


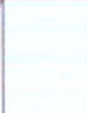



Contract No: 5898		Trial Pit and Dynamic Probe Log				Trial Pit No: TP10			
Contract: Kilshane		Easting: 710934.451		Date: 02/11/2021					
Location: Kilshane, Ballycoolin, Dublin 15		Northing: 742451.994		Excavator: JCB 3CX					
Client: Go Power		Elevation: 78.72		Logged By: M. Kaliski					
Engineer: Waterman Moylan		Dimensions (LxWxD) (m): 4.70 x 0.65 x 3.10		Scale: 1:25					
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples		Probe	Water Strike
Scale	Depth			Scale	Depth	Depth	Type		
		TOPSOIL		78.5				1	
	0.30	Soft becoming firm grey brown slightly sandy slightly gravelly silty CLAY with low cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 300mm diameter).		78.42		0.50	ES	2	
	0.90	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		78.0		1.00	B	2	
	1.00			77.82				1	
	1.50			77.5				2	
	2.00			77.0				4	
	2.50			76.5		2.50	B	7	
	2.80	Stiff black slightly sandy gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular of limestone. Cobbles are angular to subangular of limestone.		76.0				4	
	3.10	Pit terminated at 3.10m		75.92				7	
				75.62				3	
				75.5				4	
				75.0				7	
				74.5				8	
				74.0				10	
								16	
								29	
								35	
	Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:		Key:			
	Scheduled depth.	Pit walls stable.	Dry	-		B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental			

Contract No: 5898		Trial Pit and Dynamic Probe Log				Trial Pit No: TP12			
Contract: Kilshane		Easting: 710986.675		Date: 02/11/2021					
Location: Kilshane, Ballycoolin, Dublin 15		Northing: 742598.125		Excavator: JCB 3CX					
Client: Go Power		Elevation: 77.96		Logged By: M. Kaliski					
Engineer: Waterman Moylan		Dimensions (LxWxD) (m): 4.90 x 0.65 x 3.00		Scale: 1:25					
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples		Probe	Water Strike
Scale:	Depth			Scale:	Depth:	Depth	Type		
	0.20	TOPSOIL		77.76				1	
	0.5	Soft becoming firm light brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		77.5	0.50	ES		2 3 3 3 7	
	0.80	Firm light grey slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		77.16	1.00	B		7 6 7 5 5 3 3 5 4	
	1.70	Stiff light grey slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		76.28	2.00	B		6 8 9 7 8 8	
	2.20	Very stiff black slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular of limestone. Cobbles are angular to subangular of limestone.		75.76	2.50	B		7 8 9 9	
	3.00	Pit terminated at 3.00m		75.0	74.96			21 17 21 22	
	3.5			74.5				35	
	4.0			74.0					
	4.5			73.5					
				73.0					
		Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:			
		Scheduled depth.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental			

Contract No: 5898		Trial Pit and Dynamic Probe Log				Trial Pit No: TP13			
Contract: Kilshane		Easting: 710901.565		Date: 02/11/2021					
Location: Kilshane, Ballycoolin, Dublin 15		Northing: 742581.879		Excavator: JCB 3CX					
Client: Go Power		Elevation: 78.74		Logged By: M. Kaliski					
Engineer: Waterman Moylan		Dimensions (LxWxD) (m): 4.80 x 0.65 x 2.70		Scale: 1:25					
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples		Probe	Water Strike
Scale	Depth			Scale	Depth	Depth	Type		
		TOPSOIL.							
	0.20	Soft becoming firm light brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		78.5	78.54			1	
	0.5			78.0		0.50	ES	2	
	0.90	Firm becoming stiff light grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 300mm diameter).		77.5	77.84			3	
	1.0			77.0		1.00	B	4	
	1.5			76.5				5	
	2.0			76.0				6	
	2.20	Dark grey silty sandy fine to coarse angular GRAVEL of limestone with high cobble content. Sand is fine to coarse. Cobbles are angular of limestone.		76.5	76.54			7	
	2.5			76.0		2.50	B	8	
	2.70	Obstruction - possible bedrock or boulders. Pit terminated at 2.70m		76.0	76.04			9	
	3.0			75.5				10	
	3.5			75.0				11	
	4.0			74.5				12	
	4.5			74.0				13	
								14	
								15	
								16	
								17	
								18	
								19	
								20	
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								32	
								33	
								34	
								35	



Termination:

Obstruction - possible bedrock or boulders.

Pit Wall Stability:

Pit walls stable.

Groundwater Rate:

Dry

Remarks:

-






Key:

B = Bulk disturbed
D = Small disturbed
CBR = Undisturbed CBR
ES = Environmental

Contract No: 5898		Trial Pit and Dynamic Probe Log				Trial Pit No: TP14			
Contract: Kilshane		Easting: 710822.578		Date: 02/11/2021					
Location: Kilshane, Ballycoolin, Dublin 15		Northing: 742313.118		Excavator: JCB 3CX					
Client: Go Power		Elevation: 79.48		Logged By: M. Kaliski					
Engineer: Waterman Moylan		Dimensions (LxWxD) (m): 3.50 x 0.60 x 2.50		Scale: 1:25					
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples		Probe	Water Strike
Scale	Depth			Scale	Depth	Depth	Type		
	0.20	TOPSOIL.		79.28				1	
	0.5	Soft becoming firm grey brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		79.0	0.50	ES		2	
	1.0			78.5	1.00	B		3	
	1.5			78.0				4	
	1.80	Stiff becoming very stiff light grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		77.68				5	
	2.0			77.5	2.00	B		6	
	2.30	Very stiff black slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular of limestone. Cobbles are angular to subangular of limestone.		77.18				7	
	2.50	Pit terminated at 2.50m		77.0				8	
	3.0			76.5				9	
	3.5			76.0				10	
	4.0			75.5				11	
	4.5			75.0				12	
								13	
								14	
								15	
								14	
								13	
								13	
								11	
								11	
								10	
								7	
								7	
								8	
								35	







Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Strength of soil.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5898		Trial Pit and Dynamic Probe Log				Trial Pit No: TP15			
Contract: Kilshane		Easting: 710759.726		Date: 02/11/2021					
Location: Kilshane, Ballycoolin, Dublin 15		Northing: 742351.280		Excavator: JCB 3CX					
Client: Go Power		Elevation: 80.58		Logged By: M. Kaliski					
Engineer: Waterman Moylan		Dimensions (LxWxD) (m): 3.70 x 0.60 x 3.00		Scale: 1:25					
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples		Probe	Water Strike
Scale:	Depth			Scale:	Depth:	Depth	Type		
		TOPSOIL.		80.5					
	0.20	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		80.38					
	0.5			80.0	0.50	ES			
	1.0	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		79.5	1.00	B			
	1.40			79.18					
	1.5	Very stiff black slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular of limestone. Cobbles are angular to subangular of limestone .		79.0					
	2.0			78.5					
	2.10	Pit terminated at 3.00m		78.48	2.50	B			
	2.5			78.0					
	3.0			77.58					
	3.5			77.0					
	4.0			76.5					
	4.5			76.0					



Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Scheduled depth.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5898		Trial Pit and Dynamic Probe Log				Trial Pit No: TP16			
Contract: Kilshane		Easting: 710872.062		Date: 02/11/2021					
Location: Kilshane, Ballycoolin, Dublin 15		Northing: 742360.647		Excavator: JCB 3CX					
Client: Go Power		Elevation: 79.01		Logged By: M. Kaliski					
Engineer: Waterman Moylan		Dimensions (LxWxD) (m): 3.70 x 0.60 x 2.80		Scale: 1:25					
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples		Probe	Water Strike
Scale:	Depth			Scale:	Depth:	Depth	Type		
	0.20	TOPSOIL.		78.81					
	0.5	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		78.5	0.50	ES	1		
	1.0			78.0	1.00	B	2		
	1.50	Stiff becoming very stiff light grey brown slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		77.5	77.51		3		
	2.0			77.0	2.00	B	4		
	2.5			76.5			5		
	2.70			76.31			6		
	2.80	Very stiff black slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular of limestone. Cobbles are angular to subangular of limestone. Pit terminated at 2.80m		76.21			7		
	3.0			76.0			8		
	3.5			75.5			9		
	4.0			75.0			10		
	4.5			74.5			11		
							12		
							13		
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							34		
							35		



Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Strength of soil.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

APPENDIX 7.3
SOIL QUALITY TABLES

Table 1: Soil Quality Results (Source: Waterman Moylan, 2021)

Sample ID					TP03	TP04	TP06	TP07	TP10	TP12
Laboratory Report					ALS	ALS	ALS	ALS	ALS	ALS
Sample Type					622047	622047	622047	622047	622047	622047
Sample Depth					Soil	Soil	Soil	Soil	Soil	Soil
Sample Date					0.50	0.50	1.00	0.50	0.50	0.50
					05/11/2021	05/11/2021	05/11/2021	05/11/2021	05/11/2021	05/11/2021
Parameters	Units	LOD	LQM/CI/EH S4ul for HHRA Residential Threshold (mg/kg)	LQM/CI/EH S4ul for HHRA Commercial Threshold (mg/kg)						
Metals										
Antimony	mg/kg	<0.6	nv	nv	1.62	1.34	nt	2.11	0.966	-
Arsenic	mg/kg	<0.6	40	640	35.8	13.6	nt	18.9	13.4	13.3
Barium	mg/kg	<0.6	nv	nv	60	61.7	nt	80.8	86.5	151
Cadmium	mg/kg	<0.02	85	190	1.73	1.88	nt	3.09	1.95	1.29
Chromium	mg/kg	<0.9	910	8,600	15.6	11.8	nt	18.1	16.3	18.9
Copper	mg/kg	<1.4	7,100	68,000	38	27.2	nt	43.6	26.8	20.8
Lead	mg/kg	<0.7	nv	nv	20.4	16.8	nt	25.7	23.2	23.9
Mercury	mg/kg	<0.1	1.2	58vap (25.8)	-	-	nt	-	-	-
Molybdenum	mg/kg	<0.1	nv	nv	2.48	3.08	nt	4.46	2.78	1.94
Nickel	mg/kg	<0.2	180	980	40	45.8	nt	77	52.1	56.2
Selenium	mg/kg	<1	430	12,000	1.15	-	nt	-	1.02	-
Zinc	mg/kg	<5	40,000	730,000	205	92.7	nt	145	120	107
PAH MS										
Naphthalene	mg/kg	<0.009	2.3	190(76.4)sol	-	-	-	-	-	-
Acenaphthylene	mg/kg	<0.012	170	83000(86.1)sol	-	-	-	-	-	-
Acenaphthene	mg/kg	<0.008	210	84000(57.0)	-	-	-	-	-	-
Fluorene	mg/kg	<0.01	170	63000(30.9)sol	-	-	-	-	-	-
Phenanthrene	mg/kg	<0.015	95	22,000	-	-	-	-	-	-
Anthracene	mg/kg	<0.016	2,400	520,000	-	-	-	-	-	-
Fluoranthene	mg/kg	<0.017	280	23,000	-	-	-	-	-	-
Pyrene	mg/kg	<0.015	620	54,000	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	<0.014	7.2	170	-	-	-	-	-	-
Chrysene	mg/kg	<0.01	15	350	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	<0.015	2.6	44	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	<0.014	77	1,200	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	<0.015	2.2	35	-	-	-	-	-	-
Indeno(123cd)pyrene	mg/kg	<0.018	nv	500	-	-	-	-	-	-
Dibenzo(ah)anthracene	mg/kg	<0.023	0.24	4	-	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	<0.024	320	3,900	-	-	-	-	-	-
Coronene	mg/kg	<0.2	nv	nv	-	-	nt	-	-	-
PAH 16 Total	mg/kg	<0.118	nv	nv	-	-	-	-	-	-
Mineral Oil (C10-C40)	mg/kg	<5	nv	nv	-	-	nt	-	-	-
TPH CWG										
Aliphatics										
>C5-C6	mg/kg	<0.001	42	3,200 (304) sol	-	-	-	-	-	-
>C6-C8	mg/kg	<0.001	100	7,800 (144)sol	-	-	-	-	-	-
>C8-C10	mg/kg	<0.001	27	2,000 (78)sol	-	-	-	-	-	-
>C10-C12	mg/kg	<1	130	9,700 (48)sol	-	-	-	-	-	-
>C12-C16	mg/kg	<1	1100	59,000 (24)sol	-	-	-	-	-	-
>C16-C21	mg/kg	<1	65,000 (combined)	1,800,000 (combined)	-	-	-	-	-	-
>C21-C35	mg/kg	<1	65,000	1,800,000	-	-	-	-	1.88	-
>C35-C44	mg/kg	<1	65,000	1,800,000	-	-	-	-	-	-
Total aliphatics C5-44	mg/kg	<5	nv	nv	-	-	-	-	-	-
Aromatics										
>C5-EC7	mg/kg	<0.001	370	26,000(1220)sol	-	-	-	-	-	-
>EC7-EC8	mg/kg	<0.001	860	56,000(869)vap	-	-	-	-	-	-
>EC8-EC10	mg/kg	<0.001	47	3,500(613)vap	-	-	-	-	-	-
>EC10-EC12	mg/kg	<1	250	16,000(364)sol	-	-	-	-	-	-
>EC12-EC16	mg/kg	<1	1800	36,000(169)sol	-	-	-	-	-	-
>EC16-EC21	mg/kg	<1	1900	28,000	-	-	-	-	-	-
>EC21-EC35	mg/kg	<1	1900	28,000	-	-	1.33	1.39	-	-
>EC35-EC40	mg/kg	<1	1900	28,000	-	-	-	-	-	-
Total aromatics C5-44	mg/kg	<5	nv	nv	-	-	-	-	-	-
Total aliphatics and aromatics(C5-44)	mg/kg	<10	nv	nv	-	-	-	-	-	-
Methyl Tertiary Butyl Ether										
Benzene	mg/kg	<0.005	0.38	27	-	-	-	-	-	-
Toluene	mg/kg	<0.005	880(869)vap	56,000(869)vap	0.0163	0.023	-	-	-	-
Ethylbenzene	mg/kg	<0.005	63	5,700(518)vap	-	-	-	-	-	-
m/p-Xylene	mg/kg	<0.005	m: 820 p: 790	m: 6,200(625)vap p: 5,900(576)sol	0.0168	0.0231	-	-	-	-
o-Xylene	mg/kg	<0.005	66	6,600(478)sol	-	-	-	-	-	-
PCB										
PCB 28	ug/kg	<3	nv	nv	-	-	nt	-	-	-
PCB 52	ug/kg	<3	nv	nv	-	-	nt	-	-	-
PCB 101	ug/kg	<3	nv	nv	-	-	nt	-	-	-
PCB 118	ug/kg	<3	nv	nv	-	-	nt	-	-	-
PCB 138	ug/kg	<3	nv	nv	-	-	nt	-	-	-
PCB 153	ug/kg	<3	nv	nv	-	-	nt	-	-	-
PCB 180	ug/kg	<3	nv	nv	-	-	nt	-	-	-
Total 7 PCBs	ug/kg	<21	nv	nv	-	-	nt	-	-	-
Natural Moisture Content	%	nv	nv	nv						
Moisture Content (% Wet Weight)	%	nv	nv	nv	7.7	8.2	9.1	16	21	19
Hexavalent Chromium	mg/kg	<0.6	6	33	-	-	nt	-	-	-
Total Organic Carbon	%	<0.2	nv	nv	0.456	0.593	nt	0.643	0.545	0.65
Legend										
0.45 Results exceed LQM/CI/EH S4ul for HHRA Residential Threshold without homegrown produce at 1% SOM (mg/kg)										
0.45 Results exceed LQM/CI/EH S4ul for HHRA Commercial Threshold at 1% SOM (mg/kg)										
- Results below LOD										
nv Guideline threshold value not available										
nt Not tested										
Notes										
HHRA 2015 - LQM/CI/EH Suitable 4 Use Levels based on 'Commercial' and/or 'residential' land use using 1% SOM. Metals are compared against a 6% SOM										
Sol : sol S4UL presented exceed the solubility saturation limit, which is presented in brackets										
Vap: vap S4UL presented exceed the vapour stauration limit which is presented in brackets										
Dir: dir S4UL based on a threshold protective of direct skin contact with phenol (in brackets, based on health effects following long term exposed provided for illustration only)										

Sample ID	Laboratory Report	Sample Type	Sample Depth	Sample Date	Parameters	Units	LOD	LOM/CIEH S4UL for HHRA Residential		LOM/CIEH S4UL for HHRA Commercial		TP13 ALS	TP14 ALS	TP15 ALS	TP16 ALS	
								Threshold (mg/kg)	Threshold (mg/kg)	622047	622047					622047
					Metals	mg/kg	<0.6	nv	nv	1.21	1.95	nt	nt	nt	1.66	
					Antimony	mg/kg	<0.6	40	640	13.3	17.2	nt	nt	nt	13.9	
					Arsenic	mg/kg	<0.6	nv	nv	63.6	81	nt	nt	nt	58.2	
					Barium	mg/kg	<0.02	85	180	1.59	3	nt	nt	nt	2.34	
					Calcium	mg/kg	<0.9	910	8,600	15.7	19.2	nt	nt	nt	13.7	
					Chromium	mg/kg	<1.4	7,100	68,000	30.4	35.1	nt	nt	nt	29	
					Copper	mg/kg	<0.7	nv	nv	21.3	24	nt	nt	nt	19.9	
					Lead	mg/kg	<0.1	1.2	56vap (25.8)	-	-	nt	nt	nt	3.62	
					Mercury	mg/kg	<0.1	nv	nv	2.47	3.56	nt	nt	nt	3.62	
					Molybdenum	mg/kg	<0.1	180	nv	59.3	69.1	nt	nt	nt	50.8	
					Nickel	mg/kg	<0.2	430	12,000	1.04	1.81	nt	nt	nt	1	
					Selenium	mg/kg	<1	430	12,000	1.04	1.81	nt	nt	nt	1	
					Zinc	mg/kg	<5	40,000	730,000	108	170	nt	nt	nt	122	
					PAH MS	mg/kg	<0.009	2.3	190(76.4)sol	nt	-	nt	nt	nt	-	-
					Naphthalene	mg/kg	<0.012	170	83000(66.1)sol	nt	-	nt	nt	nt	-	-
					Acenaphthylene	mg/kg	<0.008	210	84000(57.0)	nt	-	nt	nt	nt	-	-
					Acenaphthene	mg/kg	<0.01	170	63000(30.9)sol	nt	-	nt	nt	nt	-	-
					Fluorene	mg/kg	<0.015	95	22,000	nt	-	nt	nt	nt	-	-
					Phenanthrene	mg/kg	<0.016	2,400	520,000	nt	-	nt	nt	nt	-	-
					Anthracene	mg/kg	<0.017	280	23,000	nt	-	nt	nt	nt	-	-
					Fluoranthene	mg/kg	<0.015	620	54,000	nt	-	nt	nt	nt	-	-
					Pyrene	mg/kg	<0.014	7.2	170	nt	-	nt	nt	nt	-	-
					Benzo(a)anthracene	mg/kg	<0.01	15	350	nt	-	nt	nt	nt	-	-
					Benzo(b)fluoranthene	mg/kg	<0.015	2.6	44	nt	-	nt	nt	nt	-	-
					Benzo(k)fluoranthene	mg/kg	<0.014	77	1,200	nt	-	nt	nt	nt	-	-
					Benzo(a)pyrene	mg/kg	<0.018	2.2	35	nt	-	nt	nt	nt	-	-
					Indeno(1,2,3cd)pyrene	mg/kg	<0.015	nv	500	nt	-	nt	nt	nt	-	-
					Dibenz(a,h)anthracene	mg/kg	<0.023	0.24	4	nt	-	nt	nt	nt	-	-
					Benzo(ghi)perylene	mg/kg	<0.024	320	3,900	nt	-	nt	nt	nt	-	-
					Coronene	mg/kg	<0.2	nv	nv	nt	-	nt	nt	nt	-	-
					PAH 16 Total	mg/kg	<0.118	nv	nv	nt	-	nt	nt	nt	-	-
					Mineral Oil (C10-C40)	mg/kg	<5	nv	nv	nt	-	nt	nt	nt	-	-
					TPH CWG	mg/kg	<0.001	42	3,200 (304) sol	nt	-	nt	nt	nt	-	-
					Aliphatics	mg/kg	<0.001	100	7,800 (144)sol	nt	-	nt	nt	nt	-	-
					>C5-C6	mg/kg	<0.001	27	2,000 (78)sol	nt	-	nt	nt	nt	-	-
					>C6-C8	mg/kg	<1	130	9,700 (48)sol	nt	-	nt	nt	nt	-	-
					>C10-C12	mg/kg	<1	1100	59,000 (24)sol	nt	-	nt	nt	nt	-	-
					>C12-C21	mg/kg	<1	65,000 (combined)	1,600,000 (combined)	nt	-	nt	nt	nt	-	-
					>C21-C35	mg/kg	<1	65,000	1,600,000	nt	-	nt	nt	nt	-	-
					>C35-C40	mg/kg	<5	nv	nv	nt	-	nt	nt	nt	-	-
					Total aliphatics C5-44	mg/kg	<0.001	370	26,000(1220)sol	nt	-	nt	nt	nt	-	-
					Aromatics	mg/kg	<0.001	860	56,000(669)vap	nt	-	nt	nt	nt	-	-
					>EC5-EC7	mg/kg	<0.001	47	3,500(613)vap	nt	-	nt	nt	nt	-	-
					>EC7-EC8	mg/kg	<1	250	16,000(364)sol	nt	-	nt	nt	nt	-	-
					>EC8-EC10	mg/kg	<1	1800	36,000(169)sol	nt	-	nt	nt	nt	-	-
					>EC10-EC12	mg/kg	<1	1900	28,000	nt	-	nt	nt	nt	-	-
					>EC12-EC16	mg/kg	<1	1900	28,000	nt	-	nt	nt	nt	-	-
					>EC16-EC21	mg/kg	<1	1900	28,000	nt	-	nt	nt	nt	-	-
					>EC21-EC35	mg/kg	<1	1900	28,000	nt	-	nt	nt	nt	-	-
					>EC35-EC40	mg/kg	<5	1900	28,000	nt	-	nt	nt	nt	-	-
					Total aromatics C5-44	mg/kg	<10	nv	nv	nt	-	nt	nt	nt	-	-
					Total aliphatics and aromatics(C5-44)	mg/kg	<10	nv	nv	nt	-	nt	nt	nt	-	-
					Methyl Tertiary Butyl Ether	ug/kg	<10	nv	nv	nt	-	nt	nt	nt	-	-
					Benzene	mg/kg	<0.009	0.38	27	nt	-	nt	nt	nt	-	-
					Toluene	mg/kg	<0.007	880(669)vap	56,000(669)vap	nt	-	nt	nt	nt	-	-
					Ethylbenzene	mg/kg	<0.004	83	5,700(516)vap	nt	-	nt	nt	nt	-	-
					m/p-Xylene	mg/kg	<0.01	m: 820 p: 790	m: 6,200(625)vap p: 5,900(576)sol	nt	-	nt	nt	nt	-	-
					o-Xylene	mg/kg	<0.01	88	6,600(478)sol	nt	-	nt	nt	nt	-	-
					PCB	ug/kg	<3	nv	nv	nt	-	nt	nt	nt	-	-
					PCB 28	ug/kg	<3	nv	nv	nt	-	nt	nt	nt	-	-
					PCB 52	ug/kg	<3	nv	nv	nt	-	nt	nt	nt	-	-
					PCB 101	ug/kg	<3	nv	nv	nt	-	nt	nt	nt	-	-
					PCB 118	ug/kg	<3	nv	nv	nt	-	nt	nt	nt	-	-
					PCB 138	ug/kg	<3	nv	nv	nt	-	nt	nt	nt	-	-
					PCB 153	ug/kg	<3	nv	nv	nt	-	nt	nt	nt	-	-
					PCB 180	ug/kg	<3	nv	nv	nt	-	nt	nt	nt	-	-
					Total 7 PCBs	ug/kg	<21	nv	nv	nt	-	nt	nt	nt	-	-
					Natural Moisture Content	%	nv	nv	nv	nt	-	nt	nt	nt	-	-
					Moisture Content (% Wet Weight)	%	nv	nv	nv	18	20	11	15	15	-	-
					Hexavalent Chromium	mg/kg	<0.6	6	33	nt	-	nt	nt	nt	-	-
					Total Organic Carbon	%	<0.2	nv	nv	0.58	0.682	nt	nt	nt	0.478	-

Legend
 0.45 Results exceed LOM/CIEH S4UL for HHRA Residential Threshold without homegrown produce at 1% SOM (mg/kg)
 0.43 Results exceed LOM/CIEH S4UL for HHRA Commercial Threshold at 1% SOM (mg/kg)
 - Results below LOD
 nv Guideline threshold value not available
 nt Not tested

Notes
 HHRA 2015 - LOM/CIEH Suitable 4 Use Levels based on 'Commercial' and/or 'residential' land use using 1% SOM. Metals are compared against a 6% SOM
 Sol : sol S4UL presented exceed the solubility saturation limit, which is presented in brackets
 Vap: vap S4UL presented exceed the vapour saturation limit which is presented in brackets
 Dir: dir S4UL based on a threshold protective of direct skin contact with phenol (in brackets, based on health effects following long term exposure provided for illustration only)

APPENDIX 7.4
SOIL QUALITY LABORATORY REPORTS

FINGAL COUNTY COUNCIL
PLANNING DEPARTMENT
Fuzza/2024/17
11 JAN 2023
ADDITIONAL INFORMATION
REGISTRY



Site Investigations Ltd
The Grange
Carhugar
12th Lock Road
Lucan
Co. Dublin

Attention: Stephen Letch

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: 21 November 2021
Customer: Site Investigations Ltd
Sample Delivery Group (SDG): 211106-42
Your Reference: 5898
Location: Kilshane
Report No: 622047
Order Number: 64/A/21

We received 11 samples on Friday November 05, 2021 and 11 of these samples were scheduled for analysis which was completed on Thursday November 18, 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.

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





CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref.: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
25288105	TP 03		0.50 - 0.50	
25288106	TP 04		0.50 - 0.50	
25288113	TP 06		1.00 - 1.00	
25288107	TP 07		0.50 - 0.50	
25288108	TP 10		0.50 - 0.50	
25288109	TP 12		0.50 - 0.50	
25288110	TP 13		0.50 - 0.50	
25288111	TP 14		0.50 - 0.50	
25288114	TP 14		1.00 - 1.00	
25288115	TP 15		1.00 - 1.00	
25288112	TP 16		0.50 - 0.50	

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

Results Legend			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type	
			25288105	25288106	25288113	25288107	25288108	25288109	25288110
<p>X Test</p> <p>N No Determination Possible</p> <p>Sample Types -</p> <ul style="list-style-type: none"> 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 			TP 03	TP 04	TP 06	TP 07	TP 10	TP 12	TP 13
			0.50 - 0.50	0.50 - 0.50	1.00 - 1.00	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	
			60g VOC (ALE215)	60g VOC (ALE215)	60g VOC (ALE215)	60g VOC (ALE215)	60g VOC (ALE215)	60g VOC (ALE215)	
			250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	
			1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	
			S	S	S	S	S	S	
Anions by Kone (w)	AB	NDPs: 0 Tests: 8	X	X	X	X	X	X	
GEN Readings	AB	NDPs: 0 Tests: 8	X	X	X	X	X	X	
Chromium III	AB	NDPs: 0 Tests: 8		X			X	X	
Coronene	AB	NDPs: 0 Tests: 8	X	X		X	X	X	
Dissolved Metals by ICP-MS	AB	NDPs: 0 Tests: 8	X	X	X	X	X	X	
Dissolved Organic/Inorganic Carbon	AB	NDPs: 0 Tests: 8	X	X	X	X	X	X	
EPH by GCxGC-FID	AB	NDPs: 0 Tests: 8	X	X		X	X	X	
EPH CWG GC (S)	AB	NDPs: 0 Tests: 8	X	X		X	X	X	
Fluoride	AB	NDPs: 0 Tests: 8	X	X	X	X	X	X	
GRO by GC-FID (S)	AB	NDPs: 0 Tests: 8		X	X	X	X	X	
Hexavalent Chromium (s)	AB	NDPs: 0 Tests: 8	X	X		X	X	X	
Loss on Ignition in soils	AB	NDPs: 0 Tests: 11	X	X	X	X	X	X	
Mercury Dissolved	AB	NDPs: 0 Tests: 8	X	X	X	X	X	X	
Metals in solid samples by OES	AB	NDPs: 0 Tests: 8	X	X		X	X	X	
PAH by GCMS	AB	NDPs: 0 Tests: 8	X	X		X	X	X	

CERTIFICATE OF ANALYSIS

Validated



SDG: 211106-42
Client Ref: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

Results Legend <input checked="" type="checkbox"/> Test <input type="checkbox"/> No Determination Possible 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	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type	
		25288105	TP 03		0.50 - 0.50	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB with Handle (ALE260)	S
		25288106	TP 04		0.50 - 0.50	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB with Handle (ALE260)	S
		25288113	TP 06		1.00 - 1.00	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB with Handle (ALE260)	S
		25288107	TP 07		0.50 - 0.50	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB with Handle (ALE260)	S
		25288108	TP 10		0.50 - 0.50	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB with Handle (ALE260)	S
		25288109	TP 12		0.50 - 0.50	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB with Handle (ALE260)	S
	25288110	TP 13		0.50 - 0.50	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB with Handle (ALE260)	S	
PCBs by GCMS	All	NDPs: 0 Tests: 8					
Phenols by HPLC (W)	All	NDPs: 0 Tests: 8					
Sample description	All	NDPs: 0 Tests: 11					
Total Dissolved Solids on Leachates	All	NDPs: 0 Tests: 8					
Total Organic Carbon	All	NDPs: 0 Tests: 8					
TPH CWG GC (S)	All	NDPs: 0 Tests: 6					
VOC MS (S)	All	NDPs: 0 Tests: 8					



CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref.: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
25288105	TP 03	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
25288106	TP 04	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
25288113	TP 06	1.00 - 1.00	Light Brown	Sandy Loam	Stones	None
25288107	TP 07	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
25288108	TP 10	0.50 - 0.50	Light Brown	Sandy Loam	None	None
25288109	TP 12	0.50 - 0.50	Light Brown	Sandy Loam	None	None
25288110	TP 13	0.50 - 0.50	Light Brown	Sandy Loam	None	None
25288111	TP 14	0.50 - 0.50	Light Brown	Sandy Loam	Stones	None
25288114	TP 14	1.00 - 1.00	Light Brown	Sandy Loam	Stones	None
25288115	TP 15	1.00 - 1.00	Light Brown	Sandy Loam	Stones	None
25288112	TP 16	0.50 - 0.50	Light Brown	Sandy Loam	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

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 materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

Results Legend # ISO 17025 accredited M INCERTS accredited sq Agassiz / sealed sample dia. 88 Dissolved / filtered sample Int. Lab. 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 components within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 (g) Sample deviation (see appendix)			Customer Sample Ref	TP 03	TP 04	TP 06	TP 07	TP 10	TP 12
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.00 - 1.00	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	-	-	-	-	-	-
			Data Received	05/11/2021	05/11/2021	05/11/2021	05/11/2021	05/11/2021	05/11/2021
			SDG Ref	211106-42	211106-42	211106-42	211106-42	211106-42	211106-42
			Lab Sample No. (s)	25288105	25288106	25288113	25288107	25288108	25288109
			AGS Reference	-	-	-	-	-	-
Component	LOD/Units	Method							
Moisture Content Ratio (% of as received sample)	%	PM024	7.7	8.2	9.1	16	21	19	
Loss on ignition	<0.7 %	TM018	3.05	2.79	1.92	4.07	4.15	4.71	
Organic Carbon, Total	<0.2 %	TM132	0.456	0.593		0.643	0.545	0.65	
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6	<0.6		<0.6	<0.6	<0.6	
PCB congener 28	<3 µg/kg	TM168	<3	<3		<3	<3	<3	
PCB congener 52	<3 µg/kg	TM168	<3	<3		<3	<3	<3	
PCB congener 101	<3 µg/kg	TM168	<3	<3		<3	<3	<3	
PCB congener 118	<3 µg/kg	TM168	<3	<3		<3	<3	<3	
PCB congener 138	<3 µg/kg	TM168	<3	<3		<3	<3	<3	
PCB congener 153	<3 µg/kg	TM168	<3	<3		<3	<3	<3	
PCB congener 180	<3 µg/kg	TM168	<3	<3		<3	<3	<3	
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168	<21	<21		<21	<21	<21	
Chromium, Trivalent	<0.9 mg/kg	TM181	15.6	11.8		18.1	16.3	18.9	
Antimony	<0.6 mg/kg	TM181	1.62	1.34		2.11	0.966	<0.6	
Arsenic	<0.6 mg/kg	TM181	35.8	13.6		18.9	13.4	13.3	
Barium	<0.6 mg/kg	TM181	60	61.7		80.8	88.5	151	
Cadmium	<0.02 mg/kg	TM181	1.73	1.88		3.09	1.95	1.29	
Chromium	<0.9 mg/kg	TM181	15.6	11.8		18.1	16.3	18.9	
Copper	<1.4 mg/kg	TM181	38	27.2		43.6	26.8	20.8	
Lead	<0.7 mg/kg	TM181	20.4	16.8		25.7	23.2	23.9	
Mercury	<0.1 mg/kg	TM181	<0.1	<0.1		<0.1	<0.1	<0.1	
Molybdenum	<0.1 mg/kg	TM181	2.48	3.08		4.46	2.78	1.94	
Nickel	<0.2 mg/kg	TM181	40	45.8		77	52.1	56.2	
Selenium	<1 mg/kg	TM181	1.15	<1		<1	1.02	<1	
Zinc	<1.9 mg/kg	TM181	205	92.7		145	120	107	
Coronene	<200 µg/kg	TM410	<200	<200		<200	<200	<200	
Mineral Oil >C10-C40 (EH_2D_AL)	<5 mg/kg	TM415	<5	<5		<5	<5	<5	



CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

Results Legend # ISO17025 accredited. M iQCERTS accredited. A1 Agence / certified sample. A2, B1 Destructed / filtered sample. A3, A4, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, B13, B14, B15, B16, B17, B18, B19, B20, B21, B22, B23, B24, B25, B26, B27, B28, B29, B30, B31, B32, B33, B34, B35, B36, B37, B38, B39, B40, B41, B42, B43, B44, B45, B46, B47, B48, B49, B50, B51, B52, B53, B54, B55, B56, B57, B58, B59, B60, B61, B62, B63, B64, B65, B66, B67, B68, B69, B70, B71, B72, B73, B74, B75, B76, B77, B78, B79, B80, B81, B82, B83, B84, B85, B86, B87, B88, B89, B90, B91, B92, B93, B94, B95, B96, B97, B98, B99, B100, B101, B102, B103, B104, B105, B106, B107, B108, B109, B110, B111, B112, B113, B114, B115, B116, B117, B118, B119, B120, B121, B122, B123, B124, B125, B126, B127, B128, B129, B130, B131, B132, B133, B134, B135, B136, B137, B138, B139, B140, B141, B142, B143, B144, B145, B146, B147, B148, B149, B150, B151, B152, B153, B154, B155, B156, B157, B158, B159, B160, B161, B162, B163, B164, B165, B166, B167, B168, B169, B170, B171, B172, B173, B174, B175, B176, B177, B178, B179, B180, B181, B182, B183, B184, B185, B186, B187, B188, B189, B190, B191, B192, B193, B194, B195, B196, B197, B198, B199, B200, B201, B202, B203, B204, B205, B206, B207, B208, B209, B210, B211, B212, B213, B214, B215, B216, B217, B218, B219, B220, B221, B222, B223, B224, B225, B226, B227, B228, B229, B230, B231, B232, B233, B234, B235, B236, B237, B238, B239, B240, B241, B242, B243, B244, B245, B246, B247, B248, B249, B250, B251, B252, B253, B254, B255, B256, B257, B258, B259, B260, B261, B262, B263, B264, B265, B266, B267, B268, B269, B270, B271, B272, B273, B274, B275, B276, B277, B278, B279, B280, B281, B282, B283, B284, B285, B286, B287, B288, B289, B290, B291, B292, B293, B294, B295, B296, B297, B298, B299, B300, B301, B302, B303, B304, B305, B306, B307, B308, B309, B310, B311, B312, B313, B314, B315, B316, B317, B318, B319, B320, B321, B322, B323, B324, B325, B326, B327, B328, B329, B330, B331, B332, B333, B334, B335, B336, B337, B338, B339, B340, B341, B342, B343, B344, B345, B346, B347, B348, B349, B350, B351, B352, B353, B354, B355, B356, B357, B358, B359, B360, B361, B362, B363, B364, B365, B366, B367, B368, B369, B370, B371, B372, B373, B374, B375, B376, B377, B378, B379, B380, B381, B382, B383, B384, B385, B386, B387, B388, B389, B390, B391, B392, B393, B394, B395, B396, B397, B398, B399, B400, B401, B402, B403, B404, B405, B406, B407, B408, B409, B410, B411, B412, B413, B414, B415, B416, B417, B418, B419, B420, B421, B422, B423, B424, B425, B426, B427, B428, B429, B430, B431, B432, B433, B434, B435, B436, B437, B438, B439, B440, B441, B442, B443, B444, B445, B446, B447, B448, B449, B450, B451, B452, B453, B454, B455, B456, B457, B458, B459, B460, B461, B462, B463, B464, B465, B466, B467, B468, B469, B470, B471, B472, B473, B474, B475, B476, B477, B478, B479, B480, B481, B482, B483, B484, B485, B486, B487, B488, B489, B490, B491, B492, B493, B494, B495, B496, B497, B498, B499, B500, B501, B502, B503, B504, B505, B506, B507, B508, B509, B510, B511, B512, B513, B514, B515, B516, 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B849, B850, B851, B852, B853, B854, B855, B856, B857, B858, B859, B860, B861, B862, B863, B864, B865, B866, B867, B868, B869, B870, B871, B872, B873, B874, B875, B876, B877, B878, B879, B880, B881, B882, B883, B884, B885, B886, B887, B888, B889, B890, B891, B892, B893, B894, B895, B896, B897, B898, B899, B900, B901, B902, B903, B904, B905, B906, B907, B908, B909, B910, B911, B912, B913, B914, B915, B916, B917, B918, B919, B920, B921, B922, B923, B924, B925, B926, B927, B928, B929, B930, B931, B932, B933, B934, B935, B936, B937, B938, B939, B940, B941, B942, B943, B944, B945, B946, B947, B948, B949, B950, B951, B952, B953, B954, B955, B956, B957, B958, B959, B960, B961, B962, B963, B964, B965, B966, B967, B968, B969, B970, B971, B972, B973, B974, B975, B976, B977, B978, B979, B980, B981, B982, B983, B984, B985, B986, B987, B988, B989, B990, B991, B992, B993, B994, B995, B996, B997, B998, B999, B1000.			Customer Sample Ref.	TP 13	TP 14	TP 14	TP 15	TP 16
Component	LOD/Units	Method	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.50 - 0.50 Soil/Solid (S)	0.50 - 0.50 Soil/Solid (S)	1.00 - 1.00 Soil/Solid (S)	1.00 - 1.00 Soil/Solid (S)	0.50 - 0.50 Soil/Solid (S)
Moisture Content Ratio (% of as received sample)	%	PM024	05/11/2021 211106-42 25288110	18 §	20 §	11 §	15 §	15 §
Loss on ignition	<0.7 %	TM018	05/11/2021 211106-42 25288110	4.38 § M	4.76 § M	2.64 § M	3.75 § M	3.16 § M
Organic Carbon, Total	<0.2 %	TM132	05/11/2021 211106-42 25288110	0.58 § M	0.682 § M			0.478 § M
Chromium, Hexavalent	<0.6 mg/kg	TM151	05/11/2021 211106-42 25288110	<0.6 § #	<0.6 § #			<0.6 § #
PCB congener 28	<3 µg/kg	TM168	05/11/2021 211106-42 25288110	<3 § M	<3 § M			<3 § M
PCB congener 52	<3 µg/kg	TM168	05/11/2021 211106-42 25288110	<3 § M	<3 § M			<3 § M
PCB congener 101	<3 µg/kg	TM168	05/11/2021 211106-42 25288110	<3 § M	<3 § M			<3 § M
PCB congener 118	<3 µg/kg	TM168	05/11/2021 211106-42 25288110	<3 § M	<3 § M			<3 § M
PCB congener 138	<3 µg/kg	TM168	05/11/2021 211106-42 25288110	<3 § M	<3 § M			<3 § M
PCB congener 153	<3 µg/kg	TM168	05/11/2021 211106-42 25288110	<3 § M	<3 § M			<3 § M
PCB congener 180	<3 µg/kg	TM168	05/11/2021 211106-42 25288110	<3 § M	<3 § M			<3 § M
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168	05/11/2021 211106-42 25288110	<21 §	<21 §			<21 §
Chromium, Trivalent	<0.9 mg/kg	TM181	05/11/2021 211106-42 25288110	15.7 §	19.2 §			13.7 §
Antimony	<0.6 mg/kg	TM181	05/11/2021 211106-42 25288110	1.21 § #	1.95 § #			1.66 § #
Arsenic	<0.6 mg/kg	TM181	05/11/2021 211106-42 25288110	13.3 § M	17.2 § M			13.9 § M
Barium	<0.6 mg/kg	TM181	05/11/2021 211106-42 25288110	63.6 § #	81 § #			58.2 § #
Cadmium	<0.02 mg/kg	TM181	05/11/2021 211106-42 25288110	1.59 § M	3 § M			2.34 § M
Chromium	<0.9 mg/kg	TM181	05/11/2021 211106-42 25288110	15.7 § M	19.2 § M			13.7 § M
Copper	<1.4 mg/kg	TM181	05/11/2021 211106-42 25288110	30.4 § M	35.1 § M			29 § M
Lead	<0.7 mg/kg	TM181	05/11/2021 211106-42 25288110	21.3 § M	24 § M			19.9 § M
Mercury	<0.1 mg/kg	TM181	05/11/2021 211106-42 25288110	<0.1 § M	<0.1 § M			<0.1 § M
Molybdenum	<0.1 mg/kg	TM181	05/11/2021 211106-42 25288110	2.47 § #	3.56 § #			3.62 § #
Nickel	<0.2 mg/kg	TM181	05/11/2021 211106-42 25288110	59.3 § M	69.1 § M			50.8 § M
Selenium	<1 mg/kg	TM181	05/11/2021 211106-42 25288110	1.04 § #	1.81 § #			1 § #
Zinc	<1.9 mg/kg	TM181	05/11/2021 211106-42 25288110	108 § M	170 § M			122 § M
Coronene	<200 µg/kg	TM410	05/11/2021 211106-42 25288110	<200 §	<200 §			<200 §
Mineral Oil >C10-C40 (EH_ZD_AL)	<5 mg/kg	TM415	05/11/2021 211106-42 25288110	<5 §	<5 §			<5 §



CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

PAH by GCMS

Customer Sample Ref.		TP 03	TP 04	TP 07	TP 10	TP 12	TP 13
Depth (m)	Sample Type	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50
Date Sampled	Date Received	05/11/2021	05/11/2021	05/11/2021	05/11/2021	05/11/2021	05/11/2021
Method	SDG Ref	211106-42	211106-42	211106-42	211106-42	211106-42	211106-42
LOD/Units	Lab Sample No.(s)	25288105	25288106	25288107	25288108	25288109	25288110
Method	AGS Reference						
Naphthalene	<9 µg/kg	TM218	<9	<9	<9	<9	<9
Acenaphthylene	<12 µg/kg	TM218	<12	<12	<12	<12	<12
Acenaphthene	<8 µg/kg	TM218	<8	<8	<8	<8	<8
Fluorene	<10 µg/kg	TM218	<10	<10	<10	<10	<10
Phenanthrene	<15 µg/kg	TM218	<15	<15	<15	<15	<15
Anthracene	<16 µg/kg	TM218	<16	<16	<16	<16	<16
Fluoranthene	<17 µg/kg	TM218	<17	<17	<17	<17	<17
Pyrene	<15 µg/kg	TM218	<15	<15	<15	<15	<15
Benz(a)anthracene	<14 µg/kg	TM218	<14	<14	<14	<14	<14
Chrysene	<10 µg/kg	TM218	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<15 µg/kg	TM218	<15	<15	<15	<15	<15
Benzo(k)fluoranthene	<14 µg/kg	TM218	<14	<14	<14	<14	<14
Benzo(a)pyrene	<15 µg/kg	TM218	<15	<15	<15	<15	<15
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	<18	<18	<18	<18	<18
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	<23	<23	<23	<23	<23
Benzo(g,h,i)perylene	<24 µg/kg	TM218	<24	<24	<24	<24	<24
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	<118	<118	<118	<118	<118



CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref.: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

TPH CWG (S)

Results Legend			TP 03	TP 04	TP 07	TP 10	TP 12	TP 13
Component	LOD/Units	Method						
GRD Surrogate % recovery**	%	TM089	123	123	97.4	107	101	127
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	3620	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	11.3	<10	<10
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C15-C21 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	1880	<1000
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	<5000	<5000	<5000	<5000	<5000	<5000
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414	<10000	<10000	<10000	<10000	<10000	<10000
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10
Aromatics > EC10-EC12 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC15 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC15-EC21 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	<1000	1330	1390	<1000	<1000
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	<5000	<5000	<5000	<5000	<5000	<5000
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414	<10000	<10000	<10000	<10000	<10000	<10000
GRD >C5-C6 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20
GRD >C6-C7 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20
GRD >C7-C8 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20
GRD >C8-C10 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20
GRD >C10-C12 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<50 µg/kg	TM089	<50	<50	3620	<50	<50	<50
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<50 µg/kg	TM089	<50	<50	<50	<50	<50	<50
GRD >C5-C10 (HS_1D_TOTAL)	<20 µg/kg	TM089	<20	<20	3620	<20	<20	<20



CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

Results Legend # ISO 15020 accredited. M UKCERT accredited. Aq Aqueous / filtered sample. Diss. Dissolved / filtered sample. Int. Intact / 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. (†) Trigger breach confirmed 1-4(†) Sample deviation (see appendix)			Customer Sample Ref	TP 03	TP 04	TP 07	TP 10	TP 12	TP 13
			Depth (m)	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	-	-	-	-	-	-
			Sample Time	-	-	-	-	-	-
			Date Received	05/11/2021	05/11/2021	05/11/2021	05/11/2021	05/11/2021	05/11/2021
			SDG Ref	211106-42	211106-42	211106-42	211106-42	211106-42	211106-42
			Lab Sample No.(s)	25288105	25288106	25288107	25288108	25288109	25288110
			AGS Reference	-	-	-	-	-	-
Component	LOD/Units	Method							
Dibromofluoromethane**	%	TM116	124	124	104	122	119	103	
			§	§	§	§	§	§	§
Toluene-d8**	%	TM116	100	97.9	98	97.2	98	98.4	
			§	§	§	§	§	§	§
4-Bromofluorobenzene**	%	TM116	94.6	87.8	88.4	78.9	84.2	87.5	
			§	§	§	§	§	§	§
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116	<10	<10	<10	<10	<10	<10	
			§ M	§ M	§ M	§ M	§ M	§ M	§ M
Benzene	<9 µg/kg	TM116	<9	<9	<9	<9	<9	<9	
			§ M	§ M	§ M	§ M	§ M	§ M	§ M
Toluene	<7 µg/kg	TM116	16.3	23	<7	<7	<7	<7	
			§ M	§ M	§ M	§ M	§ M	§ M	§ M
Ethylbenzene	<4 µg/kg	TM116	<4	<4	<4	<4	<4	<4	
			§ M	§ M	§ M	§ M	§ M	§ M	§ M
p,m-Xylene	<10 µg/kg	TM116	16.8	23.1	<10	<10	<10	<10	
			§ #	§ #	§ #	§ #	§ #	§ #	§ #
o-Xylene	<10 µg/kg	TM116	<10	<10	<10	<10	<10	<10	
			§ M	§ M	§ M	§ M	§ M	§ M	§ M



CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference
Mass Sample taken (kg) 0.100
Mass of dry sample (kg) 0.090
Particle Size <4mm >95%

Site Location Kilshane
Natural Moisture Content (%) 10.8
Dry Matter Content (%) 90.3

Case
SDG 211106-42
Lab Sample Number(s) 25288105
Sampled Date
Customer Sample Ref. TP 03
Depth (m) 0.50 - 0.50

Landfill Waste Acceptance Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste In Non-Hazardous Landfill	Hazardous Waste Landfill
3	5	5
-	-	10
-	-	-
1	-	-
500	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.458
Loss on Ignition (%)	3.05
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	<5
PAH Sum of 17 (mg/kg)	-
pH (pH Units)	-
ANC to pH 6 (mol/kg)	-
ANC to pH 4 (mol/kg)	-

Eluate Analysis	C2 Conc ⁿ In 10:1 eluate (mg/l)		A2 10:1 conc ⁿ leached (mg/kg)		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	Result	Limit of Detection	Result	Limit of Detection			
Arsenic	<0.0005	<0.0005	<0.005	<0.005	0.5	2	25
Barium	0.00207	<0.0002	0.0207	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.000724	<0.0003	0.00724	<0.003	2	50	100
Mercury Dissolved (CVAf)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	<0.0004	<0.0004	<0.004	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00131	<0.001	0.0131	<0.01	4	50	200
Chloride	<2	<2	<20	<20	500	15000	25000
Fluoride	0.677	<0.5	6.77	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	74.3	<10	743	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	3.25	<3	32.5	<30	500	800	1000

Leach Test Information

Date Prepared 08-Nov-2021
pH (pH Units) 7.99
Conductivity (µS/cm) 90.80
Temperature (°C) 21.10
Volume Leachant (Litres) 0.890

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALS Environmental cannot be held responsible for any discrepancies with current legislation

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CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref.: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference
Mass Sample taken (kg) 0.108
Mass of dry sample (kg) 0.090
Particle Size <4mm >95%

Site Location Kilshane
Natural Moisture Content (%) 20.2
Dry Matter Content (%) 83.2

Case
SDG 211106-42
Lab Sample Number(s) 25288106
Sampled Date
Customer Sample Ref. TP 04
Depth (m) 0.50 - 0.50

Landfill Waste Acceptance Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
3	5	6
-	-	10
1	-	-
500	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.593
Loss on Ignition (%)	2.79
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	<5
PAH Sum of 17 (mg/kg)	-
pH (pH Units)	-
ANC to pH 6 (mol/kg)	-
ANC to pH 4 (mol/kg)	-

Eluate Analysis	C2 Conc ⁿ in 10:1 eluate (mg/l)		A2 10:1 conc ⁿ leached (mg/kg)		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	Result	Limit of Detection	Result	Limit of Detection			
Arsenic	<0.0005	<0.0005	<0.005	<0.005	0.5	2	25
Barium	0.00104	<0.0002	0.0104	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00139	<0.0003	0.0139	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	<0.0004	<0.0004	<0.004	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00288	<0.001	0.0288	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	<0.5	<0.5	<5	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	26.4	<10	264	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.81	<3	48.1	<30	500	800	1000

Leach Test Information

Date Prepared 08-Nov-2021
pH (pH Units) 8.48
Conductivity (µS/cm) 25.70
Temperature (°C) 20.80
Volume Leachant (Litres) 0.882

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALS Environmental cannot be held responsible for any discrepancies with current legislation

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CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference
Mass Sample taken (kg) 0.106
Mass of dry sample (kg) 0.090
Particle Size <4mm >95%

Site Location Kilshane
Natural Moisture Content (%) 17.2
Dry Matter Content (%) 85.3

Case
SDG 211106-42
Lab Sample Number(s) 25288107
Sampled Date
Customer Sample Ref. TP 07
Depth (m) 0.50 - 0.50

Landfill Waste Acceptance Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste In Non-Hazardous Landfill	Hazardous Waste Landfill
3	5	6
-	-	10
-	-	-
1	-	-
500	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.643
Loss on Ignition (%)	4.07
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	<5
PAH Sum of 17 (mg/kg)	-
pH (pH Units)	-
ANC to pH 6 (mol/kg)	-
ANC to pH 4 (mol/kg)	-

Eluate Analysis

	C2 Conc ⁿ in 10:1 eluate (mg/l)		A2 10:1 conc ⁿ leached (mg/kg)		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	Result	Limit of Detection	Result	Limit of Detection			
Arsenic	0.000556	<0.0005	0.00556	<0.005	0.5	2	25
Barium	0.00117	<0.0002	0.0117	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00191	<0.0003	0.0191	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	<0.0004	<0.0004	<0.004	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.0027	<0.001	0.027	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	<0.5	<0.5	<5	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	24.8	<10	248	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	5.06	<3	50.6	<30	500	800	1000

Leach Test Information

Date Prepared 08-Nov-2021
pH (pH Units) 7.88
Conductivity (µS/cm) 24.40
Temperature (°C) 20.80
Volume Leachant (Litres) 0.884

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALS Environmental cannot be held responsible for any discrepancies with current legislation

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CERTIFICATE OF ANALYSIS

Validated

SDG: 211106-42
Client Ref.: 5898

Report Number: 622047
Location: Kilshane

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference
Mass Sample taken (kg) 0.114
Mass of dry sample (kg) 0.090
Particle Size <4mm >95%

Site Location Kilshane
Natural Moisture Content (%) 26.7
Dry Matter Content (%) 78.9

Case
SDG 211106-42
Lab Sample Number(s) 25288108
Sampled Date
Customer Sample Ref. TP 10
Depth (m) 0.50 - 0.50

Landfill Waste Acceptance Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
3	5	6
-	-	10
1	-	-
500	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.545
Loss on Ignition (%)	4.15
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	<5
PAH Sum of 17 (mg/kg)	-
pH (pH Units)	-
ANC to pH 5 (mol/kg)	-
ANC to pH 4 (mol/kg)	-

Eluate Analysis	C ₂ Conc ⁿ in 10:1 eluate (mg/l)		A ₂ 10:1 conc ⁿ leached (mg/kg)		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	Result	Limit of Detection	Result	Limit of Detection			
Arsenic	<0.0005	<0.0005	<0.005	<0.005	0.5	2	25
Barium	0.00169	<0.0002	0.0169	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.000816	<0.0003	0.00816	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000576	<0.0004	0.00576	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00118	<0.001	0.0118	<0.01	4	50	200
Chloride	2	<2	20	<20	800	15000	25000
Fluoride	<0.5	<0.5	<5	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	58.7	<10	587	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	3.07	<3	30.7	<30	500	800	1000

Leach Test Information

Date Prepared 08-Nov-2021
pH (pH Units) 7.94
Conductivity (µS/cm) 55.00
Temperature (°C) 20.00
Volume Leachant (Litres) 0.876

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALS Environmental cannot be held responsible for any discrepancies with current legislation

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