysed for Total Coliforms confirmed, Total Coliform presump outside recommended stability times. It is therefore possible that the results provided may be compromised. Total coliforms identified as Serratia fonticola, Lelliottia amnigena and Citrobacter gillenii.
19545549	This sample has been analysed for Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.
19545550	This sample has been analysed for Total Coliforms confirmed, Total Coliform presump outside recommended stability times. It is therefore possible that the results provided may be compromised. Total coliforms identified as Citrobacter gillenii.
19545551	This sample has been analysed for Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Signed: /

Name: B. Paige Date: 08 August 2020



# DETERMINAND COMMENTS FOR REPORT COV/1904559/2020

ISSUE

This issue replaces all previous issues

Date of Issue:	08 August 2020
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Sample No	Description	Determinand	Comments
19545546	22584591 BH1	Total Coliforms confirmed	Total coliforms identified as Raoultella terrigena and Lelliottia amnigena.
19545548	22584607 BH4	Total Coliforms confirmed	Total coliforms identified as Serratia fonticola, Lelliottia amnigena and Citrobacter gillenii.
19545550	22584573 GW01	Total Coliforms confirmed	Total coliforms identified as Citrobacter gillenii.

Progine	Name:	B. Paige	08 August 2020	
Signed: / spaige	Title:	Microbiology Team Lea	der	

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 SDG:
 200731-89
 Client Reference:
 P2282
 Report Number:
 564886

 Location:
 New Inn Landfill
 Order Number:
 P2282
 Superseded Report:
 562407

# **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. 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. 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.
- 16. 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.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
§	Sampled on date not provided
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples

#### 19. Asbestos

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 (NDP). The quantity of

#### 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 ALS (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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbe stos Type	Common Name		
Chrysof le	White Asbestos		
Amosite	Brow n Asbests		
Cro d dolite	Blue Asbe stos		
Fibrous Act nolite	-		
Fib to us Anthop hyll ite	-		
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.

### Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, The Quantification of Asbestos in Soil (2017)

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.



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Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

# **CERTIFICATE OF ANALYSIS**

Date of report Generation:04 September 2020Customer:Fehily TimoneySample Delivery Group (SDG):200826-90Your Reference:P2282Location:New Inn LandfillReport No:566041

This report has been revised and directly supersedes 565825 in its entirety.

We received 4 samples on Wednesday August 26, 2020 and 4 of these samples were scheduled for analysis which was completed on Friday September 04, 2020. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

**Operations Manager** 





ALS Life Sciences Limited. Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

Version: 2.5 Version Issued: 04/09/2020



Validated

SDG: 200826-90 Client Reference: Location: New Inn Landfill Order Number:

P2282 Report Number: Z2189 Superseded Report: 566041 565825

# **Received Sample Overview**

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
22723005	BH1		0.00 - 0.00	25/08/2020
22723016	BH4		0.00 - 0.00	25/08/2020
22722980	GW01		0.00 - 0.00	25/08/2020
22722991	GW02		0.00 - 0.00	25/08/2020

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

Validated

# **CERTIFICATE OF ANALYSIS**

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SDG: 200826-90 Client Reference: P2282 Report Number: 566041 New Inn Landfill Z2189 Superseded Report: 565825 Location: Order Number: Results Legend 22723005 22723016 22722980 22722991 Lab Sample No(s) X Test No Determination Possible Customer 뭔1 BH4 Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 0.5l glass bottle (ALE227) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) H2SO4 (ALE244) H2SO4 (ALE244) H2SO4 (ALE244) NaOH (ALE245) HNO3 Filtered (ALE204) NaOH (ALE245) H2SO4 (ALE244) NaOH (ALE245) DW - Drinking Water Non-regulatory 500ml Plastic (ALE208) 500ml Plastic (ALE208) Vial (ALE297) 500ml Plastic Vial (ALE297) Vial (ALE297) UNL - Unspecified Liquid SL - Sludge Container G - Gas OTH - Other GW Sample Type GW Acid Herbicides by GCMS All NDPs: 0 Tests: 4 Х Χ Χ Χ Alkalinity as CaCO3 NDPs: 0 Tests: 4 X X Χ Χ Ammonium Low All NDPs: 0 Tests: 4 X X Χ Х Anions by Kone (w) All NDPs: 0 Tests: 4 X X Χ Х BOD True Total All NDPs: 0 Tests: 4 X Χ Χ Х COD Unfiltered All NDPs: 0 Tests: 4 X X Χ Х All Coliforms (W) NDPs: 0 Tests: 4 Χ Х Χ Х All Conductivity (at 20 deg.C) NDPs: 0 Tests: 4 X Х Χ Х Cyanide Comp/Free/Total/Thiocyanate All NDPs: 0 Tests: 4 Χ Х Χ Dissolved Metals by ICP-MS All NDPs: 0 Tests: 4 X X X Χ Dissolved Oxygen by Probe All NDPs: 2 N N Tests: 2 X Х Fluoride All NDPs: 0 Tests: 4 Х Х Χ Χ All Mercury Dissolved NDPs: 0 Tests: 4 X Χ Х Х PCB Congeners - Aqueous (W) All NDPs: 0 Tests: 4 Х X Х Х Pesticides (Suite I) by GCMS All NDPs: 0 Tests: 4 Χ Χ X X

22722991 GW02 0.00 - 0.00 Vial (ALE297) GW		
0.00 - 0.00 Vial (ALE297)  NaOH (ALE245)		22722991
Vial (ALE297) NaOH (ALE245)		GW02
Vial (ALE297) NaOH (ALE245)		
Vial (ALE297) NaOH (ALE245)		0.00 - 0.00
GW GW	NaOH (ALE245)	Vial (/
	GW	GW
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Validated

### **CERTIFICATE OF ANALYSIS**

ALS	

SDG: P2282 200826-90 Client Reference: Report Number: 566041 New Inn Landfill Z2189 Superseded Report: 565825 Location: Order Number: Results Legend 22723016 22722991 22723005 22722980 Lab Sample No(s) X Test No Determination Possible Customer GW01 GW02 뭔1 BH4 Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) H2SO4 (ALE244) H2SO4 (ALE244) H2SO4 (ALE244) NaOH (ALE245) HNO3 Filtered (ALE204) NaOH (ALE245) H2SO4 (ALE244) NaOH (ALE245) 500ml Plastic (ALE208) DW - Drinking Water Non-regulatory Vial (ALE297) Vial (ALE297) Vial (ALE297) UNL - Unspecified Liquid SL - Sludge Container G - Gas OTH - Other GW Sample Type GW GΜ GW GW GW GΜ GW GW GW GW GW GΜ GΜ GW GΝ GΜ GW GW Pesticides (Suite II) by GCMS All NDPs: 0 Tests: 4 Χ X X Χ Pesticides (Suite III) by GCMS All NDPs: 0 Tests: 4 X X X X pH Value All NDPs: 0 Tests: 4 X X X X SVOC MS (W) - Aqueous All NDPs: 0 Tests: 4 X Χ Χ Χ All Total Organic and Inorganic Carbon NDPs: 0 Tests: 4 Х Х Χ Х VOC MS (W) All NDPs: 0 Tests: 4 Χ Х Х

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722991	
GW02	
0.00 - 0.00	
Vial (ALE297)	
GW	
Х	
	0.00 - 0.00 Vial (ALE297) GW

ALS

SDG: 200826-90 Location: New Inn Landfill Client Reference: Forder Number: 2

P2282 Z2189 Report Number: Superseded Report: 566041 565825

# ISO17025 accredited.  M mCERTS accredited.  aq Aqueous / settled sample.  diss.filt Dissolved / filtered sample.	C	ustomer Sample Ref. Depth (m)	BH1 0.00 - 0.00	BH4 0.00 - 0.00	GW01 0.00 - 0.00	GW02 0.00 - 0.00	
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report accreditation status.	for	Sample Type Date Sampled	Ground Water (GW) 25/08/2020	Ground Water (GW) 25/08/2020	Ground Water (GW) 25/08/2020	Ground Water (GW) 25/08/2020	
** % recovery of the surrogate standard to check efficiency of the method. The results of indivic compounds within samples aren't corrected for	dual	Sample Time Date Received	26/08/2020	26/08/2020	26/08/2020	26/08/2020	
recovery (F) Trigger breach confirmed	or the	SDG Ref Lab Sample No.(s)	200826-90 22723005	200826-90 22723016	200826-90 22722980	200826-90 22722991	
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method					
Coliforms, Total*	MPN/100ml	SUB	<1	<1	2	488	
Coliforms, Faecal*	CFU/100ml	SUB	<1	<1	<1	10	
Alkalinity, Total as HCO3	<2 mg/l	TM043	427	434	2280	1230	
BOD, unfiltered	<1 mg/l	TM045	<1 #	<1 #	2.29 #	2.2 #	
Oxygen, dissolved	<0.3 mg/l	TM046		8.34		9.51	
Organic Carbon, Total	<3 mg/l	TM090	<3 #	3.63 #	3.46	3.83 #	
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.0202 #	0.558 #	0.0438 #	0.526 #	
Fluoride	<0.5 mg/l	TM104	0.786 #	0.79 #	<0.5 #	0.968 #	
COD, unfiltered	<7 mg/l	TM107	8.83	13.4 #	342 #	106 #	
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.643	0.798 #	0.727 #	1.45 #	
Arsenic (diss.filt)	<0.5 µg/l	TM152	<0.5 2#	2.96 #	<0.5 2#	0.541 2#	
Barium (diss.filt)	<0.2 µg/l	TM152	36.9 2#	41.8 #	1930 2#	111 2#	
Boron (diss.filt)	<10 µg/l	TM152	64.3 2#	136 #	348 2#	193 2#	
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 2#	<0.08	<0.08 2#	<0.08 2#	
Chromium (diss.filt)	<1 µg/l	TM152	<1 2#	5.17 #	<1 2#	<1 2#	
Copper (diss.filt)	<0.3 µg/l	TM152	7.55 2#	0.618	1.15 2#	1 2#	
Lead (diss.filt)	<0.2 µg/l	TM152	0.616 2#	1.52 #	<0.2 2#	<0.2 2#	
Manganese (diss.filt)	<3 µg/l	TM152	25.8 2#	105 #	<3 2#	14.9 2#	
Nickel (diss.filt)	<0.4 µg/l	TM152	8.5 2#	17.1 #	2.71 2#	3.44 2#	
Phosphorus (diss.filt)	<10 µg/l	TM152	<10 2#	30.7 #	<10 2#	11.4 2#	
Selenium (diss.filt)	<1 µg/l	TM152	<1 2#	<1 #	<1 2#	2.77 2#	
Thallium (diss.filt)	<2 µg/l	TM152	<2 2#	<2 #	<2 2#	<2 2#	
Zinc (diss.filt)	<1 µg/l	TM152	10 2#	5.81 #	862 2#	<1 2#	
Sodium (Dis.Filt)	<0.076 mg/l	TM152	10.6	46.5 #	19.3 2#	222	
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	18.9	12.8 #	7.94 2#	35.6 2 #	
Potassium (Dis.Filt)	<0.2 mg/l	TM152	1.58	4.5	0.627 2 #	5.49 2#	
Calcium (Dis.Filt)	<0.2 mg/l	TM152	109	128 #	138	64.5	
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0509	3.75 #	<0.019 2#	0.0304	
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	<0.01	<0.01 2#	<0.01 2#	
Sulphate	<2 mg/l	TM184	12.5	11.8	16.9	235 #	
Chloride	<2 mg/l	TM184	16.1	66 #	23.1	55.6 #	
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	0.573 #	0.282	1.98	<0.1	
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	

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Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. Subcontracted - refer to subcontractor reaccreditation status.	eport for	Depth (m) Sample Type Date Sampled	0.00 - 0.00 Ground Water (GW) 25/08/2020				
" % recovery of the surrogate standard to efficiency of the method. The results of in compounds within samples aren't correc recovery  Trigger breach confirmed  1-3-§@ Sample deviation (see appendix)	ndividual	Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	26/08/2020 200826-90 22723005	26/08/2020 200826-90 22723016	26/08/2020 200826-90 22722980	26/08/2020 200826-90 22722991	
Component PCB congener 52	LOD/Units <0.015 µg	Method	<0.015	<0.015	<0.015	<0.015	
PCB congener 101	<0.015 µg		<0.015	<0.015	<0.015	<0.015	
,							
PCB congener 118	<0.015 µg		<0.015	<0.015	<0.015	<0.015	
PCB congener 138	<0.015 µg	/I TM197	<0.015	<0.015	<0.015	<0.015	
PCB congener 153	<0.015 µg	/I TM197	<0.015	<0.015	<0.015	<0.015	
PCB congener 180	<0.015 µg	/I TM197	<0.015	<0.015	<0.015	<0.015	
Sum of detected EC7 PCB's	<0.105 µg	/I TM197	<0.105	<0.105	<0.105	<0.105	
Cyanide, Total	<0.05 mg/	TM227	<0.05	<0.05	<0.05	<0.05	
pH	<1 pH Unit	s TM256	7.3	7.12	7.01	7.46	
Trifluralin	<0.01 µg/	I TM343	<0.01	<b>*</b>	<b>*</b>	<b>*</b>	
alpha-HCH	<0.01 μg/		<0.01	<0.01	<0.01	<0.01	
gamma-HCH (Lindane)	<0.01 µg/		<0.01	<0.01	<0.01	<0.01	
Heptachlor	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
Aldrin	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
beta-HCH	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
Isodrin	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
delta-HCH	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
Heptachlor epoxide	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
o,p'-DDE	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
Endosulphan I	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
trans-Chlordane	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
cis-Chlordane	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
p,p'-DDE	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
Dieldrin	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
o,p'-DDD (TDE)	<0.01 µg/		<0.01	<0.01	<0.01	<0.01	
Endrin	<0.01 μg/		<0.01	<0.01	<0.01	<0.01	
o,p'-DDT	<0.01 μg/		<0.01	<0.01	<0.01	<0.01	
•							
p,p'-DDD (TDE)	<0.01 µg/		<0.01	<0.01	<0.01	<0.01	
Endosulphan II	<0.02 µg/		<0.02	<0.02	<0.02	<0.02	
p,p'-DDT	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
o,p'-Methoxychlor	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
p,p'-Methoxychlor	<0.01 µg/	I TM343	<0.01	<0.01	<0.01	<0.01	
Endosulphan Sulphate	<0.02 µg/	I TM343	<0.02	<0.02	<0.02	<0.02	

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## **CERTIFICATE OF ANALYSIS**



 SDG:
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 Report Number:

 Location:
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 Order Number:
 Z2189
 Superseded Report:

#	Results Legend ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M aq diss.filt tot.unfilt *	mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report accreditation status. % recovery of the surrogate standard to chec		Depth (m) Sample Type Date Sampled Sample Time	0.00 - 0.00 Ground Water (GW) 25/08/2020				
(F) 1-3+§@	efficiency of the method. The results of indivi compounds within samples aren't corrected f recovery Trigger breach confirmed Sample deviation (see appendix)	idual for the	Date Received SDG Ref Lab Sample No.(s) AGS Reference	26/08/2020 200826-90 22723005	26/08/2020 200826-90 22723016	26/08/2020 200826-90 22722980	26/08/2020 200826-90 22722991	
Permet		<b>LOD/Units</b> <0.01 μg/l		<0.01	<0.01	<0.01	<0.01	
Permet	hrin II	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01	
1,3,5-T	richlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Hexach	lorobutadiene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
1,2,4-T	richlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
1,2,3-T	richlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Dichlor	/os	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Dichlob	enil	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Mevinp	hos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Tecnaz	ene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Hexach	lorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Demeto	n-S-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Phorate		<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Diazino	n	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Triallate	}	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Atrazin	9	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Simazir	ne	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Disulfot	on	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Propeta	mphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Chlorpy	riphos-methyl	<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Dimeth	pate	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
	nos-methyl	<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Chlorpy		<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Methyl	Parathion	<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Malathi		<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Fenthio		<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Fenitro		<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Triadim		<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Pendim		<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
Parathi		<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
	nvinphos	<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
	hlordane	<0.01 µg/l		<0.01	<0.01	<0.01	<0.01	
cis-Chlo	ordane	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	



 SDG:
 200826-90
 Client Reference:
 P2282

 Location:
 New Inn Landfill
 Order Number:
 Z2189

Report Number: 89 Superseded Report:

566041 565825

Describe Learner		0			1		•	
# ISO17025 accredited.  M mCERTS accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02		
aq Aqueous / settled sample.		Depth (m)	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00		
tot.unfilt Total / unfiltered sample.		Sample Type	0.00 - 0.00 Ground Water (GW)					
* Subcontracted - refer to subcontractor repr accreditation status.		Date Sampled	25/08/2020	25/08/2020	25/08/2020	25/08/2020		
** % recovery of the surrogate standard to ch efficiency of the method. The results of ind	lividual	Sample Time Date Received	26/08/2020	26/08/2020	26/08/2020	26/08/2020		
compounds within samples aren't correcte recovery	d for the	SDG Ref	200826-90 22723005	200826-90 22723016	200826-90 22722980	200826-90 22722991		
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22123003	22/23010	22122900	22122991		
Component	LOD/Units	_						
Ethion	<0.01 µg/	I TM344	<0.01	<0.01	<0.01	<0.01		
Carbophenothion	<0.01 µg/	I TM344	<0.01	<0.01	<0.01	<0.01		
Triazophos	<0.01 µg/	I TM344	<0.01	<0.01	<0.01	<0.01		
Phosalone	<0.01 µg/	I TM344	<0.01	<0.01	<0.01	<0.01		
Azinphos methyl	<0.02 µg/	I TM344	<0.04	<0.04	<0.04	<0.04		
Azinphos ethyl	<0.02 µg/	I TM344	<0.02	<0.02	<0.02	<0.02		
Etridiazole	<0.01 µg/	I TM345	<0.01	<0.01	<0.01	<0.01		
Pentachlorobenzene	<0.01 µg/	I TM345	<0.01	<0.01	<0.01	<0.01		
Propachlor	<0.01 µg/	I TM345	<0.01	<0.01	<0.01	<0.01		
Quintozene (PCNB)	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Omethoate	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Propazine	<0.01 µg/	I TM345	<0.01	<0.01	<0.01	<0.01		
Propyzamide	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Alachlor	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Prometryn	<0.01 µg/	I TM345	<0.01	<0.01	<0.01	<0.01		
Telodrin	<0.01 µg/	I TM345	<0.01	<0.01	<0.01	<0.01		
Terbutryn	<0.01 µg/	I TM345	<0.01	<0.01	<0.01	<0.01		
Chlorothalonil	<0.01 µg/		<0.02	<0.02	<0.02	<0.02		
Etrimphos	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Metazachlor	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Cyanazine	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Trietazine	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Coumaphos	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Phosphamidon I	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Phosphamidon II	<0.01 µg/		<0.01	<0.01	<0.01	<0.01		
Dinitro-o-cresol	<0.1 µg/l		<0.1	<0.2	<0.2	<0.2		
Clopyralid	<0.04 µg/		<0.04	<0.08	<0.08	<0.08		
MCPA	<0.05 µg/		<0.05	<0.1	<0.1	<0.1		
Mecoprop	<0.04 µg/		<0.04	<0.08	<0.08	<0.08		
Dicamba	<0.04 µg/		<0.04	<0.08	<0.08	<0.08		
МСРВ	<0.05 µg/		<0.05	<0.1	<0.1	<0.1		
2,4-DB	<0.1 µg/l		<0.1	<0.2	<0.2	<0.2		
2,3,6-Trichlorobenzoic acid	<0.05 µg/	I TM411	<0.05	<0.1	<0.1	<0.1		



		Results Legend		Customer Sample Ref.	BH1	BH4	GW01	GW02	
Depth (m)   Dept	M	ISO17025 accredited. mCERTS accredited. Aqueous / settled sample							
Date Sampler flow   Concrete testing   Concrete t	diss.filt	Dissolved / filtered sample.							
Date Received   26/08/2020	*	Subcontracted - refer to subcontractor report	for	Date Sampled					
Sob Ref   200826-90   200826-90   200826-90   22723905   2272390	**	% recovery of the surrogate standard to chec efficiency of the method. The results of indivi	dual						
AGS Reference   Component   LOD/Units   Method		compounds within samples aren't corrected f recovery	for the	SDG Ref	200826-90	200826-90	200826-90	200826-90	
Dichlorprop       <0.1 μg/l       TM411       <0.1       <0.2       <0.2       <0.2       <0.2         Triclopyr       <0.05 μg/l       TM411       <0.05       <0.1       <0.1       <0.1       <0.1       <0.1       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.2       <0.1       <0.1       <0.1       <0.1       <0.1       <0.1       <0.1       <0.1       <0.1       <0.1       <0.1       <0.1       <0.1       <0.0       <0.08       <0.08       <0.08       <0.08       <0.08       <0.08       <0.08       <0	(F) 1-3 <b>+</b> §@	Trigger breach confirmed Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22123005	22/23010	22122900	22122991	
Triclopyr						2.2	2.2	2.2	
Fenoprop (Silvex)         < 0.1 μg/l         TM411         < 0.1         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.2         < 0.2         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08         < 0.08 <t< td=""><td>Dichlorpi</td><td>гор</td><td>&lt;0.1 µg/l</td><td>IM411</td><td>&lt;0.1</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td></td></t<>	Dichlorpi	гор	<0.1 µg/l	IM411	<0.1	<0.2	<0.2	<0.2	
2,4-Dichlorophenoxyacetic acid       <0.05 μg/l	Triclopyr		<0.05 µg/l	TM411	<0.05	<0.1	<0.1	<0.1	
2,4,5-Trichlorophenoxyacetic acid       <0.05 μg/l	Fenopro	p (Silvex)	<0.1 µg/l	TM411	<0.1	<0.2	<0.2	<0.2	
acid         CO.04 μg/I         TM411         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.01         <0.1         <0.1         <0.1         <0.1         <0.1         <0.1         <0.1         <0.01         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <0.08         <	2,4-Dich	orophenoxyacetic acid			<0.05	<0.1	<0.1	<0.1	
Benazolin       <0.04 μg/l	acid				<0.1	<0.1	<0.1		
loxynil   <0.05 μg/l   TM411   <0.1   <0.1   <0.1   <0.1   <0.1     Pentachlorophenol   <0.04 μg/l   TM411   <0.08   <0.08   <0.08   <0.08   <0.08	Bromoxy	rnil							
Pentachlorophenol <0.04 μg/l TM411 <0.08 <0.08 <0.08 <0.08		n							
Fluoroxypyr									
	Fluoroxy	pyr	<0.1 µg/l	TM411	<0.2	<0.2	<0.2	<0.2	

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SVAC	MC	$\Lambda \Lambda \Lambda$	- Aqueous
3700	IVI O	( VV )	- Adueous

SVOC MS (W) - Aqueous	s	0 1 0 1 D.1						
# ISO17025 accredited.  M mCERTS accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02		
aq Aqueous / settled sample.  diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	for	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
accreditation status.  ** % recovery of the surrogate standard to chec		Date Sampled Sample Time	25/08/2020	25/08/2020	25/08/2020	25/08/2020		
efficiency of the method. The results of indivi compounds within samples aren't corrected f		Date Received	26/08/2020 200826-90	26/08/2020 200826-90	26/08/2020 200826-90	26/08/2020 200826-90		
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	22723005	22723016	22722980	22722991		
1-3+§@ Sample deviation (see appendix)	LOD/Units	AGS Reference Method						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
, , , , , , , , , , , , , , , , , , , ,	10		#	#	#	#		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
40.5:44	4 "	T14470	#	#	#	#		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
1,1 213.110.0231.23113 (44)	. 43		. #	. #	#	#		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	# <1	# <1	<b>*</b>	# <10		
2,4-Dictriorophicnor (aq)	ν ημη/	111170	#	#	\#	4		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
0.0 Disitantal (200	44//	TM470	#	#	#	#		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
····- (,)	. 43		#	#	#	#		
2-Chlorophenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
2-Methylphenol (aq)	<1 µg/l	TM176	# <1	# <1	* <20	# <10		
2-wetryiphenor(aq)	ν ημη/	111170	#	#		*		
2-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
2-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
3-Nitroaniline (aq)	<1 µg/l	TM176	# <1	# <1	<b>*</b>	<b>*</b>		
3-Milloaniiine (aq)	ν ημη/	111170	#	*	\#	4		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
4-Chloroaniline (aq)	<1 µg/l	TM176	# <1	# <1	# <20	# <10		
4-Onioroaniline (aq)	~1 μg/1	TWITTO			<b>\20</b>	<b>~10</b>		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
4-Methylphenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
4-Nitroaniline (aq)	<1 µg/l	TM176	# <1	# <1	# <20	# <10		
4-Milloannine (aq)	×1 μg/1	1101170	- "	#	\20 #	<b>10</b> #		
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
Azobenzene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
Acenaphthylene (aq)	<1 µg/l	TM176	# <1	# <1	# <20	# <10		
Acenaphiniyiene (aq)	×1 μg/1	1101170	#	#	\20 #	<b>~10</b> #		
Acenaphthene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
Anthracene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
his/2 Chloroothy/lathor/arl	~1··~/l	TM476	# <1	#	# <20	# <10		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
bis(2-Chloroethoxy)methane	<1 µg/l	TM176	<1	<1	<20	<10		
(aq)	-3.		. #	. #	° #	#		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2	<2	<40	<20		
Distribution of the Control of the C	.4 8	T14470	#	#	#	#		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
(34)	. 49"		#	#	·20 #	#		
							<u>_</u> _	

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 SDG:
 200826-90
 Client Reference:
 P2282
 Report Number:
 566041

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:
 565825

SVOC MS (W) - Aqueous	S							
Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02		
M mCERTS accredited. aq Aqueous / settled sample.								
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)					
* Subcontracted - refer to subcontractor report accreditation status.		Date Sampled	25/08/2020	25/08/2020	25/08/2020	25/08/2020		
** % recovery of the surrogate standard to check efficiency of the method. The results of indivi-	dual	Sample Time Date Received	26/08/2020	26/08/2020	26/08/2020	26/08/2020		
compounds within samples aren't corrected for recovery	or the	SDG Ref	200826-90 22723005	200826-90 22723016	200826-90 22722980	200826-90 22722991		
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	227.2000	22720010	22722000	22722301		
Component  Denne/h/fluerenthene (eg)	LOD/Units		-1	<1	<20	-10		
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #	- "	<b>\</b> #	<10 #		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
. , , , , , , , , , , , , , , , , , , ,	, ,		#	#	#	#		
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
2 (1) 1 ()	4 0	T14470	#	#	#	#		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
Carbazole (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
\			#	#	#	#		
Chrysene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #	<1 #	<20	<10		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	# <1	# <1	# <20	<b>*</b>	<del></del>	
Sibatyi priatulato (aq)	- μg//	1101170	#	#	\20 #	×10 #		
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	<1 ,,,	<20	<10		
Dimothyl phtholato (ag)	<1.10/	TM176	# <1	<1	# <20	<b>*</b>	-	
Dimethyl phthalate (aq)	<1 µg/l	TIVITA	- "	"	<b>\</b> #	×10 #		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	<5	<100	<50		
			#	#	#	#		
Fluoranthene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
FI ( )	.4 ()	T14470	#	#	#	#		
Fluorene (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
( 4)	13		#	#	#	#		
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
Phenol (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
(-4)			·	· ·				
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
Nitrobenzene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
(-4)			#	#	#	#		
Naphthalene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
Isophorone (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
(-4)				·				
Phenanthrene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
			#	#	#	#		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<20 #	<10 #		
Pyrene (aq)	<1 µg/l	TM176	<1	<1	<20	<10		
1 yrono (aq)	1 49/1	1111110	#	#	#	#		
		+						<del></del>
		+					<del> </del>	
I	1	-						

200826-90 New Inn Landfill P2282 Z2189 Report Number: Superseded Report: 566041 565825 SDG: Client Reference: Location: Order Number:

m	$\sim$	MC	(W)

VOC MS (W)							
# ISO17025 accredited.	(	Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample.							
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)				
* Subcontracted - refer to subcontractor report accreditation status.		Date Sampled	25/08/2020	25/08/2020	25/08/2020	25/08/2020	
** % recovery of the surrogate standard to check efficiency of the method. The results of individ	dual	Sample Time Date Received	26/08/2020	26/08/2020	26/08/2020	26/08/2020	
compounds within samples aren't corrected for recovery	or the	SDG Ref	200826-90 22723005	200826-90 22723016	200826-90 22722980	200826-90 22722991	
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	2272000	22725010	22722300	22722331	
Component	LOD/Units	Method	400	440	400	440	
Dibromofluoromethane**	%	TM208	120	119	120	118	
Toluene-d8**	%	TM208	99.3	99.4	98.8	98.9	
4-Bromofluorobenzene**	%	TM208	96	98.3	97.7	96.4	
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	2.24 #	
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	

ALS

 SDG:
 200826-90
 Client Reference:
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VOC MS (W)							
Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited.							
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	for	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	
accreditation status.		Date Sampled	25/08/2020	25/08/2020	25/08/2020	25/08/2020	
** % recovery of the surrogate standard to chec efficiency of the method. The results of indivi		Sample Time Date Received	26/08/2020	26/08/2020	26/08/2020	26/08/2020	
compounds within samples aren't corrected f		SDG Ref	200826-90	200826-90	200826-90	200826-90	
(F) Trigger breach confirmed		Lab Sample No.(s)	22723005	22723016	22722980	22722991	
1-3+§@ Sample deviation (see appendix)	LOD/II-it-	AGS Reference					
Component Tetrachloroethene	LOD/Units	Method TM208	<1	<1	<1	<1	
Tetracinoroetrene	<1 µg/l	1101200	- "	#	- " #	*	
Dibromochloromothono	<1a/l	TMOOO	<1	<1	<1	<1	
Dibromochloromethane	<1 µg/l	TM208					
10.00	4 "	T1 1000	#	#	#	#	
1,2-Dibromoethane	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Chlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Ethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
m,p-Xylene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	 
o-Xylene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Styrene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Bromoform	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Isopropylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Bromobenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Propylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
2-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
4-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
tert-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
sec-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
4-iso-Propyltoluene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
n-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Hexachlorobutadiene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
Naphthalene	<1 µg/l	TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	]
			#	#	#	#	
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	]

### **CERTIFICATE OF ANALYSIS**

ALS

 SDG:
 200826-90
 Client Reference:
 P2282
 Report Number:
 566041

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:
 565825

# **Notification of NDPs (No determination possible)**

Date Received: 26/08/2020 12:34:28

	tomer Sample Ref.	Depth (m)	Test	Comment
22722980	GW01	0.00 - 0.00	Dissolved Oxygen by Probe	Insufficient Sample
22723005	BH1	0.00 - 0.00	Dissolved Oxygen by Probe	Insufficient Sample

17:06:39 04/09/2020

# ALS

#### **CERTIFICATE OF ANALYSIS**

 SDG:
 200826-90
 Client Reference:
 P2282
 Report Number:
 566041

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:
 565825

# **Table of Results - Appendix**

		Nesults - Appelluix
Method No	Reference	Description
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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
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
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
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
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
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS
TM411	Acid_Herbs_GCMS	Acid Herbs in Water by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

566041 565825

### **CERTIFICATE OF ANALYSIS**

ALS

 SDG:
 200826-90
 Client Reference:
 P2282
 Report Number:

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:

# **Test Completion Dates**

Lab Sample No(s)	22723005	22723016	22722980	22722991
Customer Sample Ref.	BH1	BH4	GW01	GW02
•				
AGS Ref.				
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Туре	Ground Water	Ground Water	Ground Water	Ground Water
Acid Herbicides by GCMS	03-Sep-2020	03-Sep-2020	03-Sep-2020	03-Sep-2020
Alkalinity as CaCO3	29-Aug-2020	29-Aug-2020	29-Aug-2020	29-Aug-2020
Ammonium Low	03-Sep-2020	02-Sep-2020	03-Sep-2020	02-Sep-2020
Anions by Kone (w)	31-Aug-2020	31-Aug-2020	31-Aug-2020	31-Aug-2020
BOD True Total	01-Sep-2020	01-Sep-2020	01-Sep-2020	01-Sep-2020
COD Unfiltered	30-Aug-2020	28-Aug-2020	30-Aug-2020	28-Aug-2020
Coliforms (W)	04-Sep-2020	04-Sep-2020	04-Sep-2020	04-Sep-2020
Conductivity (at 20 deg.C)	27-Aug-2020	27-Aug-2020	27-Aug-2020	27-Aug-2020
Cyanide Comp/Free/Total/Thiocyanate	03-Sep-2020	03-Sep-2020	03-Sep-2020	03-Sep-2020
Dissolved Metals by ICP-MS	02-Sep-2020	01-Sep-2020	02-Sep-2020	01-Sep-2020
Dissolved Oxygen by Probe		28-Aug-2020		28-Aug-2020
Fluoride	01-Sep-2020	01-Sep-2020	01-Sep-2020	01-Sep-2020
Mercury Dissolved	02-Sep-2020	03-Sep-2020	02-Sep-2020	03-Sep-2020
PCB Congeners - Aqueous (W)	03-Sep-2020	03-Sep-2020	03-Sep-2020	03-Sep-2020
Pesticides (Suite I) by GCMS	01-Sep-2020	01-Sep-2020	01-Sep-2020	01-Sep-2020
Pesticides (Suite II) by GCMS	01-Sep-2020	01-Sep-2020	01-Sep-2020	01-Sep-2020
Pesticides (Suite III) by GCMS	01-Sep-2020	01-Sep-2020	01-Sep-2020	01-Sep-2020
pH Value	27-Aug-2020	27-Aug-2020	27-Aug-2020	27-Aug-2020
SVOC MS (W) - Aqueous	30-Aug-2020	30-Aug-2020	30-Aug-2020	30-Aug-2020
Total Organic and Inorganic Carbon	29-Aug-2020	29-Aug-2020	02-Sep-2020	29-Aug-2020
VOC MS (W)	03-Sep-2020	03-Sep-2020	03-Sep-2020	03-Sep-2020





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### Customer

Customer Services
ALS Life Sciences
Hawarden Business Park
Manor Lane
Hawarden, Deeside
UK
CH5 3US

### **Certificate Of Analysis**

Job Number: 20-82835

Issue Number: 2

Report Date: 4 September 2020

Reason for re-issuing report: Final Report

Site: Fehily Timoney
PO Number: ALS GLOBAL

Date Samples Received: 27/08/2020

Please find attached the results for the samples received at our laboratory on 27/08/2020.

Should you have any queries regarding the report or require any further services, we would be happy to discuss your requirements. For additional information about the company please log-on to our website at the above address.

Thank you for choosing City Analysts Limited. We look forward to assisting you again.

Authorised By:

Authorised Date: 1 September 2020

Louise Morrow

#### Notes are not INAB accredited

Results relate only to the items tested.

Information on methods of analysis and uncertainty of measurement is available on request.

Any opinions or interpretations indicated are outside the scope of our INAB accreditation.

This test report shall not be reproduced except in full or with written approval of City Analysts Limited.

Page 1 of 5 Template: 1146 Revision: 018





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# **Certificate Of Analysis**

Customer **Customer Services** 

**ALS Life Sciences** Hawarden Business Park Manor Lane Hawarden, Deeside

UK **CH5 3US**  Report Reference: 20-82835

Report Version: 2

Fehily Timoney Site:

GW01 -NEW INN Date of Sampling: 26/08/2020 Sample Description: Sample Type: Ground Date Sample Received: 27/08/2020

Lab Reference Number: 529044

Site / Method Ref.	Analysis Start Date	Parameter	Result	Units	PV Value (Drinking Water Only)
D/D1201#	27/08/2020	Coliforms	2.0	MPN/100ml	9
D/D3221#	27/08/2020	Faecal Coliforms	< 1	cfu/100ml	

# = INAB Accredited, U = UKAS Accredited, \* = Subcontracted

PV Value is the parametric value, taken from European Communities, (Drinking Water) Regulations, 2014. S.I. No. 122 of 2014 and relates only to drinking water samples.

For queries on results, please contact us within two weeks of the report date to ensure that we can accommodate your query as samples cannot be stored indefinitely.

NAC & ATC - No abnormal change and acceptable to customers. TVC - Total viable count





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# **Certificate Of Analysis**

**Customer Services ALS Life Sciences** Hawarden Business Park Manor Lane

Hawarden, Deeside UK **CH5 3US** 

Customer

Report Reference: 20-82835

Report Version: 2

Fehily Timoney Site:

GW02 - NEW INN Date of Sampling: 26/08/2020 Sample Description: Sample Type: Ground Date Sample Received: 27/08/2020

Lab Reference Number: 529045

Site / Method Ref.	Analysis Start Date	Parameter	Result	Units	PV Value (Drinking Water Only)
D/D1201#	27/08/2020	Coliforms	488.4	MPN/100ml	2
D/D3221#	27/08/2020	Faecal Coliforms	10	cfu/100ml	

# = INAB Accredited, U = UKAS Accredited, \* = Subcontracted

PV Value is the parametric value, taken from European Communities, (Drinking Water) Regulations, 2014. S.I. No. 122 of 2014 and relates only to drinking water samples.

For queries on results, please contact us within two weeks of the report date to ensure that we can accommodate your query as samples cannot be stored indefinitely.

NAC & ATC - No abnormal change and acceptable to customers. TVC - Total viable count





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# **Certificate Of Analysis**

**Customer Services ALS Life Sciences** Hawarden Business Park

Customer

Manor Lane Hawarden, Deeside UK **CH5 3US** 

Report Reference: 20-82835

Report Version: 2

Fehily Timoney Site:

BH1 - NEW INN Date of Sampling: 26/08/2020 Sample Description: Sample Type: Ground Date Sample Received: 27/08/2020

Lab Reference Number: 529046

Site / Method Ref.	Analysis Start Date	Parameter	Result	Units	PV Value (Drinking Water Only)
D/D1201#	27/08/2020	Coliforms	< 1.0	MPN/100ml	ĕ
D/D3221#	27/08/2020	Faecal Coliforms	<1	cfu/100ml	-

# = INAB Accredited, U = UKAS Accredited, \* = Subcontracted

PV Value is the parametric value, taken from European Communities, (Drinking Water) Regulations, 2014. S.I. No. 122 of 2014 and relates only to drinking water samples.

For queries on results, please contact us within two weeks of the report date to ensure that we can accommodate your query as samples cannot be stored indefinitely.

NAC & ATC - No abnormal change and acceptable to customers. TVC - Total viable count





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# **Certificate Of Analysis**

**Customer Services ALS Life Sciences** Hawarden Business Park Manor Lane Hawarden, Deeside

UK **CH5 3US** 

Customer

Report Reference: 20-82835

Report Version: 2

Fehily Timoney Site:

**BH4-NEW INN** Date of Sampling: 26/08/2020 Sample Description: Sample Type: Ground Date Sample Received: 27/08/2020

Lab Reference Number: 529047

Site / Method Ref.	Analysis Start Date	Parameter	Result	Units	PV Value (Drinking Water Only)
D/D1201#	27/08/2020	Coliforms	< 1.0	MPN/100ml	ĕ
D/D3221#	27/08/2020	Faecal Coliforms	<1	cfu/100ml	-

# = INAB Accredited, U = UKAS Accredited, \* = Subcontracted

PV Value is the parametric value, taken from European Communities, (Drinking Water) Regulations, 2014. S.I. No. 122 of 2014 and relates only to drinking water samples.

For queries on results, please contact us within two weeks of the report date to ensure that we can accommodate your query as samples cannot be stored indefinitely.

NAC & ATC - No abnormal change and acceptable to customers. TVC - Total viable count



 SDG:
 200826-90
 Client Reference:
 P2282
 Report Number:
 566041

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:
 565825

# **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. 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 month 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. 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.
- 16. 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.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
§	Sampled on date not provided
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples

#### 19. Asbestos

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 (NDP). The quantity of

#### 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 ALS (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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbe stos Type	Common Name
Chrysof le	White Asbestos
Amosite	Brow nAsbests
Cro d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib to us Anthop hyll ite	-
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.

#### Respirable Fibres

Respirable fibres are defined as fibres of <3  $\mu$ m diameter, longer than 5  $\mu$ m and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, The Quantification of Asbestos in Soil (2017)

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.



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Website: www.alsenvironmental.co.uk

Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

### **CERTIFICATE OF ANALYSIS**

Date of report Generation:26 July 2021Customer:Fehily TimoneySample Delivery Group (SDG):210715-116Your Reference:P2282Location:New Inn Landfill

Report No: 607026

This report has been revised and directly supersedes 607012 in its entirety.

We received 4 samples on Thursday July 15, 2021 and 4 of these samples were scheduled for analysis which was completed on Monday July 26, 2021. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

**Operations Manager** 





ALS Life Sciences Limited. Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

Version: 2.8 Version Issued: 26/07/2021



Validated

607026 607012

SDG: 210715-116 Client Reference: Location: New Inn Landfill Order Number:

# Report Number: Superseded Report: Z2798

P2282

# **Received Sample Overview**

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
24638803	BH1		0.00 - 0.00	14/07/2021
24638810	BH4		0.00 - 0.00	14/07/2021
24638784	GW01		0.00 - 0.00	14/07/2021
24638794	GW02		0.00 - 0.00	14/07/2021

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

ALS

SDG: 210715-116 Client Reference: P2282 Report Number: 607026 New Inn Landfill Z2798 Superseded Report: 607012 Location: Order Number: Results Legend 24638810 24638784 24638794 Lab Sample No(s) X Test No Determination Possible Customer GW01 BH4 BH.1 Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) Vial (ALE297) (ALE204) H2SO4 (ALE244) 0.5l glass bottle (ALE227) H2SO4 (ALE244) H2SO4 (ALE244) 0.5l glass bottle (ALE227) HNO3 Filtered (ALE204) NaOH (ALE245) 500ml Plastic (ALE208) NaOH (ALE245) HNO3 Filtered (ALE204) DW - Drinking Water Non-regulatory 500ml Plastic (ALE208) NaOH (ALE245) HNO3 Filtered Vial (ALE297) 500ml Plastic Vial (ALE297) UNL - Unspecified Liquid (ALE208) SL - Sludge Container G - Gas OTH - Other GW Sample Type GW Acid Herbicides by GCMS All NDPs: 0 Tests: 4 Х Χ Х Х Alkalinity as CaCO3 NDPs: 0 Tests: 4 X Χ Χ Ammonium Low All NDPs: 0 Tests: 4 X X Χ Anions by Kone (w) All NDPs: 0 Tests: 4 X X Х Conductivity (at 20 deg.C) All NDPs: 0 Tests: 4 Χ Х Х Cyanide Comp/Free/Total/Thiocyanate All NDPs: 0 Tests: 4 X Х X Dissolved Metals by ICP-MS All NDPs: 0 Tests: 4 Х Х Х All Dissolved Oxygen by Probe NDPs: 0 Tests: 4 Χ Χ Χ Fluoride All NDPs: 0 Tests: 4 X X Χ Mercury Dissolved All NDPs: 0 Tests: 4 X X X Mineral Oil C10-40 Aqueous (W) All NDPs: 0 Tests: 4 X X Χ Х Pesticides (Suite I) by GCMS All NDPs: 0 Tests: 4 Х Χ Χ Х Pesticides (Suite II) by GCMS All NDPs: 0 Tests: 4 Х Х Х Х Pesticides (Suite III) by GCMS All NDPs: 0 Tests: 4 Х Х Х Χ pH Value All NDPs: 0 Tests: 4 X X X

				24
				24638794
				GW02
				0.00 - 0.00
500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245) GW	Vial (ALE297) GW
GW	GW	GW	GW	GW
X				
X				
	X			
X				
Х				
^				
			X	
		X		
Х				
X				
		X		
Х				
-				

### **CERTIFICATE OF ANALYSIS**

ALS	

SDG: P2282 210715-116 Client Reference: Report Number: 607026 Location: New Inn Landfill Z2798 Superseded Report: 607012 Order Number: Results Legend 24638810 24638784 24638794 Lab Sample No(s) X Test No Determination Possible Customer GW01 GW02 뭔. BH4 Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) Vial (ALE297) HNO3 Filtered (ALE204) H2SO4 (ALE244) 0.5l glass bottle (ALE227) H2SO4 (ALE244) H2SO4 (ALE244) 0.5I glass bottle (ALE227) HNO3 Filtered (ALE204) NaOH (ALE245) HNO3 Filtered (ALE204) NaOH (ALE245) 500ml Plastic (ALE208) 500ml Plastic (ALE208) DW - Drinking Water Non-regulatory NaOH (ALE245) Vial (ALE297) Vial (ALE297) UNL - Unspecified Liquid SL - Sludge Container G - Gas OTH - Other GW GW Sample Type GW GW GW GW GΜ GW GW GW GW GW GΜ GW GΜ GW GW GΜ GW SVOC MS (W) - Aqueous All NDPs: 0 Tests: 4 Χ Х Χ Total Organic and Inorganic Carbon All NDPs: 0 Tests: 4 Χ X Х VOC MS (W) All NDPs: 0 Tests: 4 X X X

				24638794
				GW02
				0.00 - 0.00
500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
GW	GW	GW	GW	GW
X				
	· ·			
	Х			
				Х

ALS

SDG: 210715-116 Location: New Inn Landfill Client Reference: Order Number: P2282 Z2798 Report Number: Superseded Report: 607026 607012

Results Legend # ISO17025 accredited. M mCERTS accredited.	C	ustomer Sample Ref.	BH1	BH4	GW01	GW02	
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report f accreditation status.	for	Sample Type Date Sampled	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021	
** % recovery of the surrogate standard to check efficiency of the method. The results of individ compounds within samples aren't corrected fo	lual	Sample Time Date Received	15/07/2021	15/07/2021	15/07/2021	15/07/2021	
recovery  (F) Trigger breach confirmed	ortne	SDG Ref Lab Sample No.(s)	210715-116 24638803	210715-116 24638810	210715-116 24638784	210715-116 24638794	
1-4+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method					
Alkalinity, Total as HCO3	<2 mg/l	TM043	432	459	3340	1460	
Oxygen, dissolved	<0.3 mg/l	TM046	9.8	9.58	12.2	11.5	
Organic Carbon, Total	<3 mg/l	TM090	<3 <b>◆</b> #	3.66	3.75	3.26	
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.013 #	0.139 #	0.034 #	0.443 #	
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	<0.5 #	1.46 #	
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.599	0.823 #	0.746 #	2.64	
Arsenic (diss.filt)	<0.5 µg/l	TM152	<0.5 #	6.21 #	<0.5 #	0.798 #	
Barium (diss.filt)	<0.2 µg/l	TM152	19.1 #	41.5 #	7.92 #	190 #	
Boron (diss.filt)	<10 µg/l	TM152	21.4 #	41 #	15 #	181 #	
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.117 #	<0.08	<0.08	<0.08	
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	
Copper (diss.filt)	<0.3 µg/l	TM152	24.9 #	<0.3	0.374 #	<0.3	
Lead (diss.filt)	<0.2 µg/l	TM152	12.2 #	1.75 #	<0.2	<0.2	
Manganese (diss.filt)	<3 µg/l	TM152	31.2 #	136 #	3.15 #	146 #	
Nickel (diss.filt)	<0.4 µg/l	TM152	9.18 #	64.2 #	1.76 #	2.72 #	
Phosphorus (diss.filt)	<10 µg/l	TM152	42.2 #	<10 #	<10 #	15.7 #	
Selenium (diss.filt)	<1 µg/l	TM152	1.28 #	<1 #	<1 #	<1 #	
Thallium (diss.filt)	<2 µg/l	TM152	<2 #	<2 #	<2 #	<2 #	
Zinc (diss.filt)	<1 µg/l	TM152	31.5 #	19.1 #	1.27 #	1.89 #	
Sodium (Dis.Filt)	<0.076 mg/l	TM152	5.99 #	47.2 #	8.63 #	486 #	
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	8.55 #	8.48 #	5.99 #	41 #	
Potassium (Dis.Filt)	<0.2 mg/l	TM152	1.42 #	4.06 #	1.64 #	7.23 #	
Calcium (Dis.Filt)	<0.2 mg/l	TM152	140 #	152 #	170 #	53.8 #	
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.407 #	5.95 #	<0.019 #	0.0415 #	
Mineral oil >C10 C40 (aq)	<100 µg/l	TM172	<100	<100	<100	<100	
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	
Sulphate	<2 mg/l	TM184	13.6 #	13.6 #	6.5 #	442 #	
Chloride	<2 mg/l	TM184	7.4 #	71 #	15.4 #	90.1 #	
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	0.88 #	<0.1 #	1.11 #	0.107 #	
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	
pH	<1 pH Units	TM256	7.34 #	7.17 #	7.11 #	7.67 #	
Trifluralin	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01	
alpha-HCH	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01	



210715-116 New Inn Landfill P2282 Z2798 SDG: Client Reference: Location:

Order Number:

Report Number: Superseded Report: 607026 607012

Results Legend	ı	Customer Sample Ref.	DU1	BH4	CW01	CM03	1	T
# ISO17025 accredited. M mCERTS accredited.		oustonier sample Ker.	BH1	BH4	GW01	GW02		
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontracted accreditation status.	ractor report for	Sample Type Date Sampled	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021		
** % recovery of the surrogate stan efficiency of the method. The res		Sample Time Date Received	15/07/2021	15/07/2021	15/07/2021	15/07/2021		
compounds within samples aren' recovery		SDG Ref	210715-116	210715-116	210715-116	210715-116		
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638803	24638810	24638784	24638794		
Component gamma-HCH (Lindane)	<b>LOD/Ur</b> <0.01		<0.01	<0.01	<0.01	<0.01		
gamma-non (Lindane)								
Heptachlor	<0.01	-	<0.01	<0.01	<0.02	<0.02		
Aldrin	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
beta-HCH	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
Isodrin	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
delta-HCH	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
Heptachlor epoxide	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
o,p'-DDE	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
Endosulphan I	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
trans-Chlordane	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
cis-Chlordane	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
p,p'-DDE	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
Dieldrin	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
o,p'-DDD (TDE)	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
Endrin	<0.01	µg/l TM343	<0.01	<0.01	<0.02	<0.02		
o,p'-DDT	<0.01	µg/l TM343	<0.01	<0.01	<0.05	<0.05		
p,p'-DDD (TDE)	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
Endosulphan II	<0.02	µg/l TM343	<0.02	<0.02	<0.02	<0.02		
p,p'-DDT	<0.01	µg/l TM343	<0.02	<0.02	<0.08	<0.08		
o,p'-Methoxychlor	<0.01	µg/l TM343	<0.01	<0.01	<0.04	<0.04		
p,p'-Methoxychlor	<0.01	µg/l TM343	<0.02	<0.02	<0.08	<0.08		
Endosulphan Sulphate	<0.02	µg/l TM343	<0.02	<0.02	<0.04	<0.04		
Permethrin I	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
Permethrin II	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
1,3,5-Trichlorobenzene	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
Hexachlorobutadiene	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
1,2,4-Trichlorobenzene	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
1,2,3-Trichlorobenzene	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
Dichlorvos	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
Dichlobenil	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
Mevinphos	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
Tecnazene	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
Hexachlorobenzene	<0.01	µg/l TM344	<0.01	<0.02	<0.05	<0.01		
							1	1

ALS

	Results Legend		Customer Sample Ref.	BH1	BH4	GW01	GW02	
# M aq	ISO17025 accredited. mCERTS accredited. Aqueous / settled sample.			DITI	DIN	GWU1	GW02	
diss.filt tot.unfilt	Dissolved / filtered sample. Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)				
	Subcontracted - refer to subcontractor report f accreditation status. % recovery of the surrogate standard to check		Date Sampled Sample Time	14/07/2021	14/07/2021	14/07/2021	14/07/2021	
	efficiency of the method. The results of individ compounds within samples aren't corrected fo recovery		Date Received SDG Ref	15/07/2021 210715-116	15/07/2021 210715-116	15/07/2021 210715-116	15/07/2021 210715-116	
(F) 1-4+§@	Trigger breach confirmed Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638803	24638810	24638784	24638794	
Compo	onent on-S-methyl	LOD/Units <0.01 µg/l		<0.01	<0.02	<0.05	<0.01	
	·							
Phorate	1	<0.01 µg/l	TM344	<0.03	<0.02	<0.05	<0.03	
Diazino	n	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Triallate	)	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Atrazine	2	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Simazir	ne	<0.01 µg/l	TM344	<0.01	<0.02	0.0763	<0.01	
Disulfot	on	<0.01 µg/l	TM344	<0.07	<0.04	<0.1	<0.07	
Propeta	mphos	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Chlorny	riphos-methyl	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
	· ·							
Dimeth	oate	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Pirimiph	nos-methyl	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Chlorpy	riphos	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Methyl	Parathion	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Malathi	on	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Fenthio	n	<0.01 µg/l	TM344	<0.02	<0.02	<0.05	<0.02	
Fenitrot	hion	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Triadim	efon	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
					10.00			
Pendim	etnalin	<0.01 µg/l		<0.01	<0.02	<0.05	<0.01	
Parathi	on	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Chlorfe	nvinphos	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
trans-C	hlordane	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
cis-Chlo	ordano	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
	nuarie							
Ethion		<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Carbop	henothion	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Triazop	hos	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Phosald	nne	<0.01 µg/l	TM344	<0.01	<0.02	<0.05	<0.01	
Azinpho	os methyl	<0.02 µg/l	TM344	<0.02	<0.04	<0.1	<0.02	
Azinpho	os ethyl	<0.02 µg/l	TM344	<0.02	<0.04	<0.1	<0.02	
Etridiaz	ole	<0.01 µg/l	TM345	<0.01	<0.01	<0.1	<0.01	
Pentacl	nlorobenzene	<0.01 µg/l	TM345	<0.01	<0.01	<0.1	<0.01	
Propaci		<0.01 µg/l	TM345	<0.01	<0.01	<0.1	<0.01	
Quintoz	ene (PCNB)	<0.01 µg/l	TM345	<0.01	<0.01	<0.1	<0.01	
Ometho	pate	<0.01 µg/l	TM345	<0.01	<0.01	<0.1	<0.01	

ALS

M	0.00 - 0.00 Ground Water (GW) 14/07/2021 15/07/2021 21/07/5-116 24638810  <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01	0.00 - 0.00 Ground Water (GW) 14/07/2021 15/07/2021 21/0715-116 24638784  <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.	0.00 - 0.00 Ground Water (GW) 14/07/2021 15/07/2021 210715-116 24638794  <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01	
Compounds within samples aren't corrected for the recovery   SDG Ref   Lab Sample No.(s)   AGS Reference   Sample No.(s)   AGS Reference   Sample deviation (see aspendix)   Component   LOD/Units   Method   Compounds   Co	<0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.02 <0.01 <0.01 <0.01	210715-116 24638784  <0.1  <0.1  <0.1  <0.1  <0.1  <0.1  <0.1  <0.1  <0.1  <0.1  <0.1  <0.1  <0.1	210715-116 24638794  <0.01  <0.01  <0.01  <0.01  <0.01  <0.01  <0.01  <0.01  <0.01	
Propazine       <0.01 μg/l       TM345       <0.01         Propyzamide       <0.01 μg/l       TM345       <0.01         Nachlor       <0.01 μg/l       TM345       <0.01         Prometryn       <0.01 μg/l       TM345       <0.01         Felodrin       <0.01 μg/l       TM345       <0.01         Ferbutryn       <0.01 μg/l       TM345       <0.01         Chlorothalonil       <0.01 μg/l       TM345       <0.01         Etrimphos       <0.01 μg/l       TM345       <0.01	<0.01 <0.01 <0.01 <0.01 <0.01 <0.02 <0.01 <0.01 <0.01	<0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.2 <0.1 <0.1	<0.01 <0.01 <0.01 <0.01 <0.01 <0.02 <0.01	
Propyzamide       <0.01 μg/l	<0.01 <0.01 <0.01 <0.01 <0.02 <0.01 <0.01 <0.01	<0.1 <0.1 <0.1 <0.1 <0.1 <0.2 <0.1 <0.1	<0.01 <0.01 <0.01 <0.01 <0.02 <0.01	
Alachlor       <0.01 μg/l	<0.01 <0.01 <0.01 <0.01 <0.02 <0.01 <0.01 <0.01	<0.1 <0.1 <0.1 <0.1 <0.1 <0.2 <0.1 <0.1	<0.01 <0.01 <0.01 <0.01 <0.02 <0.01	
Prometryn       <0.01 μg/l	<0.01 <0.01 <0.01 <0.02 <0.01 <0.01	<0.1 <0.1 <0.1 <0.2 <0.1 <0.1	<0.01 <0.01 <0.01 <0.02 <0.01	
Telodrin < 0.01 μg/l TM345 < 0.01  Terbutryn <0.01 μg/l TM345 < 0.01  Chlorothalonil <0.01 μg/l TM345 < 0.01  Etrimphos <0.01 μg/l TM345 < 0.01	<0.01 <0.01 <0.02 <0.01 <0.01	<0.1 <0.1 <0.2 <0.1 <0.1	<0.01 <0.01 <0.02 <0.01	
Carbutryn   <0.01 μg/l   TM345   <0.01	<0.01 <0.02 <0.01 <0.01	<0.1 <0.2 <0.1 <0.1	<0.01 <0.02 <0.01	
Chlorothalonil       <0.01 μg/l	<0.02 <0.01 <0.01 <0.01	<0.2 <0.1 <0.1	<0.02 <0.01	
Etrimphos < 0.01 μg/l TM345 < 0.01	<0.01 <0.01 <0.01	<0.1	<0.01	
	<0.01	<0.1		
Metazachlor <0.01 μg/l TM345 <0.01	<0.01		<0.01	
		z0.1		
Cyanazine <0.01 μg/l TM345 <0.01		<b>~</b> 0.1	<0.01	
Trietazine <0.01 μg/l TM345 <0.01	<0.01	<0.1	<0.01	
Coumaphos <0.01 μg/l TM345 <0.01	<0.01	<0.1	<0.01	
Phosphamidon I <0.01 μg/l TM345 <0.01	<0.01	<0.1	<0.01	
Phosphamidon II <0.01 μg/l TM345 <0.01	<0.01	<0.1	<0.01	
Dinitro-o-cresol <0.1 μg/l TM411 <0.1	<0.2	<0.2	<0.1	
Clopyralid <0.04 μg/I TM411 <0.04	<0.08	<0.08	<0.04	
MCPA <0.05 μg/l TM411 <0.05	<0.1	<0.1	<0.05	
Mecoprop <0.04 μg/l TM411 <0.04	<0.08	<0.08	<0.04	
Dicamba <0.04 μg/l TM411 <0.04	<0.08	<0.08	<0.04	
MCPB <0.05 μg/l TM411 <0.05	<0.1	<0.1	<0.05	
2,4-DB <0.1 µg/l TM411 <0.1	<0.2	<0.2	<0.1	
2,3,6-Trichlorobenzoic acid <0.05 µg/l TM411 <0.05	<0.1	<0.1	<0.05	
Dichlorprop <0.1 μg/l TM411 <0.1	<0.2	<0.2	<0.1	
Triclopyr <0.05 μg/l TM411 <0.05	<0.1	<0.1	<0.05	
Fenoprop (Silvex) <0.1 μg/l TM411 <0.1	<0.2	<0.2	<0.1	
2,4-Dichlorophenoxyacetic acid <0.05 µg/l TM411 <0.05	<0.1	<0.1	<0.05	
2,4,5-Trichlorophenoxyacetic <0.05 μg/l TM411 <0.05	<0.1	<0.1	<0.05	
acid Gromoxynil <0.04 µg/l TM411 <0.04	<0.08	<0.08	<0.04	
Benazolin <0.04 μg/l TM411 <0.04	<0.08	<0.08	<0.04	
loxynil <0.05 μg/l TM411 <0.05	<0.1	<0.1	<0.05	
Pentachlorophenol <0.04 µg/l TM411 <0.04	<0.08	<0.08	<0.04	
	<0.2	<0.2	<0.1	
Fluoroxypyr <0.1 μg/l TM411 <0.1	<b>\</b> U.Z	<b>\U.</b> Z	<b>\</b> U.1	

ALS

SVOC	MS (	(W)	- Aqueous
	1410		- Auucuus

SVOC MS (W) - Aqueous	5	Custome- Com de Dat					,	
# ISO17025 accredited.  M mCERTS accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02		
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	for	Sample Type Date Sampled	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021	Ground Water (GW) 14/07/2021		
accreditation status.  ** % recovery of the surrogate standard to check		Sample Time						
efficiency of the method. The results of individ compounds within samples aren't corrected for recovery		Date Received SDG Ref	15/07/2021 210715-116	15/07/2021 210715-116	15/07/2021 210715-116	15/07/2021 210715-116		
(F) Trigger breach confirmed  1-44§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638803	24638810	24638784	24638794		
Component	LOD/Units	Method						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
4.2 Diebleschersen ()	*4//	TN4470	#	#	#	#		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
2,4,6-Trichlorophenol (aq)	<1a/l	TM176	<1	# <1	# <8	# <4		
2,4,0-Tricillolophenol (aq)	<1 µg/l	TIWITTO	#	*	-0 #	<b>~</b> 4		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	# <1	# <8	# <4		
	-1 μg/i		#	#	#	#		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
2-Chlorophenol (aq)	<1 µg/l	TM176	<1	* <1	# <8	# <4		
z-Gillorophierioi (aq)	<1 μg/i	TIWITTO	#	*	-0 #	<b>~</b> 4		
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
2-Methylphenol (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
2-Nitroaniline (aq)	<1 µg/l	TM176	<1	# <1	# <8	# <4		
z-ivitioariiirie (aq)	×1 μg/1	TIWITTO	#	-1 #	<b>~</b> 0	<b>~</b> 4		
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1	# <1	# <8	# <4		
1 31 3 ( )/			#	#	#	#		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
			#	#	#	#		
4-Methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
4-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	# <1	# <8	# <4		
Azobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
Acenaphthylene (aq)	<1 µg/l	TM176	<1 "	<1 "	<8 "	<4		
Acenaphthene (aq)	<1 µg/l	TM176	<1 **	# <1	# <8	# <4		
		TM176	<b>*</b>	# <1	# <8	# <4		
Anthracene (aq)	<1 µg/l	IMI76	<1 #	<1 #	<8 #	<4 #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
bis(2-Chloroethoxy)methane	<1 µg/l	TM176	<1	<1	<8	<4		
(aq)	المرين (2	TM176	<2	# <2	# <16	# <8		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	IWII/6	<2 #	<2 #	#	<8 #		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1	<1	<8	<4		
			#	#	#	#		

ALS

 SDG:
 210715-116
 Client Reference:
 P2282
 Report Number:
 607026

 Location:
 New Inn Landfill
 Order Number:
 Z2798
 Superseded Report:
 607012

SVOC MS (W) - Aqueous	6						
Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report accreditation satus.	for	Depth (m) Sample Type Date Sampled	0.00 - 0.00 Ground Water (GW) 14/07/2021				
** % recovery of the surrogate standard to check efficiency of the method. The results of individe compounds within samples aren't corrected for the standard standar	dual	Sample Time Date Received	15/07/2021	15/07/2021	15/07/2021	15/07/2021	
recovery (F) Trigger breach confirmed	or the	SDG Ref	210715-116 24638803	210715-116 24638810	210715-116 24638784	210715-116 24638794	
1-4+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method					
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Carbazole (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Chrysene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #	<5 #	<40 #	<20 #	
Fluoranthene (aq)	<1 µg/l	TM176	<b>&lt;</b> 1	<1 #	<8 #	<4 #	
Fluorene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1	<8	<4	
Phenol (aq)	<1 µg/l	TM176	<1	<1	<8	<4	
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Naphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Isophorone (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1	<8	<4	
Phenanthrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	
Pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #	

ALS

VOC		

VOC MS (W)							
Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample.		Donath (m)					,
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	,
* Subcontracted - refer to subcontractor report accreditation status.		Date Sampled	14/07/2021	14/07/2021	14/07/2021	14/07/2021	,
** % recovery of the surrogate standard to check efficiency of the method. The results of individ	lual	Sample Time Date Received	15/07/2021	15/07/2021	15/07/2021	15/07/2021	,
compounds within samples aren't corrected for recovery	or the	SDG Ref	210715-116 24638803	210715-116 24638810	210715-116 24638784	210715-116 24638794	,
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24030003	24030010	24030704	24030794	,
Component	LOD/Unit						
Dibromofluoromethane**	%	TM208	111	109	109	114	,
Toluene-d8**	%	TM208	101	100	99.1	99.8	
4-Bromofluorobenzene**	%	TM208	98.7	101	95.4	96.8	
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Trichlorofluoromethane	<1 µg/l		<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Dichloromethane	<3 µg/l		<3 #		<3 #	<3 #	
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
trans-1,2-Dichloroethene	<1 µg/l		<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethane	<1 µg/l		<1 #	<1 #	<1 #	<1 #	
cis-1,2-Dichloroethene	<1 µg/l		<1 #	<1 #	<1 #	<1 #	
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	
Bromochloromethane	<1 µg/l		<1 #	<1 # <1	<1 # <1	<1 # <1	
Chloroform  1,1,1-Trichloroethane	<1 µg/l		<1 # <1	<1 <1		<1 <1	
1,1-Dichloropropene	<1 µg/l <1 µg/l		<1 <1	<1 <1	<1	<1 <1	
Carbontetrachloride	<1 μg/l		<1 <1	1	<1	<1 <1	
1,2-Dichloroethane	<1 μg/l		*1 <1	*1 <1	<1 **	<1 **	
Benzene	<1 μg/l		<1	*1 <1	**************************************	<1 **	
Trichloroethene	<1 μg/l		<1	1	**************************************	** <1	
1,2-Dichloropropane	<1 μg/l		*1 <1	**************************************	<1 **	<1 **	
Dibromomethane	<1 µg/l		<1	# <1	** <1	** <1	
Bromodichloromethane	<1 μg/l		** <1		# <1	# <1	
cis-1,3-Dichloropropene	<1 μg/l		# <1	# <1	# <1	# <1	
Toluene	- μg/l		- # <1	1	* <1	- # <1	
trans-1,3-Dichloropropene	<1 μg/l		# <1	# <1	# <1	# <1	
1,1,2-Trichloroethane	<1 μg/l		# <1	# <1	# <1	# <1	
1,3-Dichloropropane	<1 μg/l		* <1	1	# <1	# <1	
	F 3"		#		#	#	

ALS

VOC MS (W)							
Results Legend	Ci	ustomer Sample Ref.	BH1	BH4	GW01	GW02	
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt total / unfiltered sample. Subcontracted - refer to subcontractor report		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)				
accreditation status.  " % recovery of the surrogate standard to check efficiency of the method. The results of individence of the compounds within samples aren't corrected for recovery.	k the dual	Date Sampled Sample Time Date Received SDG Ref	14/07/2021 15/07/2021 210715-116	14/07/2021 15/07/2021 210715-116	14/07/2021 15/07/2021 210715-116	14/07/2021 15/07/2021 210715-116	
(F) Trigger breach confirmed  1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638803	24638810	24638784	24638794	
Component Tetrachloroethene	LOD/Units <1 µg/l	Method TM208	<1	<1	<1	<1	
Tottadillolodillollo			#	#	#	#	
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	



ALS

 SDG:
 210715-116
 Client Reference:
 P2282
 Report Number:
 607026

 Location:
 New Inn Landfill
 Order Number:
 Z2798
 Superseded Report:
 607012

# **Table of Results - Appendix**

Method No	Reference	Description
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride 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
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
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
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
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
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS
TM411	Acid Herbs GCMS	Acid Herbs in Water by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

607026 607012

### **CERTIFICATE OF ANALYSIS**

ALS

 SDG:
 210715-116
 Client Reference:
 P2282
 Report Number:

 Location:
 New Inn Landfill
 Order Number:
 Z2798
 Superseded Report:

# **Test Completion Dates**

				Piotio:
Lab Sample No(s)	24638803	24638810	24638784	24638794
Customer Sample Ref.	BH1	BH4	GW01	GW02
AGS Ref.				
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Туре	Ground Water	Ground Water	Ground Water	Ground Water
Acid Herbicides by GCMS	22-Jul-2021	22-Jul-2021	22-Jul-2021	22-Jul-2021
Alkalinity as CaCO3	20-Jul-2021	20-Jul-2021	20-Jul-2021	21-Jul-2021
Ammonium Low	20-Jul-2021	20-Jul-2021	20-Jul-2021	20-Jul-2021
Anions by Kone (w)	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021
Conductivity (at 20 deg.C)	21-Jul-2021	21-Jul-2021	20-Jul-2021	21-Jul-2021
Cyanide Comp/Free/Total/Thiocyanate	19-Jul-2021	19-Jul-2021	19-Jul-2021	19-Jul-2021
Dissolved Metals by ICP-MS	20-Jul-2021	20-Jul-2021	20-Jul-2021	20-Jul-2021
Dissolved Oxygen by Probe	16-Jul-2021	16-Jul-2021	16-Jul-2021	16-Jul-2021
Fluoride	16-Jul-2021	16-Jul-2021	16-Jul-2021	16-Jul-2021
Mercury Dissolved	19-Jul-2021	19-Jul-2021	19-Jul-2021	19-Jul-2021
Mineral Oil C10-40 Aqueous (W)	20-Jul-2021	20-Jul-2021	20-Jul-2021	21-Jul-2021
Pesticides (Suite I) by GCMS	22-Jul-2021	22-Jul-2021	20-Jul-2021	20-Jul-2021
Pesticides (Suite II) by GCMS	22-Jul-2021	22-Jul-2021	22-Jul-2021	22-Jul-2021
Pesticides (Suite III) by GCMS	26-Jul-2021	26-Jul-2021	26-Jul-2021	26-Jul-2021
pH Value	19-Jul-2021	19-Jul-2021	19-Jul-2021	19-Jul-2021
SVOC MS (W) - Aqueous	18-Jul-2021	18-Jul-2021	19-Jul-2021	19-Jul-2021
Total Organic and Inorganic Carbon	24-Jul-2021	24-Jul-2021	26-Jul-2021	24-Jul-2021
VOC MS (W)	18-Jul-2021	18-Jul-2021	16-Jul-2021	16-Jul-2021



 SDG:
 210715-116
 Client Reference:
 P2282
 Report Number:
 607026

 Location:
 New Inn Landfill
 Order Number:
 Z2798
 Superseded Report:
 607012

**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. 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. 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.
- 16. 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.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

#### 19. Asbestos

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 (NDP). The quantity of asbestos present is not determined unless specifically requested.

#### 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 ALS (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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbe stos Type	Common Name
Chrysof le	WhiteAsbests
Amosite	Brown Asbestos
Cro a dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib to us Anthop hyll ite	-
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.

#### Respirable Fibres

Respirable fibres are defined as fibres of <3  $\mu$ m diameter, longer than 5  $\mu$ m and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, The Quantification of Asbestos in Soil (2017).

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.



Unit 7-8 Hawarden Business Park Manor Road (off Manor Lane) Hawarden Deeside CH5 3US

> Tel: (01244) 528700 Fax: (01244) 528701

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

### **CERTIFICATE OF ANALYSIS**

Date of report Generation:07 August 2020Customer:Fehily TimoneySample Delivery Group (SDG):200731-88Your Reference:P2282Location:New Inn Landfill

**Report No:** 562221

We received 1 sample on Friday July 31, 2020 and 1 of these samples were scheduled for analysis which was completed on Friday August 07, 2020. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

**Operations Manager** 







SDG: 200731-88 Client Reference: P2282 Report Number: 562221 Location: New Inn Landfill Z2189 Superseded Report: Order Number:

**Received Sample Overview** 

Customer Sample Ref. BH2 AGS Ref. Lab Sample No(s) **Sampled Date** Depth (m) 0.00 - 0.00 22583371 30/07/2020

Maximum Sample/Coolbox Temperature (°C):

ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of  $(5\pm3)^\circ C$ .

16.2

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

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

### **CERTIFICATE OF ANALYSIS**

ALS

 SDG:
 200731-88
 Client Reference:
 P2282
 Report Number:
 562221

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:

(ALS) Location:	New IIIII Lanuiii			er Nui	
Results Legend		·			22
X Test	Lab Sample N	lo(s)			22583371
No Determination Possible					
Sample Types -	Custome Sample Refer				BH2
S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate	AGS Refere	nce			
PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage	Depth (m	)			0.00 - 0.00
RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Containe	r	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)
	Sample Ty	ре	E	Ε	듄
Ammonium Low	All	NDPs: 0 Tests: 1			Х
Anions by Kone (w)	All	NDPs: 0 Tests: 1		Х	
BOD True Total	All	NDPs: 0 Tests: 1	Х		
COD Unfiltered	All	NDPs: 0 Tests: 1		X	
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1		X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1		X	
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 1		Х	
Fluoride	All	NDPs: 0 Tests: 1		Х	
Mercury Dissolved	All	NDPs: 0 Tests: 1		X	
pH Value	All	NDPs: 0 Tests: 1		X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 1		Х	
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 1			X

ALS

SDG: 200731-88 Location: New Inn Landfill

-88 Client Reference: a Landfill Order Number: P2282 Z2189 Report Number: Superseded Report: 562221

	Results Legend ISO17025 accredited.		Customer Sample Ref.	BH2	
m M	mCERTS accredited.				
	Aqueous / settled sample. Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	
tot.unfilt	Total / unfiltered sample. Subcontracted - refer to subcontractor report	for	Sample Type	Land Leachate (LE	)
**	accreditation status. % recovery of the surrogate standard to check	k the	Date Sampled Sample Time	30/07/2020	
	efficiency of the method. The results of indivi- compounds within samples aren't corrected for	dual	Date Received	31/07/2020	
_	recovery	or the	SDG Ref Lab Sample No.(s)	200731-88 22583371	
(F) 1-3+§@	Trigger breach confirmed Sample deviation (see appendix)		AGS Reference	22300011	
Compo		LOD/Units	Method		
BOD, un	nfiltered	<1 mg/l	TM045	28.2	
-					#
Oxygen,	, dissolved	<0.3 mg/l	TM046	6.16	
0 .	0   7   1	.0 //	T14000	40.7	
Organic	Carbon, Total	<3 mg/l	TM090	12.7	
Ammoni	iacal Nitrogen as N (low	<0.01 mg/l	TM099	22	
level)	iacai Miliogen as M (low	10.01 mg/l	110000	22	
Fluoride	1	<0.5 mg/l	TM104	<0.5	
COD, ur	nfiltered	<7 mg/l	TM107	303	
					#
Conduct	tivity @ 20 deg.C	<0.02	TM120	5.88	
		mS/cm			#
Arsenic	(diss.filt)	<0.5 µg/l	TM152	2.73	
					2#
Cadmiur	m (diss.filt)	<0.08 µg/l	TM152	<0.08	
					2#
Chromiu	um (diss.filt)	<1 µg/l	TM152	<1	c
	/ P CID	20 "	T11150		2#
Copper	(alss.filt)	<0.3 µg/l	TM152	<0.3	0."
Lood /-"	ion filt\	الــــــــــــــــــــــــــــــــــــ	TM4FO	20.0	2#
Lead (di	iss.iiit)	<0.2 µg/l	TM152	<0.2	2#
Mangan	ese (diss.filt)	<3 µg/l	TM152	525	<b>∠</b> #
wangan	iese (uiss.iill)	~5 μg/i	TIVITOZ	525	2#
Nickel (c	diss filt)	<0.4 µg/l	TM152	55.2	<i>L</i> #
INIONGI (C	2133.111t)	-ντ μg/i	1101132	35.2	2#
Phospho	orus (diss.filt)	<10 µg/l	TM152	13.6	- "
1 Hooping	orao (aloo.iiit)	To pg/	111102	10.0	2#
Seleniur	m (diss.filt)	<1 µg/l	TM152	<1	
	(	"			2#
Zinc (dis	ss.filt)	<1 µg/l	TM152	7.37	
·	•				2#
Sodium	(Dis.Filt)	<0.076 mg/l	TM152	1250	
					2#
Magnesi	ium (Dis.Filt)	<0.036 mg/l	TM152	28.2	
					2#
Potassiu	um (Dis.Filt)	<0.2 mg/l	TM152	25.7	
					2#
Iron (Dis	s.Filt)	<0.019 mg/l	TM152	3.87	
	( P. 60)				2#
Mercury	(diss.filt)	<0.01 µg/l	TM183	<0.01	0."
Db '	ata (Ortha c- DO4)	20.0F "	T14404	40.0F	2#
rnospha	ate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05	
Sulphate	<u> </u>	<2 mg/l	TM184	29.4	
ouipnate	5	<2 ing/i	1 IVI 1 64	29.4	
Chloride	<u> </u>	<2 mg/l	TM184	1720	
Onionae	•	~2 IIIg/I	1 IVI 104	1120	
Total Ov	kidised Nitrogen as N	<0.1 mg/l	TM184	<0.1	
, Juli Ox	ou maogon as N	*0.1 mg/l	1101107	-U. I	
рН		<1 pH Units	TM256	6.88	
				2.00	#
					-
			7		



ALS

 SDG:
 200731-88
 Client Reference:
 P2282
 Report Number:
 562221

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:

# **Table of Results - Appendix**

Method No	Reference	Description
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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
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
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 0117514284.	Determination of pH in Water and Leachate using the GLpH pH Meter

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).





 SDG:
 200731-88
 Client Reference:
 P2282
 Report Number:
 562221

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:

# **Test Completion Dates**

Lab Sample No(s)	22583371
Customer Sample Ref.	BH2
AGS Ref.	
Depth	0.00 - 0.00
Туре	Land Leachate
Ammonium Low	06-Aug-2020
Anions by Kone (w)	04-Aug-2020
BOD True Total	06-Aug-2020
COD Unfiltered	04-Aug-2020
Conductivity (at 20 deg.C)	05-Aug-2020
Dissolved Metals by ICP-MS	07-Aug-2020
Dissolved Oxygen by Probe	04-Aug-2020
Fluoride	04-Aug-2020
Mercury Dissolved	05-Aug-2020
pH Value	04-Aug-2020
Phosphate by Kone (w)	04-Aug-2020
Total Organic and Inorganic Carbon	06-Aug-2020



 SDG:
 200731-88
 Client Reference:
 P2282
 Report Number:
 562221

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 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. 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. 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.
- 16. 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.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
§	Sampled on date not provided
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples

#### 19. Asbestos

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 (NDP). The quantity of

#### 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 ALS (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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbe stos Type	Common Name
Chrysof le	White Asbestos
Amosite	Brow nAsbests
Cro d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib to us Anthop hyll ite	-
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.

#### Respirable Fibres

Respirable fibres are defined as fibres of <3  $\mu$ m diameter, longer than 5  $\mu$ m and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, The Quantification of Asbestos in Soil (2017)

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.



Unit 7-8 Hawarden Business Park Manor Road (off Manor Lane) Hawarden Deeside CH5 3US

> Tel: (01244) 528700 Fax: (01244) 528701

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

## **CERTIFICATE OF ANALYSIS**

Date of report Generation:03 September 2020Customer:Fehily TimoneySample Delivery Group (SDG):200826-96Your Reference:P2282Location:New Inn LandfillReport No:565743

We received 1 sample on Wednesday August 26, 2020 and 1 of these samples were scheduled for analysis which was completed on Thursday September 03, 2020. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

**Operations Manager** 







P2282 Client Reference: Order Number: Z2189 Report Number: Superseded Report:

565743

Validated

# **Received Sample Overview**

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
22723184	BH2		0.00 - 0.00	25/08/2020

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

200826-96

New Inn Landfill

#### **CERTIFICATE OF ANALYSIS**

ALS

SDG: 200826-96 Client Reference: P2282 Report Number: 565743

Location: New Inn Landfill Order Number: Z2189 Superseded Report:

(ALS)								
Results Legend					22			
X Test	Lab Sample N	lo(s)			22723184			
No Determination Possible								
Sample Types -	Custome Sample Refer							
S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate	AGS Refere	nce						
PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage	Depth (m	)		0.00 - 0.00				
RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Containe	r	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)			
	Sample Ty	LΕ	E	Æ				
Ammonium Low	All	NDPs: 0 Tests: 1			X			
Anions by Kone (w)	All	NDPs: 0 Tests: 1		Х				
BOD True Total	All	NDPs: 0 Tests: 1	Х					
COD Unfiltered	All	NDPs: 0 Tests: 1	X					
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1		X				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1		X				
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 1		X				
Fluoride	All	NDPs: 0 Tests: 1		X				
Mercury Dissolved	All	NDPs: 0 Tests: 1		X				
pH Value	All	NDPs: 0 Tests: 1		Х				
Phosphate by Kone (w)	All	NDPs: 0 Tests: 1		Х				
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 1			X			

ALS

SDG:200826-96Client Reference:P2282Report Number:565743Location:New Inn LandfillOrder Number:Z2189Superseded Report:

Results Legend		Custom : Com 1 5 :		•		
# ISO17025 accredited. M mCERTS accredited.		Customer Sample Ref.	BH2			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00			
tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report	for	Sample Type	Land Leachate (LE)			
accreditation status.  ** % recovery of the surrogate standard to check		Date Sampled Sample Time	25/08/2020			
efficiency of the method. The results of individual compounds within samples aren't corrected for	dual	Date Received	26/08/2020 200826-96			
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	22723184			
1-3+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method				
BOD, unfiltered	<1 mg/l	TM045	30.4			
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			#			
Oxygen, dissolved	<0.3 mg/l	TM046	3.95			
Organic Carbon, Total	<3 mg/l	TM090	12.6			
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	I TM099	10.8			
Fluoride	<0.5 mg/l	TM104	<0.5			
COD, unfiltered	<7 mg/l	TM107	101 #			
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	3.03			
Arsenic (diss.filt)	<0.5 µg/l	TM152	3.55			
Cadmium (diss.filt)	<0.08 µg/l	I TM152	<0.08			
Chromium (diss.filt)	<1 µg/l	TM152	<1 2#			
Copper (diss.filt)	<0.3 µg/l	TM152	0.622			
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2			
Manganese (diss.filt)	<3 µg/l	TM152	465			
Nickel (diss.filt)	<0.4 µg/l	TM152	52.7			
Phosphorus (diss.filt)	<10 µg/l	TM152	13.4			
Selenium (diss.filt)	<1 µg/l	TM152	<1 2#			
Zinc (diss.filt)	<1 µg/l	TM152	6.14 2#			
Sodium (Dis.Filt)	<0.076 mg/	/I TM152	449 2#			
Magnesium (Dis.Filt)	<0.036 mg/	/I TM152	14.2 2#			
Potassium (Dis.Filt)	<0.2 mg/l	TM152	14.7 2#			
Iron (Dis.Filt)	<0.019 mg/	/I TM152	3.79 2#			
Mercury (diss.filt)	<0.01 µg/l	I TM183	<0.01 2#			
Phosphate (Ortho as PO4)	<0.05 mg/l	I TM184	<0.05			
Sulphate	<2 mg/l	TM184	23.9			
Chloride	<2 mg/l	TM184	740			
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	0.266			
pH	<1 pH Unit	s TM256	6.74 #			



ALS

 SDG:
 200826-96
 Client Reference:
 P2282
 Report Number:
 565743

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:

## **Table of Results - Appendix**

Method No	Reference	Description
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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
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
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
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

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

#### **CERTIFICATE OF ANALYSIS**

ALS

 SDG:
 200826-96
 Client Reference:
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 Report Number:
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 Location:
 New Inn Landfill
 Order Number:
 Z2189
 Superseded Report:

# **Test Completion Dates**

Lab Sample No(s)	22723184
Customer Sample Ref.	BH2
AGS Ref.	
Depth	0.00 - 0.00
Туре	Land Leachate
Ammonium Low	02-Sep-2020
Anions by Kone (w)	31-Aug-2020
BOD True Total	01-Sep-2020
COD Unfiltered	28-Aug-2020
Conductivity (at 20 deg.C)	27-Aug-2020
Dissolved Metals by ICP-MS	01-Sep-2020
Dissolved Oxygen by Probe	28-Aug-2020
Fluoride	01-Sep-2020
Mercury Dissolved	03-Sep-2020
pH Value	27-Aug-2020
Phosphate by Kone (w)	27-Aug-2020
Total Organic and Inorganic Carbon	30-Aug-2020



 SDG:
 200826-96
 Client Reference:
 P2282
 Report Number:
 565743

 Location:
 New Inn Landfill
 Order Number:
 Z2189
 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. 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. 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.
- 16. 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.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
§	Sampled on date not provided
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples

#### 19. Asbestos

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 (NDP). The quantity of

#### 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 ALS (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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbe stos Type	Common Name
Chrysof le	White Asbestos
Amosite	Brow nAsbests
Cro d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib to us Anthop hyll ite	-
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.

#### Respirable Fibres

Respirable fibres are defined as fibres of <3  $\mu$ m diameter, longer than 5  $\mu$ m and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, The Quantification of Asbestos in Soil (2017)

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.



Unit 7-8 Hawarden Business Park Manor Road (off Manor Lane) Hawarden Deeside CH5 3US

Tel: (01244) 528777

email: hawardencustomerservices@alsglobal.com Website: www.alsenvironmental.co.uk

Fehily Timoney 3rd Floor North Park Offices North Park Business Park North Road Dublin Dublin 11

Attention: Daniel Hayden

## **CERTIFICATE OF ANALYSIS**

Date of report Generation:17 June 2022Customer:Fehily TimoneySample Delivery Group (SDG):220606-24

Your Reference: Galway Historic Landfills P22-040

Location: New Inn Landfill

 Report No:
 651144

 Order Number:
 Z3385

We received 6 samples on Monday June 06, 2022 and 6 of these samples were scheduled for analysis which was completed on Friday June 17, 2022. 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.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

**Operations Manager** 





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Validated

Superseded Report:

**SDG**: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

**Received Sample Overview** 

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
26388789	BH01		0.00 - 0.00	02/06/2022
26388800	BH04		0.00 - 0.00	02/06/2022
26388770	GW01		0.00 - 0.00	02/06/2022
26388781	GW02		0.00 - 0.00	02/06/2022
26388814	SW01		0.00 - 0.00	02/06/2022
26388824	SW02		0.00 - 0.00	02/06/2022

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

SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Superseded Report: Location: New Inn Landfill

Results Legend  X Test  No Determination Possible	Lab Sample N	No(s)						26388789						26388800						26388770	26388781
Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Customer Sample Reference							BH01						BH04						GW01	GW02
	AGS Refere	nce																			
	Depth (m	)						0.00 - 0.00						0.00 - 0.00						0.00 - 0.00	0.00 - 0.00
	Containe	r	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)
	Sample Ty	pe	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Acid Herbicides by GCMS	All	NDPs: 0 Tests: 6	Х	-	-			-	X						X						X
Alkalinity as CaCO3	All	NDPs: 0 Tests: 6		Х						Х						Х					
Ammonium Low	All	NDPs: 0 Tests: 6			X						X						X				
Anions by Kone (w)	All	NDPs: 0 Tests: 6	Х						Х						Х						X
BOD True Total	All	NDPs: 0 Tests: 6		Х						X						Х					
COD Unfiltered	All	NDPs: 0 Tests: 6	Х						Х						X						X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6					X						Х						Х		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6				Х						Х						Х			
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 6		Х						X						Х					
Fluoride	All	NDPs: 0 Tests: 6		Х						Х						Х					
Mercury Dissolved	All	NDPs: 0 Tests: 6				Х						Х						Х			
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 6		Х						X						Х					
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 6	Х						X						Х						Х
Pesticides (Suite II) by GCMS	All	NDPs: 0 Tests: 6	Х						Х						Х						Х
Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 6	Х						х						X						х

				26388781							26388814							26388824
				GW02							SW01							SW02
				0.00 - 0.00							0.00 - 0.00							0.00 - 0.00
500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
GW	GW	G W	GW	GW	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS
x x	X	x	X	GW	x	x	X	X	X	X	SW	X X	X	X	X	SW X	X	SW
x		X			X X		X		X			X X		X		X		

X

Superseded Report:

Χ

#### **CERTIFICATE OF ANALYSIS**

ALS

**SDG**: 220606-24 **Report Number**: 651144

NDPs: 0 Tests: 6

Client Ref.: Galway Historic Landfills P22-040 Location: New Inn Landfill Results Legend 26388800 26388770 26388789 26388781 Lab Sample No(s) X Test No Determination Possible Customer BH01 BH04 GW01 GW02 Sample Reference Sample Types -S - Soil/Solid UNS - Unspecified Solid GW - Ground Water **AGS Reference** SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 SA - Saline Water Depth (m) TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) 0.5l glass bottle (ALE227) Vial (ALE297) HNO3 Filtered (ALE204) H2SO4 (ALE244) 0.5l glass bottle (ALE227) H2SO4 (ALE244) 0.5l glass bottle (ALE227) H2SO4 (ALE244) HNO3 Filtered (ALE204) NaOH (ALE245) HNO3 Filtered (ALE204) NaOH (ALE245) 500ml Plastic (ALE208) 500ml Plastic (ALE208) DW - Drinking Water Non-regulatory Vial (ALE297) VaOH (ALE245) Vial (ALE297) UNL - Unspecified Liquid SL - Sludge Container G - Gas OTH - Other GW Sample Type GW GM GW GW GW GW GW GW pH Value All NDPs: 0 Tests: 6 Χ Χ X X SVOC MS (W) - Aqueous All NDPs: 0 Tests: 6 X X X X Total Organic and Inorganic Carbon All NDPs: 0 Tests: 6 X X X VOC MS (W) All

Χ

				26388781							26388814							26388824
				GW02							SW01							SW02
				0.00 - 0.00							0.00 - 0.00							0.00 - 0.00
500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
GW	GW	GW	GW	GW	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS
							Х							Х				
					Х							X						
	X							Х							Х			
				Х							X							Х

Superseded Report:

## **CERTIFICATE OF ANALYSIS**

ALS

SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

Results Legend	C	ustomer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
# ISO/17025 accredited.  M mCERTS accredited.  aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.  * Subcontracted - refer to subcontractor report for		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW)			
accreditation status.  ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the	,	Date Sampled Sample Time Date Received SDG Ref	02/06/2022 06/06/2022 220606-24	02/06/2022 06/06/2022 220606-24	02/06/2022 06/06/2022 220606-24	02/06/2022 06/06/2022 220606-24	02/06/2022 06/06/2022 220606-24	02/06/2022 06/06/2022 220606-24
recovery (F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	26388789	26388800	26388770	26388781	26388814	26388824
Component Alkalinity, Total as HCO3	LOD/Units <2 mg/l	Method TM043	440	464	1420	1830	442	439
BOD, unfiltered	<1 mg/l	TM045	<1 @#	<3 @#	<1 @#	<1 @#	<1 @#	<1 @#
Oxygen, dissolved	<0.3 mg/l	TM046	5.46	2.58	4.86	5.54	9.19	9.27
Organic Carbon, Total	<3 mg/l	TM090	<3 #	4.36	3.4	3.19	<3 #	<3 #
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.122 #	0.212 #	0.0656 #	0.321 #	0.0399 #	0.049 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5	<0.5 #	1.71	<0.5	<0.5
COD, unfiltered	<7 mg/l	TM107	16.3 #	70.2 #	83.4 #	214 #	<7 #	8.94 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	<0.5 #	3.02 #	<0.5 #	0.804 #	<0.5 #	<0.5 #
Barium (diss.filt)	<0.2 µg/l	TM152	22.4 #	38.8	7.87 #	151 #	9.54 #	9.4
Boron (diss.filt)	<10 µg/l	TM152	16.6 #	52.9 #	14.6 #	166 #	10.8 #	<10 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	11.9 #	<0.3	0.98 #	1.2 #	0.481 #	0.538 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.497 #	<0.2	<0.2	0.252 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	7.96 #	131 #	<3 #	117 #	<3 #	3.6 #
Nickel (diss.filt)	<0.4 µg/l	TM152	7.94 #	2.57 #	1.65 #	3.78 #	0.917 #	0.927 #
Phosphorus (diss.filt)	<10 µg/l	TM152	33.5 #	11.8 #	33.6 #	36.4 #	<10 #	<10 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Thallium (diss.filt)	<2 µg/l	TM152	<2 #	<2 #	<2 #	<2 #	< <u>2</u> #	<2 #
Zinc (diss.filt)	<1 µg/l	TM152	29.7 #	3.2 #	9.58 #	8.15 #	2 #	6.26 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	7.95 #	43.6 #	10.8 #	670 #	24 #	24.2 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	9.22 #	9.11 #	5.48 #	34.5 #	5.73 #	5.7 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	1.31 #	3.88 #	2.15 #	6.98 #	2.07 #	2.09 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	131 #	142 #	160 #	31.9 #	141 #	141 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0802 #	2.44 #	<0.019 #	0.0509 #	<0.019 #	<0.019 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01	<0.01
Sulphate	<2 mg/l	TM184	11.4 #	20.2 #	10.6 #	492 #	9.4 #	8.9 #
Chloride	<2 mg/l	TM184	10.9 #	69 #	22 #	94.9 #	43.1 #	43.1 #
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	1.13 #	<0.1 #	1.87	0.291 #	0.618 #	0.649
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

ALS

**SDG**: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

Results Legend		Customer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
# ISO17025 accredited. M mCERTS accredited.		customer sample Kei.	BHUT	BH04	GWU1	GW02	5W01	SW02
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Subcontracted - refer to subcontractor report for accreditation status.		Sample Type Date Sampled	Ground Water (GW) 02/06/2022	Ground Water (GW) 02/06/2022	Ground Water (GW) 02/06/2022	Ground Water (GW) 02/06/2022	Surface Water (SW) 02/06/2022	Surface Water (SW) 02/06/2022
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual		Sample Time Date Received	. 06/06/2022	06/06/2022	06/06/2022	. 06/06/2022	06/06/2022	06/06/2022
compounds within samples aren't corrected for the recovery		SDG Ref	220606-24 26388789	220606-24 26388800	220606-24 26388770	220606-24 26388781	220606-24 26388814	220606-24 26388824
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	20300709	20300000	20300770	20300701	20300014	20300024
PCB congener 138	<b>LOD/Units</b> <0.015 μg/l		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05	<0.05
pH	<1 pH Units	TM256	7.26 #	7.26 #	7.07 #	7.74 #	7.96 #	7.99 #
Conductivity @ 20 deg.C	<0.02	TM256	0.646	0.826	0.711	2.9	0.713	0.709
Trifluralin	mS/cm <0.01 μg/l	TM343	<0.01	<0.1 #	* <0.05	<0.1	<0.01	# <0.01
alpha-HCH	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
gamma-HCH (Lindane)	<0.01 µg/l	TM343	<0.04	<0.11	<0.05	<0.1	<0.03	<0.02
Heptachlor	<0.01 µg/l	TM343	<0.01	<0.2	<0.1	<0.2	<0.01	<0.01
Aldrin	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
beta-HCH	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
Isodrin	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
delta-HCH	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
Heptachlor epoxide	<0.01 µg/l	TM343	<0.02	<0.1	<0.05	<0.1	<0.02	<0.02
o,p'-DDE	<0.01 µg/l	TM343	<0.02	<0.1	<0.05	<0.1	<0.02	<0.02
Endosulphan I	<0.01 µg/l	TM343	<0.02	<0.1	<0.05	<0.1	<0.02	<0.02
trans-Chlordane	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
cis-Chlordane	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
p,p'-DDE	<0.01 µg/l	TM343	<0.02	<0.1	<0.05	<0.1	<0.02	<0.02
Dieldrin	<0.01 µg/l	TM343	0.175	<0.1	<0.05	<0.1	<0.01	0.0146
o,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
Endrin	<0.01 µg/l	TM343	<0.02	<0.5	<0.25	<0.5	<0.02	<0.02
o,p'-DDT	<0.01 µg/l		<0.02	<0.4	<0.2	<0.4	<0.02	<0.02
p,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.02	<0.2	<0.1	<0.2	<0.02	<0.02
Endosulphan II	<0.02 µg/l	TM343	<0.02	<0.2	<0.1	<0.2	<0.02	<0.02
p,p'-DDT	<0.01 µg/l	TM343	<0.02	<0.6	<0.3	<0.6	<0.02	<0.02
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.02	<0.5	<0.25	<0.5	<0.02	<0.02
p,p'-Methoxychlor	<0.01 µg/l	TM343	<0.02	<0.8	<0.4	<0.8	<0.02	<0.02
Endosulphan Sulphate	<0.02 µg/l	TM343	<0.02	<0.8	<0.4	<0.8	<0.02	<0.02
Permethrin I	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01
Permethrin II	<0.01 µg/l	TM343	<0.01	<0.1	<0.05	<0.1	<0.01	<0.01



SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

Results Legend # ISO17025 accredited. M mCERTS accredited.	С	ustomer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
aq Aqueous / settled sample.  tos.infi Dissolved filtered sample.  subcontracted - refer to subcontractor report for accrediation status.  " % recovery of the surrogate standard to check the efficiency of the method. The results of individual		Depth (m) Sample Type Date Sampled Sample Time Date Received	0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022	0.00 - 0.00 Ground Water (GW) 02/06/2022 - 06/06/2022	0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022	0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022	0.00 - 0.00 Surface Water (SW) 02/06/2022 06/06/2022	0.00 - 0.00 Surface Water (SW) 02/06/2022 - 06/06/2022
compounds within samples aren't corrected for the recovery  (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	220606-24 26388789	220606-24 26388800	220606-24 26388770	220606-24 26388781	220606-24 26388814	220606-24 26388824
1-4+§@ Sample deviation (see appendix)  Component	LOD/Units	AGS Reference Method						
1,3,5-Trichlorobenzene	<0.01 µg/l	TM344	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02
Hexachlorobutadiene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
1,2,4-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
1,2,3-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Dichlorvos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Dichlobenil	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Mevinphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Tecnazene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Hexachlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Demeton-S-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Phorate	<0.01 µg/l	TM344	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02
Diazinon	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Triallate	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Atrazine	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Simazine	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Disulfoton	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Propetamphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Chlorpyriphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Dimethoate	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Pirimiphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Chlorpyriphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Methyl Parathion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Malathion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Fenthion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Fenitrothion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Triadimefon	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Pendimethalin	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Parathion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Chlorfenvinphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
trans-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
cis-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Ethion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Carbophenothion	<0.01 µg/l	TM344	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02
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SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

		Customer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
# ISO17025 accredited. M mCERTS accredited.		automor Gampio rton	BINT	DI 104	GWUI	GW02	SWOT	34102
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW)			
Subcontracted - refer to subcontractor report for accreditation status.      % recovery of the surrogate standard to check the		Date Sampled Sample Time	02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022
efficiency of the method. The results of individual compounds within samples aren't corrected for the		Date Received SDG Ref	06/06/2022 220606-24	06/06/2022 220606-24	06/06/2022 220606-24	06/06/2022 220606-24	06/06/2022 220606-24	06/06/2022 220606-24
recovery (F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	26388789	26388800	26388770	26388781	26388814	26388824
Component	LOD/Units	Method						
Triazophos	<0.01 µg/l	TM344	<0.02	<0.02	<0.02	<0.04	<0.01	<0.02
Phosalone	<0.01 µg/l	TM344	<0.02	<0.02	<0.02	<0.04	<0.01	<0.02
Azinphos methyl	<0.02 µg/l	TM344	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02
Azinphos ethyl	<0.02 µg/l	TM344	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02
Etridiazole	<0.01 µg/l	TM345	<0.02	<0.02	<0.1	<0.2	<0.02	<0.02
Pentachlorobenzene	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Propachlor	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Quintozene (PCNB)	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Omethoate	<0.01 µg/l	TM345	<0.02	<0.02	<0.1	<0.2	<0.02	<0.02
Propazine	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Propyzamide	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Alachlor	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Prometryn	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Telodrin	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Terbutryn	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Chlorothalonil	<0.01 µg/l	TM345	<0.01	<0.01	<0.1	<0.2	<0.01	<0.01
Etrimphos	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Metazachlor	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Cyanazine	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Trietazine	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Coumaphos	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Phosphamidon I	<0.01 µg/l	TM345	<0.02	<0.02	<0.1	<0.2	<0.02	<0.02
Phosphamidon II	<0.01 µg/l	TM345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Dinitro-o-cresol	<0.1 µg/l	TM411	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
Clopyralid	<0.04 µg/l	TM411	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
MCPA	<0.05 µg/l	TM411	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
Mecoprop	<0.04 µg/l	TM411	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
Dicamba	<0.04 µg/l	TM411	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
MCPB	<0.05 µg/l	TM411	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
2,4-DB	<0.1 µg/l	TM411	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
2,3,6-Trichlorobenzoic acid	<0.05 µg/l	TM411	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
Dichlorprop	<0.1 µg/l	TM411	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
Triclopyr	<0.05 µg/l	TM411	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05



SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

Results Legend		Suntania Samala Daf	P1104	Bues	014104	014100	0,4104	01400
# ISO17025 accredited. M mCERTS accredited.		Customer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
tot.unfilt Total / unfiltered sample.		Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
<ul> <li>Subcontracted - refer to subcontractor report for accreditation status.</li> </ul>		Date Sampled	02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual		Sample Time Date Received	. 06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
compounds within samples aren't corrected for the recovery		SDG Ref	220606-24	220606-24	220606-24	220606-24	220606-24	220606-24
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	26388789	26388800	26388770	26388781	26388814	26388824
Component	LOD/Units							
Fenoprop (Silvex)	<0.1 µg/l	TM411	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
2,4-Dichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
2,4,5-Trichlorophenoxyacetic acid	<0.05 µg/l	TM411	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
Bromoxynil	<0.04 µg/l	TM411	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
Benazolin	<0.04 µg/l	TM411	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
loxynil	<0.05 µg/l	TM411	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
Pentachlorophenol	<0.04 µg/l	TM411	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
Fluoroxypyr	<0.1 µg/l	TM411	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
			-					

SDG: 220606-24

Report Number: 651144

Superseded Report:

Client Ref.: Galway Historic Landfills P22-040

Location: New Inn Landfill

SVOC MS (W) - Aqueous Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
M mCERTS accredited. aq Aqueous / settled sample. diss.filit Dissolved / filtered sample. tot.unfilit Total / unfiltered sample. * Subcontracted - refer to subcontractor report for		Depth (m) Sample Type Date Sampled	0.00 - 0.00 Ground Water (GW) 02/06/2022	0.00 - 0.00 Surface Water (SW) 02/06/2022	0.00 - 0.00 Surface Water (SW) 02/06/2022			
accreditation status.  " % 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		Sample Time Date Received SDG Ref Lab Sample No.(s)	06/06/2022 220606-24 26388789	06/06/2022 220606-24 26388800	06/06/2022 220606-24 26388770	06/06/2022 220606-24 26388781	06/06/2022 220606-24 26388814	06/06/2022 220606-24 26388824
1-4+§@ Sample deviation (see appendix)	LODUL	AGS Reference						
Component 1,2,4-Trichlorobenzene (aq)	LOD/Un <1 µg		<1	<1	<4	<8	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg	/I TM176	<1 "	<1 "	<4	# <8	<1 "	*/ <1
1,3-Dichlorobenzene (aq)	<1 µg	/I TM176	* <1	<1 "	<4	# <8	<1 "	*1 *1
1,4-Dichlorobenzene (aq)	<1 µg	/I TM176	* <1 #	* <1 #	* <4 #	# <8 #	*1 *1 *	# <1 #
2,4,5-Trichlorophenol (aq)	<1 µg	/I TM176	<1 #	<1 ====================================	<4 #	<8 #	<1 #	<1 <1 #
2,4,6-Trichlorophenol (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 ====================================
2,4-Dichlorophenol (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 ====================================
2,4-Dimethylphenol (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 <1 #
2,4-Dinitrotoluene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 ====================================
2,6-Dinitrotoluene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	
2-Methylnaphthalene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	~1 #
2-Nitrophenol (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg	/I TM176	<1	<1	<4	<8	<1	<1
4-Bromophenylphenylether (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg	/I TM176	<1	<1	<4	<8	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg	/I TM176	<1	<1	<4	<8	<1	<1
Azobenzene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
Anthracene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg	/I TM176	<2 #	<2 #	<8 #	<16 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
Benzo(a)anthracene (aq)	<1 µg	/I TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #

Superseded Report:

## **CERTIFICATE OF ANALYSIS**

ALS

**SDG**: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH01	BH04		GW01	GW02	SW01	SW02
M mCERTS accredited.									
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
tot.unfilt Total / unfiltered sample.		Sample Type	Ground Water (GW)	Ground Water (GW)		Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
<ul> <li>Subcontracted - refer to subcontractor report for accreditation status.</li> </ul>		Date Sampled	02/06/2022	02/06/2022		02/06/2022	02/06/2022	02/06/2022	02/06/2022
** % recovery of the surrogate standard to check the		Sample Time		:		<u>:</u>			
efficiency of the method. The results of individual compounds within samples aren't corrected for the	e	Date Received SDG Ref	06/06/2022 220606-24	06/06/2022 220606-24		06/06/2022 220606-24	06/06/2022 220606-24	06/06/2022 220606-24	06/06/2022 220606-24
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	26388789	26388800		26388770	26388781	26388814	26388824
1-4+\$@ Sample deviation (see appendix)		AGS Reference							
Component	LOD/Unit	s Method							
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
	'		#		#	#	#	#	#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
201120(17)110110110 (44)	1 μg/1	1101170	#	] "	#	#	#	#	#
D ()	4 "	711170			#				
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Carbazole (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
, ,	"3"		#		#	#	#	#	#
Chrysono (2g)	<1/l	TM176		-1	π				
Chrysene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Dibenzofuran (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
	l		#		#	#	#	#	#
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
	- ' μg/l	1111170	#	, "	#	#	*	*	*
Dihanza(a h)anth-sassa (as)	-4 "	T14470		-4	#				
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	<1	<u></u>	<4	<8	<1	<1
			#		#	#	#	#	#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	<5		<20	<40	<5	<5
, , , , , ,			#		#	#	#	#	#
Fluoranthene (aq)	<1 ua/l	TM176	<1	<1	"	<4	<8	<1	<1
i luorantinene (aq)	<1 µg/l	1101176			ш				
			#		#	#	#	#	. #
Fluorene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
(-4)	, μg/ι	1101170	#	1	#	#	#	#	#
Dente ship as a banad (an)	.4 //	T14470		-4	#				
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
					_				
Phenol (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
	'		#		#	#	#	#	#
Hexachloroethane (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
Tiexacilioloetilalie (aq)	<1 μg/ι	1101176		<u> </u>	ш		-		
Nitro because (c. )			#		#	#	#	#	#
Nitrobenzene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Naphthalene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Isophorone (aq)	<1 µg/l	TM176	<1	<1	$\neg$	<4	<8	<1	<1
* **	"3"	1	. #	1	#	. #	#	. #	. #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1	-	<4	<8	<1	<1
Tioxadillorodydioportadionio (uq)	ν μ μ μ μ	110170	- 1	"		<b>\4</b>	•	`'	`1
D					$\dashv$		_		
Phenanthrene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
			#		#	#	#	#	#
Pyrene (aq)	<1 µg/l	TM176	<1	<1		<4	<8	<1	<1
	"		#		#	#	#	#	#
		<del>                                     </del>	"			"	"	"	"
	<del>                                     </del>	+			$\dashv$				
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	I	- 1		I					

SDG: 220606-24 Client Ref.: Galway Historic Landfills P22-040

Location: New Inn Landfill

Report Number: 651144

VOC MS (W)		0.11							
Results Legend # ISO17025 accredited. M mCERTS accredited.		Custo	mer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Toda' Junfiltered sample. Subcontracted - refer to subcontractor report for accreditation status. ** Krecovery of the surrogate standard to check the			Depth (m) Sample Type Date Sampled Sample Time	0.00 - 0.00 Ground Water (GW) 02/06/2022	0.00 - 0.00 Surface Water (SW) 02/06/2022	0.00 - 0.00 Surface Water (SW) 02/06/2022			
efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery  (F) Trigger breach confirmed	•		Date Received SDG Ref b Sample No.(s)	06/06/2022 220606-24 26388789	06/06/2022 220606-24 26388800	06/06/2022 220606-24 26388770	06/06/2022 220606-24 26388781	06/06/2022 220606-24 26388814	06/06/2022 220606-24 26388824
1-4+§@ Sample deviation (see appendix)  Component	LOD/U		AGS Reference Method						
Dibromofluoromethane**	%		TM208	98.2	100	97.4	99.5	99.8	117
Toluene-d8**	%		TM208	103	102	103	102	102	103
4-Bromofluorobenzene**	%		TM208	105	106	104	102	102	105
Dichlorodifluoromethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µ	ıg/l	TM208	<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Methyl tertiary butyl ether (MTBE)	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µ	ıg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µ	ıg/l	TM208	<1 #	<1 #	<1	<1 #	<1 #	<1 #

Superseded Report:

## **CERTIFICATE OF ANALYSIS**

ALS

**SDG**: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

VOC MS (W)

# # # # # # # # # # # # # # # # # # #	VOC MS (W)								
Second	# ISO17025 accredited. M mCERTS accredited.		Customer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
Second Processor   Second Proc	diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
Second control of the second	accreditation status.			02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022
Section   Sect	efficiency of the method. The results of individual		Date Received						
Table 1	recovery								
Personante   Clay   1,000   Clay	1-4+§@ Sample deviation (see appendix)	1.00///	AGS Reference						
Second Companies									
Calcinomentame	Dibromochloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Characterisme	1,2-Dibromoethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
13.12 Standonordenhame	Chlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Physicing   Caling   Marger   Caling    1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1	
MAX-100   MAX-	Ethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
System	m,p-Xylene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Symme	o-Xylene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Sendem	Styrene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Separation   Caling   Table   Caling    Bromoform	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1	
1.122   franchiscore   1.123   1.1208   1.1208   1.123   1.1	Isopropylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
12.3 Trichloropopapa   12.4 Trichloropopapa   12.5 Trichloropopa   12	1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Branchemanne	1,2,3-Trichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Propylearane	Bromobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Campaigne   Camp	Propylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
13.5-Trimethylbenzene	2-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
4-Chiorobluene	1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Set-Bulyberzene	4-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
12,4-Trimethylbenzene	tert-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Sec-Bulylbenzene	1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
4-lso-Propylitoluene	sec-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	4-iso-Propyltoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1.4-Dichlorobenzene	1,3-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
n-Butylbenzene	1,4-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	n-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Hexachlorobutadiene	1,2-Dibromo-3-chloropropane	<1 µg/l	TM208						
Hexachlorobutadiene < 1 μg/l TM208 < 1	1,2,4-Trichlorobenzene	<1 µg/l	TM208						<1 #
tert-Amyl methyl ether (TAME)	Hexachlorobutadiene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Naphthalene	tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene <1 µg/l TM208 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Naphthalene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
	1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
	1,3,5-Trichlorobenzene	<1 µg/l	TM208						

# ALS

#### **CERTIFICATE OF ANALYSIS**

**SDG**: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144 Location: New Inn Landfill Superseded Report:

# Table of Results - Appendix

Method No	Reference	Description
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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM152	ISO 17294-2:2016 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS)	Analysis of Aqueous Samples by ICP-MS
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
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
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
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4, Standard Methods for the examination of waters and wastewaters 20th Edition, PHA, Washington DC, USA. ISBN 0-87553-235-7 and The Determination of Alkalinity and Acidity in water HMSO, 1981, ISBN 0 11 751601 5.	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS
TM411	Acid Herbs GCMS	Acid Herbs in Water by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden.

#### **CERTIFICATE OF ANALYSIS**

ALS

SDG: 220606-24
Client Ref.: Galway Historic Landfills P22-040

Report Number: 651144

Location: New Inn Landfill

Superseded Report:

# **Test Completion Dates**

Lab Sample No(s)	26388789	26388800	26388770	26388781	26388814	26388824
Customer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
AGS Ref.						
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Туре	Ground Water	Ground Water	Ground Water	Ground Water	Surface Water	Surface Water
Acid Herbicides by GCMS	13-Jun-2022	13-Jun-2022	13-Jun-2022	15-Jun-2022	17-Jun-2022	13-Jun-2022
Alkalinity as CaCO3	09-Jun-2022	09-Jun-2022	13-Jun-2022	13-Jun-2022	09-Jun-2022	09-Jun-2022
Ammonium Low	10-Jun-2022	09-Jun-2022	10-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022
Anions by Kone (w)	09-Jun-2022	09-Jun-2022	09-Jun-2022	10-Jun-2022	09-Jun-2022	09-Jun-2022
BOD True Total	12-Jun-2022	12-Jun-2022	12-Jun-2022	12-Jun-2022	11-Jun-2022	11-Jun-2022
COD Unfiltered	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022
Cyanide Comp/Free/Total/Thiocyanate	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022
Dissolved Metals by ICP-MS	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022
Dissolved Oxygen by Probe	07-Jun-2022	07-Jun-2022	07-Jun-2022	07-Jun-2022	07-Jun-2022	07-Jun-2022
Fluoride	09-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	09-Jun-2022
Mercury Dissolved	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022
PCB Congeners - Aqueous (W)	13-Jun-2022	13-Jun-2022	13-Jun-2022	13-Jun-2022	13-Jun-2022	13-Jun-2022
Pesticides (Suite I) by GCMS	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022
Pesticides (Suite II) by GCMS	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022
Pesticides (Suite III) by GCMS	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022	10-Jun-2022
pH Value	08-Jun-2022	08-Jun-2022	08-Jun-2022	08-Jun-2022	08-Jun-2022	08-Jun-2022
SVOC MS (W) - Aqueous	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022	09-Jun-2022
Total Organic and Inorganic Carbon	07-Jun-2022	07-Jun-2022	07-Jun-2022	07-Jun-2022	07-Jun-2022	07-Jun-2022
VOC MS (W)	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022



SDG: Client Ref: 220606-24

Galway Historic Landfills P22-(

Report Number: 651144 Location: New Inn Landfill 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. 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. ALS reserve the right to charge for samples received and stored but not analysed.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. NDP No determination possible due to insufficient/unsuitable sample.
- 7. Results relate only to the items tested.
- 8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.
- 9. Surrogate recoveries Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.
- 10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 11. 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.
- 12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury.
- 13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.
- 14. 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.
- 15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and sylenes (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.
- 16. 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.
- 17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. Tentatively Identified Compounds (TICs) are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

#### 19. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
•	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

#### 20. Asbestos

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 (2021), 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 (NDP). The quantity of asbestos present is not determined unless specifically requested.

#### Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

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 ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbe stos Type	Common Name		
Chrysof le	WhiteAsbests		
Amosite	Brown Asbestos		
Cro a dolite	Blue Asbe stos		
Fibrous Act nolite	-		
Fib to us Anthop hyll ite	-		
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.

#### Respirable Fibres

Respirable fibres are defined as fibres of  $<3 \mu m$  diameter, longer than 5  $\mu m$  and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

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.



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