From:	Colin Ryder
То:	historiclandfill applications
Cc:	Mike Melody
Subject:	H0188-01 - New Inn Historic Landfill - Environmental Monitoring 2023
Date:	Tuesday 28 May 2024 15:50:35
Attachments:	image001.png
	P23-074 New Inn Environmental Report 2023-B-P23-074 New Inn Envi.pdf

Ewa,

Please find attached for your information a report outlining Environmental Monitoring carried out in October 2023 by Fehily Timoney and Company on behalf of Galway County Council, at the New Inn Historic Landfill (H0188-01).

Do not hesitate to contact me if you have any related queries.

Regards

Colin Ryder Galway County Council Landfill Manager East Galway Landfill Tel: +353 9096 86023 Mob: +353 86 8586335

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CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

HISTORIC LANDFILL AT NEW INN, CO. GALWAY

ENVIRONMENTAL REPORT 2023

Prepared for:

Galway County Council



Comhairle Chontae na Gaillimhe Galway County Council

Date: March 2024

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HISTORIC LANDFILL AT NEW INN, CO. GALWAY

ENVIRONMENTAL REPORT 2023

REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT

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01	Final	EOC/EBD/KB	DM	BG	06/03/2024

Client: Galway County Council

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

Abstract: This report represents the findings of environmental monitoring carried out at New Inn Historic Landfill, Co. Galway for 2023. The monitoring was undertaken to determine the extent of the potential environmental impact of historic landfilling at the site.



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1.1 Background

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 the south-west. The surrounding area primarily comprises agricultural land with residential areas found to the south-east. Available evidence suggests the site was operated between 1970's to 1989. It was originally part of a quarry operated by GCC which was subsequently infilled.

Between 2020 and 2022, 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 groundwater wells and two surface water sampling locations along a tributary stream of Raford River located c.60m north of the site boundary.

In 2023, Galway County Council requested one 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 between 2020 and 2022.

1.2 Scope of Works

FT's scope of work was to undertake one round of groundwater, leachate, surface water and landfill gas. Sampling was undertaken at New Inn Landfill on the 4th October 2023.

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 all surface water, leachate and groundwater monitoring results are presented in Appendix 1.

This report presents the findings of the assessment.





2. ENVIRONMENTAL ASSESSMENT

The results of the environmental assessment at the New Inn Historic Landfill site between 2020 and 2023 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

Five groundwater monitoring events have been undertaken since 2020; two rounds of monitoring were undertaken in 2020, on the 30th July and 25th August; additional monitoring was undertaken on 14th July 2021, 2nd June 2022 and 4th October 2023. 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 for the monitoring rounds is outlined in Table 2.1, while the laboratory reports for the 2023 monitoring are presented in Appendix 1.

The groundwater sampling locations are presented in Figure 2.1.

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World Imagery: Maxar, Microsoft

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

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Site Boundary	
Borehole Location	ıs
1m Ground Eleva	tion Contours
Indicative Ground	lwater Flow Direction
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Groundwater F	-low Direction
PROJECT: New Inn Histor	ic Landfill ERA
FIGURE NO: 2.	1
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Table 2-1:Groundwater Sampling Results

				Round 1 (30/07/2020)					Round 2 (25/08/2020)				Round 3 (14/07/2021)			
Parameter	Units	of 2010	EPA IGV Standards2	BH1	BH4	GW01	GW02	BH1	BH4	GW01	GW02	BH1	BH4	GW01	GW02	
		Standards1		UG3	DG3	CG3	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	
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	
Oxygen, dissolved	mg/l		NAC	9.68	8.64	10	9.5	-	8.34	-	9.51	5.46	2.58	4.86	5.54	
рН	pH Units	6 – 9		7.97	7.33	7.22	7.85	7.3	7.12	7.01	7.46	7.26	7.26	7.07	7.74	
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	
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	
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	
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	
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	
Alkalinity, Total as HCO3	mg/l		NAC	451	482	1570	939	427	434	2280	1230	440	464	1420	1830	
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	
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	
Barium	μg/l		100	21.8	33.5	9.12	129	36.9	41.8	1930	111	22.4	38.8	7.87	151	
Boron	μg/l	750	1000	23.7	43.5	<10	180	64.3	136	348	193	16.6	52.9	14.6	166	
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	
Chromium	μg/l	37.5	30	<1	<1	<1	<1	<1	5.17	<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	
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	
Manganese	μg/l		50	16	115	9.66	8.05	25.8	105	<3	14.9	7.96	131	<3	117	



S L No 9			Round 1 (30/07/2020)				Round 2 (25/08/2020)				Round 3 (14/07/2021)				
Parameter	Units	of 2010	EPA IGV Standards2	BH1	BH4	GW01	GW02	BH1	BH4	GW01	GW02	BH1	BH4	GW01	GW02
		Standards1		UG3	DG3	CG3	DG	UG	DG	CG	DG	UG	DG	CG	DG
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
Phosphorus (diss.filt)	μg/l	35		<10	<10	<10	16.5	<10	30.7	<10	11.4	42.2	<10	<10	15.7
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
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
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
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
Calcium	mg/l		200	139	139	143	71.8	109	128	138	64.5	131	142	160	31.9
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
Combined Pesticides / 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
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
Miscellaneous Organics															
МСРА	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
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
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
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
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
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

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

2 IGV-Interim Guideline Values, from EPA, Towards Setting Guideline Values for the Protection of Groundwater in Ireland, 2003.

3 UG – upgradient / DG – downgradient / CG – cross gradient

* Items shaded in orange are above the threshold values of the Drinking Water Regulations

* Items shaded in bold are above the threshold values of the EPA IGV Standards



		S I No 9			Round 4 (02/06/2022)		Round 5 (04/10/2023)			
Parameter	Units	of 2010	EPA IGV 1 Standards2	BH1	BH4	GW01	GW02	BH1	BH4	GW01	GW02
		Stanuarusi		UG	DG	CG	DG	UG	DG	CG	DG
Inorganics											
Conductivity @ 20 deg.C	mS/cm	0.8		0.599	0.823	0.746	2.64	0.637	0.848	0.711	3
Fluoride	mg/l	1	1	<0.5	<0.5	<0.5	1.46	<0.5	0.785	<0.5	2.14
Oxygen, dissolved	mg/l		NAC	9.8	9.58	12.2	11.5	11.6	10.1	11.9	10.3
рН	pH Units	6 – 9		7.34	7.17	7.11	7.67	7.34	7.74	7.26	8.23
Sulphate	mg/l	187.5	200	13.6	13.6	6.5	442	10.3	19.9	12.2	425
Chloride	mg/l	24	30	7.4	71	15.4	90.1	10.5	68	23.4	87.7
COD, unfiltered	mg/l			-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N (low level)	mg/l	0.065	0.15	0.013	0.139	0.034	0.443	0.025	0.292	0.032	0.416
Cyanide, Total	mg/l	0.0375	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Oxidised Nitrogen as N	mg/l		NAC	0.88	<0.1	1.11	0.107	1.14	<0.1	2.82	0.364
Alkalinity, Total as HCO3	mg/l		NAC	432	459	3340	1460	452	460	707	3160
Filtered (Dissolved) Metals			1								
Mercury	µg/l	0.75	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic	µg/l	7.5	10	<0.5	6.21	<0.5	0.798	<0.5	1.35	<0.5	0.862
Barium	µg/l		100	19.1	41.5	7.92	190	14.7	34.8	8.57	117
Boron	µg/l	750	1000	21.4	41	15	181	<10	91.6	<10	113
Cadmium	µg/l	3.75	5	0.117	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Chromium	µg/l	37.5	30	<1	<1	<1	<1	<1	<1	<1	<1
Copper	µg/l	1500	30	24.9	<0.3	0.374	<0.3	12.7	<0.3	1.08	0.924
Lead	µg/l	7.5	10	12.2	1.75	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Manganese	µg/l		50	31.2	136	3.15	146	11.1	111	6.09	213
Nickel	µg/l	15	20	9.18	64.2	1.76	2.72	5.7	57.3	1.96	3.38

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		S.I. No. 9 of 2010	EPA IGV Standards2		Round 4 (02/06/2022)		Round 5 (04/10/2023)			
Parameter	Units			BH1	BH4	GW01	GW02	BH1	BH4	GW01	GW02
		Stanuarusi		UG	DG	CG	DG	UG	DG	CG	DG
Phosphorus (diss.filt)	μg/l	35		33.5	11.8	33.6	36.4	<10	<10	63.8	46.5
Zinc	μg/l	75	100	31.5	19.1	1.27	1.89	26	1.64	3.52	1.39
Sodium	mg/l	150	150	5.99	47.2	8.63	486	4.94	44.2	13.3	735
Magnesium	mg/l		50	8.55	8.48	5.99	41	7.14	12.4	5.25	30
Potassium	mg/l		5	1.42	4.06	1.64	7.23	0.836	3.63	2.75	6.52
Calcium	mg/l		200	140	152	170	53.8	127	123	137	26.3
Iron	mg/l		0.2	0.407	5.95	<0.019	0.0415	<0.019	0.303	<0.019	0.0222
Combined Pesticides / Herbicides	1										
Dieldrin	μg/l	0.075		<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1
Simazine	μg/l	0.075		<0.01	<0.02	0.073	<0.01	<0.01	<0.1	<0.1	<0.1
Miscellaneous Organics											
МСРА	μg/l	0.075		<0.05	<0.1	<0.1	<0.1	<0.05	<0.25	<0.25	<5
Mecoprop	μg/l	0.075	10	<0.04	<0.08	<0.08	<0.08	<0.04	<0.2	<0.2	<4
Dichlorprop	μg/l		100	<0.1	<0.2	<0.2	<0.2	<0.1	<0.5	<0.5	<10
2,4-Dichlorophenoxyacetic acid	μg/l	0.075		<0.05	<0.1	<0.1	<0.1	<0.05	<0.25	<0.25	<5
Bromoxynil	μg/I		5	<0.08	<0.08	<0.08	<0.08	<0.04	<0.2	<0.2	<4
Pentachlorophenol	μg/l		2	<0.08	<0.08	<0.08	<0.08	<0.04	<0.2	<0.2	<4

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

2 IGV-Interim Guideline Values, from EPA, Towards Setting Guideline Values for the Protection of Groundwater in Ireland, 2003.

3 UG – upgradient / DG – downgradient / CG – cross gradient

* Items shaded in orange are above the threshold values of the Drinking Water Regulations

* Items shaded in bold are above the threshold values of the EPA IGV Standards





2.2.2 <u>Groundwater Analysis Discussion</u>

The results of the groundwater monitoring from BH1, BH4, GW01 and GW02 have reported several values above the IGVs and groundwater regulations overall limit values. Results from 2023 are consistent with previous years.

In 2023, samples obtained from downgradient monitoring wells follow previous years trends, with ammoniacal nitrogen concentrations from 0.0656 mg/l to 0.558 mg/l at BH4 and GW02 which are above IGV and OTV limit values. The highest concentrations of ammoniacal nitrogen were detected at downgradient wells GW02 and BH4, indicating the site landfill may causing an increase in ammoniacal nitrogen downgradient of the site.

Results from monitoring events 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/l) compared to BH4 (66 - 73.6 mg/l) which is likely due to the proximity to the landfill waste body.

Sulphate (235 - 492 mg/l) and fluoride (1.46 - 2.14 mg/l) concentrations at GW02 above the OTV / IGV limits 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 (EC) at GW02 was elevated above the OTV threshold value during each of the five monitoring events and ranged from 1.27 - 3.0 mS/cm. EC in groundwater at BH4 are also elevated above the threshold values from 2021 to 2023 (0.823 to 0.848 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 – 735 mg/l) and potassium (5.26 – 7.23 mg/l) concentrations at GW02 were above the respective OTV and IGV limits during each of the five monitoring events. The presence of sodium and potassium at these concentrations indicate the presence of leachate migration from the landfill.

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

Since July 2020, iron concentrations of 0.303 - 5.95 mg/l and manganese concentrations of 105 - 136 µg/l were detected above the IGV limit at BH4. Since 2021 manganese concentrations at GW02 of 117 - 213 mg/l were elevated above the IGV threshold value. Since July 2020 results show iron and manganese concentrations were broadly below the IGV limit at the upgradient (BH1) and cross-gradient (GW01) wells during each monitoring event.

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 five sampling locations during all monitoring rounds. The 2021 monitoring event only reported detectable concentrations of the pesticide and herbicide compounds 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.



2.3 Leachate Monitoring

Since 2020 five leachate monitoring events have been undertaken. On the 30th July 2020 and 25th August 2020 two rounds of leachate monitoring were successfully undertaken at location BH02. On 14th July 2021 and 2nd June 2022 leachate monitoring could not be undertaken as the borehole was dry. On the 4th October 2023 the fifth monitoring round was undertaken.

A summary of the findings from the monitoring can be found in Table 2-2 and the laboratory reports can be found in Appendix 1.

Table 2-2: Leachate Sampling Results

Davamatar	11-5:4-5	BH02	BH02	BH2	
Parameter	Units	30/07/2020	25/08/2020	04/10/2023	
Carbon					
Organic Carbon, Total	mg/l	12.7	12.6	11.8	
Inorganics					
Conductivity @ 20 deg.C	mS/cm	5.88	3.03	3.62	
Fluoride	mg/l	<0.5	<0.5	<0.5	
Oxygen, dissolved	mg/l	6.16	3.95	5.6	
рН	pH Units	6.88	6.74	6.93	
Phosphate (Ortho as PO4)	mg/l	<0.05	<0.05	-	
Sulphate	mg/l	29.4	23.9	19.9	
Chloride	mg/l	1720	740	878	
COD, unfiltered	mg/l	303	101	403	
Ammoniacal Nitrogen as N (low level)	mg/l	22	10.8	16.9	
BOD, unfiltered	mg/l	28.2	30.4	9.95	
Total Oxidised Nitrogen as N	mg/l	<0.1	0.266	<0.1	
Filtered (Dissolved) Metals					
Mercury (diss.filt)	μg/l	<0.01	<0.01	<0.01	
Arsenic (diss.filt)	μg/l	2.73	3.55	1.77	
Cadmium (diss.filt)	μg/I	<0.08	<0.08	<0.08	

CLIENT:	Galway County Council
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SECTION:	Section 2



Downwotow	110:40	BH02	BH02	BH2
Parameter	Units	30/07/2020	25/08/2020	04/10/2023
Chromium (diss.filt)	μg/l	<1	<1	<1
Copper (diss.filt)	μg/l	<0.3	0.622	<0.3
Lead (diss.filt)	μg/l	<0.2	<0.2	<0.2
Manganese (diss.filt)	μg/l	525	465	447
Nickel (diss.filt)	μg/l	55.2	52.7	9.58
Phosphorus (diss.filt)	μg/l	13.6	13.4	<10
Selenium (diss.filt)	μg/l	<1	<1	<1
Zinc (diss.filt)	μg/l	7.37	6.14	7.75
Sodium (Dis.Filt)	mg/l	1250	449	569
Magnesium (Dis.Filt)	mg/l	28.2	14.2	16.6
Potassium (Dis.Filt)	mg/l	25.7	14.7	16.5
Iron (Dis.Filt)	mg/l	3.87	3.79	9.24

2.3.1 Leachate Analysis Discussion

Results indicated the presence of some pollutants at concentrations typical of Municipal Solid Waste (MSW) leachate i.e., ammoniacal nitrogen, chloride, and chemical oxygen demand (COD).

2.4 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.

2.4.1 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 2-3.



Table 2-3: Perimeter Well Monitoring Results

		Date: 29	9/7/2020				
Sample	CH4	CO2	02	Atmospheric Pressure	Weather		
Station	(% v/v)	(% v/v)	(% v/v)	(mbar)			
	Perimeter Mo	nitoring Wells					
BH01	0.1	0.2	21.1				
BH04	0	0.3	20.6		Overcast, Light Rain		
GW01	0.1	3.6	16.4	1001	Warm, 18-		
GW02	0.1	0.3	20.7		20°C		
	In-Waste Moi	nitoring Wells					
BH02	16.8	15.9	5.3				
		Date: 24	4/8/2020				
Sample	CH4	CO2	02	Atmospheric Pressure	Weather		
Station	(% v/v)	(% v/v)	(% v/v)	(mbar)			
	Perimeter Mo	nitoring Wells					
BH01	0	0.6	20.8				
BH04	0	0.2	21.2	_	Overcast, Light Bain		
GW01	0	3.3	17.6	1002	Warm, 16-		
GW02	0	0.3	20.9		18°C		
	In-Waste Moi	nitoring Wells					
BH02	20.8	18.7	2.5				
		Date: 14	4/7/2021				
Sample	CH4	CO2	02	Atmospheric Pressure	Weather		
Station	(% v/v)	(% v/v)	(% v/v)	(mbar)			
	Perimeter Mo	nitoring Wells					
BH01	0	0.8	20.3				
BH04	0	0.4	20.8		Sunny, Clear		
GW01	0	2.8	18.2	1023	Warm, 16-		
GW02	1 0 2.8 18.2 2 0 1.2 20.1			18°C			
	In-Waste Mo	nitoring Wells					
BH02	18.2	17.5	2.2				

-



Sample Station	CH4 (% v/v)	CO2 (% v/v)	O2 (% v/v)	Atmospheric Pressure (mbar)	Weather			
l	Perimeter Mon							
BH01	0	0.1	21.2					
BH04	0.2	0.2	21		Warm,			
GW01	0.1	0.4	20.4	1004	overcast			
GW02	0	0.1	21.4		with			
	In-Waste Moni	toring Wells			showers			
BH02	10.8	10.1	10.1 6.1					

As shown 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 in 2020 and 2021. 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.

2.5 Surface Water Monitoring

Five rounds of surface water monitoring were carried out on the 30th July and 25th August 2020, 14th July 2021, 2nd June 2022 and 4th October 2023.

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 2.2.

2.5.1 Monitoring Parameters

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 from the monitoring rounds is outlined in Table 2.4, while the laboratory reports are presented in Appendix 1.

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Table 2-4:Surface Water Sampling Results

Parameter	Units	EQS1	MAC2	US	DS								
				SW01	SW02								
				30/07/202 0	30/07/202 0	25/08/202 0	25/08/202 0	14/07/202 1	14/07/202 1	01/06/202 2	01/06/202 2	04/10/202 3	04/10/202 3
Inorganics													
Conductivity	mS/cm	1	1	0.642	0.64	0.352	0.367	0.629	0.651	0.713	0.709	0.677	0.613
Fluoride	mg/l	0.5		<0.5	<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	11.3	11.2
рН	pH Units	6.0 <ph<9 .0</ph<9 		7.81	7.73	7.44	7.41	7.75	7.8	7.96	7.99	7.64	7.98
Sulphate				11	11.7	<2	<2	6.4	6.6	9.4	8.9	4.2	<2
Chloride				27.5	28.1	15.5	15	31.3	31.5	43.1	43.1	25.6	19.4
COD, unfiltered				21.8	17.6	64	61.9	<7	8.46	<7	8.94	9.38	29.1
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	0.062	0.033
Cyanide, Total		0.01		<0.05	<0.05	<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	<1	<1
Suspended solids, Total		25		5.9	8.25	3.75	3.6	<2	<2	-	-	<2	2.8
Filtered (Dissolved) Metals													
Mercury	µg/l		0.07	<0.01	<0.01	<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	<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	<0.08	<0.08
Chromium	μg/l	4.7	32	<1	<1	<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	1.09	0.913
Lead	μg/l	1.2	14	0.483	0.268	<0.2	0.442	0.891	0.251	<0.2	<0.2	<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	1.69	2.7
Zinc	μg/l	100		6.61	8.97	1.7	2.81	21.4	41.5	4.56	2.03	2.41	1.9



Parameter	Units	EQS1	MAC2	US	DS								
				SW01	SW02								
				30/07/202 0	30/07/202 0	25/08/202 0	25/08/202 0	14/07/202 1	14/07/202 1	01/06/202 2	01/06/202 2	04/10/202 3	04/10/202 3
Semi-Volatile Organic Compounds (S	VOCs)												
1,2,4-Trichlorobenzene	μg/I	0.4	not applicabl e	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Anthracene	µg/l	0.1	0.1	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
bis(2-Ethylhexyl) phthalate	μg/l	1.3	not applicabl e	<2	<2	<16	<20	<2	<2	<2	<2	<2	<4
Benzo(b)fluoranthene	µg/l		0.017	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Benzo(k)fluoranthene	µg/l		0.017	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Benzo(a)pyrene	µg/l	0.00017	0.27	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Benzo(g,h,i)perylene	µg/l		0.0082	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Diethyl phthalate	μg/I	1.3	not applicabl e	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Fluoranthene	µg/l	0.0063	0.12	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Hexachlorobenzene	µg/l		0.05	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Hexachlorobutadiene	µg/l		0.6	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Pentachlorophenol	µg/l	0.4	1	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Phenol	µg/l	8	46	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Naphthalene	µg/l	2	130	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2
Indeno(1,2,3-cd) pyrene	µg/l		not applicabl e	<1	<1	<8	<10	<1	<1	<1	<1	<1	<2

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.





2.5.2 Surface Water Analysis Discussion

The results of the surface water laboratory analysis as presented in Table 2.4, when assessed against the MAC and EQS quality standards showed two results elevated above the EQS (Good Status) limit for ammoniacal nitrogen in August 2020 with concentrations of 0.0716 mg/l and 0.0861mg/l detected at SW1 and SW2 respectively. Sampling from 2021 to 2023 showed concentrations remained below the EQS.

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



3. CONCLUSION

In 2023, Galway County Council requested FT to undertake one round of environmental monitoring at New Inn Historic Landfill. The results of this sampling served as a continuation of the monitoring assessments carried out from 2020 to 2022.

In 2021 and 2023 analysis of groundwater samples recovered from monitoring wells BH1, BH4, GW01 and GW02 continue to report similar concentrations of ammoniacal nitrogen, sulphate, chloride, and some heavy metal compounds detected during the initial monitoring 2020 events. Results for downgradient wells GW02 and BH4 report similar pollutant parameters are being detected which indicates 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 in groundwater 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.

In 2023 leachate monitoring was undertaken at location BH02and reported concentrations are consistent with those reported in 2020. Detected parameters indicate the presence of pollutants at elevated concentrations typical of MSW leachate. The monitoring location BH02 was dry in 2021 and 2022 monitoring events.

Landfill gas monitoring from monitoring wells BH01, BH04, 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 two results elevated above the EQS limit values in August 2020 for ammoniacal nitrogen. Sampling in 2021, 2022 and 2023 showed concentrations remained below the EQS. Since July 2020 results show little variation in parameter concentrations between upstream and downstream sampling locations during each monitoring event. 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





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

Attention: Daniel Hayden

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

CERTIFICATE OF ANALYSIS

Date of report Generation: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: 09 August 2020 Fehily Timoney 200731-90 P2282 New Inn Landfill 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



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: 2.4 Version Issued: 09/08/2020

	CERTIFICATE C	3	L	
200731-90	Client Reference:	P2282	Report Number:	562381

P2282	Repo
Z2189	Super

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Validated

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) :

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 $(5\pm3)^\circ C$ 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.

ISO5667-3 Water quality - Sampling - Part3 -

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



200731-90 New Inn Landfill

Client Reference: Order Number:

ort Number:

Superseded Report:

SDG: 200731-90 **Client Reference:** P2282 Report Number: 562381 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) ViaI 250ml BOD (ALE212) UNL - Unspecified Liquid (ALE297) SL - Sludge Container G - Gas OTH - Other Sample Type WS SΜ ۸S WS ۸S ٨S WS ۸S ۸S WS WS ٨S Acid Herbicides by GCMS All NDPs: 0 Tests: 2 Х Х Ammonium Low All NDPs: 0 Tests: 2 Х Х Anions by Kone (w) All NDPs: 0 Tests: 2 Х Х BOD True Total All NDPs: 0 Tests: 2 Х Х 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 Х Х Dissolved Metals by ICP-MS All NDPs: 0 Tests: 2 Х Х 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 Pesticides (Suite II) by GCMS All NDPs: 0 Tests: 2 Х Х

CERTIFICATE OF ANALYSIS

	CERTIFICATE OF ANALYSIS															Validat	ed			
SDG: Location:	200731-90 New Inn Landfil	l	Clie Ord	nt Rei er Nu	ferenc mber:	e:	P228 Z218	32 39				Re Sup	port M persed	lumbe led Rep	er: port:	5623	81			
Results Legend X Test N No Determination	Lab Sample No(s) Customer Sample Reference							22583459		22583445										
Sample Types -							SW2 (DS)		SW1 (US)											
S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate	AGS Refere																			
PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage	Depth (m)							0.00 - 0.00						0.00 - 0.00						
RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Container			250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)						
	Sample Ty	pe	WS	WS	SM	WS	WS	WS	SM	WS	WS	SW	SW	WS						
Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 2	x						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						x									
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2						x						x						
VOC MS (W)	All	NDPs: 0 Tests: 2						x						x						

ALS

SDG:

Location:

200731-90

New Inn Landfill

CERTIFICATE OF ANALYSIS

P2282

Z2189

Client Reference:

Order Number:

Customer Sample R SW2 (DS) SW1 (US) Results Legr ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subc accreditation status. aq diss.filt tot.unfilt Depth (m 0.00 - 0.00 0.00 - 0.00 Sample Type Surface Water (SW) Surface Water (SW) Date San 30/07/2020 30/07/2020 ditation status. overy of the surrogate standard to check the ency of the method. The results of individual ounds within samples aren't corrected for the Sample Tim 31/07/2020 31/07/2020 Date Receiv SDG Re 200731-90 200731-90 22583459 22583445 Lab Sample No.(s (F) 1-3+§@ n confirmed ion (see appendix) AGS Referenc LOD/Units Method Component 8.25 5.9 Suspended solids, Total <2 mg/l TM022 # # BOD, unfiltered TM045 <1 <1 <1 mg/l # # <0.3 mg/l TM046 9.41 9.65 Oxygen, dissolved Ammoniacal Nitrogen as N (low <0.01 mg/l TM099 0.0319 0.0237 level) # 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 mS/cm # # Arsenic (diss.filt) <0.5 µg/l TM152 <0.5 <0.5 2# 2 # TM152 Barium (diss.filt) <0.2 µg/l 7.6 7.56 2# 2# <0.08 µg/l Cadmium (diss.filt) TM152 <0.08 <0.08 2# 2 # Chromium (diss.filt) TM152 <1 <1 <1 µg/l 2# 2 # <0.3 µg/l TM152 0.932 Copper (diss.filt) 1.01 2# 2 # <0.2 µg/l Lead (diss.filt) TM152 < 0.2 < 0.2 2# 2 # Manganese (diss.filt) <3 µg/l TM152 9.09 13.9 2# 2 # Nickel (diss.filt) <0.4 µg/l TM152 1.57 1.83 2# 2# Phosphorus (diss.filt) <10 µg/l TM152 14.2 <10 2# 2# Selenium (diss.filt) <1 µg/l TM152 <1 <1 2# 2# Thallium (diss.filt) TM152 <2 <2 <2 µg/l 2# 2# Zinc (diss.filt) <1 µg/l TM152 2.49 2.07 2# 2 # Sodium (Dis.Filt) <0.076 mg/l TM152 16 15.7 2# 2 # TM152 4.69 Magnesium (Dis.Filt) <0.036 mg/l 4.62 2# 2 # Potassium (Dis.Filt) TM152 <0.2 mg/l 1.67 1.62 2# 2 # Calcium (Dis.Filt) <0.2 mg/l TM152 134 132 2# 2 # Iron (Dis.Filt) <0.019 mg/l TM152 0.0501 0.0507 2# 2# Mineral oil >C10 C40 (aq) <100 µg/l TM172 <100 <100 Mercury (diss.filt) <0.01 µg/l TM183 <0.01 <0.01 2 2 Phosphate (Ortho as PO4) TM184 0.052 0.053 <0.05 mg/l Ħ Ħ TM184 11.7 11 Sulphate <2 ma/l # # Chloride TM184 28.1 27.5 <2 mg/l # # Sulphate (soluble) as S TM184 <1 mg/l 3.9 3.67 # # PCB congener 28 <0.015 µg/l TM197 < 0.015 < 0.015 PCB congener 52 <0.015 µg/l TM197 < 0.015 < 0.015 PCB congener 101 <0.015 µg/l TM197 < 0.015 < 0.015

562381

Report Number:

Superseded Report:

Validated

M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.mflt Total / unfiltered sample. scoreditation status. " "Subcontracted - refer to subcontractor report f accreditation status. "%" recovery of the nethod. The results of individ compounds within samples aren't corrected for recovery (F) Trigger breach confirmed 1-3+S@ Sample deviation (see appendix)	for the lual r the	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Surface Water (SW) 30/07/2020 31/07/2020 200731-90 22583459	0.00 - 0.00 Surface Water (SW) 30107/2020 31/107/2020 200731-90 22583445		
Component PCB congener 118	LOD/Units <0.015 μg/l	Method TM197	<0.015	<0.015		
DOD	10 045	TN407	-0.045	-0.045		
PCB congener 136	<0.015 µg/i	1101197	<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	7.73	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		
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	<0.02		
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		
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	<0.04		
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	<0.07		
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.01	<0.04		
p,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		

SDG:		200731-90	Clien	t Reference: F	²²⁸²	Report Numb	er: 562381	
		New Inn Land		r Number: 2	-2189	Superseded Re	port:	
Results Legend		Customer Sample Ref.	SM/2 (DS)	SW(1 (LIS)	_	1		
# ISO17025 accredited. M mCERTS accredited.			3W2 (03)	3111 (03)				
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 for accreditation status.	or	Date Sampled	30/07/2020	30/07/2020				
** % recovery of the surrogate standard to check efficiency of the method. The results of individi compounds within samples aren't corrected to	the ual r the	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						
1,3,5-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				

	SDG:		200731-90	Clien	t Reference:	P2282	Report Numb	er: 562381	
(ALS)	Location:		New Inn Landf	ill Orde	r Number:	Z2189	Superseded Re	port:	
					-				
Result # ISO17025 accredited.	s Legend		Customer Sample Ref.	SW2 (DS)	SW1 (US)				
aq Aqueous / settled san diss.filt Dissolved / filtered sa	nple. mple.		Depth (m)	0.00 - 0.00	0.00 - 0.00				
tot.unfilt Total / unfiltered samp * Subcontracted - refer	ple. to subcontractor report fo	r	Sample Type	Surface Water (SW)	Surface Water (SW)				
accreditation status. ** % recovery of the sum efficiency of the meth	rogate standard to check t	he	Sample Time						
compounds within sa recovery	mples aren't corrected for	the	Date Received SDG Ref	200731-90	200731-90				
(F) Trigger breach confire 1-3+§@ Sample deviation (see	med e appendix)		Lab Sample No.(s) AGS Reference	22583459	22583445				
Component		LOD/Un	its Method	<0.01	<0.01				
mazophos		νυ.υ τ μ	19/1 110344	\0.01	~0.01				
Phosalone		<0.01 µ	ıg/l TM344	<0.01	<0.01				
Azinnhos methyl		<0.02 i	IG/I TM3//	<0.02	<0.02	_			
/ Zinphos meany		∿0.02 p	19/1 11/10-14	-0.02	-0.02				
Azinphos ethyl		<0.02 µ	ıg/l TM344	<0.02	<0.02				
Etridiazole		<0.01.	ug/l TM345	<0.01	<0.02	_			
Emalazoro		.0.01 p		-0.01	-0.02				
Pentachlorobenzene		<0.01 µ	ıg/l TM345	<0.01	<0.01				
Propachlor		<0.01 L	ia/l TM345	<0.01	<0.01				
			5						
Quintozene (PCNB)		<0.01 µ	ıg/l TM345	<0.01	<0.01				
Omethoate		<0.01 L	ıq/I TM345	<0.01	<0.01				
			5						
Propazine		<0.01 µ	ıg/l TM345	<0.01	<0.01				
Propyzamide		<0.01 µ	ıg/l TM345	<0.01	<0.01				
			0						
Alachlor		<0.01 µ	ıg/l TM345	<0.01	<0.01				
Prometryn		<0.01 µ	ıg/l TM345	<0.01	<0.01				
-			- -						
Telodrin		<0.01 µ	ıg/l TM345	<0.01	<0.01				
Terbutryn		<0.01 µ	ıg/l TM345	<0.01	<0.01				
Chlorothalonil		<0.01 µ	ıg/l TM345	<0.01	<0.03				
Etrimphos		<0.01 µ	ıg/l TM345	<0.01	<0.01				
				0.04	0.01				
Metazachior		<0.01 µ	ig/i i M345	<0.01	<0.01				
Cyanazine		<0.01 µ	ıg/l TM345	<0.01	<0.01				
Tristorias		-0.01.		<0.01	-0.01	_			
Thetazine		νυ.υ Γ μ	Ig/I 110345	<0.01	S0.01				
Coumaphos		<0.01 µ	ıg/l TM345	<0.01	<0.01				
Phosphamidon I		<0.01	Ig/I TM345	<0.01	<0.02				
Thosphamidon		-0.01 p	19/1 1 MIO-10	-0.01	-0.02				
Phosphamidon II		<0.01 µ	ıg/l TM345	<0.01	<0.02				
Dinitro-o-cresol		<0.1 u	a/I TM411	<0.1	<0.1				
		0.1 P	g,						
Clopyralid		<0.04 µ	ıg/l TM411	<0.04	<0.04				
МСРА		<0.05 L	ıg/l TM411	<0.05	< 0.05				
			0						
Mecoprop		<0.04 µ	ıg/l TM411	<0.04	<0.04				
Dicamba		<0.04 µ	ıg/I TM411	<0.04	<0.04				
		<u> </u>							
MCPB		<0.05 µ	ıg/I TM411	<0.05	<0.05				
2,4-DB		<0.1 µ	g/I TM411	<0.1	<0.1				
0007111									
2,3,6-Trichlorobenzoic	acid	<0.05 µ	ıg/i IM411	<0.05	<0.05				
Dichlorprop		<0.1 µ	g/I TM411	<0.1	<0.1				
T : 1				0.05	0.00				
ırıclopyr		<0.05 µ	IM411	<0.05	<0.05				



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SDG: Location:	2 N	200731-90 New Inn Landfi	ill Orde	nt Reference: er Number:	P2282 Z2189	Report Numb Superseded Re	er: 562381	
Results Legend	C	ustomer 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. 	rt for	Date Sampled	30/07/2020	30/07/2020				
** % recovery of the surrogate standard to che efficiency of the method. The results of indi	eck the vidual	Sample Time Date Received	31/07/2020	31/07/2020				
compounds within samples aren't corrected recovery	I for the	SDG Ref	200731-90	200731-90				
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22363439	22303445				
Component	LOD/Units	Method						
renoprop (Silvex)	<0.1 µg/i	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	TM411	<0.04	<0.04				
oxynil	<0.05 µg/l	TM411	<0.05	<0.05				
Pentachlorophenol	<0.04 µg/l	TM411	<0.04	<0.04				
luoroxypyr	<0.1 µg/l	TM411	<0.1	<0.1				
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CERTIFICATE OF ANALYSIS

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SDG: Location	:	200731-90 New Inn Landfi	Clien II Order	t Reference: r Number:	P22 Z21	82 Report Numbe 89 Superseded Rep	er: 562381 port:	
SVOC MS (W) - Aqueor	us							
Results Legend # ISO17025 accredited.		Customer Sample Ref.	SW2 (DS)	SW1 (US)				
M mCERTS accredited. aq Aqueous / settled sample. diss.fill Dissolved / filtered sample. toLunfilt Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation status.		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	0			
** % recovery of the surrogate standard to cl efficiency of the method. The results of in compounds within samples aren't correct	heck the dividual ad for the	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)	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)	<1 µg/l	TM176	<8 #	<10	#			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<10	#			
2,4,6- I richlorophenol (aq)	<1 µg/l	TM176	<8 #	<10	#			
2,4-Dichlorophenol (aq)	<1 µg/l	1M176	<8 #	<10	#			
2,4-Dimethylphenol (aq)	<1 µg/l	IM1/6	<8 #	<10	#			
2,4-Dinitrotoluene (aq)	<1 µg/l	IM176	<8 #	<10	#			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #	<10	#			
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<8 #	<10	#			
2-Chlorophenol (aq)	<1 µg/l	TM176	<8 #	<10	#			
2-Methylnaphthalene (aq)	<1 µg/i	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/i	TM170	<8 #	<10	#			
4-Bromophenyiphenyiether (aq)	<1 µg/i	TM170	<o #</o 	<10	#			
4-Chloro-3-methylphenol (aq)	<1 µg/i	TM170	<8 #	<10	#			
4-Chloroaniline (aq)	<1 µg/i	TM170	<8	<10				
4-Chlorophenylphenylether (aq)	<1 µg/i	TM170	<8 #	<10	#			
4-Metnyiphenoi (aq)	<1 µg/i	TM170	<8 #	<10	#			
4 Nitrophonol (aq)	<1 µg/l	TM176	<o #</o 	<10	#			
	<1 µg/l	TM176	<0	<10	_			
	<1 µg/l	TM176	<0 #	<10	#			
	<1 µg/l	TM176	<o #<="" p=""></o>	<10	#			
Anthracene (co)	<1 up/l	TM170	~o #	>10	#			
hie/2-Chloroothy/lather (ac)	<1 µg/l	TM170	~o #	>1U ~10	#			
bic/2-Chloroothow/mothers	<1 µg/l	TM170	~o #	>1U ~10	#			
(aq)	<2 un/	TM176	~0 #	>10	#			
Butylbenzyl potholoto (oc)	~2 µg/i	TM170	×10 #	~20	#			
Banza(a)anthracana (ac)	<1 un/	TM170	~v #	~10	#			
Denzo(a)antinacene (aq)	<1 µg/i	11/11/0	<u>~</u> 0	N 10	#			

CERTIFICATE OF ANALYSIS

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SDG:	2	200731-90	Clien	t Reference:	P22	82	Report Numbe	r: 562381	
(ALS) Location:	<u>م</u>	New Inn Landfil	Order	r Number:	Z21	89	Superseded Rep	ort:	
SVOC IVIS (VV) - Aqueous	5 C	ustomer Sample Ref.	SW2 (DS)	SW1 (US)					
BO17025 accredited. M mCERTS accredited. Aqueous / Settled sample. diss.fill: Dissolved filtered sample. totunfilt Total / unfiltered sample. Subcontractor report accreditation status. " % recovery of the surogate standard to check efficiency of the method. The results of indivi compounds within samples aren't corrected fi	for k the dual or the	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref	0.00 - 0.00 Surface Water (SW) 30/07/2020 31/07/2020 200731-90	0.00 - 0.00 Surface Water (SW) 30/07/2020 - 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 Benzo(b)fluoranthene (aq)	LOD/Units <1 µg/l	Method 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	IM176	<40 #	<50	#				
Fluoranthene (aq)	<1 µg/l	IM176	<8 #	<10	#				
Fluorene (aq)	<1 µg/l	TM176	<8 #	<10	#				
Hexachlorobenzene (aq)	<1 µg/l	IM176	<8 #	<10	#				
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<8 #	<10	#				
Pentachlorophenol (aq)	<1 µg/l	TM176	<8	<10					
	<1 µg/l	TM176	<8	<10					
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<8 #	<10	#				
Hexachloroethane (aq)	<1 µg/i	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					
Indeper(1,2,2, ad)pyrana (ad)	<1 µg/l	TM170	<0 #	<10	#				
Pureno (r,z,s-cd)pyrene (aq)	<1 µg/l	TM170	<0 #	<10	#				
ryiene (aq)	< 1 µg/i	11/10	<ö #	<10	#				

200731-90

SDG:

CERTIFICATE OF ANALYSIS

P2282

Report Number:

Client Reference:

Validated

562381

Location: New Inn Landfill Z2189 Superseded Report: Order Number: VOC MS (W) Customer Sample Re SW2 (DS) SW1 (US) Results Legend ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation status. aq diss.filt tot.unfilt Depth (m 0.00 - 0.00 0.00 - 0.00 Sample Type Surface Water (SW) Surface Water (SW) Date Sam 30/07/2020 30/07/2020 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 Sample Time 31/07/2020 31/07/2020 Date Receive SDG Ret 200731-90 200731-90 22583459 22583445 Lab Sample No.(s) AGS Reference (F) 1-3**+**§@ Trigger breach confirmed Sample deviation (see appendix) LOD/Units Component Method 107 106 Dibromofluoromethane** TM208 % Toluene-d8** % TM208 100 100 4-Bromofluorobenzene** % TM208 99.8 99.8 Dichlorodifluoromethane <1 µg/l TM208 <1 <1 # ŧ TM208 Chloromethane <1 µg/l <1 <1 # # Vinyl chloride <1 µg/l TM208 <1 <1 # # Bromomethane <1 µg/l TM208 <1 <1 # # Chloroethane <1 µg/l TM208 <1 <1 # # TM208 Trichlorofluoromethane <1 µg/l <1 <1 # # TM208 1,1-Dichloroethene <1 µg/l <1 <1 # # Carbon disulphide TM208 <1 <1 <1 µg/l # # TM208 Dichloromethane <3 µg/l <3 <3 # # Methyl tertiary butyl ether TM208 <1 µg/l <1 <1 (MTBE) # # 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 TM208 <1 <1 <1 µg/l # # Chloroform <1 µg/l TM208 <1 <1 # # 1,1,1-Trichloroethane <1 µg/l TM208 <1 <1 # # <1 µg/l TM208 1,1-Dichloropropene <1 <1 # # Carbontetrachloride TM208 <1 µg/l <1 <1 # # 1,2-Dichloroethane <1 µg/l TM208 <1 <1 # # Benzene <1 µg/l TM208 <1 <1 # # Trichloroethene TM208 <1 <1 <1 µg/l # # 1,2-Dichloropropane <1 µg/l TM208 <1 <1 # # TM208 <1 <1 Dibromomethane <1 µg/l Ħ Ħ TM208 <1 Bromodichloromethane <1 µg/l <1 # # TM208 cis-1,3-Dichloropropene <1 µg/l <1 <1 # # Toluene <1 µg/l TM208 <1 <1 # # TM208 trans-1,3-Dichloropropene <1 µg/l <1 <1 # 1,1,2-Trichloroethane <1 µg/l TM208 <1 <1 # # 1,3-Dichloropropane <1 µg/l TM208 <1 <1 # #

SDG:	2	00731-90	Clien	t Reference:	P22	2282 Report Number: 562381
(ALS) Location:	N	lew Inn Landf	ill Orde	Number:	Z21	2189 Superseded Report:
Results Legend	Ci	istomer Sample Ref.	SW2 (DS)	SW1 (US)		<u> </u>
M mCERT3 accredited. aq Aqueous / settled sample. diss.fitt Disolved / fittered sample. tot.unfitt Total / unfittered sample. ************************************		Depth (m) Sample Type Date Sampled Sample Time	0.00 - 0.00 Surface Water (SW) 30/07/2020	0.00 - 0.00 Surface Water (SW 30/07/2020	V)	
efficiency of the method. The results of individual compounds within samples aren't corrected for the		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 Tetrachloroethene	LOD/Units <1 µg/l	Method TM208	<1	<1	"	
Dibromochloromethane	<1 µg/l	TM208	# <1 #	<1	#	
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1	#	
Chlorobenzene	<1 µg/l	TM208	<1 #	<1	#	
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1	#	
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	#	
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- I rimethylbenzene	<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 µg/l	TM208	<1 #	<1	#	
	<1 µg/i	TM208	<1	<1	#	
	<1 µg/l	TM200	=======================================	<1	#	:
1,2.4 Trichlorobonzono	<1 µg/i	TM209	<1	<1		
Hexachloroputadiene	<1 µg/l	TM200	<1	<1	#	
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1	#	
Naphthalene	<1 µg/l	TM200	<1	<1	#	
	<1 µg/l	TM200	<1	~1	#	
1.3.5-Trichlorobenzene	<1 µg/l	TM200	<1	~1	#	
1,0,0-111011010000120110	1µy/i					
ALS

SDG:

Location:

CERTIFICATE OF ANALYSIS Client Reference: P2282 Order Number: Z2189 Validated

562381

Table of Results - Appendix

TM022Method 25400, MWWAPHA, 20h Ed., 1999 / BS 2690: Part 20198H, 25 BK 27Determination of total suppended solids in watersTM045MEWAM BODS 2nd Ed. HMSO 1988 / Method 5210B, AWWAPHA, 20h Ed., 1999 / SC ABlue baok 130Determination of BODS (ATU) Filtered by Oxygen Meter on liquidsTM046Method 4500F, AWWAPHA, 20h Ed., 1999Measurement of Dissolved Oxygen by Oxygen MeterTM049BS 2690. Part 7:1968 / BS 6068: Part 211:1984Determination of Ammonium in Water Samples using the Kone AnalyserTM104Method 4500F, AWWAPHA, 20h Ed., 1999Determination of Chamical Oxygen Demand using COD Dr. Lange KRTM107ISO 6600: H989Determination of Chamical Oxygen Demand using COD Dr. Lange KRTM120Method 2510B, AWWAPHA, 20h Ed., 1999Analysis of Aqueous Samples by ICP-MSTM172Analysis of Patroleum Hydrocarbons in Environmental Media – Total Petroleum Hydr	Method No	Reference	Description
TM045MEWAM BODS And Ed. HMSD 1989 / Method 5210B, AWWA/PHA, 20th Ed., 1999Determination of BODS (ATU) Filtered by Oxygen MeterTM046Method 4500G, AWWA/PHA, 20th Ed., 1999Measurement of Dissolved Oxygen by Oxygen MeterTM109BS 2500: Pat 7: 1989, ISB 500BS. Pat 7: 11:1984Determination of Fluoride using the Kone AnalyserTM107ISO 660: 1989Determination of Chemical Oxygen Demand using COD Dr Lange KitTM107ISO 660: 1989Determination of Chemical Oxygen Demand using COD Dr Lange KitTM120Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2680: Part 9:1970Determination of Electrical Conductivity using a Conductivity MeterTM172Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2680: Part 9:1970Determination of Fluoride Using COD Dr Lange KitTM172Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2680: Part 9:1970Determination of Electrical Conductivity using a Conductivity MeterTM173Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2680: Part 9:1970Determination of Electrical Conductivity using a Conductivity MeterTM174Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2680: Part 9:1970Determination of Electrical Conductivity using a Conductivity MeterTM175Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2680: Part 9:1070Determination of SUCS in WatersTM176EPA 8270D Semi-Volatile Organic Compounds by Gas Structure (GC/MS)Determination of NICC in Waters and Laschates by PSA Cold Vapour Atomic Fluorescenee SpectrometryTM183BS ELS 205: 2020; EBA Velation 0 Waters and structure determination of Voltai Organic Compounds by Gas Structure and ValaesDetermination	TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters
TM046Method 4500G, AWWAPHA, 20th Ed., 1999Measurement of Discoved Oxygen MeterTM099BS 2630: Part 7:1968 / BS 6068: Part 2:11:1984Determination of Ammonium in Water Samples using the Kone AnalyserTM104Method 4500F, AWWAPHA, 20th Ed., 1999Determination of Chamical Oxygen Demand using COD Dr Lange KitTM107ISO 6660-1989Determination of Chamical Oxygen Demand using COD Dr Lange KitTM120Method 2510B, AWWAPHA, 20th Ed., 1999 / BS 2690:Determination of Electrical Conductivity using a Conductivity MeterTM152Method 2510B, AWWAPHA, 20th Ed., 1999 / Analysis of Aqueous Samples by ICP-MSTM174Analysis of Petroleum Hydrocarbon CinteriaPetroleum Hydrocarbon CinteriaTM175Method 3125B, AWWAPHA, 20th Ed., 1999 / BS 2690:Determination of SVOCs in Water by GCMSTM176EPA 8270D Semi-Volatile Organic Compounds by Gas ChromatographyMass Spectrometry (GCMS)Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence SpectrometryTM183BS EN 23506.2002, (BS 6068.2-14:2002) ISBN 0 580 38924.3Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric 	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
TM099BS 2890: Part 7:1989 / BS 6088: Part 21:1984Determination of Ammonium in Water Samples using the Kone AnalyserTM104Method 4500F, AWWAAPHA, 20th Ed., 1999Determination of Fluoride using the Kone AnalyserTM107ISO 6060-1989Determination of Chemical Oxygen Demand using COD Dr Lange KitTM120Method 2510B, AWWAAPHA, 20th Ed., 1999 / BS 2890: Part 9:1970Determination of Electrical Conductivity using a Conductivity Meter Part 9:1970TM122Method 3125B, AWWAAPHA, 20th Ed., 1999 / Analysis of Aqueous Samples by ICP-MSAnalysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbons in Environmental 	TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter
TM104Method 4500F, AWWA/APHA, 20h Ed., 1999Determination of Fluoride using the Kone AnalyserTM107ISO 600-1989Determination of Chemical Oxygen Demand using COD Dr Lange KitTM120Method 2510B, AWWA/APHA, 20h Ed., 1999 / BS 2690: part 9:1970Determination of Electrical Conductivity using a Conductivity MeterTM152Method 312SB, AWWA/APHA, 20h Ed., 1999Analysis of Aqueous Samples by ICP-MSTM172Analysis of Petroleum Hydrocarbons in Environmental entroleum Hydrocarbons in Environmental chromatographyMass Spectrometry (GCMS)Determination of SVOCs in Water by GCMSTM176EPA 8270D Semi-Volatile Organic Compounds by Gas ChromatographyMass Spectrometry (GCMS)Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence SpectrometryTM183BS EN 23066 2002. (ISS 0068-27.42.002) ISBN 0 500Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence SpectrometryTM184EPA Methods 325.1 & 325.2, Atomic Fluorescence SpectrometryThe Determination of VHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in WatersTM208Modified: US EPA Method 8260b & 624Determination of Volatile Organic Compounds by Headspace / GC-MS in WatersTM227Standard methods for the examination of waters and waterswaters 20th Edition, AWWA/APHA, Method 4500. WatersDetermination of PL in Water and Leachate using the GLPH PH Meter Laboratory determination of PA torugTM256The measurement of Edectrical Conductivity and the Laboratory determination of PA torugDetermination of Selected Pesticides (Suite 11) in Liquids by GCMS ChromatographyMass Spectrometry	TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
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TM120Method 25108, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970Determination of Electrical Conductivity using a Conductivity Meter Part 9:1970TM152Method 31258, AWWA/APHA, 20th Ed., 1999Analysis of Aqueous Samples by ICP-MSTM172Analysis of Petroleum Hydrocarbon S in Environmental Media – Total Petroleum Hydrocarbon CriteriaEPH in WatersTM176EPA 2010 Semi-Valitie Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)Determination of SVOCs in Water by GCMS Ammine Fluorescence SpectrometryTM183BS EN 23506:2002, (BS 0068-2.74:2002) ISBN 0 580 39224 3Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Ammine Fluorescence SpectrometryTM184EPA Methods 325.1 & 325.2, The Determination of VAID12 and EC7 Polycholrinated Biphenyl Congeners by GC-MS in WatersTM197Modified: US EPA Method 8082.EA Method 174 and S109831Determination of VIAD12 and EC7 Polycholrinated Biphenyl Congeners by GC-MS in WatersTM208Modified: US EPA Method 8208.EA Method 4500. WatersDetermination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate wastewaters 20th Edition, AWWA/APHA Method 4500.TM226The measurement of Electrical Conductivity and the Laboratory determination of Park 100 y Gas Chromatography/Mass Spectrometry (GC/MS)Determination of selected Pesticides (Suite I) in Liquids by GCMS Chromatography/Mass Spectrometry (GC/MS)TM344EPA 82700 - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)Determination of selected pesticides (Suite II) by GCMS Chromatography/Mass Spectrometry (GC/MS)TM345EPA 82700 - Semi-Volatile	TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM152Method 3125B, AWWA/APHA, 20th Ed., 1999Analysis of Aqueous Samples by ICP-MSTM172Analysis of Petroleum Hydrocarbons in Environmental Media - Total Petroleum Hydrocarbons in Environmental Media - Total Petroleum Hydrocarbon CriteriaEPH in WatersTM176EPA 8270D Semi-Volatile Organic Compounds by Gas ChromatographylMass Spectrometry (GC/MS)Determination of SVOCs in Water by GCMSTM183BS EN 23506-2002, (BS 6068-2.74:2002) ISBN 0 580 Abomic Fluorescence SpectrometryDetermination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence SpectrometryTM184EPA Methods 325.1 & 325.2, Modified: US EPA Method 3082.EA Method 174 and 5109631Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric AnalysersTM208Modified: US EPA Method 8082.EA Method 174 and 5109631Determination of Volatile Organic Compounds by Headspace / GC-MS in WatersTM208Modified: US EPA Method 8082.EA Method 4500.Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate watersTM208Modified: US EPA Method 8082.EA Method 174 and 5109631Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate watersTM208Modified: US EPA Method 800.EA CADetermination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate watersTM208TM208The measurement of Electrical Conductivity and the Laboratory determination of pH in Water and Leachate using the GLPH pH Meter Laboratory determination of PH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428.4Determination of selected Pesticides (Suite II) in Liquids by GCMS Chromat	TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM172Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon CriteriaEPH In WatersTM176EPA 82700 Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)Determination of SVOCs in Water by GCMSTM183BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour 	TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM176EPA 8270D Semi-Volatile Organic Compounds by Gas ChromatographyMass Spectrometry (GC/MS)Determination of SVOCs in Water by GCMSTM183BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 S8224 3Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence SpectrometryTM184EPA Methods 325.1 & 325.2,The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric AnalysersTM197Modified: US EPA Method 8082.EA Method 174 and 5109631Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in WatersTM208Modified: US EPA Method 826.D & 624Determination of VHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in WatersTM207Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.Determination of VHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in WatersTM208Modified: US EPA Method 826.D & 624Determination of VHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in WatersTM208Modified: US EPA Method 826.D & 624Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate wastewaters 20th Edition, AWWA/APHA Method 4500.TM256The measurement of Electrical Conductivity and the Laboratory determination of PH Value of Natural, Treated and Wastewaters. HMS0, 1978. ISBN 011751428 4.Determination of Selected Pesticides (Suite I) in Liquids by GCMSTM343EPA 8270D - Semi-Volatile Organic Compounds by Gas ChromatographyMass Spectrometry (GC/MS)Determination of selected pesticides (Suite II) by GCMSTM344EPA 8270D - Semi-Volatile Organic Compounds by Gas Chr	TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters
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TM197Modified: US EPA Method 8082.EA Method 174 and 5109631Determination of WH012 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in WatersTM208Modified: US EPA Method 8260b & 624Determination of Volatile Organic Compounds by Headspace / GC-MS in WatersTM227Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and ThiocyanateTM256The measurement of Electrical Conductivity and the Laboratory determination of PH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.Determination of Selected Pesticides (Suite I) in Liquids by GCMSTM343EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)Determination of selected pesticides (Suite II) by GCMSTM345EPA 8270D - Semi-Volatile Organic Compounds by Gas 	TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208Modified: US EPA Method 8260b & 624Determination of Volatile Organic Compounds by Headspace / GC-MS in WatersTM227Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and ThiocyanateTM256The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.Determination of Selected Pesticides (Suite I) in Liquids by GCMSTM343EPA 8270D - Semi-Volatile Organic Compounds by Gas 	TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by 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 Selected Pesticides (Suite I) in Liquids by GCMS TM343 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 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 TM345 EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Determination of selected pesticides (Suite III) by GCMS TM345 EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Determination of selected pesticides (Suite III) by GCMS TM345 EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Determination of selected pesticides (Suite III) by GCMS TM345 EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Acid Herbs in Water by GCMS <th>TM208</th> <td>Modified: US EPA Method 8260b & 624</td> <td>Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters</td>	TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
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 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 TM345 EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Determination of selected pesticides (Suite III) 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 Acid Herbs in Water by GCMS	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
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 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	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
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	TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids 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	TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM411 Acid_Herbs_GCMS Acid Herbs in Water 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).

Z2189

Report Number: 562381 Superseded Report:

Validated

Test Completion Dates

Order Number:

Lab Sample No(s)	22583459	22583445
Customer Sample Ref.	SW2 (DS)	SW1 (US)
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

	SDG:	200731-90	Client Reference:	P2282	Report Number:	562381
(ALS)	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 Asbestos
Cio 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.



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

Attention: Daniel Hayden

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

CERTIFICATE OF ANALYSIS

Date of report Generation: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: 03 September 2020 Fehily Timoney 200826-98 P2282 New Inn Landfill 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



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: 03/09/2020

	SDG:	20
(ALS)	Location:	Ne

Report Number: Superseded Report: 0826-98 P2282 565823 **Client Reference:** ew Inn Landfill Order Number: Z2189

Validated

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
22723236	SW2 (DS)		0.00 - 0.00	25/08/2020
22723227	SW1 (US)		0.00 - 0.00	25/08/2020

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

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) 0.5I 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 WS ۸S ۸S ۸S WS ٨S ۸S WS ۸S ٨S ٨S WS WS Acid Herbicides by GCMS All NDPs: 0 Tests: 2 Х Х Ammonium Low All NDPs: 0 Tests: 2 Х Х Anions by Kone (w) All NDPs: 0 Tests: 2 Х Х BOD True Total All NDPs: 0 Tests: 2 Х Х 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 Х Х Dissolved Metals by ICP-MS All NDPs: 0 Tests: 2 Х Х 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 Pesticides (Suite II) by GCMS All NDPs: 0

CERTIFICATE OF ANALYSIS

Х

Tests: 2

Х

		CERTIFICATE OF ANALYSIS																
ALS	SDG: Location:	200826-98 New Inn Landfi	I	Clie Orde	nt Re er Nu	feren mber:	ce:	P22 Z21	82 39				Re Su	port l persec	Numb ded Re	er: port:		565823
Results Legend X Test N No Deter	mination	Lab Sample No(s)								22723236							22723227	
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			SW2 (DS)								SW1 (US)					
		AGS Refere																
		Depth (m)			0.00-0.00							0.00 - 0.00						
		Container			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)	
		Sample Ty	ре	WS	SW	WS	SW	WS	WS	WS	SW	WS	WS	WS	SW	WS	WS	
Pesticides (Suite III) by G	CMS	All	NDPs: 0 Tests: 2	x							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							x					
SVOC MS (W) - Aqueous		All	NDPs: 0 Tests: 2			x							X					
VOC MS (W)		All	NDPs: 0 Tests: 2							x							x	

SDG: Location:	2 N	200826-98 New Inn Landfi	Clien II Orde	t Reference: r Number:	P228 Z218	Report Number: 565823 89 Superseded Report:
Results Legend # ISO17025 accredited.	С	ustomer Sample Ref.	SW2 (DS)	SW1 (US)		
M mCERTS accredited. aq Aqueous / settled sample. diss.fit Dissolved filtered sample. tot.unfit Total / unfiltered sample. Subcontracted - refer to subcontractor report accreditation status. * % recover of the surroate standard to check	for	Depth (m) Sample Type Date Sampled Sample Time	0.00 - 0.00 Surface Water (SW) 25/08/2020	0.00 - 0.00 Surface Water (SW 25/08/2020	Ŋ	
efficiency of the method. The results of individ compounds within samples aren't corrected for	dual or the	Date Received	26/08/2020 200826-98	26/08/2020 200826-98		
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	22723236	22723227		
Component	LOD/Units	Method				
Suspended solids, Total	<2 mg/l	TM022	3.6 #	3.75	#	
BOD, unfiltered	<1 mg/l	TM045	2.97 #	2.67	#	
Oxygen, dissolved	<0.3 mg/l	TM046	10.9	10		
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.0861 #	0.0716	#	
Fluoride	<0.5 mg/l	TM104	<0.5	<0.5		
COD, unfiltered	<7 mg/l	TM107	61.9 #	64	#	
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.367 #	0.352	#	
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.14 #	0.91	#	
Barium (diss.filt)	<0.2 µg/l	TM152	6.72 #	6.58	#	
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08	#	
Chromium (diss.filt)	<1 µg/l	TM152	1.5 #	<1	#	
Copper (diss.filt)	<0.3 µg/l	TM152	2.93 #	3.15	#	
Lead (diss.filt)	<0.2 µg/l	TM152	0.43 #	0.352	#	
Manganese (diss.filt)	<3 µg/l	TM152	20 #	22.4	#	
Nickel (diss.filt)	<0.4 µg/l	TM152	3.33 #	4.47	#	
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	#	
Sodium (Dis.Filt)	<0.076 mg/l	TM152	10.7 #	15.1	#	
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	3.02 #	3.31	#	
Potassium (Dis.Filt)	<0.2 mg/l	TM152	3.06 #	3.07	#	
Calcium (Dis.Filt)	<0.2 mg/l	TM152	73.2 #	78	#	
Iron (UIS.FIII)	<0.019 mg/l	IM152	0.603 #	0.545	#	
Ivineral oil >C10 C40 (aq)	<100 µg/l	IM172	<100	<100		
Discription (0.11 - 52.11)	<0.01 µg/l	IM183	<0.01	<0.01		
Phosphate (Urtho as PO4)	<0.05 mg/l	IM184	0.175 #	U.161	#	
	<2 mg/l	IM184	<2 #	<2	#	
Chloride	<2 mg/l	1M184	15 #	15.5	#	
Sulphate (soluble) as S	<1 mg/l	IM184	<1 #	<1	#	
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015		
PCB congener 52	<0.015 µg/l	1M197	<0.015	<0.015		
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015		

Validated

aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for 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 recover.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref	0.00 - 0.00 Surface Water (SW) 25/08/2020 26/08/2020 200826-98	0.00 - 0.00 Surface Water (SW) 25/08/2020 26/08/2020 200826-98		
recovery (F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22723236	22723227		
Component PCB congener 118	LOD/Units <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		

CERTIFICATE OF ANALYSIS

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	SDG:	2	00826-98	Clien	t Reference:	P2282	Report Numb	er: 565823	
(ALS)	Location:	N	iew inn Landf	III Ordei	r Number:	Z2189	 Superseded Re	port:	
Results	Legend	Cu	ustomer Sample Ref.	SW2 (DS)	SW1 (US)				
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sampl	le.				× 7				
diss.filt Dissolved / filtered samp tot.unfilt Total / unfiltered sample	ble.		Depth (m) Sample Type	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW)	,			
accreditation status. ** % recovery of the surrog	gate standard to check the		Date Sampled Sample Time	25/08/2020	25/08/2020				
efficiency of the method compounds within samp recovery	I. The results of individual oles aren't corrected for the		Date Received SDG Ref	26/08/2020 200826-98	26/08/2020 200826-98				
(F) Trigger breach confirme 1-3+§@ Sample deviation (see a	d ppendix)		Lab Sample No.(s) AGS Reference	22723236	22723227				
Component	LOI <0	D/Units	Method TM344	<0.01	<0.01		 		
Hexachlorobutadiene	<0	μg/l	TM344	<0.01	<0.01				
1,2,4-Trichlorobenzene	<0	1.01 µg/l	TM344	<0.01	<0.01				
1,2,3-Trichlorobenzene	<0	1.01 µg/l	TM344	<0.01	<0.01				
Dichlorvos	<0	1.01 µg/l	TM344	<0.01	<0.01				
Dichlobenil	<0	1.01 µg/l	TM344	<0.01	<0.01				
Mevinphos	<0	1.01 µg/l	TM344	<0.01	<0.01				
Tecnazene	<0	0.01 µg/l	TM344	<0.01	<0.01				
Hexachlorobenzene	<0	0.01 µg/l	TM344	<0.01	<0.01				
Demeton-S-methyl	<0	0.01 µg/l	TM344	<0.01	<0.01				
Phorate	<0	0.01 µg/l	TM344	<0.01	<0.01		 		
Triallate	<0	01 µg/l	TM344	<0.01	<0.01				
Atrazine	<0	0.01 µg/l	TM344	<0.01	<0.01				
Simazine	<0	1.01 µg/l	TM344	<0.01	<0.01				
Disulfoton	<0	1.01 µg/l	TM344	<0.01	<0.01				
Propetamphos	<0	1.01 µg/l	TM344	<0.01	<0.01	_			
Chlorpyriphos-methyl	<0	1.01 µg/l	TM344	<0.01	<0.01	_			
Dimethoate	<0	1.01 µg/l	TM344	<0.01	<0.01		 		
Pirimiphos-methyl	<0	1.01 µg/l	TM344	<0.01	<0.01				
Chlorpyriphos	<0	1.01 µg/l	TM344	<0.01	<0.01				
Methyl Parathion	<0	1.01 µg/l	TM344	<0.01	<0.01				
Malathion	<0	1.01 µg/l	TM344	<0.01	<0.01				
Fenthion	<0	1.01 µg/l	TM344	<0.01	<0.01				
Fenitrothion	<0	0.01 µg/l	TM344	<0.01	<0.01				
Triadimefon	<0	1.01 µg/l	TM344	<0.01	<0.01				
Pendimethalin	<0	1.01 µg/l	TM344	<0.01	<0.01				
Parathion	<0	0.01 µg/l	TM344	<0.01	<0.01				
Chlortenvinphos	<0	0.01 µg/l	1M344	<0.01	<0.01				
trans-Uniordane	<0	.01 µg/l	1 M344	<0.01	<0.01		 		
	<0	.01 µg/l	1 M344	<0.01	<0.01		 		
	<0	.01 µg/l	1 M344	<0.01	<0.01		 		
Carpopnenothion	<0	i.u'i µg/l	1 M344	<0.01	<0.01				

Validated

M aq diss.filt tot.unfilt * * (F) 1-3+§@	mCERTS accredited. Aqueous / settled sample. Discohed / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation status. % recovery of the surogate standard to check th efficiency of the method. The results of individu. compounds within samples aren't corrected for to recovery Trigger brack confirmed Sample deviation (see appendix)	r he al the	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Surface Water (SW) 2508/2020 26/08/2020 200826-98 22723236	0.00 - 0.00 Surface Water (SW) 25/08/2020 26/08/2020 200826-98 22723227		
Compo Triazop	hos	LOD/Uni <0.01 μ	its Method g/l TM344	<0.01	<0.01		
Phosalc	one	<0.01 µ	g/l TM344	<0.01	<0.01		
Azinnho	ns methyl	<0.02 µ	a/l TM344	<0.04	<0.04		
		-0.02 µ		-0.04	-0.00		
Azinpho	os etnyl	<0.02 µ	g/i IM344	<0.02	<0.02		
Etridiaz	ole	<0.01 µ	g/I TM345	<0.01	<0.01		
Pentach	nlorobenzene	<0.01 µ	g/l TM345	<0.01	<0.01		
Propact	nlor	<0.01 µ	g/l TM345	<0.01	<0.01		
Quintoz	ene (PCNB)	<0.01 µ	g/l TM345	<0.01	<0.01		
Ometho	pate	<0.01 µ	g/l TM345	<0.01	<0.01		
Propazi	ne	<0.01 µ	g/l TM345	<0.01	<0.01		
Propyza	amide	<0.01 µ	g/l TM345	<0.01	<0.01		
Alachlo	r	<0.01 µ	g/l TM345	<0.01	<0.01		
Prometr	ryn	<0.01 µ	g/l TM345	<0.01	<0.01		
Telodrin	1	<0.01 µ	g/l TM345	<0.01	<0.01		
Terbutry	yn	<0.01 µ	g/l TM345	<0.01	<0.01		
Chloroth	halonil	<0.01 µ	g/I TM345	<0.02	<0.02		
Etrimph	05	<0.01 µ	g/l TM345	<0.01	<0.01		
Metaza	chlor	<0.01 µ	g/l TM345	<0.01	<0.01		
Cyanaz	ine	<0.01 µ	g/l TM345	<0.01	<0.01		
Trietazii	ne	<0.01 µ	g/l TM345	<0.01	<0.01		
Couma	phos	<0.01 µ	g/I TM345	<0.01	<0.01		
Phosph	amidon I	<0.01 µ	g/l TM345	<0.01	<0.01		
Phosph	amidon II	<0.01 µ	g/l TM345	<0.01	<0.01		
Dinitro-o	o-cresol	<0.1 µ(g/I TM411	<0.1	<0.2		
Clopyra	lid	<0.04 µ	g/l TM411	<0.04	<0.08		
MCPA		<0.05 µ	g/l TM411	<0.05	<0.1		
Mecopr	op	<0.04 µ	g/l TM411	<0.04	<0.08		
Dicamb	a	<0.04 µ	g/l TM411	<0.04	<0.08		
MCPB		<0.05 µ	g/l TM411	<0.05	<0.1		
2,4-DB		<0.1 µ	g/I TM411	<0.1	<0.2		
2,3,6-Tr	ichlorobenzoic acid	<0.05 µ	g/l TM411	<0.05	<0.1		
Dichlorp	ргор	<0.1 µ	g/I TM411	<0.1	<0.2		
Triclopy	r	<0.05 µ	g/l TM411	<0.05	<0.1		

ALS

SDG: Location:	2 N	200826-98 New Inn Landf	Clier Ill Orde	it Reference: Part Reference: Part Reference: Part Part Reference: Part Refere	2282 2189	Report Numb Superseded Re	er: 565823	
							·	
Results Legend # ISO17025 accredited.	С	ustomer Sample Ref.	SW2 (DS)	SW1 (US)				
M mCERTS accredited. aq Aqueous / settled sample.		Death (m)						
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.	tfor	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	ck the	Date Sampled Sample Time	25/08/2020	25/08/2020				
efficiency of the method. The results of indiv compounds within samples aren't corrected	ridual for the	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						
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				
	İ							

CER



SDG:	2	200826-98 New Inn Landfi	Clien	t Reference:	P228	2	Report Numb	er: 56582	3
	I'			r Number:	2210	9	Superseded Re	port.	
Results Legend	5 C	ustomer 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	Ŋ				
* Subcontracted - refer to subcontractor report accreditation status.	for	Date Sampled Sample Time	25/08/2020	25/08/2020	·				
efficiency of the method. The results of individ compounds within samples aren't corrected for	dual or the	Date Received	26/08/2020	26/08/2020 200826-98					
recovery (F) Trigger breach confirmed 1.36@ Sample deviation (can appendix)		Lab Sample No.(s)	22723236	22723227					
Component	LOD/Units	Method							
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<4 #	<4	#				
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 "	<4	π				
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	#				
2,6-Dinitrotoluene (ag)	<1 µg/l	TM176	= #	<4	#				
2-Chloronaphthalene (aq)	<1 µa/l	TM176	#	<4	#				
2-Chlorophenol (ag)	<1 µg/l	TM176	#		#				
2 Methylpenhthelene (ag)	<1 µg/l	TM176	#	<4	#				
2-Methylnaphthalene (aq)	<1 µg/i	TM170			#				
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 #	<4	#				
Acenaphthylene (aq)	<1 µg/l	TM176	<4 #	<4	#				
Acenaphthene (aq)	<1 µg/l	TM176	<4 #	<4	#				
Anthracene (aq)	<1 µg/l	TM176	# <4 #	<4	#				
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<4	#				
bis(2-Chloroethoxy)methane	<1 µg/l	TM176		<4	#				
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	# <8 #	<8	π #				
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	# <4 	<4	#				
Benzo(a)anthracene (aq)	<1 µg/l	TM176	# <4 #	<4	#				

SDG	:	200826-98	Clien	t Reference:	P228	82 Report Num	ber: 565823	
	tion:	New Inn Land	fill Orde	r Number:	Z218	89 Superseded R	eport:	
SVOC MS (W) - Aqu	leous							
Results Legend # ISO17025 accredited.	1	Customer Sample Ref.	SW2 (DS)	SW1 (US)				
M mCERTS accredited. aq Aqueous / settled sample.		Donth (m)	0.00 0.00	0.00, 0.00				
tot.unfilt Total / unfiltered sample.	ractor report for	Sample Type	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW))			
accreditation status. ** % recovery of the surrogate stan	dard to check the	Date Sampled Sample Time	25/08/2020	25/08/2020				
efficiency of the method. The res compounds within samples aren	ults of individual 't corrected for the	Date Received	26/08/2020 200826-98	26/08/2020 200826-98				
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	22723236	22723227				
Component	LOD/U	Inits Method						
Benzo(b)fluoranthene (aq)	<1 µ	ug/l TM176	<4	<4				
Benzo(k)fluoranthene (ag)	<11	ug/l TM176	#	<4	#			
Donzo(k)naoraninono (aq)		19/1 INTTO	#		#			
Benzo(a)pyrene (aq)	<1 µ	ug/l TM176	<4	<4				
Denze(a h i)nemiene (ea)	1 -		#	-1	#			
Delizo(g,ii,i)pelyielle (aq)	~1	19/1 11/11/0	~4 #	~4	#			
Carbazole (aq)	<1 µ	Jg/l TM176	<4	<4				
Chrusses (ar)	1 -		#		#			
Chrysene (aq)	~1	19/1 INT76	<4 #	~4	#			
Dibenzofuran (aq)	<1 µ	Jg/l TM176	<4	<4				
			#		#			
n-Dibutyl phthalate (aq)	<1 µ	ug/l TM176	<4 #	<4	#			
Diethyl phthalate (aq)	<1 µ	Jg/l TM176	<4	<4				
			#		#			
Dibenzo(a,n)anthracene (aq)	<1 h	1g/l IM176	<4 #	<4	#			
Dimethyl phthalate (aq)	<1 µ	Jg/l TM176	<4	<4				
			#		#			
n-Dioctyl phthalate (aq)	<5 µ	ug/l TM176	<20 #	<20	#			
Fluoranthene (aq)	<1 µ	Jg/l TM176	<4	<4				
			#		#			
Fluorene (aq)	<1 µ	ug/l TM176	<4 #	<4	#			
Hexachlorobenzene (aq)	<1 µ	Jg/l TM176	<4	<4				
			#		#			
Hexachlorobutadiene (aq)	<1 μ	1g/l IM176	<4 #	<4	#			
Pentachlorophenol (aq)	<1 µ	Jg/l TM176	<4	<4				
					_			
Phenol (aq)	<1 h	1g/l IM176	<4	<4				
n-Nitroso-n-dipropylamine (ad	η) <1 μ	Jg/l TM176	<4	<4				
			#		#			
Hexachioroethane (aq)	~1	19/1 INT76	<4 #	~4	#			
Nitrobenzene (aq)	<1 µ	Jg/l TM176	<4	<4				
Nanhthalana (ag)	1 -		#		#			
Naphilialene (aq)	~1	19/1 11/11/0	~4 #	~4	#			
Isophorone (aq)	<1 µ	Jg/l TM176	<4	<4				
Hevechloroovelopoptadions (· · - (ne	IO/ TM176	#	-1	#		+	
	ay) - 1 p	19/1 11/11/0	~4	~4				
Phenanthrene (aq)	<1 µ	Jg/l TM176	<4	<4				
Indepo(1.2.3-cd)pyrepe (ag)	<1 I	10/1 TM176	#	=	#			
indeno(1,2,3-od)pyrene (aq)	214	19/1 11/17/0		~**	#			
Pyrene (aq)	<1 µ	ug/l TM176	<4	<4				
			#		#		+	
					-+		+	
					-+		+	
							1	1

SDG: Location:		200826-98 New Inn Landfi	Client Order	t Reference: r Number:	P22 Z21	282 189	Report Numb Superseded Re	er: 565823 port:	
VOC MS (W)								-	
Kosuits Legend Kosuits Legend Kosuits Legend Kosuits Legend Kosuits Legend Aqueous / settled sample. Subcontracted - refer to subcontractor report Subcontracted - refer to subcontractor report Succreditation status. N recovery of the surrogate standard to check efficiency of the method. The results of individ compounds within samples aren't corrected for recovery (F) Trigger breach confirmed 1-34660	or the ual the	Customer Sample Ref. Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	SW2 (DS) 0.00 - 0.00 Surface Water (SW) 25/08/2020 26/08/2020 2008/26-98 227/23236	SW1 (US) 0.00 - 0.00 Surface Water (SW) 25/08/2020 26/08/2020 200826-98 22723227					
Component	LOD/Unit	ts Method							
Dibromofluoromethane**	%	TM208	120	116					
Toluene-d8**	%	TM208	98.1	97.2					
4-Bromotiuorobenzene***	%	TMZ08	98.4	97.3					
Dichlorodifluoromethane	<1 µg/	I TM208	<1 #	<1	#				
Chloromethane	<1 µg/	TM208	<1 #	<1	#				
Vinyl chloride	<1 µg/	I TM208	<1 #	<1	#				
Bromomethane	<1 µg/	I IM208	<1 #	<1	#				
Chloroethane	<1 µg/	I TM208	<1 #	<1	#				
Trichlorofluoromethane	<1 µg/	I TM208	<1 #	<1	#				
1,1-Dichloroethene	<1 µg/	I TM208	<1 #	<1	#				
Carbon disulphide	<1 µg/	I TM208	<1 #	<1	#				
Dichloromethane	<3 µg/	I TM208	<3 #	<3	#				
Methyl tertiary butyl ether (MTBE)	<1 µg/	I TM208	<1 #	<1	#				
trans-1,2-Dichloroethene	<1 µg/	I TM208	<1 #	<1	#				
1,1-Dichloroethane	<1 µg/	I TM208	<1 #	<1	#				
cis-1,2-Dichloroethene	<1 µg/	I TM208	<1 #	<1	#				
2,2-Dichloropropane	<1 µg/	I TM208	<1	<1					
Bromochloromethane	<1 µg/	I TM208	<1 #	<1	#				
Chloroform	<1 µg/	I TM208	<1 #	<1	#				
1,1,1-Trichloroethane	<1 µg/	I TM208	<1 #	<1	#				
1,1-Dichloropropene	<1 µg/	I TM208	<1 #	<1	#				
Carbontetrachloride	<1 µg/	I TM208	<1 #	<1	#				
1,2-Dichloroethane	<1 µg/	I TM208	<1 #	<1	#				
Benzene	<1 µg/	I TM208	<1 #	<1	#				
Trichloroethene	<1 µg/	I TM208	<1 #	<1	#				
1,2-Dichloropropane	<1 µg/	I TM208	<1 #	<1	#				
Dibromomethane	<1 µg/	I TM208	<1 #	<1	#				
Bromodichloromethane	<1 µg/	I TM208	<1 #	<1	#				
cis-1,3-Dichloropropene	<1 µg/	I TM208	<1 #	<1	#				
Toluene	<1 µg/	I TM208	<1 #	<1	#				
trans-1,3-Dichloropropene	<1 µg/	I TM208	<1 #	<1	#				
1,1,2-Trichloroethane	<1 µg/	I TM208	<1 #	<1	#				
1,3-Dichloropropane	<1 µg/	I TM208	<1 #	<1	#				

SDG: Location:	2 N	00826-98 lew Inn Landfi	Clien II Order	t Reference: r Number:	P22 Z21	282 Report Number: 565823 189 Superseded Report:
VOC MS (W)						
Results Legend # ISO17025 accredited.	Ci	ustomer Sample Ref.	SW2 (DS)	SW1 (US)		
M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.nrllit Total / unfiltered sample. * Subcontrated-+ refer to subcontractor reporaccreditation status. * % incovery of the surrogate standard to che efficiency of the method. The results of induit compounds within samples aren't corrected	t for ck the idual for the	Depth (m) Sample Type Date Sampled Sample Time Date Received	0.00 - 0.00 Surface Water (SW) 25/08/2020 26/08/2020	0.00 - 0.00 Surface Water (SV 25/08/2020 26/08/2020	V)	
recovery (F) Trigger breach confirmed		SDG Ref Lab Sample No.(s)	200826-98 22723236	200826-98		
1-3+§@ Sample deviation (see appendix) Component	LOD/Units	AGS Reference Method				
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1	#	
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1	#	
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1	#	
Chlorobenzene	<1 µg/l	TM208	<1 #	<1	#	
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1	#	
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	#	
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		



SDG:

Location:

200826-98

New Inn Landfill

Validated

565823

Report Number: Superseded Report:

Order Number: Z2189

	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).

P2282

Z2189

Client Reference:

Order Number:

565823

Test Completion Dates

Lab Sample No(s)	22723236	22723227
Customer Sample Ref.	SW2 (DS)	SW1 (US)
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 New Inp Landfill	Client Reference:	P2282	Report Number:	565823
(ALS)	Location.		Order Number.	22109	Superseueu 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 Asbestos
Cio 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.



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

Attention: Daniel Hayden

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

CERTIFICATE OF ANALYSIS

Date of report Generation: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: 26 July 2021 Fehily Timoney 210715-117 P2282 New Inn Landfill 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



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				
	SDG:	210715-117	Client Reference:	P2282	Report Number:	607013	
$(\Delta I S)$	Location:	New Inn Landfill	Order Number:	Z2798	Superseded Report:		

Received Sample Overview

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.

SDG: 210715-117 **Client Reference:** P2282 Report Number: 607013 New Inn Landfill Z2798 Superseded Report: Location: 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) 0.5I 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 WS ۸S ۸S ۸S WS ٨S ٨S ۸S ۸S ٨S ٨S WS WS Acid Herbicides by GCMS All NDPs: 0 Tests: 2 Х х Alkalinity as CaCO3 All NDPs: 0 Tests: 2 Х Х Ammonium Low All NDPs: 0 Tests: 2 Х Х Anions by Kone (w) All NDPs: 0 Tests: 2 Х Х BOD True Total All NDPs: 0 Tests: 2 Х Х 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 Х Х Dissolved Metals by ICP-MS All NDPs: 0 Tests: 2 Х Х 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

CERTIFICATE OF ANALYSIS

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Х

			С	ERT	IFIC	CAT	ΕO	F Al	NAL	YS	IS						
ALS	SDG: Location:	210715-117 New Inn Landf	ill	Clie Ord	nt Re er Nu	feren mber:	ce:	P228 Z279	32 98				Re Su	port perse	Numb ded Re	er: port:	60
Results Legend X Test N No Deter Possible	mination	Lab Sample	No(s)							24638818							24638827
		Custome Sample Refe	er rence		S S											SW2	
Sample Types - S - Soil/Solid UNS - Unspecified S GW - Ground Water SW - Surface Water LE - Land Leachate	Golid	AGS Refere	ence														
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		Depth (m	1)	0.00 - 0.00								0.00 - 0.00					
		Containe	er	0.5I 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)
		Sample Ty	pe	SW	SM	WS	SW	SW	WS	WS	SW	WS	SW	SW	WS	SW	WS
Pesticides (Suite II) by G	CMS	All	NDPs: 0 Tests: 2	X							X						
Pesticides (Suite III) by G	CMS	All	NDPs: 0 Tests: 2	x							х						
pH Value		All	NDPs: 0 Tests: 2			X							X				
Suspended Solids		All	NDPs: 0 Tests: 2			x							x				
SVOC MS (W) - Aqueous		All	NDPs: 0 Tests: 2			X							х				
Total Organic and Inorga	nic Carbon	All	NDPs: 0 Tests: 2				X							X			
VOC MS (W)		All	NDPs: 0 Tests: 2							x							x

_

SDG:	2 N	210715-117 Jew Inn I andf	Clien	t Reference:	P228	82 Rep 98 Sup	ort Number: erseded Report:	607013
				i Number.				
Results Legend # ISO17025 accredited.	С	ustomer Sample Ref.	SW1	SW2				
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. * Subcontracted - refer to subcontractor report for	or	Sample Type Date Sampled	Surface Water (SW) 14/07/2021	Surface Water (SV 14/07/2021	N)			
** % recovery of the surrogate standard to check efficiency of the method. The results of individe	the ual	Sample Time Date Received	15/07/2021	15/07/2021				
compounds within samples aren't corrected for recovery	r the	SDG Ref	210715-117 24638818	210715-117 24638827				
(F) Trigger breach contirmed 1-4+§@ Sample deviation (see appendix)		AGS Reference	21000010	LIGGGGEI				
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	\rightarrow			
Oxygen, dissolved	<0.3 mg/l	TM046	# 12.5	11.7	#			
Organic Carbon, Total	<3 mg/l	TM090	<3	<3	. #			
Ammoniacal Nitrogen as N (low	<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 mS/cm	TM120	0.629 #	0.651	#			
Arsenic (diss.filt)	<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.fiit)	<3 µg/i	TM152	11.3 #	0.026	#			
Nickei (diss.fiit)	<0.4 µg/l	TM152	U.003 #	0.926	#			
Selenium (diss filt)	<1 ug/l	TM152	<10 #	<10	#			
Thellium (diss.int)	<1 µg/l	TM152	#	~1	#			
Thamum (diss.mt)	<2 µg/i	TM152	< <u>*</u>	<2	#			
Zinc (diss.int)	<1 µg/1	TM152	1.40 #	10	#			
Magnosium (Dis Filt)	<0.076 mg/l	TM152	5.24	5.38	#			
Potassium (Dis Filt)	<0.030 mg/l	TM152	2 1	2.26	#			
Calcium (Dis.Filt)	<0.2 mg/l	TM152	138	140	#			
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0735	0.07	#			
Mineral oil >C10 C40 (aa)	<100 µa/l	TM172	<100	<100	#			
Mercury (diss.filt)	<0.01 µa/l	TM183	<0.01	<0.01	\dashv			
Sulphate	<2 mg/l	TM184	6.4	6.6	\dashv			
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	#			

SDG:	2	10715-117	Clien	t Reference: P2	2282	Report Number:	607013	
	N	iew inn Landi		r Number: 22	2790	Superseded Repo		
Results Legend	Ci	ustomer Sample Ref.	SW1	SW2				
M mCERTS accredited. aq Aqueous / settled sample.		Death (m)						
diss.hit Dissolved / hitered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report f	or	Sample Type	0.00 - 0.00 Surface Water (SW)	0.00 - 0.00 Surface Water (SW)				
accreditation status. ** % recovery of the surrogate standard to check efficiency of the method. The results of individ	the ual	Sample Time		15/07/2021				
compounds within samples aren't corrected fo recovery	r the	SDG Ref	210715-117 24638818	210715-117 24638827				
1-4+§@ Sample deviation (see appendix)	LOD/Units	AGS Reference						
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				
pH	<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				

4+§@ Component

Permethrin I

Permethrin II

1,3,5-Trichlorobenzene

Hexachlorobutadiene

1,2,4-Trichlorobenzene

1,2,3-Trichlorobenzene

Dichlorvos

Dichlobenil

Mevinphos

Tecnazene

Phorate

Diazinon

Triallate

Atrazine

Simazine

Disulfoton

Propetamphos

Dimethoate

Pirimiphos-methyl

Chlorpyriphos

Malathion

Fenthion

Fenitrothion

Triadimefon

Pendimethalin

Chlorfenvinphos

trans-Chlordane

cis-Chlordane

Parathion

Methyl Parathion

Chlorpyriphos-methyl

Hexachlorobenzene

Demeton-S-methyl

LOD/Units

<0.01 µg/l

<0.01 µg/l <0.01 µg/l

<0.01 µg/l

<0.01 µg/l

<0.01 µg/l

<0.01 µg/l

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<0.01 µg/l

<0.01 µg/l

<0.01 µg/l

<0.01 µg/l

<0.01 µg/l

<0.01 µg/l

Method

TM343

TM343

TM344

< 0.01

< 0.01

< 0.01

<0.01

< 0.01

< 0.01

< 0.01

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< 0.01

< 0.03

< 0.01

< 0.01

<0.01

< 0.01

<0.07

< 0.01

< 0.01

< 0.01

< 0.01

< 0.01

<0.01

<0.01

< 0.02

< 0.01

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<0.02

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<0.01

< 0.01

< 0.01

< 0.01

<0.01

<0.01

Validated

	Results Legend		Customer Sample Ref.	SW1	SW2		
# M diss.filt tot.unfilt *	Iso'I rizz'a accretite. MCERTS accretites. Mageous / settled sample. Disolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report fo accreditation status. % recovery of the surrogate standard to check t efficiency of the method. The results of individu	r ihe ial the	Depth (m) Sample Type Date Sampled Sample Time Date Received	0.00 - 0.00 Surface Water (SW) 14/07/2021 15/07/2021	0.00 - 0.00 Surface Water (SW) 14/07/2021 15/07/2021		
(F)	recovery Trigger breach confirmed		SDG Ref Lab Sample No.(s)	210/15-11/ 24638818	210/15-11/ 24638827		
1-4+§@	Sample deviation (see appendix)		AGS Reference				
Ethion	nent	<0.01 L	its Miethod	<0.01	<0.01		
		0.01 P	.g,	0.01	0.01		
Carboph	nenothion	<0.01 µ	ıg/l TM344	<0.01	<0.01		
Triazoph	105	<0.01 µ	ıg/I TM344	<0.01	<0.01		
Phosalo	ne	<0.01 µ	ıg/I TM344	<0.01	<0.01		
Azinpho	s methyl	<0.02 µ	ıg/l TM344	<0.02	<0.02		
Azinpho	s ethyl	<0.02 µ	ıg/l TM344	<0.02	<0.02		
Etridiazo	ble	<0.01 µ	ıg/I TM345	<0.01	<0.01		
Pentach	lorobenzene	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Propach	lor	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Quintoze	ene (PCNB)	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Ometho	ate	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Propazir	ne	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Propyza	mide	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Alachlor		<0.01 µ	ıg/l TM345	<0.01	<0.01		
Prometr	yn	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Telodrin		<0.01 µ	ıg/l TM345	<0.01	<0.01		
Terbutry	'n	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Chloroth	alonil	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Etrimpho	DS	<0.01 µ	ıg/I TM345	<0.01	<0.01		
Metazao	hlor	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Cyanazi	ne	<0.01 µ	ıg/I TM345	<0.01	<0.01		
Trietazir	ie	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Coumap	hos	<0.01 µ	ıg/I TM345	<0.01	<0.01		
Phospha	amidon I	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Phospha	amidon II	<0.01 µ	ıg/l TM345	<0.01	<0.01		
Dinitro-c	-cresol	<0.1 µ	g/I TM411	<0.1	<0.1		
Clopyral	id	<0.04 µ	ıg/l TM411	<0.04	<0.04		
MCPA		<0.05 µ	ıg/l TM411	<0.05	<0.05		
Mecopro	p	<0.04 µ	ıg/l TM411	<0.04	<0.04		
Dicamba	3	<0.04 µ	ıg/l TM411	<0.04	<0.04		
MCPB		<0.05 µ	ıg/l TM411	<0.05	<0.05		
2,4-DB		<0.1 µ	g/I TM411	<0.1	<0.1		
2,3,6-Tri	ichlorobenzoic acid	<0.05 µ	ıg/l TM411	<0.05	<0.05		

(ALS)	

Validated

Results Legend Solv23 accredited. M mCERTS accredited. M mCERTS accredited. Aqueous / settied sample. diss.filt Disolved / filtered sample. tot.umfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report accreditation status. * % recovery of the surrogate standard to check efficiency of the method. The results of indivic compounds within samples aren't corrected to recovery (F) Trigger breach confirmed 14+5§@ Sample deviation (see appendix)	for : the Jual or the	Customer Sample Ref. Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	SW1 0.00 - 0.00 Surface Water (SW) 14/07/2021 15/07/2021 210715-117 24638818	SW2 0.00 - 0.00 Surface Water (SW) 14/07/2021 15/07/2021 210715-117 24638827		
Component	LOD/Unit	s Method				
Dichlorprop	<0.1 µg/	/I TM411	<0.1	<0.1		
Triclopyr	<0.05 µg	J/I TM411	<0.05	<0.05		
Fenoprop (Silvex)	<0.1 µg/	/I TM411	<0.1	<0.1		
2,4-Dichlorophenoxyacetic acid	<0.05 µg)/I TM411	<0.05	<0.05		
2,4,5-Trichlorophenoxyacetic acid	<0.05 µg	/l TM411	<0.05	<0.05		
Bromoxynil	<0.04 µg	ı/I TM411	<0.04	<0.04		
Benazolin	<0.04 µg	j/l TM411	<0.04	<0.04		
loxynil	<0.05 µg	/l TM411	<0.05	<0.05	 	
Pentachlorophenol	<0.04 µg	ı/I TM411	<0.04	<0.04		
Fluoroxypyr	<0.1 µg/	/I TM411	<0.1	<0.1		

SDG:		210715-117	Clien	t Reference:	P22	:82	Report Numb	er: 607013	
		New Inn Lanui		r Number:	221	90	Superseded Re		
SVOC MS (W) - Aqueous Results Legend	5	Customer Sample Ref.	SW1	SW2	-				,
# ISO17025 accredited. M mCERTS accredited.				0112					
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00					
* Subcontracted - refer to subcontractor report	for	Sample Type Date Sampled	Surface Water (SW) 14/07/2021	Surface Water (SW) 14/07/2021					
** % recovery of the surrogate standard to check efficiency of the method. The results of individ	the fuel	Sample Time		15/07/2021					
compounds within samples aren't corrected for	or the	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/Uni	ts Method							
1,2,4-Trichlorobenzene (aq)	<1 µg/	1 TM176	<1	<1					
1.2 Diablarahanzana (ag)	<1.00	TM176	#		#				
	<1 µg/		*		#				
1,3-Dichlorobenzene (aq)	<1 µg/	'I TM176	<1	<1					
			#		#				
1,4-Dichlorobenzene (aq)	<1 µg/	'I TM176	<1	<1	,,				
2 / 5-Trichlorophenol (ag)	<1.00	1 TM176	# <1	<	#				
	1 µ9/	1	#	- 1	#				
2,4,6-Trichlorophenol (aq)	<1 µg/	1 TM176	<1	<1					
			#		#				
2,4-Dichlorophenol (aq)	<1 µg/	1 TM176	<1 #	<1	#				
2 4-Dimethylphenol (ag)	<1 µg/	1 TM176	<1 *	<1	#				
2, 1 2	. 143,		. #		#				
2,4-Dinitrotoluene (aq)	<1 µg/	1 TM176	<1	<1					
			#		#				
2,6-Dinitrotoluene (aq)	<1 µg/	1 TM176	<1 #	<1	#				
2-Chloronaphthalene (ag)	<1 µa/	1 TM176	<1 *	<1	#				
	15		#		#				
2-Chlorophenol (aq)	<1 µg/	1 TM176	<1	<1					
0 Mathuda an bib alana (an)		TN470	#	- 11	#				
2-methylnaphthalene (aq)	<1 µg/	I IMI176	<1 #	<1	#				
2-Methylphenol (aq)	<1 µg/	1 TM176	<1	<1					
			#		#				
2-Nitroaniline (aq)	<1 µg/	1 TM176	<1	<1	,,				
2-Nitrophenol (ag)	<1.00	1 TM176	#	<	#				
	<1 µg/	1 111170	*		#				
3-Nitroaniline (aq)	<1 µg/	1 TM176	<1	<1					
			#		#				
4-Bromophenylphenylether (aq)	<1 µg/	1 TM176	<1 #	<1	#				
4-Chloro-3-methylphenol (ag)	<1 µa/	1 TM176	<1 *	<1	#				
	. 1.3		#		#				
4-Chloroaniline (aq)	<1 µg/	1 TM176	<1	<1					
					\rightarrow				
4-Chiorophenylphenylether (aq)	<1 µg/	1 IM176	<1 #	<1	#				
4-Methylphenol (aq)	<1 µg/	1 TM176	<1	<1					
			#		#				
4-Nitroaniline (aq)	<1 µg/	1 TM176	<1	<1	,,				
1 Nitranhanal (ag)	<1.00	TM176	#		#				
	<1µg/								
Azobenzene (aq)	<1 µg/	1 TM176	<1	<1					
			#		#				
Acenaphthylene (aq)	<1 µg/	1 TM176	<1 #	<1	#				
Acenaphthene (ag)	<1 µa/	1 TM176	<1 *	<1	#				
	15		#		#				
Anthracene (aq)	<1 µg/	1 TM176	<1	<1					
his (2 Chlore attail) - the set ()		T 1470	#	. د	#				
bis(2-Unioroethyl)ether (aq)	<1 µg/	i IM1/6	<']	<1	#				
bis(2-Chloroethoxy)methane	<1 µq/	1 TM176	* <1	<1	-				
(aq)			#		#				
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/	1 TM176	<2	<2	Ţ	Т			
Rutylhenzyl phthalata (ag)	~1	1 TM176	#	~1	#				
שמניושטויבאו אוונומומוב (מע)	~ i µg/	, IWI1/O			#				
Benzo(a)anthracene (aq)	<1 µg/	" TM176	<1	<1	\neg				
	I		#		#				

CERTIFICATE OF ANALYSIS

SDG:	2	10715-117 Jew Inn Landfi	Client ill Order	t Reference: Number:	P2282 Z2798	2	Report Number	r: 607013	
SVOC MS (W) - Aqueous	S			Humbon		<u> </u>			
Results Legend # ISO17025 accredited.	C	ustomer Sample Ref.	SW1	SW2					
M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filterd sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report accreditation status.	for	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	V)				
** % recovery of the surrogate standard to check efficiency of the method. The results of individ compounds within samples aren't corrected for	k the dual or the	Date Received	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 Benzo(h)fluoranthene (ag)	LOD/Units	Method TM176	د1	د1	_				
	<1 µg/i		#		#				
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1	#				
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #	<1	#				
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #	<1	#				
Carbazole (aq)	<1 µg/l	TM176	<1 #	<1	#				
Chrysene (aq)	<1 µg/l	TM176	<1 #	<1	#				
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #	<1	#				
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1	#				
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-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	<5	#				
Fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1	#				
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					
Phenol (aq)	<1 µg/l	TM176	<1	<1					
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #	<1	#				
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #	<1	#				
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #	<1	#				
Naphthalene (aq)	<1 µg/l	TM176	<1 #	<1	#				
Isophorone (aq)	<1 µg/l	TM176	<1 #	<1	#				
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1					
Phenanthrene (aq)	<1 µg/l	TM176	<1 #	<1	#				
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #	<1	#				
Pyrene (aq)	<1 µg/l	TM176	<1 #	<1	#				

			CERT	IFICATE O	FAN	ALYSIS			Validated
SDG:		210715-117	Clien	t Reference:	P228	2	Report Number	: 607013	
		New Inn Landfi	Orde	r Number:	2279	8	Superseded Repo	ort:	
VOC MS (VV) Results Legend		Customer Sample Ref.	SW1	SW2					
Horror Sourcement M mCERTS accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fill bissolved filtered sample. tot.infit Total / unfiltered sample. Subcontracted - refer to subcontractor repor accreditation status. * % recovery of the surrogate standard to che efficiency of the surrogate standard to che e	rt for ck the ridual for the	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Surface Water (SW) 14/07/2021 15/07/2021 2107/15-117 24638818	0.00 - 0.00 Surface Water (SW 14/07/2021 15/07/2021 210715-117 24638827	Ŋ				
Component Dibromofluoromethane**	LOD/Units	s Method 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	#				
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 "	<1	# 				
Toluene	<1 µg/l	TM208	#	<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

CERTIFICATE OF ANALYSIS

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SDG:	2	10715-117	Clien	t Reference:	P22	282 Report Num	ber:	607013	
				r Numper:	221	190 Superseded P	eport.		
Results Legend	C	ustomer Sample Ref.	SW1	SW2					
M mCERTS accredited. aq Aqueous / settled sample.									
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor repor	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	ck the	Date Sampled Sample Time	14/07/2021	14/07/2021					
compounds within samples aren't corrected recovery	for the	Date Received SDG Ref	15/07/2021 210715-117	210715-117					
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638818	24638827					
Component Tetrachloroethene	LOD/Units <1 µg/l	Method TM208	<1	<1					
Dibromochloromethane	<1 µg/l	TM208	#	<1	#				
1.2-Dibromoethane	<1 µg/l	TM208	= = = = = = = = = = = = = = = = = = = =	<1	#				
Chlorobenzene	<1 µg/l	TM208	# <1	<1	#				
1 1 1 2-Tetrachloroethane	<1 µg/l	TM208	<1 *	<1	#				
Ethylbenzene	<1 µg/l	TM208	#	<1	#				
	<1 µg/i	TM200	#	~1	#		<u> </u>		
m,p-Xylene	<1 µg/i	111/200	#	×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	#				
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

607013

CERTIFICATE OF ANALYSIS

P2282

Z2798



SDG:

Location:

Client Reference: Order Number: Report Number: Superseded Report:

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
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).

P2282

Z2798

Client Reference:

Order Number:

Report Number: Superseded Report: Validated

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 New Inn Landfill	Client Reference: Order Number:	P2282 72798	Report Number: Superseded Report:	607013
(ALS)	Looutom		oraor manipor.	ELIGO		

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 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

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).

Asbestos Type	Common Name
Chrysofile	White Asbestos
Amosite	Brow n Asbestos
Cio d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

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

Respirable Fibres

Respirable fibres are defined as fibres of <3 μ m diameter, longer than 5 μ 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:
Customer:
Sample Delivery Group (SDG):
Your Reference:
Location:
Report No:

27 August 2020 Fehily Timoney 200731-89 P2282 New Inn Landfill 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



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: 2.4 Version Issued: 27/08/2020
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CERTIFICATE OF ANALYSIS

SDG:	200731-89	Client Reference:	P2282	Report Number: 564886
Location:	New Inn Landfill	Order Number:	P2282	Superseded Report: 562407
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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) :

ISO5667-3 Water quality - Sampling - Part3 -

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

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 $(5\pm3)^{\circ}C$ for a period of up to 24hrs.

Validated

a temperature of (5±3)°C.

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

			C	сот		A T E		- •		Ve	10									Vali	dated		
	SDG:	200731-89 New Inn I) andfill		nt Refe	erenc	: Or 8:	P22	NAL 82 82	_13	13		Re	port l	Numb	er:		5648 562	86 407				
Results Legend	Location.					iber.												002	107				
X Test		Lab Sam	ple No(s)					2258340					2258341					2258338				2258339	
No Deter Possible	rmination e							90					19					37				97	
		Custo Sample R	omer Reference					BH1					BH4					GW01				GW02	
Sample Types - S - Soil/Solid UNS - Unspecified S GW - Ground Water SW - Surface Water LE - Land Leachate	Solid r	AGS Re	ference																				
PL - Prepared Leac PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewag US - Untreated Sewag	nate - ge vage	Depti	h (m)					0.00 - 0.00					0.00 - 0.00					0.00 - 0.00				0.00 - 0.00	
RE - Recreational W DW - Drinking Water N UNL - Unspecified L SL - Sludge G - Gas OTH - Other	Vater Non-regulatory .iquid	Conta	ainer	0.5I glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	
		Sample	е Туре	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	
Acid Herbicides by GCM	S	All	NDPs: 0 Tests: 4	x					x					X					X				
Alkalinity as CaCO3		All	NDPs: 0 Tests: 4		v					v					v								
Ammonium Low		All	NDPs: 0 Tests: 4		<u>^</u>	X				^	X				^	x				<u>^</u>	x		
Anions by Kone (w)		All	NDPs: 0 Tests: 4		X					X					X					x			
BOD True Total		All	NDPs: 0 Tests: 4		x					х					x					x			
COD Unfiltered		All	NDPs: 0 Tests: 4		x					x					X					x			
Conductivity (at 20 deg.C	;)	All	NDPs: 0 Tests: 4		x					X					x					x			
Cyanide Comp/Free/Tota	al/Thiocyanate	All	NDPs: 0 Tests: 4				x					x					X					X	
Dissolved Metals by ICP-	MS	All	NDPs: 0 Tests: 4		x					x					x					x			
Dissolved Oxygen by Pro	be	All	NDPs: 0 Tests: 4		x					x					x					x			
Faecal Coliforms (W)*		All	NDPs: 0 Tests: 4		x					х					X					x			
Fluoride		All	NDPs: 0 Tests: 4		x					х					x					x			
Mercury Dissolved		All	NDPs: 0 Tests: 4		x					X								x		x			
PCB Congeners - Aqueor	us (W)	All	NDPs: 0 Tests: 4	x					x					X					X				
Pesticides (Suite I) by GC	CMS	All	NDPs: 0 Tests: 4	x					X					x					x				



			<u> </u>	сот		• • • •	- 0			Ve										Valio	lated	
	SDC:	200721 80	U U	ERI			= 0			.13	3		Ba	nort l	lumb	0.51		6610	26			
(ALS)	Location:	New Inn Landfi	I	Ord	er Nur	nber:	e:	P220 P220	82 82				Re Su	port i persec	led Re	er: port:		5624	407			
Results Legend								N					N					2				N
X Test		Lab Sample I	No(s)					2583409					2583419					2583387				2583397
No Dete Possible	rmination e																					_
		Custome Sample Refer	r ence					BH1					BH4					GW01				GW02
Sample Types -																						
UNS - Unspecified S GW - Ground Water SW - Surface Water LE - Land Leachate	Solid r	AGS Refere	nce																			
PL - Prepared Leac PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewag US - Untreated Sew	nate - je vage	Depth (m)					0.00 - 0.00					0.00 - 0.00					0.00 - 0.00				0.00 - 0.00
RE - Recreational V DW - Drinking Water t UNL - Unspecified L SL - Sludge G - Gas OTH - Other	Vater Von-regulatory .iquid	Containe	r	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)
		Sample Ty	ре	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Pesticides (Suite II) by G	CMS	All	NDPs: 0 Tests: 4	x					x					x					X			
Pesticides (Suite III) by G	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	5	All	NDPs: 0 Tests: 4					x					X					x				
Total Coliforms(W)*		All	NDPs: 0 Tests: 3		x					x					x							
Total Organic and Inorga	nic Carbon	All	NDPs: 0 Tests: 4			x					x					x					x	
VOC MS (W)		All	NDPs: 0 Tests: 4					X					x					x				

22583397	
GW02	
0.00 - 0.00	
Vial (ALE297)	
GW	

SDG:

200731-89

CERTIFICATE OF ANALYSIS

P2282

Report Number:

Client Reference:

Validated

564886

Superseded Report: Location: New Inn Landfill Order Number: P2282 562407 Customer Sample R Résults Ley ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subc GW02 BH1 BH4 GW01 aq diss.filt tot.unfilt Depth (m 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 Sample Type Ground Water (GW) Ground Water (GW) Ground Water (GW) Ground Water (GW) . Date Sar 30/07/2020 30/07/2020 30/07/2020 30/07/2020 ditation status. overy of the surrogate standard to check the ncy of the method. The results of individual ounds within samples aren't corrected for the Sample Tim 31/07/2020 31/07/2020 31/07/2020 31/07/2020 Date Receiv SDG Re 200731-89 200731-89 200731-89 200731-89 22583409 22583419 22583387 22583397 Lab Sample No.(s (F) 1-3+§@ ion (see appendix) AGS Reference LOD/Units Component Method 0 0 Faecal coliforms confirmed 0 SUB 1 180 (M7M) CFU/100ml Total Coliform Presumptive CFU/100m SUB 2 7 2 (M16)' CFU/100ml SUB 2 7 2 Total Coliform Confirmed (M14)* 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 <3 mg/l Organic Carbon, Total TM090 <3 3.47 <3 <3 # # # Ammoniacal Nitrogen as N (low <0.01 mg/l TM099 0.0176 0.186 0.0283 0.544 level) # # # # 0.908 Fluoride <0.5 mg/l TM104 <0.5 <0.5 <0.5 # # # # COD, unfiltered <7 mg/l TM107 28.7 32.3 99.6 162 # # # # Conductivity @ 20 deg.C <0.02 TM120 0.623 0.794 0.748 1.27 mS/cm # # # # <0.5 µg/l TM152 < 0.5 0 607 Arsenic (diss.filt) 0.521 0 869 2# 2 # 2 # 2 # 21.8 33.5 Barium (diss.filt) <0.2 µg/l TM152 912 129 2# 2 # 2 # 2 # Boron (diss.filt) <10 µg/l TM152 23.7 43.5 <10 180 2# 2 # 2# 2 # Cadmium (diss.filt) <0.08 µg/l TM152 < 0.08 <0.08 <0.08 <0.08 2# 2 # 2# 2# Chromium (diss.filt) TM152 <1 <1 <1 <1 <1 µg/l 2# 2# 2 # 2# Copper (diss.filt) <0.3 µg/l TM152 4.98 <0.3 0.828 1.97 2# 2# 2# 2 # Lead (diss.filt) <0.2 µg/l TM152 <0.2 <0.2 <0.2 0.356 2 # 2 # 2 # 2 # TM152 16 115 9.66 8.05 Manganese (diss.filt) <3 µg/l 2# 2 # 2 # 2 # <0.4 µg/l TM152 10.5 5 59 3 53 3.47 Nickel (diss.filt) 2# 2 # 2 # 2 # TM152 Phosphorus (diss.filt) <10 µg/l <10 <10 <10 16.5 2# 2 # 2 # 2 # TM152 Selenium (diss.filt) <1 µg/l <1 <1 <1 33.5 2# 2 # 2 # 2 # Thallium (diss.filt) <2 µg/l TM152 <2 <2 <2 <2 2# 2 # 2 # 2 # Zinc (diss.filt) TM152 26.6 1.95 3.01 1.98 <1 µg/l 2# 2# 2# 2# Sodium (Dis.Filt) <0.076 mg/l TM152 6.42 45.8 8.43 226 2# 2 # 2# 2 # Magnesium (Dis.Filt) <0.036 mg/l TM152 10.1 8.08 5.7 28.3 2# 2 # 2# 2# 3.32 Potassium (Dis.Filt) <0.2 mg/l TM152 1.18 1.69 5.26 2 # 2# 2 # 2 # Calcium (Dis.Filt) <0.2 mg/l TM152 139 143 71.8 139 2# 2 # 2 # 2 # Iron (Dis.Filt) <0.019 mg/l TM152 <0.019 <0.019 < 0.019 <0.019 2# 2 # 2 # 2 # Mercury (diss.filt) TM183 < 0.01 < 0.01 <0.01 µg/l < 0.01 < 0.01 2# 2 # 2 # 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

TM184

<0.1 mg/l

1.89

#

#

1.75

#

0.216

#

<0.1

CERTIFICATE OF ANALYSIS

Validated

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Customer Sample Ref. Depth (m)	BH1 0.00 - 0.00	BH4 0.00 - 0.00	GW01 0.00 - 0.00	GW02 0.00 - 0.00	
* Subcontracted - refer to subcontractor report accreditation status.	for k the	Sample Type Date Sampled Sample Time	Ground Water (GW) 30/07/2020	Ground Water (GW) 30/07/2020	Ground Water (GW) 30/07/2020	Ground Water (GW) 30/07/2020	
efficiency of the method. The results of individ	dual or the	Date Received	31/07/2020	31/07/2020	31/07/2020	31/07/2020	
recovery (F) Trigger breach confirmed	or une	SDG Ref Lab Sample No.(s)	200731-89 22583409	200731-89 22583419	200731-89 22583387	200731-89 22583397	
1-3+§@ Sample deviation (see appendix)		AGS Reference					
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 r	ng/l TM227	<0.05	<0.05	<0.05	<0.05	
рН	<1 pH l	Jnits 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	

CERTIFICATE OF ANALYSIS

#	Results Legend ISO17025 accredited.		Cı	ustomer 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 for accreditation status.	ır		Depth (m) Sample Type Date Sampled	0.00 - 0.00 Ground Water (GW) 30/07/2020				
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individu compounds within samples aren't corrected for recovery	the Ial the		Sample Time Date Received SDG Ref	31/07/2020 200731-89	31/07/2020 200731-89	31/07/2020 200731-89	31/07/2020 200731-89	
(F) 1-3+§@	Trigger breach confirmed Sample deviation (see appendix)			Lab Sample No.(s) AGS Reference	22565409	22363419	22303307	22363397	
Compor Endosula	nent ohan Sulphate	LOD/U	nits	Method TM343	<0.02	<0.04	<0.04	<0.04	
Lindosui	Shan Sulphate	~0.02	μg/i	11040	NO.02	-0.04	~0.04	~0.0 4	
Permeth	rin I	<0.01	µg/l	TM343	<0.01	<0.01	<0.01	<0.01	
Permeth	rin II	<0.01	µg/l	TM343	<0.01	<0.01	<0.01	<0.01	
1,3,5-Tri	chlorobenzene	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Hexachlo	probutadiene	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
1,2,4-Tri	chlorobenzene	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
1,2,3-Tri	chlorobenzene	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Dichlorvo	DS	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Dichlobe	nil	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Mevinph	os	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Tecnaze	ne	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Hexachle	probenzene	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Demetor	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	
Diazinon		<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	
Atrazine		<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Simazine	9	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Disulfoto	n	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Propetar	nphos	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Chlorpyr	iphos-methyl	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Dimetho	ate	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Pirimipho	os-methyl	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Chlorpyr	iphos	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Methyl P	arathion	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Malathio	n	<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	
Fenitroth	ion	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Triadime	fon	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Pendime	thalin	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Parathio	n	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Chlorfen	vinphos	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
trans-Ch	lordane	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	

CERTIFICATE OF ANALYSIS

Results Legend # ISO17025 accredited.		Cı	ustomer 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 to subcontracted - refer to subcontractor report	for		Depth (m) Sample Type Date Sampled	0.00 - 0.00 Ground Water (GW) 30/07/2020				
accreatization status. * % recovery of the surrogate standard to check efficiency of the method. The results of individ compounds within samples aren't corrected for recovery	t the Jual or the		Sample Time Date Received SDG Ref	31/07/2020 200731-89 22583409	31/07/2020 200731-89 22583419	31/07/2020 200731-89 22583387	31/07/2020 200731-89 22583397	
(F) Trigger breach contirmed 1-3+§@ Sample deviation (see appendix)			AGS Reference	11000100	22000110	2200000	2200001	
cis-Chlordane	<0.01	µg/l	Method TM344	<0.01	<0.01	<0.01	<0.01	
Ethion	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Carbophenothion	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Triazophos	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Phosalone	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Azinphos methyl	<0.02	µg/l	TM344	<0.02	<0.02	<0.02	<0.02	
Azinphos ethyl	<0.02	µg/l	TM344	<0.02	<0.02	<0.02	<0.02	
Etridiazole	<0.01	µg/l	TM345	<0.01	<0.02	<0.02	<0.02	
Pentachlorobenzene	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propachlor	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Quintozene (PCNB)	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Omethoate	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propazine	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propyzamide	<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	
Prometryn	<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	
Terbutryn	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Chlorothalonil	<0.01	µg/l	TM345	<0.01	<0.03	<0.03	<0.03	
Etrimphos	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Metazachlor	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Cyanazine	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Trietazine	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Coumaphos	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Phosphamidon I	<0.01	µg/l	TM345	<0.01	<0.02	<0.02	<0.02	
Phosphamidon II	<0.01	µg/l	TM345	<0.01	<0.02	<0.02	<0.02	
Dinitro-o-cresol	<0.1	Jg/l	TM411	<0.1	<0.1	<0.5	<0.5	
Clopyralid	<0.04	µg/l	TM411	<0.04	<0.04	<0.2	<0.2	
МСРА	<0.05	µg/l	TM411	<0.05	<0.05	<0.25	<0.25	
Месоргор	<0.04	µg/l	TM411	<0.04	<0.04	<0.2	<0.2	
Dicamba	<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 μ	Jg/l	TM411	<0.1	<0.1	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

Validated

Results Legend		Customer Sample Ref	DUI	DUA	014/04	014/02	
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. toturnfilt Total / unfiltered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
Subcontracted - refer to subcontractor report f accreditation status. ** % recovery of the surrogate standard to check #ifciency of the method. The negulate of individ	or the	Sample Type Date Sampled Sample Time	Ground Water (GW) 30/07/2020	Ground Water (GW) 30/07/2020	Ground Water (GW) 30/07/2020	Ground Water (GW) 30/07/2020	
 (F) Trigger breach confirmed (F) Trigger breach confirmed 	r the	Date Received SDG Ref Lab Sample No.(s)	200731-89 22583409	200731-89 22583419	31/07/2020 200731-89 22583387	200731-89 22583397	
Component	LOD/Units	Method					
2,3,6-Trichlorobenzoic acid	<0.05 µg/	'I TM411	<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/	'I 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/	'I TM411	<0.05	<0.05	<0.25	<0.25	
2,4,5-Trichlorophenoxyacetic acid	<0.05 µg/	'I TM411	<0.05	<0.05	<0.25	<0.25	
Bromoxynil	<0.04 µg/	1 TM411	<0.04	<0.04	<0.2	<0.2	
Benazolin	<0.04 µg/	'I TM411	<0.04	<0.04	<0.2	<0.2	
loxynil	<0.05 µg/	'I TM411	<0.05	<0.05	<0.25	<0.25	
Pentachlorophenol	<0.04 µg/	'I TM411	<0.04	<0.04	<0.2	<0.2	
Fluoroxypyr	<0.1 µg/l	TM411	<0.1	<0.1	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

Validated

SDG:		200731-89	Clien	t Reference: P2	2282	Report Numbe	r: 564886	
		new inn Lanui		r Number: P2	2202	Superseded Rep	on. 562407	
SVUC IVIS (VV) - AQUEOUS Results Legend	; 	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 f	or	Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)					
accreditation status. ** % recovery of the surrogate standard to check	the	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 fo	ual r 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		
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22583409	22583419	22583387	22583397		
Component	LOD/Units	Method	-0		.40			
1,2,4-1richlorobenzene (aq)	<1 µg/l	IM176	<8 #	<8 #	<10 #	<10 #		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	* <8 #	<10 #	<10 #		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #		<10 #	<10 #		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #		<10 #	<10 #		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #		<10 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176			<10 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176			<10 #	<10 #		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #		<10 #	<10 #		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176			<10 #	<10 #		
2-Chloronaphthalene (aq)	<1 µg/l	TM176			<10 #			
2-Chlorophenol (aq)	<1 µg/l	TM176	<8 #	* <8 #	<10 #	<10 #		
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<8 #	* <8 #	<10 #	<10 #		
2-Methylphenol (aq)	<1 µg/l	TM176	<8 #	<8 #	<10 #	<10 #		
2-Nitroaniline (aq)	<1 µg/l	TM176	<8 #		<10 #	<10 #		
2-Nitrophenol (aq)	<1 µg/l	TM176	<8 #		<10 #	<10 #		
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 #	<10 #		
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 #		
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 #	<10 #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<8	<8	<10 #	<10 #		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<8 #	<8	<10 #	<10 #		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<16 #	<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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SDG:

CERTIFICATE OF ANALYSIS

Validated

200731-89 **Client Reference:** P2282 Report Number: 564886 Location: New Inn Landfill P2282 Superseded Report: 562407 Order Number: SVOC MS (W) - Aqueous Results Legend ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Disolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation started. The results of Individual compounds within samples aren't corrected for ther recovery Customer Sample Re BH1 BH4 GW01 GW02 aq diss.filt tot.unfilt Depth (m 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 Ground Water (GW) 30/07/2020 Ground Water (GW) 30/07/2020 Ground Water (GW) 30/07/2020 Ground Water (GW) 30/07/2020 Sample Type Date Sample Sample Tim 31/07/2020 31/07/2020 31/07/2020 31/07/2020 Date Receive SDG Re 200731-89 200731-89 200731-89 200731-89 recovery Trigger breach confirmed Sample deviation (see appendix) 22583409 22583419 22583387 22583397 Lab Sample No.(s AGS Reference 1-3**+**§@ Component LOD/Units Method Benzo(b)fluoranthene (aq) <8 <8 <10 <10 <1 µg/l TM176 # # # # Benzo(k)fluoranthene (aq) <1 µg/l TM176 <8 <8 <10 <10 # # # # TM176 <10 Benzo(a)pyrene (aq) <1 µg/l <8 <8 <10 # # # # <1 µg/l TM176 <8 <10 <10 Benzo(g,h,i)perylene (aq) <8 # # # # 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 <10 # # # # TM176 Diethyl phthalate (aq) <1 µg/l <8 <8 <10 <10 # # # # TM176 <10 <10 Dibenzo(a,h)anthracene (aq) <8 <8 <1 µg/l # # Ħ TM176 Dimethyl phthalate (aq) <1 µg/l <8 <8 <10 <10 # # # # TM176 n-Dioctyl phthalate (aq) <5 µg/l <40 <40 <50 <50 # # # # Fluoranthene (aq) <1 µg/l TM176 <8 <8 <10 <10 # # # # Fluorene (aq) <1 µg/l TM176 <8 <8 <10 <10 # ± # Hexachlorobenzene (aq) TM176 <8 <8 <10 <10 <1 µg/l # ± Ħ Hexachlorobutadiene (aq) <1 µg/l TM176 <8 <8 <10 <10 # # # # TM176 Pentachlorophenol (aq) <1 µg/l <8 <8 <10 <10 Phenol (aq) <1 µg/l TM176 <8 <8 <10 <10 TM176 n-Nitroso-n-dipropylamine (aq) <10 <10 <1 µg/l <8 <8 # # Ħ Hexachloroethane (aq) <1 µg/l TM176 <8 <8 <10 <10 # # # # TM176 <10 <10 Nitrobenzene (aq) <1 µg/l <8 <8 # # # # Naphthalene (aq) <1 µg/l TM176 <8 <8 <10 <10 # # # # Isophorone (aq) <1 µg/l TM176 <8 <8 <10 <10 # # # Hexachlorocyclopentadiene (aq) TM176 <8 <8 <10 <10 <1 µg/l Phenanthrene (aq) TM176 <8 <8 <10 <10 <1 µg/l # # # # Indeno(1,2,3-cd)pyrene (aq) <1 µg/l TM176 <8 <8 <10 <10 # # # # Pyrene (aq) <1 µg/l TM176 <8 <10 <10 <8 # # # #

200731-89

SDG:

CERTIFICATE OF ANALYSIS

P2282

Client Reference:

Location: New Inn Landfill Superseded Report: Order Number: P2282 562407 VOC MS (W) Results Leg Customer Sample Re GW02 BH1 BH4 GW01 Results Lege ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subco accreditation status. aq diss.filt tot.unfilt 0.00 - 0.00 Depth (m) 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 Sample Type Ground Water (GW) Ground Water (GW) Ground Water (GW) Ground Water (GW) Date San 30/07/2020 30/07/2020 30/07/2020 30/07/2020 reditation status. ecovery of the surrogate standard to check the ciency of the method. The results of individual npounds within samples aren't corrected for the Sample Time 31/07/2020 31/07/2020 31/07/2020 31/07/2020 Date Receive SDG Re 200731-89 200731-89 200731-89 200731-89 22583409 22583419 22583387 22583397 Lab Sample No.(s (F) 1-3**+**§@ Trigger breach confirmed Sample deviation (see appendix) AGS Referenc LOD/Units Component Method 107 108 107 Dibromofluoromethane** TM208 108 % Toluene-d8** % TM208 99.1 97.2 97.2 96.2 4-Bromofluorobenzene* % TM208 99 99.9 99.9 101 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 # # # # TM208 <1 Trichlorofluoromethane <1 µg/l <1 <1 <1 # # # # 1,1-Dichloroethene <1 µg/l TM208 <1 <1 <1 <1 # # # # Carbon disulphide TM208 <1 <1 <1 <1 µg/l <1 # # # # Dichloromethane TM208 <3 µg/l <3 <3 <3 <3 # # # # TM208 Methyl tertiary butyl ether <1 µg/l <1 <1 <1 <1 (MTBE) # # # # 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 TM208 <1 <1 µg/l <1 <1 <1 # # # # Chloroform TM208 <1 <1 <1 3.44 <1 µg/l # # # # 1,1,1-Trichloroethane TM208 <1 µg/l <1 <1 <1 <1 # # # # <1 µg/l TM208 1,1-Dichloropropene <1 <1 <1 <1 # # # # Carbontetrachloride TM208 <1 µg/l <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 TM208 <1 <1 <1 <1 <1 µg/l # # # # 1,2-Dichloropropane <1 µg/l TM208 <1 <1 <1 <1 # # # # TM208 <1 <1 <1 Dibromomethane <1 µg/l <1 Ħ Ħ # # TM208 1.16 Bromodichloromethane <1 µg/l <1 <1 <1 # # # # cis-1,3-Dichloropropene TM208 <1 µg/l <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

#

<1

#

<1

TM208

<1 µg/l

<1

#

Validated

564886

Report Number:

VOC MS (W)

CERTIFICATE OF ANALYSIS

Validated

Results Legend		Customer Sample Ref.	BH1	BH4	GW01	GW02	
# ISO17025 accredited.			bitt	DIH	01101	01102	
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	
* Subcontracted - refer to subcontractor report f	or	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	
accreditation status.	the	Sample Time	30/07/2020	30/07/2020	30/07/2020	30/07/2020	
efficiency of the method. The results of individ	ual	Date Received	31/07/2020	31/07/2020	31/07/2020	31/07/2020	
compounds within samples aren't corrected fo recovery	r the	SDG Ref	200731-89	200731-89	200731-89	200731-89	
(F) Trigger breach confirmed		Lab Sample No.(s)	22583409	22583419	22583387	22583397	
1-3+§@ Sample deviation (see appendix)		AGS Reference					
Tetrachloroothono	/		<1	<1	<1	<1	
rendemonoentene	×ιμί	1111200	~1 #	~1 #	~1 #	×1 #	
Diharana ah laaran ah aa a		// TM000	#	#	#	#	
Dibromocnioromethane	<1 µç	// 11//208	<1 "	<1 "	<1 "	< "	
			#	#	#	#	
1,2-Dibromoethane	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
Chlorobenzene	<1 µg	J/I TM208	<1	<1	<1	<1	
			#	#	#	#	
1,1,1,2-Tetrachloroethane	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
Ethylbenzene	<1 µç	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
m,p-Xylene	<1 µc	j/l TM208	<1	<1	<1	<1	
	,		#	#	#	#	
o-Xvlene	<1.07	1/I TM208	<1	<1 "	<1 "	 ۲	
	ιμί		#	#	#		
Styrene	~1	// TM200	-1	-1	-1 -1	# _1	
Stylelle	<rµ(< td=""><td>µi IIVi∠UO</td><td><u>л</u></td><td>×1</td><td>×1 </td><td><u>х</u>і</td><td></td></rµ(<>	µi IIVi∠UO	<u>л</u>	×1	×1 	<u>х</u> і	
Dramafarm			#	#	#	#	
DI UMOTORM	<1 µç	µi im208	<] 	<]	<]	<] 	
			. #	. #	. #	. #	
lsopropylbenzene	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
1,1,2,2-Tetrachloroethane	<1 µç	J/I TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2,3-Trichloropropane	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
Bromobenzene	<1 µ0	1/I TM208	<1	<1	<1	<1	
	· •••	,	#	#	#	#	
Pronylbenzene	<1.00	1/I TM208	<1 "	<1 "	<1	<1	
	1 1 12	111200	#	#	#	#	
2 Chlorataluana	<1.uz	// TM208	π <1	π	π	π 	
2-Chiorotoldene	×ιμί	J/I I WIZUO	~ ! #	×1 #	~ 1 #	×1 #	
		// TM000	#	#	#	#	
1,3,5- I rimethylbenzene	<1 µç	j/I IM208	<1 "	<1 "	<1 "	<1 "	
			#	#	#	#	
4-Chlorotoluene	<1 µថ	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
tert-Butylbenzene	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2,4-Trimethylbenzene	<1 µg	J/I TM208	<1	<1	<1	<1	
			#	#	#	#	
sec-Butylbenzene	<1 µç	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
4-iso-Pronyltoluene	<1.00	1/I TM208	<1	<1	<1	<1	
	ιμί		#	#	#	·. #	
1.3-Dichlorobenzene	<u>د1 س</u>	1/I TM208	<i>π</i>	۳ د1	۳ <1	π <1	
	×ιμί		-1 #	*1 #			
1.4-Dichlorobonzono	~1	// TM200	-1	-1	-1	# _1	
า,ร-บเงแงเงงยายยาย	<rµ(< td=""><td>µi IIVi∠UO</td><td><u>л</u></td><td><u>л</u></td><td>×1 </td><td><u>х</u>і</td><td></td></rµ(<>	µi IIVi∠UO	<u>л</u>	<u>л</u>	×1 	<u>х</u> і	
n Duhdhannar -			#	#	#	#	
n-Butylbenzene	<1 µç	1/I IM208	<1	<1	<1	<1	
			#	#	#	#	
1,2-Dichlorobenzene	<1 µç	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2-Dibromo-3-chloropropane	<1 µç	/I TM208	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	<1 µç	J/I TM208	<1	<1	<1	<1	
			#	#	#	#	
Hexachlorobutadiene	<1 µc	j/l TM208	<1	<1	<1	<1	
			#	#	#	#	
tert-Amyl methyl ether (TAMF)	<1.00	1/I TM208	<1 "	<1 "	<1 "	<1 "	
	ιμί		#	#	#		
Nanhthalene	<u>د1 س</u>	1/I TM208	π <1	π <1	<i>π</i> <1	π <1	
naphulaiche	~⊤µ(µn Etvi∠UO	~ 1 #	~1 #	×1 #	>i #	
			#	#	#	#	
I, Z, 3- I FICHIOFODENZENE	<1 µç	µi i™208	<]	<] "	<]	<]	
			#	#	#	#	
1,3,5-1 l'ICNIOROBENZENE	<1 µç	и IM208	<1	<1	<1	<1	



SDG:

Location:

New Inn Landfill

564886 562407

Client Reference: Order Number:

Report Number: Superseded Report:

Table of Results - Appendix

P2282

P2282

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).



Order Number:

564886 562407

Report Number: Superseded Report:

Test Completion Dates

P2282

				P
Lab Sample No(s)	22583409	22583419	22583387	22583397
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	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:

e: B. Paige

Title:

Microbiology Team Leader







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	ANALYSED BY
Hawarden Subcon Results ALS Life Sciences Limited Torrington Avenue Tile Hill CV4 9GU	
Date of Issue: 08 August 2020 Report Number: COV/19045	59/2020 Issue 1 This issue replaces all previous issues
Job Description: 2020 Analysis	
Job Location: 200731-89	
Number of Samples included in this report 7	Job Received: 01 August 2020
Number of Test Results included in this report 10	Analysis Commenced: 01 August 2020
Signed: Appaige	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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ALS Environmental Ltd

Page 19 of 30

Certificate o	of Analysis	A	NALYSED BY					
		UKAS TESTING 1314	ALS					
Report Number:	COV/1904559/2020				Issue	1		
Laboratory Number:	19545545				Sample	1	of	7
Sample Source: Sample Point Description: Sample Description: Sample Matrix: Sample Date/Time: Sample Received: Analysis Complete: SDG:	ALS Life Sciences Limit 22584586 BH1 Ground Water 30 July 2020 01 August 2020 08 August 2020 200731-89	ed						
Sample Reference:	вні		1					
Test Des	cription	Result	Units	Analysis Date	Accreditati	on	M	ethod
Faecal coliforms confirmed		0	cfu/100ml	08/08/2020	N Cov			W57
Analyst Comments for 195455	545: This sample h	as been analysed	for Faecal coliforn	ns confirmed outside	recommended	stab	ility tir	mes. It is

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.

Signed: Apaige

Name: B. Paige Date: 08 August 2020

Certificate o	of Analysis	A	NALYSED BY			
			ALS	>		
Report Number:	COV/1904559/2020				Issue 1	
Laboratory Number:	19545546				Sample 2	of 7
Sample Source: Sample Point Description: Sample Description: Sample Matrix: Sample Date/Time: Sample Received: Analysis Complete: SDG: Sample Reference:	ALS Life Sciences Limit 22584591 BH1 Ground Water 30 July 2020 01 August 2020 08 August 2020 200731-89 BH1	ed				
Test Des	cription	Result	Units	Analysis Date	Accreditatio	n Method
Total Coliform presump		2	cfu/100ml	02/08/2020	Y Cov	W10
Total Coliforms confirmed		2	cfu/100ml	02/08/2020	Y 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.

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.

Signed: / Spaige

B. Paige Name:

Date: 08 August 2020

Certificate o	of Analysis	A	NALYSED BY				
	-	UKAS TESTING 1314	ALS				
Report Number:	COV/1904559/2020				Issue	1	
Laboratory Number:	19545547				Sample	3 (of 7
Sample Source: Sample Point Description:	ALS Life Sciences Lim	ited					
Sample Description:	22584606 BH4						
Sample Matrix: Sample Date/Time:	Ground Water						
Sample Received:	01 August 2020						
Analysis Complete:	08 August 2020						
SDG:	200731-89						
Sample Reference:	BH4						
Test Des	cription	Result	Units	Analysis Date	Accreditat	ion	Method
Faecal coliforms confirmed		0	cfu/100ml	08/08/2020	N Co	v	W57
	220 S		- 			E	

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.

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.

Signed: / Spaige

Name: B. Paige

Date: 08 August 2020

Certificate of Analysis	UKAS 1314	ALYSED BY					
Report Number: COV/1904559/2020 Laboratory Number: 19545548				lssue Sample	1 4	of	7
Sample Source:ALS Life Sciences LimitedSample Point Description:22584607 BH4Sample Description:22584607 BH4Sample Matrix:Ground WaterSample Date/Time:30 July 2020Sample Received:01 August 2020Analysis Complete:08 August 2020SDG:200731-89Sample Reference:BH4	Í						
Test Description	Result	Units	Analysis Date	Accredita	tion	M	ethod
Total Coliform presump	7	cfu/100ml	02/08/2020	Y C	ov		W10
Total Coliforms confirmed	7	cfu/100ml	02/08/2020	Y C	ov	1	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.

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.

Signed: / Spaige

B. Paige Name:

Date: 08 August 2020

Certificate o	of Analysis	A	NALYSED BY			
		UKAS 1314	ALS			
Report Number:	COV/1904559/2020				Issue	1
Laboratory Number:	19545549				Sample	5 of 7
Sample Source: Sample Point Description:	ALS Life Sciences Lim	ited				
Sample Description:	22584572 GW01					
Sample Matrix:	Ground Water					
Sample Date/Time.	30 July 2020 01 August 2020					
Analysis Complete:	08 August 2020					
SDG:	200731-89					
Sample Reference:	GW01					
Test Des	cription	Result	Units	Analysis Date	Accreditatio	on Method
Faecal coliforms confirmed		1	cfu/100ml	08/08/2020	N Cov	W57
	NE 1824 S	ал. а. м. — м. — а.:	9 3 54 42 540			180 1834/30 - 81 - 81 - 81

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.

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.

Signed: / Spaige

Name: B. Paige

Date: 08 August 2020

Certificate o	of Analysis	AI	VALYSED BY	2			
			ALS	>			
Report Number:	COV/1904559/2020				Issue	1	
Laboratory Number:	19545550				Sample	6	of 7
Sample Source: Sample Point Description:	ALS Life Sciences Limite	ed					
Sample Description:	22584573 GW01 Ground Water						
Sample Date/Time:	30 July 2020						
Sample Received:	01 August 2020						
Analysis Complete:	08 August 2020						
SDG:	200731-89						
Sample Reference:	GW01						
Test Des	cription	Result	Units	Analysis Date	Accredita	tion	Method
Total Coliform presump		2	cfu/100ml	02/08/2020	Y Co	v	W10
Total Coliforms confirmed		2	cfu/100ml	02/08/2020	Y Co	v	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.

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.

spaige Signed: /

B. Paige Name:

Date: 08 August 2020

Certificate o	of Analysis	A	NALYSED BY			
		UKAS TESTING 1314	ALS			
Report Number:	COV/1904559/2020				Issue 1	
Laboratory Number:	19545551				Sample 7	of 7
Sample Source: Sample Point Description: Sample Description: Sample Matrix: Sample Date/Time:	ALS Life Sciences Lim 22584574 GW02 Ground Water 30 July 2020	iited				
Sample Received: Analysis Complete	01 August 2020 08 August 2020					
SDG: Sample Reference:	200731-89 GW02					
Tost Dos	cription	Popult	Unite	Analysis Data	Accreditation	Mothod
Faecal coliforms confirmed	cription	180	cfu/100ml	08/08/2020	N Cov	W57
		100	ciu/ roomi	00/00/2020		VV37

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.

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.

Signed: / Spaige

Name: B. Paige

Date: 08 August 2020



ANALYST COMMENTS FOR REPORT COV/1904559/2020

Issue 1

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:

/spaige

Name: B. Paige

Date: 08 August 2020



DETERMINAND COMMENTS FOR REPORT COV/1904559/2020

Date of Issue: 08 August 2020

This issue replaces all previous issues

Sample No	Description	Determinand	Com	iments			
19545546	22584591 BH1	Total Coliforms confirmed	Total	coliforms identified as Ra	aoultella terrigena and l	Lelliottia amnigena.	
19545548	22584607 BH4	Total Coliforms confirmed	Total coliforms identified as Serratia fonticola, Lelliottia amnigena and Citrobacter gille				
19545550	22584573 GW01	Total Coliforms confirmed	Total	coliforms identified as Cit	trobacter gillenii.		ľ
Signed:	/spaige	Na Tit	ame: le:	B. Paige Microbiology Te	Date: eam Leader	08 August 2020	

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CERTIFICATE OF ANALYSIS

	SDG: Location:	200731-89 New Inn Landfill	Client Reference: Order Number:	P2282 P2282	Report Number: Superseded Report:	564886 562407
(ALS)					· · · ·	

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
0	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
Chrysofile	White Asbestos
Amosite	Brow nAsbestbs
Cro d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib io 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.



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: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: 04 September 2020 Fehily Timoney 200826-90 P2282 New Inn Landfill 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

CERTIFICATE OF ANALYSIS	
SDG: 200826-90 Client Reference: P2282 Report Number: 566041	
ALS Location: New Inn Landfill Order Number: Z2189 Superseded Report: 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.

		С	ERT	IFIC	AT	ΕO	FΑ	NAI	YS	IS											
SDG: Location:	200826-90 New Inn Landfil	I	Clie Orde	nt Ref er Nur	erenc nber:	e:	P22 Z21	82 89				Re Su	port I bersed	Numb led Re	er: eport:	!	56604 5658	41 325			
Results Legend X Test N No Determination Possible	Lab Sample No(s)		22723005								22723016					22722980	22722991				
Sample Types -	Custome Sample Refer	r ence	2					P					BH4					GW01		GW02	
S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate El - Prenared 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	0.00 - 0.00					0.00 - 0.00					0.00 - 0.00		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)	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)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)
	Sample Ty	ре	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: 4	v					Y						v							
Alkalinity as CaCO3	All	NDPs: 0 Tests: 4	^	X				^	X					^	x				<u>^</u>	x	
Ammonium Low	All	NDPs: 0 Tests: 4			x					X						x					x
Anions by Kone (w)	All	NDPs: 0 Tests: 4		x					X						X					x	
BOD True Total	All	NDPs: 0 Tests: 4		x					X						x					x	
COD Unfiltered	All	NDPs: 0 Tests: 4		x					х						x					x	
Coliforms (W)	All	NDPs: 0 Tests: 4		x					х						x					x	
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 4		x					X						x					x	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 4				x						x					x				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 4		x							x				x					x	
Dissolved Oxygen by Probe	All	NDPs: 2 Tests: 2					Ν		x									Ν		x	
Fluoride	All	NDPs: 0 Tests: 4		x					x						x					x	
Mercury Dissolved	All	NDPs: 0 Tests: 4		x							x				x					x	
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 4	x					X						x					x		
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 4	x					X						x					x		

Validated

	22722991	
	GW02	
	0.00 - 0.00	
NaOH (ALE245)	Vial (ALE297)	
GW	GW	
X		

																		l		Vali	dated	
			C	ERI	IFIC		- 0		NAL	.YS	S											
ALS	SDG: Location:	200826-90 New Inn Landfi	I	Orde	nt Ref er Nun	erenc nber:	e:	P228 Z218	82 39				Re Su	port l persec	led Re	er: port:		56604 5658	1 325			
Results Legend								N						N					N			N
X Test		Lab Sample	No(s)					2723005						2723016					2722980			2722991
No Deter Possible	rmination e							0.														
		Custome Sample Refe	r ence		署							GW01										
Sample Types -																						
UNS - Unspecified S GW - Ground Water SW - Surface Water LE - Land Leachate	Solid - -	AGS Refere	nce																			
PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewag US - Untreated Sew	je vage	Depth (m)					0.00 - 0.00						0.00 - 0.00					0.00 - 0.00			0.00 - 0.00
RE - Recreational W DW - Drinking Water N UNL - Unspecified L SL - Sludge G - Gas OTH - Other	Vater Non-regulatory .iquid	Containe	r	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	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)	NaOH (ALE245)	Vial (ALE297)	0.5I glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)
		Sample Ty	ре	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Pesticides (Suite II) by G	CMS	All	NDPs: 0 Tests: 4	x					x						x					x		
Pesticides (Suite III) by G	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	3	All	NDPs: 0 Tests: 4		x					X						x					x	
Total Organic and Inorga	nic Carbon	All	NDPs: 0 Tests: 4			x					X						X					x
VOC MS (W)		All	NDPs: 0 Tests: 4					x						x					X			

	22722991
	GW02
	0.00 - 0.00
NaOH (ALE245)	Vial (ALE297)
GW	GW
	X

CERTIFICATE OF ANALYSIS

PCB congener 28

Total Oxidised Nitrogen as N

<0.1 mg/l

<0.015 µg/l

TM184

TM197

0.573

<0.015

#

0.282

< 0.015

1.98

< 0.015

<0.1

< 0.015

Validated
CERTIFICATE OF ANALYSIS

Results Legend		Customer Sample Re	f. BH1	BH4	GW01	GW02	r	
# ISO17025 accredited. M mCERTS accredited			Ditt	DII4	GWUI	01102		
aq Aqueous / settled sample.		Donth (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 report for accreditation status. 	or	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 individu	the	Sample Time						
compounds within samples aren't corrected for	r the	Date Received SDG Ref	200826-90	200826-90	200826-90	200826-90		
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	22723005	22723016	22722980	22722991		
1-3+§@ Sample deviation (see appendix)		AGS Reference						
Component PCR congopor 52	LOD/U	nits Method	<0.015	<0.015	<0.015	<0.015		
FCB congener 52	NU.015	µg/i iwii9/	NU.015	<0.015	<0.015	NU.015		
DCD conserver 101	<0.015		<0.015	<0.015	<0.015	<0.01E		
FCB congener 101	NU.015	µg/i iwii9/	NU.015	<0.015	<0.015	NU.015		
DCD conserver 119	<0.015		<0.015	<0.01E	<0.015	<0.01E		
PCB congener 116	<0.015	µg/i imi9/	<0.015	<0.015	<0.015	<0.015		
DOD	-0.045		-0.045	-0.045	-0.045	-0.045		
FCB congener 136	NU.015	µg/i iwii9/	NU.015	<0.015	<0.015	NU.015		
DCP congener 152	<0.015	ug/ TM107	<0.015	<0.015	<0.015	<0.015		
FOB congener 135	~0.015	µg/i iwis/	~0.015	~0.015	~0.015	~0.015		
PCP congonor 180	<0.015	ug/ TM107	<0.015	<0.015	<0.015	<0.015		
FCB congener 100	~0.013	µg/i 1101197	~0.015	~0.015	~0.015	~0.015		
Sum of detected EC7 PCB's	<0 105	ug/ TM197	<0.105	<0.105	<0.105	<0.105		
	-0.100	pg/i iwito/	-0.100	-0.100	-0.100	-0.100		
Cvanide Total	<0.05	ma/l TM227	<0.05	<0.05	<0.05	<0.05		
Cyanide, Total	~0.00	ing/i iwzzr	~0.00 #	~0.05 #	~0.05 #	~0.05 #		
nH	<1 nH	Inits TM256	73	π 7 12	7 01	7.46		
pri	sipin		1.5	1.12 #	7.01 #	1.40 #		
Trifluralin	<0.01	ug/l TM343	π <0.01	π <0.01	π <0.01	π <0.01		
Thiurain	NO.01	μg/1 110040	-0.01	-0.01	\$0.01	-0.01		
alpha-HCH	<0.01	ug/l TM343	<0.01	<0.01	<0.01	<0.01		
	NO.01	μg/1 110040	-0.01	-0.01	\$0.01	-0.01		
gamma_HCH (Lindane)	<0.01	ug/l TM3/3	<0.01	<0.01	<0.01	<0.01		
gamma-non (Lindane)	NO.01	μg/1 110040	-0.01	-0.01	\$0.01	-0.01		
Hentachlor	<0.01	ug/l TM3/3	<0.01	<0.01	<0.01	<0.01		
rieptachior	\0.01	μg/1 110343	~0.01	~0.01	~0.01	~0.01		
Aldrin	<0.01	ug/l TM3/3	<0.01	<0.01	<0.01	<0.01		
Adm	\0.01	μg/1 110343	~0.01	~0.01	~0.01	~0.01		
bota HCH	<0.01	ug/I TM3/3	<0.01	<0.01	<0.01	<0.01		
beta-riori	\$0.01	μg/1 110040	-0.01	-0.01	\$0.01	-0.01		
Isodrin	<0.01	ug/l TM3/3	<0.01	<0.01	<0.01	<0.01		
ISOUTH	-0.01	µg/1 110040	-0.01	-0.01	-0.01	-0.01		
delta-HCH	<0.01	ug/l TM3/3	<0.01	<0.01	<0.01	<0.01		
	\$0.01	μg/1 110040	-0.01	-0.01	\$0.01	-0.01		
Hentachlor enovide	<0.01	ug/l TM3/3	<0.01	<0.01	<0.01	<0.01		
	-0.01	µg/i imo+o	-0.01	-0.01	-0.01	-0.01		
o p'-DDE	<0.01	ug/l TM343	<0.01	<0.01	<0.01	<0.01		
0,p	-0.01	µg/i into io	-0.01	.0.01	-0.01	-0.01		
Endosulphan I	<0.01	ug/l TM343	<0.01	<0.01	<0.01	<0.01		
	0.01	µg,.	0.01	0.01	0.01	0.01		
trans-Chlordane	<0.01	ug/l TM343	<0.01	<0.01	<0.01	<0.01		
	0.01	µg,.	0.01	0.01	0.01	0.01		
cis-Chlordane	<0.01	ua/I TM343	<0.01	<0.01	<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	<0.01	<0.01	<0.01		
а 								
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	<0.01	<0.01	<0.01		
o,p'-Methoxychlor	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
p,p'-Methoxychlor	<0.01	µg/l TM343	<0.01	<0.01	<0.01	<0.01		
Endosulphan Sulphate	<0.02	µg/l TM343	<0.02	<0.02	<0.02	<0.02		
			<u> </u>					

CERTIFICATE OF ANALYSIS

Results Leger # ISO17025 accredited.	ıd	Customer Sam	ple Ref. BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample. diss.filt Disolved filtered sample. tot.unfit Total / unfittered sample. * Subcontracted - refer to subcon accreditation status. * % recovery of the surrogate sta efficiency of the method. The n	tractor report for ndard to check the sults of individual	Dej Sampi Date Sa Sampi Date Re	bth (m) 0.00 - 0.00 e Type Ground Water (GW) mpled 25/08/2020 e Time . ceived 26/08/2020	0.00 - 0.00 Ground Water (GW) 25/08/2020 26/08/2020	0.00 - 0.00 Ground Water (GW) 25/08/2020 26/08/2020	0.00 - 0.00 Ground Water (GW) 25/08/2020 26/08/2020	
compounds within samples are recovery (F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendi	n't corrected for the	SI Lab Sample AGS Refi	DG Ref 200826-90 No.(s) 22723005 erence	200826-90 22723016	200826-90 22722980	200826-90 22722991	
Component Permethrin I	LOD/U <0.01	<mark>nits Metho</mark> μg/l TM34	od 3 <0.01	<0.01	<0.01	<0.01	
Permethrin II	<0.01	µg/l TM34	3 <0.01	<0.01	<0.01	<0.01	
1,3,5-Trichlorobenzene	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Hexachlorobutadiene	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
1,2,4-Trichlorobenzene	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
1,2,3-Trichlorobenzene	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Dichlorvos	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Dichlobenil	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Mevinphos	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Tecnazene	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Hexachlorobenzene	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Demeton-S-methyl	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Phorate	<0.01	µg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Diazinon	<0.01	μg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Triallate	<0.01	μg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Atrazine	<0.01	µg/I 1M34	4 <0.01	<0.01	<0.01	<0.01	
Simazine	<0.01	μg/l TM34	4 <0.01	<0.01	<0.01	<0.01	
Disultoton	<0.01	μg/I 1M34	4 <0.01	<0.01	<0.01	<0.01	
Propetamphos	<0.01	µg/I IM34	4 <0.01	<0.01	<0.01	<0.01	
Chlorpyriphos-methyl	<0.01	μg/I 1M34	4 <0.01	<0.01	<0.01	<0.01	
Dimethoate	<0.01	µg/I 1M34	4 <0.01	<0.01	<0.01	<0.01	
Pirimiphos-methyl	<0.01	μg/I 1M34	4 <0.01	<0.01	<0.01	<0.01	
Chlorpyriphos	<0.01	µg/I IM34	4 <0.01	<0.01	<0.01	<0.01	
Methyl Parathion	<0.01	μg/I IM34	4 <0.01	<0.01	<0.01	<0.01	
Factbing	<0.01	μg/I IM34	4 <0.01	<0.01	<0.01	<0.01	
	<0.01	μg/I IM34	4 <0.01	<0.01	<0.01	<0.01	
Fenitrothion	<0.01	µg/I IM34	4 <0.01	<0.01	<0.01	<0.01	
	<0.01	μg/I IM34	<0.01	<0.01	<0.01	<u.u1< td=""><td></td></u.u1<>	
Parathian	<0.01	μg/I IM34	<u.u1< td=""><td><u.u1< td=""><td><u.u1< td=""><td><u.ui< td=""><td> </td></u.ui<></td></u.u1<></td></u.u1<></td></u.u1<>	<u.u1< td=""><td><u.u1< td=""><td><u.ui< td=""><td> </td></u.ui<></td></u.u1<></td></u.u1<>	<u.u1< td=""><td><u.ui< td=""><td> </td></u.ui<></td></u.u1<>	<u.ui< td=""><td> </td></u.ui<>	
Chlorfonvisshoo	<0.01	μg/I IM34	<u.u1< td=""><td><u.u1< td=""><td><u.u1< td=""><td><u.ui< td=""><td></td></u.ui<></td></u.u1<></td></u.u1<></td></u.u1<>	<u.u1< td=""><td><u.u1< td=""><td><u.ui< td=""><td></td></u.ui<></td></u.u1<></td></u.u1<>	<u.u1< td=""><td><u.ui< td=""><td></td></u.ui<></td></u.u1<>	<u.ui< td=""><td></td></u.ui<>	
	<0.01	μg/I IM34	<0.01	<0.01	<0.01	<0.01	
trans-Uniordane	<0.01	μg/I 1M34	<0.01	<0.01	<0.01	<0.01	
cis-Uniordane	<0.01	µg/i 1M34	<0.01	<0.01	<0.01	<0.01	

CERTIFICATE OF ANALYSIS

# 190	Results Legend		Cu	stomer Sample Ref.	BH1	BH4	GW01	GW02	
# ISC M mC aq Aqu diss.filt Dis tot.unfilt Tot * Sul acc * % r	In Yoza accleance. RETS accredited. Leetus / settled sample. solved / filtered sample. al / unfiltered sample. bontracted - refer to subcontractor report for reditation status. recovery of the surrogate standard to check It recovery of the method. The results of individu	r he al		Depth (m) Sample Type Date Sampled Sample Time Date Received	0.00 - 0.00 Ground Water (GW) 25/08/2020 26/08/2020				
cor rec (F) Trie	npounds within samples aren't corrected for overy gger breach confirmed	tne		SDG Ref Lab Sample No.(s)	200826-90 22723005	200826-90 22723016	200826-90 22722980	200826-90 22722991	
1-3+§@ Sar	nple deviation (see appendix)		aite	AGS Reference					
Ethion		< 0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Carbophen	othion	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Triazophos	i	<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Phosalone		<0.01	µg/l	TM344	<0.01	<0.01	<0.01	<0.01	
Azinphos n	nethyl	<0.02	µg/l	TM344	<0.04	<0.04	<0.04	<0.04	
Azinphos e	thyl	<0.02	µg/l	TM344	<0.02	<0.02	<0.02	<0.02	
Etridiazole		<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Pentachlor	obenzene	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propachlor		<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Quintozene	e (PCNB)	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Omethoate	•	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propazine		<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Propyzami	de	<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	
Prometryn		<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	
Terbutryn		<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Chlorothald	onil	<0.01	µg/l	TM345	<0.02	<0.02	<0.02	<0.02	
Etrimphos		<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Metazachlo	Ŋ	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Cyanazine		<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Trietazine		<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Coumapho	s	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Phospham	idon I	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Phospham	idon II	<0.01	µg/l	TM345	<0.01	<0.01	<0.01	<0.01	
Dinitro-o-cr	resol	<0.1 µ	ıg/l	TM411	<0.1	<0.2	<0.2	<0.2	
Clopyralid		<0.04	µg/l	TM411	<0.04	<0.08	<0.08	<0.08	
MCPA		<0.05	µg/l	TM411	<0.05	<0.1	<0.1	<0.1	
Mecoprop		<0.04	µg/l	TM411	<0.04	<0.08	<0.08	<0.08	
Dicamba		<0.04	µg/l	TM411	<0.04	<0.08	<0.08	<0.08	
MCPB		<0.05	µg/l	TM411	<0.05	<0.1	<0.1	<0.1	
2,4-DB		<0.1 µ	ıg/l	TM411	<0.1	<0.2	<0.2	<0.2	
2,3,6-Trich	lorobenzoic acid	<0.05	µg/l	TM411	<0.05	<0.1	<0.1	<0.1	

CERTIFICATE OF ANALYSIS

Pasults Logand		Customer Semale Bef	214	5114	011/07	011/00	
Kusanta Legeno Subcontractor refore to subcontractor record fi	or	Customer sample Kef. Depth (m) Sample Type	BH1 0.00 - 0.00 Ground Water (GW)	BH4 0.00 - 0.00 Ground Water (GW)	GW01 0.00 - 0.00 Ground Water (GW)	GW02 0.00 - 0.00 Ground Water (GW)	
accreditation status. ** % recovery of the surrogate standard to check efficiency of the method. The results of individi compounds within samples aren't corrected for recovery.	the ual r the	Date Sampled Sample Time Date Received SDG Ref	25/08/2020 26/08/2020 200826-90	25/08/2020 26/08/2020 200826-90	25/08/2020 26/08/2020 200826-90	25/08/2020 26/08/2020 200826-90	
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22723005	22723016	22722980	22722991	
Component Dichlorprop	LOD/Un <0.1 μ	i ts Method g/l TM411	<0.1	<0.2	<0.2	<0.2	
Triclopyr	<0.05 µ	ıg/l TM411	<0.05	<0.1	<0.1	<0.1	
Fenoprop (Silvex)	<0.1 µ	g/I TM411	<0.1	<0.2	<0.2	<0.2	
2,4-Dichlorophenoxyacetic acid	<0.05 µ	ıg/I TM411	<0.05	<0.1	<0.1	<0.1	
2,4,5-Trichlorophenoxyacetic	<0.05 µ	ig/l TM411	<0.1	<0.1	<0.1	<0.1	
Bromoxynil	<0.04 µ	ıg/l TM411	<0.08	<0.08	<0.08	<0.08	
Benazolin	<0.04 µ	ıg/l TM411	<0.08	<0.08	<0.08	<0.08	
loxynil	<0.05 µ	ıg/I TM411	<0.1	<0.1	<0.1	<0.1	
Pentachlorophenol	<0.04 µ	ıg/I TM411	<0.08	<0.08	<0.08	<0.08	
Fluoroxypyr	<0.1 µ	g/I TM411	<0.2	<0.2	<0.2	<0.2	

CERTIFICATE OF ANALYSIS

SDG: Location	: 1	200826-90 New Inn Landfi	Clien ill Order	t Reference: P r Number: Z	228	82 89	Report Numb Superseded Re	Der: 566041 Seport: 565825	5
SVOC MS (W) - Aqueo	us								
Results Legend # ISO17025 accredited.	(Customer Sample Ref.	BH1	BH4	Т	GW01	GW02		
M mCERTS accredited. aq Aqueous / settle asmple. diss.filt Dissolved / filtered sample. toLunfilt Total / unfiltered sample. Subcontracted - refer to subcontractor rej accreditation status. * % recovery of the surrogate standard to c	oort for heck the	Depth (m) Sample Type Date Sampled Sample Time	0.00 - 0.00 Ground Water (GW) 25/08/2020	0.00 - 0.00 Ground Water (GW) 25/08/2020		0.00 - 0.00 Ground Water (GW) 25/08/2020	0.00 - 0.00 Ground Water (GW) 25/08/2020		
efficiency of the method. The results of in compounds within samples aren't correct	dividual ad for the	Date Received SDG Ref	26/08/2020 200826-90	26/08/2020 200826-90		26/08/2020 200826-90	26/08/2020 200826-90		
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22723005	22723016		22722980	22722991		
Component	LOD/Units	Method	-		+				
1,2,4-1 richlorobenzene (aq)	<1 µg/l	TM176	<1 ====================================	<1	#	<20 #	<10 #		
	<1 µg/1	TN/170	#	#	#	-20 #	#		
1,3-Dichlorobenzene (aq)	<1 µg/i	IM176	<1 #	<1 #	#	<20 #	<10 #		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
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	#	<20 #	<10 #		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #	<1	#	<20	<10 #		
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-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	#	<20	<10 #		
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-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-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 #		
Acenaphthene (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
Anthracene (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #	<2	#	<40 #	<20		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #	<1	#	<20 #	<10 #		

SDG:

CERTIFICATE OF ANALYSIS

Validated

200826-90 **Client Reference:** P2282 Report Number: 566041 Location: New Inn Landfill Superseded Report: 565825 Order Number: Z2189 SVOC MS (W) - Aqueous Results Legend ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Disolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation started. The results of Individual compounds within samples aren't corrected for ther recovery Customer Sample Re BH1 BH4 GW01 GW02 aq diss.filt tot.unfilt Depth (m 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 Ground Water (GW) 25/08/2020 Ground Water (GW) 25/08/2020 Ground Water (GW) 25/08/2020 Ground Water (GW) 25/08/2020 Sample Type Date Sample Sample Time 26/08/2020 26/08/2020 26/08/2020 26/08/2020 Date Receive SDG Re 200826-90 200826-90 200826-90 200826-90 recovery Trigger breach confirmed Sample deviation (see appendix) 22722991 22723005 22723016 22722980 Lab Sample No.(s AGS Reference 1-3**+**§@ Component LOD/Units Method Benzo(b)fluoranthene (aq) <1 <1 <20 <10 <1 µg/l TM176 # # # # Benzo(k)fluoranthene (aq) <1 µg/l TM176 <1 <1 <20 <10 # # # # TM176 <10 Benzo(a)pyrene (aq) <1 µg/l <1 <1 <20 # # # # <1 µg/l TM176 <20 <10 Benzo(g,h,i)perylene (aq) <1 <1 # # # # 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 <10 # # # # TM176 Diethyl phthalate (aq) <1 µg/l <1 <1 <20 <10 # # # # TM176 <20 <10 Dibenzo(a,h)anthracene (aq) <1 <1 µg/l <1 # # Ħ TM176 <20 Dimethyl phthalate (aq) <1 µg/l <1 <1 <10 # # # # TM176 n-Dioctyl phthalate (aq) <100 <50 <5 µg/l <5 <5 # # # # Fluoranthene (aq) <1 µg/l TM176 <1 <1 <20 <10 # # # # Fluorene (aq) <1 µg/l TM176 <1 <1 <20 <10 # ± # Hexachlorobenzene (aq) TM176 <1 <1 <20 <10 <1 µg/l # ± Ħ Hexachlorobutadiene (aq) <1 µg/l TM176 <1 <1 <20 <10 # # # # TM176 Pentachlorophenol (aq) <1 µg/l <1 <1 <20 <10 Phenol (aq) <1 µg/l TM176 <1 <1 <20 <10 TM176 n-Nitroso-n-dipropylamine (aq) <20 <10 <1 µg/l <1 <1 # # Ħ Hexachloroethane (aq) <1 µg/l TM176 <1 <1 <20 <10 # # # # TM176 <10 Nitrobenzene (aq) <1 µg/l <1 <1 <20 # # # # Naphthalene (aq) <1 µg/l TM176 <1 <1 <20 <10 # # # # Isophorone (aq) <1 µg/l TM176 <1 <1 <20 <10 # # # Hexachlorocyclopentadiene (aq) TM176 <1 <1 <20 <10 <1 µg/l Phenanthrene (aq) TM176 <1 <1 <20 <10 <1 µg/l # # # # Indeno(1,2,3-cd)pyrene (aq) <1 µg/l TM176 <1 <1 <20 <10 # # # # Pyrene (aq) <1 µg/l TM176 <1 <20 <10 <1 # # # #

200826-90

SDG:

CERTIFICATE OF ANALYSIS

P2282

Report Number:

Client Reference:

Validated

566041

Location: New Inn Landfill Superseded Report: 565825 Order Number: Z2189 VOC MS (W) Results Leg Customer Sample Re GW02 BH1 BH4 GW01 Results Lege ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subco accreditation status. aq diss.filt tot.unfilt Depth (m) 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 Sample Type Ground Water (GW) Ground Water (GW) Ground Water (GW) Ground Water (GW) Date San 25/08/2020 25/08/2020 25/08/2020 25/08/2020 reditation status. ecovery of the surrogate standard to check the ciency of the method. The results of individual npounds within samples aren't corrected for the Sample Time 26/08/2020 26/08/2020 26/08/2020 26/08/2020 Date Receive SDG Re 200826-90 200826-90 200826-90 200826-90 22723005 22723016 22722980 22722991 Lab Sample No.(s (F) 1-3**+**§@ Trigger breach confirmed Sample deviation (see appendix) AGS Referenc LOD/Units Component Method 120 119 120 118 Dibromofluoromethane** TM208 % 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 # # # # TM208 <1 Trichlorofluoromethane <1 µg/l <1 <1 <1 # # # # 1,1-Dichloroethene <1 µg/l TM208 <1 <1 <1 <1 # # # # Carbon disulphide TM208 <1 <1 <1 <1 µg/l <1 # # # # Dichloromethane TM208 <3 µg/l <3 <3 <3 <3 # # # # TM208 Methyl tertiary butyl ether <1 µg/l <1 <1 <1 <1 (MTBE) # # # # 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 TM208 <1 µg/l <1 <1 <1 <1 # # # # Chloroform TM208 <1 <1 <1 2.24 <1 µg/l # # # # 1,1,1-Trichloroethane TM208 <1 µg/l <1 <1 <1 <1 # # # # <1 µg/l TM208 1,1-Dichloropropene <1 <1 <1 <1 # # # # Carbontetrachloride TM208 <1 µg/l <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 TM208 <1 <1 <1 <1 <1 µg/l # # # # 1,2-Dichloropropane <1 µg/l TM208 <1 <1 <1 <1 # # # # TM208 <1 <1 <1 Dibromomethane <1 µg/l <1 Ħ Ħ # # TM208 <1 Bromodichloromethane <1 µg/l <1 <1 <1 # # # # cis-1,3-Dichloropropene TM208 <1 <1 µg/l <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 TM208 <1 <1 <1 <1 <1 µg/l

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CERTIFICATE OF ANALYSIS

Results Legend # 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	ior	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
accreditation status. ** % recovery of the surrogate standard to check	the	Sample Time						
compounds within samples aren't corrected for	or the	Date Received SDG Ref	26/08/2020 200826-90	26/08/2020 200826-90	26/08/2020 200826-90	26/08/2020 200826-90		
(F) Trigger breach confirmed 1-3+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	22723005	22723016	22722980	22722991		
Component	LOD/Ur	nits Method						
Tetrachloroethene	<1 µថ្	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Dibromochloromethane	<1 µç	g/I TM208	<1	<1	، <1	، <1		
			#	#	#	#		
1,2-Dibromoethane	<1 µថ	g/I TM208	<1 "	<1 "	<1 "	<1 "		
Chlorobenzene	<1 µ0	a/I TM208	<1 *	<1 *1	<1 *	<1 *		
			#	#	#	#		
1,1,1,2-Tetrachloroethane	<1 µç	g/I TM208	<1 "	<1 "	<1 "	<1 "		
Ethylhenzene	<1.00	n/l TM208	= = = = = = = = = = = = = = = = = = = =	= = = = = = = = = = = = = = = = = = = =	# <1	# <1		
	· P3		. #	. #	. #	. #		
m,p-Xylene	<1 µç	g/I TM208	<1	<1	<1	<1		
	<1.00	TM209	#	#	#	#		
0-Xylene	×ιμί		<r></r>	<r></r>	<r></r>	<r></r>		
Styrene	<1 µç	g/I TM208	<1	<1	<1	<1		
D (// TN 4000	#	#	#	#		
Bromotorm	<1 µ(g/I IM208	<1 #	<1 #	<1 #	<1 #		
Isopropylbenzene	<1 µç	g/I TM208	<1	<1	<1	<1		
			#	#	#	#		
1,1,2,2-Tetrachloroethane	<1 µថ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
1.2.3-Trichloropropane	<1 µ0	a/I TM208			<1 *			
, ,			#	#	#	#		
Bromobenzene	<1 µç	g/I TM208	<1 "	<1 "	<1	<1		
Pronvlbenzene	<1.00	n/l TM208	= = = = = = = = = = = = = = = = = = = =	= = = = = = = = = = = = = = = = = = = =	= = = = = = = = = = = = = = = = = = = =	= #		
Topybenzene	1 45	111200	#	#	#	#		
2-Chlorotoluene	<1 µç	g/I TM208	<1	<1	<1	<1		
125 Trimethylberrore		-// TM209	#	#	#	#		
1,5,5-11imethylbenzene	×ιμί	j/i 1₩200	<r></r>	<r></r>	<r></r>	<r></r>		
4-Chlorotoluene	<1 µç	g/I TM208	<1	<1	<1	<1		
test Dut Illegenera			#	#	#	#		
tert-Butylbenzene	<1 hő	g/i 11vi208	<1 #	<1 #	<1 #	<1 #		
1,2,4-Trimethylbenzene	<1 µç	g/I TM208	<1	<1	<1	<1		
			#	#	#	#		
sec-Butylbenzene	<1 µ(g/I IM208	<1 #	<1 #	<1 #	<1 #		
4-iso-Propyltoluene	<1 µç	g/I TM208	<1	<1	<1	<1		
			#	#	#	#		
1,3-Dichlorobenzene	<1 µç	g/I TM208	<1 #	<1 #	<1 #	<1 #		
1,4-Dichlorobenzene	<1 µç	a/I TM208			<1 **			
			#	#	#	#		
n-Butylbenzene	<1 µç	g/I TM208	<1 "	<1 "	<1 "	<1 "		
1 2-Dichlorobenzene	<1.00	n/l TM208	# <1	= = = = = = = = = = = = = = = = = = = =	# <1	# <1		
	· P3		. #	. #	. #	. #		
1,2-Dibromo-3-chloropropane	<1 µç	g/I TM208	<1	<1	<1	<1		
1.2.4 Trichlorobonzono	<1.u	TM208	-1					
	<1 µű	g/1 110200	<r></r>	~1 #	~1 #	~1 #		
Hexachlorobutadiene	<1 µç	g/I TM208	<1	<1	<1	<1		
tort Amul mothyl other (TAME)	JA .	TM000	#	#	#	#		
ten-Amyi metnyi etner (TAME)	<1 hő	yn Eivi∠Uŏ	<u></u>	<u></u>	<u></u> *'	<u></u> *1		
Naphthalene	<1 µç	g/I TM208	<1	<1	<1	<1		
			. #	#	#	#		
1,2,3-1 richlorobenzene	<1 µថ	g/i TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trichlorobenzene	<1 µç	g/l TM208	* <1	* <1	* <1	* <1		
							1	



CERTIFICATE OF ANALYSIS

 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)

Validated

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

Sample No	Customer 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



SDG:

Location:

200826-90 New Inn Landfill Client Reference: P2282 Order Number: Z2189

Report Number: Superseded Report: 566041 565825

Validated

Table of Results - Appendix

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).



Dates

Report Number: Superseded Report:

Validated

566041 565825

SDG:	20 N)0826-90 ew Inn Landfil	I	Client Refere Order Numbe	nce: P228 er: Z218
			Tes	st Com	pletior
Lab Sam	ple No(s)	22723005	22723016	22722980	22722991
Customer Sa	mple 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





City Analysts Limited, Pigeon House Road, Ringsend, Dublin 4.

Tel: (01) 613 6003 Fax: (01) 613 6008

REG NO. 1381 Email: reports@cityanalysts.ie

www.cityanalysts.ie

Customer

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

Certificate Of Analysis

Job Number:20-82835Issue Number:2Report 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:

Kouise Norrow

Louise Morrow

Authorised Date: 1 Sep

1 September 2020

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.

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Template: 1146 Revision: 018





Report Reference: 20-82835

Report Version: 2

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Tel: (01) 613 6003 Fax: (01) 613 6008

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www.cityanalysts.ie

Certificate Of Analysis

Customer **Customer Services**

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

CH5 3US

Site:	Fehily Timoney		
Sample Description:	GW01 -NEW INN	Date of Sampling:	26/08/2020
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	200
D/D3221#	27/08/2020	Faecal Coliforms	< 1	cfu/100ml	,

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

Note:

- 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

Site D = Analysed at City Analysts Dublin. Site S = Analysed at City Analysts Shannon

Page 2 of 5





City Analysts Limited, Pigeon House Road, Ringsend, Dublin 4.

Tel: (01) 613 6003 Fax: (01) 613 6008

Report Reference: 20-82835

Report Version: 2

Email: reports@cityanalysts.ie

www.cityanalysts.ie

Certificate Of Analysis

Customer **Customer Services**

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

Site:	Fehily Timoney		
Sample Description:	GW02 - NEW INN	Date of Sampling:	26/08/2020
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	200
D/D3221#	27/08/2020	Faecal Coliforms	10	cfu/100ml	

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

Note:

- 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

Site D = Analysed at City Analysts Dublin. Site S = Analysed at City Analysts Shannon

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Report Reference: 20-82835

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Email: reports@cityanalysts.ie

www.cityanalysts.ie

Certificate Of Analysis Customer **Customer Services ALS Life Sciences** Hawarden Business Park Manor Lane

Hawarden, Deeside UK CH5 3US

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	200	
D/D3221#	27/08/2020	Faecal Coliforms	< 1	cfu/100ml		

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

Note:

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

Site D = Analysed at City Analysts Dublin. Site S = Analysed at City Analysts Shannon

Page 4 of 5





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Tel: (01) 613 6003 Fax: (01) 613 6008

Report Reference: 20-82835

Report Version: 2

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www.cityanalysts.ie

Certificate Of Analysis

Customer **Customer Services**

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

Site:	Fehily Timoney		
Sample Description:	BH4 -NEW INN	Date of Sampling:	26/08/2020
Sample Type:	Ground	Date Sample Received:	27/08/2020
Lab Reference Number	r: 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	201
D/D3221#	27/08/2020	Faecal Coliforms	< 1	cfu/100ml	-

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

Note: 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

Site D = Analysed at City Analysts Dublin. Site S = Analysed at City Analysts Shannon

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CERTIFICATE OF ANALYSIS

	SDG: Location:	200826-90 New Inn Landfill	Client Reference: Order Number:	P2282 72189	Report Number: Superseded Report:	566041 565825
(ALS)				22.00		000020

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
0	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
Chrysofile	White Asbestos
Amosite	Brow nAsbestbs
Cro d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib io 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.



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:
Customer:
Sample Delivery Group (SDG)
Your Reference:
Location:
Report No:

26 July 2021 Fehily Timoney 210715-116 P2282 New Inn Landfill 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

			CERTIFICATE C	F ANALYS	IS	
	SDG:	210715-116	Client Reference:	P2282	Report Number:	607026
(ALS)	Location:	New Inn Landfill	Order Number:	Z2798	Superseded Report:	607012

Validated

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.

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	CERTIFICATE OF ANALYSIS																				
SDG: Location:	210715-116 New Inn Landfi	II	Clie Ord	nt Re er Nu	feren mber:	ce:	P22 Z27	82 98				Re Sup	port N persed	lumb ed Re	er: eport:		6070 607	26 012			
Results Legend X Test N No Determination Possible	Lab Sample I	No(s)						24638803						24638810	24638784						24638794
Sample Types -	Custome Sample Refer	r ence	BH										BH4						GW01	GW02	
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						0.00 - 0.00						0.00 - 0.00	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)	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	ре	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: 4	x						x						x						x
Alkalinity as CaCO3	All	NDPs: 0 Tests: 4		X						X						X					
Ammonium Low	All	NDPs: 0 Tests: 4			X						X						X				
Anions by Kone (w)	All	NDPs: 0 Tests: 4		X						X						X					
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 4		X						X						X					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 4					X						X						X		
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					
Fluoride	All	NDPs: 0 Tests: 4		x						x						X					
Mercury Dissolved	All	NDPs: 0 Tests: 4				X						x						x			
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 4	x						X						x						x
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 4	x						x						х						x
Pesticides (Suite II) by GCMS	All	NDPs: 0 Tests: 4	x						X						X						x
Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 4	x						X						x						x
pH Value	All	NDPs: 0 Tests: 4		x						x						X					

Validated

				N
				4638794
				GW02
				0.00 - 0.00
500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
GW	GW	GW	GW	GW
x				
	x			
×				
x				
			x	
		X		
v				
^				
x				
		x		
x				

			~	гот				- • •		VO										Valio	lated	
ALS	SDG: Location:	210715-116 New Inn Landfi		Clie Orde	nt Ref er Nur	erenc	e OI	P228 Z279	NAL 32 98	13	5		Rej Sup	port N bersed	lumb ed Re	er: port:		6070 607	26 012			
Results Legend X Test N No Determination	rmination	Lab Sample I	No(s)						24638803						24638810						24638784	24638794
Possible Sample Types -	•	Custome Sample Refer	r ence						BH1						BH4						GW01	GW02
S - Soil/Solid UNS - Unspecified S GW - Ground Water SW - Surface Water LE - Land Leachate	Solid - -	AGS Refere	nce																			
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		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	ре	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
SVOC MS (W) - Aqueous	3	All	NDPs: 0 Tests: 4		x						x						x					
Total Organic and Inorga	nic Carbon	All	NDPs: 0 Tests: 4			x						x						x				
VOC MS (W)		All	NDPs: 0 Tests: 4						x						x						x	

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

CERTIFICATE OF ANALYSIS

Validated

SDG: 210715-116 **Client Reference:** P2282 Report Number: 607026 Superseded Report: Location: New Inn Landfill Order Number: Z2798 607012 Customer Sample R GW02 ROSUITS Ecg ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subc BH1 BH4 GW01 aq diss.filt tot.unfilt Depth (m 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 Sample Type Ground Water (GW) Ground Water (GW) Ground Water (GW) Ground Water (GW) . Date Sar 14/07/2021 14/07/2021 14/07/2021 14/07/2021 ditation status. overy of the surrogate standard to check the ncy of the method. The results of individual ounds within samples aren't corrected for the Sample Tim 15/07/2021 15/07/2021 15/07/2021 15/07/2021 Date Receiv SDG Re 210715-116 210715-116 210715-116 210715-116 24638803 24638810 24638784 24638794 Lab Sample No.(s Trigger breach confirmed Sample deviation (see appendix) (F) 1-4+§@ AGS Referenc LOD/Units Method Component 432 Alkalinity, Total as HCO3 <2 mg/l TM043 459 3340 1460 <0.3 ma/l TM046 9.8 9.58 12.2 11.5 Oxygen, dissolved Organic Carbon, Total TM090 3.75 3.26 <3 mg/l <3 3.66 ♦ # ♦ # ♦ # ♦ # Ammoniacal Nitrogen as N (low <0.01 mg/l TM099 0.013 0.139 0.034 0.443 level) # # # Fluoride <0.5 mg/l TM104 < 0.5 < 0.5 < 0.5 1.46 # # # Conductivity @ 20 deg.C < 0.02 TM120 0.599 0.823 0.746 2.64 mS/cm # # # # 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 # # # # 41 Boron (diss.filt) <10 µg/l TM152 21.4 15 181 # # # # <0.08 µg/l TM152 0.117 <0.08 <0.08 <0.08 Cadmium (diss.filt) # # # # Chromium (diss.filt) TM152 <1 µg/l <1 <1 <1 <1 # # # # <0.3 µg/l TM152 0.374 Copper (diss.filt) 24.9 < 0.3 < 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 # Ħ ŧ 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 # # # # TM152 <2 <2 Thallium (diss.filt) <2 µg/l <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 # # # # TM152 41 Magnesium (Dis.Filt) <0.036 mg/l 8.55 8.48 5.99 # # # # Potassium (Dis.Filt) TM152 7.23 <0.2 mg/l 1.42 4.06 1.64 # 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) TM172 <100 <100 <100 <100 <100 µg/l Mercury (diss.filt) <0.01 µg/l TM183 <0.01 <0.01 <0.01 <0.01 # # # TM184 442 Sulphate <2 mg/l 13.6 13.6 6.5 Ħ ± Ħ # Chloride TM184 71 15.4 90.1 74 <2 ma/l # # # # Total Oxidised Nitrogen as N TM184 0.88 <0.1 1.11 0.107 <0.1 mg/l # # # # Cyanide, Total TM227 < 0.05 < 0.05 <0.05 < 0.05 <0.05 mg/l # # # # pН <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

<0.01 µg/l

TM343

< 0.01

alpha-HCH

< 0.01

< 0.01

< 0.01

CERTIFICATE OF ANALYSIS

Results Legend		Custom	ner 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 fe	or		Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	
** % recovery of the surrogate standard to check	the		Sample Time					
efficiency of the method. The results of individu compounds within samples aren't corrected for	ual r the	ſ	Date Received	15/07/2021	15/07/2021	15/07/2021	15/07/2021	
recovery (F) Trigger breach confirmed		Lab	SDG Ref Sample No (s)	24638803	24638810	24638784	24638794	
1-4+§@ Sample deviation (see appendix)		A	GS Reference					
Component	LOD/U	nits I	Method	-0.01	-0.01	-0.01	-0.01	
gamma-HCH (Lindane)	<0.01	µg/i	11/1343	<0.01	<0.01	<0.01	<0.01	
Hentachlor	<0.01	ua/l	TM343	<0.01	<0.01	<0.02	<0.02	
hoptaoliloi	-0.01	P9/1	11110 10	-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	
Hantashlar anavida	<0.01	ua/I	TM2/2	<0.01	<0.01	<0.01	<0.01	
	~0.01	μg/i	1101343	~0.01	~0.01	~0.01	~0.01	
o p'-DDF	<0.01	ua/l	TM343	<0.01	<0.01	<0.01	<0.01	
0,p DDL	-0.01	P9/1	11110 10	-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	
D: 111	-0.04		TN 0.40	-0.04	-0.04	-0.04	-0.04	
Dielarin	<0.01	µg/I	TM343	<0.01	<0.01	<0.01	<0.01	
	<0.01	ug/l	TM3/3	<0.01	<0.01	<0.01	<0.01	
0,p DDD (1DL)	-0.01	р <u>9</u> /1	11010-10	-0.01	-0.01	10.01	-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	
Frada sudah sa U	-0.00		TM242	-0.00	-0.00	-0.00	-0.00	
Endosulphan II	<0.02	µg/i	11/1343	<0.02	<0.02	<0.02	<0.02	
n n'-DDT	<0.01	ua/l	TM343	<0.02	<0.02	<0.08	<0.08	
p,p 001	-0.01	P9/1	11010-10	-0.02	-0.02	10.00	-0.00	
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/I	1M343	<0.01	<0.01	<0.01	<0.01	
Dormothrin II	<0.01	ug/l	TM2/2	<0.01	<0.01	<0.01	<0.01	
remeann	~0.01	μg/i	1101343	~0.01	~0.01	~0.01	~0.01	
1 3 5-Trichlorobenzene	<0.01	ua/l	TM344	<0.01	<0.02	<0.05	<0.01	
,,,,		r 5'	-					
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	
Dishlaryos	-0.04		TM244	-0.04	-0.00	-0.05	-0.04	
LICITIOTVOS	<0.01	µg/I	11/1344	<0.01	<0.02	<0.05	<0.01	
Dichlobenil	<0.01	ua/l	TM344	<0.01	<0.02	<0.05	<0.01	
5.0.1000111	-0.01	ry.,	111077	-0.01	-V.VZ	-0.00	-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	ГМ344	<0.01	<0.02	<0.05	<0.01	
		1						

CERTIFICATE OF ANALYSIS

Results Legend		Customer Sample Ref.	BH1	BH4	GW01	GW02	
ISO/1/23 accreated. M mCERTS accredited. Aqueous / settled sample. diss.filt Dissolved / filtered sample. toturfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status.	or	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 individu compounds within samples aren't corrected for recovery	the ual r the	Sample Time Date Received SDG Ref	15/07/2021 210715-116 24638803	15/07/2021 210715-116 24638810	15/07/2021 210715-116 24638784	15/07/2021 210715-116 24638704	
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24030003	24030010	24030704	24030734	
Component	LOD/Un	its Method	-0.04	-0.00	-0.05	-0.01	
Demeton-S-methyl	<0.01 µ	Ig/I 1101344	<0.01	<0.02	<0.05	<0.01	
Phorate	<0.01 µ	ıg/l TM344	<0.03	<0.02	<0.05	<0.03	
Diazinon	<0.01 µ	ig/l TM344	<0.01	<0.02	<0.05	<0.01	
Triallate	<0.01 µ	ig/l TM344	<0.01	<0.02	<0.05	<0.01	
Atrazine	<0.01 µ	ig/I TM344	<0.01	<0.02	<0.05	<0.01	
Simazine	<0.01 µ	ıg/I TM344	<0.01	<0.02	0.0763	<0.01	
Disulfoton	<0.01 µ	ıg/I TM344	<0.07	<0.04	<0.1	<0.07	
Propetamphos	<0.01 µ	ıg/I TM344	<0.01	<0.02	<0.05	<0.01	
Chlorpyriphos-methyl	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Dimethoate	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Pirimiphos-methyl	<0.01 µ	ıg/I TM344	<0.01	<0.02	<0.05	<0.01	
Chlorpyriphos	<0.01 µ	ıg/I TM344	<0.01	<0.02	<0.05	<0.01	
Methyl Parathion	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Malathion	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Fenthion	<0.01 µ	ıg/I TM344	<0.02	<0.02	<0.05	<0.02	
Fenitrothion	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Triadimefon	<0.01 µ	ıg/I TM344	<0.01	<0.02	<0.05	<0.01	
Pendimethalin	<0.01 µ	ıg/I TM344	<0.01	<0.02	<0.05	<0.01	
Parathion	<0.01 µ	ıg/I TM344	<0.01	<0.02	<0.05	<0.01	
Chlorfenvinphos	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
trans-Chlordane	<0.01 µ	ıg/I TM344	<0.01	<0.02	<0.05	<0.01	
cis-Chlordane	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Ethion	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Carbophenothion	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Triazophos	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Phosalone	<0.01 µ	ıg/l TM344	<0.01	<0.02	<0.05	<0.01	
Azinphos methyl	<0.02 µ	ıg/I TM344	<0.02	<0.04	<0.1	<0.02	
Azinphos ethyl	<0.02 µ	ig/l TM344	<0.02	<0.04	<0.1	<0.02	
Etridiazole	<0.01 µ	ıg/l TM345	<0.01	<0.01	<0.1	<0.01	
Pentachlorobenzene	<0.01 µ	ıg/l TM345	<0.01	<0.01	<0.1	<0.01	
Propachlor	<0.01 µ	ıg/l TM345	<0.01	<0.01	<0.1	<0.01	
Quintozene (PCNB)	<0.01 µ	ig/l TM345	<0.01	<0.01	<0.1	<0.01	
Omethoate	<0.01 µ	ıg/l TM345	<0.01	<0.01	<0.1	<0.01	

CERTIFICATE OF ANALYSIS

Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited, aq Aqueous settled sample. diss.fitt Dissoved / filtered sample. tot.unfit Total unfiltered sample. * Subcontacted - refer to subcontractor report accreditation status. * Si resource of the surrorstet standard to check	or	Depth (m) Sample Type Date Sampled Sample Time	0.00 - 0.00 Ground Water (GW) 14/07/2021				
efficiency of the method. The results of individ compounds within samples aren't corrected fo	ual r the	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 1-4+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	24638803	24638810	24638784	24638794	
Component Propazine	LOD/Units <0.01 µg/	Method TM345	<0.01	<0.01	<0.1	<0.01	
Propyzamide	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Alachlor	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Prometryn	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Telodrin	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Terbutryn	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Chlorothalonil	<0.01 µg/	TM345	<0.01	<0.02	<0.2	<0.02	
Etrimphos	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Metazachlor	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Cyanazine	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Trietazine	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Coumaphos	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Phosphamidon I	<0.01 µg/	TM345	<0.01	<0.01	<0.1	<0.01	
Phosphamidon II	<0.01 µg/	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/	TM411	<0.04	<0.08	<0.08	<0.04	
MCPA	<0.05 µg/	TM411	<0.05	<0.1	<0.1	<0.05	
Месоргор	<0.04 µg/	TM411	<0.04	<0.08	<0.08	<0.04	
Dicamba	<0.04 µg/	TM411	<0.04	<0.08	<0.08	<0.04	
МСРВ	<0.05 µg/	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/	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/	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/	TM411	<0.05	<0.1	<0.1	<0.05	
2,4,5-Trichlorophenoxyacetic acid	<0.05 µg/	TM411	<0.05	<0.1	<0.1	<0.05	
Bromoxynil	<0.04 µg/	TM411	<0.04	<0.08	<0.08	<0.04	
Benazolin	<0.04 µg/	TM411	<0.04	<0.08	<0.08	<0.04	
loxynil	<0.05 µg/	TM411	<0.05	<0.1	<0.1	<0.05	
Pentachlorophenol	<0.04 µg/	TM411	<0.04	<0.08	<0.08	<0.04	
Fluoroxypyr	<0.1 µg/l	TM411	<0.1	<0.2	<0.2	<0.1	

CERTIFICATE OF ANALYSIS Client Reference: P2282

SDG:		210715-116	Clien	t Reference: P2	282	Report Numb	ver: 607026	
		New Inn Land	ili Ordei	r Number: ZZ	798	Superseded Re	port: 607012	
Results Legend	S	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	for	Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)					
accreditation status. ** % recovery of the surrogate standard to check	k the	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 for recovery	dual or the	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 1-4+§@ 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 #		
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)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<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 #		
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 #		
2-Methylnaphthalene (aq)	<1 µg/l	1M176	<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 #		
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	IM176	<1 #	<1 #	<8 #	<4 #		
4-Chloro-3-methylphenol (aq)	<1 µg/l	1M176	<1 #	<1 #	<8 #	<4 #		
4-Chloroaniline (aq)	<1 µg/l	1M176	<1	<1	<8	<4		
4-Chlorophenylphenylether (aq)	<1 µg/l	1M176	<1 #	<1 #	<8 #	<4 #		
4-Methylphenol (aq)	<1 µg/l	1M176	<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 #		
Anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #	<2 #	<16 #	<8 #		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #	<8 #	<4 #		

CERTIFICATE OF ANALYSIS

Validated

SDG: 210715-116 **Client Reference:** P2282 Report Number: 607026 Location: New Inn Landfill Superseded Report: 607012 Order Number: Z2798 SVOC MS (W) - Aqueous Results Legend ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Disolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation started. The results of Individual compounds within samples aren't corrected for ther recovery Resu Customer Sample Re BH1 BH4 GW01 GW02 aq diss.filt tot.unfilt Depth (m) 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 Ground Water (GW) 14/07/2021 Ground Water (GW) 14/07/2021 Ground Water (GW) 14/07/2021 Ground Water (GW) 14/07/2021 Sample Type Date Sample Sample Time ... 15/07/2021 15/07/2021 15/07/2021 15/07/2021 Date Receive SDG Re 210715-116 210715-116 210715-116 210715-116 recovery Trigger breach confirmed Sample deviation (see appendix) 24638803 24638810 24638784 24638794 Lab Sample No.(s AGS Reference (F) 1-4+§@ Component LOD/Units Method Benzo(b)fluoranthene (aq) <1 <1 <8 <4 <1 µg/l TM176 # # # # Benzo(k)fluoranthene (aq) <1 µg/l TM176 <1 <1 <8 <4 # # # # TM176 Benzo(a)pyrene (aq) <1 µg/l <1 <1 <8 <4 # # # # <1 µg/l TM176 <4 Benzo(g,h,i)perylene (aq) <1 <1 <8 # # # # 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 # # # # TM176 Diethyl phthalate (aq) <1 µg/l <1 <1 <8 <4 # # # # TM176 <8 <4 Dibenzo(a,h)anthracene (aq) <1 <1 µg/l <1 # # Ħ # TM176 Dimethyl phthalate (aq) <1 µg/l <1 <1 <8 <4 # # # # TM176 n-Dioctyl phthalate (aq) <5 µg/l <40 <20 <5 <5 # # # # Fluoranthene (aq) <1 µg/l TM176 <1 <1 <8 <4 # # # # Fluorene (aq) <1 µg/l TM176 <1 <1 <8 <4 # # # Hexachlorobenzene (aq) TM176 <1 <1 <8 <4 <1 µg/l # ± # Hexachlorobutadiene (aq) <1 µg/l TM176 <1 <1 <8 <4 # # # # TM176 <4 Pentachlorophenol (aq) <1 µg/l <1 <1 <8 Phenol (aq) <1 µg/l TM176 <1 <1 <8 <4 TM176 n-Nitroso-n-dipropylamine (aq) <4 <1 µg/l <1 <1 <8 # # Ħ Hexachloroethane (aq) <1 µg/l TM176 <1 <1 <8 <4 # # # # TM176 <4 Nitrobenzene (aq) <1 µg/l <1 <1 <8 # # # # Naphthalene (aq) <1 µg/l TM176 <1 <1 <8 <4 # # # # Isophorone (aq) <1 µg/l TM176 <1 <1 <8 <4 # # # Hexachlorocyclopentadiene (aq) TM176 <1 <1 <8 <4 <1 µg/l Phenanthrene (aq) TM176 <1 <1 <8 <4 <1 µg/l # # # # Indeno(1,2,3-cd)pyrene (aq) <1 µg/l TM176 <1 <1 <8 <4 # # # # Pyrene (aq) TM176 <1 <8 <4 <1 µg/l <1 # # # #

210715-116 Cli

CERTIFICATE OF ANALYSIS

SDG: **Client Reference:** P2282 Report Number: 607026 Location: New Inn Landfill Superseded Report: 607012 Order Number: Z2798 VOC MS (W) Results Leg Customer Sample Re GW02 BH1 BH4 GW01 Results Lege ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subco accreditation status. aq diss.filt tot.unfilt Depth (m) 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 0.00 - 0.00 Sample Type Ground Water (GW) Ground Water (GW) Ground Water (GW) Ground Water (GW) Date San 14/07/2021 14/07/2021 14/07/2021 14/07/2021 reditation status. ecovery of the surrogate standard to check the ciency of the method. The results of individual npounds within samples aren't corrected for the Sample Time 15/07/2021 15/07/2021 15/07/2021 15/07/2021 Date Receive SDG Re 210715-116 210715-116 210715-116 210715-116 24638803 24638810 24638784 24638794 Lab Sample No.(s (F) 1-4**+**§@ Trigger breach confirmed Sample deviation (see appendix) AGS Referenc LOD/Units Component Method 111 109 109 Dibromofluoromethane** TM208 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 # # # # TM208 <1 Trichlorofluoromethane <1 µg/l <1 <1 <1 # # # # 1,1-Dichloroethene <1 µg/l TM208 <1 <1 <1 <1 # # # # Carbon disulphide TM208 <1 <1 <1 <1 µg/l <1 # # # # TM208 Dichloromethane <3 µg/l <3 <3 <3 <3 # # # # TM208 Methyl tertiary butyl ether <1 µg/l <1 <1 <1 <1 (MTBE) # # # # 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 TM208 <1 <1 µg/l <1 <1 <1 # # # # Chloroform TM208 <1 <1 <1 <1 <1 µg/l # # # # 1,1,1-Trichloroethane TM208 <1 µg/l <1 <1 <1 <1 # # # # <1 µg/l TM208 1,1-Dichloropropene <1 <1 <1 <1 # # # # Carbontetrachloride TM208 <1 µg/l <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 TM208 <1 <1 <1 <1 <1 µg/l # # # # 1,2-Dichloropropane <1 µg/l TM208 <1 <1 <1 <1 # # # # TM208 <1 <1 <1 Dibromomethane <1 µg/l <1 Ħ Ħ # # TM208 <1 Bromodichloromethane <1 µg/l <1 <1 <1 # # # # cis-1,3-Dichloropropene TM208 <1 <1 µg/l <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 TM208 <1 <1 <1 <1 <1 µg/l

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o-Xylene

Styrene

Bromoform

Isopropylbenzene

1,1,2,2-Tetrachloroethane

1,2,3-Trichloropropane

Bromobenzene

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SDG: Location:	2 N	210715-116 New Inn Landfi	CERTI Clien Order	r Reference: r Number:	P22 Z27	282 798		Report Numb Superseded Re	oer: eport:	607026 607012		_
VOC MS (W)												
Results Legend ISO17025 accredited. M mCERTS accredited. Aqueous / Settled sample. diss.filt Disolved / filtered sample. totunfilt Total / unfiltered sample. Subcontracted - refer to subcontractor report accreditation status. " % recovery of the surrogate standard to check efficiency of the method. The results of indevice compounds within samples aren't corrected for recovery (F) Trigger brasch confirmed 1-4+§@ Sample deviation (see appendix)	or the ual r the	Depth (m) Sample Type Date Sample Type Date Received SUG Ref Lab Sample No.(s) AGS Reference	BH1 0.00 - 0.00 Ground Water (GW) 14/07/2021 	BH4 0.00 - 0.00 Ground Water (GW) 14/07/2021 15/07/2021 21/0715-116 24638810		GW01 0.00 - 0.00 Ground Water (GW) 14/07/2021 - 5/07/2021 210715-116 24638784		GW02 0.00 - 0.00 Ground Water (GW) 14/07/2021 15/07/2021 2107/15-116 24638794				
Component	LOD/Units	Method					_					
letrachloroethene	<1 µg/l	TM208	<1 #	<1	#	<1	#	<1 #				
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				

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Propylbenzene <1 µg/l TM208 <1 <1 <1 <1 # # # # 2-Chlorotoluene <1 µg/l TM208 <1 <1 <1 <1 # # # # TM208 <1 <1 <1 <1 1,3,5-Trimethylbenzene <1 µg/l # # # # 4-Chlorotoluene <1 µg/l TM208 <1 <1 <1 <1 # # # # TM208 tert-Butylbenzene <1 <1 <1 µg/l <1 <1 # # # # TM208 1,2,4-Trimethylbenzene <1 µg/l <1 <1 <1 <1 # # # # TM208 <1 µg/l <1 <1 <1 <1 sec-Butylbenzene # # # # 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 TM208 <1 <1 <1 <1 <1 µg/l TM208 1,2,4-Trichlorobenzene <1 µg/l <1 <1 <1 <1 # ŧ # TM208 <1 <1 <1 <1 Hexachlorobutadiene <1 µg/l # # # # tert-Amyl methyl ether (TAME) <1 µg/l TM208 <1 <1 <1 <1 # # # # TM208 <1 Naphthalene <1 µg/l <1 <1 <1 # # # # <1 µg/l 1,2,3-Trichlorobenzene TM208 <1 <1 <1 <1 # # # # 1,3,5-Trichlorobenzene <1 µg/l TM208 <1 <1 <1 <1

Validated

CERTIFICATE OF ANALYSIS



SDG:

Location:

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

ence: P2282 er: Z2798 Report Number:6Superseded Report:

607026 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

Report Number: Superseded Report:

Order Number: Z2798 **Test Completion Dates**

P2282

			• • • • • • •	P
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

CERTIFICATE OF ANALYSIS

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

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
0	Sample holding time exceeded due to late arrival of instructions or
e	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).

Asbestos Type	Common Name		
Chrysof le	White Asbestos		
Amosite	Brow n Asbestos		
Cio d dolite	Blue Asbe stos		
Fibrous Act nolite	-		
Fib io us Anthop hyll ite	-		
Fibrous Tremol ite	-		

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 μ m diameter, longer than 5 μ 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.



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

Attention: Daniel Hayden

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

CERTIFICATE OF ANALYSIS

Date of report Generation: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: 07 August 2020 Fehily Timoney 200731-88 P2282 New Inn Landfill 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



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: 2.4 Version Issued: 07/08/2020

562221

Client Reference: P2282 Order Number: Z2189

Report Number: Superseded Report:

Received Sample Overview

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

Maximum Sample/Coolbox Temperature (°C) : 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 $(5\pm3)^\circ$ C.

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



200731-88 New Inn Landfill

16.2
		с	ERT	IFIC	ATE	OF ANALYSIS			Validat	ted
SDG: Location:	200731-88 New Inn Landfill			Client Reference:P2282Report Number:Order Number:Z2189Superseded Report:					221	
Results Legend X Test N Dotetermination Possible	Lab Sample No(s)				22583371					
	Customer Sample Reference				BH2					
Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate	AGS Reference									
PL - Prepared Leachate 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	Container		H2SO4 (ALE244) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227)		H2SO4 (ALE244)					
	Sample Ty	Ē	Ē	Ē						
Ammonium Low	All	NDPs: 0 Tests: 1			x					
Anions by Kone (w)	All	NDPs: 0 Tests: 1		X						
BOD True Total	All	NDPs: 0 Tests: 1	x							
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		x						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 1		x						
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 1			x					

Validated

CERTIFICATE OF ANALYSIS

	SDG:		200731-88	Clien	t Reference:	2282	Report Numb	er: 562221	
(ALS)	Location:		New Inn Landt	ill Orde	r Number: 4	22189	Superseded Re	port:	
Results	Legend		Customer Sample Ref.	BH2					
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled samp	ple.								
diss.filt Dissolved / filtered sample tot.unfilt Total / unfiltered sample	nple. le.		Depth (m) Sample Type	0.00 - 0.00 Land Leachate (LE)					
* Subcontracted - refer to accreditation status. ** % recovery of the surro	o subcontractor report fo	r he	Date Sampled Sample Time	30/07/2020					
efficiency of the method compounds within sam	d. The results of individu pples aren't corrected for	al the	Date Received SDG Ref	31/07/2020 200731-88					
recovery (F) Trigger breach confirm 1-3+§@ Sample deviation (see a	ed appendix)		Lab Sample No.(s) AGS Reference	22583371					
Component		LOD/Uni	ts Method						
BOD, unfiltered		<1 mg/	1 TM045	28.2 #					
Oxygen, dissolved		<0.3 mg	/I TM046	6.16					
Organic Carbon, Total		<3 mg/	1 TM090	12.7					
Ammoniacal Nitrogen a level)	is N (low	<0.01 m	g/I TM099	22					
Fluoride		<0.5 mg	/I TM104	<0.5					
COD, unfiltered		<7 mg/	1 TM107	303 #					
Conductivity @ 20 deg.	C	<0.02 mS/cm	TM120	5.88 #					
Arsenic (diss.filt)		<0.5 µg	/I TM152	2.73 2#					
Cadmium (diss.filt)		<0.08 µ(g/I TM152	<0.08 2 #					
Chromium (diss.filt)		<1 µg/	I TM152	<1 2 #					
Copper (diss.filt)		<0.3 µg	/I TM152	<0.3 2 #					
Lead (diss.filt)		<0.2 µg	/I TM152	<0.2 2 #					
Manganese (diss.filt)		<3 µg/	I TM152	525 2 #					
Nickel (diss.filt)		<0.4 µg	/I TM152	55.2 2 #					
Phosphorus (diss.filt)		<10 µg	/I TM152	13.6 2 #					
Selenium (diss.filt)		<1 µg/	I TM152	<1 2 #					
Zinc (diss.filt)		<1 µg/	TM152	7.37					
Sodium (Dis.Filt)		<0.076 m	ng/l TM152	1250 2 #					
Magnesium (Dis.Filt)		<0.036 m	ıg/l TM152	28.2 2 #					
Potassium (Dis.Filt)		<0.2 mg	/I TM152	25.7 2 #					
Iron (Dis.Filt)		<0.019 m	ıg/l TM152	3.87 2 #					
Mercury (diss.filt)		<0.01 µ(g/l TM183	<0.01 2 #					
Phosphate (Ortho as Po	O4)	<0.05 m	g/l TM184	<0.05					
Sulphate		<2 mg/	1 TM184	29.4					
Chloride		<2 mg/	I IM184	1720					
Total Oxidised Nitrogen	n as N	<0.1 mg	/I TM184	<0.1					
рН		<1 pH Ur	nits TM256	6.88 #					



SDG:

Location:

200731-88 New Inn Landfill Client Reference: P2282 Order Number: Z2189 Report Number: 562221 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).

562221



Client Reference:P2282Order Number:Z2189

Report Number: Superseded Report:

Lab Sample No(s) 22583371 Customer Sample Ref. BH2 AGS Ref. Depth 0.00 - 0.00 Type Land Leachate

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

Page 6 of 7

	SDG:	200731-88 New Inn Landfill	Client Reference:	P2282 72189	Report Number: Superseded Report:	562221
(ALS)	Location.		oraci number.	22100		

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 Asbestos
Cio 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.



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

Attention: Daniel Hayden

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

CERTIFICATE OF ANALYSIS

Date of report Generation: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: 03 September 2020 Fehily Timoney 200826-96 P2282 New Inn Landfill 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



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: 03/09/2020

			F ANALYSIS		Validated	
SDG:	200826-96	Client Reference:	P2282	Report Number:	565743	
Location:	New Inn Landfill	Order Number:	Z2189	Superseded Report:		

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.

		С	FRT			OF ANALYSIS				Validated
SDG:	200826-96 New Inn Landfill		Clie	nt Rei	ference	: P2282 72189	Report Number: Superseded Report:	5657	'43	
Results Legend										
X Test	Lab Sample No(s)				22723					
No Determination					184					
Possible										
	Customer				甲					
	Sample Reference				S					
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 SA - Saline Water					0.00					
TE - Trade Effluent TS - Treated Sewage	Depth (m)				- 0.00					
RE - Recreational Water				ហ្	H2:					
UNL - Unspecified Liquid SL - Sludge	Container		250ml E (ALE2	00ml P (ALE2	SO4 (A					
G - Gas OTH - Other			12)	lastic 08)	LE244					
	Sample Type		5		Ē					
Ammonium Low	All NDP:	: 0								
	lest	: 1			x					
Anions by Kone (w)	All NDP: Tests	: 0 : 1		V						
BOD True Total	All NDP	: 0		^						
	Test	: 1	x							
COD Unfiltered	All NDP: Test:	: 0 : 1								
Conductivity (at 20 deg C)		· 0	X							
oonadanny (di 20 dog.o)	Tests	: 1		x						
Dissolved Metals by ICP-MS	All NDP:	: 0								
		. 1		x						
Dissolved Oxygen by Probe	All NDP: Test	: 0 : 1		Y						
Fluoride	All NDP:	: 0		^						
	Test	: 1		x						
Mercury Dissolved	All NDP: Tests	: 0 : 1								
pH Value		· 0		X						
,	Test	:1		X						
Phosphate by Kone (w)	All NDP:	: 0								
	Test	. 1		X						
Total Organic and Inorganic Carbon	All NDP: Tests	: 0 : 1			x					

				CERTI	FICATE O	F ANALYSIS			Validated
	SDG:		200826-96	Clien	t Reference:	P2282	Report Numb	er: 565743	
(ALS)	Location:		New Inn Landfill	Orde	r Number:	22189	Superseded Re	port:	
Bol 17025 accredited M mCERTS accredited aq Aqueous / settled sa diss.filt Dissolved / filtered s tournitit Total / unfiltered and * Subcontracted - refe accreditation status * % recovery of the su efficiency of the met compounds within s recovery (F) Trigger breach could be accredited on status 1-3+§@ Sample deviation (sat	Its Legend mple. ample. progate standard to check hod. The results of individ amples aren't corrected fo mmed te appendix)	for the tual or the	Customer Sample Ref. Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	BH2 0.00 - 0.00 Land Leachate (LE) 25/08/2020 - 26/08/2020 200826-96 22723184					
Component BOD, unfiltered		LOD/Units <1 mg/l	Method TM045	30.4					
Oxygen, dissolved		<0.3 mg/l	TM046	# 3.95					
Organic Carbon, Tota	l	<3 mg/l	TM090	12.6					
Ammoniacal Nitrogen	as N (low	<0.01 mg/l	TM099	10.8					
Fluoride		<0.5 mg/l	TM104	<0.5					
COD, unfiltered		<7 mg/l	TM107	101 #					
Conductivity @ 20 de	g.C	<0.02 mS/cm	TM120	3.03 #					
Arsenic (diss.filt)		<0.5 µg/l	TM152	3.55 2 #					
Cadmium (diss.filt)		<0.08 µg/l	TM152	<0.08 2 #					
Chromium (diss.filt)		<1 µg/l	TM152	<1 2 #					
Copper (diss.filt)		<0.3 µg/l	TM152	0.622 2 #					
Lead (diss.filt)		<0.2 µg/l	TM152	<0.2 2 #					
Manganese (diss.filt)		<3 µg/l	TM152	465 2 #					
Nickel (diss.filt)		<0.4 µg/l	TM152	52.7 2 #					
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					
Sodium (Dis.Filt)		<0.076 mg/l	TM152	449 2#					
Magnesium (Dis.Filt)		<0.036 mg/l	TM152	14.2					
Potassium (Dis.Filt)		<0.2 mg/l	TM152	14.7					
Iron (DIS.FIIt)		<0.019 mg/l	TM152	3.79					
Describets (Ortho as	PO4)	<0.01 µg/i	TM183	<0.01					
Phosphate (Ortho as	PU4)	<0.05 mg/l	TM184	<0.05					
Chlorido		<2 mg/l	TM184	740					
Total Ovidised Nitroge	an as N	<0.1 mg/l	TM184	0.266					
nH	511 05 11	<1 nH Inits	TM104	6.74					
, i ,			1112.00	#					
						_			
						_			



TM045

TM046

TM090

TM099

TM104

TM107

TM120

TM152

TM183

TM184

TM256

NA = not applicable.

SDG:

Part 9.1970

38924 3

200826-96 New Inn Landfill

Method 3125B, AWWA/APHA, 20th Ed., 1999

EPA Methods 325.1 & 325.2,

BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580

The measurement of Electrical Conductivity and the

Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.

Client Reference: P2282 Order Number: Z2189 Report Number: 565743 Superseded Report:

Location: **Table of Results - Appendix** Method No Reference Description MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130 Method 4500G, AWWA/APHA, 20th Ed., 1999 Measurement of Dissolved Oxygen by Oxygen Meter Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water EPA Method 415.1 & 9060 Determination of Ammonium in Water Samples using the Kone Analyser BS 2690: Part 7:1968 / BS 6068: Part2.11:1984 Method 4500F, AWWA/APHA, 20th Ed., 1999 Determination of Fluoride using the Kone Analyser ISO 6060-1989 Determination of Chemical Oxygen Demand using COD Dr Lange Kit Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Determination of Electrical Conductivity using a Conductivity Meter

Analysis of Aqueous Samples by ICP-MS

Atomic Fluorescence Spectrometry

Analysers

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

Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour

The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric

Determination of pH in Water and Leachate using the GLpH pH Meter

565743

Report Number: Superseded Report:

P2282

Z2189

Client Reference:

Order Number:



Test Completion Dates

Leh Semple No(o)	22723184
	22120104
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
$(\Delta I S)$	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 Asbestos
Cio 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.



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: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: Order Number: 17 June 2022 Fehily Timoney 220606-24 Galway Historic Landfills P22-040 New Inn Landfill 651144 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



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: 3.3 Version Issued: 17/06/2022



Client Ref.: Galway Historic Landfills P22-040

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

Validated

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.

|--|

(ALS) SDG: Client Ref.:	220606-24 Galway Historic Landfill	ls P22-040		Rep	ort N Lo	umbe catior	r: 65 n: Ne	1144 w Inr	n Lan	dfill			Super	sedeo	l Repo	ort:					
Results Legend X Test N No Determination Possible	Lab Sample N	lo(s)						26388789						26388800						26388770	26388781
Sample Types -	Custome Sample Refer	r ence						BH01						BH04						GW01	GW02
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						0.00 - 0.00						0.00 - 0.00	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)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	NaOH (ALE245) HNO3 Filtered (ALE204) H2SO4 (ALE244) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227)					Vial (ALE297)	0.5l glass bottle (ALE227)
	Sample Ty	ре	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	x						X						X						x
Alkalinity as CaCO3	All	NDPs: 0 Tests: 6		x						x						x					
Ammonium Low	All	NDPs: 0 Tests: 6			x						X						X				
Anions by Kone (w)	All	NDPs: 0 Tests: 6	x						x						x						X
BOD True Total	All	NDPs: 0 Tests: 6		x						x						x					
COD Unfiltered	All	NDPs: 0 Tests: 6	x						x						x						x
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6					x						x						x		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6				x						x						x			
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 6		x						x						x					
Fluoride	All	NDPs: 0 Tests: 6		x						x						x					
Mercury Dissolved	All	NDPs: 0 Tests: 6				x						x						x			
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 6		x						x						x					
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 6	x						x						x						x
Pesticides (Suite II) by GCMS	All	NDPs: 0 Tests: 6	x						x						x						x
Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 6	x						x						x						x

				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	SM	WS	WS	SM	SM	WS	WS	WS	WS	WS	WS	SW	WS	WS
x x x x	x	x x	x			x x	x x x x		x x	x			x x	x x x x	x		x	
X					x x x		X					x x x		X				

			C	ERT	IFIC	AT	e of	F AI	NAL	.YSI	S									Vali	dated	
ALS	SDG: Client Ref.:	220606-24 Galway Historic Landfil	ls P22-040		Rep	ort Ni Lo	umber cation	:: 65 :: Ne	1144 w Inr	1 Lano	dfill			Super	sedec	l Repo	ort:					
Results Legend X Test N Do Determ	ination	Lab Sample N	lo(s)						26388789						26388800						26388770	26388781
Sample Types -		Custome Sample Refer	r ence						BH01						BH04						GW01	GW02
S - Soil/Solid UNS - Unspecified Sol GW - Ground Water SW - Surface Water LE - Land Leachate	lid	AGS Refere	nce																			
PL - Prepared Leachat PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage	le	Depth (m)						0.00 - 0.00						0.00 - 0.00						0.00 - 0.00	0.00 - 0.00
RE - Recreational Wat DW - Drinking Water Nor UNL - Unspecified Liqu SL - Sludge G - Gas OTH - Other	er n-regulatory uid	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	ре	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
pH Value		All	NDPs: 0 Tests: 6	x						x						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	NDPs: 0 Tests: 6						x						x						x	

				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	SM	SW	WS	SM	SM	SM	WS	SW	SW	SM	SM	SM	SM	SM
							x							x				
					x							х						
	Y							Y							Y			
	^							^							^			
				x							x							X

SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

CERTIFICATE OF ANALYSIS

Validated

Report Number: 651144 Location: New Inn Landfill

- Described as sound										
Results Legend # ISO17025 accredited.		Cu	stomer 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)	
 Subcontracted - refer to subcontractor report for accreditation status. 			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							
efficiency of the method. The results of individual compounds within samples aren't corrected for the			Date Received	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022	
recovery			SDG Ref	26388789	26388800	26388770	26388781	26388814	26388824	
(F) Trigger breach confirmed 1-4+S@ Sample deviation (see appendix)			AGS Reference	2000703	2000000	20000110	2000101	2000014	20000024	
Component	LOD/L	Inits	Method							
Alkalinity, Total as HCO3	<2 n	na/l	TM043	440	464	1420	1830	442	439	
· · · · · · · · · · · · · · · · · · ·	-2-11	·9/1	11110 10	110	101	1120	1000		100	
DOD with the state			T1 10 15		<u>^</u>					
BOD, unilitered	<1 n	ng/I	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 n	na/l	TM090	<3	4 36	34	3 19	<3	<3	
	•	·9/·		° #	#	#	#	° #	۳ #	
Ammonianal Nitragon on N. (law Javal)	10.01	//	TM000	π	π	π	π	π	π	
Ammoniacal Nilrogen as N (low level)	<0.01	mg/i	110099	0.122	0.212	0.0000	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 n	na/l	TM107	16.3	70.2	83.4	214	<7	8 94	
		.9.		.3.0 #	#	#	#	. #		
Arconic (diss filt)	<0.5.0		TM450	-0 E	# 0.00	-0 E		-^ E	-0 E	
	<0.5 µg		111152	<u.5< td=""><td>3.02</td><td><0.5</td><td>0.804</td><td><u.5< td=""><td><0.5</td></u.5<></td></u.5<>	3.02	<0.5	0.804	<u.5< td=""><td><0.5</td></u.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	ua/l	TM152	16.6	52.9	14.6	166	10.8	<10	
		· • ·		#	#	#	#	#	#	
Codmium (dico filt)	<0.09		TM150	π ~0.09	π ~0.09	π <0.09	π <0.09	π <0.09	π <0.09	
Cadmium (diss.int)	<0.08	µg/i	111152	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	
				#	#	#	#	#	#	
Chromium (diss.filt)	<1 k	ıg/l	TM152	<1	<1	<1	<1	<1	<1	
				#	#	#	#	#	#	
Copper (diss.filt)	<0.3	ua/l	TM152	11.9	<0.3	0.98	12	0 481	0.538	
	0.0	mg/.			0.0 #	#	#	#	#	
Land (dias f 10)	.0.0	"	T14450	#	#	#	#	#	#	
Lead (diss.iiit)	<0.Z	µg/i	110152	0.497	<0.2	<0.2	0.252	<0.2	<0.2	
				#	#	#	#	#	#	
Manganese (diss.filt)	<3 k	ıg/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		TM150	22.5	11.0	22.6	26.4	<10		
r iospilorus (diss.iiit)	<10	µg/i	1101152	33.0	11.0	33.0	30.4	<10 "	<10 "	
				#	#	#	#	#	#	
Selenium (diss.filt)	<1 k	ıg/l	TM152	<1	<1	<1	<1	<1	<1	
				#	#	#	#	#	#	
Thallium (diss.filt)	<2 µ	ıg/l	TM152	<2	<2	<2	<2	<2	<2	
		°		#	#	#	#	#	#	
Zinc (diss filt)	د1 ہ	ia/l	TM152	20.7	3.2	9.58	8 15 	2	6.26	
(0.00()	[\] '	•9/I	i IVI I JZ	<u>لاتا</u>	<u>у.с</u> ш	<u>э.</u> оо	U.10 #	د	U.20 #	
Ordinar (Dis Eill)			T14455	#	#	#	#	#	#	
Sodium (Dis.Filt)	<0.076	6 mg/l	IM152	7.95	43.6	10.8	670	24	24.2	
				#	#	#	#	#	#	
Magnesium (Dis.Filt)	<0.036	6 mg/l	TM152	9.22	9.11	5.48	34.5	5.73	5.7	
				#	#	#	#	#	#	
Potassium (Dis.Filt)	<0.2	ma/l	TM152	1 31	3 88	2 15	6.98	2 07	2 09	
···· (· · ··· · · · · · · · · · · · ·	.0.2			#	4	4		£.v, #	2.00	
Coloium (Dia Filt)	-0.0		TM450	#	#	#	#	#	#	
	<0.2	iiig/l	1111152	131	142		51.9	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	
		F-3/-		#	#	#	#			
Sulphate	-0-	na/l	TM194	π 11 <i>λ</i>	π 20.2	10.6	π /02	0.4	80	
Calpriato	~2 11	ıy/ı	1 101 1 04	11.4	20.2	10.0	432 "	J.4 "	U.Ə "	
	-			#	#	#	#	#	#	
Chloride	<2 n	ng/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	
		Š		#	. #	. #	. #	. #	·	
PCB congener 28	<0.011	5 ua/l	TM107	<0 015 	<0.015	<0.015	<0.015	<0.015 	<0.015	
	-0.01	~ µ9/1	1111137	-0.013	510.07	50.010	-0.010	50.010	NU.010	
200										
PCB congener 52	<0.01	ōµg∕l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	
PCB congener 101	<0.015	5 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	
									~0.015	
PCB congener 118	< 0.01	5 μα/Ι	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	
-		r 3''								



Client Ref.: Galway Historic Landfills P22-040

CERTIFICATE OF ANALYSIS

Validated

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

									;
Results Legend # ISO17025 accredited.		Cus	stomer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
m much is accremente. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.umfilt Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation status.			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			Date Received	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
recovery (E) 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)			AGS Reference						
Component PCB congener 138	<0.015	J nits 5 µg/l	Method TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015	5 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015	ō µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105	5 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	<0.0 mS/c)2 cm	TM256	0.646 #	0.826 #	0.711 #	2.9 #	0.713 #	0.709 #
Trifluralin	<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	TM343	<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

15:59:50 17/06/2022



Client Ref.: Galway Historic Landfills P22-040

CERTIFICATE OF ANALYSIS

Validated

Report Number: 651144 Location: New Inn Landfill

Results Legend		Cus	tomer Sample Ref.	BH01	BH04	GW01	GW02	SW01	SW02
mcCETS accredited mcCETS accredited aq Aqueous / settled sample. dis.fitt DisoAved / fittered sample. tot.unfitt Total / unfittered sample. * Subcontracted - refer to subcontractor report for accreditation status.			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			
 % 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 		I	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)		mite.	AGS Reference						
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
Chiorpyriphos-methyl	<0.01	µg/I	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Dimetrioate	<0.01	µg/i	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Chlorovrinkos	<0.01	µg/i	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Methyl Parathian	<0.01	µg/i	TM244	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Malathion	<0.01	µg/i	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Fenthion	<0.01	µg/i	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Fenitrothion	<0.01	µg/i	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Triadimeton	<0.01	µg/i	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Pendimethalin	<0.01	H0/I	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Parathion	<0.01	HQ/I	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Chlorfenvinohos	<0.01	HQ/I	TM344	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
trans-Chlordane	~0.01	μg/I	TM2//	~0.01	~0.01	~0.01	~0.02	~0.01	~0.01
cis_Chlordana	<0.01	µg/I	TM244	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Ethion	<0.01	μg/I	TM244	SU.UI	<0.01	<0.01	<0.02 <0.02	SU.UI	<0.01
Carbonhenothion	~0.01	μg/I	TM2//	~0.02	~0.02	~0.02	~0.02	~0.02	<0.02
ouroophonounon	\ 0.01	µy/I	11/10/44	<u></u> \0.0∠	<u></u> \0.0∠	<u></u> \0.0∠	\ 0.04	<u></u> \0.0∠	<u></u> \0.0∠



Client Ref.: Galway Historic Landfills P22-040

CERTIFICATE OF ANALYSIS

Validated

Report Number: 651144 Location: New Inn Landfill

Results Legend # ISO17025 accredited. M mCERTS accredited.		Customer Sa	mple Ref	BH01	BH04	GW01	GW02	SW01	SW02
aq Aqueous / settled sample. diss.fit Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for		E Sam Data	epth (m) ple 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		Sam	ple Time						
efficiency of the method. The results of individual compounds within samples aren't corrected for the		Date F	Received	06/06/2022 220606-24	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
recovery (F) Trigger breach confirmed		Lab Samp	le No.(s)	26388789	26388800	26388770	26388781	26388814	26388824
1-4+§@ Sample deviation (see appendix)		AGS R	eference						
Component	LOD/U	nits Met	hod	.0.00	-0.00	-0.00	-0.04	-0.04	.0.00
Inazopnos	<0.01	µg/I IM	344	<0.02	<0.02	<0.02	<0.04	<0.01	<0.02
	<0.01	µg/i IM	244	<0.02	<0.02	<0.02	<0.04	<0.00	<0.02
Azimphos metnyi	<0.02	µg/i IM	244	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02
Azinphos euryi	<0.02	µg/i IM	344	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02
	<0.01	µg/I IM	345	<0.02	<0.02	<0.1	<0.2	<0.02	<0.02
Pentachlorobenzene	<0.01	µg/I IM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Propachlor	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Quintozene (PCNB)	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Omethoate	<0.01	µg/I TM	345	<0.02	<0.02	<0.1	<0.2	<0.02	<0.02
Propazine	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Propyzamide	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Alachlor	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Prometryn	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Telodrin	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Terbutryn	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Chlorothalonil	<0.01	µg/I TM	345	<0.01	<0.01	<0.1	<0.2	<0.01	<0.01
Etrimphos	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Metazachlor	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Cyanazine	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Trietazine	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Coumaphos	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Phosphamidon I	<0.01	µg/I TM	345	<0.02	<0.02	<0.1	<0.2	<0.02	<0.02
Phosphamidon II	<0.01	µg/I TM	345	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01
Dinitro-o-cresol	<0.1	µg/I TM	111	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
Clopyralid	<0.04	µg/I TM	411	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
МСРА	<0.05	µg/l TM	111	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
Mecoprop	<0.04	µg/l TM	411	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
Dicamba	<0.04	µg/I TM	111	<0.04	<0.2	<0.2	<0.2	<0.04	<0.04
МСРВ	<0.05	µg/l TM	111	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
2,4-DB	<0.1	µg/l TM	411	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
2,3,6-Trichlorobenzoic acid	<0.05	µg/l TM	411	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05
Dichlorprop	<0.1	µg/I TM	111	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
Triclopyr	<0.05	µg/l TM	111	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05



Client Ref.: Galway Historic Landfills P22-040

CERTIFICATE OF ANALYSIS

Validated

Report Number: 651144 Location: New Inn Landfill

Results Legend # ISO17025 accredited. M mCERTS accredited.		Cu	istomer 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)
* Subcontracted - refer to subcontractor report for			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						
efficiency of the method. The results of individual			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			SDG Ref	220606-24	220606-24	220606-24	220606-24	220606-24	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/L	Inits	Method						
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

SVOC MS (W) - Aqueous

Customer Sample Ref.

BH01

CERTIFICATE OF ANALYSIS Report Number: 651144

BH04

Location: New Inn Landfill

1

GW01

Т

Superseded Report:

SW01

GW02

Validated

SW02

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

M mCERTS accredited. a Queues / settled sample. diss.fitt Dissolved / fittered sample. tot.mfit1 Colar Junifiered sample. tot.mfit1 Colar Junifiered sample. Subcontracted - refer to subcontractor report for accredition 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 14-45@ Sample deviation (see appendix) Component		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022 220606-24 26388789	0.00 - 0.00 Ground Water (GW) 02/06/2022 - 06/06/2022 220606-24 26388800	0.00 - 0.00 Ground Water (GW) 02/06/2022 - 06/06/2022 220606-24 26388770	0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022 220606-24 26388781	0.00 - 0.00 Surface Water (SW) 02/06/2022 	0.00 - 0.00 Surface Water (SW) 02/06/2022 06/06/2022 220606-24 26388824
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	 <1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	 <1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #			<1 #	
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	" <1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<4	<8	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	<1	<4	<8	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	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/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1	<4	<8	<1	<1
Azobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #	<2 #	<8 #	<16	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8	<1 #	<1 #
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #	<4 #	<8	<1 #	<1 #

CERTIFICATE OF ANALYSIS

Validated

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

SVOC MS (W) - Aqueous

SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

Results Legend		C	atomar Samula Daf	DUDA	DUDA	011/04	014/00	011/04	014/00
# ISO17025 accredited.		Cu	stomer Sample Rei.	BHU1	BH04	GWU1	GWUZ	SWUT	SWUZ
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)
* Subcontracted - refer to subcontractor report for			Date Sampled	02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022
accreditation status.				02/00/2022	02/00/2022	02/00/2022	02/00/2022	02/00/2022	02/00/2022
** % recovery of the surrogate standard to check the			Sample Time	•	•	•	· · ·	•	•
efficiency of the method. The results of individual			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			SDG Ref	220606-24	220606-24	220606-24	220606-24	220606-24	220606-24
(E) Trigger breach confirmed			l ah Sample No (s)	26388789	26388800	26388770	26388781	26388814	26388824
1.446@ Sample deviation (see annendix)			AGS Pafaranco						
1-444 (B) Gample deviation (see appendix)		<u> </u>	AGS Reference						
Component	LOD/U	Inits	Method						
Benzo(b)fluoranthene (ag)	<1 I	ia/l	TM176	<1	<1	٤٨	< 8	<1	<1
Sonzo(S)naoranaiono (aq)	~ i k	iy/i	1101170	- 1			~0	1	1
				#	#	#	#	#	#
			71470		4				
Benzo(k)fluoranthene (aq)	<1 µ	ig/l	IM1/6	<1	<1	<4	<8	<1	<1
				#	#	#	#	#	#
				#	#	#	#	#	#
Benzo(a)pyrene (ag)	<11	ıa/l	TM176	<1	<1	<4	<8	<1	<1
(-),(,)		·9/1							
				#	#	#	#	#	#
Denera (n.h. i) non denera (n.n.)			T1470	.4			.0	.4	-4
benzo(g,n,i)perviene (aq)	<1 L	ig/i	11/11/0	<1	<1	<4	<8	<1	<1
				#	#	#	#	#	#
				#	#	#	#	#	#
Carbazole (aq)	<1 L	ıa/l	TM176	<1	<1	<4	<8	<1	<1
		5							"
				#	#	#	#	#	#
Chrysene (ag)	<1 ·	.a/I	TM176	-1	-1	-1	-9		-1
onlysene (aq)	~ i h	ig/i	11/11/0	<1	<1 <1	~4	~ 0	~1	~1
				#	#	#	#	#	#
Dihanga (a.)			T1 1 1			. "	^ "	"	
upenzoturan (aq)	<1 µ	ıg/i	IM176	<1	<1	<4	<8	<1	<1
				#	#	#	#	#	#
				#	#	#	#	#	#
n-Dibutyl phthalate (aq)	<11	ıq/l	TM176	<1	<1	<4	<8	<1	<1
· · · · · ·	۰ <i>۴</i>	Г			· · ·	· · ·		·	· · ·
				#	#	#	#	#	#
Diethyl nhthalate (ag)	21.	ua/l	TM176	-1	-1	-1	~2	-1	-1
Dioutyr prinaiaid (dy)	<1 h	iy/i	0 / דוא ד	<u><u></u></u>	N	×4	^ 0	<u><u></u></u>	N
				#	#	#	#	#	#
				<i>π</i>	<i>π</i>		<i>π</i>	<i>π</i>	<i>π</i>
Dibenzo(a,h)anthracene (aq)	<1 L	ıg/l	TM176	<1	<1	<4	<8	<1	<1
	· ·	1		ш	ш	ш	ш	ш	ш
				#	#	#	#	#	#
Dimethyl phthalate (ag)	<11	ia/l	TM176	<1	<1	<4	<8	<1	<1
	116	'9/I	1101170	-1	-1		10	- 1	-1
				#	#	#	#	#	#
n Diastal abthalata (an)	.5	п	T1470	.5		.00	.10	.5	.5
n-Dioctyl phthalate (aq)	<2 h	ıg/l	IM176	<5	<5	<20	<40	<5	<5
				#	#	#	#	#	#
				#	#	#	#	#	#
Fluoranthene (ag)	<1 เ	ıa/l	TM176	<1	<1	<4	<8	<1	<1
(<i>W</i>		· J· ·							
				#	#	#	#	#	#
Eluorono (ag)	<1 ·	ua/I	TM176	-1	-1	-1	-9	1	-1
	~ i h	ig/i	11/11/0	<1	<1 <1	~4	~ 0	~1	~1
				#	#	#	#	#	#
					"				
Hexachlorobenzene (aq)	<1 L	ıa/l	TM176	<1	<1	<4	<8	<1	<1
		5		ш	ш.	ш.	ц	ш	ш
				#	#	#	#	#	#
Hexachlorobutadiene (ag)	<1 J	ua/l	TM176	-1	-1	-1	< <u>8</u>	1	-1
(uq)	~ i k	iy/i	1101170	- 1			~0	1	1
				#	#	#	#	#	#
			71470	4	4				4
Pentachlorophenol (aq)	<1 µ	ıg/l	IM1/6	<1	<1	<4	<8	<1	<1
Phenol (ag)	<1 เ	ıa/l	TM176	<1	<1	<4	<8	<1	<1
	116	·9/1					.0		
n Nitroso n dinronylamina (ag)	-1.	. <i>a</i> /l	TM476	-1	-1	- 1	-9	- 1	-1
n-Nilloso-n-uipiopylamine (aq)	< 1 L	ig/i	11111/0	<1 <1	<1 <1	<4	~ 0	<u> </u>	<1 <
				#	#	#	#	#	#
				"	"	"	"	"	
Hexachloroethane (aq)	<1 µ	ıg/l	TM176	<1	<1	<4	<8	<1	<1
		Ŭ		#	#	#	#	#	#
				#	#	#	#	#	#
Nitrobenzene (ag)	<11	ia/l	TM176	<1	<1	<4	<8	<1	<1
(uq)	214	iy/i	1101170				~0	1	1
				#	#	#	#	#	#
Naahthalasa (aa)		п	T1470				-0		-4
ivapntnaiene (aq)	<1 µ	ıg/i	IM1/6	<1	<1	<4	۲۵>	<1	<1
				#	#	#	#	#	#
				#	#	#	#	#	#
Isophorone (aq)	<11	ıq/l	TM176	<1	<1	<4	<8	<1	<1
	۰ <i>۴</i>	J.			· · ·	· · ·		·	· · ·
				#	#	#	#	#	#
Hexachlorocyclopentadiene (ag)	<i>c</i> 1 ·	ia/l	TM176	<1	<1	<1	< 8	<1	<1
	~1	·9/1	1111170			` "	~0		
					1				
Dhanaathaana (c.)							-		
Phenanthrene (aq)	<1 L	ıg/l	TM176	<1	<1	<4	<8	<1	<1
	· '	·		ш	ш	ш	ш	ш	ш
				#	#	#	#	#	#
Indeno(1.2.3-cd)nyrene (ag)	<1 I	ia/l	TM176	<1	<1	٤٨	< 8	<1	<1
	~1	·9/1	1111170			<u>`</u>	~0		
				#	#	#	#	#	#
Durana (as)		· • /l	TN 44 70	.4		.4		.4	.4
Pyrene (aq)	<1 µ	ıg/i	IM176	<1	<1	<4	<8	<1	<1
				#	#	#	#	#	#
				#	#	#	#	#	#
		1							
			<u> </u>						

SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

CERTIFICATE OF ANALYSIS

Validated

Report Number: 651144 Location: New Inn Landfill

VOC MS (W)								,
Results Legend Results Legend Results Legend IG017025 accredited. M mCERTS accredited. Aqueous / settled sample. tot.unfilt Total / unfiltered sample. tot.unfilt Total / unfiltered sample. Subcontracted -refer to subcontractor report for 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 confilmed 1-4+§@ Sample deviation (see appendix)		Customer Sample Ref. Depth (m) Sample Type Date Sample Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	BH01 0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022 220606-24 26388789	BH04 0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022 220606-24 26388800	GW01 0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022 220606-24 26388770	GW02 0.00 - 0.00 Ground Water (GW) 02/06/2022 06/06/2022 220606-24 26388781	SW01 0.00 - 0.00 Surface Water (SW) 02/06/2022 06/06/2022 220606-24 26388814	SW02 0.00 - 0.00 Surface Water (SW) 02/06/2022 206/06/2022 220606-24 26388824
Component Dibromofluoromethane**	LOD/Ui %	TM208	98.2	100	97.4	99.5	99.8	117
Taluara 10tt		T1 1000	400	100	400	400		
Toluene-d8"**	%	TM208	103	102	103	102	102	103
4-Bromofluorobenzene**	%	TM208	105	106	104	102	102	105
Dichlorodifluoromethane	<1 µ(g/I TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µ(g/I TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µ(g/I TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µ(g/l TM208	<1 #	<1 #	 <1 #	<1 #	 <1 #	<1 #
Chloroethane	<1 µ(g/I TM208						
Trichlorofluoromethane	<1 µ(g/I TM208			# <1 #	# <1 #	# <1 #	
1,1-Dichloroethene	<1 µ(g/I TM208	# <1	# <1	# <1	# <1	# <1	# <1
Carbon disulphide	<1 µ(g/l TM208	# <1	# <1	# <1	# <1	# <1	# <1
Dichloromethane	<3 µ(g/l TM208	# <4	# <4	# <4	# <4	# <4	# <4
Methyl tertiary butyl ether (MTBE)	<1 µ(g/I TM208	# <1	# <1	# <1	# <1	# <1	# <1
trans-1,2-Dichloroethene	<1 µ(g/l TM208	# <1	# <1	# <1	# <1	# <1	# <1
1,1-Dichloroethane	<1 µ(g/l TM208	# <1	# <1	# <1	# <1	# <1	# <1
cis-1,2-Dichloroethene	<1 µ(g/I TM208	# <1 #	# <1 #	# <1 #	# <1 #	# <1 #	# <1 #
2,2-Dichloropropane	<1 µ(g/l TM208	<1	<1	<1	<1	" <1	<1
Bromochloromethane	<1 µ(g/l TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µ(g/I TM208			# <1 #	# <1 #	# <1 #	
1,1,1-Trichloroethane	<1 µ(g/I TM208						
1,1-Dichloropropene	<1 µ(g/I TM208						
Carbontetrachloride	<1 µ(g/I TM208						
1,2-Dichloroethane	<1 µ(g/I TM208						
Benzene	<1 µ(g/I TM208						
Trichloroethene	<1 µ(g/I TM208						
1,2-Dichloropropane	<1 µ(g/I TM208	<1 #		 <1 #			
Dibromomethane	<1 µ(g/I TM208						
Bromodichloromethane	<1 µ(g/l TM208			# <1 #	# <1 #	# <1 #	#
cis-1,3-Dichloropropene	<1 µ	g/l TM208		* <1 #				
Toluene	<1 µ(g/l TM208		* <1 #	# <1 #		# <1 #	# <1 #
trans-1,3-Dichloropropene	<1 µ(g/I TM208	# <1 #	* <1 #	# <1 #	# <1 #	# <1 #	
1,1,2-Trichloroethane	<1 µ(g/l TM208	* <1 #	* <1 #				
1,3-Dichloropropane	<1 µ(g/l TM208		<1 #	** <1 #	<1 <1 #	<1 #	<1 #

SDG: 220606-24

Client Ref.: Galway Historic Landfills P22-040

CERTIFICATE OF ANALYSIS

Validated

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

VOC MS (W)

Results Legend		Cus	tomer 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)
* Subcontracted - refer to subcontractor report for accreditation status.			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						
efficiency of the method. The results of individual compounds within samples aren't corrected for the			Date Received	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
recovery			SDG Ret	220606-24	220606-24 26388800	220606-24 26388770	220606-24 26388781	220606-24 26388814	220606-24 26388824
1-4+§@ Sample deviation (see appendix)			AGS Reference	2000/00	2000000	20000110	20000101	2000011	2000021
Component	LOD/U	Inits	Method						
Tetrachloroethene	<1 u	ıa/l	TM208	<1	<1	<1	<1	<1	<1
	r r	J.		#	#	#	#	#	#
Dibromochloromethane	<1.	ia/l	TM208	<i>c</i> 1	د1	<u>دا</u>	<1	c1	د1
Distonicionicionana	510	ig/i	1101200	~1 #	×1 #	×1 #	×1 #	×1 	×1 #
4.0.01			T 1 (000	#	#	#	#	#	#
1,2-Dibromoethane	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Chlorobenzene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
1,1,1,2-Tetrachloroethane	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Ethylbenzene	<1.0	Ia/I	TM208	<1	<1	<1	<1	<1	<1
		. . .		#	. #	. #	. #	. #	. #
m n-Xylene	<1.	ua/l	TM208			-1			
	ι ^{νιμ}	·9/'	111200	۲ س	хı ш	ст 1 — ш	, ш	ст ш	ц I
a Videna		· • /l	TM000	#	#	#	#	#	#
o-Xylene	<1µ	ıg/i	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Styrene	<1µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Bromoform	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Isopropylbenzene	<1 u	ıa/l	TM208	<1	<1	<1	<1	<1	<1
		. . .		#	. #	. #	. #	. #	. #
1 1 2 2-Tetrachloroethane	<1.	ua/l	TM208			-1			
1,1,2,2-1604010006014116	<\µ	iy/i	T IVIZUO	<i< td=""><td>×1 #</td><td>×1</td><td>×1 #</td><td>×1 #</td><td>~1 #</td></i<>	×1 #	×1	×1 #	×1 #	~ 1 #
4007:11			T 1 (000	#	#	#	#	#	#
1,2,3-Trichloropropane	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Bromobenzene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Propylbenzene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
2-Chlorotoluene	<1 u	ıa/l	TM208	<1	<1	<1	<1	<1	<1
	r r	J		#	#	#	#	#	#
1 3 5-Trimethylbenzene	<11	ia/l	TM208	<1	" د1	<1 "	<1		<1
	110	·9/1	111200	-1 #	-1 #	-1 #	-1 #	*1 #	-1 #
4 Chloratoluono	1 - 1	· ~ //	TM200	π	π	π	π	π 	π
4-Chioroloidene	<\µ	iy/i	T IVIZUO	<i< td=""><td>×1 #</td><td>×1</td><td>×1 #</td><td>×1 #</td><td>~1 #</td></i<>	×1 #	×1	×1 #	×1 #	~ 1 #
			T 1 (000	#	#	#	#	#	#
tert-Butylbenzene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
1,2,4-Trimethylbenzene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
sec-Butylbenzene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
	l .			#	#	#	#	#	#
4-iso-Propyltoluene	<1 u	ıa/l	TM208	<1	<1	<1	<1	<1	<1
		~		#	#	#	#	#	#
1,3-Dichlorobenzene	<1	ıa/l	TM208	<1	<1 "	<1 "	<1 "	<1 "	<1 "
	ι ^{νι μ}	· "	111200						
1.4-Dichlorobenzono	21	ua/l	TMOOP	-1	-1	-1	-1	-1	-1
	ι <ιμ	·9/1	111/200	NI "	NI	×1 "	NI	NI	NI
. Det the second				#	. #	. #	. #	#	. #
n-Butylbenzene	<1µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
1,2-Dichlorobenzene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
1,2-Dibromo-3-chloropropane	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
		-							
1,2,4-Trichlorobenzene	<1	ıa/l	TM208	<1	<1	<1	<1	<1	<1
	, .,p	· g, ·		#		#			
Hexachlorobutadiene	~1	ua/l	TMOOO	-1	-1	-1	-1	-1	<i>*</i>
	<1µ	ig/i	ι Ινίζυδ	SI "	SI	SI "	SI "	<u> </u>	SI "
And Annual seconds of the Office State			T , 10.0	. #	. #	. #	. #	. #	. #
tert-Amyl methyl ether (TAME)	<1µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Naphthalene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
1,2,3-Trichlorobenzene	<1 µ	ıg/l	TM208	<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
1,3,5-Trichlorobenzene	<1 u	ıg/l	TM208	<1	<1	<1	<1	<1	<1
	۳. I	~							



Client Ref.: Galway Historic Landfills P22-040

CERTIFICATE OF ANALYSIS

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

Validated

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.



COD Unfiltered

Mercury Dissolved

Fluoride

pH Value

VOC MS (W)

Cyanide Comp/Free/Total/Thiocyanate

Dissolved Metals by ICP-MS

Dissolved Oxygen by Probe

PCB Congeners - Aqueous (W) Pesticides (Suite I) by GCMS

Pesticides (Suite II) by GCMS

Pesticides (Suite III) by GCMS

Total Organic and Inorganic Carbon

SVOC MS (W) - Aqueous

CERTIFICATE OF ANALYSIS

Report Number: 651144

09-Jun-2022

10-Jun-2022

07-Jun-2022

10-Jun-2022

10-Jun-2022

13-Jun-2022

10-Jun-2022

09-Jun-2022

10-Jun-2022

08-Jun-2022

09-Jun-2022

07-Jun-2022

14-Jun-2022

09-Jun-2022

10-Jun-2022

07-Jun-2022

10-Jun-2022

10-Jun-2022

13-Jun-2022

10-Jun-2022

09-Jun-2022

10-Jun-2022

08-Jun-2022

09-Jun-2022

07-Jun-2022

14-Jun-2022

Superseded Report:

09-Jun-2022

10-Jun-2022

07-Jun-2022

09-Jun-2022

10-Jun-2022

13-Jun-2022

10-Jun-2022

09-Jun-2022

10-Jun-2022

08-Jun-2022

09-Jun-2022

07-Jun-2022

14-Jun-2022

Client Ref.: Galway H	istoric Landfill	ls P22-040		ocation: Ne	w Inn Landfill	
		Tes	t Com	pletior	n Dates	S
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

09-Jun-2022

10-Jun-2022

07-Jun-2022

10-Jun-2022

10-Jun-2022

13-Jun-2022

10-Jun-2022

09-Jun-2022

10-Jun-2022

08-Jun-2022

09-Jun-2022

07-Jun-2022

14-Jun-2022

09-Jun-2022

10-Jun-2022

07-Jun-2022

10-Jun-2022

10-Jun-2022

13-Jun-2022

10-Jun-2022

09-Jun-2022

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08-Jun-2022

09-Jun-2022

07-Jun-2022

14-Jun-2022

09-Jun-2022

10-Jun-2022

07-Jun-2022

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13-Jun-2022

10-Jun-2022

09-Jun-2022

10-Jun-2022

08-Jun-2022

09-Jun-2022

07-Jun-2022

14-Jun-2022



220606-24 Galway Historic Landfills P22-(Report Number: 651144 Location: New Inn Landfill Superseded Report:

Appendix

SDG:

Client Ref:

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 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 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.</p>

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 andd 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	White Asbestos
Amosite	Brow n Asbestos
Cio d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib io us Anthop hyll ite	-
Fibrous Tremol ite	-

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 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.

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: Sean Foley

CERTIFICATE OF ANALYSIS

Date of report Generation: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: Order Number: 20 October 2023 Fehily Timoney 231006-103 Galway Historic Landfills P23-074 New Inn 708144 Z4096

We received 2 samples on Friday October 06, 2023 and 2 of these samples were scheduled for analysis which was completed on Friday October 20, 2023. 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 Laboratories (UK) Limited 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:

<u>Sonia McWhan</u> Operations Manager



ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955. Version: 3.6 Version Issued: 20/10/2023



Report Number: 708144 Location: New Inn

Superseded Report:

Validated

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28741694	SW1		0.00 - 0.00	04/10/2023
28741705	SW2		0.00 - 0.00	04/10/2023

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

Validated

	CERTIFICATE OF ANALYSIS																	
<u>Client</u>	SDG: 231006-10 Ref.: Galway Hist	231006-103 Galway Historic Landfills P2:			Report Number: 708144 Location: New Inn						Superseded Report:							
Results Legend									2			2						
X Test	Lab Sa	Lab Sample No(s) Customer Sample Reference			28741694													
Possible	Cu Sample																	
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 US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	AGS I	AGS Reference																
	De	Depth (m) Container			0.00 - 0.00													
	Co				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)		
	Sam	Sample Type		WS	MS	WS	WS	WS	MS	WS	MS	MS	WS	WS	WS	ws		
Acid Herbicides by GCMS	All	NDPs: 0 Tests: 2	X							X								
Ammonium Low	All	NDPs: 0 Tests: 2				x							X					
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		Х							X							
Cyanide Comp/Free/Total/Thiocy	anate All	NDPs: 0 Tests: 2						X							X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2					X							X				
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 2			X							X						
Fluoride	All	NDPs: 0 Tests: 2			X							X						
Mercury Dissolved	All	NDPs: 0 Tests: 2					X							X				
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 2			X							X						
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 2			X							X						
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 2	X							X								
Pesticides (Suite II) by GCMS	All	NDPs: 0 Tests: 2	X							X								
Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 2	x							x								

Validated	
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CERTIFICATE OF ANALYSIS SDG: 231006-103 Report Number: 708144 Superseded Report:														ort:				
<u>Client Re</u>	: Galway Historic La	ndfills P2:		epoi	Loc	atio	n: No	ew In	in				иреп	scuci	пкер	011.		
Results Legend X Test	Lab Sample No(s)			28741694														
Sample Types -	Custom Sample Refe	Customer Sample Reference				TWS							SW2					
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	AGS Refere																	
	Depth (r	Depth (m)									0.00 - 0.00							
	Contain	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.51 glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)			
	Sample T	WS	WS	WS	MS	WS	MS	MS	WS	WS	MS	MS	WS	WS	WS			
pH Value	All	NDPs: 0 Tests: 2			X							X						
Suspended Solids	All	NDPs: 0 Tests: 2			x							x						
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2	x							x								
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2				X							X					
VOC MS (W)	All	NDPs: 0 Tests: 2							x							x		



Validated

SD Client Ba	G : 231	006-103	Re	port Number:	708144	44 Superseded Report:						
<u>Client Re</u>	et.: Galw	ay Historic La	indfills P2:	Location:	New Inn							
Results Legend # ISO17025 accredited.		Customer Sample Ref.	SW1	SW2								
M mCERTS accredited. aq Aqueous / settled sample. diss.fiit Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor repo accreditation status.	ort for	Depth (m) Sample Type Date Sampled	0.00 - 0.00 Surface Water (SW) 04/10/2023	0.00 - 0.00 Surface Water (SW) 04/10/2023								
** % recovery of the surrogate standard to che efficiency of the method. The results of indi compounds within samples aren't corrected	eck the ividual d for the	Date Received	06/10/2023 231006-103	06/10/2023 231006-103								
recovery (F) Trigger breach confirmed 1-4+\$@ Sample deviation (see appendix)		Lab Sample No.(s)	28741694	28741705								
Component	LOD/Un	Method	-2	2.0								
	<2 mg	/1 11022	~2 #	2.0								
BOD, unfiltered	<1 mg	/I TM045	<1 #	<1 #								
Oxygen, dissolved	<0.3 m	g/l TM046	11.3	11.2								
Organic Carbon, Total	<3 mg	/I TM090	11.3 ♦ #	5.93 ♦ #								
Ammoniacal Nitrogen as N (low level)	<0.01 n	ng/l TM099	0.062	0.033 #								
Fluoride	<0.5 m	g/l TM104	<0.5	<0.5								
COD, unfiltered	<7 mg	/I TM107	9.38 #	29.1								
Arsenic (diss.filt)	<0.5 µ	g/l TM152	<0.5	<0.5								
Barium (diss.filt)	<0.2 µ	g/l TM152	7.69 #	7.26								
Boron (diss.filt)	<10 µ	g/l TM152	<10 #	" <10 #								
Cadmium (diss.filt)	4 80.0×	ıg/l TM152										
Chromium (diss.filt)	<1 µg	/I TM152	<1 #	<1 #								
Copper (diss.filt)	<0.3 µ	g/l TM152	1.09 #	0.913 #								
Lead (diss.filt)	<0.2 µ	g/l TM152	<0.2 #	<0.2								
Manganese (diss.filt)	<3 µg	/I TM152	24.8									
Nickel (diss.filt)	<0.4 µ	g/l TM152	1.69 #	2.7								
Phosphorus (diss.filt)	<10 µį	g/l TM152	27 #	33 #								
Selenium (diss.filt)	<1 µg	/I TM152	<1 #	" <1 #								
Thallium (diss.filt)	<2 µg	/I TM152	<2 #	 <2 #								
Zinc (diss.filt)	<1 µg	/I TM152	2.41 #									
Sodium (Dis.Filt)	<0.076 r	ng/l TM152	14.7 #									
Magnesium (Dis.Filt)	<0.036 r	ng/l TM152	4.29 #	3.89								
Potassium (Dis.Filt)	<0.2 m	g/l TM152	1.82 #	2 #								
Calcium (Dis.Filt)	<0.2 m	g/l TM152	130 #									
Iron (Dis.Filt)	<0.019 r	ng/l TM152	0.0999	0.268								
Mineral oil >C10 C40 (aq)	<100 µ	g/l TM172	<200	<100								
Mercury (diss.filt)	<0.01 µ	ıg/l TM183	<0.01	<0.01								
Sulphate	<2 mg	/I TM184	4.2 #	<2 #								
Chloride	<2 mg	/I TM184	25.6 #									
Total Oxidised Nitrogen as N	<0.1 m	g/l TM184	0.798 #	0.704 #								
PCB congener 28	<0.015	µg/l TM197	<0.03	<0.015								
PCB congener 52	<0.015	µg/l TM197	<0.03	<0.015								
PCB congener 101	<0.015	ug/I TM197	<0.03	<0.015								



SDG: 231006-103

CERTIFICATE OF ANALYSIS Report Number: 708144

Superseded Report:

Validated

Client Ro	ef.: Gal	way I	Historic La	ndfills P2:	Location: N	lew Inn	-	·	
Populto Logend		0	O	8 1111	0110				
If SO17025 accredited. M mCRETS accredited. aq Aqueous / settled sample. diss.fitDissolved / fittered sample. tunfittCotal / unfittered sample. tunfittCotal / unfittered sample. * Subcontracted - refer to subcontractor report for 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) Trigge breach confirmed		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s)		SW1 0.00 - 0.00 Surface Water (SW) 04/10/2023 06/10/2023 231006-103 28741694	SW2 0.00 - 0.00 Surface Water (SW) 04/10/2023 06/10/2023 231006-103 28741705				
Component	LOD/U	nits	Method						
PCB congener 118	<0.015	5 μg/l	TM197	<0.03	<0.015				
PCB congener 138	<0.015	5µg∕l	TM197	<0.03	<0.015				
PCB congener 153	<0.015	5µg/I	TM197	<0.03	<0.015				
PCB congener 180	<0.015	i µg/l	TM197	<0.03	<0.015				
Sum of detected EC7 PCB's	<0.105	5µg∕l	TM197	<0.21	<0.105				
Cyanide, Total	<0.05	mg/l	TM227	<0.05	<0.05				
pH	<1 pH	Units	TM256	7.64 #	7.98 #				
Conductivity @ 20 deg.C	<0.02		TM256	0.677	0.613 #				
Alkalinity, Total as HCO3	<3 m	ng/l	TM256	448	412				
Trifluralin	<0.01	µg/l	TM343	<0.01	<0.02				
alpha-HCH	<0.01	µg/l	TM343	<0.01	<0.02				
gamma-HCH (Lindane)	<0.01	µg/l	TM343	<0.01	<0.02				
Heptachlor	<0.01	µg/l	TM343	<0.01	<0.02				
Aldrin	<0.01	µg/l	TM343	<0.01	<0.02				
beta-HCH	<0.01	µg/l	TM343	<0.01	<0.02				
lsodrin	<0.01	µg/l	TM343	<0.01	<0.02				
delta-HCH	<0.01	µg/l	TM343	<0.01	<0.02				
Heptachlor epoxide	<0.01	µg/l	TM343	<0.01	<0.02				
o,p'-DDE	<0.01	µg/l	TM343	<0.01	<0.02				
Endosulphan I	<0.01	µg/l	TM343	<0.01	<0.02				
trans-Chlordane	<0.01	µg/l	TM343	<0.01	<0.02				
cis-Chlordane	<0.01	µg/l	TM343	<0.01	<0.02				
p,p'-DDE	<0.01	µg/l	TM343	<0.01	<0.02				
Dieldrin	<0.01	µg/l	TM343	<0.01	<0.02				
o,p'-DDD (TDE)	<0.01	µg/l	TM343	<0.01	<0.02				
Endrin	<0.01	µg/l	TM343	<0.01	<0.02				
o,p'-DDT	<0.01	µg/l	TM343	<0.04	<0.02				
p,p'-DDD (TDE)	<0.01	µg/l	TM343	<0.01	<0.02				
Endosulphan II	<0.02	µg/l	TM343	<0.02	<0.04				
p,p'-DDT	<0.01	µg/l	TM343	<0.1	<0.02				
o,p'-Methoxychlor	<0.01	µg/l	TM343	<0.03	<0.02				
p,p'-Methoxychlor	<0.01	µg/l	TM343	<0.04	<0.02				
Endosulphan Sulphate	<0.02	µg/l	TM343	<0.06	<0.08				


SDG: 231006-103

CERTIFICATE OF ANALYSIS Report Number: 708144

Superseded Report:

Client R	ef.: Gal	way I	Historic La	ndfills P2:	Location:	lew Inn	•	-	
Posulte Logond		Custo	non Comula Def	011/4	011/0				
 ISO17025 accredited. M mCERTS accredited. A queous / settled sample. diss.filt Dissolved / filtered sample. Subcontracted - refer to subcontractor rej accreditation status. % recovery of the surrogate standard to c efficiency of the method. The results of in compounds within samples aren't correct recovery (F) Trigger breach confirmed 1-44§@ Sample deviation (see appendix) 	port for heck the dividual ed for the	Lat	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Sample No.(s) AGS Reference	0.00 - 0.00 Surface Water (SW) 04/10/2023 06/10/2023 231006-103 28741694	SW2 0.00 - 0.00 Surface Water (SW) 04/10/2023 06/10/2023 231006-103 28741705				
Component Permethrin I	LOD/U <0.01	Jnits ua/l	Method TM343	<0.01	<0.02				
Pormothrin II	<0.01	1.0/	TM242	<0.01	<0.02				
	<0.01	μy/i	1101343	<0.01	\0.02				
1,3,5- l richlorobenzene	<0.01	µg/l	TM344	<0.01	<0.02				
Hexachlorobutadiene	<0.01	µg/l	TM344	<0.01	<0.02				
1,2,4-Trichlorobenzene	<0.01	µg/l	TM344	<0.01	<0.02				
1,2,3-Trichlorobenzene	<0.01	µg/l	TM344	<0.01	<0.02				
Dichlorvos	<0.01	µg/l	TM344	<0.01	<0.02				
Dichlobenil	<0.01	µg/l	TM344	<0.01	<0.02				
Mevinphos	<0.01	µg/l	TM344	<0.01	<0.02				
Tecnazene	<0.01	µg/l	TM344	<0.01	<0.02				
Hexachlorobenzene	<0.01		TM344	<0.01	<0.02				
	10.01	µg/1	TM244	-0.01	-0.02				
Demeton-S-metnyi	<0.01	µg/i	11/1344	<0.01	<0.02				
Phorate	<0.01	µg/l	TM344	<0.01	<0.02				
Diazinon	<0.01	µg/l	TM344	<0.01	<0.02				
Triallate	<0.01	µg/l	TM344	<0.01	<0.02				
Atrazine	<0.01	µg/l	TM344	<0.01	<0.02				
Simazine	<0.01	µg/l	TM344	<0.01	<0.02				
Disulfoton	<0.01	µg/l	TM344	<0.01	<0.02				
Propetamphos	<0.01	µg/l	TM344	<0.01	<0.02				
Chlorpyriphos-methyl	<0.01	µg/l	TM344	<0.01	<0.02				
Dimethoate	<0.01	µg/l	TM344	<0.01	<0.02				
Pirimiphos-methyl	<0.01	µg/l	TM344	<0.01	<0.02				
Fenchlorophos	<0.01		TM344	<0.01	<0.02				
	<0.01	µg/1	TM244	<0.01	<0.02				
Chiorpynphos	<0.01	µg/i	1101344	<0.01	<0.02				
Methyl Parathion	<0.01	µg/l	TM344	<0.01	<0.02				
Malathion	<0.01	µg/l	TM344	<0.01	<0.02				
Fenthion	<0.01	µg/l	TM344	<0.01	<0.02				
Fenitrothion	<0.01	µg/l	TM344	<0.01	<0.02				
Triadimefon	<0.01	µg/l	TM344	<0.01	<0.02				
Pendimethalin	<0.01	µg/l	TM344	<0.01	<0.02				
Parathion	<0.01	µg/l	TM344	<0.01	<0.02				
Chlorfenvinphos	<0.01	µg/l	TM344	<0.01	<0.02				
irans-Chlordane	<0.01	µg/l	TM344	<0.01	<0.02				
	1		I		1	1	1	1	<i>i</i>



SDG: 231006-103

CERTIFICATE OF ANALYSIS Report Number: 708144

Superseded Report:

Client R	ef.: Gal	way H	listoric La	ndfills P2:	Location: N	lew Inn	•	•	
Populto Logond		0		8 1111	0.110				 •
Results Legend # ISO1025 accredited. q Aqueous / settled sample. diss.fill Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor repacreditation status. * % recovery of the surrogate standard to cefficiency of the method. The results of in compounds within sample aren't correct recovery (F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)	port for heck the dividual ed for the	Custon Lab	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Sample No.(s) AGS Reference	SW1 0.00 - 0.00 Surface Water (SW) 04/10/2023 231006-103 28741694	SW2 0.00 - 0.00 Surface Water (SW) 04/10/2023 231006-103 28741705				
Component sis-Chlordane	<0.01	l nits µg/l	Method TM344	<0.01	<0.02				
thion	<0.01	. o	TM344	<0.01	<0.02				-
Parhonhenothion	<0.01	µ9/	тмзии	<0.01	<0.02				
	<0.01	µ9/1	TM244	<0.01	<0.02				
	<0.01	µg/i	T 1VI 344	<0.01	<0.02				
Phosalone	<0.01	µg/l	TM344	<0.01	<0.02				
Azinphos methyl	<0.02	µg/l	TM344	<0.02	<0.08				
Azinphos ethyl	<0.02	µg/l	TM344	<0.02	<0.04				
Etridiazole	<0.01	µg/l	TM345	<0.01	<0.01				1
Pentachlorobenzene	<0.01	µg/l	TM345	<0.01	<0.01				1
Propachlor	<0.01	µg/l	TM345	<0.01	<0.01				1
Quintozene (PCNB)	<0.01	µg/l	TM345	<0.01	<0.01				1
Dmethoate	<0.01	µg/l	TM345	<0.01	<0.01				1
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				
Felodrin	<0.01	µg/l	TM345	<0.01	<0.01				
Terbutryn	<0.01	µg/l	TM345	<0.01	<0.01				
Chlorothalonil	<0.01	µg/l	TM345	<0.02	<0.02				
Etrimphos	<0.01	µg/l	TM345	<0.01	<0.01				
Netazachlor	<0.01	µg/l	TM345	<0.01	<0.01				
Cyanazine	<0.01	µq/l	TM345	<0.01	<0.01				-
rietazine	<0.01	1.0/	TM345	<0.01	<0.01				-
	<0.01	м9/1 ца/I	TM345	<0.01	<0.01				
2boshamidan l	<0.01	µ9/1	TM245	<0.01	<0.01				
	<0.01	µg/i	TM245	<0.01	-0.01				
	<0.01	µg/l	TM345	<0.01	<0.01				
Jinitro-o-cresol	<0.1	µg/l	TM411	<0.1	<0.1				
Clopyralid	<0.04	µg/l	TM411	<0.04	<0.04				
MCPA	<0.05	µg/l	TM411	<0.05	<0.05				
Лесоргор	<0.04	µg/l	TM411	<0.04	<0.04				1
Dicamba	<0.04	µg/l	TM411	<0.04	<0.04				1
ИСРВ	<0.05	µg/l	TM411	<0.05	<0.05				1
2,4-DB	<0.1	µg/l	TM411	<0.1	<0.1				1



CERTIFICATE OF ANALYSIS

ALS	SDG: 23	1006	5-103 Historic La	Re	port Number:	708144 Now Inn	Supersede	d Report:	
	Kel. Ga	way			Location.				
Results Legend # ISO17025 accredited.		Custo	omer Sample Ref.	SW1	SW2				
M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor accreditation status.	report for		Depth (m) Sample Type Date Sampled	0.00 - 0.00 Surface Water (SW) 04/10/2023	0.00 - 0.00 Surface Water (SW) 04/10/2023				
 ** % recovery of the surrogate standard t efficiency of the method. The results o compounds within samples aren't corr recovery (F) Trigger breach confirmed 1.446 % Sample deviation (see annendix) 	o check the f individual ected for the	La	Sample Time Date Received SDG Ref b Sample No.(s) AGS Reference	06/10/2023 231006-103 28741694	06/10/2023 231006-103 28741705				
Component	LOD/L	Jnits	Method						
2,3,6-1 richlorobenzoic acid	<0.05	i µg/l	TM411	<0.05	<0.05				
Dichlorprop	<0.1	µg/l	TM411	<0.1	<0.1				
Triclopyr	<0.05	i µg/l	TM411	<0.05	<0.05				
Fenoprop (Silvex)	<0.1	µg/l	TM411	<0.1	<0.1				
2,4-Dichlorophenoxyacetic acid	<0.05	i µg/l	TM411	<0.05	<0.05				
2,4,5-Trichlorophenoxyacetic acid	<0.05	i µg/l	TM411	<0.05	<0.05				
Bromoxynil	<0.04	µg/l	TM411	<0.04	<0.04	_			
Benazolin	<0.04	µg/l	TM411	<0.04	<0.04				
loxynil	<0.05	i 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				
	_								
	_								
	_								
	_								

							Validated
Client	SDG: 231	006-103 /av/ Historic La	CERTIF Re	Port Number:	ANALYSIS 708144 New Inn	Superseded Report:	
SVOC MS (W) - Agu				Location.			
Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfiltrotal / unfiltered sample.		Customer Sample Ref. Depth (m) Sample Type	SW1 0.00 - 0.00 Surface Water (SW)	SW2 0.00 - 0.00 Surface Water (SW)			
 Subcontractor accreditation status: * % recovery of the surrogate standard t efficiency of the method. The results or compounds within samples aren't corr recovery (F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix) 	o check the f individual ected for the	Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	04/10/2023 06/10/2023 231006-103 28741694	04/10/2023 06/10/2023 231006-103 28741705			
Component	LOD/Ur	nits Method	· · ·				
1,2,4-Trichlorobenzene (aq)	<1 µg	ı/I TM176	<1 #	<2 #			
1,2-Dichlorobenzene (aq)	<1 µg	/l TM176	<1 #	<2 #			
1,3-Dichlorobenzene (aq)	<1 µg	ı/I TM176	<1 #	<2 #			
1,4-Dichlorobenzene (aq)	<1 µg	y/I TM176	<1 #	<2 #			
2,4,5-Trichlorophenol (aq)	<1 µg	J/I TM176	<1 #	<2 #			
2,4,6-Trichlorophenol (aq)	<1 µg	ı/I TM176	<1 #				
2,4-Dichlorophenol (aq)	<1 µg	j/l TM176	# <1 #	<2 #			
2,4-Dimethylphenol (aq)	<1 µg	J/I TM176	# <1	* <2			
2,4-Dinitrotoluene (aq)	<1 µg	J/I TM176	# <1	# <2			
2,6-Dinitrotoluene (aq)	<1 µg	j/I TM176	# <1	# <2			
2-Chloronaphthalene (aq)	<1 µg	ı/I TM176	<1	# <2			
2-Chlorophenol (aq)	<1 µg	j/l TM176	<1	# <2			
2-Methylnaphthalene (aq)	<1 µg	j/l TM176	# <1	# <2			
2-Methylphenol (aq)	<1 µg	j/l TM176	# <1	# <2			
2-Nitroaniline (aq)	<1 µg	J/I TM176	# <1	# <2			
2-Nitrophenol (aq)	<1 µg	J/I TM176	# <1	# <2			
3-Nitroaniline (aq)	<1 µg	ı/I TM176	# <1	# <2			
4-Bromophenylphenylether (aq)	<1 µg	ı/I TM176	<1	<2			
4-Chloro-3-methylphenol (aq)	<1 µc	ı/I TM176	# <1	# <2			
4-Chloroaniline (ag)	<1.00	// TM176	<1	# <2			
4 Chlorophonylphonylethor (r-)	51 µg			~2			
4-Chiorophenyiphenyiether (aq)	<1 µg	// IM1/6	<1	<2			

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TM176

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Butylbenzyl phthalate (aq)

Benzo(a)anthracene (aq)

4-Methylphenol (aq)

4-Nitroaniline (aq)

4-Nitrophenol (aq)

Azobenzene (aq)

Acenaphthylene (aq)

Acenaphthene (aq)

Anthracene (aq)

bis(2-Chloroethyl)ether (aq)

bis(2-Chloroethoxy)methane (aq)

bis(2-Ethylhexyl) phthalate (aq)



Location: New Inn

Superseded Report:

Client Ref.: Galway Historic Landfills P2: SVOC MS (W) - Aqueous

SDG: 231006-103

Results Legend	Cu	istomer Sample Ref	S///1	S/M/2	Ì		
# ISO17025 accredited. M mCERTS accredited.	- Cu	istomer Gample Ref.	2001	5W2			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot unfiltTotal / unfiltered sample.		Depth (m)	0.00 - 0.00	0.00 - 0.00			
* Subcontracted - refer to subcontractor rep accreditation status.	ort for	Date Sample Type	Surface Water (SW) 04/10/2023	Surface Water (SW) 04/10/2023			
** % recovery of the surrogate standard to ch efficiency of the method. The results of ind	leck the lividual	Sample Time Date Received	06/10/2023	06/10/2023			
compounds within samples aren't correcte recovery (E) Trigger breach confirmed	d for the	SDG Ref	231006-103 28741694	231006-103 28741705			
1-4+§@ Sample deviation (see appendix)		AGS Reference					
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	<2 "			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	# <1	# <2			
Benzo(a)pyrene (aq)	<1 µg/l	TM176	# <1	# <2			
Benzo(a h i)nervlene (aa)	<1 µg/	TM176	# <1	#			
	4 µg/	TM470	#	- #			
	< 1 µg/1	TIVIT76	<1 #	<2 #			
Chrysene (aq)	<1 µg/l	TM176	<1 #	<2 #			
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #	<2 #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #	<2 #			
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<2 #			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	# <1	# 2			
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 "	# <2			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	# <5	# <10			
Fluoranthene (aq)	<1 µg/l	TM176	<1 #				
Fluorene (aq)	<1 µg/l	TM176	# <1				
Hexachlorobenzene (aq)	<1 µg/l	TM176	# <1	# <2			
Hexachlorobutadiene (aq)	<1 µg/l	TM176	# <1	# <2			
Pentachlorophenol (aq)	<1 µg/l	TM176	<1 **	<2 #			
Phenol (aq)	<1 µg/l	TM176	<1	<2			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #	<2 #			
Hexachloroethane (aq)	<1 µg/l	TM176	# <1 #				
Nitrobenzene (aq)	<1 µg/l	TM176	# <1				
Naphthalene (aq)	<1 µg/l	TM176	// # <1	# <2			
Isophorone (aq)	<1 µg/l	TM176	# <1	# <2			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	# <1	# <2			
Phenanthrene (aq)	<1 µg/l	TM176	<1	<2			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	# <1	# <2			
Pyrene (ag)	<1 µg/l	TM176	#	#			
			#	#			



VOC MS (W)

CERTIFICATE OF ANALYSIS

Validated

SDG: 231006-103 Client Ref.: Galway Historic Landfills P2

lo Dof

Report Number: 708144 Location: New Inn

Superseded Report:

# ISO17025 accredited. M mCERTS accredited.				0001	011	-		
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot unfiltTotal / unfiltered sample			Depth (m)	0.00 - 0.00	0.00 - 0	0.00		
* Subcontracted - refer to subcontractor repo accreditation status.	ort for	D	Date Sampled	04/10/2023	Surface Wa 04/10/2	(SVV) (023		
** % recovery of the surrogate standard to che efficiency of the method. The results of indi	eck the ividual	D	Sample Time ate Received	. 06/10/2023	06/10/2	023		
recovery (F) Trigger breach confirmed	a for the	Lab S	SDG Ref Sample No.(s)	231006-103 28741694	231006 28741	-103 705		
1-4+§@ Sample deviation (see appendix)		AC	GS Reference					
Dibromofluoromethane**	%		TM208	98.6	10			
Toluene-d8**	0/.		TM208	102	10	1		
	70		111/200	102	10			
4-Bromofluorobenzene**	%		TM208	98.8	98.	2		
Dichlorodifluoromethane	<1 µ	g/l	TM208	<1	<1 ¢	#		
Chloromethane	<1 µ	g/l	TM208	<1	<1 ¢	#		
Vinyl chloride	<1 µ	g/l	TM208	<1	<1 ‡	#		
Bromomethane	<1 µ	g/l	TM208	<1	<1	#		
Chloroethane	<1 µ	g/l	TM208	<1	<1 t	#		
Trichlorofluoromethane	<1 µ	g/l	TM208	<1	<1 t	#		
1,1-Dichloroethene	<1 µ	g/l	TM208	<1	<1	#		
Carbon disulphide	<1 µ	g/l	TM208	<1	<pre></pre>	#		
Dichloromethane	<3 µ	g/l	TM208	<3	<3 #	#		
Methyl tertiary butyl ether (MTBE)	<1 µ	g/l	TM208	<1	<1 ¢	#		
trans-1,2-Dichloroethene	<1 µ	g/l	TM208	<1	<1 ¢	#		
1,1-Dichloroethane	<1 µ	g/l	TM208	<1	<1 ¢	#		
cis-1,2-Dichloroethene	<1 µ	g/l	TM208	<1	<1 ¢	#		
2,2-Dichloropropane	<1 µ	g/l	TM208	<1	<1			
Bromochloromethane	<1 µ	g/l	TM208	<1	<1 ¢	#		
Chloroform	<1 µ	g/l	TM208	<1	<1 ¢	#		
1,1,1-Trichloroethane	<1 µ	g/l	TM208	<1	<1 ¢	#		
1,1-Dichloropropene	<1 µ	g/l	TM208	<1	<1 ¢	#		
Carbontetrachloride	<1 µ	g/l	TM208	<1	<1 ¢	#		
1,2-Dichloroethane	<1 µ	g/l	TM208	<1	<1 ¢	#		
Benzene	<1 µ	g/l	TM208	<1	<1 ¢	#		
Trichloroethene	<1 µ	g/l	TM208	<1	<1 ¢	#		
1,2-Dichloropropane	<1 µ	g/l	TM208	<1	<1 ¢	#		
Dibromomethane	<1 µ	g/l	TM208	<1	<1 ¢	#		
Bromodichloromethane	<1 µ	g/I	TM208	<1	<1	#		
cis-1,3-Dichloropropene	<1 µ	g/l	TM208	<1	<1 #	#		
Toluene	<1 µ	g/l	TM208	<1	<1	#		
trans-1,3-Dichloropropene	<1 µ	g/l	TM208	<1	<1	#		
1,1,2-Trichloroethane	<1 µ	g/l	TM208	<1	<1 ¢	#		
1,3-Dichloropropane	<1 µ	g/l	TM208	<1	<1 ¢	#		

SDG: 231006-103

Client Ref.: Galway Historic Landfills P2:

CERTIFICATE OF ANALYSIS Report Number: 708144

Location: New Inn

Superseded Report:

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fitDissolved / filtered sample. tot.unfiltrodat / unfiltered sample. Subcontracted - refer to subcontractor repr correctificien other	C	ustomer Sample Ref. Depth (m) Sample Type Date Sampled	SW1 0.00 - 0.00 Surface Water (SW) 04/10/2023	SW2 0.00 - 0.00 Surface Water (S 04/10/2023	SW)		
 ** % recovery of the surrogate standard to ch efficiency of the method. The results of ind compounds within samples aren't correcte 	eck the ividual d for the	Sample Time Date Received	06/10/2023	06/10/2023			
recovery (F) Trigger breach confirmed 1-4ቀ§@Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	28741694	28741705			
Component	LOD/Uni	ts Method					
Tetrachloroethene	<1 µg/	I TM208	<1 #	<1	#		
Dibromochloromethane	<1 µg/	I TM208	<1 #	<1	#		
1,2-Dibromoethane	<1 µg/	I TM208	<1 #	<1	#		
Chlorobenzene	<1 µg/	I TM208	<1 #	<1	#		
1,1,1,2-Tetrachloroethane	<1 µg/	I TM208	<1 #	<1	#		
Ethylbenzene	<1 µg/	I TM208	<1 #	<1	#		
m,p-Xylene	<1 µg/	I TM208	<1 #	<1	#		
o-Xylene	<1 µg/	I TM208	<1 #	<1	#		
Styrene	<1 µg/	I TM208	<1 #	<1	#		
Bromoform	<1 µg/	I TM208	<1 #	<1	#		
Isopropylbenzene	<1 µg/	I TM208	<1 #	<1	#		
1,1,2,2-Tetrachloroethane	<1 µg/	I TM208	<1 #	<1	#		
1,2,3-Trichloropropane	<1 µg/	I TM208	<1 #	<1	#		
Bromobenzene	<1 µg/	I TM208	<1 #	<1	#		
Propylbenzene	<1 µg/	I TM208	<1 #	<1	#		
2-Chlorotoluene	<1 µg/	I TM208	<1 #	<1	#		
1,3,5-Trimethylbenzene	<1 µg/	I TM208	<1 #	<1	#		
4-Chlorotoluene	<1 µg/	I TM208	<1 #	<1	#		
tert-Butylbenzene	<1 µg/	I TM208	<1 #	<1	#		
1,2,4-Trimethylbenzene	<1 µg/	I TM208	<1 #	<1	#		
sec-Butylbenzene	<1 µg/	I TM208	<1 #	<1	#		
4-iso-Propyltoluene	<1 µg/	I TM208	<1 #	<1	#		
1,3-Dichlorobenzene	<1 µg/	I TM208	<1 #	<1	#		
1,4-Dichlorobenzene	<1 µg/	I TM208	<1 #	<1	#		
n-Butylbenzene	<1 µg/	I TM208	<1 #	<1	#		
1,2-Dichlorobenzene	<1 µg/	I TM208	<1 #	<1	#		
1,2-Dibromo-3-chloropropane	<1 µg/	I TM208	<1	<1			
1,2,4-Trichlorobenzene	<1 µg/	I TM208	<1 #	<1	#		
Hexachlorobutadiene	<1 µg/	I TM208		<1	" #		
tert-Amyl methyl ether (TAME)	<1 µg/	I TM208		<1	#		
Naphthalene	<1 µg/	I TM208		<1	#		
1,2,3-Trichlorobenzene	<1 µg/	I TM208		<1	#		
1,3,5-Trichlorobenzene	<1 µg/	I TM208	<1	<1	п		



Report Number: 708144

Superseded Report:



11/11/04	Determination of Fluoride using the Kone Analyser
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM344	Determination of selected pesticides (Suite II) by GCMS
TM022	Determination of total suspended solids in waters
TM045	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM176	Determination of SVOCs in Water by GCMS
TM197	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM345	Determination of selected pesticides (Suite III) by GCMS
TM107	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM411	Acid Herbs in Water by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



Report Number: 708144 Location: New Inn

Superseded Report:

Test Completion Dates

Lab Sample No(s)	28741694	28741705
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	13-Oct-2023	13-Oct-2023
Ammonium Low	10-Oct-2023	10-Oct-2023
Anions by Kone (w)	10-Oct-2023	10-Oct-2023
BOD True Total	12-Oct-2023	12-Oct-2023
COD Unfiltered	13-Oct-2023	12-Oct-2023
Cyanide Comp/Free/Total/Thiocyanate	10-Oct-2023	10-Oct-2023
Dissolved Metals by ICP-MS	11-Oct-2023	11-Oct-2023
Dissolved Oxygen by Probe	09-Oct-2023	09-Oct-2023
Fluoride	13-Oct-2023	13-Oct-2023
Mercury Dissolved	10-Oct-2023	10-Oct-2023
Mineral Oil C10-40 Aqueous (W)	14-Oct-2023	14-Oct-2023
PCB Congeners - Aqueous (W)	16-Oct-2023	16-Oct-2023
Pesticides (Suite I) by GCMS	19-Oct-2023	20-Oct-2023
Pesticides (Suite II) by GCMS	13-Oct-2023	13-Oct-2023
Pesticides (Suite III) by GCMS	13-Oct-2023	13-Oct-2023
pH Value	11-Oct-2023	11-Oct-2023
Suspended Solids	12-Oct-2023	12-Oct-2023
SVOC MS (W) - Aqueous	13-Oct-2023	11-Oct-2023
Total Organic and Inorganic Carbon	14-Oct-2023	14-Oct-2023
VOC MS (W)	11-Oct-2023	11-Oct-2023

Superseded Report:

Report Number: 708144 Galway Historic Landfills Location: New Inn

opendix

SDG:

Client Ref:

General

sults 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.

231006-103

2. If sufficient sample is received a sub sample will be retained free of charge for 15 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 15 days 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 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 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
Ş	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.

Asbestos Type	Common Name
Chrysof le	White Asbestos
Amosite	Brow n Asbestos
Cio d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fibrous Anthophyllite	-
Fibrous Tremol ite	-

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

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: Sean Foley

CERTIFICATE OF ANALYSIS

Date of report Generation:
Customer:
Sample Delivery Group (SDG):
Your Reference:
Location:
Report No:
Order Number:

26 October 2023 Fehily Timoney 231006-104 Galway Historic Landfills P23-074 New Inn 708822 Z4096

This report has been revised and directly supersedes 706863 in its entirety.

We received 4 samples on Friday October 06, 2023 and 4 of these samples were scheduled for analysis which was completed on Thursday October 26, 2023. 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 Laboratories (UK) Limited 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:

<u>Sonia McWhan</u> Operations Manager



ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955. Version: 3.6 Version Issued: 26/10/2023



SDG: 231006-104 Client Ref.: Galway Historic Landfills P2:

CERTIFICATE OF ANALYSIS

Report Number: 708822 Location: New Inn Superseded Report: 706863

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28741792	BH1		0.00 - 0.00	04/10/2023
28741801	BH4		0.00 - 0.00	04/10/2023
28741773	GW01		0.00 - 0.00	04/10/2023
28741782	GW02		0.00 - 0.00	04/10/2023

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

		CEF	RTII	FIC	AT	ΕO	FA	N/	٩LY	/SIS	5								Vali	dateo	b
SDG: <u>Client Ref.</u> :	231006-104 Galway Historic Lar	ndfills P2:	R	eport	t Nu Loc	mbe atior	r: 70 n: Ne)882 ew Ir	2 1n			Sı	upers	sedeo	d Rej	oort:	70	6863			
Results Legend X Test N No Determination	Lab Sample	No(s)						28741792						28741801						28741773	28741782
Sample Types -	Custome Sample Refe	er rence						BH1						BH4						GW01	GW02
S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate	AGS Refere	ence																			
PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage	Depth (n	1)						0.00 - 0.00						0.00 - 0.00						0.00 - 0.00	0.00 - 0.00
RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Containe	er	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)	0.51 glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)
	Sample Ty	/pe	S S	ŝ	GW	Ŝ	GW	Ŝ	GW	CV CV	CW	GW	GV	Ŝ	ŝ	Ŝ	Ŝ	CW	СV	СV	СW
Acid Herbicides by GCMS	All	NDPs: 0 Tests: 4	x						X						Х						X
Ammonium Low	All	NDPs: 0 Tests: 4			X						X						X				
Anions by Kone (w)	All	NDPs: 0 Tests: 4		X						X						X					
Coliforms (W)	All	NDPs: 0 Tests: 4		x						x						x					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 4		~			X			<u> </u>			X			~			X		
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		<u>^</u>			
Fluoride	All	NDPs: 0 Tests: 4		X						X						X					
Mercury Dissolved	All	NDPs: 0 Tests: 4				X						X						X			
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 4		X						X						X					
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 4	X						X						X						X
Pesticides (Suite II) by GCMS	All	NDPs: 0 Tests: 4	x						X						X						X
Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 4	x						X						X						X
pH Value	All	NDPs: 0 Tests: 6		X						X						X				<u>x</u>	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 4	X						X						X						X

	28741782
	GW02
	0.00 - 0.00
NaOH (ALE245) HNO3 Filtered (ALE204) H2SO4 (ALE244) 500ml Plastic (ALE208)	Vial (ALE297)
CW CW CW	СW
X	
X	
x	
X	
x	
X	
X	
x	
X	
X	X

																				Valio	lated	d
			CER	RTII	FIC/	٩T	ΕO	FΑ	N/	ALY	SIS	•						700	0.00			
(ALS)	SDG: Client Ref.:	231006-104 Galway Historic Lar	ndfills P2:	R	eport	: Nu Loc	mber ation	n: 70 1: N€)882 ew Ir	2 1n			Su	pers	ede	d Rep	oort:	706	863			
Results Legen	d																					
X Test		Lab Sample	No(s)						2874179						2874180						2874177	2874178
No Det Possibl	ermination e								2						_						ω	2
Sample Types	-	Custome Sample Refe	er rence						BH1						BH4						GW01	GW02
Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate		AGS Refere	ence																			
PR - Process Wate PR - Process Wate SA - Saline Water TE - Trade Effluer TS - Treated Sew US - Untreated Se	SW - Sufface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage		n)						0.00 - 0.00						0.00 - 0.00						0.00 - 0.00	0.00 - 0.00
RE - Recreational DW - Drinking Wate Non-regulatory UNL - Unspecifier SL - Sludge G - Gas OTH - Other	S - Untreated Sewage S - Voltreated Sewage Secreational Water W - Drinking Water Orregulatory VL - Unspecified Liquid - Sludge - Gas TH - Other		er	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)	0.51 glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)
		Sample Ty	/pe	C V	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GM	GW	GW	GW	GW	CW	GW
Total Organic and Inor	ganic Carbon	All	NDPs: 0 Tests: 4			X						X						X				
VOC MS (W)		All	NDPs: 0 Tests: 4						X						X						x	

				28741782
				GW02
				0.00 - 0.00
500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
GW	GW	GW	GW	GW
	x			
				X



Location: New Inn

Superseded Report: 706863

Validated

SDG: 231006-104 Report Number: 708822 Client Ref.: Galway Historic Landfills P2:

Results Legend		Customer Sample I	Ref. BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample. diss.fit(Dissolved) filtered sample. tot.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor repo accreditation status.	ort for	Depth (Sample Ty Date Sampl	m) 0.00 - 0.00 pe Ground Water (GW) ed 04/10/2023	0.00 - 0.00 Ground Water (GW) 04/10/2023	0.00 - 0.00 Ground Water (GW) 04/10/2023	0.00 - 0.00 Ground Water (GW) 04/10/2023	
** % recovery of the surrogate standard to che efficiency of the method. The results of indi compounds within samples aren't corrected recovery	eck the vidual I for the	Date Receiv SDG F	ed 06/10/2023 ef 231006-104	06/10/2023 231006-104 28741801	06/10/2023 231006-104 28741773	06/10/2023 231006-104 287/1782	
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		AGS Referen	ce	20141001	20141113	20141102	
Component Coliforms, Total*	LOD/Ur	nits Method SUB	See Attached	See Attached	See Attached	See Attached	
Coliforms, Faecal*		SUB	See Attached	See Attached	See Attached	See Attached	
Oxygen, dissolved	<0.3 m	ng/l TM046	11.6	10.1	11.9	10.3	
Organic Carbon, Total	<3 mį	g/I TM090	<3	<3	4.61	4.19	
Ammoniacal Nitrogen as N (low level)	<0.01 r	ng/l TM099	0.025	• # 0.292 #	0.032	0.416	
Fluoride	<0.5 m	ng/l TM104	<0.5	0.785 #	<0.5 #	2.14 #	
Arsenic (diss.filt)	<0.5 µ	ıg/l TM152	<0.5	1.35 #	<0.5 #	0.862 #	
Barium (diss.filt)	<0.2 µ	ıg/l TM152	14.7 #	34.8 #	8.57 #		
Boron (diss.filt)	<10 µ	g/l TM152	<10 #	91.6 #	<10 #	113 #	
Cadmium (diss.filt)	<0.08	ug/l TM152	<0.08 #	<0.08 #	<0.08	<0.08	
Chromium (diss.filt)	<1 µç	g/l TM152	<1 #	<1 #	<1 #	<1 #	
Copper (diss.filt)	<0.3 µ	ıg/l TM152	12.7 #	<0.3 #	1.08 #	0.924 #	
Lead (diss.filt)	<0.2 µ	ıg/l TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	
Manganese (diss.filt)	<3 µç	g/l TM152	11.1 #	111 #	6.09 #	213 #	
Nickel (diss.filt)	<0.4 µ	ıg/l TM152	5.7	57.3 #	1.96 #	3.38 #	
Phosphorus (diss.filt)	<10 µ	g/I TM152	<10 #	<10 #	63.8 #	46.5 #	
Selenium (diss.filt)	<1 µg	g/I TM152	1.06 #	<1 #	<1 #	<1 #	
Thallium (diss.filt)	<2 µç	g/I TM152	<2 #	<2 #	<2 #	<2 #	
Zinc (diss.filt)	<1 µç	g/l TM152	26 #	1.64 #	3.52 #	1.39 #	
Sodium (Dis.Filt)	<0.076	mg/I IM152	4.94 #	44.2 #	13.3 #	/35 #	
Magnesium (Dis.Filt)	<0.036	mg/I IM152	7.14 #	12.4	5.25	30 #	
Colaium (Dis Filt)	<0.2 m	1g/I IM152	0.836	3.63 #	2.75	6.52 #	
Iron (Dis Filt)	<0.2 m	10/1 11/152	12/ #	1∠3 #	137 #	د.۵2 #	
Mineral oil >C10 C40 (ad)	~0.019	ING/I TM172	<100	0.303 #	120	0.0222 #	
Mercury (diss.filt)	<0.01	10/1 TM122	<0.01	<0.01	<0.01	<0.01	
Sulphate	<2 mr	zy. 111100 p/l TM184	10.3	-9.91 #	12.2	425	
Chloride	<2 m	g/l TM184	10.5	68	23.4	87.7	
Total Oxidised Nitrogen as N	<0.1 m	ng/l TM184	1.14	<0.1	2.82	# 0.364	
- Cyanide, Total	<0.05 r	ng/l TM227	# <0.05	# <0.05	# <0.05	# <0.05	
рН	<1 pH L	Jnits TM256	7.34	# 7.74	# 7.26	# 8.23	
Conductivity @ 20 deg.C	< 0.02	2 TM256	# 0.637	# 0.848	# 0.711	#	
Alkalinity, Total as HCO3	mS/cn <3 mg	n g/l TM256	# 452	# 460	# 707	# 3160	
11:51:49 26/10/2023							

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CERTIFICATE OF ANALYSIS Report Number: 708822

Location: New Inn

Superseded Report: 706863

GW02

Validated

SDG: 231006-104 Client Ref.: Galway Historic Landfills P2:

Customer Sample Ref.

Results Legend # ISO17025 accredited.		Custor	ner Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor report * Subcontracted - refer to subcontractor report	rt for		Depth (m) Sample Type Date Sampled	0.00 - 0.00 Ground Water (GW) 04/10/2023				
 accreditation status. ** % recovery of the surrogate standard to che efficiency of the method. The results of indiv compounds within samples aren't corrected 	ck the vidual for the		Sample Time Date Received SDG Ref	06/10/2023 231006-104	06/10/2023 231006-104	06/10/2023 231006-104	06/10/2023 231006-104	
recovery (F) Trigger breach confirmed 1-4+S@ Sample deviation (see appendix)		Lab	Sample No.(s)	28741792	28741801	28741773	28741782	
Component	LOD/U	nits	Method					
Trifluralin	<0.01	µg/l	TM343	<0.01	<0.3	<0.3	<0.3	
alpha-HCH	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
gamma-HCH (Lindane)	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
Heptachlor	<0.01	µg/l	TM343	<0.01	<0.4	<0.4	<0.4	
Aldrin	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
beta-HCH	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
lsodrin	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
delta-HCH	<0.01	µg/l	TM343	<0.02	<0.1	<0.1	<0.1	
Heptachlor epoxide	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
p,p'-DDE	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
Endosulphan I	<0.01	µg/l	TM343	<0.01	<0.2	<0.2	<0.1	
trans-Chlordane	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
cis-Chlordane	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
p,p'-DDE	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
Dieldrin	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
o,p'-DDD (TDE)	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
Endrin	<0.01	µg/l	TM343	<0.02	<0.1	<0.1	<0.1	
o,p'-DDT	<0.01	µg/l	TM343	<0.04	<0.4	<0.4	<0.4	
p,p'-DDD (TDE)	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
Endosulphan II	<0.02	µg/l	TM343	<0.02	<0.2	<0.2	<0.2	
p,p'-DDT	<0.01	µg/l	TM343	<0.1	<0.4	<0.4	<0.4	
o,p'-Methoxychlor	<0.01	µg/l	TM343	<0.04	<0.1	<0.1	<0.1	
p,p'-Methoxychlor	<0.01	µg/l	TM343	<0.1	<1	<1	<1	
Endosulphan Sulphate	<0.02	µg/l	TM343	<0.2	<0.4	<0.4	<0.4	
Permethrin I	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
Permethrin II	<0.01	µg/l	TM343	<0.01	<0.1	<0.1	<0.1	
1,3,5-Trichlorobenzene	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Hexachlorobutadiene	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
1,2,4-Trichlorobenzene	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
1,2,3-Trichlorobenzene	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Dichlorvos	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Dichlobenil	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Mevinphos	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
1.51.49 26/10/2023								



Leaend

CERTIFICATE OF ANALYSIS Report Number: 708822

BH4

Location: New Inn

GW01

GW02

Superseded Report: 706863

SDG: 231006-104 Client Ref.: Galway Historic Landfills P2:

Customer Sample Ref.

BH1

# ISO17025 accredited. M mCERTS accredited.		Gusio	mer Sample Kei.	впі	DH4	GWUT	GWUZ	
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.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor repo	ort for		Sample Type Date Sampled	Ground Water (GW) 04/10/2023	Ground Water (GW) 04/10/2023	Ground Water (GW) 04/10/2023	Ground Water (GW) 04/10/2023	
** % recovery of the surrogate standard to che efficiency of the method. The results of indi	eck the ividual		Sample Time	06/10/2022			06/10/2022	
compounds within samples aren't corrected recovery	d for the		SDG Ref	231006-104	231006-104	231006-104	231006-104	
(F) Trigger breach confirmed 1-4+§@Sample deviation (see appendix)		Lal	b Sample No.(s) AGS Reference	28/41/92	28741801	28/41//3	28741782	
Component	LOD/U	Inits	Method	0.01				
Iechazene	<0.01	µg/I	TM344	<0.01	<0.1	<0.1	<0.1	
Hexachlorobenzene	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Demeton-S-methyl	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Phorate	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Diazinon	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Triallate	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Atrazine	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Simazine	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Disulfoton	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Propetamphos	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Chlorpyriphos-methyl	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Dimethoate	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Pirimiphos-methyl	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Fenchlorophos	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Chlorpyriphos	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Methyl Parathion	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Malathion	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Fenthion	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Fenitrothion	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Triadimefon	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Pendimethalin	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Parathion	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Chlorfenvinphos	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
trans-Chlordane	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
cis-Chlordane	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Ethion	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Carbophenothion	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Triazophos	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Phosalone	<0.01	µg/l	TM344	<0.01	<0.1	<0.1	<0.1	
Azinphos methyl	<0.02	µg/l	TM344	<0.02	<0.4	<0.4	<0.4	
Azinphos ethyl	<0.02	µg/l	TM344	<0.02	<0.2	<0.2	<0.2	
Etridiazole	<0.01	µg/l	TM345	<0.01	<0.1	<0.1	<0.1	
Pentachlorobenzene	<0.01	µg/l	TM345	<0.01	<0.05	<0.1	<0.1	
4.54.40.00/40/0000								



Location: New Inn

Superseded Report: 706863

Validated

SDG: 231006-104 Client Ref.: Galway Historic Landfills P2:

Results Legend		Customer Sa	nnle Ref	RH1	BHA	GW01	GW02	
# ISO17025 accredited. M mCERTS accredited.		oustoniei oui	inpre riter.	DITI	DII4	Gwoi	61102	
aq Aqueous / settled sample.		D	enth (m)	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	
tot.unfiltTotal / unfiltered sample.	rt for	Sam	ole Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	
accreditation status.		Date S	Sampled	04/10/2023	04/10/2023	04/10/2023	04/10/2023	
efficiency of the method. The results of indi	vidual	Date R	eceived	06/10/2023	06/10/2023	06/10/2023	06/10/2023	
compounds within samples aren't corrected recovery	for the	l ah Cama	SDG Ref	231006-104 287/1792	231006-104 287/1801	231006-104 287/1773	231006-104	
(F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)		AGS Re	e No.(s)	20141132	20141001	20141113	20141102	
Component	LOD/U	nits Me	thod	-0.01	-0.05	-0.4	-0.4	
Propachior	<0.01	µg/i im	345	<0.01	<0.05	<0.1	<0.1	
Quintozene (PCNB)	<0.01	ua/I TM	345	<0.01	<0.05	<0.1	<0.1	
	-0.01	µ9/1 110	040	-0.01		-0.1	-0.1	
Omethoate	<0.01	µg/l TM	345	<0.01	<0.05	<0.1	<0.1	
Propazine	<0.01	µg/l TM	345	<0.01	<0.05	<0.1	<0.1	
-							• •	
Propyzamide	<0.01	µg/I TM	345	<0.01	<0.05	<0.1	<0.1	
Alachlor	<0.01		245	<0.01	<0.05	<0.1	-0.1	
Addition	~0.01	µy/i iw	545	\0.01	~0.0 5	~ 0.1	~ 0.1	
Prometryn	<0.01	ua/I TM	345	<0.01	<0.05	<0.1	<0.1	
,		-5.						
Telodrin	<0.01	µg/l TM	345	<0.01	<0.05	<0.1	<0.1	
Terbutryn	<0.01	µg/l TM	345	<0.01	<0.05	<0.1	<0.1	7
Chlorotholonil	20.04		245	-0.00	- 4	-0.0	-0.0	
Chiorothaionii	<0.01	µg/i in	345	<0.02	<1	<0.2	<0.2	
Etrimphos	<0.01	ua/I TM	345	<0.01	<0.05	<0.1	<0.1	
	-0.01	µ9/1 110	040	-0.01		-0.1	-0.1	
Metazachlor	<0.01	µg/l TM	345	<0.01	<0.05	<0.1	<0.1	
Cyanazine	<0.01	µg/l TM	345	<0.01	<0.05	<0.1	<0.1	
						• 1	• /	
Trietazine	<0.01	µg/l TM	345	<0.01	<0.05	<0.1	<0.1	
Coumanhos	<0.01		245	<0.01	<0.05	<0.1	-0.1	
Coumaphos	\U.U1	µg/i iw	545	NO.01	<0.05	NO.1	NO.1	
Phosphamidon I	<0.01	µg/I TM	345	<0.01	<0.05	<0.1	<0.1	
Phosphamidon II	<0.01	µg/l TM	345	<0.01	<0.05	<0.1	<0.1	
	.0.4						.10	
Dinitro-o-cresol	<0.1 µ	Jg/I IM	411	<0.1	<0.5	<0.5	<10	
Clonvralid	<0.04	ua/I TM	<i>4</i> 11	<0.04	<0.2	<0.2	<1	
	-0.04	µ9/1 110		-0.04	·0.2	·0.2		
MCPA	<0.05	µg/I TM	411	<0.05	<0.25	<0.25	<5	
Mecoprop	<0.04	µg/l TM	411	<0.04	<0.2	<0.2	<4	
Discusto		. //	444				. 4	
Dicamba	<0.04	µg/I TM	411	<0.04	<0.2	<0.2	<4	
MCPB	<0.05		<u>4</u> 11	<0.05	<u><</u> ∩ 25	<u><</u> ∩ 25	<5	
	~0.05	µg/i iw	411	-0.05	~0.25	~0.25	-5	
2,4-DB	<0.1 L	ıg/I TM	411	<0.1	<0.5	<0.5	<10	
		-						
2,3,6-Trichlorobenzoic acid	<0.05	µg/l TM	411	<0.05	<0.25	<0.25	<5	
D' 11	• ·		44.4				10	
Uicniorprop	<0.1 µ	ug/I TM	411	<0.1	<0.5	<0.5	<10	
Triclopyr	<0 05 -		<u>/</u> 11	<u><0.05</u>	<u>~0 25</u>	<u>~0 25</u>	~5	
Пооруг	~0.05	µg/i iw	411	<0.05	~0.2 5	~0.2 5	~5	
Fenoprop (Silvex)	<0.1 L	ug/I TM	411	<0.1	<0.5	<0.5	<10	
	•	Ŭ						
2,4-Dichlorophenoxyacetic acid	<0.05	µg/I TM	411	<0.05	<0.25	<0.25	<5	
2,4,5-Trichlorophenoxyacetic acid	<0.05	µg/l TM	411	<0.05	<0.25	<0.25	<5	
Bromovunil	~0.04		111	~0.04	~0.2	~0.2	-1	
ыополутш	∼ 0.04	µу∕т ™	+11	NU.04	\U. ∠	\U. ∠	\4	
Benazolin	<0.04	µg/I TM	411	<0.04	<0.2	<0.2	<4	
loxynil	<0.05	µg/l TM	411	<0.05	<0.25	<0.25	<5	
11:51:49 26/10/2023					D. 10.00	0		
					Page 10 of 2	U		



Location: New Inn

Superseded Report: 706863

Validated

SDG: 231006-104 Client Ref.: Galway Historic Landfills P2:

Results Legend		Custo	mer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample. diss.fiti Discoved / fittered sample. tot.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor repo accreditation status. * % recovery of the surrogate standard to ch- efficiency of the method. The results of indi	ort for eck the vidual		Depth (m) Sample Type Date Sampled Sample Time Date Received	0.00 - 0.00 Ground Water (GW) 04/10/2023				
compounds within samples aren't corrected recovery (F) Trigger breach confirmed 1-4+§@ Sample deviation (see appendix)	I for the	Lal	SDG Ref Sample No.(s) AGS Reference	231006-104 28741792	231006-104 28741801	231006-104 28741773	231006-104 28741782	
Component Pentachlorophenol	LOD/L	Jnits	Method TM411	<0.04	<0.2	<0.2	<1	
r entdeniorophenor	~ 0.04	·μy/i	1 10141 1	<0.04	~0.2	~0.2	~4	
Fluoroxypyr	<0.1	µg/l	TM411	<0.1	<0.5	<0.5	<10	
11:51:49 26/10/2023					Page 11 of 2	0		



Location: New Inn

Superseded Report: 706863

Validated



Results Legend # ISO17025 accredited.	Cu	stomer Sample Ref.	BH1	BH4	GW01	GW02		
M mCERTS accredited. aq Aqueous / settled sample.								
diss.filt Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00 Ground Water (GW)					
 Subcontracted - refer to subcontractor re accreditation status. ** % recovery of the surrogate standard to re 	port for	Date Sampled Sample Time	04/10/2023	04/10/2023	04/10/2023	04/10/2023		
efficiency of the method. The results of in compounds within samples aren't correct	idividual ted for the	Date Received	06/10/2023	06/10/2023	06/10/2023	06/10/2023		
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	28741792	28741801	28741773	28741782		
1-4+§@Sample deviation (see appendix) Component	LOD/Units	AGS Reference Method						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
1 2-Dichlorobenzene (ag)	<1.00/	TM176	#	#	#	#		
	<1µg/i	1101170	~2 #	-0 #	~2 #	<10 #		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
1 A-Dichlorobenzene (ag)	<1.00/	TM176	#	#	#	#		
T,+ Disinorobenzene (uq)	< rµg/i	1101170	~2 #	-0 #	~2 #	<10 #		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
2.4.6-Trichlorophenol (ag)	<1.00/	TM176	#	#	#	#		
	<1µg/i	1101170	~2 #	~0 #	~2 #	<10 #		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
2.4 Dimothylphonol (ag)	<1.ug/l	TM176	#	#	#	#		
ב,ד טווופנוזאווופווטו (aq)	×ιμg/Ι	1111/0	~2 #	~o #	~~ #	×10 #		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
2 6-Dinitrotoluene (ag)	<1.00/	TM176	#	# ~8	#	<i>∠</i> 10		
z, o Dimitrototaline (ay)	> µy/i	111170	~~ #	~o #	~~ #	×10 #		
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
2-Chlorophenol (ag)	<1.ug/l	TM176	#	#	#	#		
	< i µg/i	1111170	~2 #	~o #	~2 #	<10 #		
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
2 Mothylphonol (cg)	<1.1%	TM17C	#	#	#	#		
z-methylphenol (aq)	< i µg/i	1111170	<2 #	<o #</o 	<2 #	<10 #		
2-Nitroaniline (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
2 Nitrophonal (as)	<u> </u>	TM470	#	#	#	#		
	< i µg/i	1111170	~2 #	~o #	~2 #	<10 #		
3-Nitroaniline (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
4 Dramanhan Jahan Jathar (ag)	11 //	TN470	~	-0	10	-10		
4-biomophenyiphenyiether (aq)	< i µg/i	1111170	<2 #	<o #</o 	<2 #	<10 #		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
1 Chloroppiling (ag)	<u> </u>	TM470	#	#	#	#		
4-Unioroaniline (aq)	<1 µg/i	11/17/6	<2	<8	<2	<10		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
A-Methylphenel (cg)		TM470	#	#	#	#		
H-INIELITYIPHENOI (aq)	<1 µg/l	1W176	<2 #	<ŏ #	<2 #	<10 #		
4-Nitroaniline (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
4-Nitrophenol (ag)	<1.00/	TM176	#	# ~9	#	<i></i> 10		
(aq)	×ιμg/l	0/11/0	~2	^ 0	<u>^</u> 2	×10		
Azobenzene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
Acenanhthylene (ag)	~1//	TM176	#	#	#	<i></i> 10		
noonapriuryielle (aq)	<i l<="" td="" µg=""><td>111176</td><td><<u>~</u> #</td><td><o #</o </td><td><<u>~</u></td><td>< IU #</td><td></td><td></td></i>	111176	< <u>~</u> #	<o #</o 	< <u>~</u>	< IU #		
Acenaphthene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
Anthracene (ag)	~1//	TM176	#	#	#	#		
nini avene (dy)	siµg/l	0/11/0	~~ #	^ 0 #	~∠ #	<10 #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
his (2 Chloroothow) mathems (as)		TM470	#	#	#	#		
uia(2-Onioroethoxy)methane (aq)	<i l<="" td="" µg=""><td>111176</td><td><<u>_</u></td><td><ŏ #</td><td><<u>/</u></td><td>< IU #</td><td></td><td></td></i>	111176	< <u>_</u>	<ŏ #	< <u>/</u>	< IU #		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<4	<16	~4	<20		
Dub dhaamid al-th-slate ()		T1470	#	#	#	#		
Butylbenzyl pnthalate (aq)	<1 µg/l	1M176	<2 #	<8 #	<2 #	<10 #		
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<8				
	1	1	#	#	#	#		



CERTIFICATE OF ANALYSIS SDG: 231006-104 Client Ref.: Galway Historic Landfills P2: Report Number: 708822

Location: New Inn

Superseded Report: 706863

SVOC MS (W) - Aqueous

Results Legend	Cu	stomer 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.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor rep	ort for	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
accreditation status. ** % recovery of the surrogate standard to ch	neck the	Sample Time						
efficiency of the method. The results of ind compounds within samples aren't correcte	lividual ed for the	Date Received	06/10/2023	06/10/2023	06/10/2023	06/10/2023		
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	28741792	28741801	28741773	28741782		
1-4+§@ Sample deviation (see appendix)		AGS Reference						
Component Benzo(b)fluoranthene (ag)	LOD/Units	5 Method	-0	-0	-0	<10		
	<1µg/i	TIMITO	~2 #	~o #	~2 #	<10 #		
Benzo(k)fluoranthene (ag)	<1 ua/l	TM176	<2 "	<8	<2 "	<10		
			- #	° #	- #	#		
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
			#	#	#	#		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
			#	#	#	#		
Carbazole (aq)	<1 µg/l	TM176	<2 "	<8 "	<2 "	<10		
Chrysens (as)	14 . //	TN4470	#	#	#	#		
Chrysene (aq)	<1 µg/i	TM176	<z #<="" td=""><td><ð #</td><td><2 #</td><td><10 #</td><td></td><td></td></z>	<ð #	<2 #	<10 #		
Dibenzofuran (ag)	<1.ug/l	TM176	# </td <td></td> <td># <?</td><td># <10</td><td></td><td></td></td>		# </td <td># <10</td> <td></td> <td></td>	# <10		
	<1 µg/i	TMTTO	~2 #	<0 #	~2 #	<10 #		
n-Dibutyl phthalate (ag)	<1 µa/l	TM176	<2 "	<8	<2 "	<10		
			- #	#	- #	#		
Diethyl phthalate (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
			#	#	#	#		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
			#	#	#	#		
Dimethyl phthalate (aq)	<1 µg/l	TM176	<2	<8 	<2 "	<10 "		
n-Dioctyl phthalate (ag)	<5 ug/	TM176	# <10	#	#	# <50		
	~5 µg/i	TIMITO	<10 #	~40 #	<10 #	<50 #		
Fluoranthene (ag)	<1 µa/l	TM176	<2 "	<8	<2 "	<10		
			- #	#	- #	#		
Fluorene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
			#	#	#	#		
Hexachlorobenzene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
			#	#	#	#		
Hexachiorobutadiene (aq)	<1 µg/l	IM1/6	<2 #	<8 #	<2 #	<10 #		
Pentachlorophenol (ag)	<1.ug/l	TM176	# </td <td></td> <td># <?</td><td># <10</td><td></td><td></td></td>		# </td <td># <10</td> <td></td> <td></td>	# <10		
	<1 µg/i	TIMITIO	~2	~0	~2	10		
Phenol (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
			#	#	#	#		
Hexachloroethane (aq)	<1 µg/l	TM176	<2 "	<8 "	<2 "	<10		
Nitrobonzono (ag)	<u> </u>	TN470	#	#	#	#		
Nitrobenzene (aq)	<1 µg/i	TM176	<2 #	<ð #	<2 #	<10 #		
Naphthalene (ag)	<1.ug/l	TM176	π <2		π <2	π <10		
	1 49/1	1	- #	~ #	- #	#		
Isophorone (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
			#	#	#	#		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<2	<8	<2	<10		
Phenanthrene (aq)	<1 µg/l	TM176	<2 #	<8 #	<2 #	<10 #		
Indeno(1,2,3-cd)pyrene (ag)	<1.00/	TM176	# 			# <10		
	<1 µg/i	TMTTO	~2 #	<0 #	~2 #	<10 #		
Pyrene (ag)	<1 µa/l	TM176	<2 "	<8	<2 "	<10		
	1.2		#	#	#	#		
	1		1	1	1		1	



Superseded Report: 706863

Validated



 Report Number:
 708822

 ills P2:
 Location:
 New Inn

VOC MS (W)		Customor Sample Pof	DUA	DUA	014/04	014/00	i I	
# ISO17025 accredited. M mCERTs accredited. aq Aqueous / settled sample. diss.filt Dissolved filtered sample.		Customer 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.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor rep- accreditation status. ** % recovery of the surrogate standard to ch	ort for leck the	Sample Type Date Sampled Sample Time	Ground Water (GW) 04/10/2023	Ground Water (GW) 04/10/2023	Ground Water (GW) 04/10/2023	Ground Water (GW) 04/10/2023		
efficiency of the method. The results of ind compounds within samples aren't correcte recovery (F) Trigger breach confirmed	lividual d for the	Date Received SDG Ref Lab Sample No.(s)	06/10/2023 231006-104 28741792	06/10/2023 231006-104 28741801	06/10/2023 231006-104 28741773	06/10/2023 231006-104 28741782		
1-4+s@Sample deviation (see appendix)	LOD/U	nits Method						
Dibromofluoromethane**	%	TM208	107	108	106	104		
Toluene-d8**	%	TM208	101	99.9	101	101		
4-Bromofluorobenzene**	%	TM208	98	97.3	97.1	98.5		
Dichlorodifluoromethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Chloromethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Vinyl chloride	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Bromomethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Chloroethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Trichlorofluoromethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloroethene	<1 µ	g/I TM208		<1 #	<1 #			
Carbon disulphide	<1 µ	g/I TM208		<1 #	<1 #	<1 #		
Dichloromethane	<3 µ	g/I TM208	<3 #	<3 #	<3 #	<3 #		
Methyl tertiary butyl ether (MTBE)	<1 µ	g/I TM208		<1 #	<1 #			
trans-1,2-Dichloroethene	<1 µ	g/I TM208	<1 #		<1 #			
1,1-Dichloroethane	<1 µ	g/I TM208	# <1 #	<1 #	<1 #			
cis-1,2-Dichloroethene	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
2,2-Dichloropropane	<1 µ	g/I TM208	<1	<1	<1	<1		
Bromochloromethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Chloroform	<1 µ	g/I TM208	<1 #	<1 #	2.66	<1 #		
1,1,1-Trichloroethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloropropene	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Carbontetrachloride	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichloroethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Benzene	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Trichloroethene	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichloropropane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Dibromomethane	<1 µ	g/I TM208	<1 #	<1 #	<1 #	<1 #		
Bromodichloromethane	<1 µ	g/I TM208		**************************************	1.21	<1 #		
cis-1,3-Dichloropropene	<1 µ	g/I TM208		**************************************	<1 #	<1 #		
Toluene	<1 µ	g/I TM208			<1 #	~1 #		
trans-1,3-Dichloropropene	<1 µ	g/I TM208		<1 #	<1 #			
1,1,2-Trichloroethane	<1 µ	g/I TM208	# <1 #	<1 #	<1 #			
1,3-Dichloropropane	<1 µ	g/I TM208			<1 #	" <1		



Location: New Inn

Superseded Report: 706863



VOC MS (W)

# ISO17025 accredited.		Customer Sample Ref.	BH1	BH4	GW01	GW02	
M mCERTS accredited. aq Aqueous / settled sample.		Donth (m)	0.00, 0.00	0.00, 0.00	0.00, 0.00	0.00.0.00	
diss.filt Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample.		Sample Type	0.00 - 0.00 Ground Water (GW)				
accreditation status.	ort for	Date Sampled	04/10/2023	04/10/2023	04/10/2023	04/10/2023	
% recovery of the surrogate standard to ch efficiency of the method. The results of ind	eck the ividual	Date Received	06/10/2023	06/10/2023	06/10/2023	06/10/2023	
recovery (E) Trigger brooch confirmed	a for the	SDG Ref	231006-104 28741792	231006-104 28741801	231006-104 28741773	231006-104 28741782	
1-4+§@ Sample deviation (see appendix)		AGS Reference					
Component	LOD/Un	its Method	-1	-1	-1	-1	
reliaciioioelliene	< i µg	/1 11/1208	<1 #	<1 #	<i #</i 	<1 #	
Dibromochloromethane	<1 µ0	/I TM208	<1 "	<1 "	<1 "	<1 "	
			#	#	#	#	
1,2-Dibromoethane	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
Chlorobenzene	<1 µg	/I TM208	<1	<1 #	<1 #	<1 ""	
1 1 1 2-Tetrachloroethane	<1.00	/I TM208	# <1	# <1	# <1	# <1	
	1 49	/1 11/1200	· · · #	*1 #		#	
Ethylbenzene	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
m,p-Xylene	<1 µg	/I TM208	<1	<1	<1	<1	
a Vulana		// TM000	#	#	#	#	
о-хутепе	< i µg	/1 11/1208	<i #</i 	<i #</i 	<i #</i 	<1 #	
Styrene	<1 µ0	/I TM208	π	" <1		" <1	
,			#	#	#	#	
Bromoform	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
Isopropylbenzene	<1 µg	/I TM208	<1 #	<1 #	<1 #	<1 #	
1 1 2 2-Tetrachloroethane	<1.00	/I TM208	# <1	# <1	# <1	# <1	
	1 49	/1 11/1200	· · · #	*1 #		#	
1,2,3-Trichloropropane	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
Bromobenzene	<1 µg	/I TM208	<1 "	<1 "	<1 "	<1 "	
Pronvlbenzene	<1.00	// TM209	#	#	#	#	
Порушение	< i µg	/1 11/1200	×1 #	<r></r>	<rr></rr>	<rr></rr>	
2-Chlorotoluene	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
1,3,5-Trimethylbenzene	<1 µg	/I TM208	<1 "	<1	<1	<1	
4 Chlorotoluono	<1.00	// TM209	#	#	#	#	
	×ιμ	/1 11/1200	×1 #	<r></r> *I	×1 #	#	
tert-Butylbenzene	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
1,2,4-Trimethylbenzene	<1 µg	/I TM208	<1 "	<1 "	<1	<1	
ana Butulhanzana		// TN000	#	#	#	#	
sec-Bulyidenzene	<1 µg	/1 1M208	<1 #	<1 #	<1 #	<1 #	
4-iso-Propyltoluene	<1 ua	/I TM208	<1 #	<1 #	<1 **	<1 #	
			#	#	#	#	
1,3-Dichlorobenzene	<1 µg	/I TM208	<1	<1	<1	<1	
1.4 Dichlorohonnon	- 14		#	#	#	#	
1,4-DICHIOIODENZENE	<1 µg	/1 11/12/08	<1 #	<1 #	<1 #	<1 #	
n-Butylbenzene	<1 un	/I TM208		* <1	* <1	* <1	
			#	#	#	#	
1,2-Dichlorobenzene	<1 µg	/I TM208	<1	<1	<1	<1	
			#	#	#	#	
ı,∠-Dibromo-3-chloropropane	<1 µg	/I IM208	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	<1 un	/I TM208	<1	<1	<1	<1	
	· #9		. #	#	. #	. #	
Hexachlorobutadiene	<1 µg	/I TM208	<1	<1	<1	<1	
			#	. #	. #	#	
tert-Amyl methyl ether (TAME)	<1 µg	/I TM208	<1 #	<1 #	<1 #	<1 #	
Naphthalene	<1.00	/I TM208	<1 #	# <1	# <1	# <1	
	- P9		#	#	#	#	
1,2,3-Trichlorobenzene	<1 µg	/I TM208	<1	<1	<1	<1	
405711		//	#	. #	#	#	
1,3,5-1 richiorobenzene	<1 µg	/I IM208	<1	<1	<1	<1	

Report Number: 708822 Location: New Inn Superseded Report: 706863



SDG: 231006-104

Client Ref.: Galway Historic Landfills P2: **Table of Results - Appendix**

Method No	Description
TM411	Acid Herbs in Water by GCMS
TM046	Measurement of Dissolved Oxygen by Oxygen Meter
TM104	Determination of Fluoride using the Kone Analyser
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM344	Determination of selected pesticides (Suite II) by GCMS
SUB	Subcontracted Test
TM152	Analysis of Aqueous Samples by ICP-MS
TM172	EPH in Waters
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM176	Determination of SVOCs in Water by GCMS
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM345	Determination of selected pesticides (Suite III) by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



Client Ref.: Galway Historic Landfills P2:

CERTIFICATE OF ANALYSIS

Report Number: 708822 Location: New Inn Superseded Report: 706863

Test Completion Dates

Lab Sample No(s)	28741792	28741801	28741773	28741782
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	13-Oct-2023	13-Oct-2023	13-Oct-2023	17-Oct-2023
Ammonium Low	10-Oct-2023	10-Oct-2023	10-Oct-2023	10-Oct-2023
Anions by Kone (w)	10-Oct-2023	10-Oct-2023	10-Oct-2023	10-Oct-2023
Coliforms (W)	10-Oct-2023	10-Oct-2023	10-Oct-2023	10-Oct-2023
Cyanide Comp/Free/Total/Thiocyanate	10-Oct-2023	10-Oct-2023	10-Oct-2023	10-Oct-2023
Dissolved Metals by ICP-MS	11-Oct-2023	11-Oct-2023	11-Oct-2023	11-Oct-2023
Dissolved Oxygen by Probe	09-Oct-2023	09-Oct-2023	09-Oct-2023	09-Oct-2023
Fluoride	09-Oct-2023	09-Oct-2023	13-Oct-2023	09-Oct-2023
Mercury Dissolved	10-Oct-2023	10-Oct-2023	10-Oct-2023	10-Oct-2023
Mineral Oil C10-40 Aqueous (W)	14-Oct-2023	14-Oct-2023	14-Oct-2023	14-Oct-2023
Pesticides (Suite I) by GCMS	26-Oct-2023	20-Oct-2023	20-Oct-2023	20-Oct-2023
Pesticides (Suite II) by GCMS	13-Oct-2023	13-Oct-2023	13-Oct-2023	13-Oct-2023
Pesticides (Suite III) by GCMS	13-Oct-2023	17-Oct-2023	13-Oct-2023	13-Oct-2023
pH Value	11-Oct-2023	11-Oct-2023	12-Oct-2023	12-Oct-2023
SVOC MS (W) - Aqueous	11-Oct-2023	13-Oct-2023	11-Oct-2023	11-Oct-2023
Total Organic and Inorganic Carbon	15-Oct-2023	15-Oct-2023	15-Oct-2023	15-Oct-2023
VOC MS (W)	11-Oct-2023	11-Oct-2023	11-Oct-2023	11-Oct-2023



ALS Life Sciences Ltd trading as ALS Carrigeen Business Park, Clonmel, Co. Tipperary Telephone: +353 (0) 52 617 8100



Report No: ALSH-608051023

Document No: EF0011

CERTIFICATE OF ANALYSIS

Client ALS Hawa	rden	Date Submitted	05/10/2023		
Units 7-8	lawarden Business Park	Date Reported	00/10/2023		
Manor Lai Hawarden CH5 3US	e	Order Number	N/A		
For the Attention of	ALS Hawarden				
Sample Reception	4 sample(s) received in good condition.				

Comments

N/A

Report Authorised by: NSCA

Denver Burke Microbiology Manager

Conditions:

- 1. Results in this report relate only to the items tested
- 2. Reports may not be reproduced except in full without the approval of ALS Life Sciences Ltd
- 3. All queries regarding this report should be addressed to the Technical Manager at the above address
- 4. A * next to a method reference signifies that ALS Life Sciences Ltd is NOT INAB accredited for this method
- 5. Results reported as CFU/cm² are calculated based on information supplied by customer regarding area swabbed
- 6. SUBCON* indicates analysis subcontracted to approved subcontractors who do not hold accreditation for this test 7. SUBCON^ indicates analysis subcontracted to approved subcontractors who hold accreditation for this test
- 8. Where sampling is undertaken by ALS personnel, sampling activities are outside the scope of INAB accreditation
- 9. Dil next to a method reference indicates that a dilution of the water sample was undertaken during testing
- 10. Statement of conformity made against the result does not take into account the uncertainty of measurement associated with the method

Page 1 of 2



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Report No:

ALSH-608051023

Document No: EF0011

CERTIFICATE OF ANALYSIS

		Date Submitted		05/10/2023					
		Date Repo	rted 06	06/10/2023					
		Order Num	iber N//	I/A					
Sample Type Client ID	Water New Inn GW01 04/10/2023 12:45								
Date Tested	05/10/2023								
ALS ID	5787567								
<u>Test</u> Coliforms Faecal coliforms		<u>Result</u> 31 <10	<u>Unit</u> MPN/100 MPN/100	<u>it Method</u> 00ml SP 196 Based on ISO 9308-2 (2012) - Dil 00ml SP 200 based on the IDEXX Colilert 18 test kit Dil					
Sample Type Client ID	Water New Inn GW02 04/10/2023 13:15								
Date Tested ALS ID	05/10/2023 5787569								
<u>Test</u> Coliforms Faecal coliforms		<u>Result</u> 839 <10	<u>Unit</u> MPN/100 MPN/100	itMethod00mlSP 196 Based on ISO 9308-2 (2012) - Dil00mlSP 200 based on the IDEXX Colilert 18 test kit Dil					
Sample Type Client ID	Water New Inn BH01 04/10/2023 13:35								
Date Tested ALS ID	05/10/2023 5787570								
<u>Test</u> Coliforms Faecal coliforms		<u>Result</u> <10 <10	<u>Unit</u> MPN/100 MPN/100	itMethod00mlSP 196 Based on ISO 9308-2 (2012) - Dil00mlSP 200 based on the IDEXX Colilert 18 test kit Dil					
Sample Type Client ID	Water New Inn BH04 04/10/2023 14:05								
Date Tested ALS ID	05/10/2023 5787572								
<u>Test</u> Coliforms Faecal coliforms		Result 10 <10	<u>Unit</u> MPN/100 MPN/100	it <u>Method</u> 00ml SP 196 Based on ISO 9308-2 (2012) - Dil 00ml SP 200 based on the IDEXX Colilert 18 test kit Dil					

Report Authorised by:

me 7 kenven -

Page 2 of 2

Denver Burke Microbiology Manager

Page 19 of 20

Superseded Report: 706863

Report Number: 708822 Location: New Inn

Appendix

SDG:

Client Ref:

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.

231006-104

Galway Historic Landfills

2. If sufficient sample is received a sub sample will be retained free of charge for 15 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 15 days 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 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 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
Ş	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.

Asbestos Type	Common Name
Chrysof le	White Asbestos
Amosite	Brow n Asbestos
Cio d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fibrous Anthophyllite	-
Fibrous Tremol ite	-

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.

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: Sean Foley

CERTIFICATE OF ANALYSIS

Date of report Generation: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: Order Number: 19 October 2023 Fehily Timoney 231006-105 Galway Historic Landfills P23-074 New Inn 708005 Z4096

We received 1 sample on Friday October 06, 2023 and 1 of these samples were scheduled for analysis which was completed on Thursday October 19, 2023. 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 Laboratories (UK) Limited 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:

<u>Sonia McWhan</u> Operations Manager



ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955. Version: 3.6 Version Issued: 19/10/2023

Report Number: 708005 Location: New Inn

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28741846	BH2		0.00 - 0.00	04/10/2023

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



Client Ref.: Galway Historic Landfills P2

SDG: 231006-105

Validated	

	CERTIFICATE OF ANALYSIS
)6-105	Report Number: 708005

Superseded Report:

SDG: 231006-105 Client Ref.: Galway Historic Landfills P2:				epor	t Nu Loc	mbe atio	r: 70 1: N	0800 ew Ir	5 In
Results Legend X Test N No Determination	Lab Sample	No(s)							28741846
Sample Types -	Custom Sample Refe	er rence		5					BH2
S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate	AGS Refere	ence							
PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage	Depth (r	n)						0.00 - 0.00	
RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Contain	er	0.51 glass bottle (ALE227)	NaOH (ALE245) LE HN03 Filtered (ALE204) LE S00ml Plastic (ALE208) LE 250ml BOD (ALE212) LE				Vial (ALE297)	
	Sample Ty	/pe	Ē	Ē	Ē	Jumber: 708005 Jocation: New Inn NaOH (ALE245) HNO3 Filtered HN03 Filtered LE HO3 Filtered LE S00ml Plastic LE I LE X J<			Ē
Acid Herbicides by GCMS	All	NDPs: 0 Tests: 1	X						
Ammonium Low	All	NDPs: 0 Tests: 1				X			
Anions by Kone (w)	All	NDPs: 0 Tests: 1			X				
BOD True Filtered	All	NDPs: 0 Tests: 1		X					
BOD True Total	All	NDPs: 0 Tests: 1		x					
COD Unfiltered	All	NDPs: 0 Tests: 1			X				
Cyanide Comp/Free/Total/Thiocyanate	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		
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 1			X				
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 1	X						
Pesticides (Suite II) by GCMS	All	NDPs: 0 Tests: 1	X						
Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 1	x						

Validated

	CERTIFICATE OF ANALYSIS
6-105	Report Number: 708005

Superseded	Report:
------------	---------

SD Client Re	G: 231006-105 f.: Galway Historic La	231006-105 Galway Historic Landfills P2:				Report Number: 708005 Location: New Inn						
Results Legend X Test N No Determinatio	Lab Sample	Lab Sample No(s)										
Sample Types -	Custom Sample Refe	Customer Sample Reference				BH2						
S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate	AGS Refer	ence										
PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage	Depth (r	Depth (m)			0.00 - 0.00							
RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Contain	Container			500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)			
	Sample T	Sample Type			Ē	E	Ē	Ē	Ē			
pH Value	All	NDPs: 0 Tests: 2	X						X			
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1	x									
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 1				X						
VOC MS (W)	All	NDPs: 0 Tests: 1							x			

A

SDG: 231006-105

CERTIFICATE OF ANALYSIS

Report Number: 708005

Superseded Report:

Client Ref.: Galway Historic Landfills P2: Location: New Inn
 Results Legend

 # ISO17025 accredited.

 M mCERTS accredited.

 aq Aqueous / settide sample.

 diss.filt Dissolved / filtered sample.

 tot.unfiltrotal / unfiltered sample.

 science accreditation status.

 * Subcourtacted - refer to subcontractor report for 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

 144§@ Sample deviation (see appendix)
 Customer Sample Ref. BH2 Depth (m) Sample Type Date Sampled Sample Time 0.00 - 0.00 Land Leachate (LE) 04/10/2023 . 06/10/2023 231006-105 28741846 Date Received SDG Ref Lab Sample No.(s)

1-4+s@ Sample deviation (see appendix)	LOD/Unite	AGS Reference				
BOD, filtered	<1 mg/l	TM045	<1			
BOD, unfiltered	<1 mg/l	TM045	9.95	щ		
Oxygen, dissolved	<0.3 mg/l	TM046	5.6	#		
Organic Carbon, Total	<3 mg/l	TM090	11.8			
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	16.9	•		
Fluoride	<0.5 mg/l	TM104	<0.5			
COD, unfiltered	<7 mg/l	TM107	403	щ		
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.77	#		
Barium (diss.filt)	<0.2 µg/l	TM152	115	#		
Boron (diss.filt)	<10 µg/l	TM152	104	#		
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	#		
Chromium (diss.filt)	<1 µg/l	TM152	<1	#		
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3	#		
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2	#		
Manganese (diss.filt)	<3 µg/l	TM152	447	#		
Nickel (diss.filt)	<0.4 µg/l	TM152	9.58	#		
Phosphorus (diss.filt)	<10 µg/l	TM152	<10	#		
Selenium (diss.filt)	<1 µg/l	TM152	<1	#		
Thallium (diss.filt)	<2 µg/l	TM152	<2	#		
Zinc (diss.filt)	<1 µg/l	TM152	7.75	#		
Sodium (Dis.Filt)	<0.076 mg/l	TM152	569	#		
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	16.6	#		
Potassium (Dis.Filt)	<0.2 mg/l	TM152	16.5	#		
Calcium (Dis.Filt)	<0.2 mg/l	TM152	175	#		
Iron (Dis.Filt)	<0.019 mg/l	TM152	9.24	#		
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	#		
Sulphate	<2 mg/l	TM184	19.9	#		
Chloride	<2 mg/l	TM184	878			
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	<0.1			
PCB congener 28	<0.015 µg/l	TM197	<0.03			
PCB congener 52	<0.015 µg/l	TM197	<0.03			
PCB congener 101	<0.015 µg/l	TM197	<0.03			
PCB congener 118	<0.015 µg/l	TM197	<0.03			



SDG: 231006-105

Superseded Report:

Client Re	f.: Galv	vay H	Historic La	ndfills P2:	Location: N	lew Inn	-	-	
Results Legend # ISO75 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss fitti Discoved (fittered sample		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sample Time Date Received		BH2 0.00 - 0.00 Land Leachate (LE) 04/10/2023 06/10/2023					
diss.filt Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for									
accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual									
compounds within samples aren't corrected recovery	i for the	l ah	SDG Ref	231006-105 28741846					
1-4+§@ Sample deviation (see appendix)			AGS Reference	20141040					
PCB congener 138	< 0.015	µg/l	TM197	<0.03					
PCB congener 153	<0.015	µg/l	TM197	<0.03					
PCB congener 180	<0.015	µg/l	TM197	<0.03					
Sum of detected EC7 PCB's	<0.105	µg/l	TM197	<0.21					
Cyanide, Total	<0.05 mg/		TM227	<0.05 #					
рН	<1 pH L	Jnits	TM256	6.93 #					
Conductivity @ 20 deg.C	<0.02 mS/cr	2 n	TM256	3.62 #					
Alkalinity, Total as HCO3	<3 m	g/l	TM256	1320					
Trifluralin	<0.01	µg/l	TM343	<0.3					
alpha-HCH	<0.01 j	µg/l	TM343	<0.1					
gamma-HCH (Lindane)	<0.01 j	µg/l	TM343	<0.1					
Heptachlor	<0.01 J	µg/l	TM343	<0.3					
Aldrin	<0.01 J	µg/l	TM343	<0.1					
beta-HCH	<0.01 J	µg/l	TM343	<0.1					
Isodrin	<0.01 J	µg/l	TM343	<0.1					
delta-HCH	<0.01	µg/l	TM343	<0.1					
Heptachlor epoxide	<0.01	µg/l	TM343	<0.1					
o,p'-DDE	<0.01	µg/l	TM343	<0.1					
Endosulphan I	<0.01	µg/l	TM343	<0.1					
trans-Chlordane	<0.01	µg/l	TM343	<0.1					
cis-Chlordane	<0.01	µg/l	TM343	<0.1					
p,p'-DDE	<0.01	µg/l	TM343	<0.1					
Dieldrin	<0.01	µg/l	TM343	<0.1					
o,p'-DDD (TDE)	<0.01	µg/l	TM343	<0.1					
Endrin	<0.01	µg/l	TM343	<0.1					
o,p'-DDT	<0.01	µg/l	TM343	<0.4					
p,p'-DDD (TDE)	<0.01	µg/l	TM343	<0.1					
Endosulphan II	<0.02	µg/l	TM343	<0.2					
p,p'-DDT	<0.01	µg/l	TM343	<1					
o,p'-Methoxychlor	<0.01	µg/l	TM343	<0.4					
p,p'-Methoxychlor	<0.01	µg/l	TM343	<1					
Endosulphan Sulphate	<0.02	µg/l	TM343	<0.8					
Permethrin I	<0.01 µg/l		TM343	<0.1					


Superseded Report:

Report Number: 708005 Location: New Inn

SDG: 231006-105 Client Ref.: Galway Historic Landfills P2:

Results Legend	C	ustomer Sample Ref.	BH2				
Hour 1/423 accretated. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfiltord1 / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation status. * %, recovery of the surrogate standard to check the efficiency of the surrogate standard to crede the efficiency of the method. The results of individual compounds within sambles aren't carrected for the		Depth (m) Sample Type Date Sampled Sample Time Date Received	0.00 - 0.00 Land Leachate (LE) 04/10/2023 06/10/2023				
recovery (F) Trigger breach confirmed		Lab Sample No.(s)	28741846				
1-4+§@Sample deviation (see appendix)	LOD/Uni	AGS Reference					
Permethrin II	<0.01 µ	g/l TM343	<0.1				
1,3,5-Trichlorobenzene	<0.01 µ	g/I TM344	<0.1				
Hexachlorobutadiene	<0.01 µ	g/I TM344	<0.1				
1,2,4-Trichlorobenzene	<0.01 µi	g/l TM344	<0.1				
1,2,3-Trichlorobenzene	<0.01 µ	g/l TM344	<0.1				
Dichlorvos	<0.01 µ	g/I TM344	<0.1				
Dichlobenil	<0.01 µ	g/I TM344	<0.1				
Mevinphos	<0.01 µ	g/I TM344	<0.1				
Tecnazene	<0.01 µ	g/I TM344	<0.1				
Hexachlorobenzene	<0.01 µ	g/l TM344	<0.1				
Demeton-S-methyl	<0.01 µ	g/l TM344	<0.1				
Phorate	<0.01 µi	g/l TM344	<0.1				
Diazinon	<0.01 µi	g/l TM344	<0.1				
Triallate	<0.01 µ	g/l TM344	<0.1				
Atrazine	<0.01 µ	g/l TM344	<0.1				
Simazine	<0.01 µi	g/l TM344	<0.1				
Disulfoton	<0.01 µi	g/l TM344	<0.1				
Propetamphos	<0.01 µi	g/l TM344	<0.1				
Chlorpyriphos-methyl	<0.01 µi	g/l TM344	<0.1				
Dimethoate	<0.01 µ	g/l TM344	<0.1				
Pirimiphos-methyl	<0.01 µ	g/l TM344	<0.1				
Fenchlorophos	<0.01 µ	g/l TM344	<0.1				
Chlorpyriphos	<0.01 µ	g/l TM344	<0.1				
Methyl Parathion	<0.01 µ	g/l TM344	<0.1				
Malathion	<0.01 µ	g/l TM344	<0.1				
Fenthion	<0.01 µ	g/l TM344	<0.1				
Fenitrothion	<0.01 µ	g/l TM344	<0.1				
Triadimefon	<0.01 µ	g/l TM344	<0.1				
Pendimethalin	<0.01 µ	g/l TM344	<0.1				
Parathion	<0.01 µ	g/l TM344	<0.1				
Chlorfenvinphos	<0.01 µ	g/l TM344	<0.1				
trans-Chlordane	<0.01 µ	g/I TM344	<0.1				
cis-Chlordane	<0.01 µ	g/I TM344	<0.1				
12:12:14 19/10/2023				Page 7 of 16	5	-	-



Component

 Results Legend

 # IS017025 accredited.

 aq Aqueous Settled sample.

 diss.fit Dissolved / filtered sample.

 tot.mfiltTotal / unfiltered sample.

 tot.mfiltTotal / unfiltered sample.

 tot.mfiltTotal / unfiltered sample.

 tot.mfiltTotal / unfiltered sample.

 * Subcontracted - refer to subcontractor report for 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

 14s§@ Sample deviation (see appendix)

 Component

Location: New Inn

Superseded Report:

SDG: 231006-105 Client Ref.: Galway Historic Landfills P2:

LOD/Units Method

Customer Sample Ref.

Depth (m) Sample Type Date Sampled Sample Time Date Received

SDG Ref Lab Sample No.(s) AGS Reference BH2

0.00 - 0.00 Land Leachate (LE) 04/10/2023

. 06/10/2023 231006-105 28741846

Ethion	<0.01 µg/l	TM344	<0.1				
Carbophenothion	<0.01 µg/l	TM344	<0.1				
Triazophos	<0.01 µg/l	TM344	<0.1				
Phosalone	<0.01 µg/l	TM344	<0.1				
Azinphos methyl	<0.02 µg/l	TM344	<0.4				
Azinphos ethyl	<0.02 µg/l	TM344	<0.2				
Etridiazole	<0.01 µg/l	TM345	<0.1				
Pentachlorobenzene	<0.01 µg/l	TM345	<0.1				
Propachlor	<0.01 µg/l	TM345	<0.1				
Quintozene (PCNB)	<0.01 µg/l	TM345	<0.1				
Omethoate	<0.01 µg/l	TM345	<0.1				
Propazine	<0.01 µg/l	TM345	<0.1				
Propyzamide	<0.01 µg/l	TM345	<0.1				
Alachlor	<0.01 µg/l	TM345	<0.1				
Prometryn	<0.01 µg/l	TM345	<0.1				
Telodrin	<0.01 µg/l	TM345	<0.1				
Terbutryn	<0.01 µg/l	TM345	<0.1				
Chlorothalonil	<0.01 µg/l	TM345	<0.2				
Etrimphos	<0.01 µg/l	TM345	<0.1				
Metazachlor	<0.01 µg/l	TM345	<0.1				
Cyanazine	<0.01 µg/l	TM345	<0.1				
Trietazine	<0.01 µg/l	TM345	<0.1				
Coumaphos	<0.01 µg/l	TM345	<0.1				
Phosphamidon I	<0.01 µg/l	TM345	<0.1				
Phosphamidon II	<0.01 µg/l	TM345	<0.1				
Dinitro-o-cresol	<0.1 µg/l	TM411	<10				
Clopyralid	<0.04 µg/l	TM411	<4				
MCPA	<0.05 µg/l	TM411	<5				
Месоргор	<0.04 µg/l	TM411	<4				
Dicamba	<0.04 µg/l	TM411	<4				
МСРВ	<0.05 µg/l	TM411	<5				
2,4-DB	<0.1 µg/l	TM411	<10				
2,3,6-Trichlorobenzoic acid	<0.05 µg/l	TM411	<5				
12:12:14 19/10/2023				Page 8 of 1	6	-	-

Validated



CERTIFICATE OF ANALYSIS Report Number: 708005

Location: New Inn

Superseded Report:

SDG: 231006-105 Client Ref.: Galway Historic Landfills P2:

Customer Sample Ref.

Results Legend		Custo	mer Sample Ref.	BH2			
 ISO17029 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fit Dissolved / filtered sample. Subcontracted - refer to subcontractor repo accreditation status. % recovery of the surrogate standard to ch efficiency of the method. The results of indi compounds within samples aren't corrected recovery 	rt for eck the vidual I for the		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref	0.00 - 0.00 Land Leachate (LE) 04/10/2023 06/10/2023 231006-105 28741846			
(F) Trigger breach confirmed 1-4+§@Sample deviation (see appendix)		Lai	AGS Reference	20741040			
Component	LOD/U	nits	Method		 		
Dicniorprop	<0.1	µg/I	IM411	<10			
Triclopyr	<0.05	µg/l	TM411	<5			
Fenoprop (Silvex)	<0.1	µg/l	TM411	<10			
2,4-Dichlorophenoxyacetic acid	<0.05	µg/l	TM411	<5			
2,4,5-Trichlorophenoxyacetic acid	<0.05	µg/l	TM411	<5			
Bromoxynil	<0.04	µg/l	TM411	<4			
Benazolin	<0.04	µg/l	TM411	<4			
loxynil	<0.05	µg/l	TM411	<5			
Pentachlorophenol	<0.04	µg/l	TM411	<4			
Fluoroxypyr	<0.1	µg/l	TM411	<10			

CERTIFICATE OF ANALYSIS

Validated

ALS Client	DG: 23	1006	5-105 Historic La	ndfille D2	Report Number:	708005	Supersede	d Report:	
SVOC MS (W) - Agu		way	HISTOLIC La		Location:	New Inn			
Results Legend # ISO17025 accredited.	eous	Custo	omer Sample Ref.	BH2					
M mCERTS accredited. aq Aqueous / settled sample.			Danth (m)						
diss.filt Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample.	report for		Sample Type	0.00 - 0.00 Land Leachate (LE)	,				
accreditation status.	check the		Date Sampled Sample Time	04/10/2023					
efficiency of the method. The results of compounds within samples aren't corre	individual cted for the		Date Received	06/10/2023 231006-105					
recovery (F) Trigger breach confirmed		La	b Sample No.(s)	28741846					
1-4+§@Sample deviation (see appendix)	LOD/L	Inits	AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1	ıg/l	TM176	<20					
1,2-Dichlorobenzene (aq)	<1	ıg/l	TM176	<20					
1,3-Dichlorobenzene (aq)	<1 μ	ıg/l	TM176	<20					
1,4-Dichlorobenzene (aq)	<1 µ	ıg/l	TM176	<20					
2,4,5-Trichlorophenol (aq)	<1	ıg/l	TM176	<20					
2,4,6-Trichlorophenol (aq)	<1 μ	ıg/l	TM176	<20					
2,4-Dichlorophenol (aq)	<1 μ	l/g	TM176	<20					
2,4-Dimethylphenol (aq)	<1 μ	ıg/l	TM176	<20					
2,4-Dinitrotoluene (aq)	<1	ıg/l	TM176	<20					
2,6-Dinitrotoluene (aq)	<1 μ	ıg/l	TM176	<20					
2-Chloronaphthalene (aq)	<1 μ	ıg/l	TM176	<20					
2-Chlorophenol (aq)	<1 μ	l/g	TM176	<20					
2-Methylnaphthalene (aq)	<1 μ	ıg/l	TM176	<20					
2-Methylphenol (aq)	<1 µ	l/g	TM176	<20					
2-Nitroaniline (aq)	<1	l/g	TM176	<20					
2-Nitrophenol (aq)	<1	l/g	TM176	<20					
3-Nitroaniline (aq)	<1 µ	l/g	TM176	<20					
4-Bromophenylphenylether (aq)	<1 µ	l/g	TM176	<20					
4-Chloro-3-methylphenol (aq)	<1	l/g	TM176	<20					
4-Chloroaniline (aq)	<1	l/g	TM176	<20					
4-Chlorophenylphenylether (aq)	<1	l/g	TM176	<20					
4-Methylphenol (aq)	<1 µ	l/g	TM176	<20					
4-Nitroaniline (aq)	<1 µ	l/g	TM176	<20					
4-Nitrophenol (aq)	<1	l/g	TM176	<20					
Azobenzene (aq)	<1	l/g	TM176	<20					
Acenaphthylene (aq)	<1 µ	l/g	TM176	<20					
Acenaphthene (aq)	<1	l/g	TM176	<20					
Anthracene (aq)	<1	l/g	TM176	<20					
bis(2-Chloroethyl)ether (aq)	<1	l/g	TM176	<20					
bis(2-Chloroethoxy)methane (aq)	<1	l/g	TM176	<20					
bis(2-Ethylhexyl) phthalate (aq)	<2 μ	l/g	TM176	<40					
Butylbenzyl phthalate (aq)	<1	Jg/l	TM176	<20					
Benzo(a)anthracene (aq)	<1	Jg/l	TM176	<20					



CERTIFICATE OF ANALYSIS Report Number: 708005

Location: New Inn

Superseded Report:

SDG: 231006-105 Client Ref.: Galway Historic Landfills P2: SVOC MS (W) - Aqueous

Results Legend		Customer Semple Def	DUO			
# ISO17025 accredited.		Customer Sample Ref.	BH2			
M mCERTS accredited.						
diss.filt Dissolved / filtered sample.		Depth (m)	0.00 - 0.00			
tot.unfiltTotal / unfiltered sample.		Sample Type	Land Leachate (LE)			
accreditation status.	DIL TOF	Date Sampled	04/10/2023			
** % recovery of the surrogate standard to ch	eck the	Sample Time				
efficiency of the method. The results of ind compounds within samples aren't correcte	ividual d for the	Date Received	06/10/2023			
recovery		SDG Ref	231000-105			
(F) Trigger breach confirmed 1-4+S@ Sample deviation (see appendix)		Lab Sample No.(S) AGS Reference	20741040			
Component		nite Method				
Bonzo(h)fluoranthono (ag)			<20			
Denzo(b)nuoranimene (aq)	×ιμο	g/i ivii/o	×20			
Benzo(k)fluoranthene (aq)	<1 µg	g/I TM176	<20			
Benzo(a)pyrene (ag)	<1.00	n/l TM176	<20			
	1 49		-20			
Benzo(g,h,i)perylene (aq)	<1 µg	g/I IM176	<20			
Carbazole (aq)	<1 µc	g/I TM176	<20			
Chrysono (ag)	<1a		<20			
Chirysene (aq)	×ιμο	g/i ivii/o	×20			
Dibenzofuran (aq)	<1 µg	g/I TM176	<20			
n-Dibutyl phthalate (ag)	<1.00	n/l TM176	<20			
	1	······································	-20			
Diathul abtholate (an)			-00			
Dietnyi pritnalate (aq)	<1 µg	g/i IM176	<20			
Dibenzo(a,h)anthracene (aq)	<1 µc	g/I TM176	<20			
Dimethyl obthalate (ag)	<1.00	×// TM176	<20			
Dimetry primate (aq)	×ιμο	g/i ivii/o	×20			
n-Dioctyl phthalate (aq)	<5 µg	g/I TM176	<100			
Eluoranthene (ag)	<1.00	n/l TM176	<20			
	1 49		~20			
Fluorene (aq)	<1 µg	g/I TM176	<20			
Hexachlorobenzene (ag)	<1 uc	n/l TM176	<20			
	1 25	g/1 111110	20			
lleve sklassky testiener (e.e.)		" T1470	.00			
Hexachiorobutadiene (aq)	<1 µg	g/I IM176	<20			
Pentachlorophenol (aq)	<1 µc	g/I TM176	<20			
Phonol (2g)	<1.00	×// TM176	<20			
Flienoi (aq)	×ιμι	g/i ivii/o	~20			
n-Nitroso-n-dipropylamine (aq)	<1 µg	g/I TM176	<20			
Hexachloroethane (ag)	<1.00	n/l TM176	<20			
(uq)	1 49		-20			
			.00			
Nitrobenzene (aq)	<1 µg	g/I IM176	<20			
Naphthalene (aq)	<1 µc	g/I TM176	<20			
Isophorone (ag)	من 1 ء	n/I TM176	<20			
		yn 11vi170	<u>∽∠</u> ∪			
Hexachlorocyclopentadiene (aq)	<1 µg	g/l TM176	<20			
Phenanthrene (aq)	<1 uc	n/l TM176	<20			
	, [,] [,] [,]					
Indeped 10.2 advances (as)			-00			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg	g/I IM176	<20			
Pyrene (aq)	<1 µg	g/I TM176	<20			

SDG: 231006-105 Client Ref.: Galway Historic Landfills P2:

CERTIFICATE OF ANALYSIS

Report Number: 708005 Superseded Report: Location: New Inn

VOC MS (W)				-	 	
Results Legend # ISO17025 accredited.		Customer Sample Ref.	BH2			
M mCERTS accredited. aq Aqueous / settled sample.		Dopth (m)	0.00 0.00			
diss.fiit Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample.		Sample Type	Land Leachate (LE)			
accreditation status.	port for	Date Sampled	04/10/2023			
efficiency of the method. The results of inc	dividual	Date Received	06/10/2023			
recovery	eu for the	SDG Ref	231006-105 28741846			
1-4+§@ Sample deviation (see appendix)		AGS Reference				
Component	LOD/Un %	TM208	08.4			
Distrimination of the that the	70	110200	50.4			
Toluene-d8**	%	TM208	101			
4-Bromofluorobenzene**	%	TM208	97.4			
Dichlorodifluoromothano	<1.00					
Dichlorodinuorometinane	×ιμg	J/I I IVI200	<r></r>			
Chloromethane	<1 µg	a/I TM208	<1			
			#			
Vinyl chloride	<1 µg	g/I TM208	<1			
Promomothono		.// TM000	#			
Diomomethane	۲µg	g/i iwi∠u8	<1 #			
Chloroethane	<1 µ0	a/I TM208	<1 "			
	F S		#			
Trichlorofluoromethane	<1 µg	g/I TM208	<1			
1.4 Disklassetheres		// TM000	#			
I, I-Dichloroethene	<1 µg	g/i im208	<1 #			
Carbon disulphide	<1 µ0	a/I TM208	<1			
·			#			
Dichloromethane	<3 µg	g/I TM208	<3			
	<u> </u>		#			
Methyl tertiary butyl ether (MTBE)	<1 µg	g/I IM208	<1 #			
trans-1 2-Dichloroethene	<1.00	1/I TM208	<1 **			
	1 45	,	#			
1,1-Dichloroethane	<1 µg	g/I TM208	<1			
	<u> </u>		#			
cis-1,2-Dichloroethene	<1 µg	g/I IM208	<1 #			
2.2-Dichloropropane	<1.00	1/I TM208	<1 **			
,	1 45	,				
Bromochloromethane	<1 µg	g/I TM208	<1			
	<u> </u>		#			
Chloroform	<1 µg	g/I IM208	<1 #			
1.1.1-Trichloroethane	<1 uo	1/I TM208	<1 **			
,,	. 143	,	. #			
1,1-Dichloropropene	<1 µg	g/I TM208	<1			
	<u> </u>		#			
Carbontetrachioride	<1 µg	g/I IM208	<1 #			
1,2-Dichloroethane	<1 µ0	a/I TM208	″			
	F S		#			
Benzene	<1 µg	g/I TM208	<1			
Trichlersethene		-// TM000	#			
Inchloroethene	۲µg	g/i iwi∠u8	<1 #			
1,2-Dichloropropane	<1 µ0	1/I TM208	<1			
	F S		#			
Dibromomethane	<1 µg	g/I TM208	<1			
Dramadiableramathana		-// TM000	#			
Bromodichioromethane	۲µg	g/i iwi∠u8	<1 #			
cis-1,3-Dichloropropene	<1 µ0	a/I TM208	<1			
			#		 	
Toluene	<1 µg	g/I TM208	<1			
trong 1.2 Dichlargerens-		.// Theorem	#		 	
uans-1,3-Dichloropropene	<1 µg	yı im208	<1 #			
1,1,2-Trichloroethane	<1 µ0	a/I TM208	<1 **			
			#		 	
1,3-Dichloropropane	<1 µg	g/l TM208	<1			
	1		#			

SDG: 231006-105 Client Ref.: Galway Historic Landfills P2: Report Number: 708005 Location: New Inn

Superseded Report:

VOC MS (W)

Results Legend # ISO17025 accredited. M mCERTS accredited.		Customer Sample Re	f. BH2			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfiltTotal / unfiltered sample.		Depth (m) Sample Type	0.00 - 0.00			
 * Subcontracted - refer to subcontractor rep- accreditation status. ** % recovery of the surrogate standard to ch 	ort for leck the	Date Sampled Sample Time	04/10/2023			
efficiency of the method. The results of ind compounds within samples aren't correcte	lividual d for the	Date Received SDG Ref	06/10/2023 231006-105			
(F) Trigger breach confirmed 1-4∳§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	28741846			
Component Tetrachloroethene	LOD/U <1 μ	Inits Method Ig/l TM208	<1			
Dibromochloromethane	<1	ug/L TM208	= #			
	1	-// TM200	#			
1,2-Dibromoetnane	<1µ	1g/1 1101208	<1 #			
Chlorobenzene	<1 µ	ıg/l TM208	<1 #			
1,1,1,2-Tetrachloroethane	<1 µ	ıg/l TM208	<1 #			
Ethylbenzene	<1 µ	ıg/I TM208	<1 #			
m,p-Xylene	<1 µ	ıg/l TM208	<1 // #			
o-Xylene	<1 µ	ıg/l TM208	<1 #			
Styrene	<1 µ	ıg/l TM208	<1 #			
Bromoform	<1 µ	ıg/l TM208	<1 #			
Isopropylbenzene	<1 µ	ıg/I TM208	<1 #			
1,1,2,2-Tetrachloroethane	<1 µ	ıg/I TM208	<1 #			
1,2,3-Trichloropropane	<1 µ	ıg/l TM208	<1 #			
Bromobenzene	<1 µ	ıg/l TM208	<1 #			
Propylbenzene	<1 µ	ıg/l TM208	<1 #			
2-Chlorotoluene	<1 µ	ıg/l TM208	<1 // #			
1,3,5-Trimethylbenzene	<1 µ	ıg/l TM208	<1 // #			
4-Chlorotoluene	<1 µ	ıg/l TM208	<1 // #			
tert-Butylbenzene	<1 µ	ıg/l TM208	<1 #			
1,2,4-Trimethylbenzene	<1 µ	ıg/l TM208	<1 #			
sec-Butylbenzene	<1 µ	ıg/l TM208	<1 #			
4-iso-Propyltoluene	<1 µ	ıg/l TM208	<1 #			
1,3-Dichlorobenzene	<1 µ	ıg/l TM208	<1 #			
1,4-Dichlorobenzene	<1 µ	ıg/l TM208	<1 #			
n-Butylbenzene	<1 µ	ıg/l TM208	<1 #			
1,2-Dichlorobenzene	<1 µ	ıg/l TM208	<1 #			
1,2-Dibromo-3-chloropropane	<1 µ	ıg/l TM208	<1			
1,2,4-Trichlorobenzene	<1 µ	ıg/l TM208	<1 #			
Hexachlorobutadiene	<1 µ	ıg/l TM208	<1 #			
tert-Amyl methyl ether (TAME)	<1 µ	ıg/l TM208	<1 #			
Naphthalene	<1 µ	ıg/l TM208	<1 #			
1,2,3-Trichlorobenzene	<1 µ	ıg/l TM208	<1 #			
1,3,5-Trichlorobenzene	<1µ	ıg/l TM208	<1	1		



Report Number: 708005 Location: New Inn

Superseded Report:



Table of Results - Appendix

Method No	Description
TM045	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM176	Determination of SVOCs in Water by GCMS
TM197	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM345	Determination of selected pesticides (Suite III) by GCMS
TM046	Measurement of Dissolved Oxygen by Oxygen Meter
TM104	Determination of Fluoride using the Kone Analyser
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM344	Determination of selected pesticides (Suite II) by GCMS
TM107	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM411	Acid Herbs in Water by GCMS
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



Report Number: 708005 Location: New Inn Superseded Report:

Test Completion Dates

Lab Sample No(s)	28741846
Customer Sample Ref.	BH2
AGS Ref.	
Depth	0.00 - 0.00
Туре	Land
Acid Herbicides by GCMS	13-Oct-2023
Ammonium Low	10-Oct-2023
Anions by Kone (w)	10-Oct-2023
BOD True Filtered	12-Oct-2023
BOD True Total	12-Oct-2023
COD Unfiltered	12-Oct-2023
Cyanide Comp/Free/Total/Thiocyanate	10-Oct-2023
Dissolved Metals by ICP-MS	11-Oct-2023
Dissolved Oxygen by Probe	09-Oct-2023
Fluoride	09-Oct-2023
Mercury Dissolved	10-Oct-2023
PCB Congeners - Aqueous (W)	16-Oct-2023
Pesticides (Suite I) by GCMS	19-Oct-2023
Pesticides (Suite II) by GCMS	13-Oct-2023
Pesticides (Suite III) by GCMS	13-Oct-2023
pH Value	13-Oct-2023
SVOC MS (W) - Aqueous	11-Oct-2023
Total Organic and Inorganic Carbon	15-Oct-2023
VOC MS (W)	11-Oct-2023

Superseded Report:

Report Number: 708005 Galway Historic Landfills Location: New Inn

opendix

SDG:

Client Ref:

General

sults 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.

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2. If sufficient sample is received a sub sample will be retained free of charge for 15 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 15 days 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 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 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	White Asbestos
Amosite	Brow n Asbestos
Cio d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fibrous Anthophyllite	-
Fibrous Tremol ite	-

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

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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