
S.I. Ltd Contract No: 6409

Client: Galway County Council
Engineer: Tobin Consulting Engineers
Contractor: Site Investigations Ltd

Cappagh Road,
Galway, Co. Galway
Site Investigation

Prepared by:

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Stephen Letch

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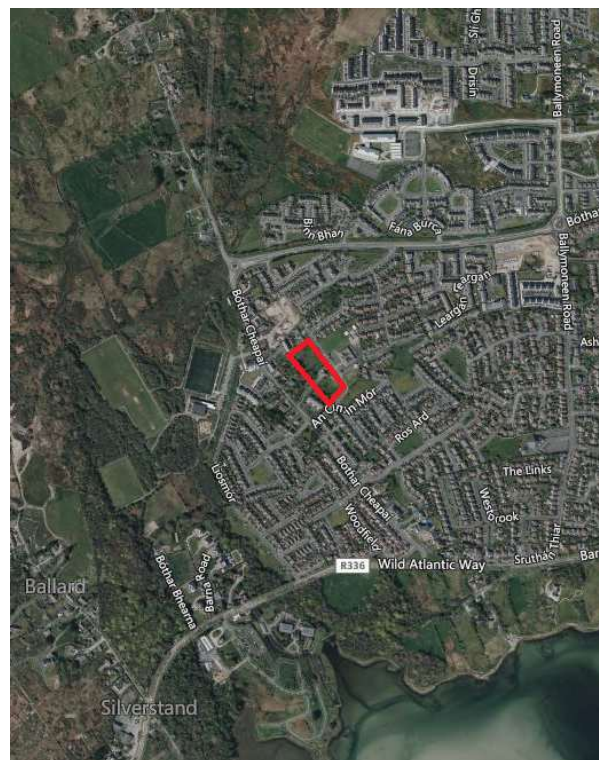
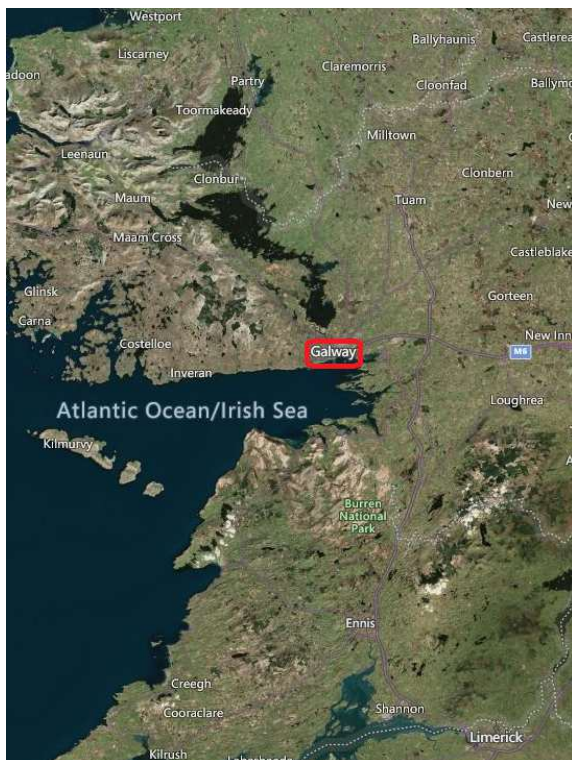
1. Introduction

On the instructions of Tobin Consulting Engineers, Site Investigations Ltd (SIL) were appointed to complete a site investigation at Cappagh Road, Galway, Co. Galway. The investigation was for a social and affordable housing scheme and was completed on behalf of the Client, Galway County Council. The investigation was started in December 2024 and completed in January 2025.

This report presents the factual geotechnical data obtained from the field and laboratory testing with interpretation of the ground conditions discussed.

2. Site Location

Cappagh Road is located to the west of Galway city centre. The map on the left shows the location of Galway in the west of Ireland and the second map shows the site location in the local area.



3. Fieldwork

All fieldwork was carried out in accordance with BS 5930:2015, Engineers Ireland GI Specification and Related Document 2nd Edition 2016 and Eurocode 7: Geotechnical Design. The fieldworks comprised the following:

- 10 No. cable percussive boreholes with rotary coreholes
- 7 No. trial pits
- 3 No. soakaway tests
- 2 No. foundation pits

3.1. Cable Percussive Boreholes and Rotary Coreholes

Cable percussion boring was undertaken at 10 No. locations using a Dando 2000 rig and constructed 200mm diameter boreholes. The borehole terminated at shallow depths ranging from 0.50mbgl to 2.00mbgl after an hour and a half chiselling was completed and no further progress was made. It was not possible to collect undisturbed samples due to the granular soils encountered so bulk disturbed samples were recovered at regular intervals.

To test the strength of the stratum, Standard Penetration Tests (SPT's) were performed at 1.00m intervals in accordance with BS 1377 (1990). In soils with high gravel and cobble content it is appropriate to use a solid cone (60°) (CPT) instead of the split spoon and this was used throughout the testing. The test is completed over 450mm and the cone is driven 150mm into the stratum to ensure that the test is conducted over an undisturbed zone. The cone is then driven the remaining 300mm and the blows recorded to report the N-Value. The report shows the N-Value with the 75mm incremental blows listed in brackets (e.g., BH07 at 1.00mbgl where N=14-(2,2/3,3,4,4)). Where refusal of 50 blows across the test zone was encountered was achieved during testing, the penetration depth is also reported (e.g., BH01 at 1.00mbgl where N=50-(25 for 90mm/50 for 20mm)).

At each location, rotary coreholes were completed using a Sondeq top drive rig and open hole drilling techniques were used to advance through the overburden to the bedrock. The bedrock was encountered at 1.50mbgl and 2.00mbgl and 3m of core was recovered at each location. The core recovered was placed in a channelled core box and returned to SIL for logging.

The core was logged by a SIL Engineer and the engineering geological descriptions of the rock cores with details of the discontinuities and mechanical indices for each core run are provided on the logs, i.e., TCR, SCR, RQD and Fracture Index.

The combined cable percussive borehole and rotary corehole logs are presented in Appendix 1 with the rotary core photographs.

3.2. Trial Pits

7 No. trial pits were excavated using a tracked excavator. The strata were logged and photographed by SIL geotechnical engineer and groundwater ingresses and pit wall stability was also recorded. Representative disturbed bulk samples were recovered as the pits were excavated, which were returned to the laboratory for geotechnical testing.

The trial pit logs and photographs are presented in Appendix 2.

3.3. Soakaway Tests

At 3 No. locations, soakaway tests were completed and logged by SIL geotechnical engineer. BRE Special Digest 365 stipulates that the pit should be filled three times and that the final cycle is used to provide the infiltration rate. The time taken for the water level to fall from 75% volume to 25% volume is required to calculate the rate of infiltration. However, if the water level does not fall at a steady rate, then the test is deemed to have failed and the area is unsuitable for storm water drainage.

The soakaway test results and photographs are presented in Appendix 3.

3.4. Foundation Pits

Adjacent to 2 No. existing walls on site, foundation pits were excavated to investigate the depths of the wall foundations. This included hand excavating around the foundation to measure the depth to the top, extension out from the wall and the thickness of the foundation. The pit was then photographed, backfilled with arisings and reinstated.

The foundation pit logs with photographs are presented in Appendix 4.

3.5. Surveying

Following completion of all the fieldworks, a survey of the exploratory hole locations was completed using a GeoMax GPS Rover. The data is supplied on each individual log and along with a site plan in Appendix 9.

4. Laboratory Testing

4.1. Geotechnical Testing

Geotechnical classification testing has been completed on representative soil samples in accordance with BS 1377 (1990). Testing includes:

- 14 No. Moisture contents
- 14 No. Atterberg limits
- 14 No. Particle size gradings
- 14 No. laboratory shear vane tests
- 10 No. pH, sulphate and chloride content

Geotechnical rock testing was completed on the core samples and consisted of the following:

- 20 No. Point loads

- 20 No. Unconfined compressive strength tests

The geotechnical soil laboratory test results are presented in Appendix 5 with the rock test results in Appendix 6.

4.2. Environmental Testing

Environmental testing was completed by ALS Environmental Ltd. and consists of the following:

- 18 No. Suite I analysis

The environmental results are presented in Appendix 7 and a Waste Classification Report in Appendix 8.

5. Ground Conditions

5.1. Overburden

The ground conditions are initially either cohesive brown sandy gravelly silty CLAY with medium cobble and boulder content or an organic PEAT soil overlying the dominant brown silty very sandy GRAVEL with medium cobble and boulder content. The GRAVEL was encountered as shallow as 0.30mbgl at several locations to 1.00mbgl at BH09 and is possibly the weathered zone of the underlying bedrock.

Only three full SPT tests were completed at BH07, BH08 and BH09 with N-values for 14, 15 and 17 recorded. The other tests all recorded refusals.

The laboratory tests of the soils show granular soils dominate the site with the particle size curves recording 50% to 78% GRAVEL.

5.2. Bedrock

Rotary coring recovered core samples from either 1.50mbgl or 2.00mbgl and 3m of core was returned to SIL for logging. This was logged as strong to very strong pink grey porphyritic GRANITE with a fresh to slightly weathered state.

5.3. Groundwater

No groundwater was recorded in the boreholes during the fieldworks. Slow water ingresses were recorded at 0.50mbgl in TP04, 0.70mbgl in TP02, TP03 and TP05 and 1.00mbgl in SA02.

6. Recommendations and Conclusions

Please note the following caveats:

The recommendations given, and opinions expressed in this report are based on the findings as detailed in the exploratory hole records. Where an opinion is expressed on the material between the exploratory hole locations or below the final level of excavation, this is for guidance only and no liability can be accepted for its accuracy. No responsibility can be accepted for adjacent unexpected conditions that have not been revealed by the exploratory holes. It is further recommended that all bearing surfaces when excavated should be inspected by a suitably qualified Engineer to verify the information given in this report.

Excavated surfaces in clay strata should be kept dry to avoid softening prior to foundation placement. Foundations should always be taken to a minimum depth of 0.50mBGL to avoid the effects of frost action and possible seasonal shrinkage/swelling.

If it is intended that on-site materials are to be used as fill, then the necessary laboratory testing should be specified by the Client to confirm the suitability. Also, relevant lab testing should be specified where stability of side slopes to excavations is a concern, or where contamination may be an issue.

6.1. Shallow Foundations

Only three boreholes, BH07, BH08 and BH09, recorded full SPT N-values at 1.00mbgl with values ranging from 14 to 17. In granular soils, the SPT N-value can then be used to calculate the allowable bearing capacity, as per Terzaghi and Peck, using the correlation of SPT N-value $\times 10 = \text{ABC}$. Therefore, using the lower value of 14 indicates an allowable bearing capacity of 140kN/m².

Alternatively, with the bedrock at shallow depths, then the foundations could be lowered to the bedrock and placed on the solid bedrock.

The following assumptions were made as part of these analyses. If any of these assumptions are not in accordance with detailed design or observations made during construction these recommendations should be re-evaluated.

- Foundations are to be constructed on a level formation of uniform material type (described above).
- All man-made or filled material is to be removed prior to construction.
- The bulk unit weight of the material in this stratum has a minimum density of 19kN/m³.
- All bearing capacity calculations allow for a settlement of 25mm.
- Based on groundwater observations this analysis assumes the groundwater will not influence the construction or performance of these foundations.

6.2. Slope Stability

The trial pit walls generally remained stable during excavations. Due to the coarse nature of the soils, undisturbed samples were not possible but with the varied nature of the soils, a slope of 1 in 3 would be recommended provisionally from the information in the report for any temporary excavation. It would be recommended that all excavations should be checked immediately by a suitably qualified engineer and this slope reevaluated once the excavations have been completed.

Regular inspection of temporary excavations should also be completed at regular intervals to ensure that all slopes are stable. Temporary support should be used on any excavation that will be left open for an extended period.

6.3. Groundwater

The caveats below relating to interpretation of groundwater levels should be noted:

There is always considerable uncertainty as to the likely rates of water ingress into excavations in clayey soil sites due to the possibility of localised unforeseen sand and gravel lenses acting as permeable conduits for unknown volumes of water.

Furthermore, water levels noted on the borehole and trial pit logs do not generally give an accurate indication of the actual groundwater conditions as the borehole or trial pit is rarely left open for sufficient time for the water level to reach equilibrium.

Also, during boring procedures, a permeable stratum may have been sealed off by the borehole casing, or water may have been added to aid drilling. Therefore, an extended period of groundwater monitoring using any constructed standpipes is required to provide more accurate information regarding groundwater conditions. Finally, groundwater levels vary with time of year, rainfall and possible nearby construction sites.

Pumping tests would be required to determine likely seepage rates and persistence into excavations taken below the groundwater level. Deep trial pits also aid estimation of seepage rates.

As discussed previously, groundwater was not recorded in the boreholes but four strikes were recorded in the trial pits during the fieldworks.

Based on this information at the exploratory hole locations to date, it is considered likely that any shallow ingress (less than 2.00mbgl) into excavations will be slow to medium.

If groundwater is encountered during excavations then mechanical pumps will be required to remove the groundwater from sumps. Sumps should be carefully located and constructed to ensure that groundwater is efficiently removed from excavations and trenches.

6.4. Soakaway Tests

The soakaway tests failed the specification as the water level did not fall sufficiently enough to complete the test. The BRE Digest stipulates that the pit should half empty within 24hrs, and extrapolation indicates this condition would not be satisfied. The tests were terminated at the end of the first (of a possible three) fill/empty cycle since further testing would give even slower fall rates due to increased soil saturation.

6.5. Contamination

Environmental testing was carried out on eighteen samples from the investigation and the results are shown in Appendix 7. For material to be removed from site, Suite I testing was carried out to determine if the material is hazardous or non-hazardous and then the leachate results were compared with the published waste acceptance limits of BS EN 12457-2 to determine whether the material on the site could be accepted as 'inert material' by an Irish landfill.

The Waste Classification report created using HazWasteOnline™ software shows that the material tested can be classified as non-hazardous material.

Following this analysis of the solid test results, the leachate disposal suite results indicate that due to the high organic matter in the soils, the total organic carbon values in 4 samples exceed the inert thresholds and 5 samples exceed the non-hazardous thresholds. Fourteen of the samples also recorded pH values of less than 6 and this fails the inert threshold levels. It would be recommended that the results are provided to the chosen landfill to confirm that they can accept the soils prior to any excavations starting.

Eighteen samples were tested for analysis but it cannot be discounted that any localised contamination may have been missed. Any MADE GROUND excavated on site should be stockpiled separately to natural soils to avoid any potential cross contamination of the soils. Additional testing of these soils may be requested by the individual landfill before acceptance and a testing regime designed by an environmental engineer would be recommended to satisfy the landfill.

6.6. Aggressive Ground Conditions

The chemical test results in Appendix 6 on the granular soils indicate a higher pH value between 8.04 and 8.98, which is close to neutral and below the level of 9, therefore no special precautions are required.

The Environmental Protection Agency (EPA) has recently updated the Radon gas exposure map and this is available to view on the EPA website. This shows the possible exposure to radon gas with the bedrock geology, subsoil geology, soil permeability and aquifer type analysed to produce the map. The map below shows that the site falls within the high level of 1 in 5 homes are at risk of radon exposure. Measures should be taken in the form of radon protection barriers from radon exposure in the new structures.



<https://gis.epa.ie/EPAMaps/Radon?&lid=EPA:RadonRiskMapofIreland>

Appendix 1
Cable Percussive Borehole and Rotary Corehole Logs
And Photographs

[illegible]

Contract No: 6409		Cable Percussion and Rotary Corehole Log										Corehole No: BH02				
Contract:		Cappagh Road					Easting:		524801.137		Date Started:		11/12/2024			
Location:		Knocknacarra, Galway, Co. Galway					Northing:		724406.901		Date Completed:		29/01/2025			
Client:		Galway County Council					Elevation:		21.86		Drilled By:		D. Clarke / MEDL			
Engineer:		Tobin Consulting Engineers					Rig Type:		Dando 2000 / Sondeq		Status:		FINAL			
Depth (m)		Stratum Description					Legend	Level (mOD)		Samples		Rock Indices				Backfill
Scale	Depth							Scale	Depth			TCR/%	SCR/%	RQD/%	FI/m	
0.30	0.30	Brown PEAT with low cobble and boulder content.						21.56	21.56	50 (25 for 5mm/50 for 5mm) ES / 0.50						
0.50	0.50	Brown silty very sandy GRAVEL with medium cobble and boulder content.						21.36	21.36							
		Obstruction - boulder.						21.0	21.0							
		Open hole drilling: driller reports returns of gravel, cobbles and boulders.						20.5	20.5							
2.00	2.00	Strong to very strong pink and grey porphyritic GRANITE. Fresh to slightly weathered.						19.86	19.86	2.00 - 3.00		99	92	85	5	
		Discontinuities - smooth, occasionally rough, planar, occasionally stepped, tight to open, 40° to 50° dip, clean with occasional grey and brown staining.						19.5	19.5							
								19.0	19.0							
3.5	3.5	Discontinuities - smooth to rough, planar and stepped, tight to open, sub-horizontal to 30°, occasionally sub-vertical dip, clean with occasional grey and brown staining.						18.5	18.5	3.00 - 4.00		98	45	18	9	
								18.0	18.0							
								17.5	17.5							
5.00	5.00	End of Corehole at 5.00m						16.86	16.86	4.00 - 5.00		97	58	35		
								16.5	16.5							
								16.0	16.0							
								15.5	15.5							
								15.0	15.0							
								14.5	14.5							
								14.0	14.0							

Contract No: 6409		Cable Percussion and Rotary Corehole Log										Corehole No: BH03							
Contract:		Cappagh Road					Easting:		524780.270		Date Started:		11/12/2024						
Location:		Knocknacarra, Galway, Co. Galway					Northing:		724422.147		Date Completed:		30/01/2025						
Client:		Galway County Council					Elevation:		23.17		Drilled By:		D. Clarke / MEDL						
Engineer:		Tobin Consulting Engineers					Rig Type:		Dando 2000 / Sondeq		Status:		FINAL						
Depth (m)		Stratum Description					Legend	Level (mOD)		Samples			Rock Indices				Backfill		
Scale	Depth							Scale	Depth				TCR/%	SCR/%	RQD/%	FI/m			
0.30		Brown PEAT with low cobble and boulder content.						23.0		ES / 0.50 50 (25 for 115mm/50 for 30mm) B / 1.00 50 (25 for 5mm/50 for 5mm)									
0.5		Brown silty sandy GRAVEL with medium cobble and boulder content.						22.87											
1.10		Obstruction - boulder. Open hole drilling: driller reports returns of gravel, cobbles and boulders.						22.07											
1.20								21.97											
2.00		Strong to very strong pink and grey porphyritic GRANITE. Fresh to slightly weathered.						21.17		2.00 - 3.00			99	64	61	NI			
2.5		Discontinuities - non-intact.						21.0											
3.0								20.5											
3.5		Discontinuities - smooth, occasionally rough, planar and stepped, tight to open, sub-horizontal to 30°, 45° to 60° and occasionally sub-vertical dip, clean with occasional grey and brown staining.						20.0		3.00 - 4.00			97	90	79	7			
4.0								19.5											
4.5								19.0		4.00 - 5.00			97	83	61				
5.0								18.5											
5.00		End of Corehole at 5.00m						18.17											
5.5								18.0											
6.0								17.5											
6.5								17.0											
7.0								16.5											
7.5								16.0											
								15.5											
		Chiselling:			Water Strikes:			Water Details:			Installations:			Backfill:			Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water
		From:	To:	Time:	Strike:	Rose:	Sealed:	Date:	Hole Depth:	Water Depth:	From:	To:	Pipe:	From:	To:	Type:	Cable percussive borehole log terminated at 1.20mbgl.		
		1.10	1.20	01:30				11/12	1.20	Dry				0.00	5.00	Arisings			

Contract No: 6409				Cable Percussion and Rotary Corehole Log										Corehole No: BH04																	
Contract:				Cappagh Road						Easting:		524836.546		Date Started:		12/12/2024															
Location:				Knocknacarra, Galway, Co. Galway						Northing:		724410.946		Date Completed:		28/01/2025															
Client:				Galway County Council						Elevation:		22.33		Drilled By:		D. Clarke / MEDL															
Engineer:				Tobin Consulting Engineers						Rig Type:		Dando 2000 / Sondeq		Status:		FINAL															
Depth (m)		Stratum Description								Legend		Level (mOD)		Samples		Rock Indices				Backfill											
Scale	Depth											Scale	Depth			TCR/%	SCR/%	RQD/%	FI/m												
0.10 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5	0.10	TOPSOIL.										22.23	ES / 0.50																		
		Brown sandy gravelly silty CLAY with medium cobble and boulder content.										22.0																			
	0.60											21.73																			
		Brown silty very sandy GRAVEL with medium cobble and boulder content.										21.5																			
	1.00	Obstruction - boulder. Open hole drilling: driller reports returns of gravel, cobbles and boulders.										21.33	50 (25 for 5mm/50 for 5mm) B / 1.00																		
	1.50											21.0																			
		Very strong pink and grey porphyryitic GRANITE. Fresh to slightly weathered. <i>Discontinuities - smooth, occasionally rough, planar, occasionally stepped, tight to open, 40° to 50° and occasionally sub-horizontal and sub-vertical dip, clean with occasional grey and brown staining.</i>										20.83	1.50 - 2.50																		
												20.5																			
												20.0																			
												19.5	2.50 - 3.50																		
									19.0																						
									18.5	3.50 - 4.50																					
									18.0																						
4.50	End of Corehole at 4.50m								17.83																						
									17.5																						
									17.0																						
									16.5																						
									16.0																						
									15.5																						
									15.0																						
									14.5																						
		Chiselling:			Water Strikes:			Water Details:			Installations:			Backfill:											Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water				
		From:	To:	Time:	Strike:	Rose:	Sealed:	Date:	Hole Depth:	Water Depth:	From:	To:	Pipe:	From:	To:	Type:	From:	To:													
		0.90	1.00	01:30				12/12	1.00	Dry				0.00	4.50	Arisings	Cable percussive borehole log terminated at 1.00mbgl.														

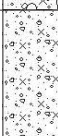
Contract No: 6409		Cable Percussion and Rotary Corehole Log										Corehole No: BH05				
Contract:		Cappagh Road					Easting:		524822.610		Date Started:		12/12/2024			
Location:		Knocknacarra, Galway, Co. Galway					Northing:		724401.777		Date Completed:		29/01/2025			
Client:		Galway County Council					Elevation:		21.66		Drilled By:		D. Clarke / MEDL			
Engineer:		Tobin Consulting Engineers					Rig Type:		Dando 2000 / Sondeq		Status:		FINAL			
Depth (m)		Stratum Description					Legend	Level (mOD)		Samples		Rock Indices				Backfill
Scale	Depth							Scale	Depth			TCR/%	SCR/%	RQD/%	FI/m	

Contract No: 6409				Cable Percussion and Rotary Corehole Log										Corehole No: BH06					
Contract:				Cappagh Road						Easting:		524809.750		Date Started:		12/12/2024			
Location:				Knocknacarra, Galway, Co. Galway						Northing:		724385.314		Date Completed:		29/01/2025			
Client:				Galway County Council						Elevation:		20.75		Drilled By:		D. Clarke / MEDL			
Engineer:				Tobin Consulting Engineers						Rig Type:		Dando 2000 / Sondeq		Status:		FINAL			
Depth (m)		Stratum Description								Legend	Level (mOD)		Samples		Rock Indices				Backfill
Scale	Depth										Scale	Depth			TCR/%	SCR/%	RQD/%	FI/m	
0.30 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5	0.30	Brown PEAT with low cobble and boulder content.								<									

Contract No: 6409		Cable Percussion and Rotary Corehole Log										Corehole No: BH07				
Contract:		Cappagh Road					Easting:		524873.990		Date Started:		12/12/2024			
Location:		Knocknacarra, Galway, Co. Galway					Northing:		724349.585		Date Completed:		31/01/2025			
Client:		Galway County Council					Elevation:		20.48		Drilled By:		D. Clarke / MEDL			
Engineer:		Tobin Consulting Engineers					Rig Type:		Dando 2000 / Sondeq		Status:		FINAL			
Depth (m)		Stratum Description					Legend	Level (mOD)		Samples		Rock Indices				Backfill
Scale	Depth							Scale	Depth			TCR/%	SCR/%	RQD/%	FI/m	
0.10		TOPSOIL.						20.38		ES / 0.50 N=14 (2,2/3,3,4,4) B / 1.00						
0.40		Brown sandy gravelly silty CLAY with medium cobble and boulder content.						20.08								
0.5		Medium dense brown silty very sandy GRAVEL with medium cobble and boulder content.						20.0								
1.0		Obstruction - weathered bedrock. Strong to very strong pink and grey porphyritic GRANITE. Fresh to slightly weathered. <i>Discontinuities - non-intact.</i>						18.58		50 (25 for 5mm/50 for 5mm) B / 2.00 2.00 - 3.00		94	72	22	NI	
1.90								18.5								
2.00								18.48								
2.5		<i>Discontinuities - smooth to rough, planar, tight to open, 30° to 50° and occasionally sub-vertical dip, clean with occasional grey and brown staining.</i>						18.0		3.00 - 4.00		94	48	38		
3.0								17.5								
3.5								17.0								
4.0		End of Corehole at 5.00m						16.5		4.00 - 5.00		93	93	65	9	
4.5								16.0								
5.0								15.5								
5.00								15.48								
5.5								15.0								
6.0								14.5								
6.5								14.0								
7.0								13.5								
7.5								13.0								
																
																
																
																
																
																
																
																

Contract No: 6409		Cable Percussion and Rotary Corehole Log										Corehole No: BH08				
Contract:		Cappagh Road					Easting:		524854.118		Date Started:		13/12/2024			
Location:		Knocknacarra, Galway, Co. Galway					Northing:		724335.924		Date Completed:		30/01/2025			
Client:		Galway County Council					Elevation:		20.20		Drilled By:		D. Clarke / MEDL			
Engineer:		Tobin Consulting Engineers					Rig Type:		Dando 2000 / Sondeq		Status:		FINAL			
Depth (m)		Stratum Description					Legend	Level (mOD)		Samples		Rock Indices				Backfill
Scale	Depth							Scale	Depth			TCR/%	SCR/%	RQD/%	FI/m	
0.10	0.10	TOPSOIL.						20.10	ES / 0.50							
		Brown sandy gravelly silty CLAY with medium cobble and boulder content.						20.0								
0.5	0.60	Medium dense brown silty very sandy GRAVEL with medium cobble and boulder content.						19.60	N=15 (2,3/3,4,4,4) B / 1.00							
								19.5								
1.0								19.0								
								18.5								
1.5								18.0	50 (25 for 5mm/50 for 5mm) B / 2.00							
	2.00	Strong to very strong pink and grey porphyritic GRANITE. Fresh to slightly weathered.						18.20								
2.0		Discontinuities - smooth to rough, planar, occasionally stepped, tight to open, 60° to 70° and occasionally 30° dip, clean with occasional grey and brown staining.						18.0	2.00 - 3.00		96	77	50	10		
								17.5								
2.5								17.0	3.00 - 4.00		96	84	84			
								16.5								
3.0								16.0	4.00 - 5.00		97	95	72	5		
								15.5								
3.5								15.0								
								14.5								
4.0								14.0								
								13.5								
4.5								13.0								
								12.5								
5.0	5.00	End of Corehole at 5.00m						15.20								
								15.0								
5.5								14.5								
								14.0								
6.0								13.5								
								13.0								
6.5								12.5								

Chiselling:		Water Strikes:			Water Details:			Installations:			Backfill:			Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water
From:	To:	Time:	Strike:	Rose:	Sealed:	Date:	Hole Depth:	Water Depth:	From:	To:	Pipe:	From:	To:	Type:	Cable percussive borehole log terminated at 2.00mbgl.	
2.00	2.00	01:30				13/12	2.00	Dry				0.00	5.00	Arisings		

Contract No: 6409		Cable Percussion and Rotary Corehole Log										Corehole No: BH09						
Contract:		Cappagh Road					Easting:		524883.103		Date Started:		13/12/2024					
Location:		Knocknacarra, Galway, Co. Galway					Northing:		724333.515		Date Completed:		31/01/2025					
Client:		Galway County Council					Elevation:		19.97		Drilled By:		D. Clarke / MEDL					
Engineer:		Tobin Consulting Engineers					Rig Type:		Dando 2000 / Sondeq		Status:		FINAL					
Depth (m)		Stratum Description					Legend	Level (mOD)		Samples		Rock Indices				Backfill		
Scale	Depth							Scale	Depth			TCR/%	SCR/%	RQD/%	FI/m			
0.5		Firm brown sandy gravelly silty CLAY with medium cobble and boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of granite. Cobbles and boulders are angular to subrounded of granite.						19.5			ES / 0.50							
1.0		Medium dense brown silty very sandy GRAVEL with medium cobble and boulder content.						19.0	18.97		N=17 (2,4/5,4,4,4) B / 1.00							
1.5								18.5										
1.70		Obstruction - boulder.						18.27	18.27		50 (25 for 5mm/50 for 5mm)							
2.0		Open hole drilling: driller reports returns of gravel, cobbles and boulders.						18.0	17.97									
2.5		Strong to very strong pink and grey porphyritic GRANITE. Fresh to slightly weathered.						17.5			2.00 - 3.00		97	61	23	14		
3.0		Discontinuities - smooth to rough, planar and stepped, tight to open, 40° to 50° dip, clean with occasional grey and brown staining.						17.0										
3.5								16.5			3.00 - 4.00		96	96	82			
4.0								16.0									7	
4.5								15.5			4.00 - 5.00		91	91	45			
5.0		End of Corehole at 5.00m						15.0	14.97									
5.5								14.5										
6.0								14.0										
6.5								13.5										
7.0								13.0										
7.5								12.5										
																		
																		
																		
																		
																		
																		
																		
																		
																		

Contract No: 6409		Cable Percussion and Rotary Corehole Log										Corehole No: BH10							
Contract:		Cappagh Road					Easting:		524866.778		Date Started:		13/12/2024						
Location:		Knocknacarra, Galway, Co. Galway					Northing:		724318.216		Date Completed:		31/01/2025						
Client:		Galway County Council					Elevation:		19.98		Drilled By:		D. Clarke / MEDL						
Engineer:		Tobin Consulting Engineers					Rig Type:		Dando 2000 / Sondeq		Status:		FINAL						
Depth (m)		Stratum Description					Legend	Level (mOD)		Samples			Rock Indices				Backfill		
Scale	Depth							Scale	Depth				TCR/%	SCR/%	RQD/%	FI/m			
0.10		TOPSOIL.						19.88	ES / 0.50										
0.5		Firm brown sandy gravelly silty CLAY with medium cobble and boulder content.						19.5											
0.60		Brown silty very sandy GRAVEL with medium cobble and boulder content.						19.38	B / 1.00 50 (25 for 5mm/50 for 5mm)										
1.0								19.0											
1.10		Obstruction - boulder.						18.88											
1.5		Open hole drilling: driller reports returns of gravel, cobbles and boulders.						18.5											
2.0		Strong to very strong pink and grey porphyritic GRANITE.						18.0	2.00 - 3.00			99	71	71	NI				
2.5		Fresh to slightly weathered.						17.5											
		<u>Discontinuities - non-intact.</u>						17.0	3.00 - 4.00			98	75	45	7				
3.0		<u>Discontinuities - smooth to rough, planar, occasionally stepped, tight to open, 40° to 60° and occasionally sub-horizontal dip, clean with occasional grey and brown staining.</u>						16.5											
3.5								16.0	4.00 - 5.00			99	76	69					
4.0								15.5											
4.5								15.0											
5.0		End of Corehole at 5.00m						14.98											
5.5								14.5											
6.0								14.0											
6.5								13.5											
7.0								13.0											
7.5								12.5											
		Chiselling:			Water Strikes:			Water Details:			Installations:			Backfill:			Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water
		From:	To:	Time:	Strike:	Rose:	Sealed:	Date:	Hole Depth:	Water Depth:	From:	To:	Pipe:	From:	To:	Type:	Cable percussive borehole log terminated at 1.10mbgl.		
		1.10	1.10	01:30				13/12	1.10	Dry				0.00	5.00	Arisings			

BH01 Box 1 of 1



BH02 Box 1 of 1



BH03 Box 1 of 1



BH04 Box 1 of 1



BH05 Box 1 of 1



BH06 Box 1 of 1



BH07 Box 1 of 1



BH08 Box 1 of 1



BH09 Box 1 of 1

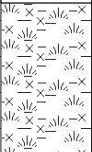
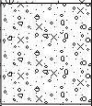


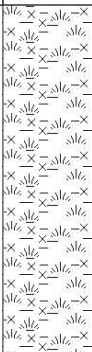
BH10 Box 1 of 1

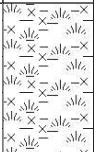
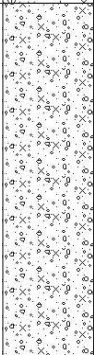


Appendix 2

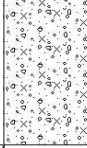
Trial Pit Logs and Photographs

Contract No: 6409		Trial Pit Log					Trial Pit No: TP01			
Contract:		Cappagh Road		Easting:	524819.170	Date:	11/12/2024			
Location:		Knocknacarra, Galway, Co. Galway		Northing:	724437.098	Excavator:	6T Tracked Excavator			
Client:		Galway County Council		Elevation:	23.54	Logged By:	D. Monaghan			
Engineer:		Tobin Consulting Engineers		Dimensions (LxWxD) (m):	3.50 x 0.60 x 0.50	Status:	FINAL			
Level (mbgl)		Stratum Description			Legend	Level (mOD)		Samples / Field Tests		Water Strike
Scale:	Depth					Scale:	Depth:	Depth	Type	Result
0.30	0.50	Soft brown peaty CLAY with low cobble and boulder content. Cobbles and boulders are angular to subrounded of granite.				23.5	0.50	ES	DM01	
		Brown silty very sandy fine to coarse, angular to subrounded GRAVEL of granite with medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subrounded of granite.				23.24				
		Obstruction - possible boulders or weathered bedrock.				23.04				
		Pit terminated at 0.50m				23.0				
1.0						22.5				
1.5						22.0				
2.0						21.5				
2.5						21.0				
		Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:		Key:			
		Obstruction - boulders.	Pit walls stable.	Dry	-		B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental			

Contract No: 6409		Trial Pit Log						Trial Pit No: TP02			
Contract:		Cappagh Road		Easting:	524793.084		Date:	11/12/2024			
Location:		Knocknacarra, Galway, Co. Galway		Northing:	724440.587		Excavator:	6T Tracked Excavator			
Client:		Galway County Council		Elevation:	24.04		Logged By:	D. Monaghan			
Engineer:		Tobin Consulting Engineers		Dimensions (LxWxD) (m):	3.50 x 0.60 x 1.20		Status:	FINAL			
Level (mbgl)		Stratum Description			Legend	Level (mOD)		Samples / Field Tests			Water Strike
Scale:	Depth:					Depth:	Type	Result			
0.5	0.70	Soft brown peaty CLAY with low cobble and boulder content. Cobbles and boulders are angular to subrounded of granite.				24.0	0.50	ES	DM02		
						23.5					
		23.34	1.00	B	DM03						
		23.0									
1.20	Obstruction - possible boulders or weathered bedrock. Pit terminated at 1.20m	22.84	22.5	22.0	21.5						
1.5											
2.0											
2.5											
		Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:			Key:			
		Obstruction - boulders.	Pit walls stable.	0.70 Slow	-			B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental			

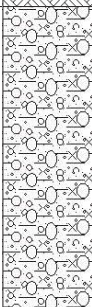
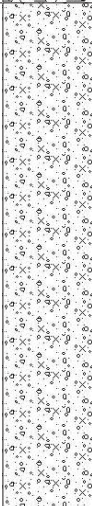
Contract No: 6409		Trial Pit Log					Trial Pit No: TP03			
Contract:		Cappagh Road		Easting:	524810.383		Date:	11/12/2024		
Location:		Knocknacarra, Galway, Co. Galway		Northing:	724425.264		Excavator:	6T Tracked Excavator		
Client:		Galway County Council		Elevation:	22.65		Logged By:	D. Monaghan		
Engineer:		Tobin Consulting Engineers		Dimensions (LxWxD) (m):	3.50 x 0.60 x 1.00		Status:	FINAL		
Level (mbgl)		Stratum Description			Legend	Level (mOD)		Samples / Field Tests		Water Strike
Scale:	Depth					Scale:	Depth:	Depth	Type	Result
	0.30	Soft brown peaty CLAY with low cobble and boulder content. Cobbles and boulders are angular to subrounded of granite.				22.5				
	0.5	Brown silty very sandy fine to coarse, angular to subrounded GRAVEL of granite with medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subrounded of granite.				22.35		0.50	ES	DM04
	1.00	Obstruction - possible boulders or weathered bedrock. Pit terminated at 1.00m				21.65	1.00	B		DM05
	1.5					21.5				
	2.0					21.0				
	2.5					20.5				
						20.0				
		Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:		Key:			
		Obstruction - boulders.	Pit walls stable.	0.70 Slow	-		B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental			

Contract No: 6409		Trial Pit Log					Trial Pit No: TP04				
Contract:		Cappagh Road		Easting:	524796.218	Date:	11/12/2024				
Location:		Knocknacarra, Galway, Co. Galway		Northing:	724402.380	Excavator:	6T Tracked Excavator				
Client:		Galway County Council		Elevation:	21.73	Logged By:	D. Monaghan				
Engineer:		Tobin Consulting Engineers		Dimensions (LxWxD) (m):	3.50 x 0.60 x 0.50	Status:	FINAL				
Level (mbgl)		Stratum Description			Legend	Level (mOD)		Samples / Field Tests		Water	
Scale:	Depth					Scale:	Depth:	Depth	Type	Result	Strike
	0.30	Soft brown peaty CLAY with low cobble and boulder content. Cobbles and boulders are angular to subrounded of granite.					21.5				
	0.50	Brown silty very sandy fine to coarse, angular to subrounded GRAVEL of granite with medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subrounded of granite.					21.43				
0.5	0.50	Obstruction - possible boulders or weathered bedrock. Pit terminated at 0.50m					21.23	0.50	ES	DM06	▼
							21.0				
							20.5				
							20.0				
							19.5				
							19.0				

Contract No: 6409		Trial Pit Log					Trial Pit No: TP05			
Contract:		Cappagh Road		Easting:	524825.813	Date:	11/12/2024			
Location:		Knocknacarra, Galway, Co. Galway		Northing:	724394.306	Excavator:	6T Tracked Excavator			
Client:		Galway County Council		Elevation:	21.32	Logged By:	D. Monaghan			
Engineer:		Tobin Consulting Engineers		Dimensions (LxWxD) (m):	3.50 x 0.60 x 0.70	Status:	FINAL			
Level (mbgl)		Stratum Description			Legend	Level (mOD)		Samples / Field Tests		Water Strike
Scale:	Depth					Scale:	Depth:	Depth	Type	
0.10	0.10	TOPSOIL.				21.22	0.50	ES	DM07	
		Soft brown peaty CLAY with low cobble and boulder content. Cobbles and boulders are angular to subrounded of granite.								
										
										
										
0.40	0.40	Brown silty very sandy fine to coarse, angular to subrounded GRAVEL of granite with medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subrounded of granite.				20.92	0.50	ES	DM07	
		Obstruction - possible boulders or weathered bedrock. Pit terminated at 0.70m								
0.70	0.70					20.62	0.50	ES	DM07	
						20.5				
						20.0				
						19.5				
1.0	1.0						0.50	ES	DM07	
						19.0				
						18.5				
1.5	1.5						0.50	ES	DM07	
2.0	2.0						0.50	ES	DM07	
2.5	2.5						0.50	ES	DM07	
3.0	3.0						0.50	ES	DM07	
3.5	3.5						0.50	ES	DM07	
4.0	4.0						0.50	ES	DM07	
4.5	4.5						0.50	ES	DM07	
5.0	5.0						0.50	ES	DM07	
5.5	5.5						0.50	ES	DM07	
6.0	6.0						0.50	ES	DM07	
6.5	6.5						0.50	ES	DM07	
7.0	7.0						0.50	ES	DM07	
7.5	7.5						0.50	ES	DM07	
8.0	8.0						0.50	ES	DM07	
8.5	8.5						0.50	ES	DM07	
9.0	9.0						0.50	ES	DM07	
9.5	9.5						0.50	ES	DM07	



Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	0.70 Slow	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 6409		Trial Pit Log					Trial Pit No: TP06				
Contract:		Cappagh Road		Easting:	524878.706		Date:	11/12/2024			
Location:		Knocknacarra, Galway, Co. Galway		Northing:	724341.867		Excavator:	6T Tracked Excavator			
Client:		Galway County Council		Elevation:	20.28		Logged By:	D. Monaghan			
Engineer:		Tobin Consulting Engineers		Dimensions (LxWxD) (m):	3.50 x 0.60 x 1.70		Status:	FINAL			
Level (mbgl)		Stratum Description			Legend	Level (mOD)		Samples / Field Tests			Water Strike
Scale:	Depth					Scale:	Depth:	Depth	Type	Result	
0.10	0.10	TOPSOIL.				20.18	20.0	0.50	ES	DM08	
		Firm brown sandy gravelly silty CLAY with medium cobble and boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of granite. Cobbles and boulders are angular to subrounded of granite.									
0.70	0.70	Brown silty very sandy fine to coarse, angular to subrounded GRAVEL of granite with medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subrounded of granite.				19.58	19.5	1.00	B	DM09	
1.70	1.70	Obstruction - possible boulders or weathered bedrock.				18.58	18.5				
		Pit terminated at 1.70m									
	Termination:		Pit Wall Stability:		Groundwater Rate:		Remarks:		Key:		
	Obstruction - boulders.		Pit walls stable.		Dry		-		B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental		

[illegible]

TP01 Sidewall



TP01 Spoil



TP02 Sidewall



TP02 Spoil



TP03 Sidewall



TP03 Spoil



TP04 Sidewall



TP04 Spoil



TP05 Sidewall



TP05 Spoil



TP06 Sidewall



TP06 Spoil



TP07 Sidewall



TP07 Spoil



Appendix 3

Soakaway Test Results and Photographs

SOAKAWAY TEST



Project Reference:	6409
Contract name:	Cappagh Road
Location:	Knocknacarra, Galway, Co. Galway
Test No:	SA01
Date:	11/12/2024

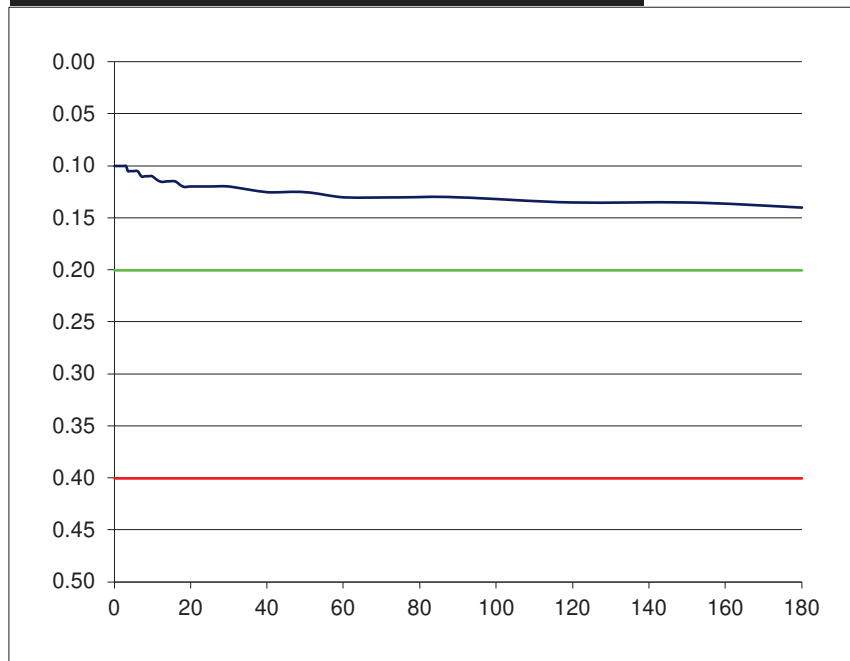
Ground Conditions

From	To	
0.00	0.30	Soft brown peaty CLAY with low cobble and boulder content.
0.30	0.50	Brown silty very sandy GRAVEL with medium cobble and boulder content.

Remarks:

Obstruction at 0.50mbgl - pit terminated and test completed.

Elapsed Time (mins)	Fall of Water (m)	Pit Dimensions (m)		
0	0.10	Length (m)	3.00	m
0.5	0.10	Width (m)	0.70	m
1	0.10	Depth	0.50	m
1.5	0.10	Water		
2	0.10	Start Depth of Water	0.10	m
2.5	0.10	Depth of Water	0.40	m
3	0.10	75% Full	0.20	m
3.5	0.11	25% Full	0.40	m
4	0.11	75%-25%	0.20	m
4.5	0.11	Volume of water (75%-25%)	0.42	m3
5	0.11	Area of Drainage	3.70	m2
6	0.11	Area of Drainage (75%-25%)	3.58	m2
7	0.11	Time		
8	0.11	75% Full	N/A	min
9	0.11	25% Full	N/A	min
10	0.11	Time 75% to 25%	N/A	min
12	0.12	Time 75% to 25% (sec)	N/A	sec



f = **Fail** or
m/min

Fail
m/s

SOAKAWAY TEST



Project Reference:	6409
Contract name:	Cappagh Road
Location:	Knocknacarra, Galway, Co. Galway
Test No:	SA02
Date:	11/12/2024

Ground Conditions

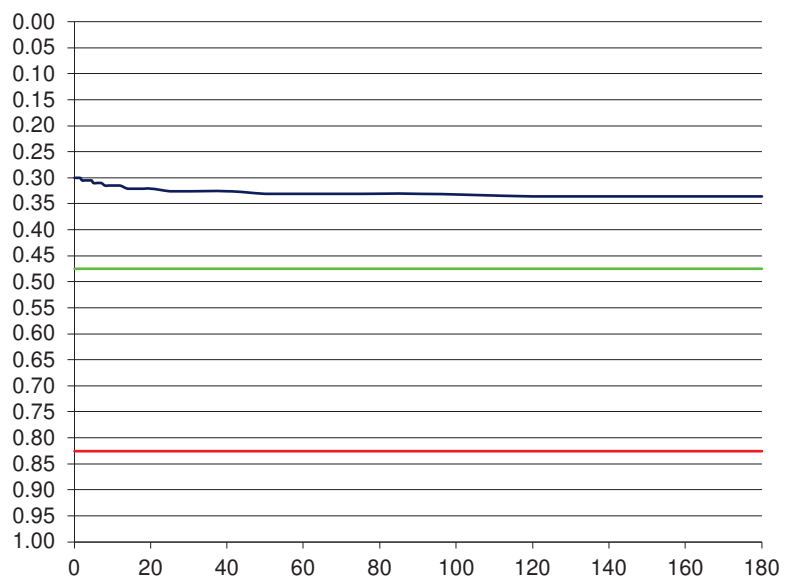
From	To	
0.00	0.30	Soft brown peaty CLAY with low cobble and boulder content.
0.30	1.00	Brown silty very sandy GRAVEL with medium cobble and boulder content.

Remarks:

Obstruction at 1.00mbgl - pit terminated and test completed.

Elapsed Time (mins)	Fall of Water (m)
0	0.30
0.5	0.30
1	0.30
1.5	0.30
2	0.31
2.5	0.31
3	0.31
3.5	0.31
4	0.31
4.5	0.31
5	0.31
6	0.31
7	0.31
8	0.32
9	0.32
10	0.32
12	0.32
14	0.32
16	0.32
18	0.32
20	0.32
25	0.33
30	0.33
40	0.33
50	0.33
60	0.33
75	0.33
90	0.33
120	0.34
150	0.34
180	0.34

Pit Dimensions (m)		
Length (m)	3.20	m
Width (m)	0.70	m
Depth	1.00	m
Water		
Start Depth of Water	0.30	m
Depth of Water	0.70	m
75% Full	0.48	m
25% Full	0.83	m
75%-25%	0.35	m
Volume of water (75%-25%)	0.78	m3
Area of Drainage	7.80	m2
Area of Drainage (75%-25%)	4.97	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	N/A	min
Time 75% to 25% (sec)	N/A	sec



f = **Fail** or
m/min

Fail
m/s

SOAKAWAY TEST



Project Reference:	6409
Contract name:	Cappagh Road
Location:	Knocknacarra, Galway, Co. Galway
Test No:	SA02
Date:	11/12/2024

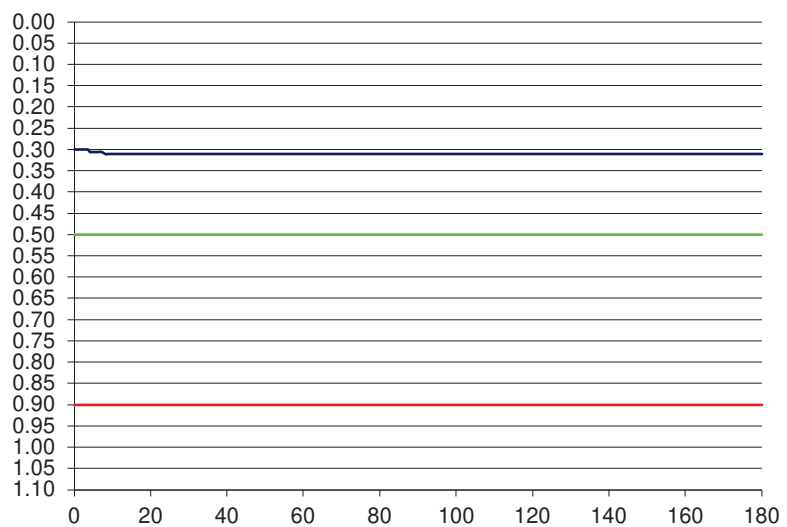
Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.40	Firm brown sandy gravelly silty CLAY with medium cobble and boulder content.
0.40	1.10	Brown silty very sandy GRAVEL with medium cobble and boulder content.

Remarks:

Obstruction at 1.10mbgl - pit terminated and test completed.

Elapsed Time (mins)	Fall of Water (m)	Pit Dimensions (m)		
0	0.30	Length (m)	3.00	m
0.5	0.30	Width (m)	0.70	m
1	0.30	Depth	1.10	m
1.5	0.30	Water		
2	0.30	Start Depth of Water	0.30	m
2.5	0.30	Depth of Water	0.80	m
3	0.30	75% Full	0.50	m
3.5	0.30	25% Full	0.90	m
4	0.31	75%-25%	0.40	m
4.5	0.31	Volume of water (75%-25%)	0.84	m3
5	0.31	Area of Drainage	8.14	m2
6	0.31	Area of Drainage (75%-25%)	5.06	m2
7	0.31	Time		
8	0.31	75% Full	N/A	min
9	0.31	25% Full	N/A	min
10	0.31	Time 75% to 25%	N/A	min
12	0.31	Time 75% to 25% (sec)	N/A	sec



f = **Fail** or
m/min

Fail
m/s

SA01 Sidewall



SA01 Spoil



SA02 Sidewall



SA02 Spoil



SA03 Sidewall



SA03 Spoil

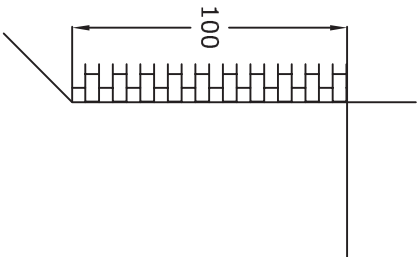


Appendix 4

Foundation Pit Logs

Foundation Pits

FP01



Foundation Details:
Wall to 100mm below ground level, no underlying foundation.

Ground Conditions:
0.00m: Firm brown sandy gravelly silty CLAY with medium cobble and boulder content.
0.20m: Pit terminated.



SITE INVESTIGATIONS LTD

Project: Cappagh Road

Location: Knocknacarra, Galway, Co. Galway

Consultant: Tobin Consulting Engineers

Logged by: D. Monaghan

Excavation Started: 11/12/2024

Excavation Finished: 11/12/2024

CONTRACT NUMBER

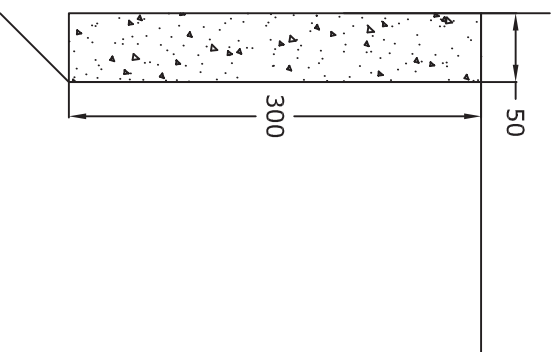
Scale: NOT TO SCALE, ALL DISTANCES IN mm

DEPTH ARE TO THE TOP OF SERVICES

6409

Foundation Pits

FP02



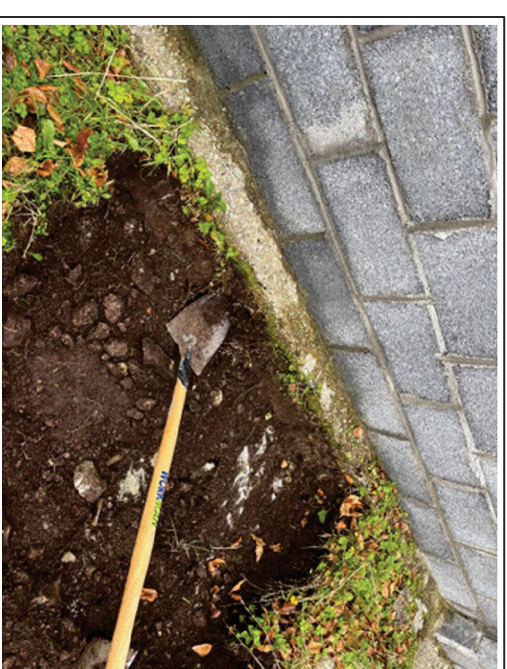
Foundation Details:

Concrete extends out 50mm from wall at ground level and 300mm thick.

Ground Conditions:

0.00m: Firm brown sandy gravelly silty CLAY with medium cobble and boulder content.

0.50m: Pit terminated.



	SITE INVESTIGATIONS LTD			Project: Cappagh Road		logged by: D. Monaghan	Excavation Started: 11/12/2024	Excavation Finished: 11/12/2024	CONTRACT NUMBER
	Location: Knocknacarra, Galway, Co. Galway								
	Consultant: Tobin Consulting Engineers								
	DEPTH ARE TO THE TOP OF SERVICES			Scale: NOT TO SCALE, ALL DISTANCES IN mm				6409	

Appendix 5

Geotechnical Soil Laboratory Test Results

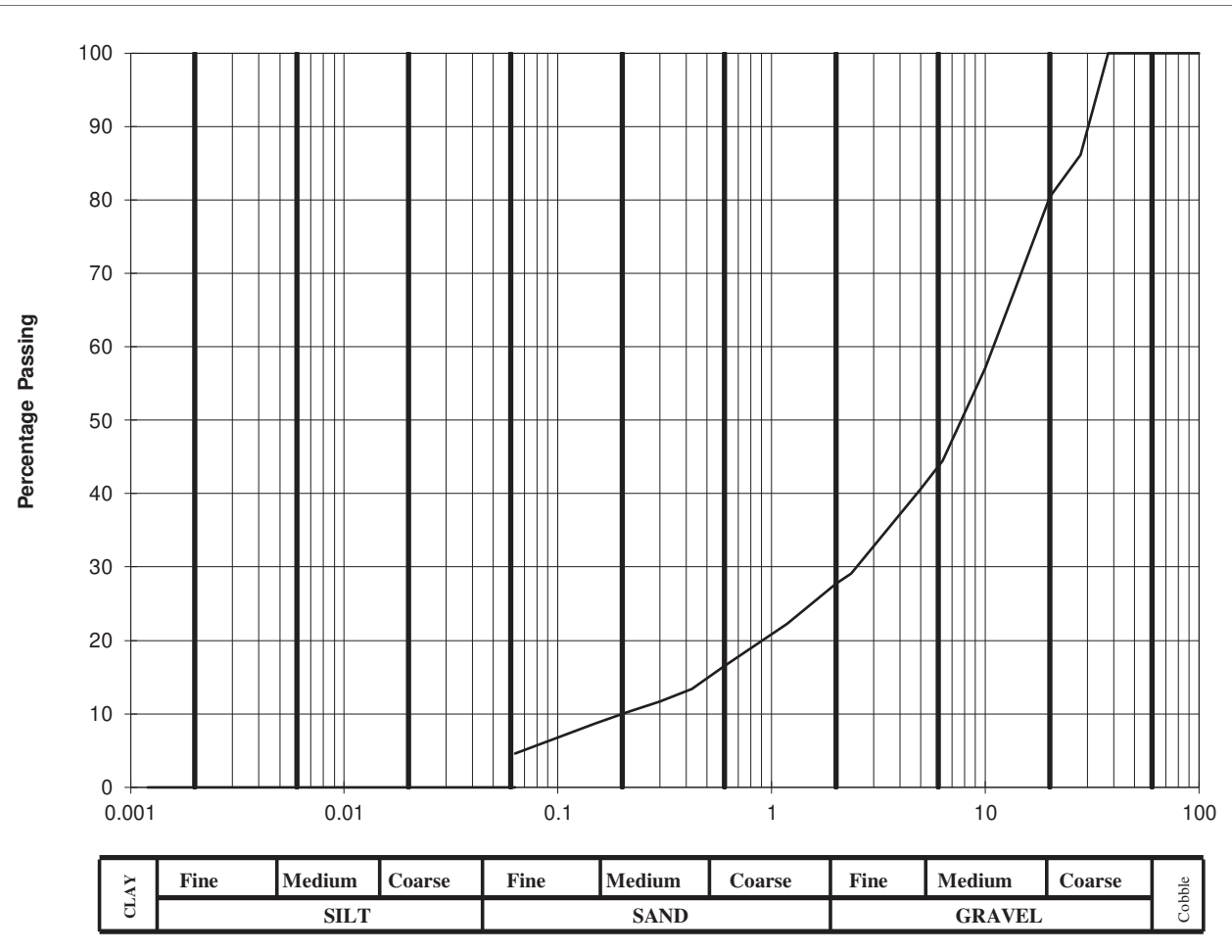
Classification Tests
In accordance with BS 1377: Part 2

Client	Galway County Council
Site	Cappagh Road, Galway
S.I. File No	6409 / 24
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report Date	21st January 2025

Hole ID	Depth	Sample No	Lab Ref No.	Sample Type	Natural Moisture Content %	Liquid Limit %	Plastic Limit %	Plastic Index %	Bulk Density g/cm ³	Specific gravity	% passing 425um	Comments	Remarks C=Clay; M=Silt Plasticity: L=Low; I=Intermediate; H=High; V=Very High; E=Extremely High
BH01	1.00	DM16	25/068	B	14.4	23	NP				13.4		
BH03	1.00	DM19	25/069	B	11.4	22	NP				11.5		
BH04	1.00	DM21	25/070	B	15.0	21	NP				14.3		
BH06	1.00	DM24	25/071	B	16.1	25	NP				23.8		
BH07	1.00	DM26	25/072	B	12.9	22	NP				16.1		
BH07	2.00	DM27	25/073	B	12.8	24	NP				22.2		
BH08	1.00	DM29	25/074	B	8.4	20	NP				13.0		
BH08	2.00	DM30	25/075	B	11.4	23	NP				23.3		
BH09	1.00	DM32	25/076	B	12.6	19	NP				21.1		
BH10	1.00	DM34	25/077	B	13.5	26	NP				15.5		
TP02	1.00	DM03	25/078	B	11.7	20	NP				8.5		
TP03	1.00	DM05	25/079	B	9.0	23	NP				14.1		
TP06	1.00	DM09	25/080	B	10.3	21	NP				18.2		
TP07	1.00	DM11	25/081	B	13.9	20	NP				22.4		

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	86.1		
20	80.4		
14	68.4		
10	57.1		
6.3	44.5		
5.0	40.6		
2.36	29.1		
2.00	27.7		
1.18	22.3		
0.600	16.5		
0.425	13.4		
0.300	11.7		
0.212	10.2		
0.150	8.7		
0.063	5		

Cobbles, %	0
Gravel, %	72
Sand, %	23
Clay / Silt, %	5



Client :	Galway County Council
Project :	Cappagh Road, Galway

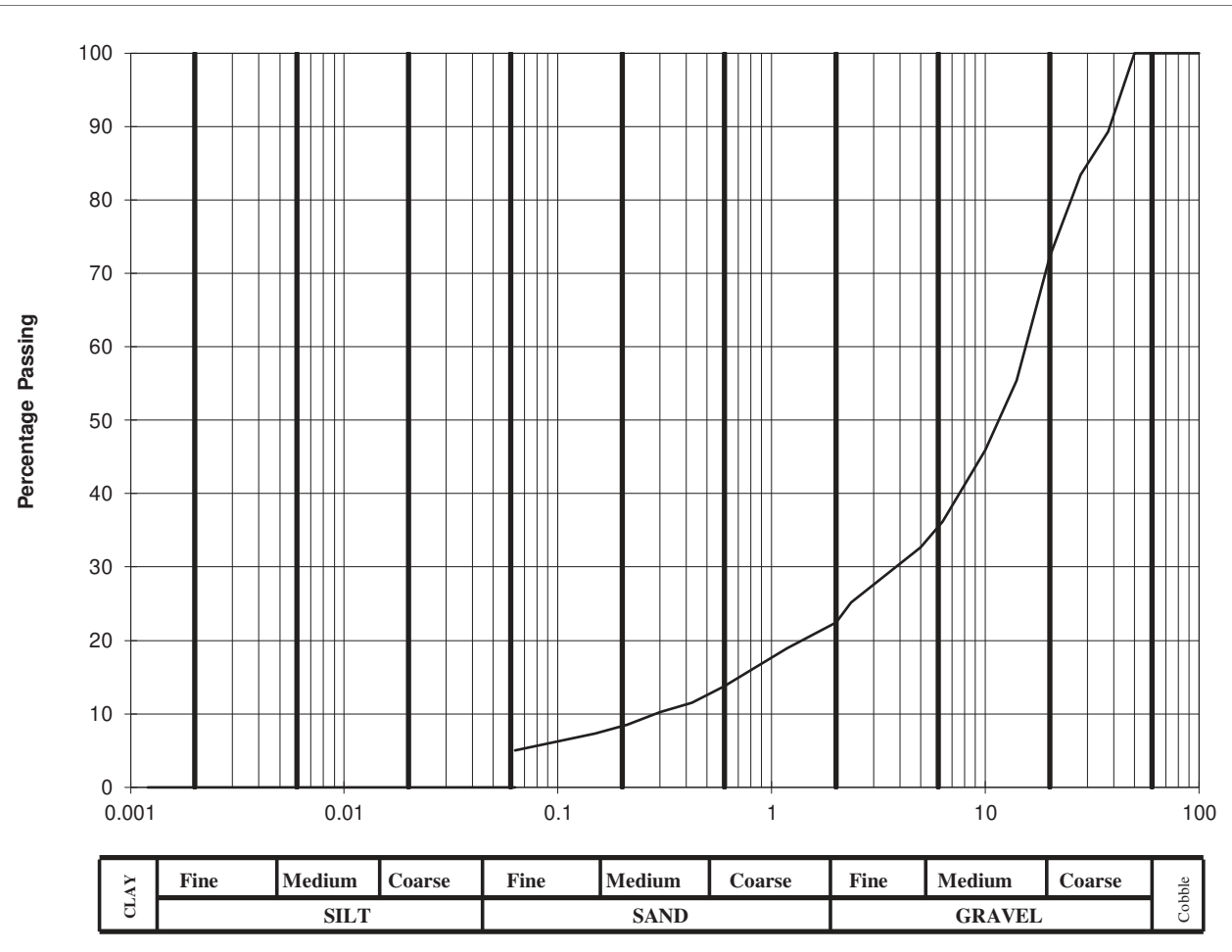
Lab. No :	25/068
Sample No :	DM16

Hole ID :	BH 01
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	89.3		
28	83.4		
20	72.3		
14	55.4		
10	45.9		
6.3	36.2		
5.0	32.7		
2.36	25.2		
2.00	22.4		
1.18	18.9		
0.600	13.7		
0.425	11.5		
0.300	10.2		
0.212	8.5		
0.150	7.3		
0.063	5		

Cobbles, %	0
Gravel, %	78
Sand, %	17
Clay / Silt, %	5



Client :	Galway County Council
Project :	Cappagh Road, Galway

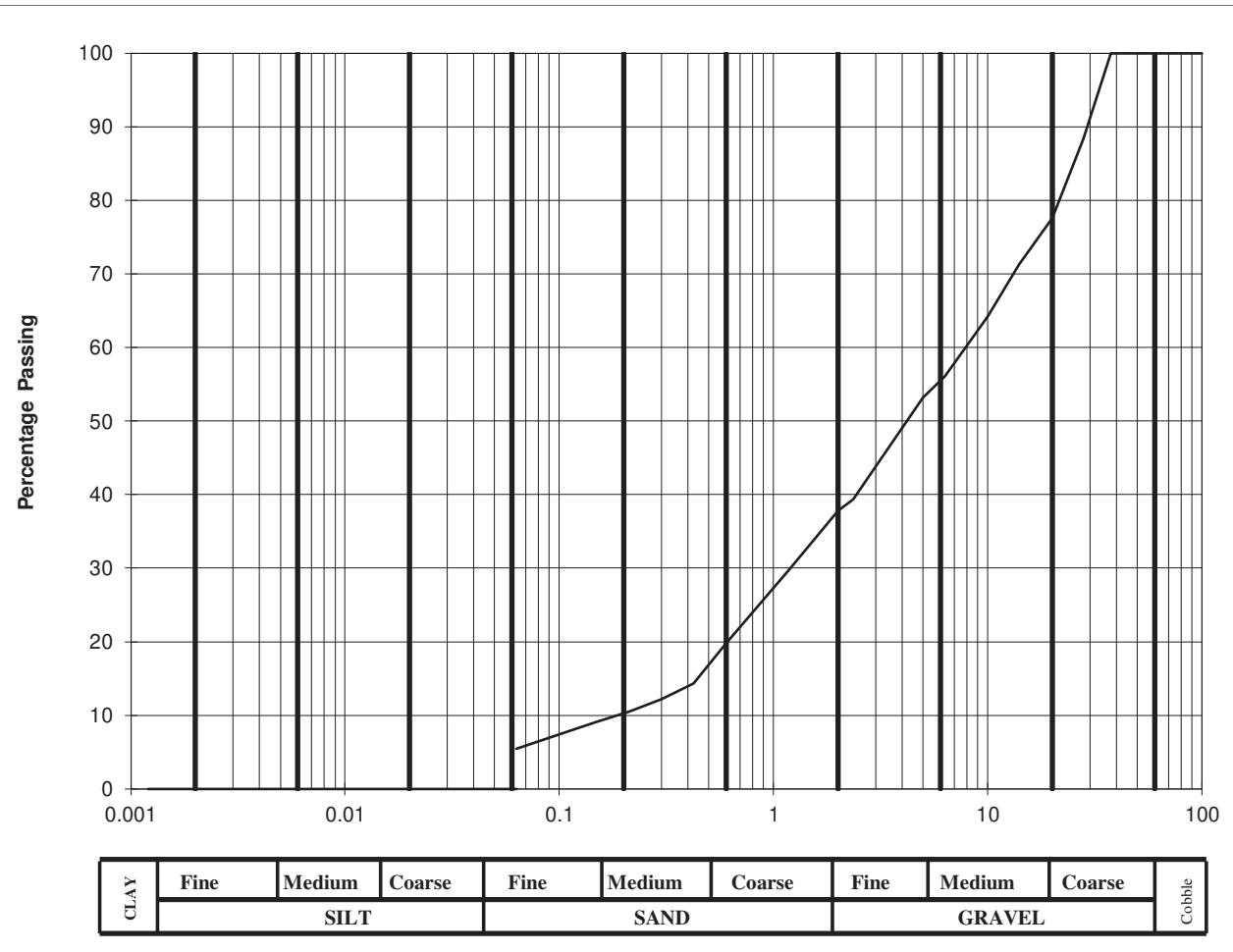
Lab. No :	25/069
Sample No :	DM19

Hole ID :	BH 03
Depth, m :	1.00

Material description :	silty sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	88.3		
20	77.6		
14	71.3		
10	64.2		
6.3	56.1		
5.0	53.2		
2.36	39.3		
2.00	37.8		
1.18	29.8		
0.600	19.7		
0.425	14.3		
0.300	12.2		
0.212	10.5		
0.150	9.1		
0.063	6		

Cobbles, %	0
Gravel, %	62
Sand, %	32
Clay / Silt, %	6



Client :	Galway County Council
Project :	Cappagh Road, Galway

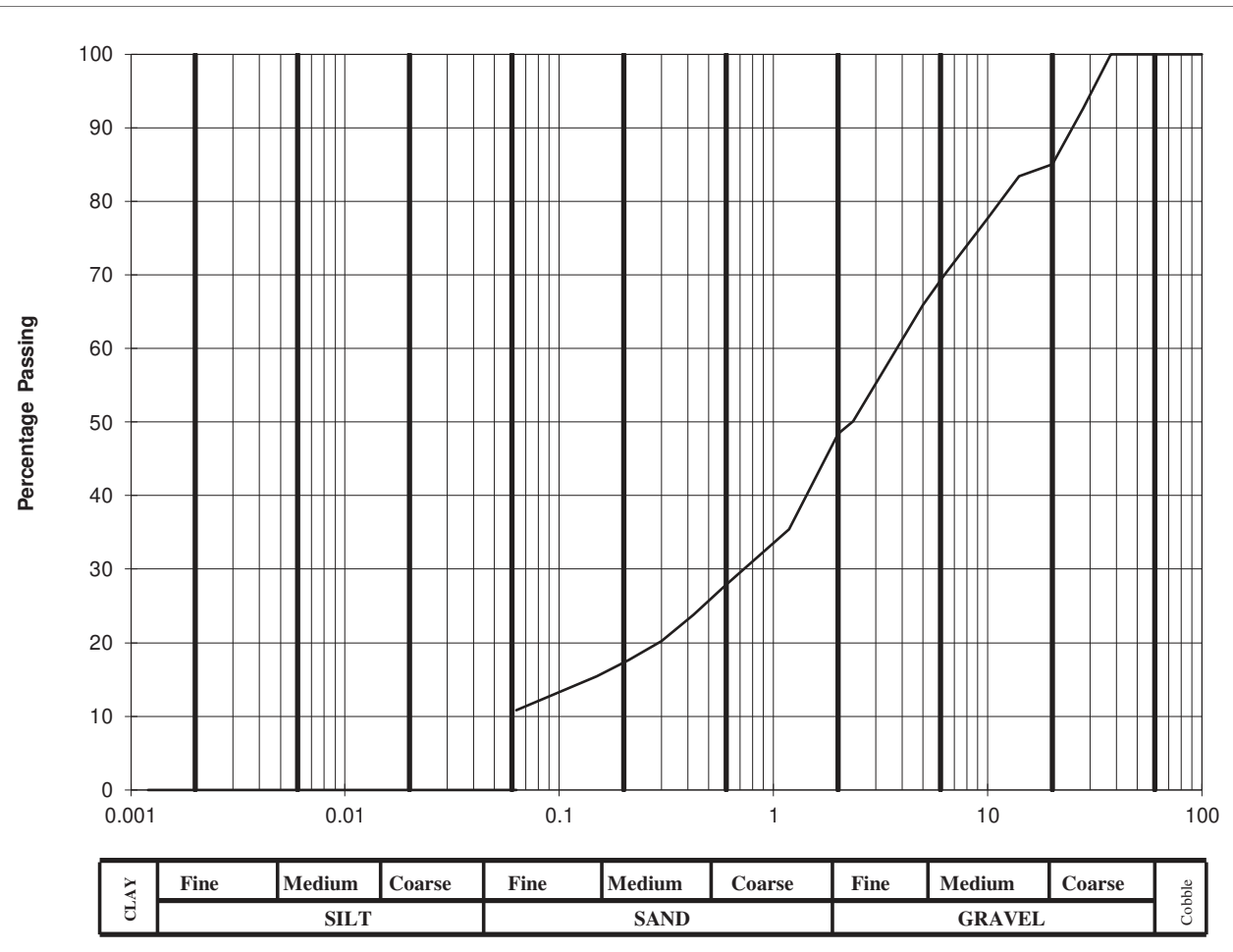
Lab. No :	25/070
Sample No :	DM21

Hole ID :	BH 04
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	92.6		
20	85		
14	83.4		
10	77.7		
6.3	70.1		
5.0	65.9		
2.36	50.1		
2.00	48.4		
1.18	35.4		
0.600	27.8		
0.425	23.8		
0.300	20.2		
0.212	17.7		
0.150	15.4		
0.063	11		

Cobbles, %	0
Gravel, %	52
Sand, %	37
Clay / Silt, %	11



Client :	Galway County Council
Project :	Cappagh Road, Galway

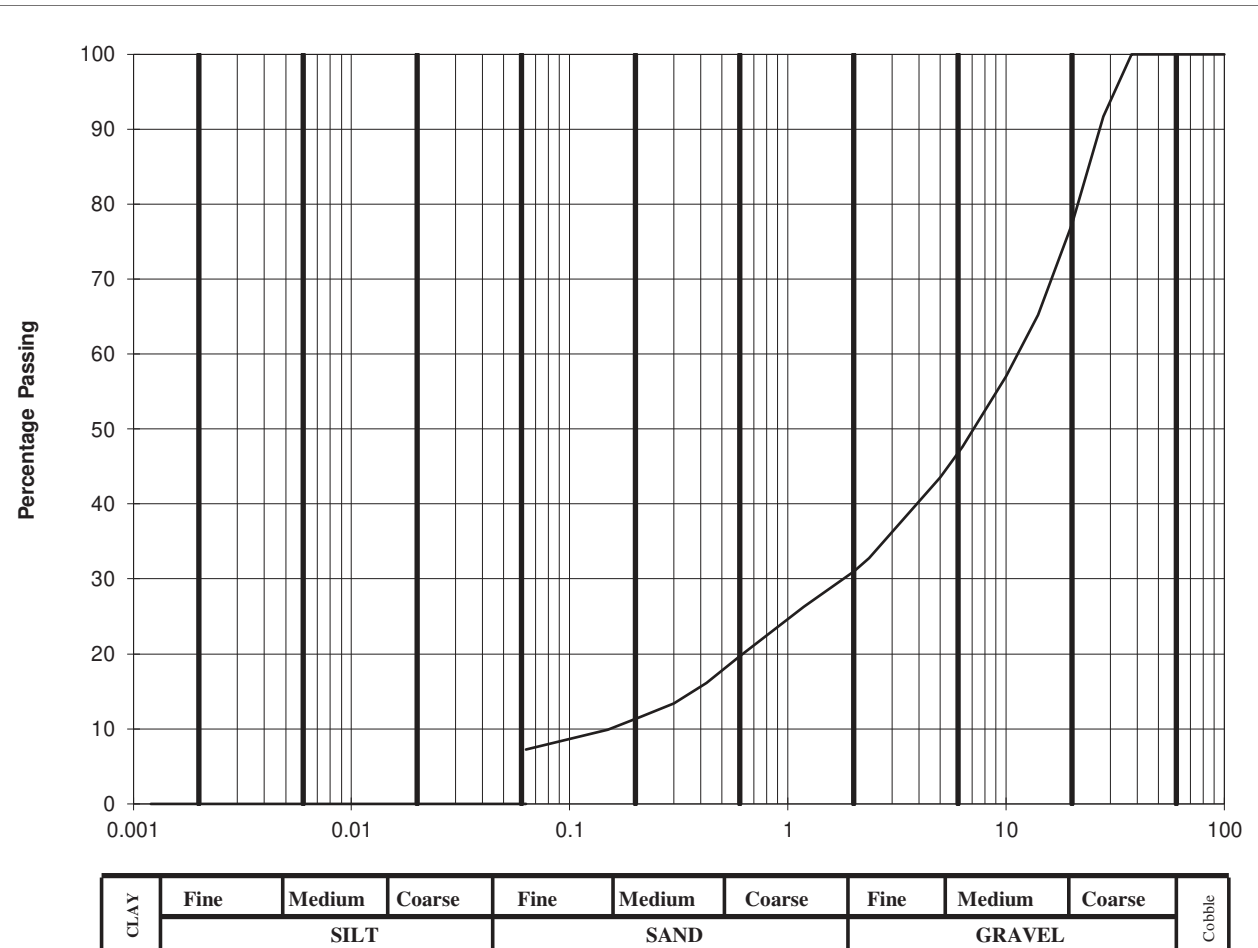
Lab. No :	25/071
Sample No :	DM24

Hole ID :	BH 06
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	91.7		
20	77.3		
14	65.2		
10	57		
6.3	47.6		
5.0	43.5		
2.36	32.8		
2.00	31		
1.18	26.3		
0.600	19.6		
0.425	16.1		
0.300	13.4		
0.212	11.6		
0.150	9.9		
0.063	7		

Cobbles, %	0
Gravel, %	69
Sand, %	24
Clay / Silt, %	7



Client :	Galway County Council
Project :	Cappagh Road, Galway

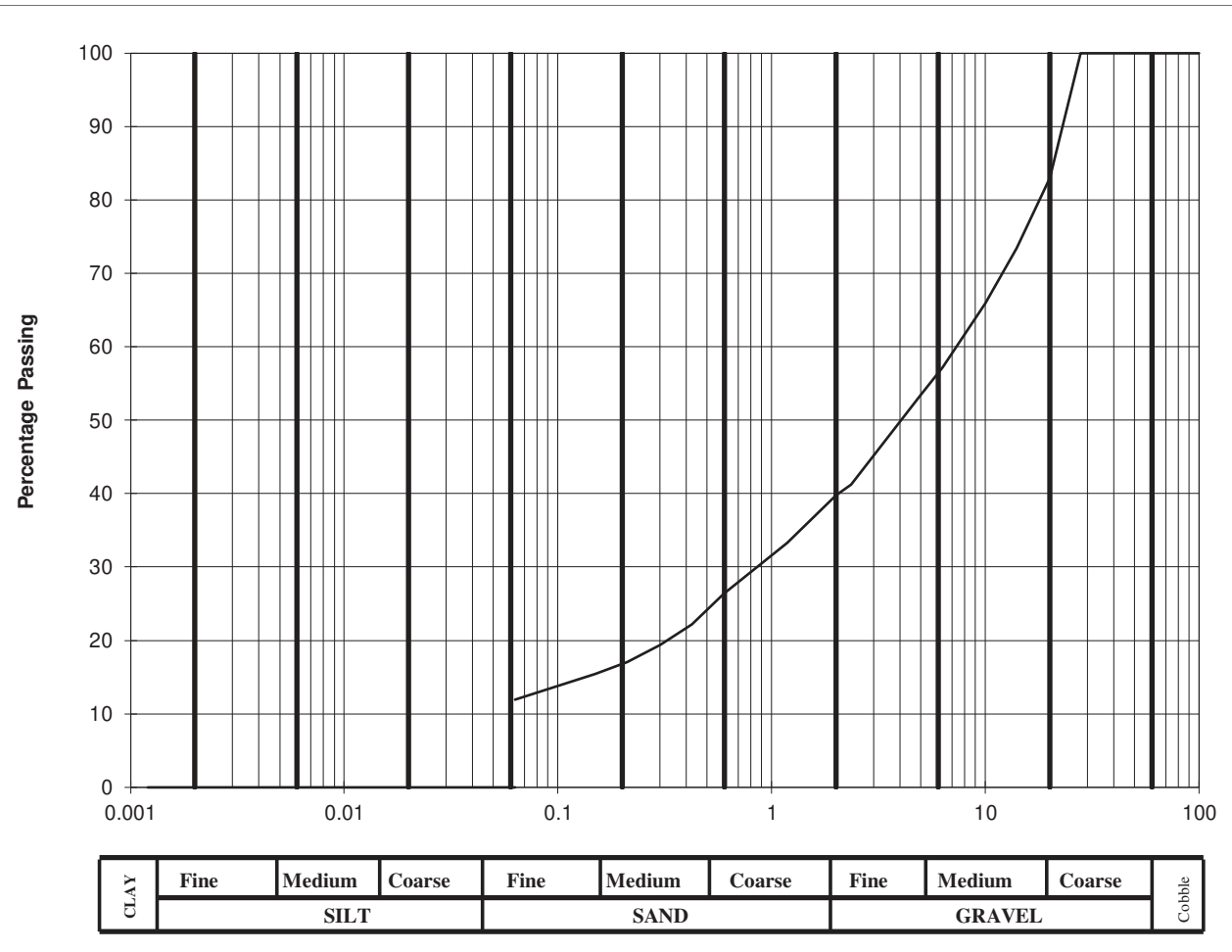
Lab. No :	25/072
Sample No :	DM26

Hole ID :	BH 07
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	100		
20	83		
14	73.4		
10	65.9		
6.3	57.2		
5.0	53.4		
2.36	41.2		
2.00	39.8		
1.18	33.3		
0.600	26.4		
0.425	22.2		
0.300	19.4		
0.212	17.1		
0.150	15.4		
0.063	12		

Cobbles, %	0
Gravel, %	60
Sand, %	28
Clay / Silt, %	12



Client :	Galway County Council
Project :	Cappagh Road, Galway

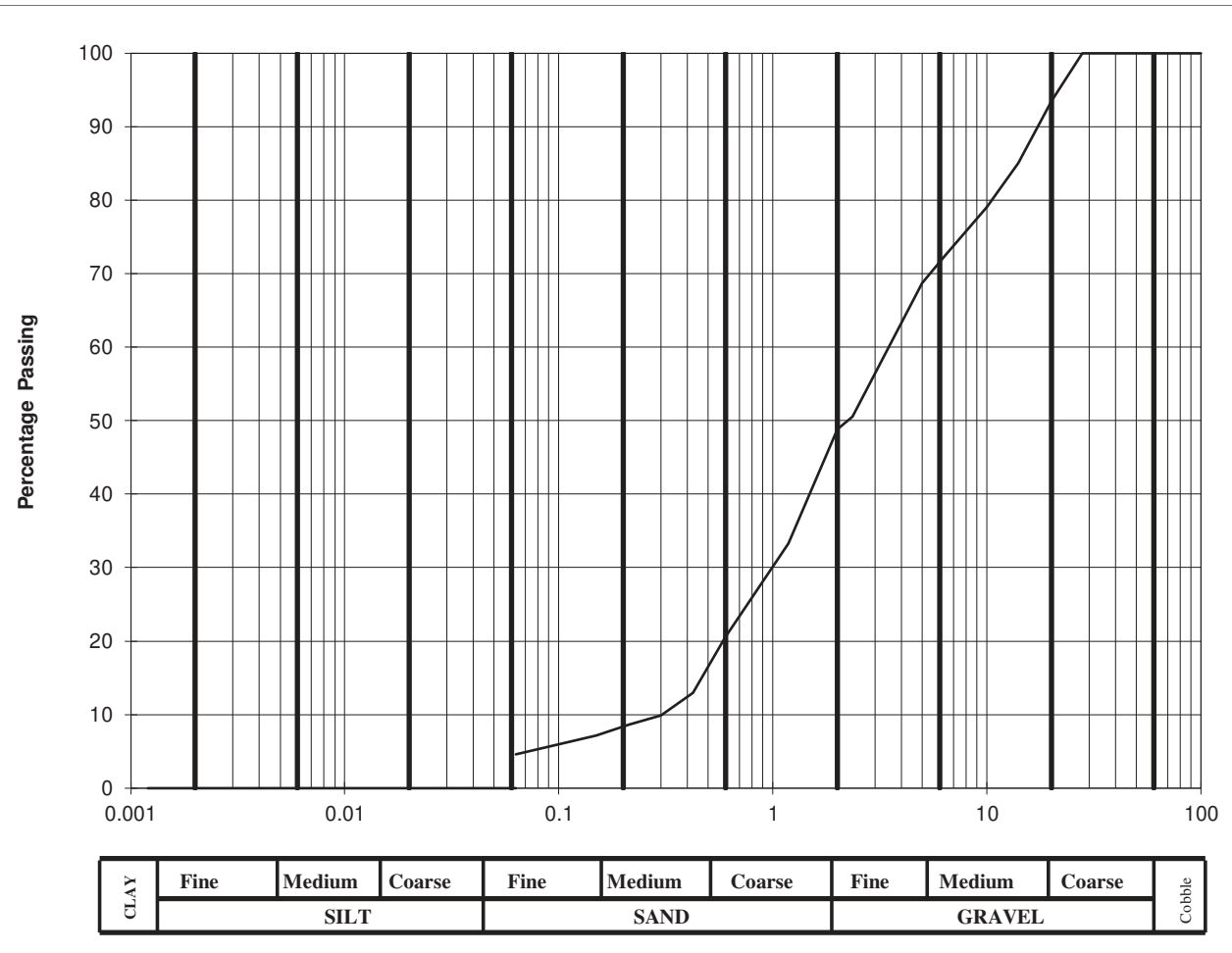
Lab. No :	25/073
Sample No :	DM27

Hole ID :	BH 07
Depth, m :	2.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	100		
20	93.5		
14	85		
10	79		
6.3	72.3		
5.0	68.7		
2.36	50.5		
2.00	48.8		
1.18	33.3		
0.600	20.5		
0.425	13		
0.300	9.9		
0.212	8.6		
0.150	7.2		
0.063	5		

Cobbles, %	0
Gravel, %	51
Sand, %	44
Clay / Silt, %	5



Client :	Galway County Council
Project :	Cappagh Road, Galway

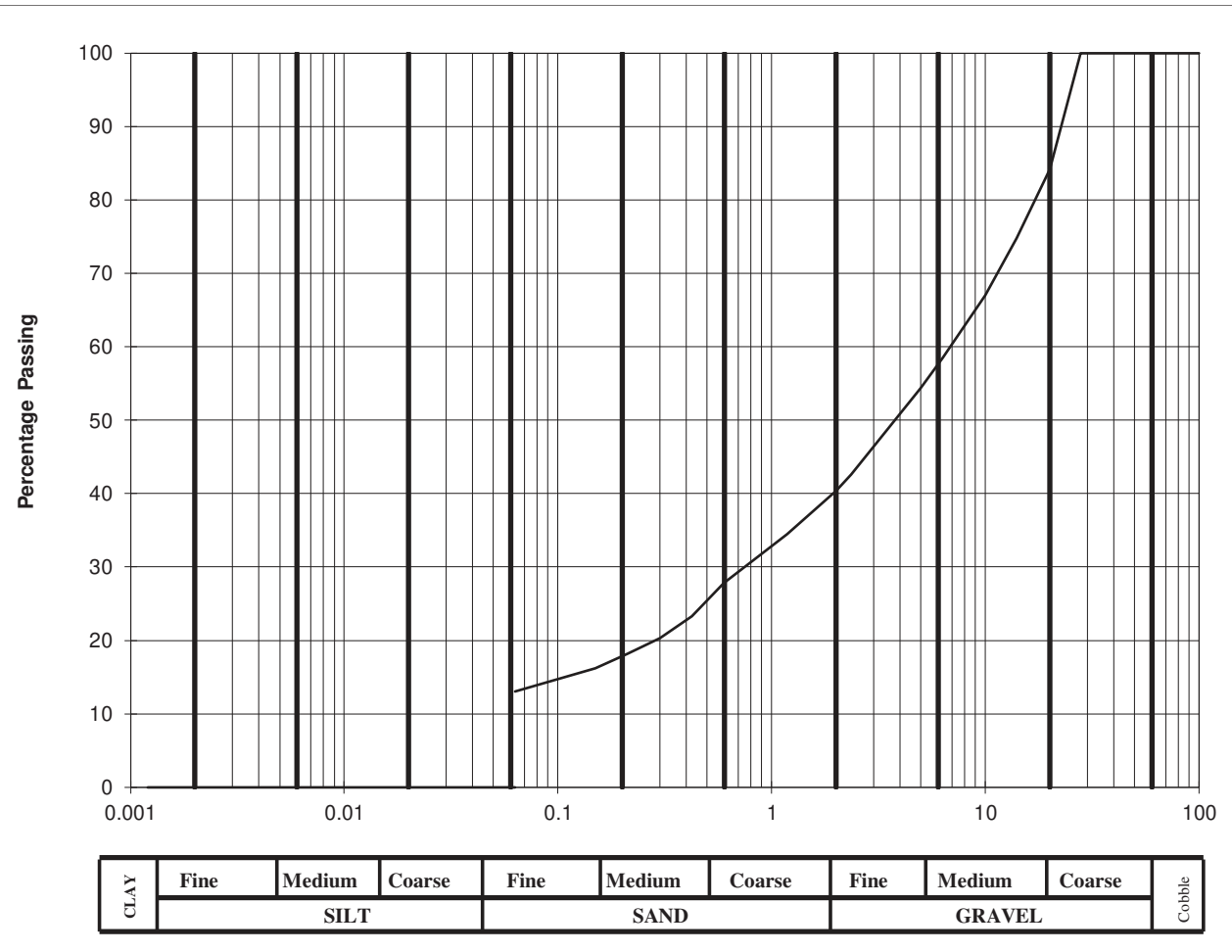
Lab. No :	25/074
Sample No :	DM29

Hole ID :	BH 08
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	100		
20	84.2		
14	74.8		
10	67		
6.3	58.5		
5.0	54.4		
2.36	42.6		
2.00	40.4		
1.18	34.5		
0.600	27.8		
0.425	23.3		
0.300	20.3		
0.212	18.2		
0.150	16.2		
0.063	13		

Cobbles, %	0
Gravel, %	60
Sand, %	27
Clay / Silt, %	13



Client :	Galway County Council
Project :	Cappagh Road, Galway

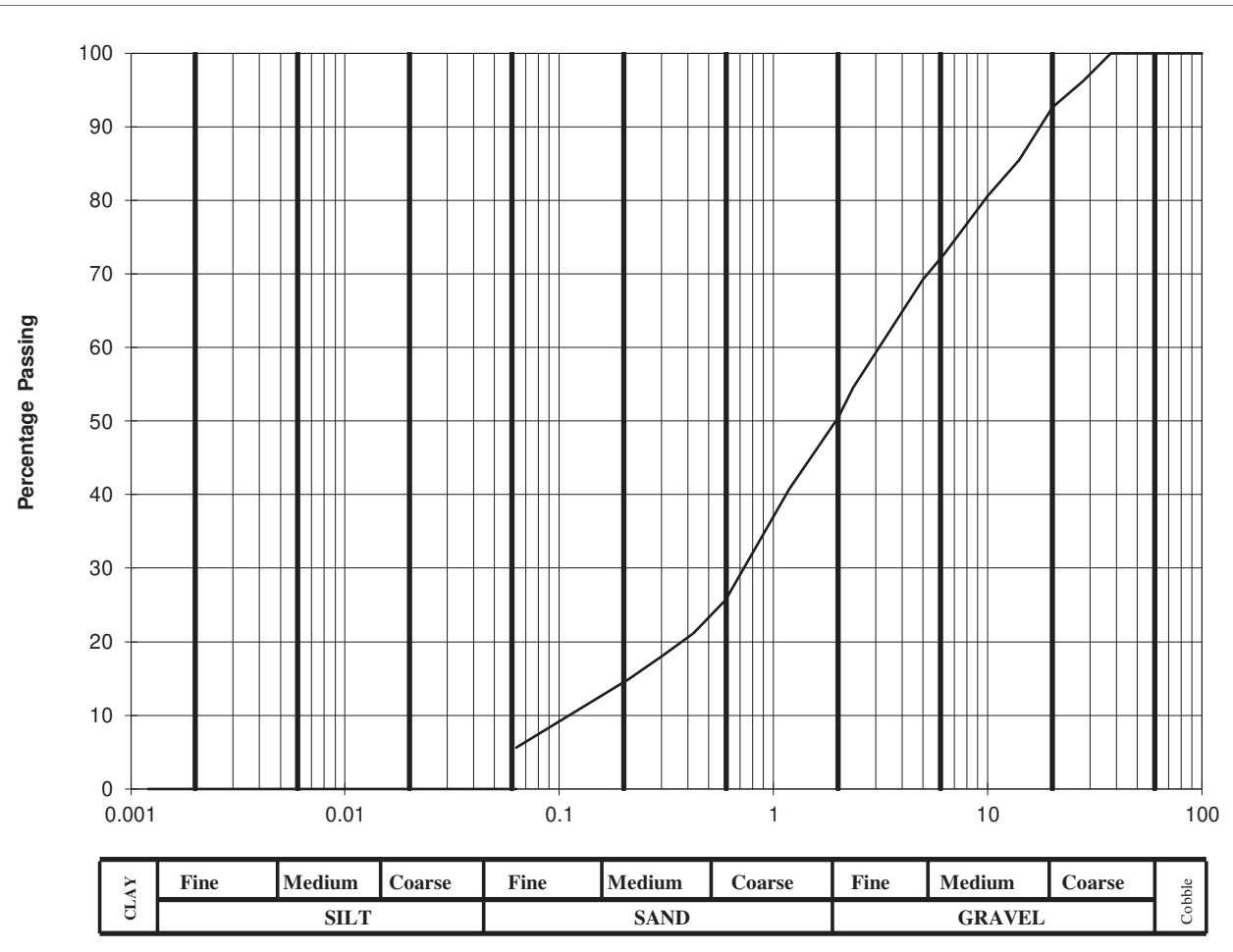
Lab. No :	25/075
Sample No :	DM30

Hole ID :	BH 08
Depth, m :	2.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	96.2		
20	92.6		
14	85.4		
10	80.6		
6.3	72.8		
5.0	69.2		
2.36	54.5		
2.00	50.4		
1.18	40.7		
0.600	25.7		
0.425	21.2		
0.300	18		
0.212	14.9		
0.150	12.3		
0.063	6		

Cobbles, %	0
Gravel, %	50
Sand, %	44
Clay / Silt, %	6



Client :	Galway County Council
Project :	Cappagh Road, Galway

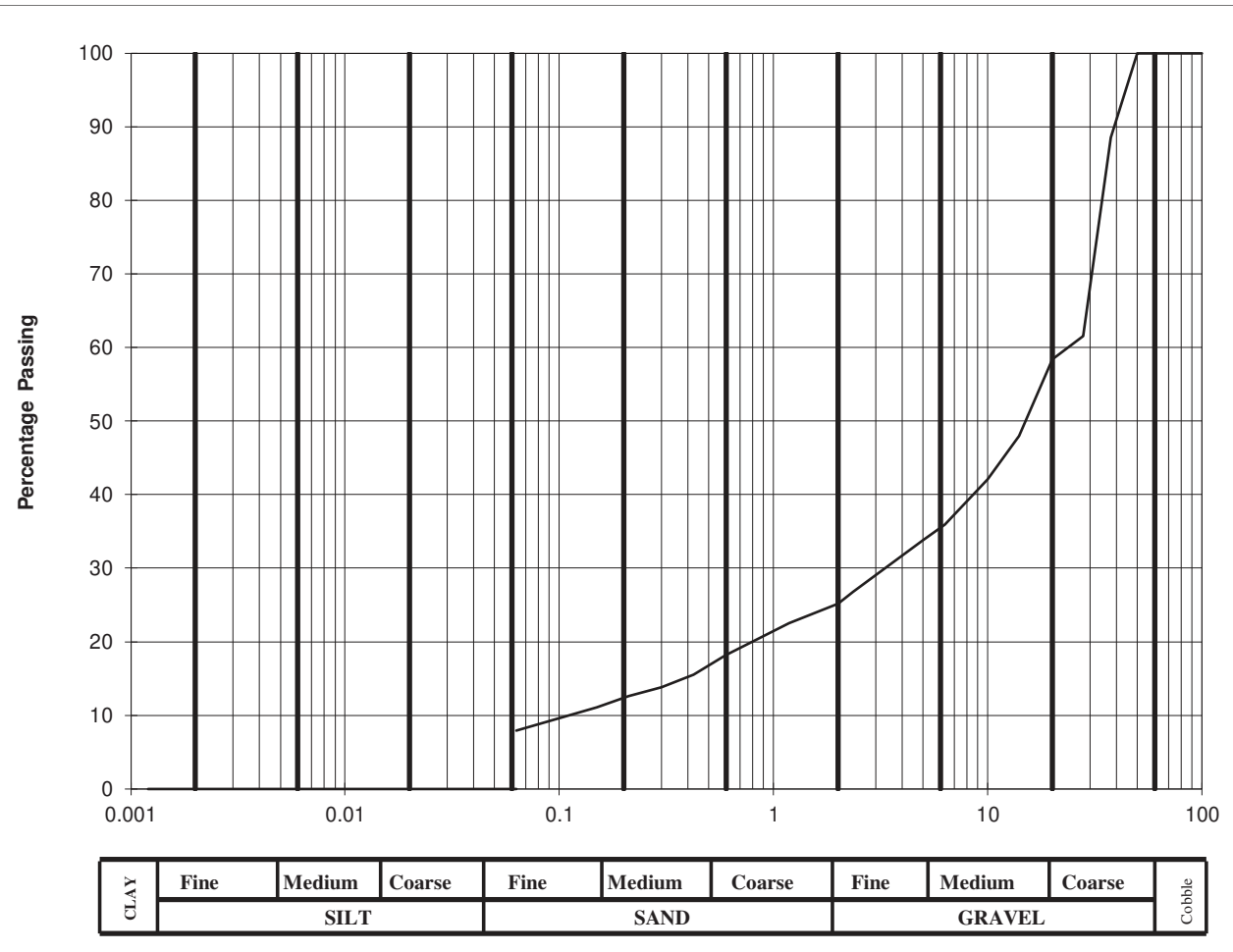
Lab. No :	25/076
Sample No :	DM32

Hole ID :	BH 09
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	88.5		
28	61.5		
20	58.4		
14	48		
10	42.1		
6.3	35.9		
5.0	33.8		
2.36	26.8		
2.00	25.2		
1.18	22.5		
0.600	18.2		
0.425	15.5		
0.300	13.8		
0.212	12.6		
0.150	11.1		
0.063	8		

Cobbles, %	0
Gravel, %	75
Sand, %	17
Clay / Silt, %	8



Client :	Galway County Council
Project :	Cappagh Road, Galway

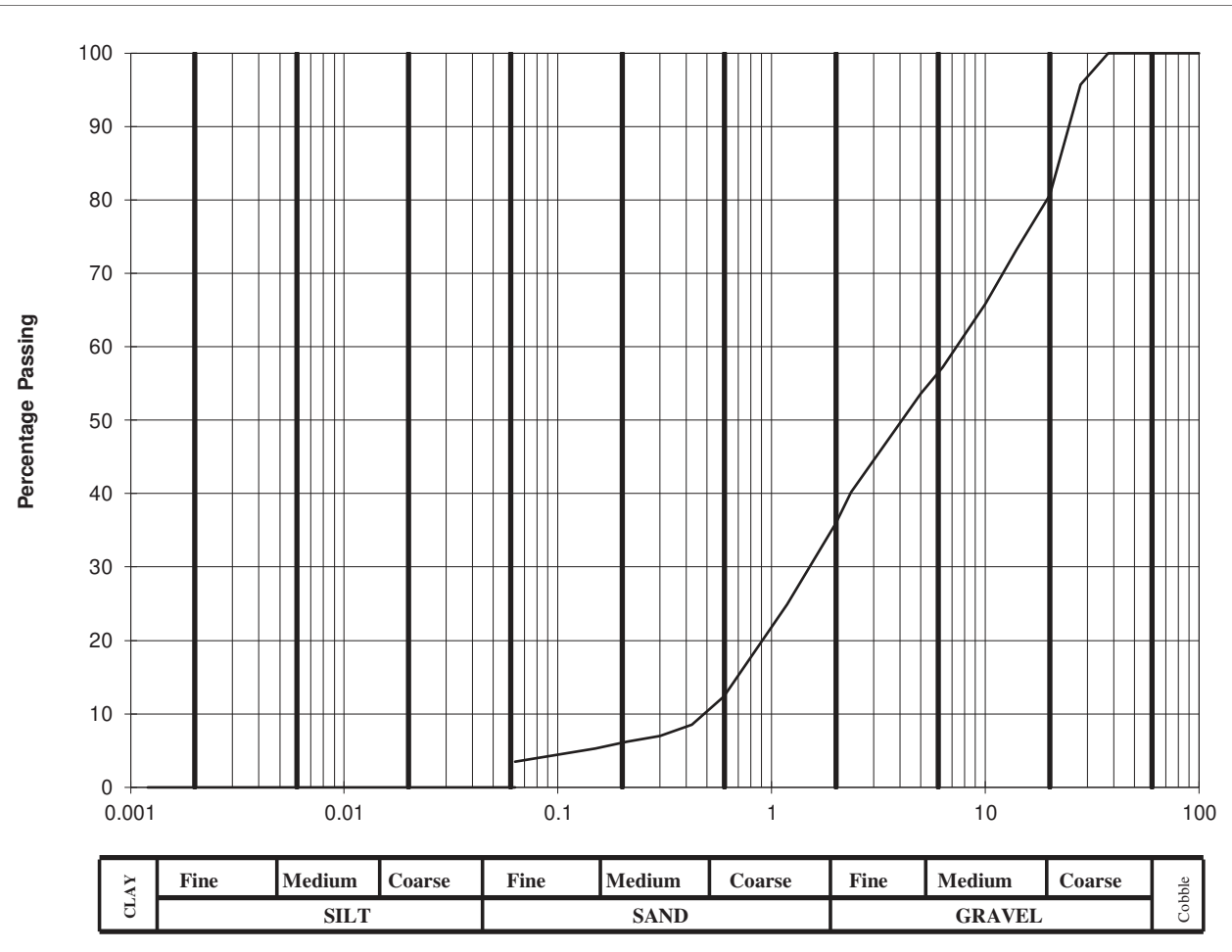
Lab. No :	25/077
Sample No :	DM34

Hole ID :	BH 10
Depth, m :	1.00

Material description :	silty sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	95.7		
20	80.7		
14	73.2		
10	65.8		
6.3	57.2		
5.0	53.6		
2.36	40.2		
2.00	36		
1.18	24.9		
0.600	12.4		
0.425	8.5		
0.300	7		
0.212	6.2		
0.150	5.3		
0.063	4		

Cobbles, %	0
Gravel, %	64
Sand, %	32
Clay / Silt, %	4



Client :	Galway County Council
Project :	Cappagh Road, Galway

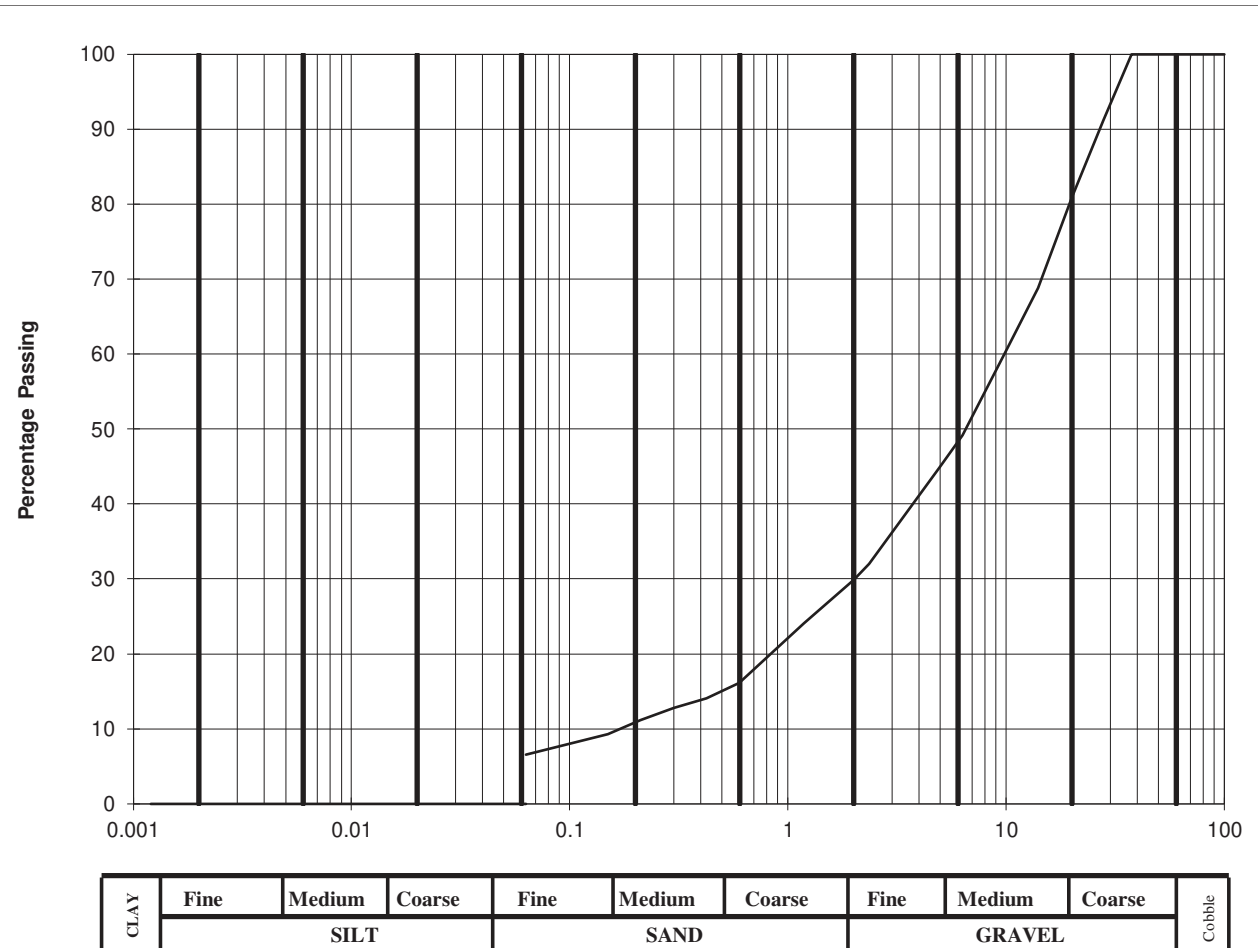
Lab. No :	25/078
Sample No :	DM03

Hole ID :	TP 02
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	91.2		
20	80.9		
14	68.8		
10	60.4		
6.3	49.2		
5.0	45		
2.36	32		
2.00	29.9		
1.18	24.1		
0.600	16.1		
0.425	14.1		
0.300	12.8		
0.212	11.2		
0.150	9.3		
0.063	7		

Cobbles, %	0
Gravel, %	70
Sand, %	23
Clay / Silt, %	7



Client :	Galway County Council
Project :	Cappagh Road, Galway

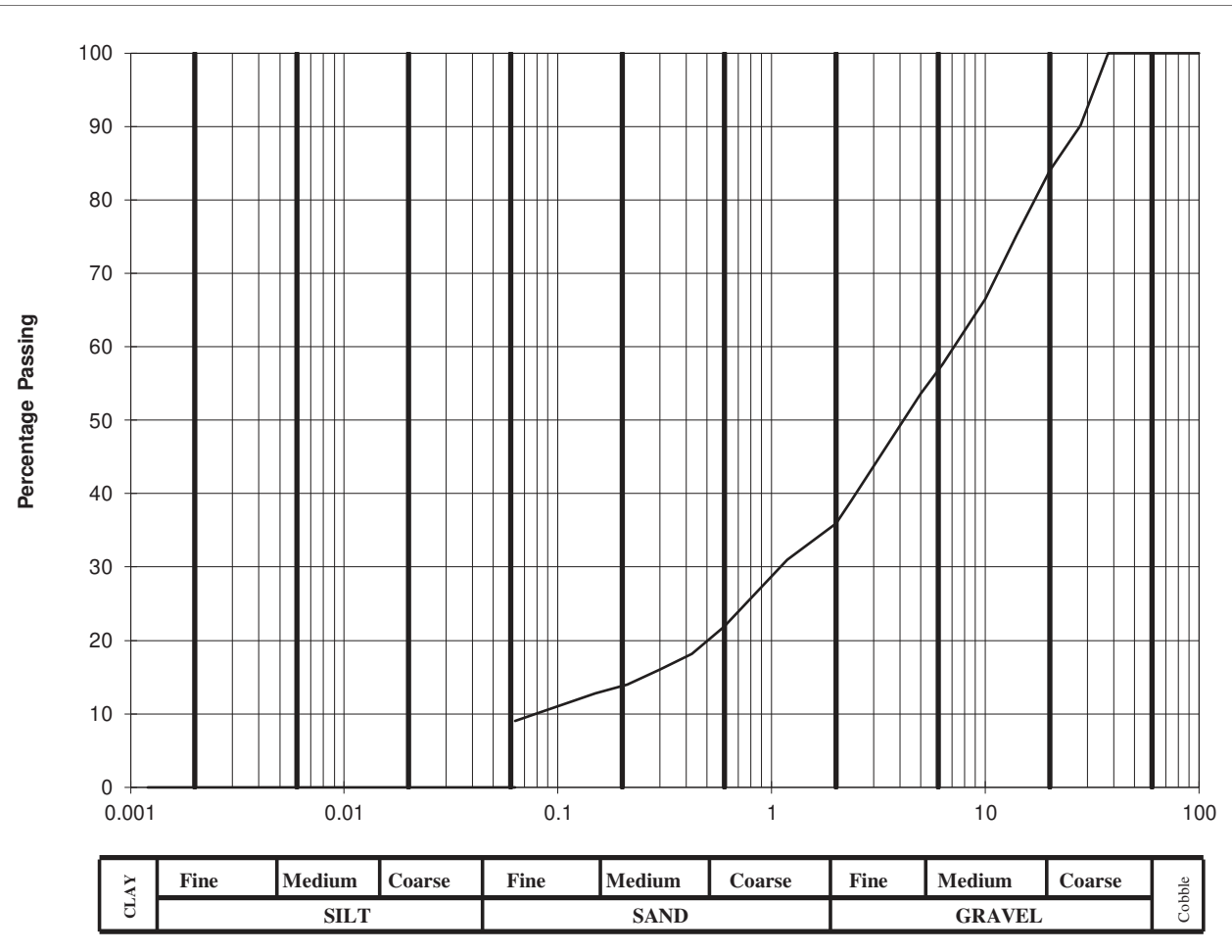
Lab. No :	25/079
Sample No :	DM05

Hole ID :	TP 03
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	90.1		
20	84		
14	75.2		
10	66.5		
6.3	57.6		
5.0	53.6		
2.36	39		
2.00	35.9		
1.18	31		
0.600	21.8		
0.425	18.2		
0.300	16		
0.212	14		
0.150	12.8		
0.063	9		

Cobbles, %	0
Gravel, %	64
Sand, %	27
Clay / Silt, %	9



Client :	Galway County Council
Project :	Cappagh Road, Galway

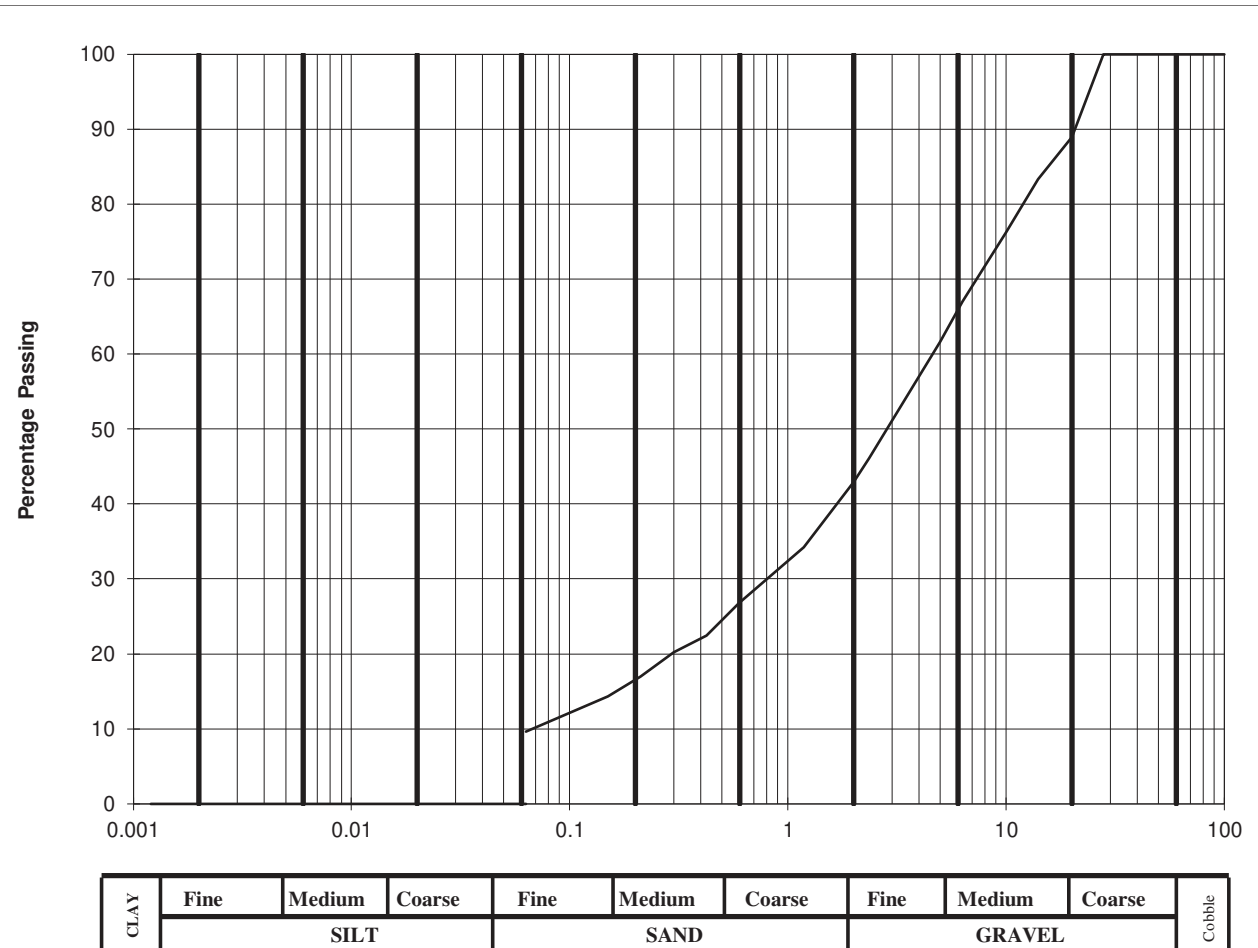
Lab. No :	25/080
Sample No :	DM09

Hole ID :	TP 06
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	0.0630	
90	100	0.0200	
75	100	0.0060	
63	100	0.0020	
50	100		
37.5	100		
28	100		
20	88.9		
14	83.3		
10	76.2		
6.3	67		
5.0	61.6		
2.36	46.1		
2.00	42.9		
1.18	34.2		
0.600	26.8		
0.425	22.4		
0.300	20.2		
0.212	17		
0.150	14.3		
0.063	10		

Cobbles, %	0
Gravel, %	57
Sand, %	33
Clay / Silt, %	10



Client :	Galway County Council
Project :	Cappagh Road, Galway

Lab. No :	25/081
Sample No :	DM11

Hole ID :	TP 07
Depth, m :	1.00

Material description :	silty very sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

Determination of Shear Strength by Laboratory Vane Method BS:1377:Part 7:Method 3

Client	Galway County Council
Site	Cappagh Road, Galway
S.I.File No	6409 / 25
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report date	21st January 2025

Hole Id	Depth	Sample No.	Lab Ref No.	Sample Type	Vane Used	Moisture Content at test horizon %	Vane Sheer Strength (Kpa) KN/m²	Soil Description at Horizon	Comments
BH01	1.00	DM16	25/068	B	19mm	14.4	1.00		
BH03	1.00	DM19	25/069	B	19mm	11.4	1.00		
BH04	1.00	DM21	25/070	B	19mm	15.0	3.00		
BH06	1.00	DM24	25/071	B	19mm	16.1	2.00		
BH07	1.00	DM26	25/072	B	19mm	12.9	0.00		
BH07	2.00	DM27	25/073	B	19mm	12.8	2.00		
BH08	1.00	DM29	25/074	B	19mm	8.4	2.00		
BH08	2.00	DM30	25/075	B	19mm	11.4	1.00		
BH09	1.00	DM32	25/076	B	19mm	12.6	2.00		
BH10	1.00	DM34	25/077	B	19mm	13.5	0.00		
TP02	1.00	DM03	25/078	B	19mm	11.7	2.00		
TP03	1.00	DM05	25/079	B	19mm	9.0	1.00		
TP06	1.00	DM09	25/080	B	19mm	10.3	2.00		
TP07	1.00	DM11	25/081	B	19mm	13.9	3.00		

Chemical Testing
In accordance with BS 1377: Part 3

Client	Galway County Council
Site	Cappagh Road, Galway
S.I. File No	6409 / 24
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report Date	21st January 2025

Hole Id	Depth (mBGL)	Sample No	Lab Ref	pH Value	Water Soluble Sulphate Content (2:1 Water-soil extract) (SO ₃) g/L	Water Soluble Sulphate Content (2:1 Water-soil extract) (SO ₃) %	Acid Soluble Sulphate Content (2:1 Water-soil extract) (SO ₃) g/L	Acid Soluble Sulphate Content (2:1 Water-soil extract) (SO ₃) %	Chloride ion Content (water:soil ratio 2:1) %	% passing 2mm
BH01	1.00	DM16	25/068	8.84	0.119	0.033			0.11	27.7
BH03	1.00	DM19	25/069	8.94	0.117	0.026			0.11	22.4
BH04	1.00	DM21	25/070	8.98	0.120	0.045			0.13	37.8
BH06	1.00	DM24	25/071	8.08	0.122	0.059			0.09	48.4
BH07	1.00	DM26	25/072	8.29	0.119	0.037			0.12	31.0
BH08	1.00	DM29	25/074	8.45	0.119	0.058			0.14	48.8
BH09	1.00	DM32	25/076	8.63	0.120	0.061			0.11	50.4
BH10	1.00	DM34	25/077	8.59	0.117	0.030			0.10	25.2
TP02	1.00	DM03	25/078	8.04	0.119	0.045			0.13	38.0
TP03	1.00	DM05	25/079	8.33	0.116	0.035			0.12	29.9

Appendix 6

Geotechnical Rock Laboratory Test Results

Point Load Test Broch,E. & Franklin,J.A.,IRSM Point Load Test Method

Uniaxial Compressive Strength in accordance with BS1881

Client	Galway County Council
Site	Cappagh Road, Galway
S.I. File No	6409 / 24
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report Date	20th February 2025

Hole ID	Depth (m)	Lab Ref No.	Sample Type	Diameter / Height (mm)	Test Type	Is (MN/m ²)	Compressive Strength (MPa)	Strength Designation	Approx. Equivalent UCS Value (MPa)	Remarks
BH01	2.20	25/310	C	63	PL	2.77		Strong	69.5	Tested Diametrically
BH01	3.80	25/311	C	63 /100	UCS		101.0	Very Strong		Tested Axially
BH01	4.30	25/312	C	63	PL	4.28		Very Strong	107.5	Tested Diametrically
BH01	4.80	25/313	C	63 /100	UCS		63.5	Strong		Tested Axially
BH02	2.20	25/314	C	63 /100	UCS		57.0	Strong		Tested Axially
BH02	2.70	25/315	C	63 /100	UCS		69.5	Strong		Tested Axially
BH02	3.90	25/316	C	63	PL	4.79		Very Strong	120.0	Tested Diametrically
BH02	4.90	25/317	C	63	PL	5.29		Very Strong	133.0	Tested Diametrically
BH03	2.80	25/318	C	63	PL	2.27		Strong	57.0	Tested Diametrically
BH03	3.40	25/319	C	63 /100	UCS		63.5	Strong		Tested Axially
BH03	4.60	25/320	C	63 /100	UCS		107.5	Very Strong		Tested Axially
BH03	4.80	25/321	C	63	PL	5.04		Very Strong	126.5	Tested Diametrically
BH04	1.60	25/322	C	63	PL	4.79		Very Strong	120.0	Tested Diametrically
BH04	2.00	25/323	C	63 /100	UCS		126.5	Very Strong		Tested Axially
BH04	4.00	25/324	C	63 /100	UCS		158.0	Very Strong		Tested Axially
BH04	4.40	25/325	C	63	PL	5.29		Very Strong	133.0	Tested Diametrically
BH05	2.40	25/326	C	63 /100	UCS		63.5	Strong		Tested Axially
BH05	2.90	25/327	C	63 /100	UCS		57.0	Strong		Tested Axially
BH05	4.10	25/328	C	63	PL	1.76		Moderately Strong	44.0	Tested Diametrically
BH05	4.40	25/329	C	63	PL	2.52		Strong	63.5	Tested Diametrically
BH06	1.70	25/330	C	63 /100	UCS		126.5	Very Strong		Tested Axially
BH06	2.70	25/331	C	63	PL	2.52		Strong	63.5	Tested Diametrically
BH06	3.40	25/332	C	63 /100	UCS		133.0	Very Strong		Tested Axially
BH06	4.10	25/333	C	63	PL	5.54		Very Strong	139.0	Tested Diametrically
BH07	2.10	25/334	C	63	PL	3.78		Strong	95.0	Tested Diametrically

Point Load Test Broch,E. & Franklin,J.A.,IRSM Point Load Test Method

Uniaxial Compressive Strength in accordance with BS1881

Client	Galway County Council
Site	Cappagh Road, Galway
S.I. File No	6409 / 24
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report Date	20th February 2025

Hole ID	Depth (m)	Lab Ref No.	Sample Type	Diameter / Height (mm)	Test Type	Is (MN/m ²)	Compressive Strength (MPa)	Strength Designation	Approx. Equivalent UCS Value (MPa)	Remarks
BH07	3.90	25/335	C	63	PL	3.02		Strong	76.0	Tested Diametrically
BH07	4.40	25/336	C	63 /100	UCS		133.0	Very Strong		Tested Axially
BH07	4.90	25/337	C	63 /100	UCS		139.0	Very Strong		Tested Axially
BH08	3.10	25/338	C	63 /100	UCS		76.0	Strong		Tested Axially
BH08	3.80	25/339	C	63	PL	5.04		Very Strong	126.5	Tested Diametrically
BH08	4.20	25/340	C	63 /100	UCS		152.0	Very Strong		Tested Axially
BH08	4.90	25/341	C	63	PL	6.30		Very Strong	158.0	Tested Diametrically
BH09	2.30	25/342	C	63 /100	UCS		152.0	Very Strong		Tested Axially
BH09	3.10	25/343	C	63	PL	2.52		Strong	63.5	Tested Diametrically
BH09	4.15	25/344	C	63 /100	UCS		82.5	Strong		Tested Axially
BH09	4.70	25/345	C	63	PL	5.04		Very Strong	126.5	Tested Diametrically
BH10	2.70	25/346	C	63 /100	UCS		69.5	Strong		Tested Axially
BH10	3.70	25/347	C	63	PL	4.28		Very Strong	107.5	Tested Diametrically
BH10	4.10	25/348	C	63 /100	UCS		120.0	Very Strong		Tested Axially
BH10	4.60	25/349	C	63	PL	4.54		Very Strong	114.0	Tested Diametrically

Appendix 7

Environmental Laboratory Test Results



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

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

Attention: Stephen Letch

CERTIFICATE OF ANALYSIS

Date of report Generation: 10 January 2025
Customer: Site Investigations Ltd
Sample Delivery Group (SDG): 241220-96
Your Reference: 6409
Location: Cappagh Road, Galway
Report No: 752485
Order Number: 44/B/24

This report has been revised and directly supersedes 751987 in its entirety.

We received 18 samples on Friday December 20, 2024 and 18 of these samples were scheduled for analysis which was completed on Friday January 10, 2025. 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:

Lauren Ellis

General Manager Western Europe Environmental





CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
30879718	BH 01		0.50 - 0.50	18/12/2024
30879720	BH 02		0.50 - 0.50	18/12/2024
30879721	BH 03		0.50 - 0.50	18/12/2024
30879722	BH 04		0.50 - 0.50	18/12/2024
30879723	BH 05		0.50 - 0.50	18/12/2024
30879724	BH 06		0.50 - 0.50	18/12/2024
30879726	BH 07		0.50 - 0.50	18/12/2024
30879727	BH 08		0.50 - 0.50	18/12/2024
30879728	BH 09		0.50 - 0.50	18/12/2024
30879729	BH 10		0.50 - 0.50	18/12/2024
30879744	SA 03		0.50 - 0.50	18/12/2024
30879731	TP 01		0.50 - 0.50	18/12/2024
30879732	TP 02		0.50 - 0.50	18/12/2024
30879733	TP 03		0.50 - 0.50	18/12/2024
30879735	TP 04		0.50 - 0.50	18/12/2024
30879737	TP 05		0.50 - 0.50	18/12/2024
30879738	TP 06		0.50 - 0.50	18/12/2024
30879739	TP 07		0.50 - 0.50	18/12/2024

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Results Legend X Test N 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	
	30879726		BH 07				0.50 - 0.50		1 kg TUB with Handle (ALE260)	S		
	30879724		BH 06				0.50 - 0.50		60g VOC (ALE215)	S		
	30879723		BH 05				0.50 - 0.50		250g Amber Jar (ALE210)	S		
	30879722		BH 04				0.50 - 0.50		1 kg TUB with Handle (ALE260)	S		
	30879721		BH 03				0.50 - 0.50		60g VOC (ALE215)	S		
Anions by Kone (w)	All	NDPs: 0 Tests: 18										
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2										
CEN Readings	All	NDPs: 0 Tests: 18										
Chromium III	All	NDPs: 1 Tests: 17										
Coronene	All	NDPs: 0 Tests: 18										
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 18										
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 18										
EPH by GCxGC-FID	All	NDPs: 0 Tests: 18										
EPH CWG GC (S)	All	NDPs: 0 Tests: 18										
Fluoride	All	NDPs: 0 Tests: 18										
GRO by GC-FID (S)	All	NDPs: 1 Tests: 17										
Hexavalent Chromium (s)	All	NDPs: 1 Tests: 17										
Loss on Ignition in soils	All	NDPs: 0 Tests: 18										
Mercury Dissolved	All	NDPs: 0 Tests: 18										
Metals in solid samples by OES	All	NDPs: 0 Tests: 18										

30879735	TP 04		0.50 - 0.50	250g Amber Jar (ALE210)	S					X	X			X	X		X	X	X			X
				1kg TUB with Handle (ALE260)	S	X		X	X			X	X				X				X	
30879733	TP 03		0.50 - 0.50	250g Amber Jar (ALE210)	S					X	X			X	X		X	X	X			X
				1kg TUB with Handle (ALE260)	S	X			X			X	X				X				X	
30879732	TP 02		0.50 - 0.50	250g Amber Jar (ALE210)	S					X	X			X	X		X	X	X			X
				1kg TUB with Handle (ALE260)	S	X			X			X	X				X				X	
30879731	TP 01		0.50 - 0.50	60g VOC (ALE215)	S													X				
				250g Amber Jar (ALE210)	S					X	X			X	X			X	X			X
				1kg TUB with Handle (ALE260)	S	X			X			X	X				X				X	
30879744	SA 03		0.50 - 0.50	250g Amber Jar (ALE210)	S					N		X		X	X		N		N		X	X
				1kg TUB with Handle (ALE260)	S	X			X			X	X				X				X	
30879729	BH 10		0.50 - 0.50	60g VOC (ALE215)	S													X				
				250g Amber Jar (ALE210)	S					X	X			X	X			X	X			X
				1kg TUB with Handle (ALE260)	S	X			X			X	X				X				X	
30879728	BH 09		0.50 - 0.50	250g Amber Jar (ALE210)	S					X	X			X	X		X	X	X			X
				1kg TUB with Handle (ALE260)	S	X			X			X	X				X				X	
30879727	BH 08		0.50 - 0.50	60g VOC (ALE215)	S													X				
				250g Amber Jar (ALE210)	S					X	X			X	X			X	X			X
				1kg TUB with Handle (ALE260)	S	X			X			X	X				X				X	
30879726	BH 07		0.50 - 0.50	60g VOC (ALE215)	S													X				
				250g Amber Jar (ALE210)	S					X	X			X	X			X	X			X



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Results Legend



Test



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

Results Legend X Test N 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	
	30879726		BH 07				0.50 - 0.50		1kg TUB with Handle (ALE260)		S	
	30879724		BH 06				0.50 - 0.50		1kg TUB with Handle (ALE260)		S	
	30879723		BH 05				0.50 - 0.50		1kg TUB with Handle (ALE260)		S	
	30879722		BH 04				0.50 - 0.50		1kg TUB with Handle (ALE260)		S	
	30879721		BH 03				0.50 - 0.50		1kg TUB with Handle (ALE260)		S	
30879720		BH 02				0.50 - 0.50		1kg TUB with Handle (ALE260)		S		
30879718		BH 01				0.50 - 0.50		1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		
								1kg TUB with Handle (ALE260)		S		

30879735	TP 04		0.50 - 0.50	250g Amber Jar (ALE210)	S	X	X	X	X			X	X	X	X
				1kg TUB with Handle (ALE260)	S					X	X				
30879733	TP 03		0.50 - 0.50	250g Amber Jar (ALE210)	S	X	X	X	X			X	X	X	X
				1kg TUB with Handle (ALE260)	S					X	X				
30879732	TP 02		0.50 - 0.50	250g Amber Jar (ALE210)	S	X	X	X	X			X	X	X	X
				1kg TUB with Handle (ALE260)	S					X	X				
30879731	TP 01		0.50 - 0.50	60g VOC (ALE215)	S										X
				250g Amber Jar (ALE210)	S	X	X	X	X			X	X	X	
				1kg TUB with Handle (ALE260)	S					X	X				
30879744	SA 03		0.50 - 0.50	250g Amber Jar (ALE210)	S	X	X	X	X			X	X	N	N
				1kg TUB with Handle (ALE260)	S					X	X				
30879729	BH 10		0.50 - 0.50	60g VOC (ALE215)	S										X
				250g Amber Jar (ALE210)	S	X	X	X	X			X	X	X	
				1kg TUB with Handle (ALE260)	S					X	X				
30879728	BH 09		0.50 - 0.50	250g Amber Jar (ALE210)	S	X	X	X	X			X	X	X	
				1kg TUB with Handle (ALE260)	S					X	X				
30879727	BH 08		0.50 - 0.50	60g VOC (ALE215)	S										X
				250g Amber Jar (ALE210)	S	X	X	X	X			X	X	X	
				1kg TUB with Handle (ALE260)	S					X	X				
30879726	BH 07		0.50 - 0.50	60g VOC (ALE215)	S										X
				250g Amber Jar (ALE210)	S	X	X	X	X			X	X	X	



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Results Legend

- X** Test
- N** 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

Results Legend	Lab Sample No(s)		30879737	30879738	30879739
	Customer Sample Reference		TP 05	TP 06	TP 07
Sample Types -	AGS Reference				
	Depth (m)		0.50 - 0.50	0.50 - 0.50	0.50 - 0.50
Sample Types -	Container		1kg TUB with Handle (ALE210)	250g Amber Jar (ALE215)	60g VOC (ALE215)
	Sample Type		S	S	S
Anions by Kone (w)	All	NDPs: 0 Tests: 18	X	X	X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2			X
CEN Readings	All	NDPs: 0 Tests: 18	X	X	X
Chromium III	All	NDPs: 1 Tests: 17	X	X	X
Coronene	All	NDPs: 0 Tests: 18	X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 18	X	X	X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 18	X	X	X
EPH by GCxGC-FID	All	NDPs: 0 Tests: 18	X	X	X
EPH CWG GC (S)	All	NDPs: 0 Tests: 18	X	X	X
Fluoride	All	NDPs: 0 Tests: 18	X	X	X
GRO by GC-FID (S)	All	NDPs: 1 Tests: 17	X	X	X
Hexavalent Chromium (s)	All	NDPs: 1 Tests: 17	X	X	X
Loss on Ignition in soils	All	NDPs: 0 Tests: 18	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 18	X	X	X
Metals in solid samples by OES	All	NDPs: 0 Tests: 18	X	X	X



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Results Legend



Test



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

			30879737		30879738		30879739
			TP 05		TP 06		TP 07
			0.50 - 0.50		0.50 - 0.50		0.50 - 0.50
			1kg TUB with Handle (ALE210)	250g Amber Jar (ALE210)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)
			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE260)	1kg TUB with Handle (ALE260)	60g VOC (ALE215)	250g Amber Jar (ALE210)
			S	S	S	S	S
PAH 16 & 17 Calc	All	NDPs: 0 Tests: 18		X	X		X
PAH by GCMS	All	NDPs: 0 Tests: 18		X	X		X
PCBs by GCMS	All	NDPs: 0 Tests: 18		X	X		X
pH	All	NDPs: 0 Tests: 18		X	X		X
pH Value of Filtered Water	All	NDPs: 0 Tests: 18	X	X		X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 18	X	X		X	
Sample description	All	NDPs: 0 Tests: 18		X	X		X
Total Organic Carbon	All	NDPs: 0 Tests: 18		X	X		X
TPH CWG GC (S)	All	NDPs: 1 Tests: 17		X	X		X
VOC MS (S)	All	NDPs: 1 Tests: 16		X		X	X



CERTIFICATE OF ANALYSIS

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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
30879718	BH 01	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
30879720	BH 02	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
30879721	BH 03	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	Vegetation
30879722	BH 04	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	Vegetation
30879723	BH 05	0.50 - 0.50	Dark Brown	Sand	Stones	Vegetation
30879724	BH 06	0.50 - 0.50	Dark Brown	Sand	Stones	Vegetation
30879726	BH 07	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
30879727	BH 08	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
30879728	BH 09	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
30879729	BH 10	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
30879744	SA 03	0.50 - 0.50	Dark Brown	Silt Loam	Stones	Vegetation
30879731	TP 01	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
30879732	TP 02	0.50 - 0.50	Dark Brown	Sandy Silt Loam	Stones	Vegetation
30879733	TP 03	0.50 - 0.50	Dark Brown	Sand	Stones	Vegetation
30879735	TP 04	0.50 - 0.50	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
30879737	TP 05	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	Vegetation
30879738	TP 06	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
30879739	TP 07	0.50 - 0.50	Light Brown	Sand	Crushed Brick	Stones

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: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Results Legend			Customer Sample Ref.		BH 01	BH 02	BH 03	BH 04	BH 05	BH 06
#	ISO17025 accredited.		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) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024
M	mCERTS accredited.									
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 recovery										
*** 6.2 FTAB (see appendix)										
1-4**@Sample deviation (see appendix)										
Component	LOD/Units	Method								
Moisture Content Ratio (% of as received sample)	%	PM024			30	29	13	12	16	12
Loss on ignition	<0.7 %	TM018			11.1	7.48	4.11	4.32	1.91	1.41
					M	M	M	M	M	M
Organic Carbon, Total	<0.2 %	TM132			4.28	3.33	1.37	1.54	0.655	0.427
					M	M	M	M	M	M
pH	1 pH Units	TM133			5.81	5.68	5.87	5.39	5.54	6.12
					M	M	M	M	M	M
Chromium, Hexavalent	<0.6 mg/kg	TM151			<6	<0.6	<0.6	<0.6	<1.2	<0.6
					M	M	M	M	M	M
PCB congener 28	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
					M	M	M	M	M	M
PCB congener 52	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
					M	M	M	M	M	M
PCB congener 101	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
					M	M	M	M	M	M
PCB congener 118	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
					M	M	M	M	M	M
PCB congener 138	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
					M	M	M	M	M	M
PCB congener 153	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
					M	M	M	M	M	M
PCB congener 180	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
					M	M	M	M	M	M
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168			<21	<21	<21	<21	<21	<21
Chromium, Trivalent	<0.9 mg/kg	TM181			6.76	6.17	3.94	4.55	4.34	3.14
Antimony	<0.6 mg/kg	TM181			<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
					#	#	#	#	#	#
Arsenic	<0.6 mg/kg	TM181			1.7	2.74	1.14	1.91	1.39	1.35
					M	M	M	M	M	M
Barium	<0.6 mg/kg	TM181			29.3	50	14.7	13.9	28.8	30.1
					#	#	#	#	#	#
Cadmium	<0.02 mg/kg	TM181			0.0509	<0.02	<0.02	<0.02	0.0384	<0.02
					M	M	M	M	M	M
Chromium	<0.9 mg/kg	TM181			6.76	6.17	3.94	4.55	4.34	3.14
					M	M	M	M	M	M
Copper	<1.4 mg/kg	TM181			10.3	7.4	3.46	3.43	2.62	2.39
					M	M	M	M	M	M
Lead	<0.7 mg/kg	TM181			75.6	53.9	15.2	23.5	11.5	12.8
					M	M	M	M	M	M
Mercury	<0.1 mg/kg	TM181			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
					M	M	M	M	M	M
Molybdenum	<0.1 mg/kg	TM181			0.684	0.752	0.319	1.61	0.274	0.196
					#	#	#	#	#	#
Nickel	<0.2 mg/kg	TM181			4.83	4.66	3.82	4.25	3.81	3.53
					M	M	M	M	M	M
Selenium	<1 mg/kg	TM181			1.99	2.24	1.49	<1	1.5	1.01
					#	#	#	#	#	#
Zinc	<1.9 mg/kg	TM181			43.3	36	43.5	39.8	38.9	37.5
					M	M	M	M	M	M
PAH Total 17 (inc Coronene) Moisture Corrected	<10 mg/kg	TM410			<10	<10	<10	<10	<10	<10
Coronene	<200 µg/kg	TM410			<200	<200	<200	<200	<200	<200
Mineral Oil >C10-C40 (EH_2D_AL)	<5 mg/kg	TM415			58.3	17.4	12.9	8.58	<5	<5



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Results Legend			Customer Sample Ref.		BH 07	BH 08	BH 09	BH 10	SA 03	TP 01
# ISO17025 accredited.	M mCERTS accredited.	aq Aqueous / settled sample.	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024
diss.filt Dissolved / filtered sample.	tot.unfilt Total / unfiltered sample.	* Subcontracted - refer to subcontractor report for accreditation status.			20/12/2024 241220-96 30879726	20/12/2024 241220-96 30879727	20/12/2024 241220-96 30879728	20/12/2024 241220-96 30879729	20/12/2024 241220-96 30879744	20/12/2024 241220-96 30879731
** % 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	*** 6.2 FTAB (see appendix)	1-4**@Sample deviation (see appendix)								
Component	LOD/Units	Method								
Moisture Content Ratio (% of as received sample)	%	PM024			14	30	28	12	39	41
Loss on ignition	<0.7 %	TM018			4.33	20.4	16.3	4.52	32.9	33.6
Organic Carbon, Total	<0.2 %	TM132			1.49	9.81	7.44	1.82	10.7	10.6
pH	1 pH Units	TM133			6.62	5.65	5.53	5.71	5.48	5.74
Chromium, Hexavalent	<0.6 mg/kg	TM151			<0.6	<12	<12	<6		<3
PCB congener 28	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
PCB congener 52	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
PCB congener 101	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
PCB congener 118	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
PCB congener 138	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
PCB congener 153	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
PCB congener 180	<3 µg/kg	TM168			<3	<3	<3	<3	<3	<3
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168			<21	<21	<21	<21	<21	<21
Chromium, Trivalent	<0.9 mg/kg	TM181			6.14	6.3	6.2	3.61		<0.9
Antimony	<0.6 mg/kg	TM181			<0.6	<0.6	<0.6	<0.6	<0.6	<6
Arsenic	<0.6 mg/kg	TM181			2.28	8.01	8.63	1.73	10.4	10.2
Barium	<0.6 mg/kg	TM181			18.3	46.9	31.5	15.3	35.5	25.6
Cadmium	<0.02 mg/kg	TM181			0.0979	0.559	0.516	0.0912	<0.02	<0.2
Chromium	<0.9 mg/kg	TM181			6.14	6.3	6.2	3.61	<0.9	<9
Copper	<1.4 mg/kg	TM181			12.3	30.9	35.6	8.93	6.28	<14
Lead	<0.7 mg/kg	TM181			13.2	40.5	38.1	23.1	318	484
Mercury	<0.1 mg/kg	TM181			<0.1	<0.1	<0.1	<0.1	0.428	<1
Molybdenum	<0.1 mg/kg	TM181			0.186	1.1	1.42	0.558	13.6	14.6
Nickel	<0.2 mg/kg	TM181			5.44	3.56	3.22	3.53	2.1	6.79
Selenium	<1 mg/kg	TM181			<1	2.83	1.96	1.45	6.45	5.17
Zinc	<1.9 mg/kg	TM181			49.1	28.6	33.2	32.9	44	44.5
PAH Total 17 (inc Coronene) Moisture Corrected	<10 mg/kg	TM410			<10	<10	<10	<10	<10	<10
Coronene	<200 µg/kg	TM410			<200	<200	<200	<200	<200	<200
Mineral Oil >C10-C40 (EH_2D_AL)	<5 mg/kg	TM415			12.6	59.2	47.9	19.4	25.9	23.2



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Results Legend			Customer Sample Ref.	TP 02	TP 03	TP 04	TP 05	TP 06	TP 07
# ISO17025 accredited.	M mCERTS accredited.	0.50 - 0.50		0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	
aq Aqueous / settled sample.		Soil/Solid (S)		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	
diss.filt Dissolved / filtered sample.		18/12/2024		18/12/2024	18/12/2024	18/12/2024	18/12/2024	18/12/2024	
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 for the recovery									
*** 6.2 FTAB (see appendix)									
1-4**@Sample deviation (see appendix)									
Component	LOD/Units	Method							
Moisture Content Ratio (% of as received sample)	%	PM024	27	13	38	17	16	6.4	
Loss on ignition	<0.7 %	TM018	10.5	2.03	15.2	3.31	6.91	1.21	
			M	M	M	M	M	M	
Organic Carbon, Total	<0.2 %	TM132	3.5	0.565	6.59	1.25	3.12	0.434	
			M	M	M	M	M	M	
pH	1 pH Units	TM133	6.79	5.65	5.63	5.55	6.25	5.9	
			M	M	M	M	M	M	
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6	<0.6	<0.6	<0.6	<3	<0.6	
			M	M	M	M	M	M	
PCB congener 28	<3 µg/kg	TM168	<3	<3	<3	<3	<3	<3	
			M	M	M	M	M	M	
PCB congener 52	<3 µg/kg	TM168	<3	<3	<3	<3	<3	<3	
			M	M	M	M	M	M	
PCB congener 101	<3 µg/kg	TM168	<3	<3	<3	<3	<3	<3	
			M	M	M	M	M	M	
PCB congener 118	<3 µg/kg	TM168	<3	<3	<3	<3	<3	<3	
			M	M	M	M	M	M	
PCB congener 138	<3 µg/kg	TM168	<3	<3	<3	<3	<3	<3	
			M	M	M	M	M	M	
PCB congener 153	<3 µg/kg	TM168	<3	<3	<3	<3	<3	<3	
			M	M	M	M	M	M	
PCB congener 180	<3 µg/kg	TM168	<3	<3	<3	<3	<3	<3	
			M	M	M	M	M	M	
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168	<21	<21	<21	<21	<21	<21	
Chromium, Trivalent	<0.9 mg/kg	TM181	9.59	4.79	4.61	4.53	5.21	2.43	
Antimony	<0.6 mg/kg	TM181	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	
			#	#	#	#	#	#	
Arsenic	<0.6 mg/kg	TM181	1.43	1.17	4.06	1.9	3.55	0.849	
			M	M	M	M	M	M	
Barium	<0.6 mg/kg	TM181	13.9	17.8	65	30.3	23.7	8.44	
			#	#	#	#	#	#	
Cadmium	<0.02 mg/kg	TM181	0.0469	0.0602	0.19	0.0724	0.228	<0.02	
			M	M	M	M	M	M	
Chromium	<0.9 mg/kg	TM181	9.59	4.79	4.61	4.53	5.21	2.43	
			M	M	M	M	M	M	
Copper	<1.4 mg/kg	TM181	4.8	8.67	13.2	3.04	22.2	1.95	
			M	M	M	M	M	M	
Lead	<0.7 mg/kg	TM181	15.7	23.4	82.3	14.9	20.8	7.06	
			M	M	M	M	M	M	
Mercury	<0.1 mg/kg	TM181	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
			M	M	M	M	M	M	
Molybdenum	<0.1 mg/kg	TM181	0.118	<0.1	1.17	0.314	0.554	0.127	
			#	#	#	#	#	#	
Nickel	<0.2 mg/kg	TM181	6.95	5.9	3.03	3.75	4.58	2.28	
			M	M	M	M	M	M	
Selenium	<1 mg/kg	TM181	2.21	1.57	1.12	1.47	1.01	<1	
			#	#	#	#	#	#	
Zinc	<1.9 mg/kg	TM181	51.5	54.8	24.4	42.9	57.1	23.5	
			M	M	M	M	M	M	
PAH Total 17 (inc Coronene) Moisture Corrected	<10 mg/kg	TM410	<10	<10	<10	<10	<10	<10	
Coronene	<200 µg/kg	TM410	<200	<200	<200	<200	<200	<200	
Mineral Oil >C10-C40 (EH_2D_AL)	<5 mg/kg	TM415	35.5	5.3	22.9	<5	37.7	5.85	



Superseded Report: 751987

Location: Cappagh Road, Galway



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

TPH CWG (S)

Results Legend			Customer Sample Ref.	BH 01	BH 02	BH 03	BH 04	BH 05	BH 06
# ISO17025 accredited.	M mCERTS accredited.	aq Aqueous / settled sample.	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) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024
diss.filt Dissolved / filtered sample.	tot.unfiltTotal / unfiltered sample.	* Subcontracted - refer to subcontractor report for accreditation status.		20/12/2024 241220-96 30879718	20/12/2024 241220-96 30879720	20/12/2024 241220-96 30879721	20/12/2024 241220-96 30879722	20/12/2024 241220-96 30879723	20/12/2024 241220-96 30879724
** % 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	*** 6.2 FTAB (see appendix)	1-4**@Sample deviation (see appendix)							
Component	LOD/Units	Method							
GRO Surrogate % recovery**	%	TM089	106	74.8	89.4	80.6	92.1	91.4	
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	<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	<10	<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 >C16-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	10700 #	6680 #	5710 #	8710 #	<1000 #	1070 #	
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414	2860	1380	4320	2630	<1000	<1000	
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	14100	8370	10500	11800	<5000	<5000	
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414	47400	40200	23600	26300	<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-EC16 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000 #	<1000 #	<1000 #	<1000 #	<1000 #	<1000 #	
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1000 µg/kg	TM414	4770 #	4780 #	2080 #	2610 #	1180 #	1340 #	
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414	23800 #	21300 #	9380 #	9830 #	1180 #	5540 #	
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	4490	5580	<1000	1980	<1000	<1000	
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	1170	<1000	<1000	<1000	<1000	
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	33300	31800	13100	14400	<5000	7990	
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414	47400	40200	23600	26300	<10000	<10000	
GRO >C5-C6 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
GRO >C6-C7 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
GRO >C7-C8 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
GRO >C8-C10 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
GRO >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	<50	<50	<50	<50	
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<50 µg/kg	TM089	<50	<50	<50	<50	<50	<50	
GRO >C5-C10 (HS_1D_TOTAL)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

TPH CWG (S)

Results Legend			Customer Sample Ref.	BH 07	BH 08	BH 09	BH 10	TP 01	TP 02
#	ISO17025 accredited.			0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50
M	mCERTS accredited.			Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq	Aqueous / settled sample.			18/12/2024	18/12/2024	18/12/2024	18/12/2024	18/12/2024	18/12/2024
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 recovery								
***	6.2 FTAB (see appendix)								
1-4**	@Sample deviation (see appendix)								
Component	LOD/Units	Method							
GRO Surrogate % recovery**	%	TM089	82.5	46.9	59	75.2	86.4	83	
					4 ♦			2	
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10	
					4 ♦			2	
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10	
					4 ♦			2	
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10	
					4 ♦			2	
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 >C16-C21 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	1550	<1000	<1000	<1000	<1000	
			#	#	♦ #	#	#	#	
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1000 µg/kg	TM414	3160	17900	14400	7820	7840	4700	
			#	#	♦ #	#	#	#	
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	1060	<1000	1030	
					♦				
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	<5000	19600	15900	9550	8420	6120	
					♦				
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414	12200	101000	84800	42500	27500	30800	
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10	
					4 ♦			2	
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10	
					4 ♦			2	
Aromatics >EC8-EC10 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10	<10	
					4 ♦			2	
Aromatics >EC10-EC12 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000	
			#	#	♦ #	#	#	#	
Aromatics >EC12-EC16 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	2430	1150	5160	<1000	<1000	
			#	#	♦ #	#	#	#	
Aromatics >EC16-EC21 (EH_2D_AR_#1)	<1000 µg/kg	TM414	1180	7130	5590	3410	2010	1000	
			#	#	♦ #	#	#	#	
Aromatics >EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414	9130	60300	54200	22300	13600	18000	
			#	#	♦ #	#	#	#	
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	1930	11000	7880	2000	3560	5700	
					♦				
Aromatics >EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	<1000	1120	<1000	<1000	<1000	
					♦				
Total Aromatics >EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	12200	81000	68800	32900	19100	24700	
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414	12200	101000	84800	42500	27500	30800	
GRO >C5-C6 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
					4 ♦			2	
GRO >C6-C7 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
					4 ♦			2	
GRO >C7-C8 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
					4 ♦			2	
GRO >C8-C10 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
					4 ♦			2	
GRO >C10-C12 (HS_1D)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
					4 ♦			2	
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<50 µg/kg	TM089	<50	<50	<50	<50	<50	<50	
					4 ♦			2	
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<50 µg/kg	TM089	<50	<50	<50	<50	<50	<50	
					4 ♦			2	
GRO >C5-C10 (HS_1D_TOTAL)	<20 µg/kg	TM089	<20	<20	<20	<20	<20	<20	
					4 ♦			2	



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

TPH CWG (S)

Results Legend			Customer Sample Ref.		TP 03	TP 04	TP 05	TP 06	TP 07	
# ISO17025 accredited. M mCERTS accredited. 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 recovery. *** 6.2 FTAB (see appendix) 1-4**@Sample deviation (see appendix)			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) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	0.50 - 0.50 Soil/Solid (S) 18/12/2024	
Component	LOD/Units	Method								
GRO Surrogate % recovery**	%	TM089	91.8	2	82.6	2	103	2	58.5	94.8
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/kg	TM089	<10	2	<10	2	<10	2	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/kg	TM089	<10	2	<10	2	<10	2	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/kg	TM089	<10	2	<10	2	<10	2	<10	<10
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	#	<1000	#	<1000	#	<1000	#
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	#	<1000	#	<1000	#	<1000	#
Aliphatics >C16-C21 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	#	<1000	#	<1000	#	<1000	#
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1000 µg/kg	TM414	1990	#	11400	#	2700	#	13700	1710
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414	1290	#	1770	#	1530	#	2320	<1000
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	<5000	#	14000	#	<5000	#	16600	<5000
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414	<10000	#	53900	#	12900	#	75000	<10000
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/kg	TM089	<10	2	<10	2	<10	2	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/kg	TM089	<10	2	<10	2	<10	2	<10	<10
Aromatics >EC8-EC10 (HS_1D_AR)	<10 µg/kg	TM089	<10	2	<10	2	<10	2	<10	<10
Aromatics >EC10-EC12 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	#	<1000	#	<1000	#	<1000	<1000
Aromatics >EC12-EC16 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	#	<1000	#	<1000	#	1140	<1000
Aromatics >EC16-EC21 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	#	6590	#	2790	#	7950	<1000
Aromatics >EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414	2340	#	28500	#	7980	#	43300	5830
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	#	4670	#	2110	#	5860	<1000
Aromatics >EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	#	<1000	#	<1000	#	<1000	<1000
Total Aromatics >EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	<5000	#	39900	#	12900	#	58400	7700
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414	<10000	#	53900	#	12900	#	75000	<10000
GRO >C5-C6 (HS_1D)	<20 µg/kg	TM089	<20	2	<20	2	<20	2	<20	<20
GRO >C6-C7 (HS_1D)	<20 µg/kg	TM089	<20	2	<20	2	<20	2	<20	<20
GRO >C7-C8 (HS_1D)	<20 µg/kg	TM089	<20	2	<20	2	<20	2	<20	<20
GRO >C8-C10 (HS_1D)	<20 µg/kg	TM089	<20	2	<20	2	<20	2	<20	<20
GRO >C10-C12 (HS_1D)	<20 µg/kg	TM089	<20	2	<20	2	<20	2	<20	<20
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<50 µg/kg	TM089	<50	2	<50	2	<50	2	<50	<50
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<50 µg/kg	TM089	<50	2	<50	2	<50	2	<50	<50
GRO >C5-C10 (HS_1D_TOTAL)	<20 µg/kg	TM089	<20	2	<20	2	<20	2	<20	<20



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Asbestos Identification - Solid Samples

Results Legend

ISO17025 accredited.
M mCERTS accredited.
* Subcontracted test.
(F) Trigger breach confirmed
1-5&+\$\$\$@ Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP 04 0.50 - 0.50 SOLID 18/12/2024 00:00:00 20/12/2024 10:20:00 241220-96 30879735 TM048	03/01/25	Danielle Duncan	N/A	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP 07 0.50 - 0.50 SOLID 18/12/2024 00:00:00 20/12/2024 10:20:00 241220-96 30879739 TM048	03/01/25	Danielle Duncan	N/A	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.130
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	45.4
Dry Matter Content (%)	68.8

Case	
SDG	241220-96
Lab Sample Number(s)	30879718
Sampled Date	18-Dec-2024
Customer Sample Ref.	BH 01
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	4.28
Loss on Ignition (%)	11.1
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	58.3
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.81
ANC to pH 6 (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	0.00397	<0.0002	0.0397	<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	0.00549	<0.0003	0.0549	<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	0.000635	<0.0004	0.00635	<0.004	0.4	10	40
Lead	0.00638	<0.0002	0.0638	<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	0.00614	<0.001	0.0614	<0.01	4	50	200
Chloride	2.2	<2	22	<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	22.3	<10	223	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	11	<3	110	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.72
Conductivity (µS/cm)	29
Volume Leachant (Litres)	0.860

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

10/01/2025 16:06:58

16:06:45 10/01/2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.171
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	84.6
Dry Matter Content (%)	54.2

Case	
SDG	241220-96
Lab Sample Number(s)	30879720
Sampled Date	18-Dec-2024
Customer Sample Ref.	BH 02
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	3.33
Loss on Ignition (%)	7.48
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	17.4
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.68
ANC to pH 6 (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	0.00477	<0.0002	0.0477	<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	0.00611	<0.0003	0.0611	<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	0.000463	<0.0004	0.00463	<0.004	0.4	10	40
Lead	0.00358	<0.0002	0.0358	<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	0.00851	<0.001	0.0851	<0.01	4	50	200
Chloride	3.7	<2	37	<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	27	<10	270	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	10.2	<3	102	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.71
Conductivity (µS/cm)	35
Volume Leachant (Litres)	0.823

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

10/01/2025 16:06:58

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.104
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	19.3
Dry Matter Content (%)	83.8

Case	
SDG	241220-96
Lab Sample Number(s)	30879721
Sampled Date	18-Dec-2024
Customer Sample Ref.	BH 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	6
-	-	10
-	-	-
1	-	-
500	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.37
Loss on Ignition (%)	4.11
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	12.9
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.87
ANC to pH 6 (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	0.00295	<0.0002	0.0295	<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	0.00586	<0.0003	0.0586	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000164	<0.00001	0.000164	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000702	<0.0004	0.00702	<0.004	0.4	10	40
Lead	0.00389	<0.0002	0.0389	<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	0.00268	<0.001	0.0268	<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	19.2	<10	192	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	11.4	<3	114	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	7.00
Conductivity (µS/cm)	25
Volume Leachant (Litres)	0.883

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg) 0.098

Mass of dry sample (kg) 0.090

Particle Size <4mm >95%

Site Location

Cappagh Road, Galway

Natural Moisture Content (%) 14.1

Dry Matter Content (%) 87.7

Case

SDG 241220-96

Lab Sample Number(s) 30879722

Sampled Date 18-Dec-2024

Customer Sample Ref. BH 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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis

Result

Total Organic Carbon (%)	1.54
Loss on Ignition (%)	4.32
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	8.58
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.39
ANC to pH 6 (mol/kg)	-
ANC to pH 4 (mol/kg)	-

Eluate Analysis

C₂ Concⁿ in 10:1 eluate (mg/l)A₂ 10:1 concⁿ 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	0.00267	<0.0002	0.0267	<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	0.00224	<0.0003	0.0224	<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	0.000694	<0.0002	0.00694	<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	0.00466	<0.001	0.0466	<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	15.3	<10	153	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.53	<3	45.3	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.64
Conductivity (µS/cm)	20
Volume Leachant (Litres)	0.888

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.104
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	20.3
Dry Matter Content (%)	83.1

Case	
SDG	241220-96
Lab Sample Number(s)	30879723
Sampled Date	18-Dec-2024
Customer Sample Ref.	BH 05
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.655
Loss on Ignition (%)	1.91
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)	<10
pH (pH Units)	5.54
ANC to pH 6 (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	0.00176	<0.0002	0.0176	<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	0.00193	<0.0003	0.0193	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000132	<0.00001	0.000132	<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	0.00106	<0.0002	0.0106	<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	0.00321	<0.001	0.0321	<0.01	4	50	200
Chloride	2.2	<2	22	<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	10.4	<10	104	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	3.39	<3	33.9	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.70
Conductivity (µS/cm)	14
Volume Leachant (Litres)	0.882

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg) 0.101

Mass of dry sample (kg) 0.090

Particle Size <4mm >95%

Site Location

Cappagh Road, Galway

Natural Moisture Content (%) 15.4

Dry Matter Content (%) 86.6

Case

SDG 241220-96

Lab Sample Number(s) 30879724

Sampled Date 18-Dec-2024

Customer Sample Ref. BH 06

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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis

Result

Total Organic Carbon (%) 0.427

Loss on Ignition (%) 1.41

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) <10

pH (pH Units) 6.12

ANC to pH 6 (mol/kg) -

ANC to pH 4 (mol/kg) -

Eluate Analysis

C₂ Concⁿ in 10:1 eluate (mg/l)A₂ 10:1 concⁿ 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	0.00309	<0.0002	0.0309	<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	0.00263	<0.0003	0.0263	<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	0.00175	<0.0002	0.0175	<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	0.0043	<0.001	0.043	<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	13.2	<10	132	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.16	<3	41.6	<30	500	800	1000

Leach Test Information

Date Prepared 21-Dec-2024

pH (pH Units) 6.93

Conductivity (µS/cm) 17

Volume Leachant (Litres) 0.887

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.101
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	15.9
Dry Matter Content (%)	86.3

Case	
SDG	241220-96
Lab Sample Number(s)	30879726
Sampled Date	18-Dec-2024
Customer Sample Ref.	BH 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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.49
Loss on Ignition (%)	4.33
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	12.6
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	6.62
ANC to pH 6 (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	0.00316	<0.0002	0.0316	<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	0.00787	<0.0003	0.0787	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000116	<0.00001	0.000116	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000972	<0.0004	0.00972	<0.004	0.4	10	40
Lead	0.00191	<0.0002	0.0191	<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	0.00299	<0.001	0.0299	<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	16.6	<10	166	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	9.12	<3	91.2	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	7.12
Conductivity (µS/cm)	22
Volume Leachant (Litres)	0.885

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.122
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	38.8
Dry Matter Content (%)	72.1

Case	
SDG	241220-96
Lab Sample Number(s)	30879727
Sampled Date	18-Dec-2024
Customer Sample Ref.	BH 08
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	9.81
Loss on Ignition (%)	20.4
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	59.2
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.65
ANC to pH 6 (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	0.00118	<0.0005	0.0118	<0.005	0.5	2	25
Barium	0.00617	<0.0002	0.0617	<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	0.00579	<0.0003	0.0579	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000198	<0.00001	0.000198	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000937	<0.0004	0.00937	<0.004	0.4	10	40
Lead	0.00419	<0.0002	0.0419	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	0.00217	<0.001	0.0217	<0.01	0.1	0.5	7
Zinc	0.00506	<0.001	0.0506	<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)	4.6	<2	46	<20	1000	20000	50000
Total Dissolved Solids	25.4	<10	254	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	12.9	<3	129	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.82
Conductivity (µS/cm)	33
Volume Leachant (Litres)	0.865

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

10/01/2025 16:06:58

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.130
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	45.2
Dry Matter Content (%)	68.8

Case	
SDG	241220-96
Lab Sample Number(s)	30879728
Sampled Date	18-Dec-2024
Customer Sample Ref.	BH 09
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	7.44
Loss on Ignition (%)	16.3
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	47.9
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.53
ANC to pH 6 (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	0.000964	<0.0005	0.00964	<0.005	0.5	2	25
Barium	0.00499	<0.0002	0.0499	<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	0.0082	<0.0003	0.082	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000193	<0.00001	0.000193	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000827	<0.0004	0.00827	<0.004	0.4	10	40
Lead	0.0031	<0.0002	0.031	<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	0.00443	<0.001	0.0443	<0.01	4	50	200
Chloride	2.5	<2	25	<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	31.7	<10	317	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	13	<3	130	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.72
Conductivity (µS/cm)	41
Volume Leachant (Litres)	0.860

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

10/01/2025 16:06:58

16:06:45 10/01/2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.113
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	27.2
Dry Matter Content (%)	78.6

Case	
SDG	241220-96
Lab Sample Number(s)	30879729
Sampled Date	18-Dec-2024
Customer Sample Ref.	BH 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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.82
Loss on Ignition (%)	4.52
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	19.4
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.71
ANC to pH 6 (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	0.000574	<0.0005	0.00574	<0.005	0.5	2	25
Barium	0.00332	<0.0002	0.0332	<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	0.0092	<0.0003	0.092	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000198	<0.00001	0.000198	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000675	<0.0004	0.00675	<0.004	0.4	10	40
Lead	0.00491	<0.0002	0.0491	<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	0.0111	<0.001	0.111	<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	20.4	<10	204	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	12.6	<3	126	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.87
Conductivity (µS/cm)	27
Volume Leachant (Litres)	0.876

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.157
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	79.2
Dry Matter Content (%)	55.8

Case	
SDG	241220-96
Lab Sample Number(s)	30879731
Sampled Date	18-Dec-2024
Customer Sample Ref.	TP 01
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	10.6
Loss on Ignition (%)	33.6
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	23.2
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.74
ANC to pH 6 (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	0.00503	<0.0002	0.0503	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	0.0012	<0.001	0.012	<0.01	0.5	10	70
Copper	0.00761	<0.0003	0.0761	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000163	<0.00001	0.000163	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000571	<0.0004	0.00571	<0.004	0.4	10	40
Lead	0.0034	<0.0002	0.034	<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	0.0069	<0.001	0.069	<0.01	4	50	200
Chloride	4.5	<2	45	<20	800	15000	25000
Fluoride	<0.5	<0.5	<5	<5	10	150	500
Sulphate (soluble)	2.1	<2	21	<20	1000	20000	50000
Total Dissolved Solids	43.5	<10	435	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	11.4	<3	114	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.85
Conductivity (µS/cm)	57
Volume Leachant (Litres)	0.829

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.123
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	33.4
Dry Matter Content (%)	75

Case	
SDG	241220-96
Lab Sample Number(s)	30879732
Sampled Date	18-Dec-2024
Customer Sample Ref.	TP 02
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	3.5
Loss on Ignition (%)	10.5
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	35.5
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	6.79
ANC to pH 6 (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	0.00354	<0.0002	0.0354	<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	0.00567	<0.0003	0.0567	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000108	<0.00001	0.000108	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000584	<0.0004	0.00584	<0.004	0.4	10	40
Lead	0.00144	<0.0002	0.0144	<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	0.00292	<0.001	0.0292	<0.01	4	50	200
Chloride	2.2	<2	22	<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	31.9	<10	319	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	16.6	<3	166	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	7.56
Conductivity (µS/cm)	42
Volume Leachant (Litres)	0.870

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.105
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	16.9
Dry Matter Content (%)	85.5

Case	
SDG	241220-96
Lab Sample Number(s)	30879733
Sampled Date	18-Dec-2024
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	6
-	-	10
-	-	-
1	-	-
500	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.565
Loss on Ignition (%)	2.03
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	5.3
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.65
ANC to pH 6 (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	0.00251	<0.0002	0.0251	<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	0.00341	<0.0003	0.0341	<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	0.000921	<0.0004	0.00921	<0.004	0.4	10	40
Lead	0.00165	<0.0002	0.0165	<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	0.00189	<0.001	0.0189	<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	13.1	<10	131	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.23	<3	42.3	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	7.08
Conductivity (µS/cm)	17
Volume Leachant (Litres)	0.885

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

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16:06:45 10/01/2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.164
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	78.5
Dry Matter Content (%)	56

Case	
SDG	241220-96
Lab Sample Number(s)	30879735
Sampled Date	18-Dec-2024
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	6.59
Loss on Ignition (%)	15.2
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	22.9
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.63
ANC to pH 6 (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	0.00564	<0.0002	0.0564	<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	0.00397	<0.0003	0.0397	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000119	<0.00001	0.000119	<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	0.00514	<0.0002	0.0514	<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	0.00583	<0.001	0.0583	<0.01	4	50	200
Chloride	2.8	<2	28	<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	24.9	<10	249	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	10.8	<3	108	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	7.04
Conductivity (µS/cm)	33
Volume Leachant (Litres)	0.829

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

10/01/2025 16:06:58

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CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.110
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	17.3
Dry Matter Content (%)	85.2

Case	
SDG	241220-96
Lab Sample Number(s)	30879737
Sampled Date	18-Dec-2024
Customer Sample Ref.	TP 05
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.25
Loss on Ignition (%)	3.31
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)	<10
pH (pH Units)	5.55
ANC to pH 6 (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	0.00158	<0.0002	0.0158	<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	0.00184	<0.0003	0.0184	<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	0.000836	<0.0002	0.00836	<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	0.00401	<0.001	0.0401	<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	<10	<10	<100	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	3.88	<3	38.8	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.91
Conductivity (µS/cm)	12
Volume Leachant (Litres)	0.884

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

10/01/2025 16:06:58

16:06:45 10/01/2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.109
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	21.4
Dry Matter Content (%)	82.3

Case	
SDG	241220-96
Lab Sample Number(s)	30879738
Sampled Date	18-Dec-2024
Customer Sample Ref.	TP 06
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	3.12
Loss on Ignition (%)	6.91
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	37.7
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	6.25
ANC to pH 6 (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	0.00125	<0.0005	0.0125	<0.005	0.5	2	25
Barium	0.00434	<0.0002	0.0434	<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	0.0106	<0.0003	0.106	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000303	<0.00001	0.000303	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000871	<0.0004	0.00871	<0.004	0.4	10	40
Lead	0.00334	<0.0002	0.0334	<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	0.00939	<0.001	0.0939	<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	20.2	<10	202	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	11.4	<3	114	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	7.05
Conductivity (µS/cm)	26
Volume Leachant (Litres)	0.880

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

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16:06:45 10/01/2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.093
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	5.49
Dry Matter Content (%)	94.8

Case	
SDG	241220-96
Lab Sample Number(s)	30879739
Sampled Date	18-Dec-2024
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	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.434
Loss on Ignition (%)	1.21
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	5.85
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.9
ANC to pH 6 (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	0.00153	<0.0002	0.0153	<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	0.00358	<0.0003	0.0358	<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	0.00116	<0.0002	0.0116	<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	0.00581	<0.001	0.0581	<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	<10	<10	<100	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.64	<3	46.4	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	6.77
Conductivity (µS/cm)	11
Volume Leachant (Litres)	0.895

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

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16:06:45 10/01/2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.158
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Cappagh Road, Galway
Natural Moisture Content (%)	76.6
Dry Matter Content (%)	56.6

Case	
SDG	241220-96
Lab Sample Number(s)	30879744
Sampled Date	18-Dec-2024
Customer Sample Ref.	SA 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	6
-	-	10
-	-	-
1	-	-
500	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	10.7
Loss on Ignition (%)	32.9
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	25.9
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	5.48
ANC to pH 6 (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	0.0044	<0.0002	0.044	<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	0.0054	<0.0003	0.054	<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	0.000449	<0.0004	0.00449	<0.004	0.4	10	40
Lead	0.00199	<0.0002	0.0199	<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	0.00714	<0.001	0.0714	<0.01	4	50	200
Chloride	5.1	<2	51	<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	42.3	<10	423	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	9.46	<3	94.6	<30	500	800	1000

Leach Test Information

Date Prepared	21-Dec-2024
pH (pH Units)	7.15
Conductivity (µS/cm)	55
Volume Leachant (Litres)	0.832

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

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10/01/2025 16:06:58

16:06:45 10/01/2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Notification of NDPs (No determination possible)

Date Received : 20/12/2024 13:00:28

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
30879744	SA 03	0.50 - 0.50	GRO by GC-FID (S)	Sample unsuitable for analysis
30879744	SA 03	0.50 - 0.50	Chromium III	able to calculate - one or more constituents cancel
30879744	SA 03	0.50 - 0.50	Hexavalent Chromium (s)	Sample too coloured
30879744	SA 03	0.50 - 0.50	VOC MS (S)	Sample unsuitable for analysis
30879744	SA 03	0.50 - 0.50	TPH CWG GC (S)	Sample unsuitable for analysis



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Table of Results - Appendix

Method No	Description
TM089	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM151	Determination of Hexavalent Chromium using Kone analyser
TM181	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
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
TM414	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
PM115	Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM018	Determination of Loss on Ignition
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM116	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM410	Determination of Coronene in soils by GCMS
TM048	Identification of Asbestos in Bulk Material
TM152	Analysis of Aqueous Samples by ICP-MS
TM168	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM218	The determination of PAH in soil samples by GC-MS
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM415	Determination of Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 241220-96
Client Ref.: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Test Completion Dates

Lab Sample No(s) Customer Sample Ref.	30879718	30879720	30879721	30879722	30879723	30879724	30879726	30879727	30879728	30879729
	BH 01	BH 02	BH 03	BH 04	BH 05	BH 06	BH 07	BH 08	BH 09	BH 10
	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50
AGS Ref.										
Depth										
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (w)	30-Dec-2024	24-Dec-2024	30-Dec-2024	24-Dec-2024	23-Dec-2024	23-Dec-2024	23-Dec-2024	30-Dec-2024	24-Dec-2024	30-Dec-2024
CEN 10:1 Leachate (1 Stage)	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024
CEN Readings	30-Dec-2024	31-Dec-2024	30-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024
Chromium III	02-Jan-2025	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	02-Jan-2025	02-Jan-2025	31-Dec-2024	02-Jan-2025	31-Dec-2024
Coronene	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	06-Jan-2025	06-Jan-2025
Dissolved Metals by ICP-MS	10-Jan-2025	08-Jan-2025	10-Jan-2025	04-Jan-2025	10-Jan-2025	09-Jan-2025	09-Jan-2025	10-Jan-2025	04-Jan-2025	10-Jan-2025
Dissolved Organic/Inorganic Carbon	28-Dec-2024	02-Jan-2025	28-Dec-2024	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	28-Dec-2024	02-Jan-2025	28-Dec-2024
EPH by GCxGC-FID	02-Jan-2025	31-Dec-2024	31-Dec-2024	31-Dec-2024	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025
EPH CWG GC (S)	03-Jan-2025	03-Jan-2025	03-Jan-2025	03-Jan-2025	03-Jan-2025	31-Dec-2024	02-Jan-2025	02-Jan-2025	07-Jan-2025	31-Dec-2024
Fluoride	02-Jan-2025	02-Jan-2025	30-Dec-2024	02-Jan-2025	02-Jan-2025	02-Jan-2025	30-Dec-2024	02-Jan-2025	02-Jan-2025	30-Dec-2024
GRO by GC-FID (S)	30-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024	31-Dec-2024	02-Jan-2025	30-Dec-2024
Hexavalent Chromium (s)	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	24-Dec-2024	24-Dec-2024	24-Dec-2024	24-Dec-2024	24-Dec-2024	24-Dec-2024
Loss on Ignition in soils	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024	31-Dec-2024	30-Dec-2024
Mercury Dissolved	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	31-Dec-2024	31-Dec-2024	31-Dec-2024	02-Jan-2025	02-Jan-2025	02-Jan-2025
Metals in solid samples by OES	03-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	31-Dec-2024	06-Jan-2025	03-Jan-2025	31-Dec-2024	03-Jan-2025	31-Dec-2024
Moisture at 105C	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024
PAH 16 & 17 Calc	07-Jan-2025	07-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025
PAH by GCMS	07-Jan-2025	07-Jan-2025	04-Jan-2025	04-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	04-Jan-2025
PCBs by GCMS	08-Jan-2025	08-Jan-2025	07-Jan-2025	07-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	07-Jan-2025	07-Jan-2025
pH	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024	31-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024
pH Value of Filtered Water	30-Dec-2024	31-Dec-2024	30-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024
Phenols by HPLC (W)	02-Jan-2025	02-Jan-2025	31-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024	02-Jan-2025	30-Dec-2024	02-Jan-2025
Sample description	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024
Total Organic Carbon	03-Jan-2025	03-Jan-2025	03-Jan-2025	03-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025
TPH CWG GC (S)	03-Jan-2025	03-Jan-2025	03-Jan-2025	03-Jan-2025	02-Jan-2025	31-Dec-2024	02-Jan-2025	02-Jan-2025	07-Jan-2025	31-Dec-2024
VOC MS (S)	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024	31-Dec-2024	31-Dec-2024		31-Dec-2024

Lab Sample No(s) Customer Sample Ref.	30879744	30879731	30879732	30879733	30879735	30879737	30879738	30879739
	SA 03	TP 01	TP 02	TP 03	TP 04	TP 05	TP 06	TP 07
	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50
AGS Ref.								
Depth								
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (w)	30-Dec-2024	30-Dec-2024	23-Dec-2024	30-Dec-2024	24-Dec-2024	23-Dec-2024	23-Dec-2024	23-Dec-2024
Asbestos ID in Solid Samples					03-Jan-2025			03-Jan-2025
CEN 10:1 Leachate (1 Stage)	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	08-Jan-2025
CEN Readings	30-Dec-2024	30-Dec-2024	31-Dec-2024	30-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	08-Jan-2025
Chromium III		02-Jan-2025	02-Jan-2025	02-Jan-2025	03-Jan-2025	02-Jan-2025	02-Jan-2025	03-Jan-2025
Coronene	06-Jan-2025	02-Jan-2025	06-Jan-2025	02-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025	06-Jan-2025
Dissolved Metals by ICP-MS	10-Jan-2025	10-Jan-2025	04-Jan-2025	09-Jan-2025	10-Jan-2025	09-Jan-2025	09-Jan-2025	09-Jan-2025
Dissolved Organic/Inorganic Carbon	28-Dec-2024	28-Dec-2024	02-Jan-2025	28-Dec-2024	28-Dec-2024	02-Jan-2025	02-Jan-2025	02-Jan-2025
EPH by GCxGC-FID	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025
EPH CWG GC (S)	02-Jan-2025	02-Jan-2025	02-Jan-2025	03-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025
Fluoride	02-Jan-2025	30-Dec-2024	30-Dec-2024	02-Jan-2025	02-Jan-2025	02-Jan-2025	30-Dec-2024	02-Jan-2025
GRO by GC-FID (S)		30-Dec-2024	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	31-Dec-2024	30-Dec-2024
Hexavalent Chromium (s)		24-Dec-2024	31-Dec-2024	24-Dec-2024	31-Dec-2024	02-Jan-2025	02-Jan-2025	02-Jan-2025
Loss on Ignition in soils	30-Dec-2024	30-Dec-2024	30-Dec-2024	30-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024	31-Dec-2024
Mercury Dissolved	02-Jan-2025	02-Jan-2025	31-Dec-2024	31-Dec-2024	02-Jan-2025	02-Jan-2025	31-Dec-2024	31-Dec-2024
Metals in solid samples by OES	31-Dec-2024	03-Jan-2025	03-Jan-2025	03-Jan-2025	06-Jan-2025	03-Jan-2025	31-Dec-2024	06-Jan-2025
Moisture at 105C	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024
PAH 16 & 17 Calc	06-Jan-2025	06-Jan-2025	07-Jan-2025	06-Jan-2025	06-Jan-2025	07-Jan-2025	06-Jan-2025	07-Jan-2025
PAH by GCMS	04-Jan-2025	06-Jan-2025	07-Jan-2025	04-Jan-2025	06-Jan-2025	07-Jan-2025	06-Jan-2025	07-Jan-2025
PCBs by GCMS	07-Jan-2025	02-Jan-2025	08-Jan-2025	02-Jan-2025	07-Jan-2025	08-Jan-2025	08-Jan-2025	08-Jan-2025
pH	31-Dec-2024	31-Dec-2024	31-Dec-2024	30-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024
pH Value of Filtered Water	30-Dec-2024	30-Dec-2024	31-Dec-2024	30-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024	31-Dec-2024
Phenols by HPLC (W)	02-Jan-2025	02-Jan-2025	30-Dec-2024	02-Jan-2025	31-Dec-2024	31-Dec-2024	30-Dec-2024	30-Dec-2024
Sample description	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024	21-Dec-2024
Total Organic Carbon	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025
TPH CWG GC (S)		02-Jan-2025	02-Jan-2025	03-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025	02-Jan-2025
VOC MS (S)		31-Dec-2024	03-Jan-2025	03-Jan-2025	03-Jan-2025	03-Jan-2025	31-Dec-2024	30-Dec-2024



CERTIFICATE OF ANALYSIS

SDG: 241220-96
Client Ref: 6409

Report Number: 752485
Location: Cappagh Road, Galway

Superseded Report: 751987

Appendix

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 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 12 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 (BTX). 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.

General

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.

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

Visual Estimation Of Fibre Content

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

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Appendix 8

Waste Classification Report



Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



MLL6I-4PI0Y-B6LSU

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Report is invalid if pages are removed.

Job name

6409

Description/Comments

Client: Galway County Council
Engineer: Tobin Consulting Engineers

Project

Cappagh Road

Site

Knocknacarra, Galway, Co. Galway

Classified by

Name:	Company:
Stephen Letch	Site Investigations Ltd
Date:	The Grange
14 Jan 2025 15:00 GMT	12th Lock Road
Telephone:	Lucan
00353 86817 9449	K78 F598

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification
Most recent 3 year Refresher

Date

09 Oct 2019
04 Oct 2022

Next 3 year Refresher due by Oct 2025

Purpose of classification

2 - Material Characterisation

Address of the waste

Cappagh Road, Knocknacarra, Galway, Co. Galway

Post Code N/A

SIC for the process giving rise to the waste

43130 Test drilling and boring

Description of industry/producer giving rise to the waste

Site Investigation

Description of the specific process, sub-process and/or activity that created the waste

Soils recovered for environmental testing

Description of the waste

Natural soils



Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	WAC Results		Page
					Inert	Non Haz	
1	BH01-0.50	0.50	Non Hazardous		Fail	Fail	3
2	BH02-0.50	0.50	Non Hazardous		Fail	Fail	7
3	BH03-0.50	0.50	Non Hazardous		Pass	Fail	11
4	BH04-0.50	0.50	Non Hazardous		Pass	Fail	15
5	BH05-0.50	0.50	Non Hazardous		Pass	Fail	19
6	BH06-0.50	0.50	Non Hazardous		Pass	Pass	23
7	BH07-0.50	0.50	Non Hazardous		Pass	Pass	27
8	BH08-0.50	0.50	Non Hazardous		Fail	Fail	31
9	BH09-0.50	0.50	Non Hazardous		-	Fail	35
10	BH10-0.50	0.50	Non Hazardous		Pass	Fail	39
11	SA03-0.50	0.50	Non Hazardous		-	Fail	43
12	TP01-0.50	0.50	Non Hazardous		Fail	Fail	46
13	TP02-0.50	0.50	Non Hazardous		Fail	Pass	50
14	TP03-0.50	0.50	Non Hazardous		Pass	Fail	54
15	TP04-0.50	0.50	Non Hazardous		Fail	Fail	58
16	TP05-0.50	0.50	Non Hazardous		Pass	Fail	62
17	TP06-0.50	0.50	Non Hazardous		Fail	Pass	66
18	TP07-0.50	0.50	Non Hazardous		Pass	Fail	70

Related documents

#	Name	Description
1	241220-96.hwol	ALS Hawarden .hwol file used to populate the Job
2	Rilta Suite NEW	waste stream template used to create this Job

WAC results

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate the samples in this Job: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

Report

Created by: Stephen Letch

Created date: 14 Jan 2025 15:00 GMT

Appendices	Page
Appendix A: Classifier defined and non EU CLP determinands	74
Appendix B: Rationale for selection of metal species	76
Appendix C: Version	76



Classification of sample: BH01-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH01-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
30%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 30% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				47.4 mg/kg		33.18 mg/kg	0.00332 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☒					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				1.7 mg/kg	1.534	1.825 mg/kg	0.000183 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				29.3 mg/kg	1.233	25.299 mg/kg	0.00253 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.0509 mg/kg	1.855	0.0661 mg/kg	0.00000661 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				10.3 mg/kg	1.126	8.118 mg/kg	0.000812 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	75.6 mg/kg		52.92 mg/kg	0.00529 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.684 mg/kg	1.5	0.718 mg/kg	0.0000718 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				4.83 mg/kg	2.637	8.915 mg/kg	0.000891 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.99 mg/kg	1.405	1.957 mg/kg	0.000196 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				43.3 mg/kg	2.469	74.844 mg/kg	0.00748 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6.76 mg/kg	1.462	6.916 mg/kg	0.000692 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<6 mg/kg	1.923	<11.539 mg/kg	<0.00115 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
23	pyrene	204-927-3	129-00-0		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
25	chrysene	601-048-00-0	205-923-4	218-01-9	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	pH		PH		5.81 pH		5.81 pH	5.81 pH		
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
Total:								0.0228 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00332%)



WAC results for sample: BH01-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample FAILS the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis			Landfill Waste Acceptance Criteria Limits	
#	Determinand	User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon) %	4.28	3	5
2	LOI (loss on ignition) %	11.1	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes) mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners) mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40) mg/kg	58.3	500	-
6	PAHs (polycyclic aromatic hydrocarbons) mg/kg	<10	100	-
7	pH pH	5.81	-	>6
8	ANC (acid neutralisation capacity) mol/kg		-	-
Eluate Analysis 10:1				
9	arsenic mg/kg	<0.005	0.5	2
10	barium mg/kg	0.0397	20	100
11	cadmium mg/kg	<0.0008	0.04	1
12	chromium mg/kg	<0.01	0.5	10
13	copper mg/kg	0.0549	2	50
14	mercury mg/kg	<0.0001	0.01	0.2
15	molybdenum mg/kg	<0.03	0.5	10
16	nickel mg/kg	0.0063	0.4	10
17	lead mg/kg	0.0638	0.5	10
18	antimony mg/kg	<0.01	0.06	0.7
19	selenium mg/kg	<0.01	0.1	0.5
20	zinc mg/kg	0.0614	4	50
21	chloride mg/kg	22	800	15,000
22	fluoride mg/kg	<5	10	150
23	sulphate mg/kg	<20	1,000	20,000
24	phenol index mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon) mg/kg	110	500	800
26	TDS (total dissolved solids) mg/kg	223	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail
	Non Hazardous WAC criteria fail



Classification of sample: BH02-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH02-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
29%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 29% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				40.2 mg/kg		28.542 mg/kg	0.00285 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☑					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				2.74 mg/kg	1.534	2.984 mg/kg	0.000298 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				50 mg/kg	1.233	43.789 mg/kg	0.00438 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				<0.02 mg/kg	1.855	<0.0371 mg/kg	<0.00000371 %		<LOD
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				7.4 mg/kg	1.126	5.915 mg/kg	0.000592 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	53.9 mg/kg		38.269 mg/kg	0.00383 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.752 mg/kg	1.5	0.801 mg/kg	0.0000801 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				4.66 mg/kg	2.637	8.724 mg/kg	0.000872 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				2.24 mg/kg	1.405	2.235 mg/kg	0.000223 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				36 mg/kg	2.469	63.115 mg/kg	0.00631 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6.17 mg/kg	1.462	6.403 mg/kg	0.00064 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
23	pyrene	204-927-3	129-00-0		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
25	chrysene	601-048-00-0	205-923-4	218-01-9	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	pH		PH		5.68 pH		5.68 pH	5.68 pH		
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
Total:								0.0203 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00285%)



WAC results for sample: BH02-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample FAILS the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	3.33	3	5
2	LOI (loss on ignition)	%	7.48	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	17.4	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.68	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0477	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0611	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	0.0046	0.4	10
17	lead	mg/kg	0.0358	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0851	4	50
21	chloride	mg/kg	37	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	102	500	800
26	TDS (total dissolved solids)	mg/kg	270	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail
	Non Hazardous WAC criteria fail



Classification of sample: BH03-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH03-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				23.6 mg/kg		20.532 mg/kg	0.00205 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☒					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				1.14 mg/kg	1.534	1.521 mg/kg	0.000152 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				14.7 mg/kg	1.233	15.775 mg/kg	0.00158 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				<0.02 mg/kg	1.855	<0.0371 mg/kg	<0.00000371 %		<LOD
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				3.46 mg/kg	1.126	3.389 mg/kg	0.000339 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	15.2 mg/kg		13.224 mg/kg	0.00132 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.319 mg/kg	1.5	0.416 mg/kg	0.0000416 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				3.82 mg/kg	2.637	8.763 mg/kg	0.000876 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.49 mg/kg	1.405	1.821 mg/kg	0.000182 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				43.5 mg/kg	2.469	93.451 mg/kg	0.00935 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				3.94 mg/kg	1.462	5.01 mg/kg	0.000501 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
23	pyrene	204-927-3	129-00-0		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
25	chrysene	601-048-00-0	205-923-4	218-01-9	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	pH		PH		5.87 pH		5.87 pH	5.87 pH		
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
Total:								0.0167 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00205%)



WAC results for sample: BH03-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.37	3	5
2	LOI (loss on ignition)	%	4.11	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	12.9	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.87	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0295	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0586	2	50
14	mercury	mg/kg	0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	0.007	0.4	10
17	lead	mg/kg	0.0389	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0268	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	114	500	800
26	TDS (total dissolved solids)	mg/kg	192	4,000	60,000

Key

	User supplied data
	Non Hazardous WAC criteria fail



Classification of sample: BH04-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH04-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				26.3 mg/kg		23.144 mg/kg	0.00231 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☑					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				1.91 mg/kg	1.534	2.578 mg/kg	0.000258 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				13.9 mg/kg	1.233	15.088 mg/kg	0.00151 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				<0.02 mg/kg	1.855	<0.0371 mg/kg	<0.00000371 %		<LOD
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				3.43 mg/kg	1.126	3.398 mg/kg	0.00034 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	23.5 mg/kg		20.68 mg/kg	0.00207 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				1.61 mg/kg	1.5	2.125 mg/kg	0.000213 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				4.25 mg/kg	2.637	9.861 mg/kg	0.000986 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
13	zinc { zinc sulphate }				39.8 mg/kg	2.469	86.485 mg/kg	0.00865 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				4.55 mg/kg	1.462	5.852 mg/kg	0.000585 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
23	pyrene	204-927-3	129-00-0		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
25	chrysene	601-048-00-0	205-923-4	218-01-9	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	pH		PH		5.39 pH		5.39 pH	5.39 pH		
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
Total:								0.0173 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00231%)



WAC results for sample: BH04-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.54	3	5
2	LOI (loss on ignition)	%	4.32	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	8.58	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.39	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0267	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0224	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	<0.004	0.4	10
17	lead	mg/kg	0.0069	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0466	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	45.3	500	800
26	TDS (total dissolved solids)	mg/kg	153	4,000	60,000

Key

	User supplied data
	Non Hazardous WAC criteria fail



Classification of sample: BH05-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH05-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
16%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☒					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				1.39 mg/kg	1.534	1.791 mg/kg	0.000179 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				28.8 mg/kg	1.233	29.841 mg/kg	0.00298 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.0384 mg/kg	1.855	0.0598 mg/kg	0.00000598 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				2.62 mg/kg	1.126	2.478 mg/kg	0.000248 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	11.5 mg/kg		9.66 mg/kg	0.000966 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.274 mg/kg	1.5	0.345 mg/kg	0.0000345 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				3.81 mg/kg	2.637	8.438 mg/kg	0.000844 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.5 mg/kg	1.405	1.77 mg/kg	0.000177 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				38.9 mg/kg	2.469	80.687 mg/kg	0.00807 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				4.34 mg/kg	1.462	5.328 mg/kg	0.000533 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
23	pyrene	204-927-3	129-00-0		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
25	chrysene	601-048-00-0	205-923-4	218-01-9	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.0005 mg/kg		<0.0005 mg/kg	<0.00000005 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	pH		PH		5.54 pH		5.54 pH	5.54 pH		
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
Total:								0.0154 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification



WAC results for sample: BH05-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.655	3	5
2	LOI (loss on ignition)	%	1.91	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.007	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	<5	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.54	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0176	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0193	2	50
14	mercury	mg/kg	0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	<0.004	0.4	10
17	lead	mg/kg	0.0106	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0321	4	50
21	chloride	mg/kg	22	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	33.9	500	800
26	TDS (total dissolved solids)	mg/kg	104	4,000	60,000

Key

	User supplied data
	Non Hazardous WAC criteria fail



Classification of sample: BH06-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH06-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☒					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				1.35 mg/kg	1.534	1.822 mg/kg	0.000182 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				30.1 mg/kg	1.233	32.673 mg/kg	0.00327 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				<0.02 mg/kg	1.855	<0.0371 mg/kg	<0.00000371 %		<LOD
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				2.39 mg/kg	1.126	2.368 mg/kg	0.000237 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	12.8 mg/kg		11.264 mg/kg	0.00113 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.196 mg/kg	1.5	0.259 mg/kg	0.0000259 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				3.53 mg/kg	2.637	8.191 mg/kg	0.000819 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.01 mg/kg	1.405	1.249 mg/kg	0.000125 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				37.5 mg/kg	2.469	81.487 mg/kg	0.00815 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				3.14 mg/kg	1.462	4.039 mg/kg	0.000404 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
23	pyrene	204-927-3	129-00-0		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
25	chrysene	601-048-00-0	205-923-4	218-01-9	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.0005 mg/kg		<0.0005 mg/kg	<0.00000005 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	pH		PH		6.12 pH		6.12 pH	6.12 pH		
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
Total:								0.0156 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification



WAC results for sample: BH06-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **PASSES** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.427	3	5
2	LOI (loss on ignition)	%	1.41	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.007	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	<5	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	6.12	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0309	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0263	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	<0.004	0.4	10
17	lead	mg/kg	0.0175	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.043	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	41.6	500	800
26	TDS (total dissolved solids)	mg/kg	132	4,000	60,000

Key

User supplied data



Classification of sample: BH07-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH07-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
14%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				12.2 mg/kg		10.492 mg/kg	0.00105 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☒					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				2.28 mg/kg	1.534	3.008 mg/kg	0.000301 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				18.3 mg/kg	1.233	19.413 mg/kg	0.00194 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.0979 mg/kg	1.855	0.156 mg/kg	0.0000156 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				12.3 mg/kg	1.126	11.91 mg/kg	0.00119 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	13.2 mg/kg		11.352 mg/kg	0.00114 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.186 mg/kg	1.5	0.24 mg/kg	0.000024 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				5.44 mg/kg	2.637	12.335 mg/kg	0.00123 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
13	zinc { zinc sulphate }				49.1 mg/kg	2.469	104.269 mg/kg	0.0104 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6.14 mg/kg	1.462	7.718 mg/kg	0.000772 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		0.0293 mg/kg		0.0252 mg/kg	0.00000252 %	✓	
23	pyrene	204-927-3	129-00-0		0.0271 mg/kg		0.0233 mg/kg	0.00000233 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.0172 mg/kg		0.0148 mg/kg	0.00000148 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.0201 mg/kg		0.0173 mg/kg	0.00000173 %	✓	
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	pH		PH		6.62 pH		6.62 pH	6.62 pH		
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
Total:								0.0185 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00105%)



WAC results for sample: BH07-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **PASSES** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.49	3	5
2	LOI (loss on ignition)	%	4.33	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	12.6	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	6.62	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0316	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0787	2	50
14	mercury	mg/kg	0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	0.0097	0.4	10
17	lead	mg/kg	0.0191	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0299	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	91.2	500	800
26	TDS (total dissolved solids)	mg/kg	166	4,000	60,000

Key

User supplied data



Classification of sample: BH08-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH08-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
30%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 30% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				101 mg/kg		70.7 mg/kg	0.00707 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☒					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				8.01 mg/kg	1.534	8.6 mg/kg	0.00086 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				46.9 mg/kg	1.233	40.496 mg/kg	0.00405 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.559 mg/kg	1.855	0.726 mg/kg	0.0000726 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				30.9 mg/kg	1.126	24.353 mg/kg	0.00244 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	40.5 mg/kg		28.35 mg/kg	0.00284 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				1.1 mg/kg	1.5	1.155 mg/kg	0.000116 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				3.56 mg/kg	2.637	6.571 mg/kg	0.000657 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				2.83 mg/kg	1.405	2.783 mg/kg	0.000278 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				28.6 mg/kg	2.469	49.435 mg/kg	0.00494 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6.3 mg/kg	1.462	6.445 mg/kg	0.000645 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<12 mg/kg	1.923	<23.077 mg/kg	<0.00231 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		0.0459 mg/kg		0.0321 mg/kg	0.00000321 %	✓	
23	pyrene	204-927-3	129-00-0		0.0447 mg/kg		0.0313 mg/kg	0.00000313 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.0295 mg/kg		0.0206 mg/kg	0.00000206 %	✓	
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.0331 mg/kg		0.0232 mg/kg	0.00000232 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.0418 mg/kg		0.0293 mg/kg	0.00000293 %	✓	
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.0254 mg/kg		0.0178 mg/kg	0.00000178 %	✓	
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	pH		PH		5.65 pH		5.65 pH	5.65 pH		
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
Total:								0.0264 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00707%)



WAC results for sample: BH08-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample FAILS the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis			Landfill Waste Acceptance Criteria Limits	
#	Determinand	User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	% 9.81	3	5
2	LOI (loss on ignition)	% 20.4	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 59.2	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 5.65	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0118	0.5	2
10	barium	mg/kg 0.0617	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0579	2	50
14	mercury	mg/kg 0.0001	0.01	0.2
15	molybdenum	mg/kg <0.03	0.5	10
16	nickel	mg/kg 0.0093	0.4	10
17	lead	mg/kg 0.0419	0.5	10
18	antimony	mg/kg <0.01	0.06	0.7
19	selenium	mg/kg 0.0217	0.1	0.5
20	zinc	mg/kg 0.0506	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg <5	10	150
23	sulphate	mg/kg 46	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 129	500	800
26	TDS (total dissolved solids)	mg/kg 254	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail
	Non Hazardous WAC criteria fail



Classification of sample: BH09-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH09-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
28%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 28% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				84.8 mg/kg		61.056 mg/kg	0.00611 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☒					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				8.63 mg/kg	1.534	9.531 mg/kg	0.000953 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				31.5 mg/kg	1.233	27.976 mg/kg	0.0028 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.516 mg/kg	1.855	0.689 mg/kg	0.0000689 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				35.6 mg/kg	1.126	28.859 mg/kg	0.00289 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	38.1 mg/kg		27.432 mg/kg	0.00274 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				1.42 mg/kg	1.5	1.534 mg/kg	0.000153 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				3.22 mg/kg	2.637	6.113 mg/kg	0.000611 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.96 mg/kg	1.405	1.983 mg/kg	0.000198 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				33.2 mg/kg	2.469	59.026 mg/kg	0.0059 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6.2 mg/kg	1.462	6.524 mg/kg	0.000652 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<12 mg/kg	1.923	<23.077 mg/kg	<0.00231 %		<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
22	fluoranthene	205-912-4	206-44-0		0.0458 mg/kg		0.033 mg/kg	0.0000033 %	✓	
23	pyrene	204-927-3	129-00-0		0.045 mg/kg		0.0324 mg/kg	0.00000324 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.0331 mg/kg		0.0238 mg/kg	0.00000238 %	✓	
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.0359 mg/kg		0.0258 mg/kg	0.00000258 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.048 mg/kg		0.0346 mg/kg	0.00000346 %	✓	
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.0317 mg/kg		0.0228 mg/kg	0.00000228 %	✓	
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
33	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
34	pH		PH		5.53 pH		5.53 pH	5.53 pH		
Total:								0.0255 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
●	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."



Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00611%)



WAC results for sample: BH09-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample cannot be evaluated against the Inert (Inert waste landfill) criteria because of missing determinand values.

The sample FAILS the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis			Landfill Waste Acceptance Criteria Limits	
#	Determinand	User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	% 7.44	3	5
2	LOI (loss on ignition)	% 16.3	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 47.9	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 5.53	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0096	0.5	2
10	barium	mg/kg 0.0499	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.082	2	50
14	mercury	mg/kg 0.0001	0.01	0.2
15	molybdenum	mg/kg <0.03	0.5	10
16	nickel	mg/kg 0.0082	0.4	10
17	lead	mg/kg 0.031	0.5	10
18	antimony	mg/kg <0.01	0.06	0.7
19	selenium	mg/kg <0.01	0.1	0.5
20	zinc	mg/kg 0.0443	4	50
21	chloride	mg/kg 25	800	15,000
22	fluoride	mg/kg <5	10	150
23	sulphate	mg/kg <20	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 130	500	800
26	TDS (total dissolved solids)	mg/kg 317	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail
	Missing WAC determinand value
	Non Hazardous WAC criteria fail



Classification of sample: BH10-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH10-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				42.5 mg/kg		37.4 mg/kg	0.00374 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☒					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				1.73 mg/kg	1.534	2.335 mg/kg	0.000234 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				15.3 mg/kg	1.233	16.608 mg/kg	0.00166 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.0912 mg/kg	1.855	0.149 mg/kg	0.0000149 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				8.93 mg/kg	1.126	8.848 mg/kg	0.000885 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	23.1 mg/kg		20.328 mg/kg	0.00203 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.558 mg/kg	1.5	0.737 mg/kg	0.0000737 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				3.53 mg/kg	2.637	8.191 mg/kg	0.000819 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.45 mg/kg	1.405	1.793 mg/kg	0.000179 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				32.9 mg/kg	2.469	71.491 mg/kg	0.00715 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				3.61 mg/kg	1.462	4.643 mg/kg	0.000464 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<6 mg/kg	1.923	<11.539 mg/kg	<0.00115 %			<LOD
16	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %			<LOD
17	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %			<LOD
18	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %			<LOD
19	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
20	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %			<LOD
21	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %			<LOD
22	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %			<LOD
23	pyrene	204-927-3	129-00-0		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %			<LOD
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %			<LOD
25	chrysene	601-048-00-0	205-923-4	218-01-9	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %			<LOD
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %			<LOD
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %			<LOD
29	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %			<LOD
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %			<LOD
31	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %			<LOD
32	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %			<LOD
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
37	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
38	pH		PH		5.71 pH		5.71 pH	5.71 pH			
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %			<LOD
Total:									0.0186 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00374%)



WAC results for sample: BH10-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis			Landfill Waste Acceptance Criteria Limits	
#	Determinand	User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	% 1.82	3	5
2	LOI (loss on ignition)	% 4.52	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 19.4	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 5.71	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0057	0.5	2
10	barium	mg/kg 0.0332	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.092	2	50
14	mercury	mg/kg 0.0001	0.01	0.2
15	molybdenum	mg/kg <0.03	0.5	10
16	nickel	mg/kg 0.0067	0.4	10
17	lead	mg/kg 0.0491	0.5	10
18	antimony	mg/kg <0.01	0.06	0.7
19	selenium	mg/kg <0.01	0.1	0.5
20	zinc	mg/kg 0.111	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg <5	10	150
23	sulphate	mg/kg <20	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 126	500	800
26	TDS (total dissolved solids)	mg/kg 204	4,000	60,000

Key

	User supplied data
	Non Hazardous WAC criteria fail



Classification of sample: SA03-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
SA03-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
39%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 39% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				40.7 mg/kg		24.827 mg/kg	0.00248 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☑					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				10.4 mg/kg	1.534	9.731 mg/kg	0.000973 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				35.5 mg/kg	1.233	26.711 mg/kg	0.00267 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				<0.02 mg/kg	1.855	<0.0371 mg/kg	<0.00000371 %		<LOD
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				6.28 mg/kg	1.126	4.313 mg/kg	0.000431 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	318 mg/kg		193.98 mg/kg	0.0194 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				0.428 mg/kg	1.353	0.353 mg/kg	0.0000353 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				13.6 mg/kg	1.5	12.446 mg/kg	0.00124 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				2.1 mg/kg	2.637	3.378 mg/kg	0.000338 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				6.45 mg/kg	1.405	5.528 mg/kg	0.000553 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				44 mg/kg	2.469	66.276 mg/kg	0.00663 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
15	acenaphthylene				<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
		205-917-1	208-96-8							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
17	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
21	pyrene	204-927-3	129-00-0		0.0251 mg/kg		0.0153 mg/kg	0.00000153 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
29	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
30	polychlorobiphenyls; PCB	602-039-00-4	215-648-1		<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
31	coronene	205-881-7	191-07-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
32	pH		PH		5.48 pH		5.48 pH	5.48 pH		
33	chromium { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		<0.9 mg/kg	1.462	<1.315 mg/kg	<0.000132 %		<LOD
Total:								0.035 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
⚙	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00248%)



WAC results for sample: SA03-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample cannot be evaluated against the Inert (Inert waste landfill) criteria because of missing determinand values.

The sample FAILS the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis			Landfill Waste Acceptance Criteria Limits	
#	Determinand	User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	% 10.7	3	5
2	LOI (loss on ignition)	% 32.9	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 25.9	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 5.48	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg <0.005	0.5	2
10	barium	mg/kg 0.044	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.054	2	50
14	mercury	mg/kg <0.0001	0.01	0.2
15	molybdenum	mg/kg <0.03	0.5	10
16	nickel	mg/kg 0.0044	0.4	10
17	lead	mg/kg 0.0199	0.5	10
18	antimony	mg/kg <0.01	0.06	0.7
19	selenium	mg/kg <0.01	0.1	0.5
20	zinc	mg/kg 0.0714	4	50
21	chloride	mg/kg 51	800	15,000
22	fluoride	mg/kg <5	10	150
23	sulphate	mg/kg <20	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 94.6	500	800
26	TDS (total dissolved solids)	mg/kg 423	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail
	Missing WAC determinand value
	Non Hazardous WAC criteria fail



Classification of sample: TP01-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:	
TP01-0.50	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.50 m		
Moisture content:		
41%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 41% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	TPH (C6 to C40) petroleum group				27.5 mg/kg		16.225 mg/kg		0.00162 %	✓	
			TPH								
2	confirm TPH has NOT arisen from diesel or petrol				☑						
3	antimony { antimony trioxide }				<6 mg/kg	1.197	<7.183 mg/kg		<0.000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
4	arsenic { arsenic pentoxide }				10.2 mg/kg	1.534	9.231 mg/kg		0.000923 %	✓	
	033-004-00-6	215-116-9	1303-28-2								
5	barium { barium sulphide }				25.6 mg/kg	1.233	18.631 mg/kg		0.00186 %	✓	
	016-002-00-X	244-214-4	21109-95-5								
6	cadmium { cadmium sulfate }				<0.2 mg/kg	1.855	<0.371 mg/kg		<0.0000371 %		<LOD
	048-009-00-9	233-331-6	10124-36-4								
7	copper { dicopper oxide; copper (I) oxide }				<14 mg/kg	1.126	<15.762 mg/kg		<0.00158 %		<LOD
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	484 mg/kg		285.56 mg/kg		0.0286 %	✓	
	082-001-00-6										
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg		<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	molybdenum { molybdenum(VI) oxide }				14.6 mg/kg	1.5	12.923 mg/kg		0.00129 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
11	nickel { nickel sulfate }				6.79 mg/kg	2.637	10.563 mg/kg		0.00106 %	✓	
	028-009-00-5	232-104-9	7786-81-4								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				5.17 mg/kg	1.405	4.286 mg/kg		0.000429 %	✓	
	034-002-00-8										
13	zinc { zinc sulphate }				44.5 mg/kg	2.469	64.831 mg/kg		0.00648 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				<0.9 mg/kg	1.462	<1.315 mg/kg		<0.000132 %		<LOD
		215-160-9	1308-38-9								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }				<3 mg/kg	1.923	<5.769 mg/kg	<0.000577 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
16	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
17	acenaphthylene				<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
		205-917-1	208-96-8							
18	acenaphthene				<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
		201-469-6	83-32-9							
19	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
20	phenanthrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		201-581-5	85-01-8							
21	anthracene				<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
		204-371-1	120-12-7							
22	fluoranthene				<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
		205-912-4	206-44-0							
23	pyrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		204-927-3	129-00-0							
24	benzo[a]anthracene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
		205-883-8	191-24-2							
32	polychlorobiphenyls; PCB				<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
37	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		205-881-7	191-07-1							
38	pH				5.74 pH		5.74 pH	5.74 pH		
			pH							
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								0.0455 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
🔍	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00162%)



WAC results for sample: TP01-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample FAILS the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	10.6	3	5
2	LOI (loss on ignition)	%	33.6	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	23.2	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.74	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0503	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	0.012	0.5	10
13	copper	mg/kg	0.0761	2	50
14	mercury	mg/kg	0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	0.0057	0.4	10
17	lead	mg/kg	0.034	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.069	4	50
21	chloride	mg/kg	45	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	21	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	114	500	800
26	TDS (total dissolved solids)	mg/kg	435	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail
	Non Hazardous WAC criteria fail



Classification of sample: TP02-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:	
TP02-0.50	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.50 m		
Moisture content:		
27%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 27% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		TPH (C6 to C40) petroleum group				30.8	mg/kg		22.484	mg/kg	0.00225 %	✔	
				TPH									
2		confirm TPH has NOT arisen from diesel or petrol				☒							
3		antimony { antimony trioxide }				<0.6	mg/kg	1.197	<0.718	mg/kg	<0.0000718 %		<LOD
		051-005-00-X	215-175-0	1309-64-4									
4		arsenic { arsenic pentoxide }				1.43	mg/kg	1.534	1.601	mg/kg	0.00016 %	✔	
		033-004-00-6	215-116-9	1303-28-2									
5		barium {  barium sulphide }				13.9	mg/kg	1.233	12.516	mg/kg	0.00125 %	✔	
		016-002-00-X	244-214-4	21109-95-5									
6		cadmium { cadmium sulfate }				0.0469	mg/kg	1.855	0.0635	mg/kg	0.00000635 %	✔	
		048-009-00-9	233-331-6	10124-36-4									
7		copper { dicopper oxide; copper (I) oxide }				4.8	mg/kg	1.126	3.945	mg/kg	0.000395 %	✔	
		029-002-00-X	215-270-7	1317-39-1									
8		lead {  lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	15.7	mg/kg		11.461	mg/kg	0.00115 %	✔	
		082-001-00-6											
9		mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
10		molybdenum { molybdenum(VI) oxide }				0.118	mg/kg	1.5	0.129	mg/kg	0.0000129 %	✔	
		042-001-00-9	215-204-7	1313-27-5									
11		nickel { nickel sulfate }				6.95	mg/kg	2.637	13.377	mg/kg	0.00134 %	✔	
		028-009-00-5	232-104-9	7786-81-4									
12		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				2.21	mg/kg	1.405	2.267	mg/kg	0.000227 %	✔	
		034-002-00-8											
13		zinc { zinc sulphate }				51.5	mg/kg	2.469	92.833	mg/kg	0.00928 %	✔	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				9.59	mg/kg	1.462	10.232	mg/kg	0.00102 %	✔	
			215-160-9	1308-38-9									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
16	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
17	acenaphthylene				<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
		205-917-1	208-96-8							
18	acenaphthene				<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
		201-469-6	83-32-9							
19	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
20	phenanthrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		201-581-5	85-01-8							
21	anthracene				<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
		204-371-1	120-12-7							
22	fluoranthene				<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
		205-912-4	206-44-0							
23	pyrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		204-927-3	129-00-0							
24	benzo[a]anthracene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
		205-883-8	191-24-2							
32	polychlorobiphenyls; PCB				<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
37	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		205-881-7	191-07-1							
38	pH				6.79 pH		6.79 pH	6.79 pH		
			pH							
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								0.0174 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
🔍	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00225%)



WAC results for sample: TP02-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	3.5	3	5
2	LOI (loss on ignition)	%	10.5	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	35.5	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	6.79	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0354	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0567	2	50
14	mercury	mg/kg	0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	0.0058	0.4	10
17	lead	mg/kg	0.0144	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0292	4	50
21	chloride	mg/kg	22	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	166	500	800
26	TDS (total dissolved solids)	mg/kg	319	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail



Classification of sample: TP03-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP03-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☑					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				1.17 mg/kg	1.534	1.561 mg/kg	0.000156 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				17.8 mg/kg	1.233	19.102 mg/kg	0.00191 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.0602 mg/kg	1.855	0.0971 mg/kg	0.00000971 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				8.67 mg/kg	1.126	8.492 mg/kg	0.000849 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	23.4 mg/kg		20.358 mg/kg	0.00204 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				<0.1 mg/kg	1.5	<0.15 mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				5.9 mg/kg	2.637	13.534 mg/kg	0.00135 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.57 mg/kg	1.405	1.919 mg/kg	0.000192 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				54.8 mg/kg	2.469	117.726 mg/kg	0.0118 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				4.79 mg/kg	1.462	6.091 mg/kg	0.000609 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
16	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
17	acenaphthylene				<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
		205-917-1	208-96-8							
18	acenaphthene				<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
		201-469-6	83-32-9							
19	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
20	phenanthrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		201-581-5	85-01-8							
21	anthracene				<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
		204-371-1	120-12-7							
22	fluoranthene				<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
		205-912-4	206-44-0							
23	pyrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		204-927-3	129-00-0							
24	benzo[a]anthracene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
		205-883-8	191-24-2							
32	polychlorobiphenyls; PCB				<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.0005 mg/kg		<0.0005 mg/kg	<0.00000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
37	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		205-881-7	191-07-1							
38	pH				5.65 pH		5.65 pH	5.65 pH		
			pH							
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								0.0202 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification



WAC results for sample: TP03-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.565	3	5
2	LOI (loss on ignition)	%	2.03	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.007	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	5.3	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.65	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0251	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0341	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	0.0092	0.4	10
17	lead	mg/kg	0.0165	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0189	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	42.3	500	800
26	TDS (total dissolved solids)	mg/kg	131	4,000	60,000

Key

	User supplied data
	Non Hazardous WAC criteria fail



Classification of sample: TP04-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:	
TP04-0.50	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.50 m		
Moisture content:		
38%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 38% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				53.9 mg/kg		33.418 mg/kg	0.00334 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☑					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				4.06 mg/kg	1.534	3.861 mg/kg	0.000386 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				65 mg/kg	1.233	49.71 mg/kg	0.00497 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.19 mg/kg	1.855	0.218 mg/kg	0.0000218 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				13.2 mg/kg	1.126	9.214 mg/kg	0.000921 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	82.3 mg/kg		51.026 mg/kg	0.0051 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				1.17 mg/kg	1.5	1.088 mg/kg	0.000109 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				3.03 mg/kg	2.637	4.953 mg/kg	0.000495 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.12 mg/kg	1.405	0.976 mg/kg	0.0000976 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				24.4 mg/kg	2.469	37.356 mg/kg	0.00374 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				4.61 mg/kg	1.462	4.177 mg/kg	0.000418 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
16	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
17	acenaphthylene				<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
		205-917-1	208-96-8							
18	acenaphthene				<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
		201-469-6	83-32-9							
19	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
20	phenanthrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		201-581-5	85-01-8							
21	anthracene				<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
		204-371-1	120-12-7							
22	fluoranthene				<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
		205-912-4	206-44-0							
23	pyrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		204-927-3	129-00-0							
24	benzo[a]anthracene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
		205-883-8	191-24-2							
32	polychlorobiphenyls; PCB				<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
37	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		205-881-7	191-07-1							
38	pH				5.63 pH		5.63 pH	5.63 pH		
			pH							
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								0.0199 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
🔍	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00334%)



WAC results for sample: TP04-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample FAILS the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	6.59	3	5
2	LOI (loss on ignition)	%	15.2	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	22.9	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.63	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0564	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0397	2	50
14	mercury	mg/kg	0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	<0.004	0.4	10
17	lead	mg/kg	0.0514	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0583	4	50
21	chloride	mg/kg	28	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	108	500	800
26	TDS (total dissolved solids)	mg/kg	249	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail
	Non Hazardous WAC criteria fail



Classification of sample: TP05-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:	
TP05-0.50	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.50 m		
Moisture content:		
17%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 17% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	TPH (C6 to C40) petroleum group				12.9 mg/kg		10.707 mg/kg		0.00107 %	✓	
			TPH								
2	confirm TPH has NOT arisen from diesel or petrol				☑						
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg		<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
4	arsenic { arsenic pentoxide }				1.9 mg/kg	1.534	2.419 mg/kg		0.000242 %	✓	
	033-004-00-6	215-116-9	1303-28-2								
5	barium { barium sulphide }				30.3 mg/kg	1.233	31.021 mg/kg		0.0031 %	✓	
	016-002-00-X	244-214-4	21109-95-5								
6	cadmium { cadmium sulfate }				0.0724 mg/kg	1.855	0.111 mg/kg		0.0000111 %	✓	
	048-009-00-9	233-331-6	10124-36-4								
7	copper { dicopper oxide; copper (I) oxide }				3.04 mg/kg	1.126	2.841 mg/kg		0.000284 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	14.9 mg/kg		12.367 mg/kg		0.00124 %	✓	
	082-001-00-6										
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg		<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	molybdenum { molybdenum(VI) oxide }				0.314 mg/kg	1.5	0.391 mg/kg		0.0000391 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
11	nickel { nickel sulfate }				3.75 mg/kg	2.637	8.207 mg/kg		0.000821 %	✓	
	028-009-00-5	232-104-9	7786-81-4								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.47 mg/kg	1.405	1.714 mg/kg		0.000171 %	✓	
	034-002-00-8										
13	zinc { zinc sulphate }				42.9 mg/kg	2.469	87.924 mg/kg		0.00879 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				4.53 mg/kg	1.462	5.495 mg/kg		0.00055 %	✓	
		215-160-9	1308-38-9								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
16	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
17	acenaphthylene				<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
		205-917-1	208-96-8							
18	acenaphthene				<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
		201-469-6	83-32-9							
19	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
20	phenanthrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		201-581-5	85-01-8							
21	anthracene				<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
		204-371-1	120-12-7							
22	fluoranthene				<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
		205-912-4	206-44-0							
23	pyrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		204-927-3	129-00-0							
24	benzo[a]anthracene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
		205-883-8	191-24-2							
32	polychlorobiphenyls; PCB				<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
37	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		205-881-7	191-07-1							
38	pH				5.55 pH		5.55 pH	5.55 pH		
			pH							
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								0.0166 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
🔍	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00107%)



WAC results for sample: TP05-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.25	3	5
2	LOI (loss on ignition)	%	3.31	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.07	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	<5	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.55	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0158	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0184	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	<0.004	0.4	10
17	lead	mg/kg	0.0083	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0401	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	38.8	500	800
26	TDS (total dissolved solids)	mg/kg	<100	4,000	60,000

Key

	User supplied data
	Non Hazardous WAC criteria fail



Classification of sample: TP06-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:	
TP06-0.50	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.50 m		
Moisture content:		
16%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				75 mg/kg		63 mg/kg	0.0063 %	✓	
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☑					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				3.55 mg/kg	1.534	4.574 mg/kg	0.000457 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				23.7 mg/kg	1.233	24.556 mg/kg	0.00246 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				0.228 mg/kg	1.855	0.355 mg/kg	0.0000355 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				22.2 mg/kg	1.126	20.996 mg/kg	0.0021 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	20.8 mg/kg		17.472 mg/kg	0.00175 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.554 mg/kg	1.5	0.698 mg/kg	0.0000698 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				4.58 mg/kg	2.637	10.144 mg/kg	0.00101 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.01 mg/kg	1.405	1.192 mg/kg	0.000119 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				57.1 mg/kg	2.469	118.437 mg/kg	0.0118 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				5.21 mg/kg	1.462	6.396 mg/kg	0.00064 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }				<3 mg/kg	1.923	<5.769 mg/kg	<0.000577 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
16	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
17	acenaphthylene				<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
		205-917-1	208-96-8							
18	acenaphthene				<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
		201-469-6	83-32-9							
19	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
20	phenanthrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		201-581-5	85-01-8							
21	anthracene				<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
		204-371-1	120-12-7							
22	fluoranthene				0.0547 mg/kg		0.0459 mg/kg	0.00000459 %	✓	
		205-912-4	206-44-0							
23	pyrene				0.0551 mg/kg		0.0463 mg/kg	0.00000463 %	✓	
		204-927-3	129-00-0							
24	benzo[a]anthracene				0.038 mg/kg		0.0319 mg/kg	0.00000319 %	✓	
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				0.0457 mg/kg		0.0384 mg/kg	0.00000384 %	✓	
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				0.0514 mg/kg		0.0432 mg/kg	0.00000432 %	✓	
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				0.0184 mg/kg		0.0155 mg/kg	0.00000155 %	✓	
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				0.0376 mg/kg		0.0316 mg/kg	0.00000316 %	✓	
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				0.0251 mg/kg		0.0211 mg/kg	0.00000211 %	✓	
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
		205-883-8	191-24-2							
32	polychlorobiphenyls; PCB				<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
37	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		205-881-7	191-07-1							
38	pH				6.25 pH		6.25 pH	6.25 pH		
			pH							
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								0.0275 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
🔍	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: HP 3 can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0063%)



WAC results for sample: TP06-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	3.12	3	5
2	LOI (loss on ignition)	%	6.91	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.14	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	37.7	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	6.25	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	0.0125	0.5	2
10	barium	mg/kg	0.0434	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.106	2	50
14	mercury	mg/kg	0.0003	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	0.0087	0.4	10
17	lead	mg/kg	0.0334	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0939	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	114	500	800
26	TDS (total dissolved solids)	mg/kg	202	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail



Classification of sample: TP07-0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:	
TP07-0.50	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.50 m		
Moisture content:		
6.4%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 6.4% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
2	confirm TPH has NOT arisen from diesel or petrol				☑					
3	antimony { antimony trioxide }				<0.6 mg/kg	1.197	<0.718 mg/kg	<0.0000718 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				0.849 mg/kg	1.534	1.219 mg/kg	0.000122 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				8.44 mg/kg	1.233	9.744 mg/kg	0.000974 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				<0.02 mg/kg	1.855	<0.0371 mg/kg	<0.00000371 %		<LOD
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				1.95 mg/kg	1.126	2.055 mg/kg	0.000205 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	7.06 mg/kg		6.608 mg/kg	0.000661 %	✓	
	082-001-00-6									
9	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				0.127 mg/kg	1.5	0.178 mg/kg	0.0000178 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				2.28 mg/kg	2.637	5.627 mg/kg	0.000563 %	✓	
	028-009-00-5	232-104-9	7786-81-4							
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
13	zinc { zinc sulphate }				23.5 mg/kg	2.469	54.315 mg/kg	0.00543 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				2.43 mg/kg	1.462	3.324 mg/kg	0.000332 %	✓	
		215-160-9	1308-38-9							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
16	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
17	acenaphthylene				<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
		205-917-1	208-96-8							
18	acenaphthene				<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
		201-469-6	83-32-9							
19	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
20	phenanthrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		201-581-5	85-01-8							
21	anthracene				<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
		204-371-1	120-12-7							
22	fluoranthene				<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
		205-912-4	206-44-0							
23	pyrene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
		204-927-3	129-00-0							
24	benzo[a]anthracene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
		205-883-8	191-24-2							
32	polychlorobiphenyls; PCB				<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
33	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.0005 mg/kg		<0.0005 mg/kg	<0.00000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
37	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		205-881-7	191-07-1							
38	pH				5.9 pH		5.9 pH	5.9 pH		
			pH							
39	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								0.0097 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification



WAC results for sample: TP07-0.50

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"

The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **FAILS** the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.434	3	5
2	LOI (loss on ignition)	%	1.21	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.007	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg	5.85	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<10	100	-
7	pH	pH	5.9	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.005	0.5	2
10	barium	mg/kg	0.0153	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0358	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.03	0.5	10
16	nickel	mg/kg	<0.004	0.4	10
17	lead	mg/kg	0.0116	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	<0.01	0.1	0.5
20	zinc	mg/kg	0.0581	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	<20	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	46.4	500	800
26	TDS (total dissolved solids)	mg/kg	<100	4,000	60,000

Key

	User supplied data
	Non Hazardous WAC criteria fail



Appendix A: Classifier defined and non EU CLP determinands

• **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

• **confirm TPH has NOT arisen from diesel or petrol**

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

• **barium sulphide** (EC Number: 244-214-4, CAS Number: 21109-95-5)

EU CLP index number: 016-002-00-X

Description/Comments:

Additional Hazard Statement(s): EUH031 >= 0.8 %

Reason for additional Hazards Statement(s):

14 Dec 2015 - EUH031 >= 0.8 % hazard statement sourced from: WM3, Table C12.2

• **lead compounds with the exception of those specified elsewhere in this Annex (worst case)**

EU CLP index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following CLP protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

• **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

• **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

• **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315



• **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315, Eye Irrit. 2; H319, STOT SE 3; H335, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

• **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

EU CLP index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

29 Sep 2015 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

• **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

EU CLP index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

• **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC - Group 3, not carcinogenic.

Data source: <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en>

Data source date: 16 Jun 2014

Hazard Statements: STOT SE 2; H371

• **pH** (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

• **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410



Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

Worst case scenario.

arsenic {arsenic pentoxide}

Arsenic pentoxide used as most hazardous species.

barium {barium sulphide}

Chromium VI at limits of detection. Barium sulphide used as the next most hazardous species. No chromate present.

cadmium {cadmium sulfate}

Cadmium sulphate used as the most hazardous species.

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Chromium VI at limits of detection. Lead compounds used as the next most hazardous species. No chromate present.

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight.

nickel {nickel sulfate}

Chromium VI at limits of detection. Nickel sulphate used as the next most hazardous species. No chromate present.

selenium {selenium compounds with the exception of cadmium sulposelenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulposelenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil.

zinc {zinc sulphate}

Chromium VI at limits of detection. Zinc sulphate used as the next most hazardous species. No chromate present.

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments.

chromium {chromium(III) oxide (worst case)}

Worst case scenario

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1.NI - Jan 2021

HazWasteOnline Classification Engine Version: 2025.7.6439.11737 (07 Jan 2025)

HazWasteOnline Database: 2025.7.6439.11737 (07 Jan 2025)



This classification utilises the following guidance and legislation:

WM3 v1.1.NI - Waste Classification - 1st Edition v1.1.NI - Jan 2021

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

17th ATP - Regulation (EU) 2021/849 of 11 March 2021

18th ATP - Regulation (EU) 2022/692 of 16 February 2022

19th ATP - Regulation (EU) 2023/1434 of 25 April 2023

20th ATP - Regulation (EU) 2023/1435 of 2 May 2023

21st ATP - Regulation (EU) 2024/197 of 19 October 2023

22nd ATP - Regulation (EU) 2024/2564 of 19th June 2024

Appendix 9

Survey Data

Survey Data

Location	Irish Transverse Mercator		Elevation	Irish National Grid	
	Easting	Northing		Easting	Northing
Cable Percussive Boreholes					
BH01	524810.663	724448.130	24.02	124843.670	224418.754
BH02	524801.137	724406.901	21.86	124834.142	224377.516
BH03	524780.270	724422.147	23.17	124813.271	224392.765
BH04	524836.546	724410.946	22.33	124869.559	224381.562
BH05	524822.610	724401.777	21.66	124855.620	224372.391
BH06	524809.750	724385.314	20.75	124842.757	224355.925
BH07	524873.990	724349.585	20.48	124907.011	224320.188
BH08	524854.118	724335.924	20.20	124887.135	224306.524
BH09	524883.103	724333.515	19.97	124916.126	224304.115
BH10	524866.778	724318.216	19.98	124899.798	224288.813
Trial Pits					
TP01	524819.170	724437.098	23.54	124852.179	224407.720
TP02	524793.084	724440.587	24.04	124826.087	224411.209
TP03	524810.383	724425.264	22.65	124843.390	224395.883
TP04	524796.218	724402.380	21.73	124829.222	224372.994
TP05	524825.813	724394.306	21.32	124858.824	224364.919
TP06	524878.706	724341.867	20.28	124911.728	224312.469
TP07	524864.192	724328.906	20.03	124897.211	224299.505
Foundation Pits					
FP01	524798.203	724449.795	24.76	124831.207	224420.419
FP02	524874.638	724361.534	20.63	124907.659	224332.140
Soakaway Tests					
SA01	524814.724	724441.275	23.58	124847.732	224411.898
SA02	524801.835	724390.900	21.24	124834.840	224361.512
SA03	524859.357	724323.352	20.06	124892.375	224293.950

Legend Key

-  Locations By Type - CP
-  Locations By Type - IP
-  Locations By Type - OP
-  Locations By Type - TP

Contract No:	6409
Contract Name:	Cappagh Road
Location:	Knocknacarra, Galway, Co. Galway
Client:	Galway County Council
Engineer:	Tobin Consulting Engineers
Title:	Site Plan
Scale:	1:1000
Drawn By:	SL



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