
S.I. Ltd Contract No: 5909

Client: Fingal County Council
Engineer: Downes Associates
Contractor: Site Investigations Ltd

Mayeston,
Poppintree, Dublin 11
Site Investigation Report

Prepared by:

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Stephen Letch

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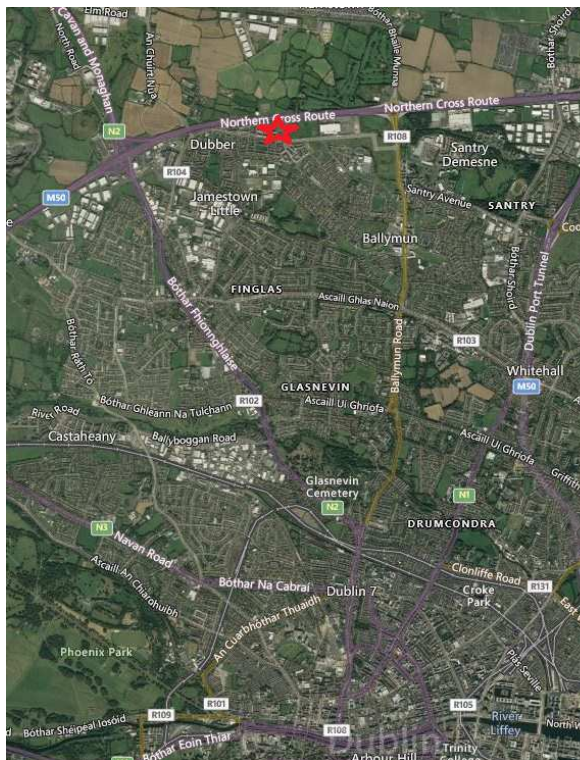
1. Introduction

On the instructions of Downes Associates, Site Investigations Ltd (SIL) was appointed to complete a ground investigation at Mayeston, Poppintree, Dublin 11. The investigation was for a residential development on the site on behalf of the Client, Fingal County Council, was started in November and completed in December 2021.

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

2. Site Location

The site is located in Poppintree, Dublin 11, with the M50 carriageway to the north of the site. The first map below shows the location of the site to the north of Dublin city centre and the second map shows the location of the site in Poppintree.



3. Fieldwork

The fieldworks comprised a programme of cable percussive boreholes with rotary coreholes, trial pits, soakaway tests and California Bearing Ratio tests. 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 of the following:

- 6 No. cable percussive boreholes with 3 No. rotary coreholes
- 10 No. trial pits
- 2 No. soakaway tests
- 8 No. California Bearing Ratio tests

3.1. Cable Percussive Boreholes with Rotary Coreholes

Cable percussion boring was undertaken at 6 No. locations using a Dando 150 rig and constructed 200mm diameter boreholes. BH05 encountered an obstruction at 0.70mbgl and therefore, the borehole was relocated and a reattempt made, BH05A. The boreholes terminated at similar depths ranging from 8.00mbgl to 9.80mbgl after an hours 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., BH01 at 1.00mbgl where N=10-(1,1/2,3,3,2)). 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 8.00mbgl where N=50-(25 for 5mm/50 for 0mm)).

Groundwater monitoring standpipes were installed at BH02, BH04 and BH06 and these consisted of slotted pipe surrounded by a gravel response zone with bentonite seals.

Following completion of the cable percussive boreholes, rotary coreholes were completed at three locations, BH01, BH03 and BH05, to investigate the depth of bedrock. The rotary drilling was carried out using a Sondeq SS71 top drive rig and open hole drilling techniques were used to advance through the overburden to the scheduled depth of 15mbgl. No bedrock was encountered in any of the three locations and the coreholes were backfilled upon completion.

The combined cable percussive and rotary corehole logs are presented in Appendix 1.

3.2. Trial Pits

10 No. trial pits were excavated using a wheeled excavator. The pits were logged and photographed by SIL geotechnical engineer and representative disturbed bulk samples were recovered as the pits were excavated, which were returned to the laboratory for geotechnical testing.

At TP08, a foundation pit was scheduled to expose the existing foundations and the trial pit was completed adjacent to this

The trial pit logs and photographs are presented in Appendix 2 with the foundation pit log in Appendix 3.

3.3. Soakaway Test

Adjacent to 2 No. trial pits, TP01 and TP05, soakaway tests were completed to BRE Special Digest 365 and this 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 4.

3.4. California Bearing Ratio Tests

At 8 No. trial pit locations, undisturbed cylindrical mould samples were recovered to complete California Bearing Ratio tests in the laboratory. The results facilitate the designing of the access roads and associated areas and are completed to BS1377: 1990: Part 4, Clause 7 'Determination of California Bearing Ratio'.

The results are presented in Appendix 5.

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

Geotechnical laboratory testing was completed on representative soil samples in accordance with BS 1377 (1990). Testing included:

- 18 No. Moisture contents
- 18 No. Atterberg limits
- 18 No. Particle size gradings
- 18 No. pH, sulphate and chloride content

Environmental testing was completed by ALS Environmental Ltd. and this allows for a Waste Classification report to be produced. The environmental testing consists of the following:

- 10 No. Suite I analysis

The geotechnical laboratory test results are presented in Appendix 6 with the environmental test results and Waste Classification report in Appendix 7 and 8 respectively.

5. Ground Conditions

5.1. MADE GROUND

MADE GROUND was encountered across the site, generally to between 1.20mbgl and 1.50mbgl although TP02 did reach 2.10mbgl. TP04, TP06 and TP07 were completed at the peak of spoil heaps on the site and these are over 3m in height as the fill material was still encountered at the base of the pit. The material consists of dark brown, brown grey, black brown and grey black slightly sandy slightly gravelly silty clay with low cobble content and some steel, plastic, tyre, red brick and concrete fragments.

5.2. Overburden

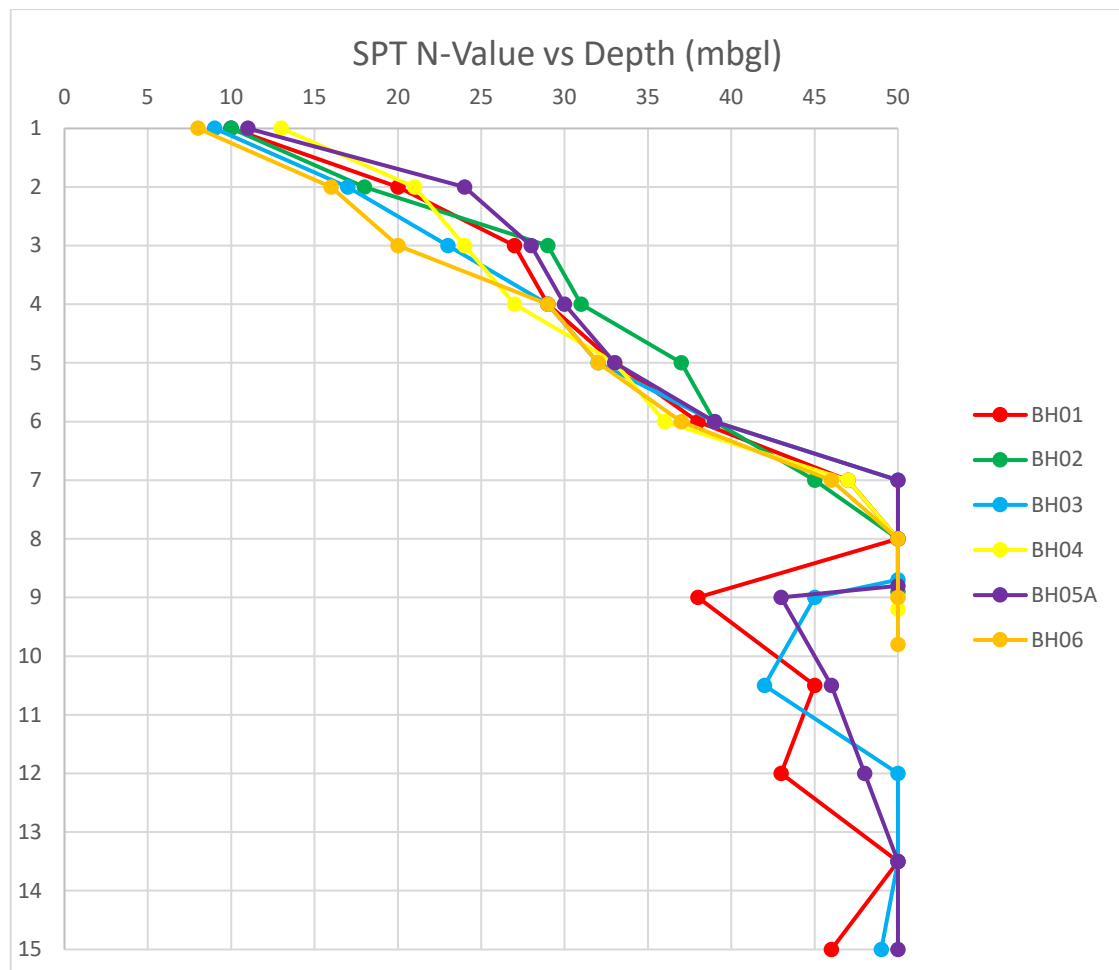
The natural ground conditions are dominated with cohesive soils encountered across the site. This includes brown or grey brown overlying black slightly sandy slightly gravelly silty CLAY with low cobble content soils. The boundary between the brown and black soils is between 2.50mbgl and 2.80mbgl and these ground conditions are encountered across the north Co. Dublin region. The coreholes recorded overburden to 15.00mbgl across the three locations so bedrock is deeper than these levels.

The SPT N-values in the natural ground at 2.00mbgl range from 16 to 24 indicating stiff soils. The N-values then increase to 20 to 29 at 3.00mbgl and the values continue to increase with depth. The graph overleaf shows the SPT N-values vs depth.

Laboratory tests of the shallow cohesive soils confirm that CLAY soils dominate the site with low to intermediate plasticity indexes of 14% to 18% recorded. The particle size distribution curves were poorly sorted straight-line curves with 36% to 84% fines content.

5.3. Groundwater

Groundwater details in the boreholes and trial pits during the fieldworks are noted on the logs in Appendices 1 and 2. No groundwater ingresses were recorded in the boreholes or the trial pits during the fieldworks period.



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

Due to the unknown depth of foundation and no longer-term groundwater information, this analysis assumes the groundwater will not influence the construction or performance of these foundations.

As stated previously, man-made soil was recorded across the site to a maximum depth of 2.10mbgl with three trial pits excavated in spoil heaps. The site previously had started construction of a residential development and therefore the soils may possibly be localised soils spread out over the site. SIL do not recommend that narrow shallow foundations are placed on fill material due to the unknown compaction methods used during laying of man-made material. This unknown could result in softer spots and differential settlement once construction is completed. If shallow foundations are to be used and man-made soils are encountered below foundation level, then the soil should be removed and replaced with engineered fill which is compacted to the required standard.

At 2.00mbgl, the natural soils recorded stiff brown grey with SPT N-values of 20 to 29 recorded across the six boreholes.

Using a correlation proposed by Stroud and Butler between SPT N-values and plasticity indices, the SPT N-value can be used to calculate the undrained shear strength. With the low to intermediate plasticity indexes recorded in the laboratory for the soils encountered on site, this correlation is $C_u=6N$. Therefore, using the lower value of 20, this indicates that the undrained shear strength of the CLAY is 120kN/m^2 . This can be used to calculate the ultimate bearing capacity, and this has been calculated to be 650kN/m^2 . Finally, a factor of safety is applied and with a factor of 3, an allowable bearing capacity of 215kN/m^2 would be anticipated using the lower SPT values.

The MADE GROUND was encountered at 1.00mbgl but an allowable bearing capacity for the natural soils underlying the fill material ranging from 125kN/m^2 to 150kN/m^2 would be anticipated.

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).

- 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.

The trial pit walls remained stable during excavations but it would still be recommended that all excavations should be checked immediately and regular inspection of temporary excavations should be completed during construction to ensure that all slopes are stable. Temporary support should be used on any excavation that will be left open for an extended period.

6.2. 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, nearby construction and tides.

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, no groundwater was encountered during the fieldworks period. There is always considerable uncertainty as to the likely rates of water ingress into excavations in cohesive soil sites due to the possibility of localised unforeseen sand and gravel lenses acting as permeable conduits for unknown volumes of water. 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 of the CLAY will be slow to medium. If granular soils are encountered in shallow excavations, then the possibility of water ingressing into an excavation increase due to the higher permeability of the soils.

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.

6.3. Soakaway Test

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. The unsuitability of the soils for soakaways is further suggested by the soil descriptions of the materials in this area of the site where the soakaway was completed, i.e., well compacted clay soils.

6.4. Pavement Design

The CBR test results in Appendix 4 vary with CBR values ranging from 2.8% to 12.2% with this variation possibly due to the varied nature of the fill material.

The CBR samples were recovered at 0.50mbgl and inspection of the formation strata should be completed prior to construction of the pavement. Once the exact formation levels are finalised then additional in-situ testing could be completed to assist with the detailed pavement design.

6.5. Contamination

Environmental testing was carried out on twelve samples from the investigation and the results are shown in Appendix 6. 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 in Appendix 7, created using HazWasteOnline™ software, shows that the material tested can be classified as non-hazardous material. Five samples did detect total petroleum hydrocarbons above the limit of detection but the level was low and not in the liquid phase so the soils can be classified as non-hazardous.

Following this analysis of the solid test results, the leachate disposal suite results showed that the determinands generally remained within the Inert waste thresholds. The samples from TP04 and TP05 did record sulphate levels just above the Inert threshold and therefore, the results should be sent to the chosen landfill before any soil is excavated from the site to ensure that the material can be accepted by that landfill.

Twelve 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 5 indicate a general pH value between 7.58 and 8.97, which is close to neutral and below the level of 9, therefore no special precautions are required.

The maximum value obtained for water soluble sulphate was 129mg/l as SO₃. The BRE Special Digest 1:2005 – '*Concrete in Aggressive Ground*' guidelines require SO₄ values and after conversion (SO₄ = SO₃ x 1.2), the maximum value of 155mg/l shows Class 1 conditions and no special precautions are required.

Appendix 1
Cable Percussive Borehole and Rotary Corehole Logs

Contract No: 5909	Cable Percussion and Rotary Corehole Log	Corehole No: BH01
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Contract:	Mayeston	Easting:	714154.502	Date Started:	06/12/2021
Location:	Poppintree, Dublin 11	Northing:	741100.970	Date Completed:	07/12/2021
Client:	Fingal County Council	Elevation:	74.53	Drilled By:	D. McEoin / MEDL
Engineer:	Downes Associates	Rig Type:	Dando 150 / Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	Fl/m	
0.5		MADE GROUND: dark brown slightly sandy slightly gravelly silty clay with low cobble content.		74.0							
1.0	1.20	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with low cobble content.		73.5	73.33	N=10 (1,1/2,3,3,2) B / 1.00					
1.5				73.0							
2.0				72.5		N=20 (2,3/4,5,5,6) B / 2.00					
2.5	2.50	Stiff becoming very stiff black slightly sandy slightly gravelly silty CLAY with low cobble content.		72.0	72.03	N=27 (2,3/7,6,7,7) B / 3.00					
3.0				71.5							
3.5				71.0							
4.0				70.5		N=29 (2,2/4,7,9,9) B / 4.00					
4.5				70.0							
5.0				69.5		N=33 (3,4/7,7,9,10) B / 5.00					
5.5				69.0							
6.0				68.5		N=38 (2,5/7,9,11,11) B / 6.00					
6.5				68.0							
7.0				67.5		N=47 (4,5/9,12,12,14) B / 7.00					
7.5				67.0							
8.0	7.90	Obstruction - boulders.		66.5	66.63						
8.0	8.00	Open hole drilling: driller reports returns of sandy gravelly silty CLAY with cobbles.		66.5	66.53	50 (25 for 5mm/50 for 0mm)					
8.5				66.0							
9.0				65.5		N=38 (2,4/8,9,10,11)					
9.5				65.0							
10.0				64.5							
10.5				64.0		N=45 (3,6/8,10,12,15)					
11.0				63.5							
11.5				63.0							
12.0				62.5		N=43 (4,5/7,9,12,15)					
12.5				62.0							
13.0				61.5							
13.5				61.0		50 (9,10/50 for 170mm)					
14.0				60.5							
14.5				60.0							
15.0	15.00	End of Corehole at 15.00m		59.5	59.53	N=46 (4,6/9,10,12,15)					
15.5				59.0							

	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 terminated due to obstruction.		
	7.90	8.00	01:00				06/12	8.00	Dry				0.00	15.00	Arisings			

Contract No: 5909	Cable Percussion and Rotary Corehole Log	Corehole No: BH02
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Contract:	Mayeston	Easting:	714109.757	Date Started:	03/12/2021
Location:	Poppintree, Dublin 11	Northing:	741109.295	Date Completed:	03/12/2021
Client:	Fingal County Council	Elevation:	75.24	Drilled By:	D. McEoin
Engineer:	Downes Associates	Rig Type:	Dando 150	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	Fl/m	
0.5		MADE GROUND: dark brown slightly sandy slightly gravelly silty clay with low cobble content.		75.0							
1.0	1.20	Firm becoming stiff grey brown slightly sandy gravelly silty CLAY with low cobble content.		74.0	74.04	N=10 (1,2/2,3,2,3) B / 1.00					
1.5				73.5							
2.0				73.0		N=18 (1,3/4,4,5,5) B / 2.00					
2.5				72.5	72.54	N=29 (4,5/7,7,8,7) B / 3.00					
3.0	2.70	Stiff becoming very stiff black slightly sandy gravelly silty CLAY with low cobble content.		72.0		N=31 (2,4/5,8,9,9) B / 4.00					
3.5				71.5							
4.0				71.0		N=37 (2,3/7,9,10,11) B / 5.00					
4.5				70.5							
5.0				70.0		N=39 (3,5/6,10,11,12) B / 6.00					
5.5				69.5							
6.0				69.0		N=45 (4,5/8,13,12,12) B / 7.00					
6.5				68.5							
7.0				68.0		50 (7,9/50 for 225mm) B / 8.00					
7.5				67.5							
8.0				67.0							
8.5				66.5	66.44	50 (25 for 5mm/50 for 5mm)					
9.0	8.80 8.90	Obstruction - boulders. End of Corehole at 8.90m		66.0	66.34						
9.5				65.5							
10.0				65.0							
10.5				64.5							
11.0				64.0							
11.5				63.5							
12.0				63.0							
12.5				62.5							
13.0				62.0							
13.5				61.5							
14.0				61.0							
14.5				60.5							
15.0				60.0							
15.5				59.5							

	Chiselling:			Water Strikes:			Water Details:			Installations:			Backfill:			Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water
	From: 8.80	To: 8.90	Time: 01:00	Strike:	Rose:	Sealed:	Date: 03/12	Hole Depth: 8.90	Water Depth: Dry	From: 0.00	To: 1.00	Pipe: Solid	From: 0.00	To: 0.50	Type: Bentonite Gravel	Cable percussive borehole terminated due to obstruction.		

Contract No: 5909	Cable Percussion and Rotary Corehole Log	Corehole No: BH03
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Contract:	Mayeston	Easting:	714061.223	Date Started:	02/12/2021
Location:	Poppintree, Dublin 11	Northing:	741097.892	Date Completed:	06/12/2021
Client:	Fingal County Council	Elevation:	74.20	Drilled By:	D. McEoin / MEDL
Engineer:	Downes Associates	Rig Type:	Dando 150 / Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	Fl/m	
0.5		MADE GROUND: dark brown slightly sandy slightly gravelly silty clay with low cobble content.		74.0		N=9 (1,1/2,2,1,4) B / 1.00					
1.0	1.40			72.80							
1.5		Stiff grey brown slightly sandy slightly gravelly silty CLAY with low cobble content.		72.5		N=17 (2,3/3,3,5,6) B / 2.00					
2.0	2.50			72.0							
2.5		Stiff becoming very stiff black slightly sandy slightly gravelly silty CLAY with low cobble content.		71.5		N=23 (2,4/5,5,7,6) B / 3.00					
3.0				71.0							
3.5				70.5							
4.0				70.0							
4.5				69.5							
5.0				69.0							
5.5				68.5							
6.0				68.0							
6.5				67.5							
7.0				67.0							
7.5		66.5									
8.0		66.0									
8.5	8.60	Obstruction - boulders. Open hole drilling: driller reports returns of sandy gravelly silty CLAY with cobbles.		65.60		N=50 (4,6/50 for 285mm) B / 7.00					
9.0	8.70			65.50							
9.5				65.0							
10.0				64.5							
10.5				64.0							
11.0				63.5							
11.5				63.0							
12.0				62.5							
12.5				62.0							
13.0				61.5							
13.5		61.0									
14.0		60.5									
14.5		60.0									
15.0	15.00	End of Corehole at 15.00m		59.20		N=49 (5,7/9,12,14,14)					
15.5				59.0							
				58.5							

	Chiselling:			Water Strikes:			Water Details:			Installations:			Backfill:			Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water
	From: 8.60	To: 8.70	Time: 01:00	Strike:	Rose:	Sealed:	Date: 02/12	Hole Depth: 8.70	Water Depth: Dry	From:	To:	Pipe:	From: 0.00	To: 15.00	Type: Arisings	Cable percussive borehole terminated due to obstruction.		

Contract No: 5909	Cable Percussion and Rotary Corehole Log	Corehole No: BH04
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Contract:	Mayeston	Easting:	714044.117	Date Started:	01/12/2021
Location:	Poppintree, Dublin 11	Northing:	741088.142	Date Completed:	01/12/2021
Client:	Fingal County Council	Elevation:	73.87	Drilled By:	D. McEoin
Engineer:	Downes Associates	Rig Type:	Dando 150	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		MADE GROUND: dark brown slightly sandy slightly gravelly silty clay with low cobble content.		73.5							
1.0	1.30	Stiff grey brown slightly sandy slightly gravelly silty CLAY with low cobble content.		72.5	72.57	N=13 (1,2/2,2,4,5) B / 1.00					
1.5				72.0		N=21 (1,2/4,5,6,6) B / 2.00					
2.0				71.5							
2.5	2.80	Stiff becoming very stiff black slightly sandy slightly gravelly silty CLAY with low cobble content.		71.0	71.07	N=24 (4,5/5,5,7,7) B / 3.00					
3.0				70.5							
3.5				70.0		N=27 (2,3/4,6,8,9) B / 4.00					
4.0				69.5							
4.5				69.0		N=33 (2,3/7,8,9,9) B / 5.00					
5.0				68.5							
5.5				68.0		N=36 (5,5/6,9,11,10) B / 6.00					
6.0				67.5							
6.5				67.0		N=47 (4,7/10,12,12,13) B / 7.00					
7.0				66.5							
7.5				66.0		N=50 (7,9/50 for 245mm) B / 8.00					
8.0				65.5							
8.5				65.0							
9.0	9.10	Obstruction - boulders.		64.77	64.77	50 (25 for 90mm/50 for 10mm) B / 9.00					
9.5	9.20	End of Corehole at 9.20m		64.5	64.67	50 (25 for 5mm/50 for 5mm)					
10.0				64.0							
10.5				63.5							
11.0				63.0							
11.5				62.5							
12.0				62.0							
12.5				61.5							
13.0				61.0							
13.5				60.5							
14.0				60.0							
14.5				59.5							
15.0				59.0							
15.5				58.5							
				58.0							

	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 terminated due to obstruction.		
	9.10	9.20	01:00				01/12	9.20	Dry	0.00	1.00	Solid	0.00	0.50	Bentonite			
										1.00	7.50	Slotted	0.50	9.20	Gravel			

Contract No: 5909	Cable Percussion and Rotary Corehole Log	Corehole No: BH05
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Contract:	Mayeston	Easting:		Date Started:	29/11/2021
Location:	Poppintree, Dublin 11	Northing:		Date Completed:	29/11/2021
Client:	Fingal County Council	Elevation:		Drilled By:	D. McEoin
Engineer:	Downes Associates	Rig Type:	Dando 150	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	Fl/m	
0.5	0.70	MADE GROUND: dark brown slightly sandy slightly gravelly silty clay with low cobble content.		-0.5							
1.0		Obstruction - boulders. End of Corehole at 0.70m		-1.0							
1.5				-1.5							
2.0				-2.0							
2.5				-2.5							
3.0				-3.0							
3.5				-3.5							
4.0				-4.0							
4.5				-4.5							
5.0				-5.0							
5.5				-5.5							
6.0				-6.0							
6.5				-6.5							
7.0				-7.0							
7.5				-7.5							
8.0				-8.0							
8.5				-8.5							
9.0				-9.0							
9.5				-9.5							
10.0				-10.0							
10.5				-10.5							
11.0				-11.0							
11.5				-11.5							
12.0				-12.0							
12.5				-12.5							
13.0				-13.0							
13.5				-13.5							
14.0				-14.0							
14.5				-14.5							
15.0				-15.0							
15.5				-15.5							

	Chiselling:			Water Strikes:			Water Details:			Installations:			Backfill:			Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water
	From: 0.70	To: 0.70	Time: 01:00	Strike:	Rose:	Sealed:	Date: 29/11	Hole Depth: 0.70	Water Depth: Dry	From:	To:	Pipe:	From: 0.00	To: 0.70	Type: Arisings	Cable percussive borehole terminated due to obstruction. Relocated and reattempt made - BH05A.		

Contract No: 5909	Cable Percussion and Rotary Corehole Log	Corehole No: BH05A
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Contract:	Mayeston	Easting:	714023.675	Date Started:	29/11/2021
Location:	Poppintree, Dublin 11	Northing:	741039.269	Date Completed:	07/12/2021
Client:	Fingal County Council	Elevation:	74.23	Drilled By:	D. McEoin / MEDL
Engineer:	Downes Associates	Rig Type:	Dando 150 / 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		MADE GROUND: dark brown slightly sandy slightly gravelly silty clay with low cobble content.		74.0							
1.0	1.30	Stiff grey brown slightly sandy slightly gravelly silty CLAY with low cobble content.		73.5		N=11 (1,2/2,2,3,4) B / 1.00					
1.5				73.0	72.93						
2.0				72.5		N=24 (2,3/5,6,6,7) B / 2.00					
2.5				72.0							
3.0	2.80	Stiff becoming very stiff black slightly sandy slightly gravelly silty CLAY with low cobble content.		71.5	71.43						
3.5				71.0		N=28 (5,6/7,7,7,7) B / 3.00					
4.0				70.5							
4.5				70.0		N=30 (2,4/5,8,8,9) B / 4.00					
5.0				69.5							
5.5				69.0		N=33 (3,5/7,7,10,9) B / 5.00					
6.0				68.5							
6.5				68.0		N=39 (2,4/6,10,11,12) B / 6.00					
7.0				67.5							
7.5				67.0		N=50 (5,7/50 for 290mm) B / 7.00					
8.0				66.5							
8.5				66.0		N=50 (3,4/50 for 275mm) B / 8.00					
8.70	8.70	Obstruction - boulders.		65.5	65.53						
9.0	8.80	Open hole drilling: driller reports returns of sandy gravelly silty CLAY with cobbles.		65.0	65.43	50 (25 for 5mm/50 for 0mm) N=43 (3,5/8,10,12,13)					
9.5				64.5							
10.0				64.0							
10.5				63.5		N=46 (5,5/9,9,13,15)					
11.0				63.0							
11.5				62.5							
12.0				62.0		N=48 (3,6/9,10,14,15)					
12.5				61.5							
13.0				61.0							
13.5				60.5		50 (4,6/50 for 100mm)					
14.0				60.0							
14.5				59.5							
15.0	15.00	End of Corehole at 15.00m		59.0	59.23	N=50 (5,7/50 for 255mm)					
15.5				58.5							

	Chiselling:			Water Strikes:			Water Details:			Installations:			Backfill:			Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water
	From: 8.70	To: 8.80	Time: 01:00	Strike:	Rose:	Sealed:	Date: 29/11	Hole Depth: 8.80	Water Depth: Dry	From:	To:	Pipe:	From: 0.00	To: 15.00	Type: Arisings	Cable percussive borehole terminated due to obstruction.		

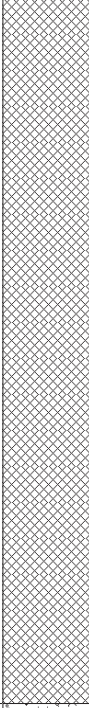

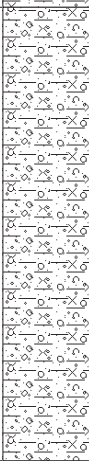

Contract No: 5909	Cable Percussion and Rotary Corehole Log	Corehole No: BH06
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Contract:	Mayeston	Easting:	714054.396	Date Started:	30/11/2021
Location:	Poppintree, Dublin 11	Northing:	741035.750	Date Completed:	30/11/2021
Client:	Fingal County Council	Elevation:	73.84	Drilled By:	D. McEoin
Engineer:	Downes Associates	Rig Type:	Dando 150	Status:	FINAL


Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		MADE GROUND: dark brown slightly sandy gravelly silty clay with low cobble content.		73.5							
1.0				73.0		N=8 (1,1/2,1,1,4) B / 1.00					
1.5	1.40	Stiff grey brown slightly sandy gravelly silty CLAY with low cobble content.		72.5	72.44	N=16 (2,2/3,3,5,5) B / 2.00					
2.0				72.0							
2.5				71.5							
3.0	2.70	Stiff becoming very stiff black slightly sandy slightly gravelly silty CLAY with low cobble content.		71.0	71.14	N=20 (2,3/4,4,5,7) B / 3.00					
3.5				70.5							
4.0				70.0							
4.5				69.5		N=29 (2,3/5,7,8,9) B / 4.00					
5.0				69.0							
5.5				68.5		N=32 (2,4/6,8,9,9) B / 5.00					
6.0				68.0							
6.5				67.5		N=37 (2,3/6,9,11,11) B / 6.00					
7.0				67.0							
7.5				66.5		N=46 (5,7/10,11,11,14) B / 7.00					
8.0				66.0							
8.5				65.5		N=50 (7,9/50 for 255mm) B / 8.00					
9.0				65.0							
9.5				64.5		50 (10,12/50 for 175mm) B / 9.00					
9.70				64.0	64.14	50 (25 for 5mm/50 for 10mm)					
9.80		Obstruction - boulders.		64.0	64.04						
10.0		End of Corehole at 9.80m									

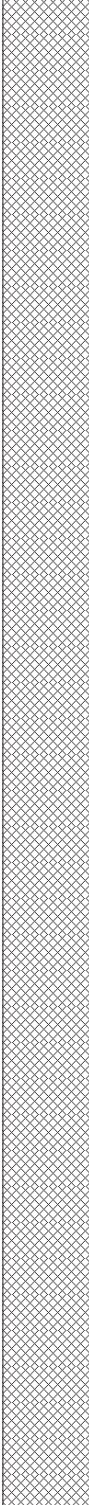

	Chiselling:			Water Strikes:			Water Details:			Installations:			Backfill:			Remarks:		Legend: B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water
	From:	To:	Time:	Strike:	Rose:	Sealed:	Date:	Hole Depth:	Water Depth:	From:	To:	Pipe:	From:	To:	Type:	Cable percussive borehole terminated due to obstruction.		
	9.70	9.80	01:00				30/11	9.80	Dry	0.00	1.00	Solid Slotted	0.00	0.50	Bentonite Gravel			

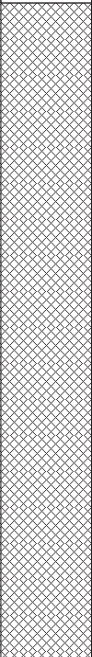
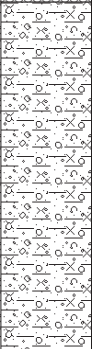
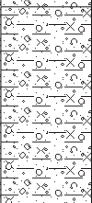


Appendix 2
Trial Pit Logs and Photographs

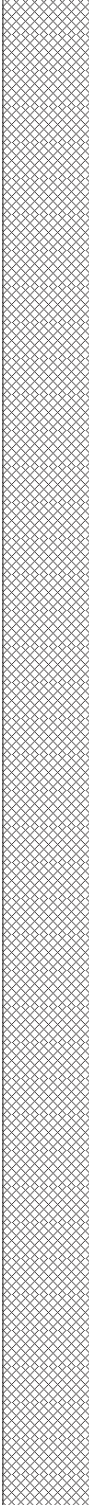

Contract No: 5909		Trial Pit Log				Trial Pit No: TP01			
Contract:	Mayeston	Easting:	714157.320	Date:	29/11/2021				
Location:	Poppintree, Dublin 11	Northing:	741108.462	Excavator:	5T tracked excavator				
Client:	Fingal County Council	Elevation:	74.54	Logged By:	P. McGonagle				
Engineer:	Downes Associates	Dimensions (LxWxD) (m):	3.00 x 0.60 x 2.50	Status:	FINAL				
Level (mbgl)	Stratum Description		Legend	Level (mOD)		Samples / Field Tests		Water Strike	
Scale:	Depth			Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with some steel, concrete and plastic pipe fragments.			74.5				
0.5					74.0	0.50	ES	DM01	
1.0					73.5				
1.40		Soft dark brown sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone.			73.14				
1.5					73.0				
1.60		Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.			72.94				
2.0					72.5	2.00	B	DM02	
2.5	2.50	Pit terminated at 2.50m			72.04				
					72.0				
	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: 5909		Trial Pit Log				Trial Pit No: TP02				
Contract:	Mayeston	Easting:	714097.966	Date:	29/11/2021					
Location:	Poppintree, Dublin 11	Northing:	741110.072	Excavator:	5T tracked excavator					
Client:	Fingal County Council	Elevation:	75.16	Logged By:	P. McGonagle					
Engineer:	Downes Associates	Dimensions (LxWxD) (m):	3.10 x 0.60 x 2.70	Status:	FINAL					
Level (mbgl)		Stratum Description		Legend	Level (mOD)		Samples / Field Tests		Water Strike	
Scale:	Depth				Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with low cobble content and some plastic pipe fragments.		[Cross-hatch pattern]						
0.5					75.0					
						0.50	ES	DM03		
					74.5					
1.0						1.00	ES	DM04		
					74.0					
					73.5					
1.5										
					73.06					
2.0										
	2.10	Soft dark brown sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone.		[Small circles]	73.0					
	2.20	Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		[Small circles with dots]	72.96					
2.5						2.50	B	DM05		
					72.5					
	2.70	Pit terminated at 2.70m			72.46					
		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			

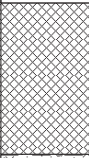







Contract No: 5909		Trial Pit Log				Trial Pit No: TP03					
Contract: Mayeston		Easting: 714067.786	Date: 29/11/2021								
Location: Poppintree, Dublin 11		Northing: 741109.599	Excavator: 5T tracked excavator								
Client: Fingal County Council		Elevation: 75.17	Logged By: P. McGonagle								
Engineer: Downes Associates		Dimensions (LxWxD) (m): 2.80 x 0.60 x 1.50	Status: FINAL								
Level (mbgl)	Stratum Description			Legend	Level (mOD)		Samples / Field Tests			Water Strike	
Scale:	Depth					Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: brown slightly sandy slightly gravelly silty clay.			[Cross-hatched pattern]						
0.5						75.0		0.50	ES	DM06	
	0.80	MADE GROUND: black brown slightly sandy slightly gravelly silty clay with medium cobble content and occasional red brick fragments.					74.37				
1.0						74.0		1.00	B	DM07	
	1.50	Pit terminated at 1.50m				73.67					
1.5						73.5					
2.0						73.0					
2.5						72.5					
	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				

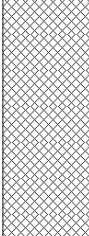
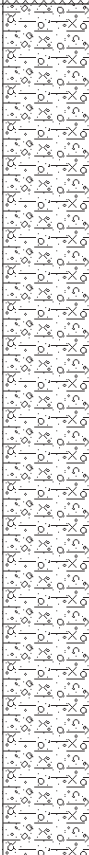



Contract No: 5909		Trial Pit Log				Trial Pit No: TP04				
Contract:		Mayeston	Easting:	714040.075	Date:	29/11/2021				
Location:		Poppintree, Dublin 11	Northing:	741115.926	Excavator:	5T tracked excavator				
Client:		Fingal County Council	Elevation:	77.99	Logged By:	P. McGonagle				
Engineer:		Downes Associates	Dimensions (LxWxD) (m):	2.90 x 0.60 x 3.00	Status:	FINAL				
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples / Field Tests			Water Strike	
Scale:	Depth			Scale:	Depth:	Depth	Type	Result		
		MADE GROUND: black brown slightly sandy slightly gravelly silty clay with medium cobble content and some red brick, concrete and tyre fragments.								
0.5				77.5	0.50	ES	DM08			
1.0				77.0	1.00	B	DM09			
1.5				76.5						
2.0				76.0						
2.5				75.5						
3.00										
				Pit terminated at 3.00m		74.99				
	Termination:			Pit Wall Stability:	Groundwater Rate:	Remarks:		Key:		
	Scheduled depth.			Pit walls stable.	Dry	-		B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental		

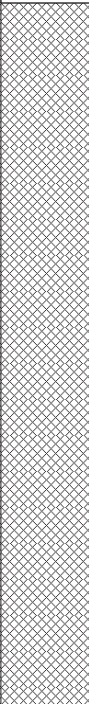
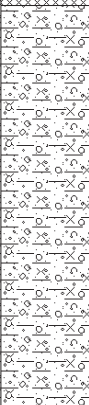

Contract No: 5909		Trial Pit Log				Trial Pit No: TP05				
Contract:	Mayeston	Easting:	714043.144	Date:	29/11/2021					
Location:	Poppintree, Dublin 11	Northing:	741095.555	Excavator:	5T tracked excavator					
Client:	Fingal County Council	Elevation:	73.97	Logged By:	P. McGonagle					
Engineer:	Downes Associates	Dimensions (LxWxD) (m):	2.80 x 0.60 x 2.40	Status:	FINAL					
Level (mbgl)		Stratum Description		Legend	Level (mOD)		Samples / Field Tests		Water Strike	
Scale:	Depth				Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with some steel and plastic fragments.								
0.5							73.5	0.50	ES	DM10
							73.0			
	1.30	Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.					72.67			
	1.5						72.5	1.50	B	DM11
							72.0			
	2.00	Stiff black slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.					71.97			
							72.0			
	2.40	Pit terminated at 2.40m					71.57			
							71.5			
							71.0			
		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: 5909		Trial Pit Log				Trial Pit No: TP06			
Contract:	Mayeston	Easting:	714045.552	Date:	29/11/2021				
Location:	Poppintree, Dublin 11	Northing:	741070.734	Excavator:	5T tracked excavator				
Client:	Fingal County Council	Elevation:	77.35	Logged By:	P. McGonagle				
Engineer:	Downes Associates	Dimensions (LxWxD) (m):	2.80 x 0.60 x 3.00	Status:	FINAL				
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples / Field Tests			Water Strike
Scale:	Depth			Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with low cobble content.							
0.5				77.0		0.50	ES	DM12	
				76.5		1.00	B	DM14	
1.0				76.0		1.50	ES	DM13	
				75.5					
				75.0					
		74.5							
3.00		Pit terminated at 3.00m			74.35				
	Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:			Key:		
	Scheduled depth.	Pit walls stable.	Dry	-			B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental		

Contract No: 5909		Trial Pit Log				Trial Pit No: TP07					
Contract:		Mayeston	Easting:		714042.311	Date:		29/11/2021			
Location:		Poppintree, Dublin 11	Northing:		741056.918	Excavator:		5T tracked excavator			
Client:		Fingal County Council	Elevation:		77.31	Logged By:		P. McGonagle			
Engineer:		Downes Associates	Dimensions (LxWxD) (m):		2.90 x 0.60 x 3.00	Status:		FINAL			
Level (mbgl)		Stratum Description			Legend	Level (mOD)		Samples / Field Tests		Water Strike	
Scale:	Depth					Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with low cobble content.									
0.5						77.0		0.50	ES	DM15	
1.0						76.5		1.00	B	DM17	
1.5						76.0		1.50	ES	DM16	
2.0						75.5					
2.5						75.0					
3.00		Pit terminated at 3.00m				74.5					
						74.31					
	Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:		Key:					
	Scheduled depth.	Pit walls stable.	Dry	-		B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental					

Contract No: 5909		Trial Pit Log				Trial Pit No: TP08			
Contract:		Mayeston	Easting:	714014.083	Date:	29/11/2021			
Location:		Poppintree, Dublin 11	Northing:	741024.490	Excavator:	5T tracked excavator			
Client:		Fingal County Council	Elevation:	74.50	Logged By:	P. McGonagle			
Engineer:		Downes Associates	Dimensions (LxWxD) (m):	2.50 x 0.60 x 2.40	Status:	FINAL			
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples / Field Tests			Water Strike
Scale:	Depth			Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: grey black silty sandy gravel (Cl. 804).							
	0.30	Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.			74.20				
	0.5				74.0	0.50	ES	DM18	
	1.0				73.5	1.00	B	DM19	
	1.5				73.0				
	2.0				72.5				
	2.40	Pit terminated at 2.40m			72.10				
	2.5				72.0				
		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: 5909		Trial Pit Log				Trial Pit No: TP09			
Contract:	Mayeston	Easting:	714060.149	Date:	29/11/2021				
Location:	Poppintree, Dublin 11	Northing:	741035.605	Excavator:	5T tracked excavator				
Client:	Fingal County Council	Elevation:	73.84	Logged By:	P. McGonagle				
Engineer:	Downes Associates	Dimensions (LxWxD) (m):	2.50 x 0.60 x 2.40	Status:	FINAL				
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples / Field Tests			Water Strike
Scale:	Depth			Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: grey black silty sandy gravel (Cl. 804).							
0.5	0.50	Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		73.5					
				73.34		0.60	ES	DM20	
				73.0					
				73.0		1.00	B	DM21	
				72.5					
				72.5					
				72.0					
				72.0					
	2.20	Stiff black slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.							
	2.40	Pit terminated at 2.40m		71.64					
				71.5					
				71.44					
				71.0					
				71.0					
	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: 5909		Trial Pit Log				Trial Pit No: TP10			
Contract:		Mayeston	Easting:	714070.398	Date:	29/11/2021			
Location:		Poppintree, Dublin 11	Northing:	741085.860	Excavator:	5T tracked excavator			
Client:		Fingal County Council	Elevation:	74.09	Logged By:	P. McGonagle			
Engineer:		Downes Associates	Dimensions (LxWxD) (m):	2.60 x 0.60 x 2.20	Status:	FINAL			
Level (mbgl)		Stratum Description	Legend	Level (mOD)		Samples / Field Tests			Water Strike
Scale:	Depth			Scale:	Depth:	Depth	Type	Result	
		MADE GROUND: grey black silty sandy gravel (Cl. 804).		74.0					
0.5				73.5		0.50	ES	DM22	
1.0				73.0					
1.40				72.69					
1.5		Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		72.5					
2.0				72.0		2.00	B	DM23	
2.20		Pit terminated at 2.20m		71.89					
2.5				71.5					
		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		

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



TP08 Sidewall



TP08 Spoil



TP09 Sidewall



TP09 Spoil



TP10 Sidewall



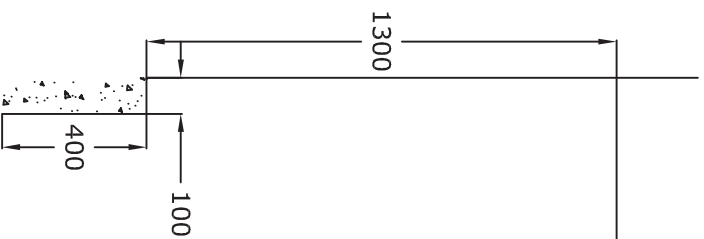
TP10 Spoil



Appendix 3
Foundation Pit Log

Foundation Pits

TP08



Foundation Details:

Floor slab extends to 1300mm below ground level - foundation step out extends 100mm from wall and minimum of 400mm thick. Unable to expose base of foundation pit due to depth.

Ground Conditions:

- 0.00m:** MADE GROUND: grey black silty sandy gravel (Cl. 804).
- 0.30m:** Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content.
- 2.40m:** Pit terminated.



SITE INVESTIGATIONS LTD

Project:

Mayeston

Client:

Fingal County Council

Consultant:

Downes Associates

Logged by:
P. McGonagle

Excavation Started:
29/11/2021

Excavation Finished:
29/11/2021

CONTRACT
NUMBER

Scale:
NOT TO SCALE, ALL DISTANCES IN mm

DEPTH ARE TO THE TOP OF SERVICES

5909

Appendix 4
Soakaway Test Results and Photographs

SOAKAWAY TEST



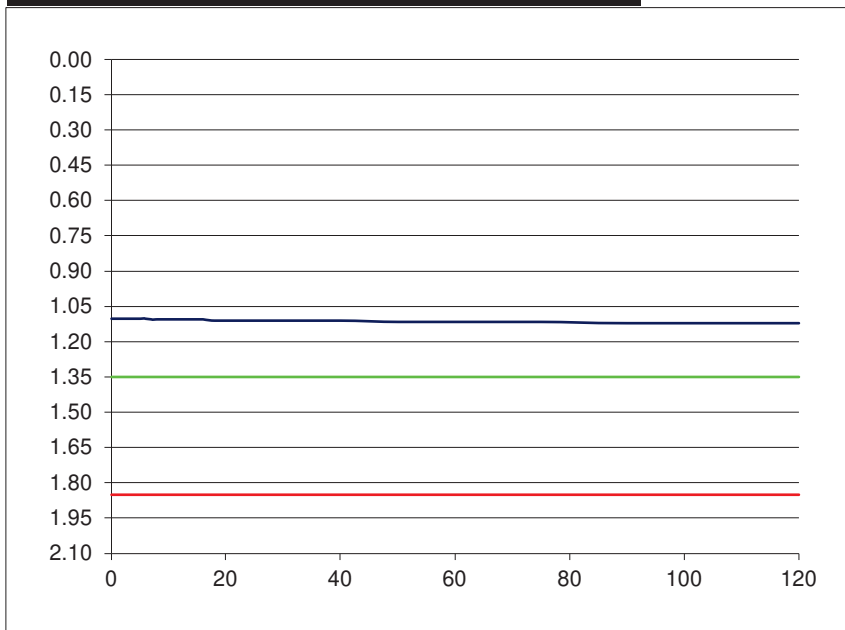
Project Reference:	5909
Contract name:	Mayeston
Location:	Poppintree, Dublin 11
Test No:	SA01
Date:	29/11/2021

Ground Conditions

From	To	
0.00	1.40	MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with some steel, concrete and plastic pipe fragments.
1.40	1.60	Soft dark brown sandy slightly gravelly silty CLAY.
1.60	2.10	Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content.

Elapsed Time (mins)	Fall of Water (m)
0	1.10
0.5	1.10
1	1.10
1.5	1.10
2	1.10
2.5	1.10
3	1.10
3.5	1.10
4	1.10
4.5	1.10
5	1.10
6	1.10
7	1.11
8	1.11
9	1.11
10	1.11
12	1.11
14	1.11
16	1.11
18	1.11
20	1.11
25	1.11
30	1.11
40	1.11
50	1.12
60	1.12
75	1.12
90	1.12
120	1.12

Pit Dimensions (m)	
Length (m)	3.00 m
Width (m)	0.60 m
Depth	2.10 m
Water	
Start Depth of Water	1.10 m
Depth of Water	1.00 m
75% Full	1.35 m
25% Full	1.85 m
75%-25%	0.50 m
Volume of water (75%-25%)	0.90 m ³
Area of Drainage	15.12 m ²
Area of Drainage (75%-25%)	5.40 m ²
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



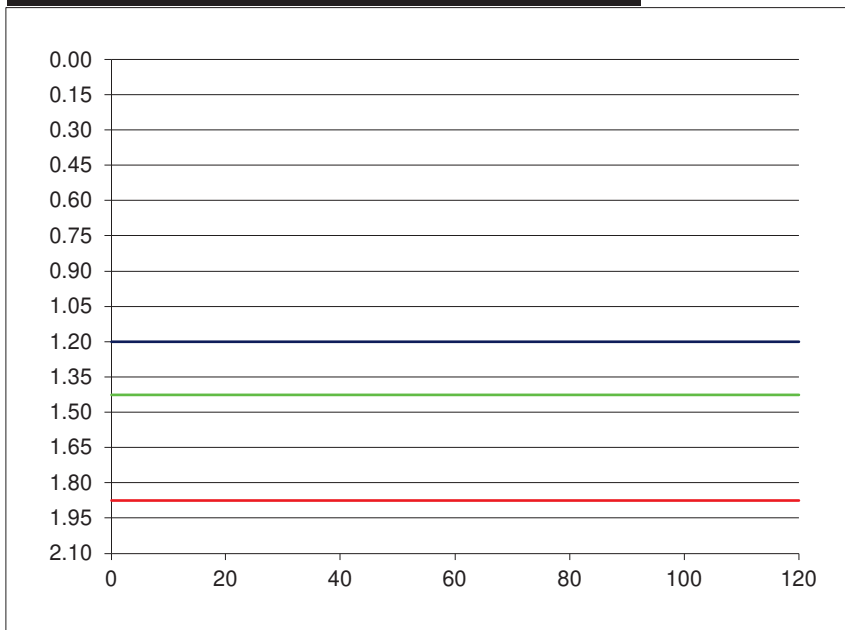
Project Reference:	5909
Contract name:	Mayeston
Location:	Poppintree, Dublin 11
Test No:	SA02
Date:	29/11/2021

Ground Conditions

From	To	
0.00	1.30	MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with some steel and plastic fragments.
1.30	2.00	Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content.
2.00	2.10	Stiff black slightly sandy slightly gravelly silty CLAY with low cobble content.

Elapsed Time (mins)	Fall of Water (m)
0	1.20
0.5	1.20
1	1.20
1.5	1.20
2	1.20
2.5	1.20
3	1.20
3.5	1.20
4	1.20
4.5	1.20
5	1.20
6	1.20
7	1.20
8	1.20
9	1.20
10	1.20
12	1.20
14	1.20
16	1.20
18	1.20
20	1.20
25	1.20
30	1.20
40	1.20
50	1.20
60	1.20
75	1.20
90	1.20
120	1.20

Pit Dimensions (m)	
Length (m)	2.80 m
Width (m)	0.60 m
Depth	2.10 m
Water	
Start Depth of Water	1.20 m
Depth of Water	0.90 m
75% Full	1.43 m
25% Full	1.88 m
75%-25%	0.45 m
Volume of water (75%-25%)	0.76 m ³
Area of Drainage	14.28 m ²
Area of Drainage (75%-25%)	4.74 m ²
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 **Fail**
m/min

Fail
m/s

SA01 Sidewall



SA01 Spoil



SA02 Sidewall



SA02 Spoil



Appendix 5
California Bearing Ratio Test Results

California Bearing Ratio (CBR) In accordance with BS1377: Part 4: Method 7

Client	Fingal County Council
Site	Mayeston Housing
S.I. File No	5909 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie
Report Date	6th December 2021

CBR No	Depth (mBGL)	Sample No	Sample Type	Lab Ref	Moisture Content (%)	CBR Value (%)	Location / Remarks
TP01	0.50	PM30	CBR	21/1195	12.2	3.2	
TP02	0.50	PM31	CBR	21/1196	11.8	4.1	
TP03	0.50	PM32	CBR	21/1197	8.1	11.6	
TP04	0.50	PM33	CBR	21/1198	15.0	2.8	
TP05	0.50	PM33	CBR	21/1198	13.6	3.8	
TP08	0.50	PM34	CBR	21/1199	12.1	5.2	
TP09	0.50	PM35	CBR	21/1199	8.0	12.2	
TP10	0.50	PM36	CBR	21/1199	7.7	9.9	

Appendix 6
Geotechnical Laboratory Test Results

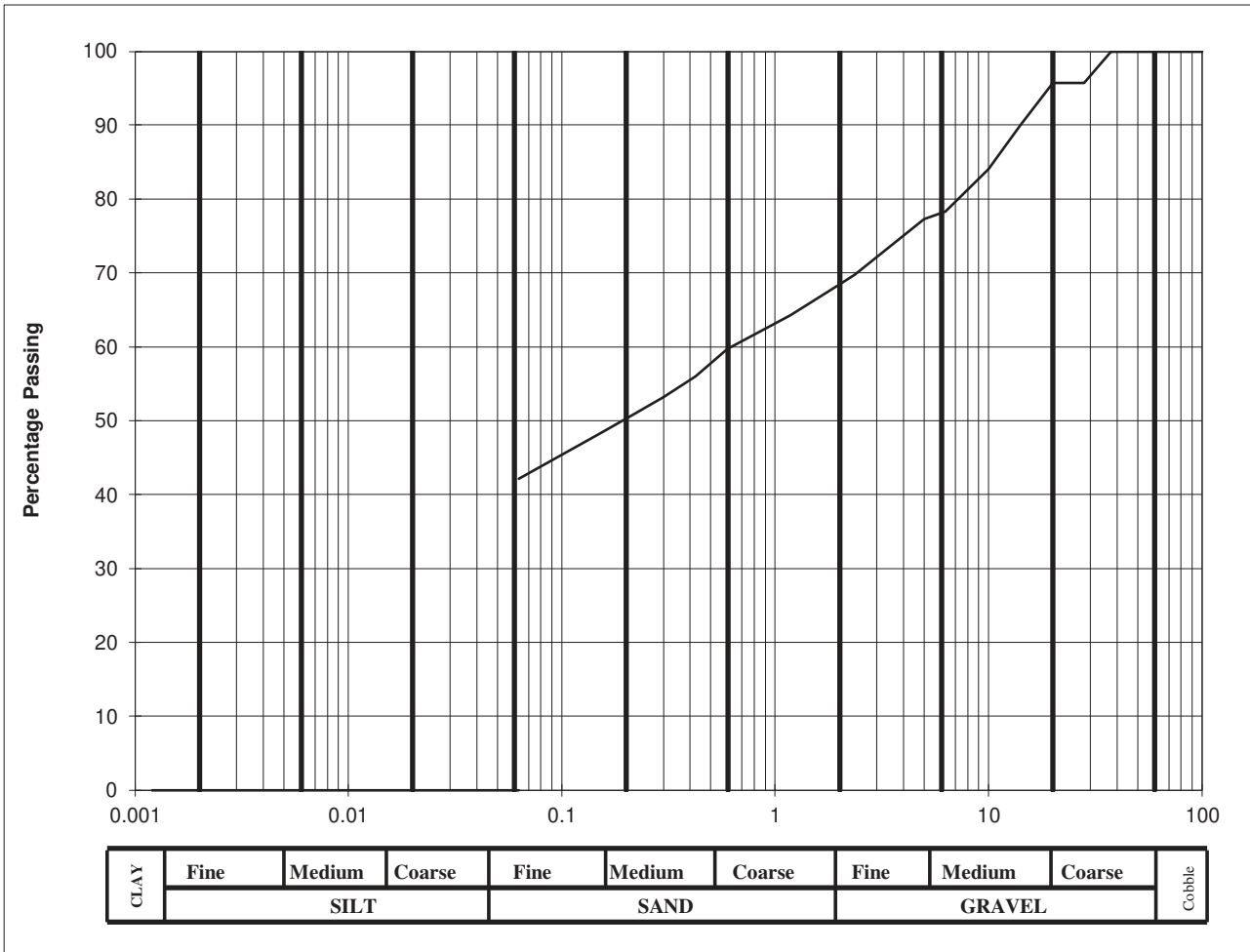
Classification Tests in accordance with BS1377: Part 4

Client	Fingal County Council
Site	Mayeston Housing
S.I. File No	5909 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie
Report Date	10th December 2021

Hole ID	Depth	Sample No	Lab Ref No.	Sample Type	Natural Moisture Content %	Liquid Limit %	Plastic Limit %	Plastic Index %	Min. Dry Density Mg/m ³	Particle Density Mg/m ³	% passing 425um	Comments	Remarks C=Clay; M=Silt Plasticity: L=Low; I=Intermediate; H=High; V=Very High; E=Extremely High
BH01	1.70	DM11	21/1330	B	17.8	37	20	17			56.0		CI
BH02	2.00	DM13	21/1331	B	14.9	34	18	16			50.8		CL
BH02	3.70	DM14	21/1332	B	14.4	36	18	18			60.9		CI
BH03	2.20	DM09	21/1333	B	20.7	36	20	16			66.3		CI
BH03	3.50	DM10	21/1334	B	12.6	37	19	18			55.7		CI
BH04	2.70	DM07	21/1335	B	12.2	39	21	18			56.4		CI
BH04	3.30	DM08	21/1336	B	11.0	38	20	18			49.9		CI
BH05A	1.00	DM01	21/1337	B	12.5	33	18	15			52.7		CL
BH05A	1.30	DM02	21/1338	B	17.2	34	19	15			55.3		CL
BH06	1.00	DM04	21/1339	B	13.5	36	20	16			52.5		CI
BH06	2.00	DM05	21/1340	B	12.1	37	19	18			48.0		CI
TP01	2.00	PM20	21/1313	B	9.5	33	18	15			73.6		CL
TP02	2.50	PM23	21/1314	B	9.5	36	20	16			90.7		CI
TP03	1.00	PM16	21/1315	B	10.4	38	21	17			56.0		CI
TP05	1.50	PM18	21/1316	B	9.1	35	20	15			60.9		CL/CI
TP08	1.00	PM02	21/1317	B	8.7	34	20	14			58.9		CL
TP09	1.00	PM04	21/1318	B	11.1	36	20	16			61.5		CI
TP10	2.00	PM12	21/1319	B	10.2	34	19	15			56.7		CL

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	95.7		
14	89.9		
10	84		
6.3	78.3		
5.0	77.3		
2.36	69.8		
2.00	68.4		
1.18	64.3		
0.600	59.7		
0.425	56		
0.300	53.2		
0.212	50.7		
0.150	48.2		
0.063	42		

Cobbles, %	0
Gravel, %	32
Sand, %	26
Clay / Silt, %	42



Client :	Fingal County Council
Project :	Mayeston Housing

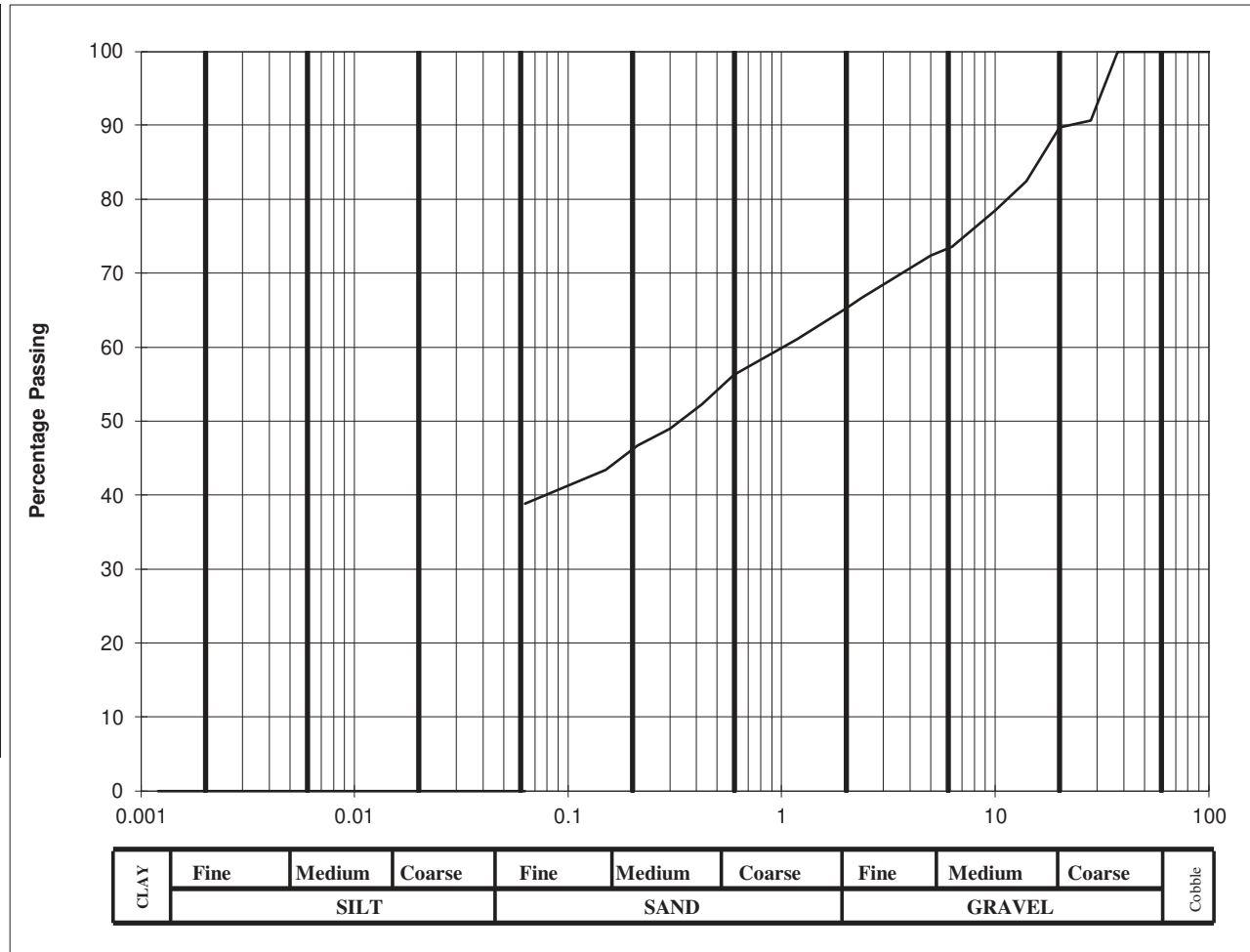
Lab. No :	21/1330
Sample No :	DM11

Hole ID :	BH 01
Depth, m :	1.70

Material description :	slightly sandy slightly gravelly silty CLAY
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	90.6		
20	89.7		
14	82.4		
10	78.5		
6.3	73.6		
5.0	72.4		
2.36	66.6		
2.00	65.2		
1.18	61.1		
0.600	56.2		
0.425	52.3		
0.300	49		
0.212	46.7		
0.150	43.4		
0.063	39		

Cobbles, %	0
Gravel, %	35
Sand, %	26
Clay / Silt, %	39



Client :	Fingal County Council
Project :	Mayeston Housing

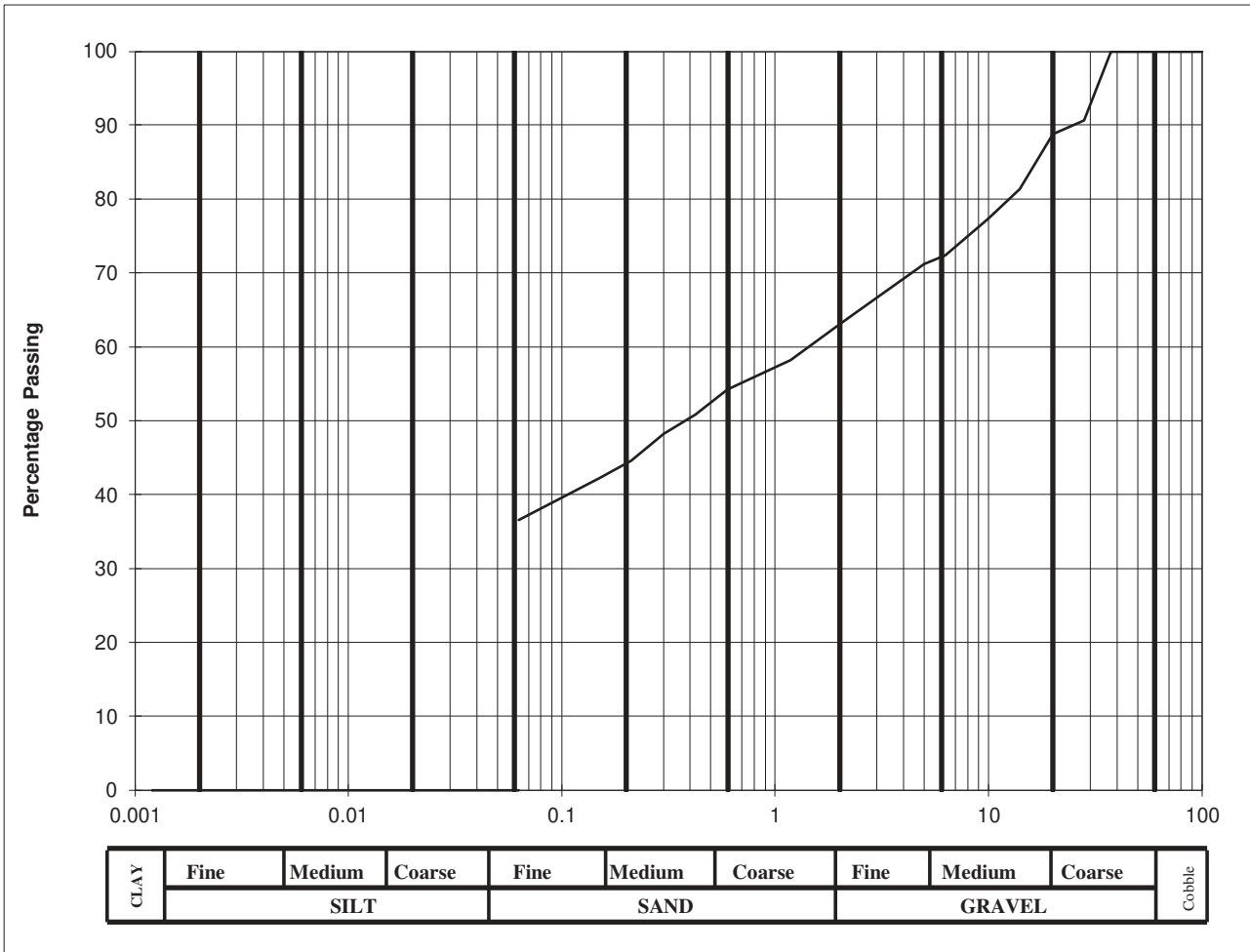
Lab. No :	21/1331
Sample No :	DM13

Hole ID :	BH 02
Depth, m :	2.00

Material description :	slightly sandy gravelly silty CLAY
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	90.6		
20	88.8		
14	81.3		
10	77.4		
6.3	72.4		
5.0	71.2		
2.36	64.5		
2.00	63		
1.18	58.2		
0.600	54.2		
0.425	50.8		
0.300	48.2		
0.212	44.6		
0.150	42.2		
0.063	37		

Cobbles, %	0
Gravel, %	37
Sand, %	26
Clay / Silt, %	37



Client :	Fingal County Council
Project :	Mayeston Housing

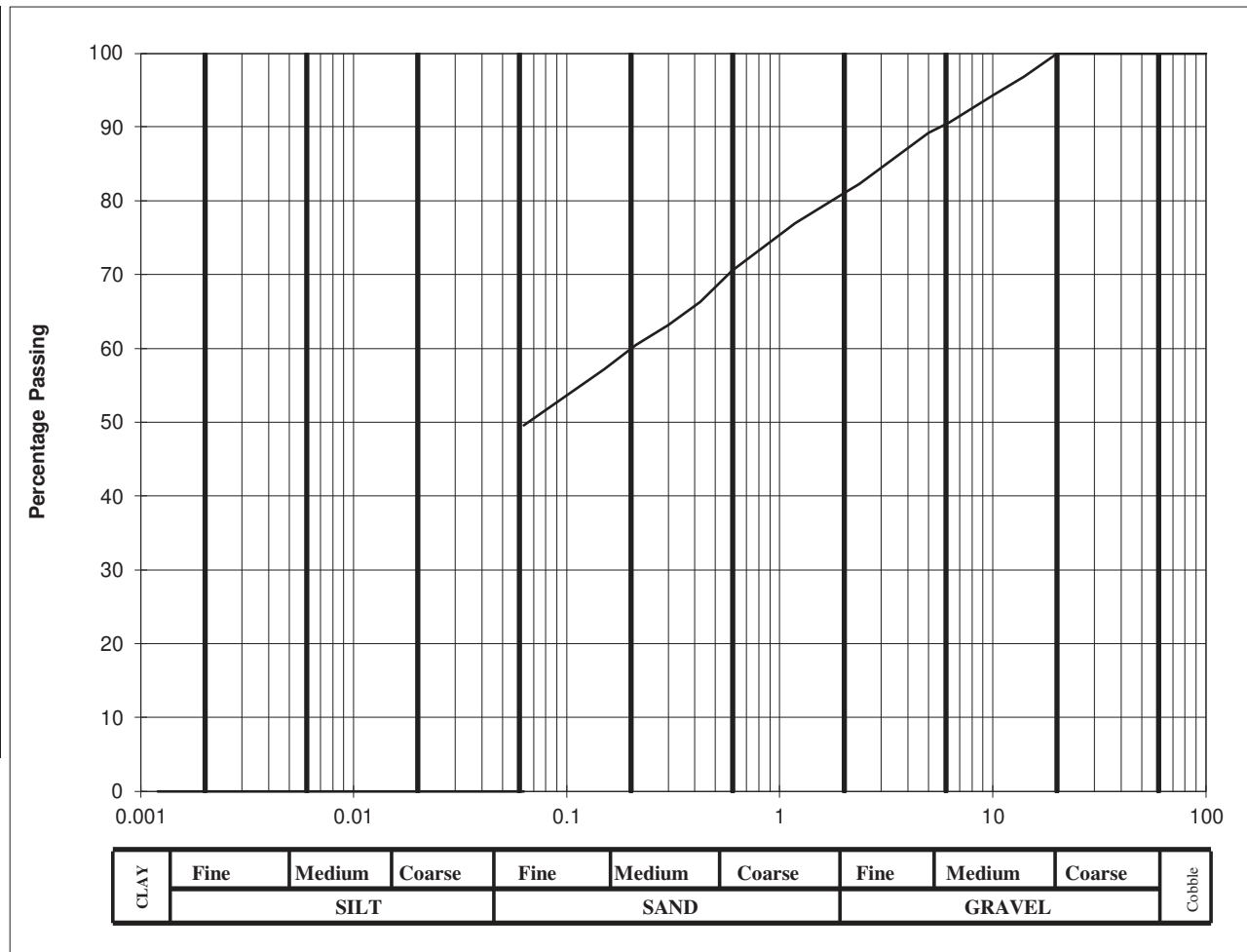
Lab. No :	21/1332
Sample No :	DM14

Hole ID :	BH 02
Depth, m :	3.70

Material description :	slightly sandy gravelly silty CLAY
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	100		
14	96.8		
10	94.3		
6.3	90.6		
5.0	89.2		
2.36	82.3		
2.00	81		
1.18	76.9		
0.600	70.5		
0.425	66.3		
0.300	63.2		
0.212	60.5		
0.150	57.2		
0.063	50		

Cobbles, %	0
Gravel, %	19
Sand, %	31
Clay / Silt, %	50



Client :	Fingal County Council
Project :	Mayeston Housing

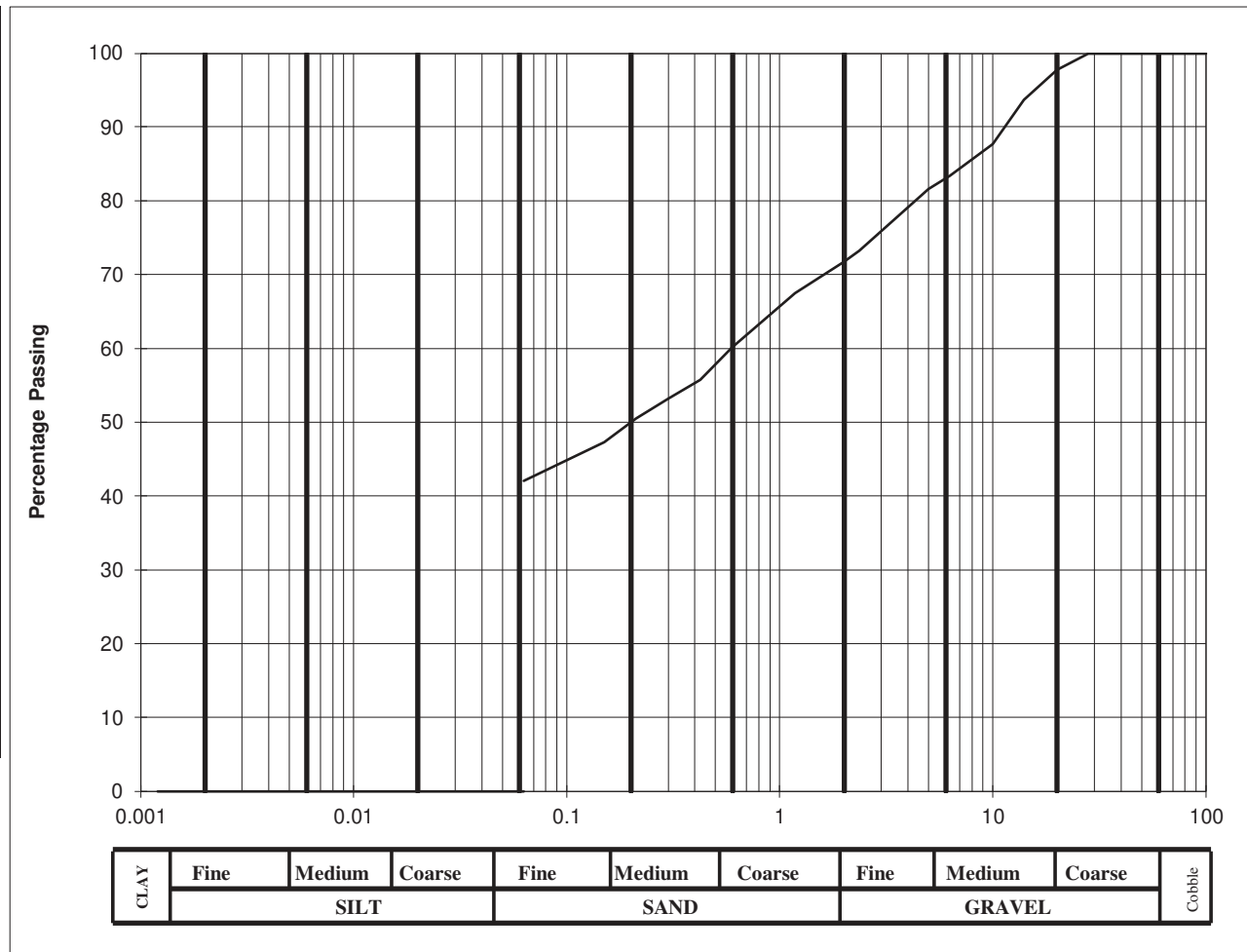
Lab. No :	21/1333
Sample No :	DM09

Hole ID :	BH 03
Depth, m :	2.20

Material description :	slightly sandy slightly gravelly silty CLAY
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	97.7		
14	93.7		
10	87.7		
6.3	83.4		
5.0	81.6		
2.36	73.2		
2.00	71.7		
1.18	67.5		
0.600	60.1		
0.425	55.7		
0.300	53.2		
0.212	50.5		
0.150	47.3		
0.063	42		

Cobbles, %	0
Gravel, %	28
Sand, %	30
Clay / Silt, %	42



Client :	Fingal County Council
Project :	Mayeston Housing

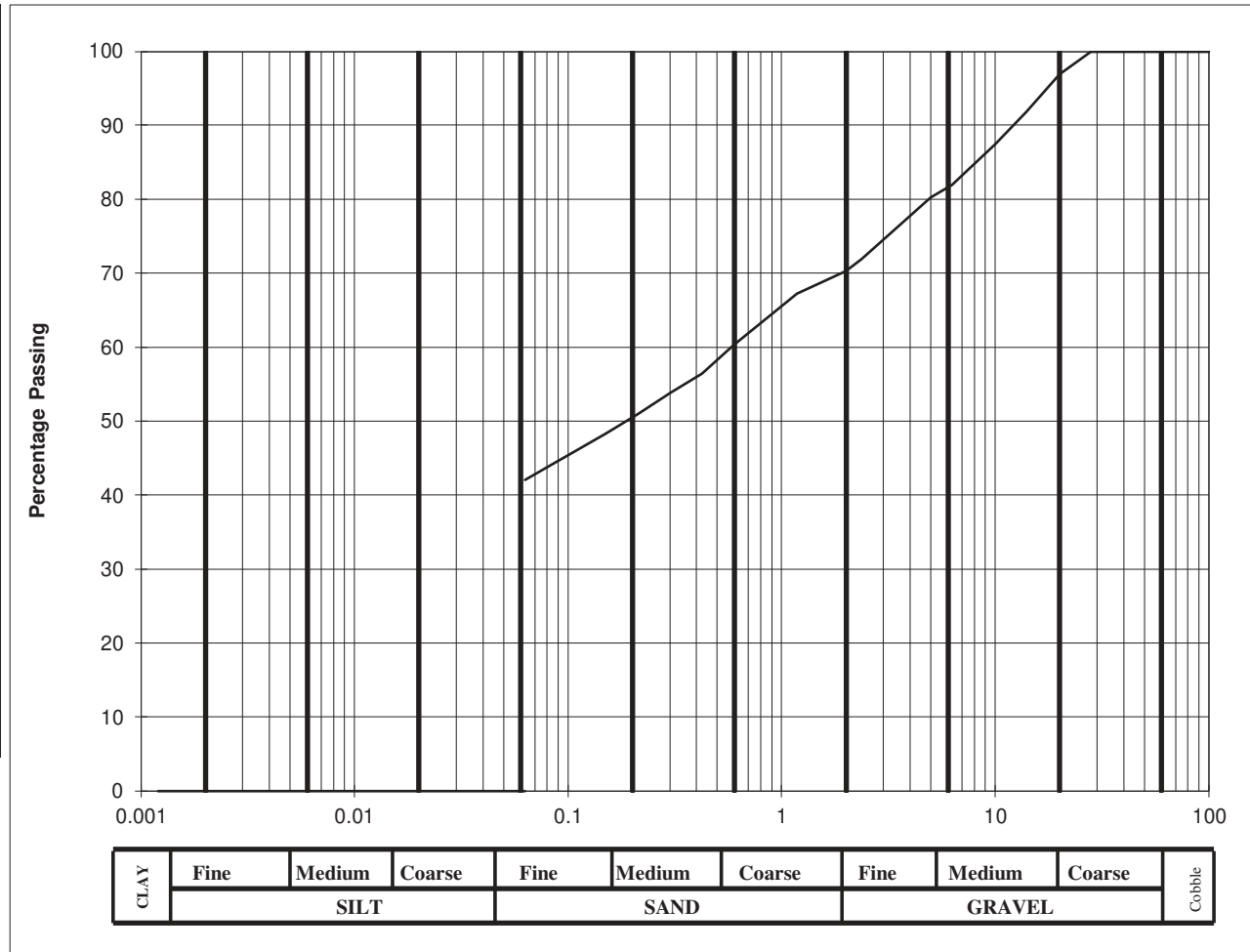
Lab. No :	21/1334
Sample No :	DM10

Hole ID :	BH 03
Depth, m :	3.50

Material description :	slightly sandy slightly gravelly silty CLAY
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	96.9		
14	91.8		
10	87.4		
6.3	81.9		
5.0	80.2		
2.36	71.9		
2.00	70.3		
1.18	67.2		
0.600	60.3		
0.425	56.4		
0.300	53.8		
0.212	50.9		
0.150	48.3		
0.063	42		

Cobbles, %	0
Gravel, %	30
Sand, %	28
Clay / Silt, %	42



Client :	Fingal County Council
Project :	Mayeston Housing

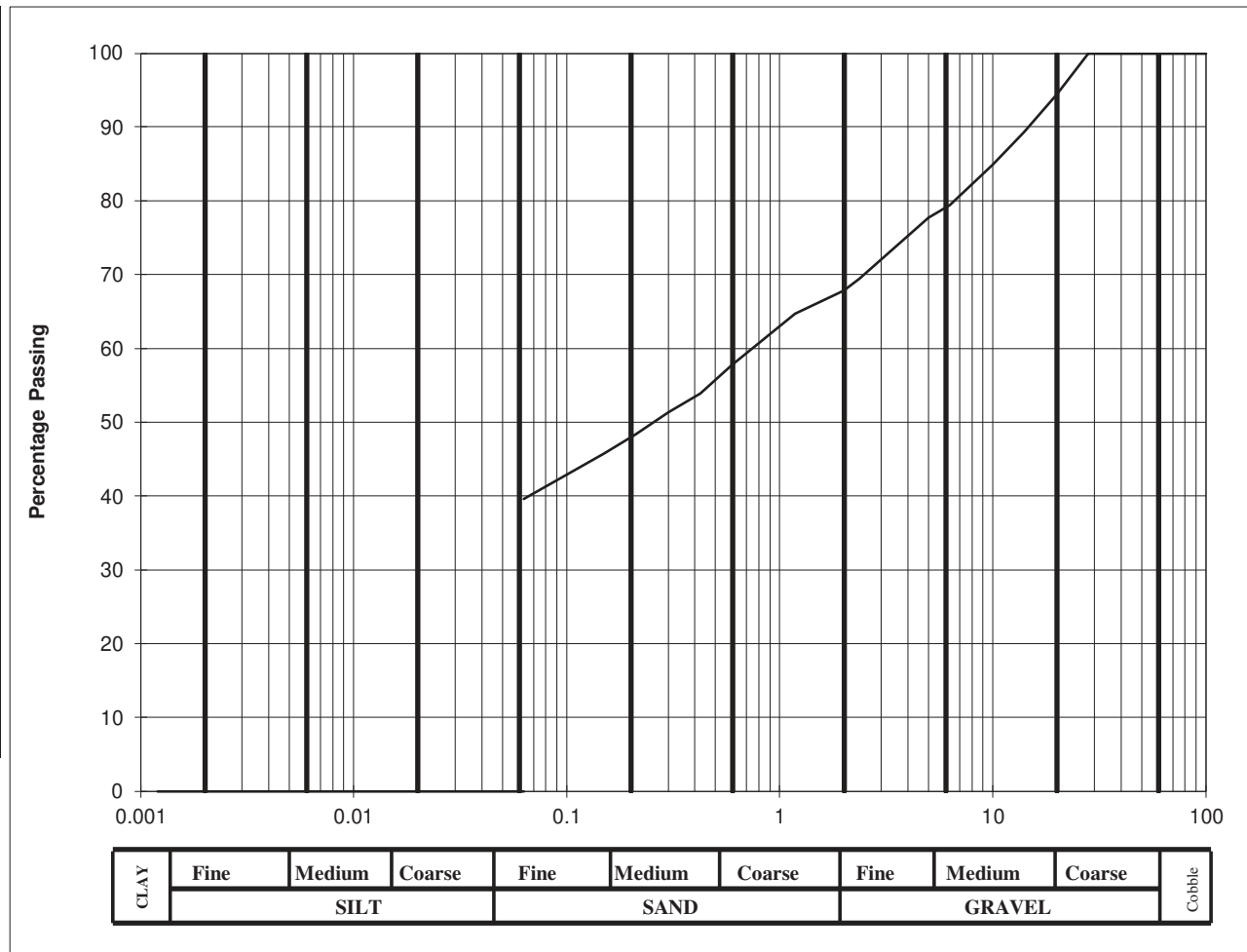
Lab. No :	21/1335
Sample No :	DM07

Hole ID :	BH 04
Depth, m :	2.70

Material description :	slightly sandy slightly gravelly silty CLAY
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	94.4		
14	89.3		
10	84.9		
6.3	79.4		
5.0	77.7		
2.36	69.4		
2.00	67.8		
1.18	64.7		
0.600	57.8		
0.425	53.9		
0.300	51.3		
0.212	48.4		
0.150	45.8		
0.063	40		

Cobbles, %	0
Gravel, %	32
Sand, %	28
Clay / Silt, %	40



Client :	Fingal County Council
Project :	Mayeston Housing

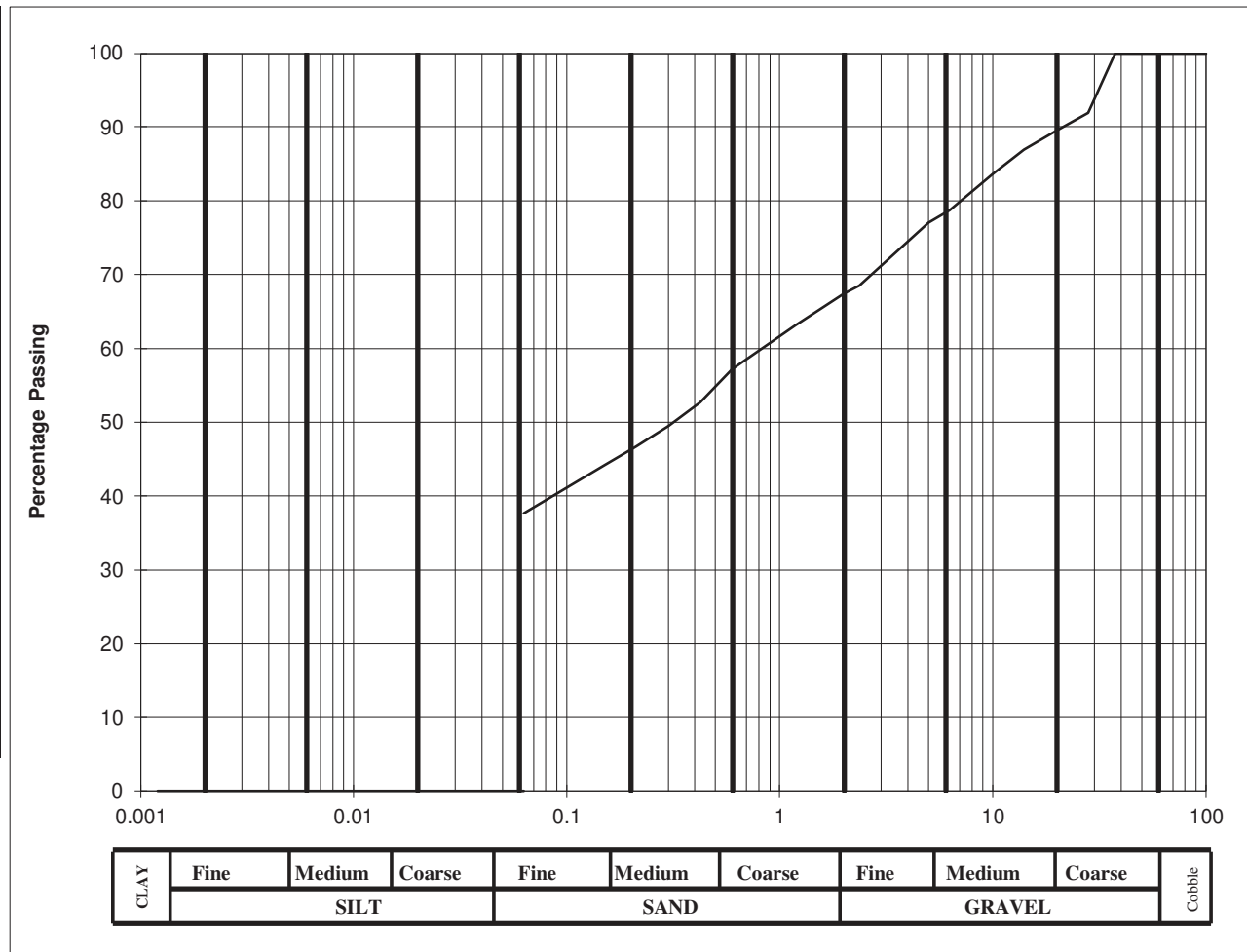
Lab. No :	21/1336
Sample No :	DM08

Hole ID :	BH 04
Depth, m :	3.30

Material description :	slightly sandy slightly gravelly silty CLAY
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	91.9		
20	89.5		
14	86.9		
10	83.6		
6.3	78.7		
5.0	77		
2.36	68.5		
2.00	67.4		
1.18	63.1		
0.600	57.2		
0.425	52.7		
0.300	49.5		
0.212	46.7		
0.150	44.2		
0.063	38		

Cobbles, %	0
Gravel, %	33
Sand, %	29
Clay / Silt, %	38



Client :	Fingal County Council
Project :	Mayeston Housing

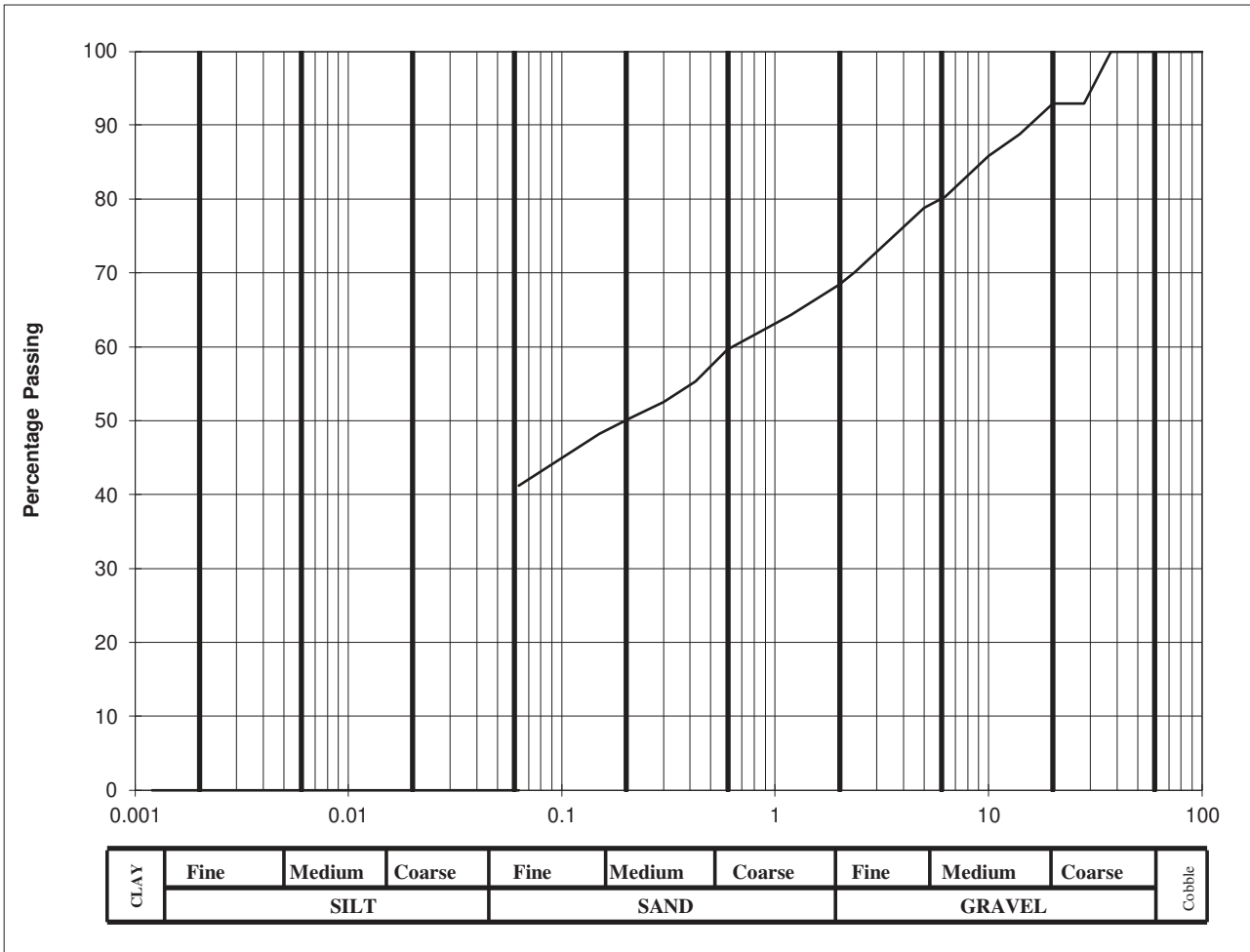
Lab. No :	21/1337
Sample No :	DM01

Hole ID :	BH 05A
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
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	92.9		
20	92.9		
14	88.8		
10	85.8		
6.3	80.3		
5.0	78.8		
2.36	70.1		
2.00	68.4		
1.18	64.3		
0.600	59.6		
0.425	55.3		
0.300	52.5		
0.212	50.4		
0.150	48.2		
0.063	41		

Cobbles, %	0
Gravel, %	32
Sand, %	27
Clay / Silt, %	41



Client :	Fingal County Council
Project :	Mayeston Housing

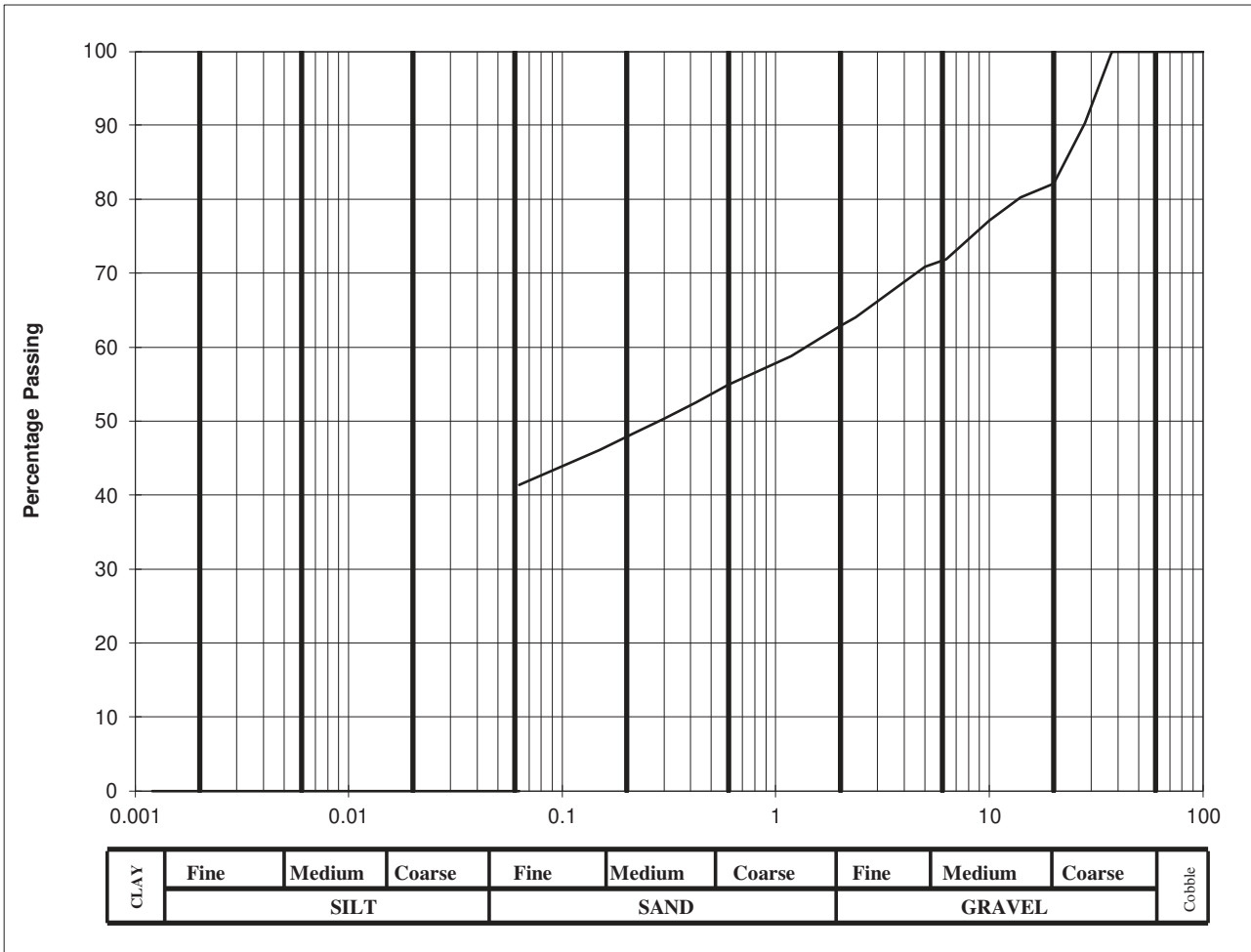
Lab. No :	21/1338
Sample No :	DM02

Hole ID :	BH 05A
Depth, m :	1.30

Material description :	slightly sandy slightly gravelly silty CLAY
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	90.3		
20	82.1		
14	80.2		
10	77.1		
6.3	71.9		
5.0	70.9		
2.36	64		
2.00	62.8		
1.18	58.8		
0.600	54.9		
0.425	52.5		
0.300	50.3		
0.212	48.2		
0.150	46.1		
0.063	41		

Cobbles, %	0
Gravel, %	37
Sand, %	22
Clay / Silt, %	41



Client :	Fingal County Council
Project :	Mayeston Housing

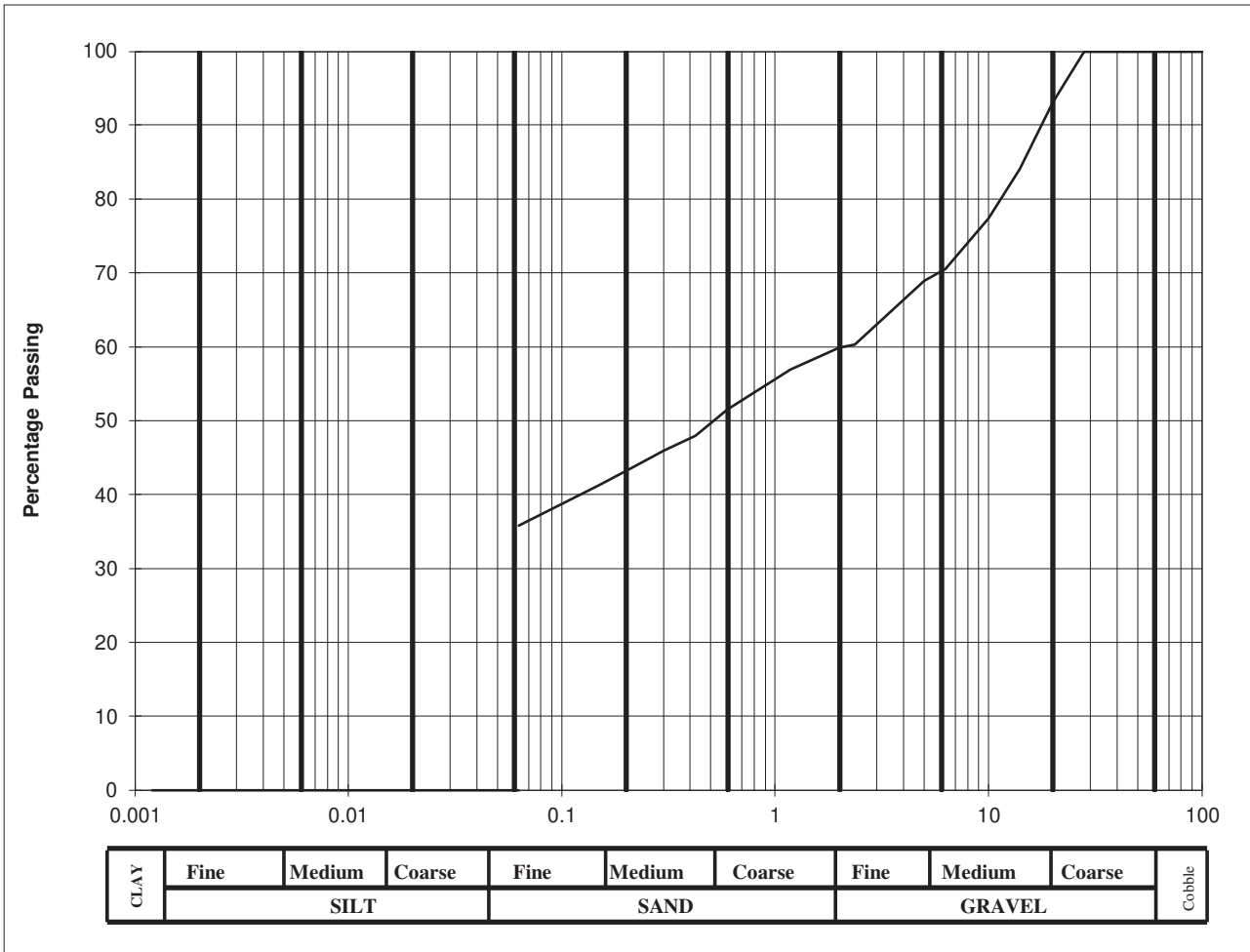
Lab. No :	21/1339
Sample No :	DM04

Hole ID :	BH 06
Depth, m :	1.00

Material description :	slightly sandy gravelly silty CLAY
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	93.1		
14	84		
10	77.4		
6.3	70.5		
5.0	68.9		
2.36	60.3		
2.00	59.9		
1.18	56.9		
0.600	51.5		
0.425	48		
0.300	45.9		
0.212	43.6		
0.150	41.3		
0.063	36		

Cobbles, %	0
Gravel, %	40
Sand, %	24
Clay / Silt, %	36



Client :	Fingal County Council
Project :	Mayeston Housing

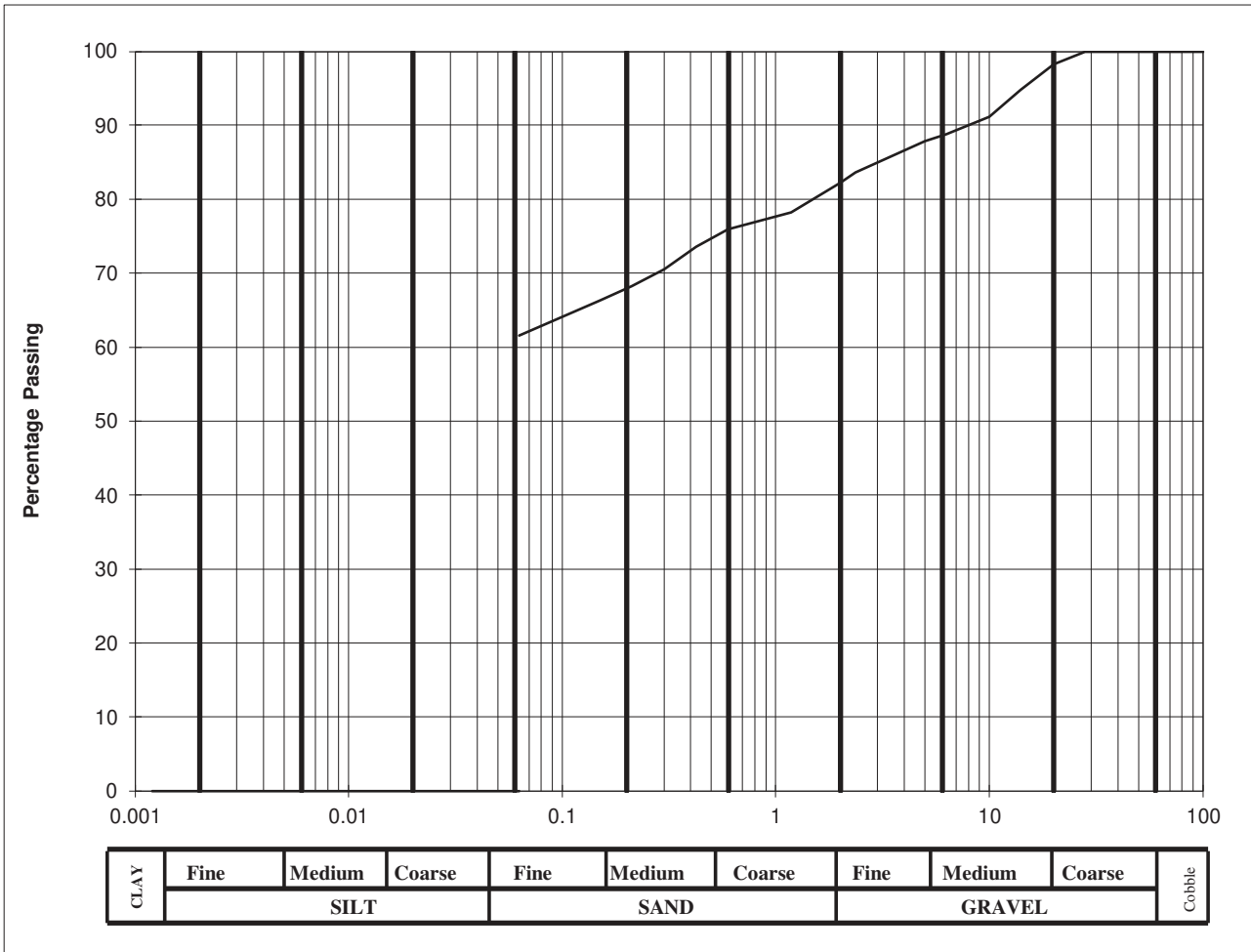
Lab. No :	21/1340
Sample No :	DM05

Hole ID :	BH 06
Depth, m :	2.00

Material description :	slightly sandy gravelly silty CLAY
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	98.2		
14	94.8		
10	91.1		
6.3	88.8		
5.0	87.8		
2.36	83.6		
2.00	82.2		
1.18	78.2		
0.600	75.9		
0.425	73.6		
0.300	70.5		
0.212	68.2		
0.150	66.3		
0.063	62		

Cobbles, %	0
Gravel, %	18
Sand, %	20
Clay / Silt, %	62



Client :	Fingal County Council
Project :	Mayeston Housing

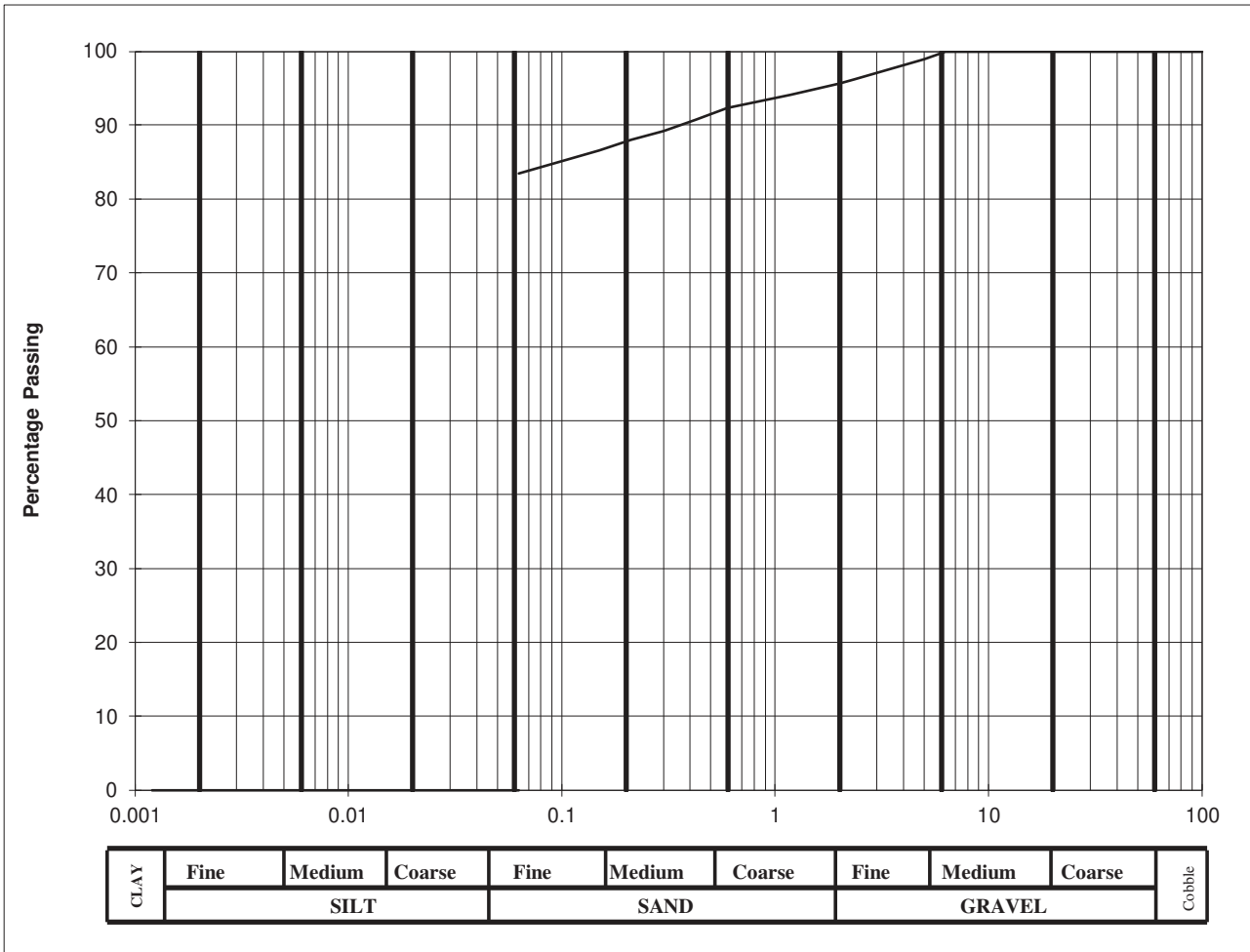
Lab. No :	21/1313
Sample No :	PM20

Hole ID :	TP 01
Depth, m :	2.00

Material description :	slightly sandy slightly gravelly silty CLAY
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	100		
14	100		
10	100		
6.3	100		
5.0	98.9		
2.36	96.2		
2.00	95.6		
1.18	94.1		
0.600	92.3		
0.425	90.7		
0.300	89.2		
0.212	88		
0.150	86.6		
0.063	84		

Cobbles, %	0
Gravel, %	4
Sand, %	12
Clay / Silt, %	84



Client :	Fingal County Council
Project :	Mayeston Housing

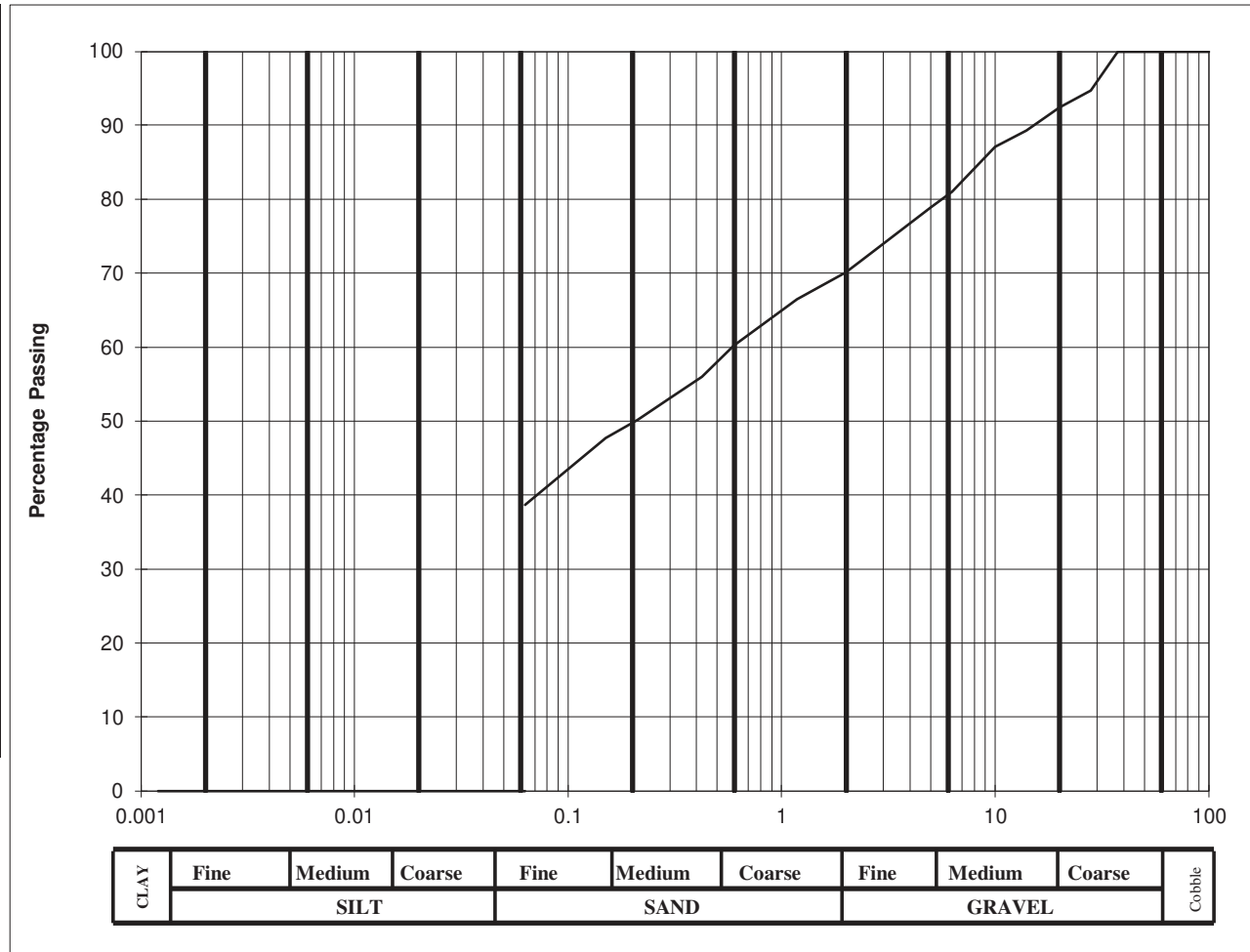
Lab. No :	21/1314
Sample No :	PM23

Hole ID :	TP 02
Depth, m :	2.50

Material description :	slightly sandy slightly gravelly silty CLAY
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	94.7		
20	92.4		
14	89.3		
10	87.1		
6.3	81		
5.0	78.9		
2.36	71.7		
2.00	70.1		
1.18	66.5		
0.600	60.2		
0.425	56		
0.300	53.1		
0.212	50.2		
0.150	47.7		
0.063	39		

Cobbles, %	0
Gravel, %	30
Sand, %	31
Clay / Silt, %	39



Client :	Fingal County Council
Project :	Mayeston Housing

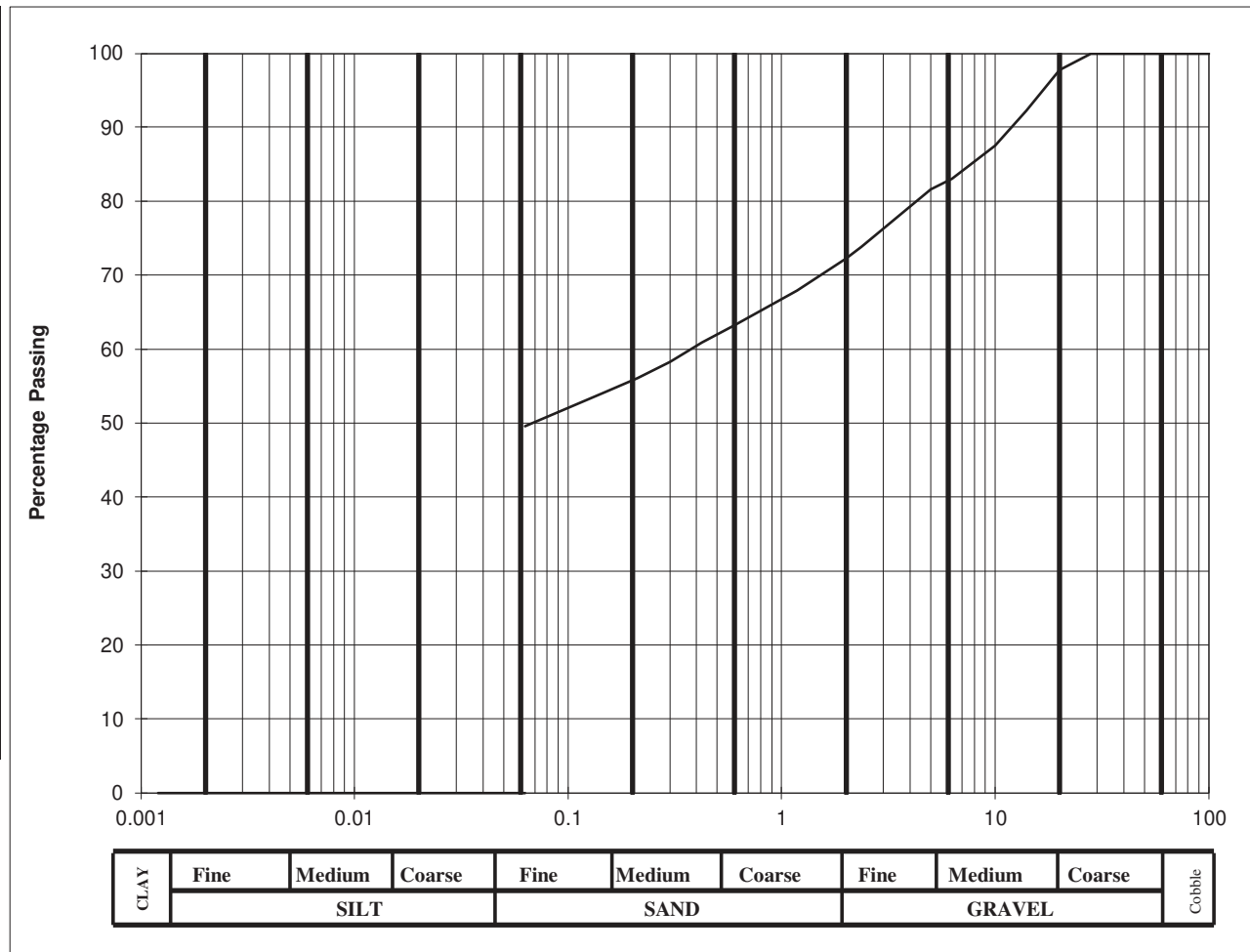
Lab. No :	21/1315
Sample No :	PM16

Hole ID :	TP 03
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
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	97.7		
14	92.2		
10	87.5		
6.3	83		
5.0	81.6		
2.36	73.8		
2.00	72.2		
1.18	67.9		
0.600	63.2		
0.425	60.9		
0.300	58.3		
0.212	56.1		
0.150	54.2		
0.063	50		

Cobbles, %	0
Gravel, %	28
Sand, %	22
Clay / Silt, %	50



Client :	Fingal County Council
Project :	Mayeston Housing

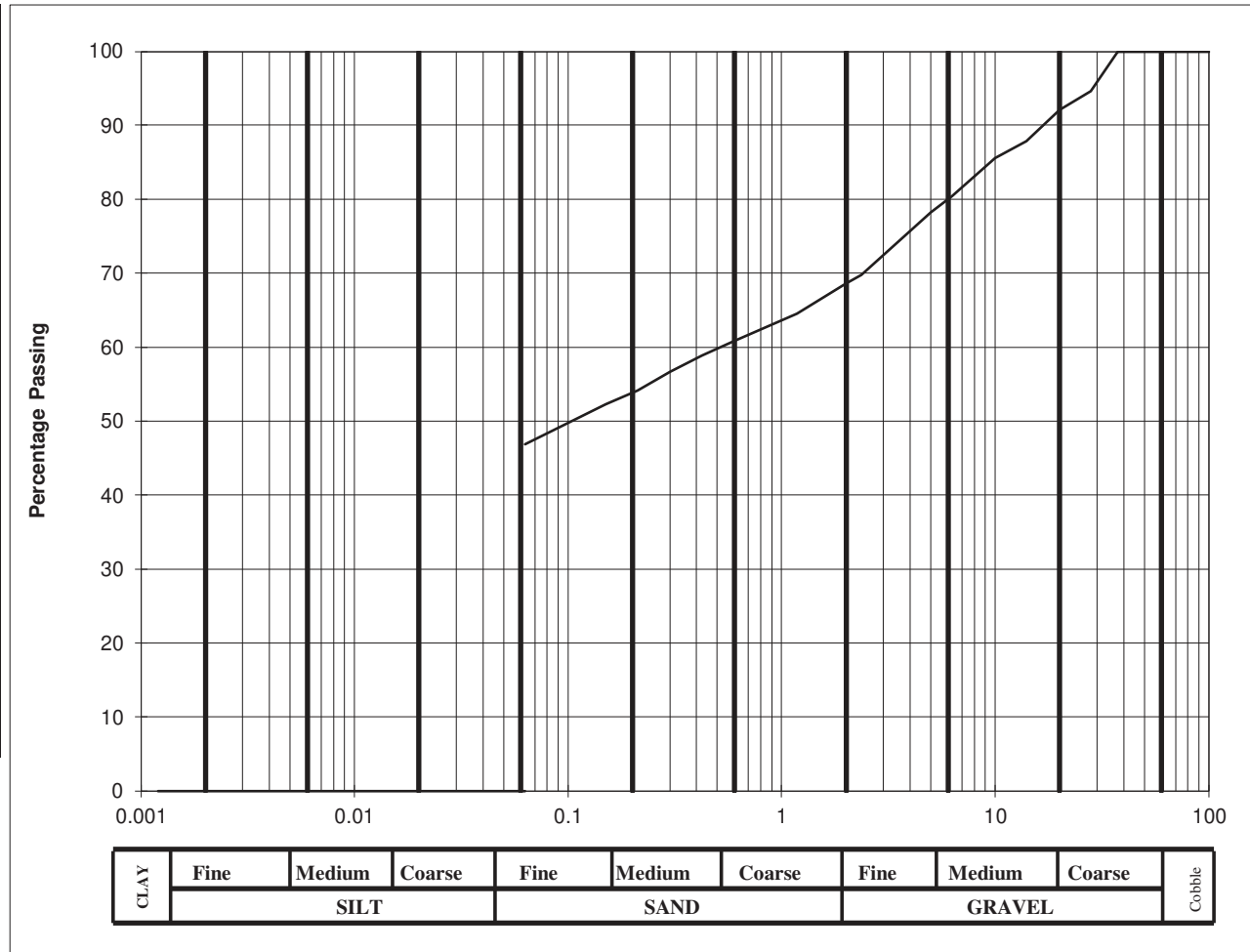
Lab. No :	21/1316
Sample No :	PM18

Hole ID :	TP 05
Depth, m :	1.50

Material description :	slightly sandy slightly gravelly silty CLAY
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	94.6		
20	92.1		
14	87.8		
10	85.6		
6.3	80.4		
5.0	78.2		
2.36	69.8		
2.00	68.6		
1.18	64.5		
0.600	60.8		
0.425	58.9		
0.300	56.7		
0.212	54.1		
0.150	52.3		
0.063	47		

Cobbles, %	0
Gravel, %	31
Sand, %	22
Clay / Silt, %	47



Client :	Fingal County Council
Project :	Mayeston Housing

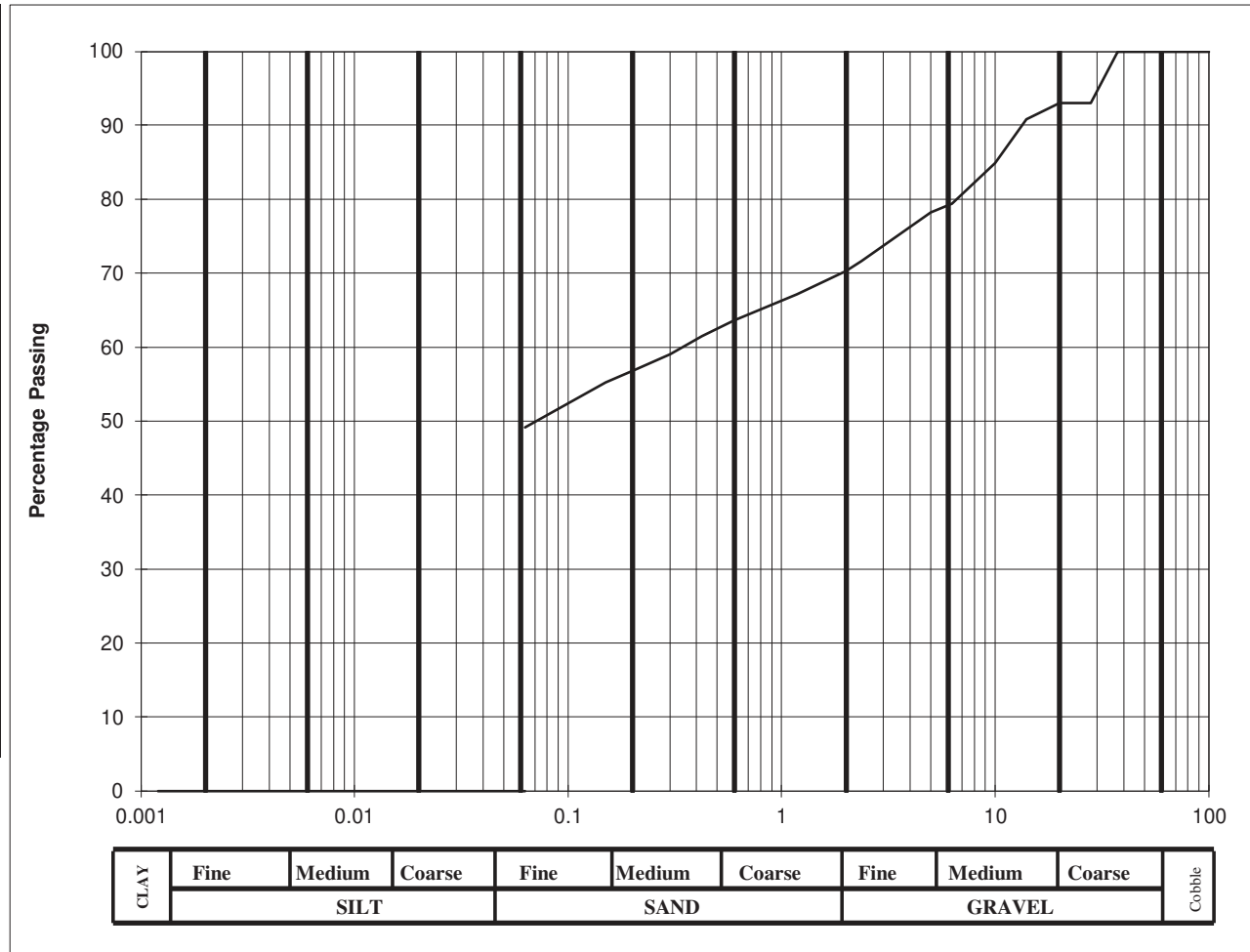
Lab. No :	21/1317
Sample No :	PM02

Hole ID :	TP 08
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
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	93		
20	93		
14	90.8		
10	84.9		
6.3	79.4		
5.0	78.2		
2.36	71.6		
2.00	70.3		
1.18	67.1		
0.600	63.6		
0.425	61.5		
0.300	59		
0.212	57.1		
0.150	55.2		
0.063	49		

Cobbles, %	0
Gravel, %	30
Sand, %	21
Clay / Silt, %	49



Client :	Fingal County Council
Project :	Mayeston Housing

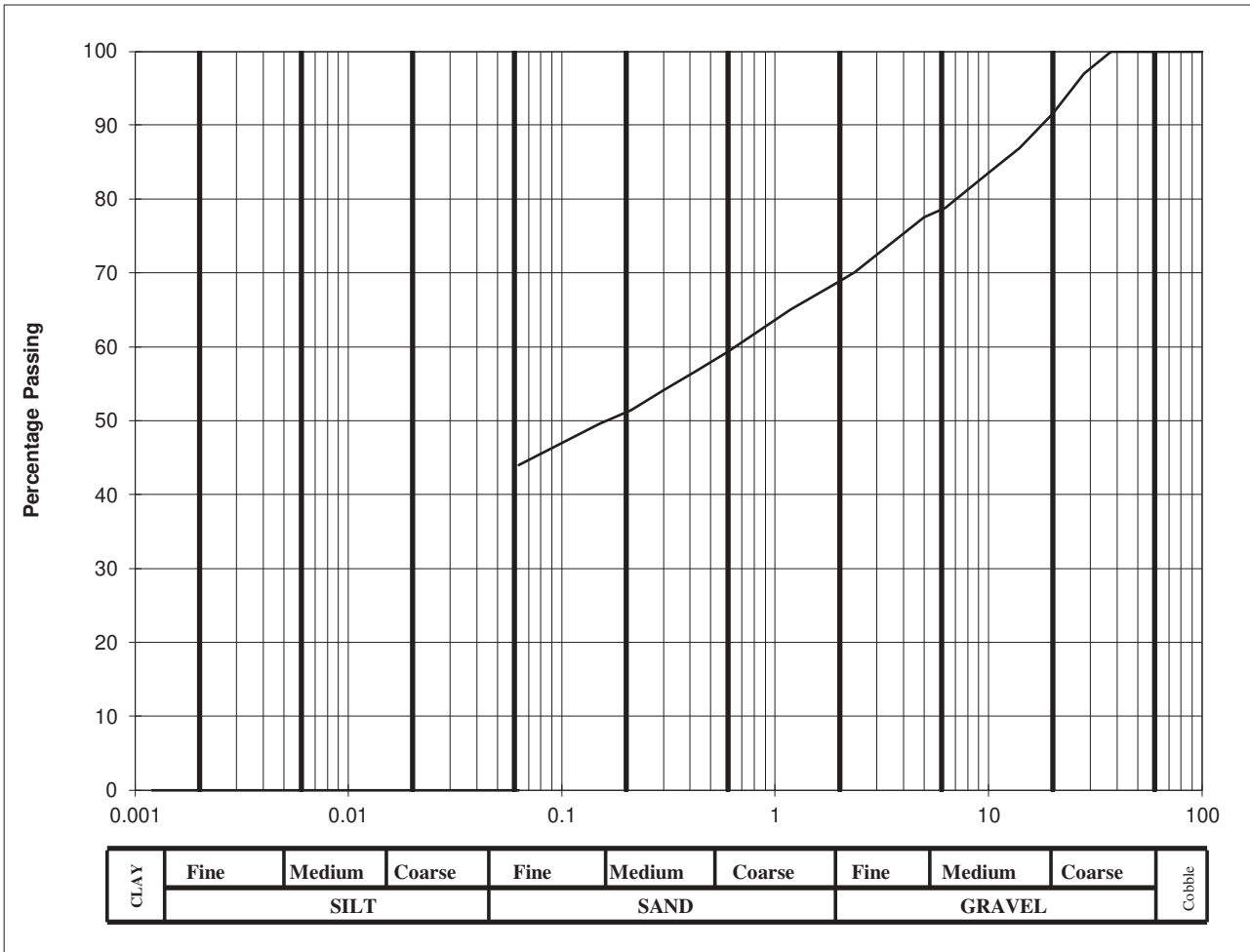
Lab. No :	21/1318
Sample No :	PM04

Hole ID :	TP 09
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
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	97		
20	91.6		
14	86.9		
10	83.5		
6.3	78.8		
5.0	77.5		
2.36	70.1		
2.00	68.8		
1.18	65		
0.600	59.3		
0.425	56.7		
0.300	54.1		
0.212	51.4		
0.150	49.6		
0.063	44		

Cobbles, %	0
Gravel, %	31
Sand, %	25
Clay / Silt, %	44



Client :	Fingal County Council
Project :	Mayeston Housing

Lab. No :	21/1319
Sample No :	PM12

Hole ID :	TP 10
Depth, m :	2.00

Material description :	slightly sandy slightly gravelly silty CLAY
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

Chemical Testing
In accordance with BS 1377: Part 3

Client	Fingal County Council
Site	Mayeston Housing
S.I. File No	5909 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report Date	10th December 2021

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) %	Loss on Ignition (Organic Content) %	Chloride ion Content (water:soil ratio 2:1) %	% passing 2mm	Remarks
BH01	1.70	DM11	21/1330	8.82	0.127	0.088		0.29	68.4	
BH02	2.00	DM13	21/1331	8.97	0.124	0.078		0.28	63.0	
BH02	3.70	DM14	21/1332	8.05	0.116	0.088		0.32	75.8	
BH03	2.20	DM09	21/1333	7.95	0.122	0.098		0.33	81.0	
BH03	3.50	DM10	21/1334	7.69	0.123	0.088		0.17	71.7	
BH04	2.70	DM07	21/1335	7.86	0.123	0.086		0.22	70.3	
BH04	3.30	DM08	21/1336	7.58	0.126	0.077		0.17	61.5	
BH05A	1.00	DM01	21/1337	8.79	0.126	0.085		0.25	67.4	
BH05A	1.30	DM02	21/1338	8.27	0.120	0.082		0.24	68.4	
BH06	1.00	DM04	21/1339	8.24	0.123	0.077		0.26	62.8	
BH06	2.00	DM05	21/1340	7.93	0.124	0.075		0.24	59.9	
TP01	2.00	PM20	21/1313	8.42	0.124	0.102		0.23	82.2	
TP02	2.50	PM23	21/1314	8.52	0.129	0.123		0.26	95.6	
TP03	1.00	PM16	21/1315	8.32	0.122	0.085		0.18	70.1	
TP05	1.50	PM18	21/1316	8.48	0.123	0.089		0.22	72.2	
TP08	1.00	PM02	21/1317	8.49	0.120	0.082		0.23	68.6	
TP09	1.00	PM04	21/1318	8.51	0.122	0.085		0.25	70.3	
TP10	2.00	PM12	21/1319	8.30	0.120	0.083		0.19	68.8	

Appendix 7
Environmental Laboratory Test Results



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

Tel: (01244) 528700

Fax: (01244) 528701

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

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

Attention: Stephen Letch

CERTIFICATE OF ANALYSIS

Date of report Generation: 04 January 2022
Customer: Site Investigations Ltd
Sample Delivery Group (SDG): 211202-153
Your Reference:
Location: Mayeston Housing
Report No: 628070
Order Number: 71/A/21

We received 12 samples on Thursday December 02, 2021 and 12 of these samples were scheduled for analysis which was completed on Tuesday January 04, 2022. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

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

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

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

Approved By:

Sonia McWhan

Operations Manager





CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
25449393	TP 01		0.50 - 0.50	30/11/2021
25449397	TP 02		0.50 - 0.50	30/11/2021
25449398	TP 03		0.50 - 0.50	30/11/2021
25449400	TP 04		0.50 - 0.50	30/11/2021
25449401	TP 05		0.50 - 0.50	30/11/2021
25449402	TP 06		0.50 - 0.50	30/11/2021
25449403	TP 06		1.50 - 1.50	30/11/2021
25449405	TP 07		0.50 - 0.50	30/11/2021
25449406	TP 07		1.50 - 1.50	30/11/2021
25449407	TP 08		0.50 - 0.50	30/11/2021
25449408	TP 09		0.50 - 0.50	30/11/2021
25449409	TP 10		0.50 - 0.50	30/11/2021

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

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
25449409	TP 10		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449408	TP 09		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449407	TP 08		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449406	TP 07		1.50 - 1.50	1kg TUB with Handle (ALE260)	S
25449405	TP 07		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449403	TP 06		1.50 - 1.50	1kg TUB with Handle (ALE260)	S
25449402	TP 06		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449401	TP 05		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449400	TP 04		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449398	TP 03		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449397	TP 02		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
25449393	TP 01		0.50 - 0.50	1kg TUB with Handle (ALE260)	S

Anions by Kone (w)	All	NDPs: 0 Tests: 12	25449409	25449408	25449407	25449406	25449405	25449403	25449402	25449401	25449400	25449398	25449397	25449393
			X	X	X	X	X	X	X	X	X	X	X	X
CEN Readings			X	X	X	X	X	X	X	X	X	X	X	X
Chromium III			X	X	X	X	X	X	X	X	X	X	X	X
Coronene			X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Metals by ICP-MS			X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Organic/Inorganic Carbon			X	X	X	X	X	X	X	X	X	X	X	X
EPH by GCxGC-FID			X	X	X	X	X	X	X	X	X	X	X	X
EPH CWG GC (S)			X	X	X	X	X	X	X	X	X	X	X	X
Fluoride			X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (S)			X	X	X	X	X	X	X	X	X	X	X	X
Hexavalent Chromium (s)			X	X	X	X	X	X	X	X	X	X	X	X
Loss on Ignition in soils			X	X	X	X	X	X	X	X	X	X	X	X
Mercury Dissolved			X	X	X	X	X	X	X	X	X	X	X	X
Metals in solid samples by OES			X	X	X	X	X	X	X	X	X	X	X	X
PAH 16 & 17 Calc			X	X	X	X	X	X	X	X	X	X	X	X



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

Results Legend	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
<p>X Test</p> <p>N No Determination Possible</p> <p>Sample Types -</p> <p>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</p>	25449393	TP 01		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449397	TP 02		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449398	TP 03		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449400	TP 04		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449401	TP 05		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449402	TP 06		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449403	TP 06		1.50 - 1.50	1kg TUB with Handle (ALE260)	S
	25449405	TP 07		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449406	TP 07		1.50 - 1.50	1kg TUB with Handle (ALE260)	S
	25449407	TP 08		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449408	TP 09		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
	25449409	TP 10		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
PAH by GCMS	All	NDPs: 0 Tests: 12				X X X X X X X X X X X X
PCBs by GCMS	All	NDPs: 0 Tests: 12				X X X X X X X X X X X X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 12				X X X X X X X X X X X X
Sample description	All	NDPs: 0 Tests: 12				X X X X X X X X X X X X
Total Dissolved Solids on Leachates	All	NDPs: 0 Tests: 12				X X X X X X X X X X X X
Total Organic Carbon	All	NDPs: 0 Tests: 12				X X X X X X X X X X X X
TPH CWG GC (S)	All	NDPs: 0 Tests: 12				X X X X X X X X X X X X
VOC MS (S)	All	NDPs: 0 Tests: 12				X X X X X X X X X X X X



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
25449393	TP 01	0.50 - 0.50	Light Brown	Sandy Loam	Stones	Vegetation
25449397	TP 02	0.50 - 0.50	Light Brown	Sandy Loam	Stones	Vegetation
25449398	TP 03	0.50 - 0.50	Light Brown	Sandy Loam	Stones	Vegetation
25449400	TP 04	0.50 - 0.50	Black	Clay Loam	Stones	Vegetation
25449401	TP 05	0.50 - 0.50	Dark Brown	Sandy Clay Loam	Vegetation	Stones
25449402	TP 06	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	Vegetation
25449403	TP 06	1.50 - 1.50	Dark Brown	Sandy Clay Loam	Stones	Vegetation
25449405	TP 07	0.50 - 0.50	Light Brown	Sandy Loam	Vegetation	Stones
25449406	TP 07	1.50 - 1.50	Light Brown	Sandy Loam	Stones	None
25449407	TP 08	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	None
25449408	TP 09	0.50 - 0.50	Dark Brown	Sandy Clay Loam	Stones	None
25449409	TP 10	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	None

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

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

Results Legend		Customer Sample Ref.	TP 06	TP 07	TP 07	TP 08	TP 09	TP 10
#	ISO17025 accredited.		Depth (m)	1.50 - 1.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.50 - 0.50
M	mCERTS accredited.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq	Aqueous / settled sample.	Date Sampled	30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021
diss.filt	Dissolved / filtered sample.	Sample Time						
tot.unfilt	Total / unfiltered sample.	Date Received	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021
* Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4*\$@ Sample deviation (see appendix)		SDG Ref	211202-153	211202-153	211202-153	211202-153	211202-153	211202-153
		Lab Sample No.(s)	25449403	25449405	25449406	25449407	25449408	25449409
		AGS Reference						
Component	LOD/Units	Method						
Moisture Content Ratio (% of as received sample)	%	PM024	13	20	21	9.2	11	13
Loss on ignition	<0.7 %	TM018	6.33	8.03	8.77	1.95	2.68	2.85
			M	M	M	M	M	M
Organic Carbon, Total	<0.2 %	TM132	1.89	2.78	2.36	0.483	0.492	1.02
			M	M	M	M	M	M
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
			#	#	#	#	#	#
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	19.3	17.4	19.5	6.21	6.46	13.8
Antimony	<0.6 mg/kg	TM181	1.02	1.61	1.49	1.51	1.39	1.5
			#	#	#	#	#	#
Arsenic	<0.6 mg/kg	TM181	11.3	17.2	18.4	8.56	11.2	24.6
			M	M	M	M	M	M
Barium	<0.6 mg/kg	TM181	97.4	153	166	80.3	68.8	66.9
			#	#	#	#	#	#
Cadmium	<0.02 mg/kg	TM181	1.38	2.26	2.53	1.69	1.68	0.917
			M	M	M	M	M	M
Chromium	<0.9 mg/kg	TM181	19.3	17.4	19.5	6.21	6.46	13.8
			M	M	M	M	M	M
Copper	<1.4 mg/kg	TM181	25.2	41.6	46.1	21.9	23	31.6
			M	M	M	M	M	M
Lead	<0.7 mg/kg	TM181	37.7	78.8	219	15.6	18	18.8
			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	2.2	2.89	3.23	3.04	2.83	2.39
			#	#	#	#	#	#
Nickel	<0.2 mg/kg	TM181	32.3	44	48.2	31.4	33.1	46.4
			M	M	M	M	M	M
Selenium	<1 mg/kg	TM181	<1	1.22	1.84	2.96	1.44	2.8
			#	#	#	#	#	#
Zinc	<1.9 mg/kg	TM181	92.6	135	142	87.5	69.3	109
			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	12.2	<5	6.31	<5	<5	5.72



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

PAH by GCMS

Results Legend		Customer Sample Ref.	TP 06	TP 07	TP 07	TP 08	TP 09	TP 10
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	TP 06	TP 07	TP 07	TP 08	TP 09	TP 10
M	mCERTS accredited.		1.50 - 1.50	0.50 - 0.50	1.50 - 1.50	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.		30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021
tot.unfilt	Total / unfiltered sample.		02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021
*	Subcontracted - refer to subcontractor report for accreditation status.		211202-153	211202-153	211202-153	211202-153	211202-153	211202-153
**	% 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		25449403	25449405	25449406	25449407	25449408	25449409
(F)	Trigger breach confirmed							
1-4*\$@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
Naphthalene	<9 µg/kg	TM218	10.8 M	<9 M	<9 M	<9 M	<9 M	<9 M
Acenaphthylene	<12 µg/kg	TM218	<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Acenaphthene	<8 µg/kg	TM218	<8 M	<8 M	10.5 M	<8 M	<8 M	<8 M
Fluorene	<10 µg/kg	TM218	<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Phenanthrene	<15 µg/kg	TM218	113 M	122 M	142 M	<15 M	<15 M	18.1 M
Anthracene	<16 µg/kg	TM218	21.1 M	23.5 M	27.6 M	<16 M	<16 M	<16 M
Fluoranthene	<17 µg/kg	TM218	203 M	254 M	241 M	<17 M	58 M	20 M
Pyrene	<15 µg/kg	TM218	183 M	226 M	218 M	<15 M	59.4 M	19.9 M
Benz(a)anthracene	<14 µg/kg	TM218	104 M	128 M	121 M	<14 M	36.7 M	<14 M
Chrysene	<10 µg/kg	TM218	113 M	130 M	126 M	<10 M	38.5 M	<10 M
Benzo(b)fluoranthene	<15 µg/kg	TM218	139 M	143 M	145 M	<15 M	74 M	<15 M
Benzo(k)fluoranthene	<14 µg/kg	TM218	46.7 M	55.9 M	53 M	<14 M	23.9 M	<14 M
Benzo(a)pyrene	<15 µg/kg	TM218	111 M	119 M	121 M	<15 M	52.6 M	<15 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	84.9 M	83.3 M	81.2 M	<18 M	45.9 M	<18 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	<23 M	<23 M	<23 M	<23 M	<23 M	<23 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218	93.3 M	87.8 M	87.9 M	<24 M	50.5 M	<24 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	1220	1370	1370	<118	439	<118



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample Ref.	TP 01	TP 02	TP 03	TP 04	TP 05	TP 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	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.		30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted - refer to subcontractor report for accreditation status.		02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021
**	% 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		211202-153	211202-153	211202-153	211202-153	211202-153	211202-153
(F)	Trigger breach confirmed		25449393	25449397	25449398	25449400	25449401	25449402
1-4*\$@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
GRO Surrogate % recovery**	%	TM089	90.7	88.3	105	89.4	97.2	92.1
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	1030	<1000	1220	1400	<1000
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1000 µg/kg	TM414	11100	10900	7060	1660	6220	12200
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	4030	<1000	<1000	<1000	<1000
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	12200	15900	7540	<5000	8600	12700
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414	16300	32100	10000	<10000	13000	17700
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	<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414	2840	9070	1290	1540	3170	3580
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	6770	<1000	<1000	<1000	<1000
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000	1010	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	<5000	16200	<5000	<5000	<5000	<5000
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414	12200	32100	<10000	<10000	<10000	12700
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: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

TPH CWG (S)

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.flit Dissolved / filtered sample. tot.unflit Total / unfiltered sample. * Subcontracted - refers to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4*§@ Sample deviation (see appendix)		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	TP 06	TP 07	TP 07	TP 08	TP 09	TP 10
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM089	96.6 2	102 2	98 2	113 2	120 2	31.8 2
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/kg	TM089	<10 2	<10 2	<10 2	<10 2	<10 2	<10 2
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/kg	TM089	<10 2	<10 2	<10 2	<10 2	<10 2	<10 2
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/kg	TM089	<10 2	<10 2	<10 2	<10 2	<10 2	<10 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 #	<1000 #	<1000 #	1320 #	<1000 #	3920 #
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1000 µg/kg	TM414	16600 #	6620 #	5400 #	<1000 #	<1000 #	2520 #
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414	3870 #	<1000 #	<1000 #	<1000 #	<1000 #	<1000 #
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	20500 #	6830 #	5500 #	<5000 #	<5000 #	6890 #
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414	54700 #	10400 #	<10000 #	<10000 #	<10000 #	17700 #
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/kg	TM089	<10 2	<10 2	<10 2	<10 2	<10 2	<10 2
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/kg	TM089	<10 2	<10 2	<10 2	<10 2	<10 2	<10 2
Aromatics >EC8-EC10 (HS_1D_AR)	<10 µg/kg	TM089	<10 2	<10 2	<10 2	<10 2	<10 2	<10 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 #	<1000 #	<1000 #	<1000 #	<1000 #	2950 #
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1000 µg/kg	TM414	2760 #	<1000 #	<1000 #	<1000 #	<1000 #	4080 #
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414	19800 #	2080 #	<1000 #	<1000 #	1170 #	2770 #
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	11700 #	<1000 #	<1000 #	<1000 #	<1000 #	<1000 #
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	4430 #	<1000 #	<1000 #	<1000 #	<1000 #	<1000 #
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	34300 #	<5000 #	<5000 #	<5000 #	<5000 #	10800 #
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414	54700 #	<10000 #	<10000 #	<10000 #	<10000 #	17700 #
GRO >C5-C6 (HS_1D)	<20 µg/kg	TM089	<20 2	<20 2	<20 2	<20 2	<20 2	<20 2
GRO >C6-C7 (HS_1D)	<20 µg/kg	TM089	<20 2	<20 2	<20 2	<20 2	<20 2	<20 2
GRO >C7-C8 (HS_1D)	<20 µg/kg	TM089	<20 2	<20 2	<20 2	<20 2	<20 2	<20 2
GRO >C8-C10 (HS_1D)	<20 µg/kg	TM089	<20 2	<20 2	<20 2	<20 2	<20 2	<20 2
GRO >C10-C12 (HS_1D)	<20 µg/kg	TM089	<20 2	<20 2	<20 2	<20 2	<20 2	<20 2
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<50 µg/kg	TM089	<50 2	<50 2	<50 2	<50 2	<50 2	<50 2
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<50 µg/kg	TM089	<50 2	<50 2	<50 2	<50 2	<50 2	<50 2
GRO >C5-C10 (HS_1D_TOTAL)	<20 µg/kg	TM089	<20 2	<20 2	<20 2	<20 2	<20 2	<20 2



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

VOC MS (S)

Results Legend			Customer Sample Ref.	TP 01	TP 02	TP 03	TP 04	TP 05	TP 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	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)	Soil/Solid (S)
aq	Aqueous / settled sample.			30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.			02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021
*	Subcontracted - refer to subcontractor report for accreditation status.			211202-153	211202-153	211202-153	211202-153	211202-153	211202-153	211202-153
**	% 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			25449393	25449397	25449398	25449400	25449401	25449402	
(F)	Trigger breach confirmed									
1-4*\$@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
Dibromofluoromethane**	%	TM116	105	103	118	105	106	112		
			2	2	2	2	2	2	2	
Toluene-d8**	%	TM116	98.3	99.7	89.3	97.8	99	82		
			2	2	2	2	2	2	2	
4-Bromofluorobenzene**	%	TM116	89.7	86.8	78.1	85.7	79.3	73.5		
			2	2	2	2	2	2	2	
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116	<100	<100	<10	<100	<100	<10		
			2 M	2 M	2 M	2 M	2 M	2 M	2 M	
Benzene	<9 µg/kg	TM116	<90	<90	<9	<90	<90	<9		
			2 M	2 M	2 M	2 M	2 M	2 M	2 M	
Toluene	<7 µg/kg	TM116	<70	<70	<7	<70	<70	<7		
			2 M	2 M	2 M	2 M	2 M	2 M	2 M	
Ethylbenzene	<4 µg/kg	TM116	<40	<40	<4	<40	<40	<4		
			2 M	2 M	2 M	2 M	2 M	2 M	2 M	
p/m-Xylene	<10 µg/kg	TM116	<100	<100	<10	<100	<100	<10		
			2 #	2 #	2 #	2 #	2 #	2 #	2 #	
o-Xylene	<10 µg/kg	TM116	<100	<100	<10	<100	<100	<10		
			2 M	2 M	2 M	2 M	2 M	2 M	2 M	



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

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	Mayeston Housing
Natural Moisture Content (%)	16.8
Dry Matter Content (%)	85.6

Case	
SDG	211202-153
Lab Sample Number(s)	25449393
Sampled Date	30-Nov-2021
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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.66
Loss on Ignition (%)	5.63
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	8.69
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	-
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	0.000613	<0.0005	0.00613	<0.005	0.5	2	25
Barium	0.0233	<0.0002	0.233	<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	0.00378	<0.0003	0.0378	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00994	<0.003	0.0994	<0.03	0.5	10	30
Nickel	0.00127	<0.0004	0.0127	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00127	<0.001	0.0127	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.617	<0.5	6.17	<5	10	150	500
Sulphate (soluble)	66.7	<2	667	<20	1000	20000	50000
Total Dissolved Solids	207	<10	2070	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	5.58	<3	55.8	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	7.98
Conductivity (µS/cm)	270.00
Temperature (°C)	20.90
Volume Leachant (Litres)	0.885

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

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CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

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

Site Location	Mayeston Housing
Natural Moisture Content (%)	17.3
Dry Matter Content (%)	85.3

Case	
SDG	211202-153
Lab Sample Number(s)	25449397
Sampled Date	30-Nov-2021
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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.74
Loss on Ignition (%)	5.62
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	6.47
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	-
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	0.000832	<0.0005	0.00832	<0.005	0.5	2	25
Barium	0.0144	<0.0002	0.144	<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	0.00339	<0.0003	0.0339	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00761	<0.003	0.0761	<0.03	0.5	10	30
Nickel	0.00125	<0.0004	0.0125	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	0.00102	<0.001	0.0102	<0.01	0.06	0.7	5
Selenium	0.00107	<0.001	0.0107	<0.01	0.1	0.5	7
Zinc	0.00288	<0.001	0.0288	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.589	<0.5	5.89	<5	10	150	500
Sulphate (soluble)	26.7	<2	267	<20	1000	20000	50000
Total Dissolved Solids	132	<10	1320	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.52	<3	45.2	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.43
Conductivity (µS/cm)	168.00
Temperature (°C)	20.90
Volume Leachant (Litres)	0.884

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

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CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		Site Location	Mayeston Housing
Mass Sample taken (kg)	0.110	Natural Moisture Content (%)	21.6
Mass of dry sample (kg)	0.090	Dry Matter Content (%)	82.3
Particle Size <4mm	>95%		

Case	
SDG	211202-153
Lab Sample Number(s)	25449398
Sampled Date	30-Nov-2021
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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.89
Loss on Ignition (%)	6.85
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)	-
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	3	5	6
Arsenic	0.000545	<0.0005	0.00545	<0.005	0.5	2	25
Barium	0.011	<0.0002	0.11	<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	0.00427	<0.0003	0.0427	<0.003	2	50	100
Mercury Dissolved (CVAf)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00435	<0.003	0.0435	<0.03	0.5	10	30
Nickel	0.00136	<0.0004	0.0136	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	0.00128	<0.001	0.0128	<0.01	0.1	0.5	7
Zinc	0.00111	<0.001	0.0111	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.715	<0.5	7.15	<5	10	150	500
Sulphate (soluble)	6.1	<2	61	<20	1000	20000	50000
Total Dissolved Solids	120	<10	1200	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	6	<3	60	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.23
Conductivity (µS/cm)	154.00
Temperature (°C)	21.00
Volume Leachant (Litres)	0.880

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

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CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		Site Location	Mayeston Housing
Mass Sample taken (kg)	0.100	Natural Moisture Content (%)	10.8
Mass of dry sample (kg)	0.090	Dry Matter Content (%)	90.2
Particle Size <4mm	>95%		

Case	
SDG	211202-153
Lab Sample Number(s)	25449400
Sampled Date	30-Nov-2021
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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.487
Loss on Ignition (%)	2.19
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)	-
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	0.0276	<0.0002	0.276	<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	0.00133	<0.0003	0.0133	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.0146	<0.003	0.146	<0.03	0.5	10	30
Nickel	0.000605	<0.0004	0.00605	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	0.00148	<0.001	0.0148	<0.01	0.1	0.5	7
Zinc	0.00216	<0.001	0.0216	<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)	186	<2	1860	<20	1000	20000	50000
Total Dissolved Solids	333	<10	3330	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	<3	<3	<30	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.19
Conductivity (µS/cm)	450.00
Temperature (°C)	21.20
Volume Leachant (Litres)	0.890

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

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CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

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	Mayeston Housing
Natural Moisture Content (%)	12.8
Dry Matter Content (%)	88.7

Case	
SDG	211202-153
Lab Sample Number(s)	25449401
Sampled Date	30-Nov-2021
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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.642
Loss on Ignition (%)	3.08
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)	-
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	0.0342	<0.0002	0.342	<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	0.00129	<0.0003	0.0129	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.0185	<0.003	0.185	<0.03	0.5	10	30
Nickel	0.000543	<0.0004	0.00543	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	0.00193	<0.001	0.0193	<0.01	0.1	0.5	7
Zinc	<0.001	<0.001	<0.01	<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)	176	<2	1760	<20	1000	20000	50000
Total Dissolved Solids	310	<10	3100	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	<3	<3	<30	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.21
Conductivity (µS/cm)	413.00
Temperature (°C)	20.70
Volume Leachant (Litres)	0.889

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

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09:00:37 04/01/2022



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.107
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Mayeston Housing
Natural Moisture Content (%)	18.4
Dry Matter Content (%)	84.5

Case	
SDG	211202-153
Lab Sample Number(s)	25449402
Sampled Date	30-Nov-2021
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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	2.17
Loss on Ignition (%)	7.83
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	5.39
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	-
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	0.000827	<0.0005	0.00827	<0.005	0.5	2	25
Barium	0.0125	<0.0002	0.125	<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	0.00505	<0.0003	0.0505	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00455	<0.003	0.0455	<0.03	0.5	10	30
Nickel	0.00149	<0.0004	0.0149	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	0.00117	<0.001	0.0117	<0.01	0.1	0.5	7
Zinc	0.00199	<0.001	0.0199	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.646	<0.5	6.46	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	107	<10	1070	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	6.22	<3	62.2	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.24
Conductivity (µS/cm)	137.00
Temperature (°C)	21.00
Volume Leachant (Litres)	0.883

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

04/01/2022 09:01:01

09:00:37 04/01/2022



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.107
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Mayeston Housing
Natural Moisture Content (%)	18.8
Dry Matter Content (%)	84.2

Case	
SDG	211202-153
Lab Sample Number(s)	25449403
Sampled Date	30-Nov-2021
Customer Sample Ref.	TP 06
Depth (m)	1.50 - 1.50

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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.89
Loss on Ignition (%)	6.33
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	12.2
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	-
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	0.000866	<0.0005	0.00866	<0.005	0.5	2	25
Barium	0.0123	<0.0002	0.123	<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	0.00499	<0.0003	0.0499	<0.003	2	50	100
Mercury Dissolved (CVAf)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00626	<0.003	0.0626	<0.03	0.5	10	30
Nickel	0.00177	<0.0004	0.0177	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	0.00106	<0.001	0.0106	<0.01	0.06	0.7	5
Selenium	0.00246	<0.001	0.0246	<0.01	0.1	0.5	7
Zinc	0.00127	<0.001	0.0127	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.756	<0.5	7.56	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	126	<10	1260	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	7.81	<3	78.1	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.49
Conductivity (µS/cm)	151.00
Temperature (°C)	17.00
Volume Leachant (Litres)	0.883

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

04/01/2022 09:01:01

09:00:37 04/01/2022



CERTIFICATE OF ANALYSIS

Validated

 SDG: 211202-153
 Client Ref.:

 Report Number: 628070
 Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		Site Location	Mayeston Housing
Mass Sample taken (kg)	0.114	Natural Moisture Content (%)	27.3
Mass of dry sample (kg)	0.090	Dry Matter Content (%)	78.5
Particle Size <4mm	>95%		

Case	
SDG	211202-153
Lab Sample Number(s)	25449405
Sampled Date	30-Nov-2021
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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	2.78
Loss on Ignition (%)	8.03
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)	-
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	3	5	6
Arsenic	0.000903	<0.0005	0.00903	<0.005	0.5	2	25
Barium	0.0117	<0.0002	0.117	<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	0.00582	<0.0003	0.0582	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000113	<0.00001	0.000113	<0.0001	0.01	0.2	2
Molybdenum	0.00425	<0.003	0.0425	<0.03	0.5	10	30
Nickel	0.00137	<0.0004	0.0137	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	0.00118	<0.001	0.0118	<0.01	0.1	0.5	7
Zinc	0.00112	<0.001	0.0112	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.634	<0.5	6.34	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	114	<10	1140	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	6.51	<3	65.1	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.21
Conductivity (µS/cm)	146.00
Temperature (°C)	21.00
Volume Leachant (Litres)	0.876

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

04/01/2022 09:01:01

09:00:37 04/01/2022



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.112
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Mayeston Housing
Natural Moisture Content (%)	24.9
Dry Matter Content (%)	80.1

Case	
SDG	211202-153
Lab Sample Number(s)	25449406
Sampled Date	30-Nov-2021
Customer Sample Ref.	TP 07
Depth (m)	1.50 - 1.50

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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	2.36
Loss on Ignition (%)	8.77
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	6.31
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	-
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	0.00149	<0.0005	0.0149	<0.005	0.5	2	25
Barium	0.016	<0.0002	0.16	<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	0.00608	<0.0003	0.0608	<0.003	2	50	100
Mercury Dissolved (CVAF)	0.0000119	<0.00001	0.000119	<0.0001	0.01	0.2	2
Molybdenum	0.00669	<0.003	0.0669	<0.03	0.5	10	30
Nickel	0.00228	<0.0004	0.0228	<0.004	0.4	10	40
Lead	0.000352	<0.0002	0.00352	<0.002	0.5	10	50
Antimony	0.00129	<0.001	0.0129	<0.01	0.06	0.7	5
Selenium	0.00106	<0.001	0.0106	<0.01	0.1	0.5	7
Zinc	<0.001	<0.001	<0.01	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.607	<0.5	6.07	<5	10	150	500
Sulphate (soluble)	8.2	<2	82	<20	1000	20000	50000
Total Dissolved Solids	137	<10	1370	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	9.48	<3	94.8	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.17
Conductivity (µS/cm)	186.00
Temperature (°C)	20.90
Volume Leachant (Litres)	0.878

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

04/01/2022 09:01:01

09:00:37 04/01/2022



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.099
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Mayeston Housing
Natural Moisture Content (%)	10.6
Dry Matter Content (%)	90.4

Case	
SDG	211202-153
Lab Sample Number(s)	25449407
Sampled Date	30-Nov-2021
Customer Sample Ref.	TP 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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.483
Loss on Ignition (%)	1.95
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)	-
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	0.00157	<0.0005	0.0157	<0.005	0.5	2	25
Barium	0.0134	<0.0002	0.134	<0.002	20	100	300
Cadmium	0.000257	<0.00008	0.00257	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00623	<0.0003	0.0623	<0.003	2	50	100
Mercury Dissolved (CVAf)	0.0000161	<0.00001	0.000161	<0.0001	0.01	0.2	2
Molybdenum	0.00615	<0.003	0.0615	<0.03	0.5	10	30
Nickel	0.00298	<0.0004	0.0298	<0.004	0.4	10	40
Lead	0.000686	<0.0002	0.00686	<0.002	0.5	10	50
Antimony	0.0012	<0.001	0.012	<0.01	0.06	0.7	5
Selenium	0.00107	<0.001	0.0107	<0.01	0.1	0.5	7
Zinc	0.0541	<0.001	0.541	<0.01	4	50	200
Chloride	2.2	<2	22	<20	800	15000	25000
Fluoride	0.537	<0.5	5.37	<5	10	150	500
Sulphate (soluble)	2.8	<2	28	<20	1000	20000	50000
Total Dissolved Solids	153	<10	1530	<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	04-Dec-2021
pH (pH Units)	9.66
Conductivity (µS/cm)	212.00
Temperature (°C)	17.60
Volume Leachant (Litres)	0.890

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

04/01/2022 09:01:01

09:00:37 04/01/2022



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.102
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Mayeston Housing
Natural Moisture Content (%)	13.8
Dry Matter Content (%)	87.9

Case	
SDG	211202-153
Lab Sample Number(s)	25449408
Sampled Date	30-Nov-2021
Customer Sample Ref.	TP 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	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	0.492
Loss on Ignition (%)	2.68
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)	-
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	0.00804	<0.0002	0.0804	<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	0.00194	<0.0003	0.0194	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.0129	<0.003	0.129	<0.03	0.5	10	30
Nickel	0.000905	<0.0004	0.00905	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00335	<0.001	0.0335	<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)	22.8	<2	228	<20	1000	20000	50000
Total Dissolved Solids	116	<10	1160	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.2	<3	42	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.36
Conductivity (µS/cm)	150.00
Temperature (°C)	21.00
Volume Leachant (Litres)	0.888

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

04/01/2022 09:01:01

09:00:37 04/01/2022



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Mayeston Housing

Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.102
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Mayeston Housing
Natural Moisture Content (%)	14.2
Dry Matter Content (%)	87.6

Case	
SDG	211202-153
Lab Sample Number(s)	25449409
Sampled Date	30-Nov-2021
Customer Sample Ref.	TP 10
Depth (m)	0.50 - 0.50

Landfill Waste Acceptance Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
3	5	6
-	-	10
-	-	-
1	-	-
500	-	-
100	-	-
-	-	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	1.02
Loss on Ignition (%)	2.85
Sum of BTEX (mg/kg)	-
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg) (EH_2D_AL)	5.72
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	-
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	0.00648	<0.0002	0.0648	<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	0.000806	<0.0003	0.00806	<0.003	2	50	100
Mercury Dissolved (CVAf)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.0137	<0.003	0.137	<0.03	0.5	10	30
Nickel	0.000469	<0.0004	0.00469	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	<0.001	<0.001	<0.01	<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)	39.6	<2	396	<20	1000	20000	50000
Total Dissolved Solids	134	<10	1340	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	<3	<3	<30	<30	500	800	1000

Leach Test Information

Date Prepared	04-Dec-2021
pH (pH Units)	8.17
Conductivity (µS/cm)	168.00
Temperature (°C)	21.10
Volume Leachant (Litres)	0.888

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

04/01/2022 09:01:01

09:00:37 04/01/2022



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	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	BS 1377: Part 3 1990	Determination of Loss on Ignition
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM123	BS 2690: Part 121:1981	The Determination of Total Dissolved Solids in Water
TM132	In - house Method	ELTRA CS800 Operators Guide
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM152	ISO 17294-2:2016 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS)	Analysis of Aqueous Samples by ICP-MS
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM410	Shaker extraction-In house coronene method	Determination of Coronene in soils by GCMS
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID
TM415	Analysis of Petroleum Hydrocarbons in Environmental Media.	Determination of Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 211202-153
Client Ref.:

Report Number: 628070
Location: Maveston Housing

Superseded Report:

Test Completion Dates

Lab Sample No(s) Customer Sample Ref.	25449393	25449397	25449398	25449400	25449401	25449402	25449403	25449405	25449406	25449407
	TP 01	TP 02	TP 03	TP 04	TP 05	TP 06	TP 06	TP 07	TP 07	TP 08
AGS Ref.										
Depth	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50
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)	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021
CEN 10:1 Leachate (1 Stage)	06-Dec-2021	06-Dec-2021	06-Dec-2021	06-Dec-2021	06-Dec-2021	06-Dec-2021	06-Dec-2021	06-Dec-2021	06-Dec-2021	06-Dec-2021
CEN Readings	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	08-Dec-2021	09-Dec-2021	09-Dec-2021	08-Dec-2021
Chromium III	09-Dec-2021	09-Dec-2021	09-Dec-2021	10-Dec-2021	09-Dec-2021	10-Dec-2021	10-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021
Coronene	06-Dec-2021	07-Dec-2021	07-Dec-2021	06-Dec-2021	07-Dec-2021	06-Dec-2021	06-Dec-2021	07-Dec-2021	06-Dec-2021	07-Dec-2021
Dissolved Metals by ICP-MS	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	10-Dec-2021	09-Dec-2021	10-Dec-2021	10-Dec-2021
Dissolved Organic/Inorganic Carbon	04-Jan-2022	04-Jan-2022	04-Jan-2022	04-Jan-2022	31-Dec-2021	04-Jan-2022	31-Dec-2021	31-Dec-2021	31-Dec-2021	31-Dec-2021
EPH by GCxGC-FID	08-Dec-2021	08-Dec-2021	08-Dec-2021	08-Dec-2021	08-Dec-2021	09-Dec-2021	08-Dec-2021	08-Dec-2021	08-Dec-2021	08-Dec-2021
EPH CWG GC (S)	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021
Fluoride	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021
GRO by GC-FID (S)	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021
Hexavalent Chromium (s)	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021
Loss on Ignition in soils	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	08-Dec-2021	08-Dec-2021	08-Dec-2021
Mercury Dissolved	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021
Metals in solid samples by OES	09-Dec-2021	09-Dec-2021	09-Dec-2021	10-Dec-2021	09-Dec-2021	10-Dec-2021	10-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021
Moisture at 105C	04-Dec-2021	04-Dec-2021	04-Dec-2021	04-Dec-2021	04-Dec-2021	04-Dec-2021	04-Dec-2021	04-Dec-2021	04-Dec-2021	04-Dec-2021
PAH 16 & 17 Calc	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021
PAH by GCMS	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	09-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021
PCBs by GCMS	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	07-Dec-2021	09-Dec-2021
Phenols by HPLC (W)	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	09-Dec-2021	10-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021
Sample description	03-Dec-2021	03-Dec-2021	03-Dec-2021	03-Dec-2021	03-Dec-2021	03-Dec-2021	03-Dec-2021	03-Dec-2021	03-Dec-2021	03-Dec-2021
Total Dissolved Solids on Leachates	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021
Total Organic Carbon	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021
TPH CWG GC (S)	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021	10-Dec-2021
VOC MS (S)	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021	09-Dec-2021

Lab Sample No(s) Customer Sample Ref.	25449408	25449409
	TP 09	TP 10
AGS Ref.		
Depth	0.50 - 0.50	0.50 - 0.50
Type	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (w)	09-Dec-2021	09-Dec-2021
CEN 10:1 Leachate (1 Stage)	06-Dec-2021	06-Dec-2021
CEN Readings	09-Dec-2021	09-Dec-2021
Chromium III	09-Dec-2021	09-Dec-2021
Coronene	07-Dec-2021	07-Dec-2021
Dissolved Metals by ICP-MS	09-Dec-2021	09-Dec-2021
Dissolved Organic/Inorganic Carbon	31-Dec-2021	04-Jan-2022
EPH by GCxGC-FID	08-Dec-2021	08-Dec-2021
EPH CWG GC (S)	07-Dec-2021	07-Dec-2021
Fluoride	09-Dec-2021	09-Dec-2021
GRO by GC-FID (S)	10-Dec-2021	10-Dec-2021
Hexavalent Chromium (s)	07-Dec-2021	07-Dec-2021
Loss on Ignition in soils	09-Dec-2021	08-Dec-2021
Mercury Dissolved	09-Dec-2021	09-Dec-2021
Metals in solid samples by OES	09-Dec-2021	09-Dec-2021
Moisture at 105C	04-Dec-2021	04-Dec-2021
PAH 16 & 17 Calc	07-Dec-2021	09-Dec-2021
PAH by GCMS	07-Dec-2021	09-Dec-2021
PCBs by GCMS	07-Dec-2021	07-Dec-2021
Phenols by HPLC (W)	09-Dec-2021	10-Dec-2021
Sample description	03-Dec-2021	03-Dec-2021
Total Dissolved Solids on Leachates	09-Dec-2021	09-Dec-2021
Total Organic Carbon	09-Dec-2021	09-Dec-2021
TPH CWG GC (S)	10-Dec-2021	10-Dec-2021
VOC MS (S)	09-Dec-2021	10-Dec-2021



CERTIFICATE OF ANALYSIS

SDG: 211202-153 Client Reference: Report Number: 628070
 Location: Mayeston Housing Order Number: 71/A/21 Superseded Report:

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

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

19. Sample Deviations

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

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

20. Asbestos

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

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

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

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Coöcidolite	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.

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)



P7P85-U9C1D-HRZT2

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

Job name

5909

Description/Comments

Client: Fingal County Council
Engineer: Downes Associates

Project

Mayeston

Site

Poppintree, Dublin 11

Classified by

Name: **Stephen Letch**
Company: **Site Investigations Ltd**
Date: **04 Jan 2022 13:44 GMT**
Telephone: **00353 86817 9449**

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

Date

09 Oct 2019

Next 3 year Refresher due by Oct 2022

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	WAC Results		Page
					Inert	Non Haz	
1	TP01-0.50	0.50	Non Hazardous		Pass	Pass	3
2	TP02-0.50	0.50	Non Hazardous		Pass	Pass	7
3	TP03-0.50	0.50	Non Hazardous		Pass	Pass	11
4	TP04-0.50	0.50	Non Hazardous		Fail	Pass	15
5	TP05-0.50	0.50	Non Hazardous		Fail	Pass	19
6	TP06-0.50	0.50	Non Hazardous		Pass	Pass	23
7	TP06-1.50	1.50	Non Hazardous		Pass	Pass	27
8	TP07-0.50	0.50	Non Hazardous		Pass	Pass	31
9	TP07-1.50	1.50	Non Hazardous		Pass	Pass	35
10	TP08-0.50	0.50	Non Hazardous		Pass	Pass	39
11	TP09-0.50	0.50	Non Hazardous		Pass	Pass	43
12	TP10-0.50	0.50	Non Hazardous		Pass	Pass	47

Related documents

#	Name	Description
1	211202-153.hwol	.hwol file used to create 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: 04 Jan 2022 13:44 GMT



Appendices	Page
Appendix A: Classifier defined and non EU CLP determinands	51
Appendix B: Rationale for selection of metal species	52
Appendix C: Version	53



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:	
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 %	✓	
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
3	antimony { antimony trioxide }				1.5 mg/kg	1.197	1.544 mg/kg	0.000154 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				16 mg/kg	1.534	21.106 mg/kg	0.00211 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				116 mg/kg	1.233	123.053 mg/kg	0.0123 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				1.65 mg/kg	1.855	2.632 mg/kg	0.000263 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				28.5 mg/kg	1.126	27.596 mg/kg	0.00276 %	✓	
	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	35.6 mg/kg		30.616 mg/kg	0.00306 %	✓	
	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 }				2.35 mg/kg	1.5	3.032 mg/kg	0.000303 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				36.2 mg/kg	2.637	82.085 mg/kg	0.00821 %	✓	
	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 }				1.85 mg/kg	1.405	2.235 mg/kg	0.000224 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				95.9 mg/kg	2.469	203.653 mg/kg	0.0204 %	✓	
	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) }				13.3 mg/kg	1.462	16.717 mg/kg	0.00167 %	✓	
		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				0.0459 mg/kg		0.0395 mg/kg	0.00000395 %	✓	
	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				0.131 mg/kg		0.113 mg/kg	0.0000113 %	✓	
		201-469-6	83-32-9							
19	fluorene				0.13 mg/kg		0.112 mg/kg	0.0000112 %	✓	
		201-695-5	86-73-7							
20	phenanthrene				0.728 mg/kg		0.626 mg/kg	0.0000626 %	✓	
		201-581-5	85-01-8							
21	anthracene				0.224 mg/kg		0.193 mg/kg	0.0000193 %	✓	
		204-371-1	120-12-7							
22	fluoranthene				0.882 mg/kg		0.759 mg/kg	0.0000759 %	✓	
		205-912-4	206-44-0							
23	pyrene				0.655 mg/kg		0.563 mg/kg	0.0000563 %	✓	
		204-927-3	129-00-0							
24	benzo[a]anthracene				0.317 mg/kg		0.273 mg/kg	0.0000273 %	✓	
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				0.274 mg/kg		0.236 mg/kg	0.0000236 %	✓	
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				0.31 mg/kg		0.267 mg/kg	0.0000267 %	✓	
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				0.124 mg/kg		0.107 mg/kg	0.0000107 %	✓	
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				0.279 mg/kg		0.24 mg/kg	0.000024 %	✓	
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				0.193 mg/kg		0.166 mg/kg	0.0000166 %	✓	
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				0.0363 mg/kg		0.0312 mg/kg	0.00000312 %	✓	
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				0.2 mg/kg		0.172 mg/kg	0.0000172 %	✓	
		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				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<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	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<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:								0.0531 %		



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
ND	Not detected

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 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: 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 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)	% 1.66	3	5
2	LOI (loss on ignition)	% 5.63	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.4	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 8.69	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 7.98	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0061	0.5	2
10	barium	mg/kg 0.233	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0378	2	50
14	mercury	mg/kg <0.0001	0.01	0.2
15	molybdenum	mg/kg 0.0994	0.5	10
16	nickel	mg/kg 0.0127	0.4	10
17	lead	mg/kg <0.002	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 0.0127	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg 6.17	10	150
23	sulphate	mg/kg 667	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 55.8	500	800
26	TDS (total dissolved solids)	mg/kg 2070	4,000	60,000

Key

User supplied data



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:	
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				32.1	mg/kg		26.964	mg/kg	0.0027 %	✓	
			TPH									
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>							
3	antimony { antimony trioxide }				1.36	mg/kg	1.197	1.368	mg/kg	0.000137 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
4	arsenic { arsenic pentoxide }				14.4	mg/kg	1.534	18.554	mg/kg	0.00186 %	✓	
	033-004-00-6	215-116-9	1303-28-2									
5	barium { barium sulphide }				123	mg/kg	1.233	127.445	mg/kg	0.0127 %	✓	
	016-002-00-X	244-214-4	21109-95-5									
6	cadmium { cadmium sulfate }				1.76	mg/kg	1.855	2.742	mg/kg	0.000274 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
7	copper { dicopper oxide; copper (I) oxide }				37.7	mg/kg	1.126	35.655	mg/kg	0.00357 %	✓	
	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	64.9	mg/kg		54.516	mg/kg	0.00545 %	✓	
	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 }				2.34	mg/kg	1.5	2.949	mg/kg	0.000295 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
11	nickel { nickel sulfate }				41.1	mg/kg	2.637	91.029	mg/kg	0.0091 %	✓	
	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 }				1.44	mg/kg	1.405	1.699	mg/kg	0.00017 %	✓	
	034-002-00-8											
13	zinc { zinc sulphate }				245	mg/kg	2.469	508.181	mg/kg	0.0508 %	✓	
	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) }				14.8	mg/kg	1.462	18.17	mg/kg	0.00182 %	✓	
		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	<0.000009 %		<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	0.0582 mg/kg		0.0489 mg/kg	0.00000489 %	✓	
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	0.0868 mg/kg		0.0729 mg/kg	0.00000729 %	✓	
23	pyrene		204-927-3	129-00-0	0.0746 mg/kg		0.0627 mg/kg	0.00000627 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.0401 mg/kg		0.0337 mg/kg	0.00000337 %	✓	
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.0409 mg/kg		0.0344 mg/kg	0.00000344 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.0563 mg/kg		0.0473 mg/kg	0.00000473 %	✓	
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.0205 mg/kg		0.0172 mg/kg	0.00000172 %	✓	
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.041 mg/kg		0.0344 mg/kg	0.00000344 %	✓	
29	indeno[123-cd]pyrene		205-893-2	193-39-5	0.0271 mg/kg		0.0228 mg/kg	0.00000228 %	✓	
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	0.0307 mg/kg		0.0258 mg/kg	0.00000258 %	✓	
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	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
37	coronene		205-881-7	191-07-1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	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]	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
Total:								0.0892 %		



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
ND	Not detected
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 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.: 0.0027%)



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 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)	% 1.74	3	5
2	LOI (loss on ignition)	% 5.62	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.4	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 6.47	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 8.43	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0083	0.5	2
10	barium	mg/kg 0.144	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0339	2	50
14	mercury	mg/kg <0.0001	0.01	0.2
15	molybdenum	mg/kg 0.0761	0.5	10
16	nickel	mg/kg 0.0125	0.4	10
17	lead	mg/kg <0.002	0.5	10
18	antimony	mg/kg 0.0102	0.06	0.7
19	selenium	mg/kg 0.0107	0.1	0.5
20	zinc	mg/kg 0.0288	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg 5.89	10	150
23	sulphate	mg/kg 267	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 45.2	500	800
26	TDS (total dissolved solids)	mg/kg 1320	4,000	60,000

Key

User supplied data



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: 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)

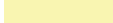
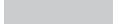


#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
3	antimony { antimony trioxide }				1.38 mg/kg	1.197	1.388 mg/kg	0.000139 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				13.2 mg/kg	1.534	17.008 mg/kg	0.0017 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				129 mg/kg	1.233	133.661 mg/kg	0.0134 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				2.03 mg/kg	1.855	3.162 mg/kg	0.000316 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				34.6 mg/kg	1.126	32.723 mg/kg	0.00327 %	✓	
	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 mg/kg		44.52 mg/kg	0.00445 %	✓	
	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 }				2.37 mg/kg	1.5	2.987 mg/kg	0.000299 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				39.5 mg/kg	2.637	87.485 mg/kg	0.00875 %	✓	
	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 }				1.23 mg/kg	1.405	1.452 mg/kg	0.000145 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				107 mg/kg	2.469	221.94 mg/kg	0.0222 %	✓	
	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) }				15.1 mg/kg	1.462	18.538 mg/kg	0.00185 %	✓	
		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	<0.000009 %		<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	0.0097 mg/kg		0.0081 mg/kg	0.00000816 %	✓	
19	fluorene		201-695-5	86-73-7	0.0133 mg/kg		0.0112 mg/kg	0.00000112 %	✓	
20	phenanthrene		201-581-5	85-01-8	0.18 mg/kg		0.151 mg/kg	0.0000151 %	✓	
21	anthracene		204-371-1	120-12-7	0.0604 mg/kg		0.0507 mg/kg	0.00000507 %	✓	
22	fluoranthene		205-912-4	206-44-0	0.352 mg/kg		0.296 mg/kg	0.0000296 %	✓	
23	pyrene		204-927-3	129-00-0	0.304 mg/kg		0.255 mg/kg	0.0000255 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.185 mg/kg		0.155 mg/kg	0.0000155 %	✓	
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.185 mg/kg		0.155 mg/kg	0.0000155 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.189 mg/kg		0.159 mg/kg	0.0000159 %	✓	
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.0863 mg/kg		0.0725 mg/kg	0.00000725 %	✓	
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.189 mg/kg		0.159 mg/kg	0.0000159 %	✓	
29	indeno[123-cd]pyrene		205-893-2	193-39-5	0.122 mg/kg		0.102 mg/kg	0.0000102 %	✓	
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.0282 mg/kg		0.0237 mg/kg	0.00000237 %	✓	
31	benzo[ghi]perylene		205-883-8	191-24-2	0.133 mg/kg		0.112 mg/kg	0.0000112 %	✓	
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	<0.009 mg/kg		<0.009 mg/kg	<0.000009 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.007 mg/kg		<0.007 mg/kg	<0.000007 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.004 mg/kg		<0.004 mg/kg	<0.000004 %		<LOD
37	coronene		205-881-7	191-07-1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	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]	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
Total:								0.0578 %		



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
ND	Not detected
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 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)	% 1.89	3	5
2	LOI (loss on ignition)	% 6.85	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.04	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 8.23	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0054	0.5	2
10	barium	mg/kg 0.11	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0427	2	50
14	mercury	mg/kg <0.0001	0.01	0.2
15	molybdenum	mg/kg 0.0435	0.5	10
16	nickel	mg/kg 0.0136	0.4	10
17	lead	mg/kg <0.002	0.5	10
18	antimony	mg/kg <0.01	0.06	0.7
19	selenium	mg/kg 0.0128	0.1	0.5
20	zinc	mg/kg 0.0111	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg 7.15	10	150
23	sulphate	mg/kg 61	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 60	500	800
26	TDS (total dissolved solids)	mg/kg 1200	4,000	60,000

Key

User supplied data



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:	
6.7% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 6.7% Wet Weight Moisture Correction applied (MC)

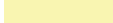
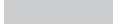


#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
3	antimony { antimony trioxide }				1.1 mg/kg	1.197	1.229 mg/kg	0.000123 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				13.1 mg/kg	1.534	18.747 mg/kg	0.00187 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				48.6 mg/kg	1.233	55.931 mg/kg	0.00559 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				1.26 mg/kg	1.855	2.18 mg/kg	0.000218 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				18.4 mg/kg	1.126	19.328 mg/kg	0.00193 %	✓	
	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	22.5 mg/kg		20.993 mg/kg	0.0021 %	✓	
	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 }				2.13 mg/kg	1.5	2.981 mg/kg	0.000298 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				20.5 mg/kg	2.637	50.431 mg/kg	0.00504 %	✓	
	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 }				1.18 mg/kg	1.405	1.547 mg/kg	0.000155 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				68.2 mg/kg	2.469	157.123 mg/kg	0.0157 %	✓	
	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) }				6.13 mg/kg	1.462	8.359 mg/kg	0.000836 %	✓	
		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	<0.000009 %		<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	0.0381 mg/kg		0.0355 mg/kg	0.00000355 %	✓	
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	0.0441 mg/kg		0.0411 mg/kg	0.00000411 %	✓	
23	pyrene		204-927-3	129-00-0	0.0379 mg/kg		0.0354 mg/kg	0.00000354 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.0196 mg/kg		0.0183 mg/kg	0.00000183 %	✓	
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.0224 mg/kg		0.0209 mg/kg	0.00000209 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.0263 mg/kg		0.0245 mg/kg	0.00000245 %	✓	
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	0.0177 mg/kg		0.0165 mg/kg	0.00000165 %	✓	
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	<0.1 mg/kg		<0.1 mg/kg	<0.000001 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
37	coronene		205-881-7	191-07-1	<0.2 mg/kg		<0.2 mg/kg	<0.000002 %		<LOD
38	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]	<0.2 mg/kg		<0.2 mg/kg	<0.000002 %		<LOD
Total:								0.0351 %		



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
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



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.

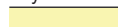

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample 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)	%	0.487	3	5
2	LOI (loss on ignition)	%	2.19	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.4	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	8.19	-	>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	0.276	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0133	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.146	0.5	10
16	nickel	mg/kg	0.006	0.4	10
17	lead	mg/kg	<0.002	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	0.0148	0.1	0.5
20	zinc	mg/kg	0.0216	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	1860	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	<30	500	800
26	TDS (total dissolved solids)	mg/kg	3330	4,000	60,000

Key

	User supplied data
	Inert 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:	
12% (wet weight correction)	

Hazard properties

None identified

Determinands

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

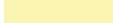
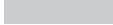


#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
3	antimony { antimony trioxide }				1.48 mg/kg	1.197	1.559 mg/kg	0.000156 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				11.5 mg/kg	1.534	15.523 mg/kg	0.00155 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				101 mg/kg	1.233	109.633 mg/kg	0.011 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				1.72 mg/kg	1.855	2.807 mg/kg	0.000281 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				24.3 mg/kg	1.126	24.076 mg/kg	0.00241 %	✓	
	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	22.1 mg/kg		19.448 mg/kg	0.00194 %	✓	
	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 }				2.64 mg/kg	1.5	3.485 mg/kg	0.000349 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				34.7 mg/kg	2.637	80.514 mg/kg	0.00805 %	✓	
	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 }				2.41 mg/kg	1.405	2.98 mg/kg	0.000298 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				87.1 mg/kg	2.469	189.267 mg/kg	0.0189 %	✓	
	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) }				8.76 mg/kg	1.462	11.267 mg/kg	0.00113 %	✓	
		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	<0.000009 %		<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				0.0407 mg/kg		0.0358 mg/kg	0.00000358 %	✓	
		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				0.0495 mg/kg		0.0436 mg/kg	0.00000436 %	✓	
		205-912-4	206-44-0							
23	pyrene				0.0445 mg/kg		0.0392 mg/kg	0.00000392 %	✓	
		204-927-3	129-00-0							
24	benzo[a]anthracene				0.0233 mg/kg		0.0205 mg/kg	0.00000205 %	✓	
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				0.0251 mg/kg		0.0221 mg/kg	0.00000221 %	✓	
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				0.0301 mg/kg		0.0265 mg/kg	0.00000265 %	✓	
	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				0.0206 mg/kg		0.0181 mg/kg	0.00000181 %	✓	
	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				<0.1 mg/kg		<0.1 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
37	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.000002 %		<LOD
		205-881-7	191-07-1							
38	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.2 mg/kg		<0.2 mg/kg	<0.000002 %		<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:								0.0473 %		



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
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



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 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)	%	0.642	3	5
2	LOI (loss on ignition)	%	3.08	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.4	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	8.21	-	>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	0.342	20	100
11	cadmium	mg/kg	<0.0008	0.04	1
12	chromium	mg/kg	<0.01	0.5	10
13	copper	mg/kg	0.0129	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.185	0.5	10
16	nickel	mg/kg	0.0054	0.4	10
17	lead	mg/kg	<0.002	0.5	10
18	antimony	mg/kg	<0.01	0.06	0.7
19	selenium	mg/kg	0.0193	0.1	0.5
20	zinc	mg/kg	<0.01	4	50
21	chloride	mg/kg	<20	800	15,000
22	fluoride	mg/kg	<5	10	150
23	sulphate	mg/kg	1760	1,000	20,000
24	phenol index	mg/kg	<0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg	<30	500	800
26	TDS (total dissolved solids)	mg/kg	3100	4,000	60,000

Key

	User supplied data
	Inert 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:	
15% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 15% 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				12.7	mg/kg		10.795	mg/kg	0.00108 %	✓	
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>							
3	antimony { antimony trioxide }				1.69	mg/kg	1.197	1.72	mg/kg	0.000172 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
4	arsenic { arsenic pentoxide }				18.5	mg/kg	1.534	24.12	mg/kg	0.00241 %	✓	
	033-004-00-6	215-116-9	1303-28-2									
5	barium { barium sulphide }				228	mg/kg	1.233	239.051	mg/kg	0.0239 %	✓	
	016-002-00-X	244-214-4	21109-95-5									
6	cadmium { cadmium sulfate }				3.31	mg/kg	1.855	5.218	mg/kg	0.000522 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
7	copper { dicopper oxide; copper (I) oxide }				37.5	mg/kg	1.126	35.888	mg/kg	0.00359 %	✓	
	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	69.8	mg/kg		59.33	mg/kg	0.00593 %	✓	
	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 }				4.01	mg/kg	1.5	5.113	mg/kg	0.000511 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
11	nickel { nickel sulfate }				46.2	mg/kg	2.637	103.543	mg/kg	0.0104 %	✓	
	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 }				1.44	mg/kg	1.405	1.72	mg/kg	0.000172 %	✓	
	034-002-00-8											
13	zinc { zinc sulphate }				137	mg/kg	2.469	287.55	mg/kg	0.0288 %	✓	
	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) }				20.2	mg/kg	1.462	25.095	mg/kg	0.00251 %	✓	
		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				0.0183 mg/kg		0.0156 mg/kg	0.00000156 %	✓	
	601-052-00-2	202-049-5	91-20-3							
17	acenaphthylene				0.0215 mg/kg		0.0183 mg/kg	0.00000183 %	✓	
		205-917-1	208-96-8							
18	acenaphthene				0.0747 mg/kg		0.0635 mg/kg	0.00000635 %	✓	
		201-469-6	83-32-9							
19	fluorene				0.063 mg/kg		0.0536 mg/kg	0.00000536 %	✓	
		201-695-5	86-73-7							
20	phenanthrene				0.707 mg/kg		0.601 mg/kg	0.0000601 %	✓	
		201-581-5	85-01-8							
21	anthracene				0.155 mg/kg		0.132 mg/kg	0.0000132 %	✓	
		204-371-1	120-12-7							
22	fluoranthene				1.18 mg/kg		1.003 mg/kg	0.0001 %	✓	
		205-912-4	206-44-0							
23	pyrene				1.02 mg/kg		0.867 mg/kg	0.0000867 %	✓	
		204-927-3	129-00-0							
24	benzo[a]anthracene				0.556 mg/kg		0.473 mg/kg	0.0000473 %	✓	
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				0.543 mg/kg		0.462 mg/kg	0.0000462 %	✓	
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				0.69 mg/kg		0.587 mg/kg	0.0000587 %	✓	
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				0.232 mg/kg		0.197 mg/kg	0.0000197 %	✓	
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				0.557 mg/kg		0.473 mg/kg	0.0000473 %	✓	
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				0.413 mg/kg		0.351 mg/kg	0.0000351 %	✓	
		205-893-2	193-39-5							
30	dibenz[a,h]anthracene				0.086 mg/kg		0.0731 mg/kg	0.00000731 %	✓	
	601-041-00-2	200-181-8	53-70-3							
31	benzo[ghi]perylene				0.422 mg/kg		0.359 mg/kg	0.0000359 %	✓	
		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				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<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	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<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:								0.0806 %		



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
ND	Not detected
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 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.: 0.00108%)



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 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)	% 2.17	3	5
2	LOI (loss on ignition)	% 7.83	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.04	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 5.39	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 8.24	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0082	0.5	2
10	barium	mg/kg 0.125	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0505	2	50
14	mercury	mg/kg <0.0001	0.01	0.2
15	molybdenum	mg/kg 0.0455	0.5	10
16	nickel	mg/kg 0.0149	0.4	10
17	lead	mg/kg <0.002	0.5	10
18	antimony	mg/kg <0.01	0.06	0.7
19	selenium	mg/kg 0.0117	0.1	0.5
20	zinc	mg/kg 0.0199	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg 6.46	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 62.2	500	800
26	TDS (total dissolved solids)	mg/kg 1070	4,000	60,000

Key

User supplied data



Classification of sample: TP06-1.50

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

Sample details

Sample name:	LoW Code:
TP06-1.50	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)
1.50 m	
Moisture content:	
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				54.7	mg/kg		47.589	mg/kg	0.00476 %	✓	
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>							
3	antimony { antimony trioxide }				1.02	mg/kg	1.197	1.062	mg/kg	0.000106 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
4	arsenic { arsenic pentoxide }				11.3	mg/kg	1.534	15.08	mg/kg	0.00151 %	✓	
	033-004-00-6	215-116-9	1303-28-2									
5	barium { barium sulphide }				97.4	mg/kg	1.233	104.524	mg/kg	0.0105 %	✓	
	016-002-00-X	244-214-4	21109-95-5									
6	cadmium { cadmium sulfate }				1.38	mg/kg	1.855	2.227	mg/kg	0.000223 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
7	copper { dicopper oxide; copper (I) oxide }				25.2	mg/kg	1.126	24.684	mg/kg	0.00247 %	✓	
	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	37.7	mg/kg		32.799	mg/kg	0.00328 %	✓	
	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 }				2.2	mg/kg	1.5	2.871	mg/kg	0.000287 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
11	nickel { nickel sulfate }				32.3	mg/kg	2.637	74.093	mg/kg	0.00741 %	✓	
	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 }				92.6	mg/kg	2.469	198.931	mg/kg	0.0199 %	✓	
	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) }				19.3	mg/kg	1.462	24.541	mg/kg	0.00245 %	✓	
		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				0.0108 mg/kg		0.0094 mg/kg	0.00000094 %	✓	
	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				0.113 mg/kg		0.0983 mg/kg	0.00000983 %	✓	
		201-581-5	85-01-8							
21	anthracene				0.0211 mg/kg		0.0184 mg/kg	0.00000184 %	✓	
		204-371-1	120-12-7							
22	fluoranthene				0.203 mg/kg		0.177 mg/kg	0.0000177 %	✓	
		205-912-4	206-44-0							
23	pyrene				0.183 mg/kg		0.159 mg/kg	0.0000159 %	✓	
		204-927-3	129-00-0							
24	benzo[a]anthracene				0.104 mg/kg		0.0905 mg/kg	0.00000905 %	✓	
	601-033-00-9	200-280-6	56-55-3							
25	chrysene				0.113 mg/kg		0.0983 mg/kg	0.00000983 %	✓	
	601-048-00-0	205-923-4	218-01-9							
26	benzo[b]fluoranthene				0.139 mg/kg		0.121 mg/kg	0.0000121 %	✓	
	601-034-00-4	205-911-9	205-99-2							
27	benzo[k]fluoranthene				0.0467 mg/kg		0.0406 mg/kg	0.00000406 %	✓	
	601-036-00-5	205-916-6	207-08-9							
28	benzo[a]pyrene; benzo[def]chrysene				0.111 mg/kg		0.0966 mg/kg	0.00000966 %	✓	
	601-032-00-3	200-028-5	50-32-8							
29	indeno[123-cd]pyrene				0.0849 mg/kg		0.0739 mg/kg	0.00000739 %	✓	
		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				0.0933 mg/kg		0.0812 mg/kg	0.00000812 %	✓	
		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				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
34	benzene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
35	toluene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
36	ethylbenzene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<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	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<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:								0.0533 %		



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
ND	Not detected
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 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.: 0.00476%)



WAC results for sample: TP06-1.50

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)	% 1.89	3	5
2	LOI (loss on ignition)	% 6.33	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.4	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 12.2	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 8.49	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0086	0.5	2
10	barium	mg/kg 0.123	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0499	2	50
14	mercury	mg/kg <0.0001	0.01	0.2
15	molybdenum	mg/kg 0.0626	0.5	10
16	nickel	mg/kg 0.0177	0.4	10
17	lead	mg/kg <0.002	0.5	10
18	antimony	mg/kg 0.0106	0.06	0.7
19	selenium	mg/kg 0.0246	0.1	0.5
20	zinc	mg/kg 0.0127	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg 7.56	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 78.1	500	800
26	TDS (total dissolved solids)	mg/kg 1260	4,000	60,000

Key

User supplied data



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:	
20%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 20% Wet Weight Moisture Correction applied (MC)

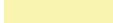
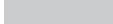


#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
3	antimony { antimony trioxide }				1.61 mg/kg	1.197	1.542 mg/kg	0.000154 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				17.2 mg/kg	1.534	21.106 mg/kg	0.00211 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				153 mg/kg	1.233	150.98 mg/kg	0.0151 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				2.26 mg/kg	1.855	3.353 mg/kg	0.000335 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				41.6 mg/kg	1.126	37.47 mg/kg	0.00375 %	✓	
	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	78.8 mg/kg		63.04 mg/kg	0.0063 %	✓	
	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 }				2.89 mg/kg	1.5	3.468 mg/kg	0.000347 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				44 mg/kg	2.637	92.811 mg/kg	0.00928 %	✓	
	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 }				1.22 mg/kg	1.405	1.371 mg/kg	0.000137 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				135 mg/kg	2.469	266.684 mg/kg	0.0267 %	✓	
	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) }				17.4 mg/kg	1.462	20.345 mg/kg	0.00203 %	✓	
		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	<0.000009 %		<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	<0.000008 %		<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	0.122 mg/kg		0.0976 mg/kg	0.00000976 %	✓	
21	anthracene		204-371-1	120-12-7	0.0235 mg/kg		0.0188 mg/kg	0.00000188 %	✓	
22	fluoranthene		205-912-4	206-44-0	0.254 mg/kg		0.203 mg/kg	0.0000203 %	✓	
23	pyrene		204-927-3	129-00-0	0.226 mg/kg		0.181 mg/kg	0.0000181 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.128 mg/kg		0.102 mg/kg	0.0000102 %	✓	
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.13 mg/kg		0.104 mg/kg	0.0000104 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.143 mg/kg		0.114 mg/kg	0.0000114 %	✓	
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.0559 mg/kg		0.0447 mg/kg	0.00000447 %	✓	
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.119 mg/kg		0.0952 mg/kg	0.00000952 %	✓	
29	indeno[123-cd]pyrene		205-893-2	193-39-5	0.0833 mg/kg		0.0666 mg/kg	0.00000666 %	✓	
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	0.0878 mg/kg		0.0702 mg/kg	0.00000702 %	✓	
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	<0.009 mg/kg		<0.009 mg/kg	<0.000009 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.007 mg/kg		<0.007 mg/kg	<0.000007 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.004 mg/kg		<0.004 mg/kg	<0.000004 %		<LOD
37	coronene		205-881-7	191-07-1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	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]	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
Total:								0.0675 %		



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
ND	Not detected
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 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)	% 2.78	3	5
2	LOI (loss on ignition)	% 8.03	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.04	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 8.21	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.009	0.5	2
10	barium	mg/kg 0.117	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0582	2	50
14	mercury	mg/kg 0.0001	0.01	0.2
15	molybdenum	mg/kg 0.0425	0.5	10
16	nickel	mg/kg 0.0137	0.4	10
17	lead	mg/kg <0.002	0.5	10
18	antimony	mg/kg <0.01	0.06	0.7
19	selenium	mg/kg 0.0118	0.1	0.5
20	zinc	mg/kg 0.0112	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg 6.34	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 65.1	500	800
26	TDS (total dissolved solids)	mg/kg 1140	4,000	60,000

Key

User supplied data



Classification of sample: TP07-1.50

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

Sample details

Sample name:	LoW Code:
TP07-1.50	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)
1.50 m	
Moisture content:	
21% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

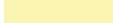
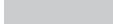


#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
3	antimony { antimony trioxide }				1.49 mg/kg	1.197	1.409 mg/kg	0.000141 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				18.4 mg/kg	1.534	22.296 mg/kg	0.00223 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				166 mg/kg	1.233	161.76 mg/kg	0.0162 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				2.53 mg/kg	1.855	3.707 mg/kg	0.000371 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				46.1 mg/kg	1.126	41.004 mg/kg	0.0041 %	✓	
	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	219 mg/kg		173.01 mg/kg	0.0173 %	✓	
	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 }				3.23 mg/kg	1.5	3.828 mg/kg	0.000383 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				48.2 mg/kg	2.637	100.4 mg/kg	0.01 %	✓	
	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 }				1.84 mg/kg	1.405	2.042 mg/kg	0.000204 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				142 mg/kg	2.469	277.006 mg/kg	0.0277 %	✓	
	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) }				19.5 mg/kg	1.462	22.515 mg/kg	0.00225 %	✓	
		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	<0.000009 %		<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	0.0105 mg/kg		0.0083 mg/kg	0.00000083 %	✓	
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	0.142 mg/kg		0.112 mg/kg	0.0000112 %	✓	
21	anthracene		204-371-1	120-12-7	0.0276 mg/kg		0.0218 mg/kg	0.00000218 %	✓	
22	fluoranthene		205-912-4	206-44-0	0.241 mg/kg		0.19 mg/kg	0.000019 %	✓	
23	pyrene		204-927-3	129-00-0	0.218 mg/kg		0.172 mg/kg	0.0000172 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.121 mg/kg		0.0956 mg/kg	0.00000956 %	✓	
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.126 mg/kg		0.0995 mg/kg	0.00000995 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.145 mg/kg		0.115 mg/kg	0.0000115 %	✓	
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.053 mg/kg		0.0419 mg/kg	0.00000419 %	✓	
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.121 mg/kg		0.0956 mg/kg	0.00000956 %	✓	
29	indeno[123-cd]pyrene		205-893-2	193-39-5	0.0812 mg/kg		0.0641 mg/kg	0.00000641 %	✓	
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	0.0879 mg/kg		0.0694 mg/kg	0.00000694 %	✓	
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	<0.009 mg/kg		<0.009 mg/kg	<0.000009 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.007 mg/kg		<0.007 mg/kg	<0.000007 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.004 mg/kg		<0.004 mg/kg	<0.000004 %		<LOD
37	coronene		205-881-7	191-07-1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	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]	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
Total:								0.0822 %		



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
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



WAC results for sample: TP07-1.50

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)	% 2.36	3	5
2	LOI (loss on ignition)	% 8.77	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.04	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 6.31	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 8.17	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0149	0.5	2
10	barium	mg/kg 0.16	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0608	2	50
14	mercury	mg/kg 0.0001	0.01	0.2
15	molybdenum	mg/kg 0.0669	0.5	10
16	nickel	mg/kg 0.0228	0.4	10
17	lead	mg/kg 0.0035	0.5	10
18	antimony	mg/kg 0.0129	0.06	0.7
19	selenium	mg/kg 0.0106	0.1	0.5
20	zinc	mg/kg <0.01	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg 6.07	10	150
23	sulphate	mg/kg 82	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 94.8	500	800
26	TDS (total dissolved solids)	mg/kg 1370	4,000	60,000

Key

User supplied data



Classification of sample: TP08-0.50

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

Sample details

Sample name:	LoW Code:
TP08-0.50	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:	
9.2% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.2% Wet Weight Moisture Correction applied (MC)

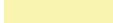
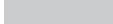


#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
3	antimony { antimony trioxide }				1.51 mg/kg	1.197	1.641 mg/kg	0.000164 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				8.56 mg/kg	1.534	11.922 mg/kg	0.00119 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				80.3 mg/kg	1.233	89.937 mg/kg	0.00899 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				1.69 mg/kg	1.855	2.846 mg/kg	0.000285 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				21.9 mg/kg	1.126	22.389 mg/kg	0.00224 %	✓	
	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	15.6 mg/kg		14.165 mg/kg	0.00142 %	✓	
	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 }				3.04 mg/kg	1.5	4.141 mg/kg	0.000414 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				31.4 mg/kg	2.637	75.175 mg/kg	0.00752 %	✓	
	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 }				2.96 mg/kg	1.405	3.776 mg/kg	0.000378 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				87.5 mg/kg	2.469	196.186 mg/kg	0.0196 %	✓	
	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) }				6.21 mg/kg	1.462	8.241 mg/kg	0.000824 %	✓	
		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	<0.000009 %		<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	<0.000008 %		<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	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
37	coronene		205-881-7	191-07-1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	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]	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
Total:								0.0442 %		



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
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



WAC results for sample: TP08-0.50

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)	% 0.483	3	5
2	LOI (loss on ignition)	% 1.95	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.04	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 9.66	-	>6
8	ANC (acid neutralisation capacity)	mol/kg	-	-
Eluate Analysis 10:1				
9	arsenic	mg/kg 0.0157	0.5	2
10	barium	mg/kg 0.134	20	100
11	cadmium	mg/kg 0.0025	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0623	2	50
14	mercury	mg/kg 0.0001	0.01	0.2
15	molybdenum	mg/kg 0.0615	0.5	10
16	nickel	mg/kg 0.0298	0.4	10
17	lead	mg/kg 0.0068	0.5	10
18	antimony	mg/kg 0.012	0.06	0.7
19	selenium	mg/kg 0.0107	0.1	0.5
20	zinc	mg/kg 0.541	4	50
21	chloride	mg/kg 22	800	15,000
22	fluoride	mg/kg 5.37	10	150
23	sulphate	mg/kg 28	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 1530	4,000	60,000

Key

User supplied data



Classification of sample: TP09-0.50

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

Sample details

Sample name:	LoW Code:
TP09-0.50	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:	
11% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

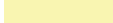
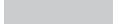


#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
3	antimony { antimony trioxide }				1.39 mg/kg	1.197	1.481 mg/kg	0.000148 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
4	arsenic { arsenic pentoxide }				11.2 mg/kg	1.534	15.29 mg/kg	0.00153 %	✓	
	033-004-00-6	215-116-9	1303-28-2							
5	barium { barium sulphide }				68.8 mg/kg	1.233	75.529 mg/kg	0.00755 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
6	cadmium { cadmium sulfate }				1.68 mg/kg	1.855	2.773 mg/kg	0.000277 %	✓	
	048-009-00-9	233-331-6	10124-36-4							
7	copper { dicopper oxide; copper (I) oxide }				23 mg/kg	1.126	23.047 mg/kg	0.0023 %	✓	
	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	18 mg/kg		16.02 mg/kg	0.0016 %	✓	
	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 }				2.83 mg/kg	1.5	3.779 mg/kg	0.000378 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel sulfate }				33.1 mg/kg	2.637	77.674 mg/kg	0.00777 %	✓	
	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 }				1.44 mg/kg	1.405	1.801 mg/kg	0.00018 %	✓	
	034-002-00-8									
13	zinc { zinc sulphate }				69.3 mg/kg	2.469	152.299 mg/kg	0.0152 %	✓	
	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) }				6.46 mg/kg	1.462	8.403 mg/kg	0.00084 %	✓	
		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	<0.000009 %		<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	0.058 mg/kg		0.0516 mg/kg	0.00000516 %	✓	
23	pyrene		204-927-3	129-00-0	0.0594 mg/kg		0.0529 mg/kg	0.00000529 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.0367 mg/kg		0.0327 mg/kg	0.00000327 %	✓	
25	chrysene	601-048-00-0	205-923-4	218-01-9	0.0385 mg/kg		0.0343 mg/kg	0.00000343 %	✓	
26	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.074 mg/kg		0.0659 mg/kg	0.00000659 %	✓	
27	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.0239 mg/kg		0.0213 mg/kg	0.00000213 %	✓	
28	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.0526 mg/kg		0.0468 mg/kg	0.00000468 %	✓	
29	indeno[123-cd]pyrene		205-893-2	193-39-5	0.0459 mg/kg		0.0409 mg/kg	0.00000409 %	✓	
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	0.0505 mg/kg		0.0449 mg/kg	0.00000449 %	✓	
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	<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
37	coronene		205-881-7	191-07-1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	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]	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
Total:								0.039 %		



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
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



WAC results for sample: TP09-0.50

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)	% 0.492	3	5
2	LOI (loss on ignition)	% 2.68	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.04	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 8.36	-	>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 0.0804	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.0194	2	50
14	mercury	mg/kg <0.0001	0.01	0.2
15	molybdenum	mg/kg 0.129	0.5	10
16	nickel	mg/kg 0.009	0.4	10
17	lead	mg/kg <0.002	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 0.0335	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg <5	10	150
23	sulphate	mg/kg 228	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg 42	500	800
26	TDS (total dissolved solids)	mg/kg 1160	4,000	60,000

Key

User supplied data



Classification of sample: TP10-0.50

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

Sample details

Sample name:	LoW Code:
TP10-0.50	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:	
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				17.7	mg/kg		15.399	mg/kg	0.00154 %	✓	
2	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>							
3	antimony { antimony trioxide }				1.5	mg/kg	1.197	1.562	mg/kg	0.000156 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
4	arsenic { arsenic pentoxide }				24.6	mg/kg	1.534	32.828	mg/kg	0.00328 %	✓	
	033-004-00-6	215-116-9	1303-28-2									
5	barium { barium sulphide }				66.9	mg/kg	1.233	71.793	mg/kg	0.00718 %	✓	
	016-002-00-X	244-214-4	21109-95-5									
6	cadmium { cadmium sulfate }				0.917	mg/kg	1.855	1.48	mg/kg	0.000148 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
7	copper { dicopper oxide; copper (I) oxide }				31.6	mg/kg	1.126	30.953	mg/kg	0.0031 %	✓	
	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	18.8	mg/kg		16.356	mg/kg	0.00164 %	✓	
	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 }				2.39	mg/kg	1.5	3.119	mg/kg	0.000312 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
11	nickel { nickel sulfate }				46.4	mg/kg	2.637	106.438	mg/kg	0.0106 %	✓	
	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 }				2.8	mg/kg	1.405	3.423	mg/kg	0.000342 %	✓	
	034-002-00-8											
13	zinc { zinc sulphate }				109	mg/kg	2.469	234.163	mg/kg	0.0234 %	✓	
	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) }				13.8	mg/kg	1.462	17.547	mg/kg	0.00175 %	✓	
		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	<0.000009 %		<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	0.0181 mg/kg		0.0157 mg/kg	0.00000157 %	✓	
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	0.02 mg/kg		0.0174 mg/kg	0.00000174 %	✓	
23	pyrene		204-927-3	129-00-0	0.0199 mg/kg		0.0173 mg/kg	0.00000173 %	✓	
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	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
34	benzene	601-020-00-8	200-753-7	71-43-2	<0.18 mg/kg		<0.18 mg/kg	<0.000018 %		<LOD
35	toluene	601-021-00-3	203-625-9	108-88-3	<0.14 mg/kg		<0.14 mg/kg	<0.000014 %		<LOD
36	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
37	coronene		205-881-7	191-07-1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
38	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]	<0.4 mg/kg		<0.4 mg/kg	<0.00004 %		<LOD
Total:								0.0538 %		



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
ND	Not detected
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 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.: 0.00154%)



WAC results for sample: TP10-0.50

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)	% 1.02	3	5
2	LOI (loss on ignition)	% 2.85	-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg <0.8	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg <0.021	1	-
5	Mineral oil (C10 to C40)	mg/kg 5.72	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg <10	100	-
7	pH	pH 8.17	-	>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 0.0648	20	100
11	cadmium	mg/kg <0.0008	0.04	1
12	chromium	mg/kg <0.01	0.5	10
13	copper	mg/kg 0.008	2	50
14	mercury	mg/kg <0.0001	0.01	0.2
15	molybdenum	mg/kg 0.137	0.5	10
16	nickel	mg/kg 0.0046	0.4	10
17	lead	mg/kg <0.002	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 <0.01	4	50
21	chloride	mg/kg <20	800	15,000
22	fluoride	mg/kg <5	10	150
23	sulphate	mg/kg 396	1,000	20,000
24	phenol index	mg/kg <0.16	1	-
25	DOC (dissolved organic carbon)	mg/kg <30	500	800
26	TDS (total dissolved solids)	mg/kg 1340	4,000	60,000

Key

User supplied data



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

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

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

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide 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 VII 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.

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2021.347.4961.9421 (13 Dec 2021)

HazWasteOnline Database: 2021.347.4961.9421 (13 Dec 2021)

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



Appendix 9

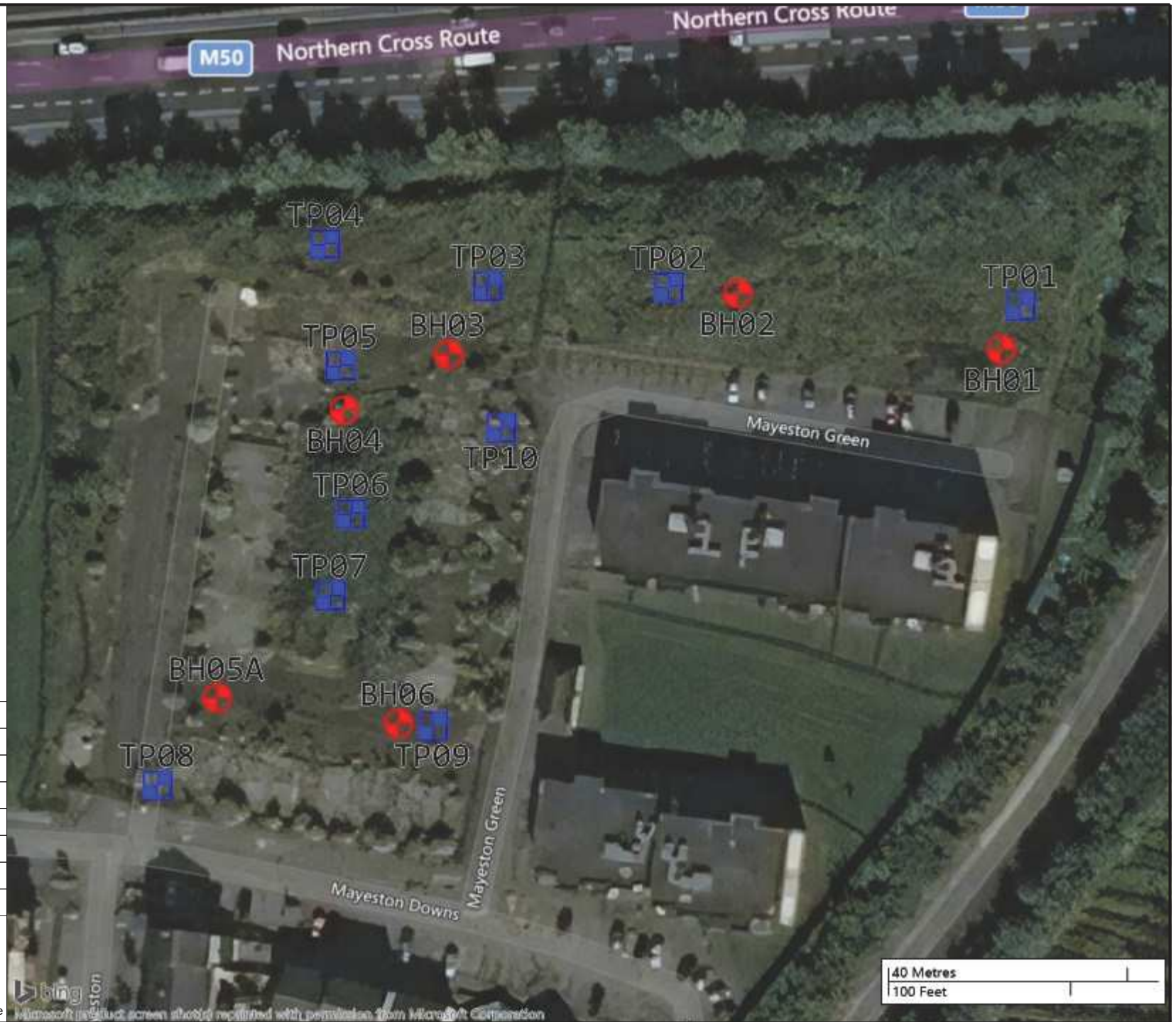
Survey Data

Survey Data

Location	Irish Transverse Mercator		Elevation	Irish National Grid	
	Easting	Northing		Easting	Northing
Boreholes					
BH01	714154.502	741100.970	74.53	314228.455	241076.193
BH02	714109.757	741109.295	75.24	314183.700	241084.519
BH03	714061.223	741097.892	74.20	314135.156	241073.114
BH04	714044.117	741088.142	73.87	314118.046	241063.361
BH05A	714023.675	741039.269	74.23	314097.600	241014.478
BH06	714054.396	741035.750	73.84	314128.328	241010.958
Trial Pits					
TP01	714157.320	741108.462	74.54	314231.273	241083.687
TP02	714097.966	741110.072	75.16	314171.906	241085.296
TP03	714067.786	741109.599	75.17	314141.720	241084.823
TP04	714040.075	741115.926	77.99	314114.003	241091.151
TP05	714043.144	741095.555	73.97	314117.073	241070.776
TP06	714045.552	741070.734	77.35	314119.482	241045.950
TP07	714042.311	741056.918	77.31	314116.240	241032.131
TP08	714014.083	741024.490	74.50	314088.006	240999.695
TP09	714060.149	741035.605	73.84	314134.082	241010.813
TP10	714070.398	741085.860	74.09	314144.333	241061.079

Legend Key

-  Locations By Type - CP
-  Locations By Type - TP



Contract No:	5909
Contract Name:	Mayeston
Location:	Poppintree, Dublin 11
Client:	Fingal County Council
Engineer:	Downes Associates
Title:	Site Plan
Scale:	1:900
Drawn By:	SL



Site Investigations Ltd
 The Grange
 12th Lock Road
 Lucan
 Co. Dublin
 T: 01 6108768
 e: info@siteinvestigations.ie



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