

APPENDICES

APPENDIX 6.1: SOIL INVESTIGATION REPORT

S.I. Ltd Contract No: 5861

Client: Gerard Gannon Properties
Engineer: Waterman Moylan
Contractor: Site Investigations Ltd

Gorey Hill,
Gorey, Co. Wexford
Site Investigation Report

Prepared by:

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Stephen Letch

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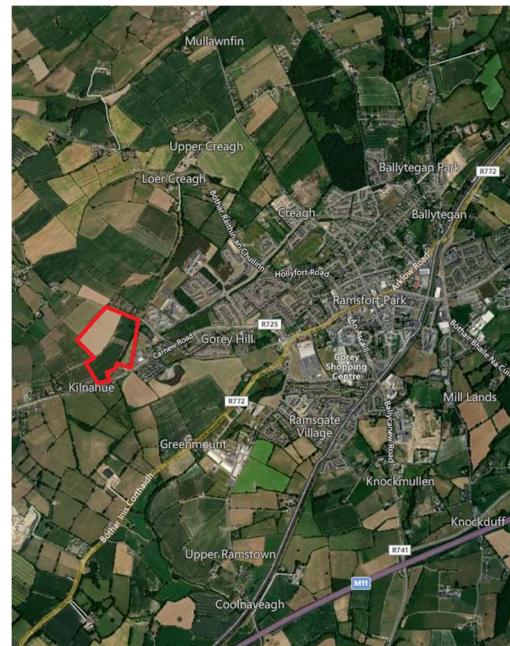
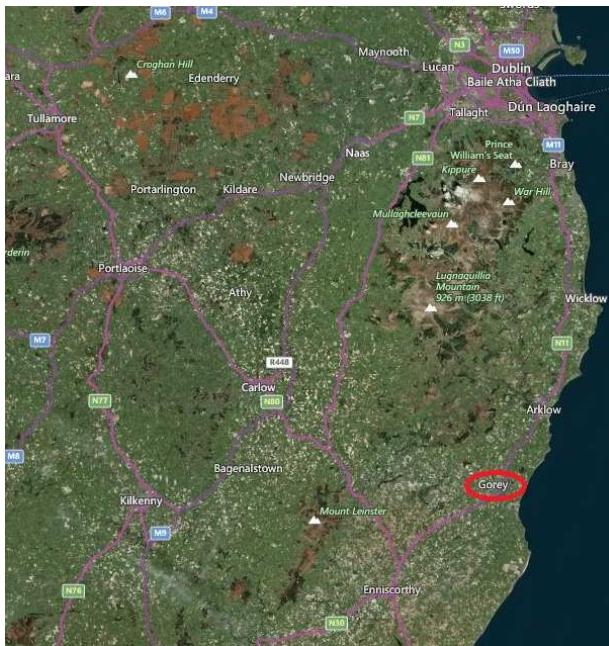
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1. Introduction

On the instructions of Waterman Moylan, Site Investigations Ltd (SIL) was appointed to complete a ground investigation at Gorey Hill, Gorey, Co. Wexford. The investigation was completed for a residential development on the site and completed on behalf of the Client, Gerard Gannon Properties. The investigation was completed in June 2021.

2. Site Location

The site is located on lands at Kilnahue and Gorey Hill to the west of Gorey town centre in north Co. Wexford. The map on the left shows the location of Gorey in north Co. Wexford to the south of Dublin and the location of the site in the town is shown on the right.



3. Fieldwork

The fieldworks comprised a programme of trial pits with dynamic probes, soakaway tests and California Bearing Ratio tests. All fieldwork was carried out in accordance with Eurocode 7: Geotechnical Design and IEI Specification & Related Documents for Ground Investigation in Ireland (2006).

The fieldworks comprised the following:

- 8 No. trial pits with dynamic probes
- 8 No. soakaway tests

3.1. Trial Pits

8 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. The trial pits were backfilled with the arisings immediately upon completion.

Adjacent to the trial pits, dynamic probes were completed using a track mounted Competitor 130 machine. The testing complies with the requirements of BS1377: Part 9 (1990) and Eurocode 7: Part 3. The configuration utilised standard DPH (Heavy) probing method comprising a 50kg weight, 500mm drop height and a 50mm diameter (90°) cone. The number of blows required to drive the cone each 100mm increment into the sub soil is recorded in accordance with the standards. The dynamic probe provides no information regarding soil type or groundwater conditions.

The dynamic probe results can be used to analyse the strength of the soil strata encountered by the probe. 'Proceedings of the Trinity College Dublin Symposium of Field and Laboratory Testing of Soils for Foundations and Embankments' presents a paper by Fairbairn that is most relevant to Irish soil conditions and within this paper the following equations were included:

Granular Soils: $DPH N_{100} \times 2.5 = SPT N \text{ value}$

Cohesive Soils: $C_u = 15 \times DPH N_{100} + 30 \text{ kN/m}^2$

These equations present a relationship between the probe N_{100} value and the SPT N value for granular soils and the undrained shear strength of cohesive soils.

At each location, 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 trial pit logs and photographs are presented in Appendix 1 with the dynamic probe results shown on the logs. The California Bearing Ratio tests are shown in Appendix 3 along with the geotechnical laboratory test data.

3.2. Soakaway Tests

Adjacent to the trial pits, soakaway tests were completed and logged by a SIL geotechnical engineer. BRE Special Digest 365 stipulates that the pit should be filled three times and that the final cycle is used to provide the infiltration rate. The time taken for the water level to fall from 75% volume to 25% volume is required to calculate the rate of infiltration. However, if the

water level does not fall at a steady rate, then the test is deemed to have failed and the area is unsuitable for storm water drainage.

The soakaway test results are presented in Appendix 2.

3.3. 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 5.

4. Laboratory Testing

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

- 8 No. moisture contents
- 8 No. Atterberg limits
- 8 No. particle size distribution curves
- 8 No. pH, chloride and sulphate content

Environmental laboratory testing was completed by Eurofins Chemtest Ltd and consisted of the following:

- 8 No. Suite I analysis
- 8 No. loss on ignition

The geotechnical laboratory test results are presented in Appendix 3 with the environmental test results and waste classification report in Appendix 4.

5. Ground Conditions

5.1. Overburden

The natural ground conditions vary slightly across the site with the area to the south east of the site, TP04, TP05, TP07 and TP08, are dominated by cohesive light brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content soils. The remaining trial pits, TP01, TP02, TP03 and TP06, are dominated by dark grey silty sandy GRAVEL with high cobble and boulder content.

The dynamic probe results generally recorded values of 4 or greater at 1.00mbgl and the values then increase steadily with depth.

5.2. Groundwater

Groundwater details in the trial pits during the fieldworks are noted on the logs in Appendix 1. No groundwater was recorded ingressing into 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. 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.

For analysis of bearing capacities from the dynamic probes, the N_{100} values are used as follows in cohesive soils. The undrained shear strength (C_u) is calculated using the N_{100} value as per the equation in Section 3.1. This can then be used in calculations to work out the ultimate bearing capacity (ULS) and when a factor of safety of 3 is applied, the allowable bearing capacity (ABC) can be provided.

In granular soils, the N_{100} value is used to correlate the SPT N-value. The SPT N-value can then be used to calculate the allowable bearing capacity, as per Terzaghi and Peck, using the correlation of $SPT\ N\text{-value} \times 10 = ABC$.

The table below shows the allowable bearing capacities for N_{100} values 1 to 10 at 1.00mbgl.

| N ₁₀₀ Value | Cohesive Soils | | | Granular Soils | |
|------------------------|----------------|-----|-----|----------------|-----|
| | C _u | ULS | ABC | SPT N-value | ABC |
| 1 | 45 | 245 | 82 | 2.5 | 25 |
| 2 | 60 | 324 | 110 | 5 | 50 |
| 3 | 75 | 400 | 135 | 7.5 | 75 |
| 4 | 90 | 480 | 160 | 10 | 100 |
| 5 | 105 | 555 | 185 | 12.5 | 125 |
| 6 | 120 | 630 | 210 | 15 | 150 |
| 7 | 135 | 705 | 235 | 17.5 | 175 |
| 8 | 150 | 780 | 260 | 20 | 200 |
| 9 | 165 | 855 | 285 | 22.5 | 225 |
| 10 | 180 | 930 | 310 | 250 | 250 |

All capacities shown are in kN/m².

As stated above in Section 5.1., the probe values in the GRAVEL are generally 4 or greater at 1.00mbgl. The value of 4 indicates an allowable bearing capacity of 100kN/m². Using the same value for the cohesive CLAY soils indicate an allowable bearing capacity of 160kN/m². A suitably qualified Engineer should inspect the foundations prior to pouring and confirm that the soils are suitable for the foundation design.

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.

- The foundation is to be 1m wide.
- Foundations are to be constructed on a level formation of uniform material type (described above).
- All man-made or filled material is to be removed prior to construction.
- The bulk unit weight of the material in this stratum has a minimum density of 19kN/m³.

The trial pits indicate that excavations in the cohesive soils should be stable for a short while at least. However, inspection of temporary excavations at the time of excavation and at regular intervals should be completed 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 recorded 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. Therefore, based on this information at the exploratory hole locations to date, it is considered likely that any shallow ingress into natural ground excavations will be slow to medium.

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

6.3. Pavement Design

The CBR test results in Appendix 3 indicate CBR values ranging from 1.2% to 6.2%.

The CBR samples were recovered from 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.

6.4. Soakaway Tests

The permeability of the soils varies across the site depending on the soils encountered. The soakaway tests completed at CLAY dominated parts of the site, TP04, TP05, TP07 and TP08 recorded no infiltration and therefore, failed the specification. The BRE Digest stipulates that the pit should half empty within 24hrs, and extrapolation indicates this condition would not be satisfied. The test was 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/silt soils.

The tests attempted at TP01, TP02, TP03 and TP06, encountered granular GRAVEL soils and these pits drained faster than it was possible to fill the pits. A full water bowser (1000 litres) was added to the pit following excavations and the water did not remain in the pit sufficiently long enough to measure the infiltration rates. Any planned soakaways should be located in these granular GRAVEL soils.

6.5. Contamination

Environmental testing was scheduled on eight samples and the results are shown in Appendix 4. For material to be removed from site, Suite I testing was carried out to determine if the material is hazardous or non-hazardous and then the leachate results were compared with the published waste acceptance limits of BS EN 12457-2 to determine whether the material on the site could be accepted as 'inert material' by an Irish landfill.

The Waste Classification report created using HazWasteOnline™ software shows that the material tested can be classified as non-hazardous material. Following this analysis of the solid test results, the leachate disposal suite results indicate that the soils tested would be able to be treated as Inert Waste.


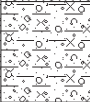
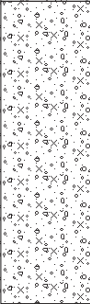

Eight samples were tested but it cannot be discounted that any localised contamination may have been missed. Any MADE GROUND excavated on site should be stockpiled separately to natural soils to avoid any potential cross contamination of the soils. Additional testing of these soils may be requested by 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 3 indicate a general pH value between 7.91 and 8.55, 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 127mg/l as SO₃. The BRE Special Digest 1:2005 – ‘*Concrete in Aggressive Ground*’ guidelines require SO₄ values and after conversion ($SO_4 = SO_3 \times 1.2$), the maximum value of 152mg/l shows Class 1 conditions and no special precautions are required.

Appendix 1
Trial Pit Logs and Photographs

| Contract No: 5861 | | Trial Pit and Dynamic Probe Log | | | | Trial Pit No: TP02 | | | | |
|--|-------|--|---------------------|---|--------------------|-----------------------|------------|--|-------|--------------|
| Contract: | | Gorey Hill | | Easting: | 713669.183 | Date: | 09/06/2021 | | | |
| Location: | | Gorey, Co. Wexford | | Northing: | 659466.412 | Excavator: | JCB 3CX | | | |
| Client: | | Gerard Gannon Properties | | Elevation: | 109.53 | Logged By: | M. Kaliski | | | |
| Engineer: | | Waterman Moylan | | Dimensions (LxWxD) (m): | 3.10 x 0.50 x 1.80 | Scale: | 1:30 | | | |
| Level (mbgl) | | Stratum Description | | Legend | Level (mOD) | | Samples | | Probe | Water Strike |
| Scale: | Depth | | | | Scale: | Depth: | Depth | Type | | |
| | 0.20 | TOPSOIL. | |  | | | | | | |
| | 0.50 | Soft 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 shale. Cobbles are angular to subangular of shale. | |  | 109.33 | | | | | |
| | 0.60 | Dark grey silty very sandy fine to coarse, angular to subangular GRAVEL of shale with high cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subangular of shale (up to 300mm diameter). | |  | 109.0 | 0.50 | | ES | | |
| | 1.00 | | | | 108.93 | 0.50 | | ICBR | | |
| | 1.80 | Obstruction - possible boulders. Pit terminated at 1.80m | | | 108.5 | 1.00 | | B | | |
| | 2.00 | | | | 108.0 | | | | | |
| | 2.50 | | | | 107.73 | | | | | |
| | 3.00 | | | | 107.5 | | | | | |
| | 3.50 | | | | 107.0 | | | | | |
| | 4.00 | | | | 106.5 | | | | | |
| | 4.50 | | | | 106.0 | | | | | |
| | 5.00 | | | | 105.5 | | | | | |
| | 5.50 | | | | 105.0 | | | | | |
| | | | | | 104.5 | | | | | |
| | | | | | 104.0 | | | | | |
|  | | Termination: | Pit Wall Stability: | Groundwater Rate: | Remarks: | | | Key: | | |
| | | Obstruction - possible boulders. | Pit walls stable. | Dry | - | | | B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental | | |


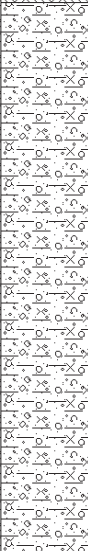
| Contract No: 5861 | | Trial Pit and Dynamic Probe Log | | | | Trial Pit No: TP05 | | | |
|----------------------|------------------|--|-------------------------|-------------|--------------------|-----------------------|--|------------|--------------|
| Contract: | | Gorey Hill | Easting: | | 713680.205 | Date: | | 09/06/2021 | |
| Location: | | Gorey, Co. Wexford | Northing: | | 659326.329 | Excavator: | | JCB 3CX | |
| Client: | | Gerard Gannon Properties | Elevation: | | 103.76 | Logged By: | | M. Kaliski | |
| Engineer: | | Waterman Moylan | Dimensions (LxWxD) (m): | | 2.80 x 0.50 x 3.00 | Scale: | | 1:30 | |
| Level (mbgl) | | Stratum Description | Legend | Level (mOD) | | Samples | | Probe | Water Strike |
| Scale: | Depth | | | Scale: | Depth: | Depth | Type | | |
| | 0.10 | TOPSOIL. | | | | | | | |
| | | 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 shale. Cobbles are angular to subangular of shale. | | 103.66 | | | | | |
| | 0.5 | | | 103.5 | 0.50 | ES | 2, 4, 4, 3, 3, 6, 7, 8 | | |
| | 1.0 | | | 103.0 | 0.50 | ICBR | 8, 14 | | |
| | 1.5 | | | 102.5 | 1.00 | B | 8, 12, 12, 15, 12, 20, 17, 14 | | |
| | 2.0 | | | 102.0 | | | 12, 12, 12, 12, 11, 11, 10, 11, 11, 11 | | |
| | 2.5 | | | 101.5 | | | 12, 10, 11, 11, 11, 12, 10, 11, 11, 11 | | |
| | 2.70 | Stiff brown slightly sandy gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular of shale. Cobbles and boulders are angular to subangular of shale (up to 400mm diameter). | | 101.06 | 2.90 | B | 10, 11, 14, 13, 10, 14, 17, 14, 17, 14, 13, 15, 12, 12, 16, 19, 17, 15, 23, 26, 35 | | |
| | 3.00 | Pit terminated at 3.00m | | 100.76 | | | | | |
| | 3.5 | | | 100.5 | | | | | |
| | 4.0 | | | 100.0 | | | | | |
| | 4.5 | | | 99.5 | | | | | |
| | 5.0 | | | 99.0 | | | | | |
| | 5.5 | | | 98.5 | | | | | |
| | | | | 98.0 | | | | | |
| | Termination: | Pit Wall Stability: | Groundwater Rate: | Remarks: | | | Key: | | |
| | Scheduled depth. | Pit walls stable. | Dry | - | | | B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental | | |


| Contract No: 5861 | | Trial Pit and Dynamic Probe Log | | | | Trial Pit No: TP06 | | | |
|----------------------|-------|--|--------|-------------------------|--------------------|-----------------------|------------|-------|--------------|
| Contract: | | Gorey Hill | | Easting: | 713441.485 | Date: | 09/06/2021 | | |
| Location: | | Gorey, Co. Wexford | | Northing: | 659188.458 | Excavator: | JCB 3CX | | |
| Client: | | Gerard Gannon Properties | | Elevation: | 116.30 | Logged By: | M. Kaliski | | |
| Engineer: | | Waterman Moylan | | Dimensions (LxWxD) (m): | 2.50 x 0.50 x 2.40 | Scale: | 1:30 | | |
| Level (mbgl) | | Stratum Description | Legend | Level (mOD) | | Samples | | Probe | Water Strike |
| Scale: | Depth | | | Scale: | Depth: | Depth | Type | | |
| 0.20 | | TOPSOIL. | | 116.10 | | | | | |
| 0.5 | | Firm light brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of shale. Cobbles are angular to subangular of shale. | | 115.5 | 0.50 | ES | 3 | 4 | |
| 1.0 | | Dark grey slightly silty sandy fine to coarse, angular to subangular GRAVEL of shale with high cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subangular of shale (up to 300mm diameter). | | 115.20 | 0.50 | ICBR | 2 | 3 | |
| 1.5 | | | | 115.0 | 1.50 | B | 4 | 5 | |
| 2.0 | | | | 114.5 | | | 6 | 6 | |
| 2.40 | | Obstruction - possible boulders. Pit terminated at 2.40m | | 114.0 | | | 8 | 8 | |
| 2.5 | | | | 113.90 | | | 11 | 11 | |
| 3.0 | | | | 113.5 | | | 12 | 12 | |
| 3.5 | | | | 113.0 | | | 12 | 12 | |
| 4.0 | | | | 112.5 | | | 14 | 14 | |
| 4.5 | | | | 112.0 | | | 14 | 14 | |
| 5.0 | | | | 111.5 | | | 16 | 16 | |
| 5.5 | | | | 111.0 | | | 26 | 26 | |
| | | | | 110.5 | | | 35 | 35 | |
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| | | | | 110.0 | | | | | |
| | | | | 110.5 | | | | | |
| | | | | 110.0 | | | | | |
| | | | | 110.5 | | | | | |
| | | | | 110.0 | | | | | |
| | | | | 110.5 | | | | | |
| | | | | 110.0 | | | | | |
| | | | | 110.5 | | | | | |
| | | | | 110.0 | | | | | |
| | | | | 110.5 | | | | | |
| | | | | 110.0 | | | | | |
| | | | | 110.5 | | | | | |
| | | | | 110.0 | | | | | |

| Contract No: 5861 | | Trial Pit and Dynamic Probe Log | | | | Trial Pit No: TP07 | | | |
|----------------------|-------|---|-------------------------|-------------------|--------------------|-----------------------|--|------------|--------------|
| Contract: | | Gorey Hill | Easting: | | 713654.958 | Date: | | 09/06/2021 | |
| Location: | | Gorey, Co. Wexford | Northing: | | 659207.691 | Excavator: | | JCB 3CX | |
| Client: | | Gerard Gannon Properties | Elevation: | | 103.83 | Logged By: | | M. Kaliski | |
| Engineer: | | Waterman Moylan | Dimensions (LxWxD) (m): | | 3.10 x 0.50 x 3.00 | Scale: | | 1:30 | |
| Level (mbgl) | | Stratum Description | Legend | Level (mOD) | | Samples | | Probe | Water Strike |
| Scale: | Depth | | | Scale: | Depth: | Depth | Type | | |
| | 0.10 | TOPSOIL. Firm becoming stiff brown slightly sandy gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of shale. Cobbles are angular to subangular of shale. | | | 103.73 | | | 2 | |
| 0.5 | | | | 103.5 | 0.50 | ES | 2 | | |
| | | | | | 0.50 | ICBR | 2 | | |
| 1.0 | | | | 103.0 | 1.00 | B | 2 | 8 | |
| | | | | | | | | 13 | |
| 1.5 | | | | 102.5 | | | | 18 | |
| | | | | | | | | 24 | |
| 2.0 | | | | 102.0 | | | | 20 | |
| | | | | | | | | 18 | |
| 2.5 | | | | 101.5 | | | | 17 | |
| | | | | | | 17 | | | |
| 3.0 | 3.00 | Stiff grey brown slightly sandy gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular of shale. Cobbles and boulders are angular to subangular of shale (up to 400mm diameter). Pit terminated at 3.00m | | | 101.13 | | | 16 | |
| | | | | 101.0 | 3.00 | B | | 18 | |
| 3.5 | | | | 100.83 | | | | 23 | |
| | | | | | | | | 24 | |
| 4.0 | | | | 100.5 | | | | 35 | |
| | | | | 100.0 | | | | | |
| 4.5 | | | | 99.5 | | | | | |
| | | | | 99.0 | | | | | |
| 5.0 | | | | 98.5 | | | | | |
| | | | | 98.0 | | | | | |
| | | Termination: | Pit Wall Stability: | Groundwater Rate: | Remarks: | | Key: | | |
| | | Scheduled depth. | Pit walls stable. | Dry | - | | B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental | | |

| | | | | | |
|----------------------|--|--|--|--|------------------------------|
| Contract No: 5861 | Trial Pit and Dynamic Probe Log | | | | Trial Pit No: TP08 |
|----------------------|--|--|--|--|------------------------------|

| | | | | | |
|-----------|--------------------------|-------------------------|--------------------|------------|------------|
| Contract: | Gorey Hill | Easting: | 713494.287 | Date: | 09/06/2021 |
| Location: | Gorey, Co. Wexford | Northing: | 659094.363 | Excavator: | JCB 3CX |
| Client: | Gerard Gannon Properties | Elevation: | 106.95 | Logged By: | M. Kaliski |
| Engineer: | Waterman Moylan | Dimensions (LxWxD) (m): | 3.30 x 0.50 x 2.40 | Scale: | 1:30 |

| Level (mbgl) | | Stratum Description | Legend | Level (mOD) | | Samples | | Probe | Water Strike |
|--------------|-------|---|--|-------------|--------|---------|------|-------|--------------|
| Scale: | Depth | | | Scale: | Depth: | Depth | Type | | |
| | 0.20 | TOPSOIL. |  | | | | | | |
| | 0.5 | Firm becoming stiff brown slightly sandy gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of shale. Cobbles are angular to subangular of shale. |  | 106.75 | | | | | |
| | 1.0 | | | 106.5 | 0.50 | ES | | | |
| | 1.5 | | | 106.0 | 0.50 | ICBR | | | |
| | 2.0 | | | 105.5 | 1.50 | B | | | |
| | 2.40 | Obstruction - possible boulders. Pit terminated at 2.40m | | 104.55 | | | | | |
| | 2.5 | | | 104.0 | | | | | |
| | 3.0 | | | 103.5 | | | | | |
| | 3.5 | | | 103.0 | | | | | |
| | 4.0 | | | 102.5 | | | | | |
| | 4.5 | | | 102.0 | | | | | |
| | 5.0 | | | 101.5 | | | | | |
| | 5.5 | | | 101.0 | | | | | |

| | | | | | |
|--|----------------------------------|---------------------|-------------------|----------|--|
|  | Termination: | Pit Wall Stability: | Groundwater Rate: | Remarks: | Key: |
| | Obstruction - possible 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



Appendix 2
Soakaway Test Results

SOAKAWAY TEST



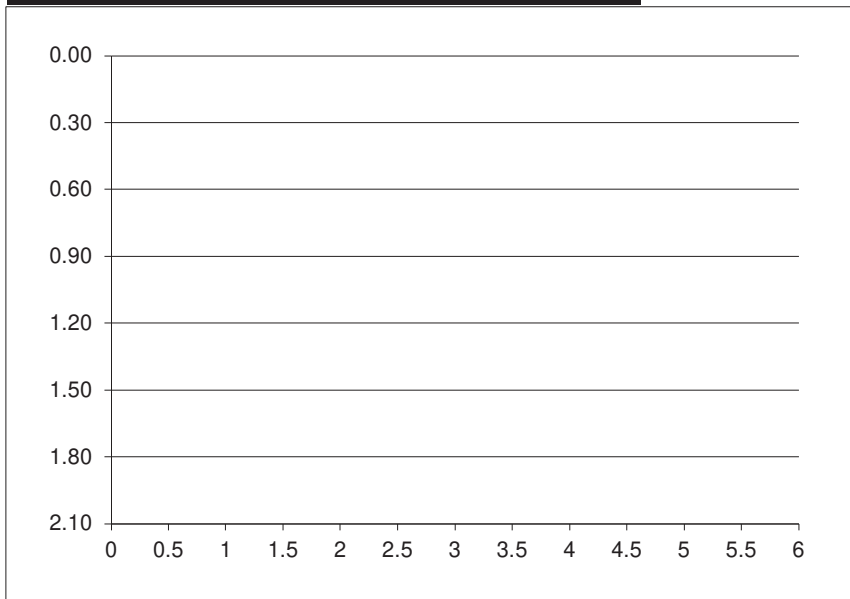
| | |
|---------------------------|--------------------|
| Project Reference: | 5861 |
| Contract name: | Gorey Hill |
| Location: | Gorey, Co. Wexford |
| Test No: | TP01 |
| Date: | 09/06/2021 |

| Ground Conditions | | |
|--------------------------|------|--|
| From | To | |
| 0.00 | 0.30 | TOPSOIL. |
| 0.30 | 2.00 | Dark grey slightly silty slightly sandy GRAVEL with high cobble and boulder content. |
| 2.00 | | Obstruction - boulders. |

Remarks:

Filled pit with 1000l - water level did not rise due to very high permeability of soils.

| Elapsed Time (mins) | Fall of Water (m) | Pit Dimensions (m) | |
|---------------------|-------------------|----------------------------|----------------------------|
| - | - | Length (m) | 2.70 m |
| - | - | Width (m) | 0.50 m |
| - | - | Depth | 2.00 m |
| - | - | Water | |
| - | - | Start Depth of Water | - m |
| - | - | Depth of Water | - m |
| - | - | 75% Full | - m |
| - | - | 25% Full | - m |
| - | - | 75%-25% | - m |
| - | - | Volume of water (75%-25%) | - m ³ |
| - | - | Area of Drainage | 12.8 m ² |
| - | - | Area of Drainage (75%-25%) | - 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 |



| |
|--|
| $f = \frac{V}{A \cdot t}$ or $f = \frac{V}{A \cdot t}$ |
| m/min or m/s |

SOAKAWAY TEST



| | |
|---------------------------|--------------------|
| Project Reference: | 5861 |
| Contract name: | Gorey Hill |
| Location: | Gorey, Co. Wexford |
| Test No: | TP02 |
| Date: | 09/06/2021 |

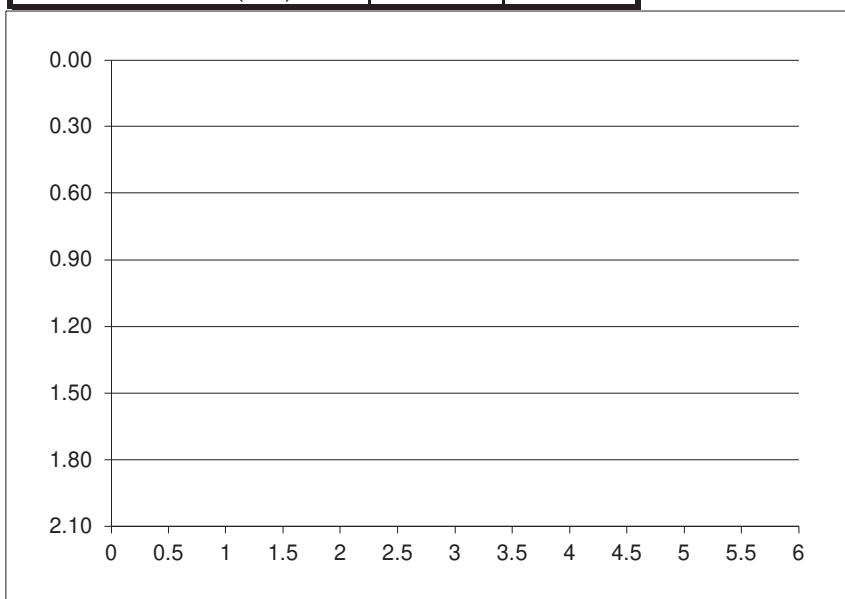
Ground Conditions

| From | To | |
|------|------|--|
| 0.00 | 0.20 | TOPSOIL. |
| 0.20 | 0.60 | Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content. |
| 0.60 | 1.80 | Dark grey slightly silty slightly sandy GRAVEL with high cobble and boulder content. |
| 1.80 | | Obstruction - boulders or possible bedrock. |

Remarks:

Filled pit with 1000l - water level did not rise due to very high permeability of soils.

| Elapsed Time (mins) | Fall of Water (m) | Pit Dimensions (m) | |
|---------------------|-------------------|----------------------------|-----------------------------|
| - | - | Length (m) | 3.10 m |
| - | - | Width (m) | 0.50 m |
| - | - | Depth | 1.80 m |
| | | Water | |
| - | - | Start Depth of Water | - m |
| - | - | Depth of Water | - m |
| - | - | 75% Full | - m |
| - | - | 25% Full | - m |
| - | - | 75%-25% | - m |
| - | - | Volume of water (75%-25%) | - m ³ |
| - | - | Area of Drainage | 12.96 m ² |
| - | - | Area of Drainage (75%-25%) | - 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 = **=** or

= **m/min** or **m/s**

SOAKAWAY TEST



| | |
|---------------------------|--------------------|
| Project Reference: | 5861 |
| Contract name: | Gorey Hill |
| Location: | Gorey, Co. Wexford |
| Test No: | TP03 |
| Date: | 09/06/2021 |

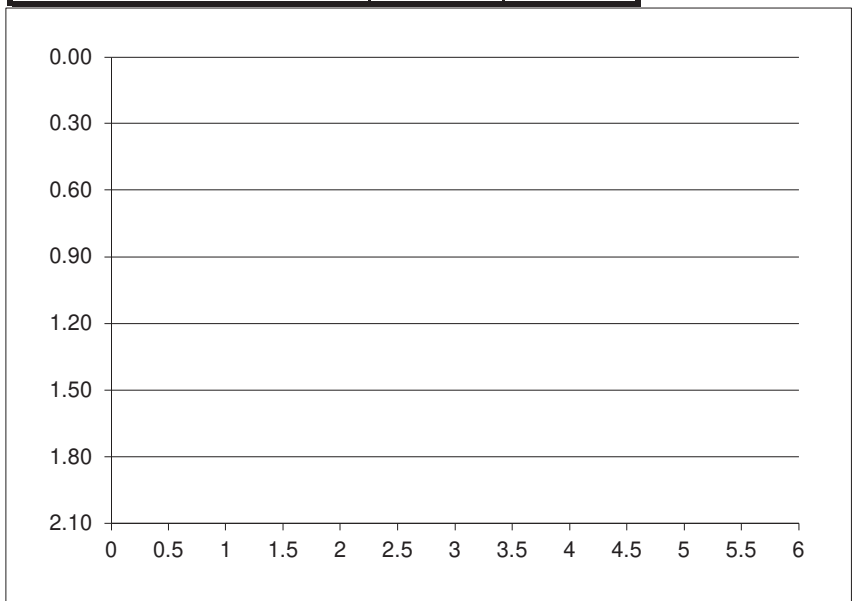
Ground Conditions

| From | To | |
|------|------|--|
| 0.00 | 0.30 | TOPSOIL. |
| 0.30 | 0.50 | Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content. |
| 0.50 | 2.00 | Dark grey slightly silty slightly sandy GRAVEL with high cobble and boulder content. |
| 2.00 | | Obstruction - boulders or possible bedrock. |

Remarks:

Filled pit with 1000l - water level did not rise due to very high permeability of soils.

| Elapsed Time (mins) | Fall of Water (m) | Pit Dimensions (m) | |
|---------------------|-------------------|----------------------------|-----------------------------|
| - | - | Length (m) | 2.50 m |
| - | - | Width (m) | 0.50 m |
| - | - | Depth | 2.00 m |
| | | Water | |
| - | - | Start Depth of Water | - m |
| - | - | Depth of Water | - m |
| - | - | 75% Full | - m |
| - | - | 25% Full | - m |
| - | - | 75%-25% | - m |
| - | - | Volume of water (75%-25%) | - m ³ |
| - | - | Area of Drainage | 12.00 m ² |
| - | - | Area of Drainage (75%-25%) | - 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 = $\frac{\text{m}}{\text{min}}$ or

$\frac{\text{m}}{\text{s}}$

SOAKAWAY TEST



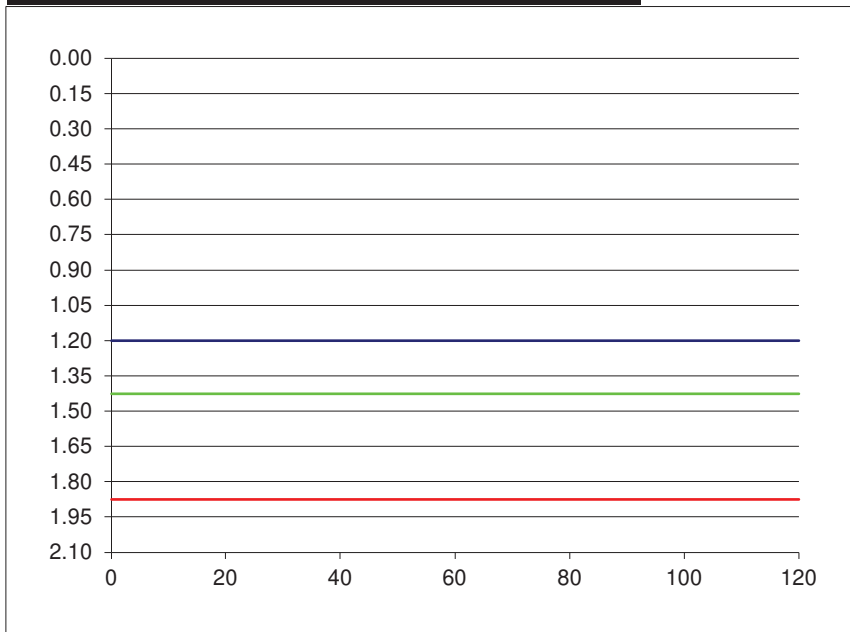
| | |
|---------------------------|--------------------|
| Project Reference: | 5861 |
| Contract name: | Gorey Hill |
| Location: | Gorey, Co. Wexford |
| Test No: | TP04 |
| Date: | 09/06/2021 |

| Ground Conditions | | |
|--------------------------|------|--|
| From | To | Description |
| 0.00 | 0.20 | TOPSOIL. |
| 0.20 | 2.10 | Firm becoming stiff light brown slightly sandy gravelly silty CLAY with high cobble and low boulder content. |

Remarks:
Completed adjacent to TP04.

| 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) | 2.90 m |
| Width (m) | 0.50 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%) | 0.65 m ³ |
| Area of Drainage | 14.28 m ² |
| Area of Drainage (75%-25%) | 4.51 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** m/min or **Fail** m/s

SOAKAWAY TEST



| | |
|---------------------------|--------------------|
| Project Reference: | 5861 |
| Contract name: | Gorey Hill |
| Location: | Gorey, Co. Wexford |
| Test No: | TP05 |
| Date: | 09/06/2021 |

Ground Conditions

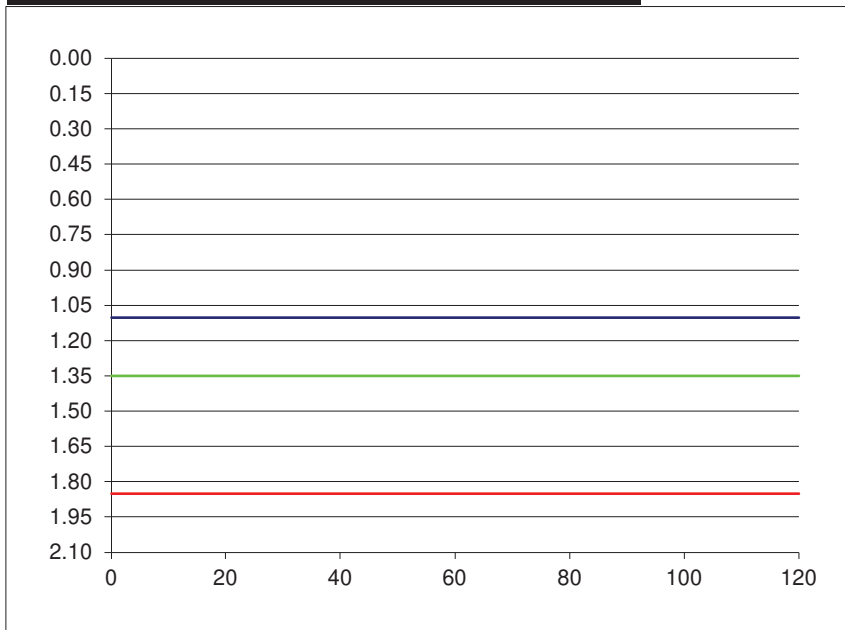
| From | To | |
|------|------|--|
| 0.00 | 0.20 | TOPSOIL. |
| 0.20 | 2.10 | Firm becoming stiff light brown slightly sandy gravelly silty CLAY with high cobble and low boulder content. |

Remarks:

Completed adjacent to TP05.

| 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 | 1.10 |
| 8 | 1.10 |
| 9 | 1.10 |
| 10 | 1.10 |
| 12 | 1.10 |
| 14 | 1.10 |
| 16 | 1.10 |
| 18 | 1.10 |
| 20 | 1.10 |
| 25 | 1.10 |
| 30 | 1.10 |
| 40 | 1.10 |
| 50 | 1.10 |
| 60 | 1.10 |
| 75 | 1.10 |
| 90 | 1.10 |
| 120 | 1.10 |

| Pit Dimensions (m) | |
|----------------------------|-----------------------------|
| Length (m) | 2.90 m |
| Width (m) | 0.50 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%) | 0.73 m ³ |
| Area of Drainage | 14.28 m ² |
| Area of Drainage (75%-25%) | 4.85 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



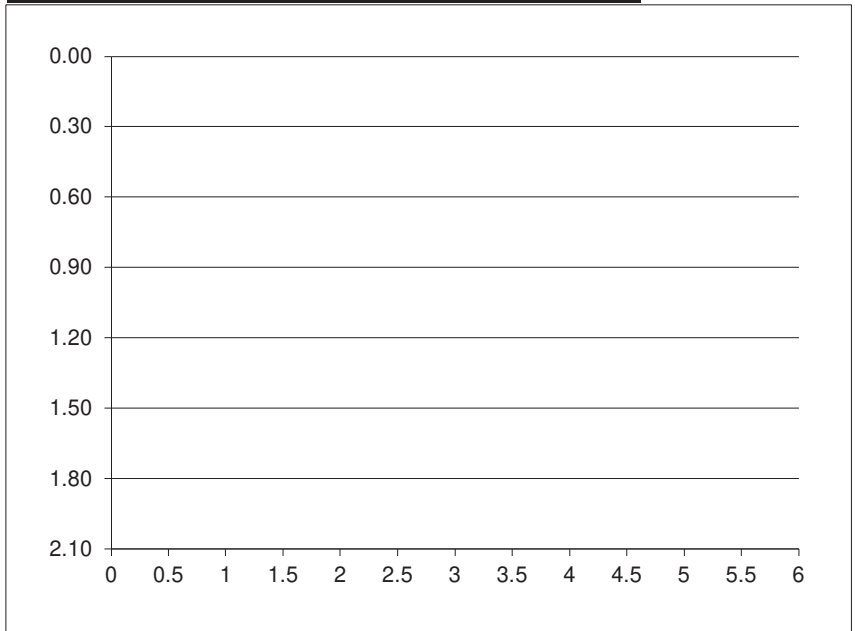
| | |
|---------------------------|--------------------|
| Project Reference: | 5861 |
| Contract name: | Gorey Hill |
| Location: | Gorey, Co. Wexford |
| Test No: | TP06 |
| Date: | 09/06/2021 |

| Ground Conditions | | |
|--------------------------|------|---|
| From | To | Description |
| 0.00 | 0.20 | TOPSOIL. |
| 0.20 | 1.10 | Firm light brown slightly sandy slightly gravelly silty CLAY with low cobble content. |
| 1.10 | 2.10 | Dark grey slightly silty slightly sandy GRAVEL with high cobble and boulder content. |

Remarks:

Filled pit with 1000l - water level did not rise due to very high permeability of soils.

| Elapsed Time (mins) | Fall of Water (m) | Pit Dimensions (m) | | |
|---------------------|-------------------|----------------------------|--------------|----------------|
| - | - | Length (m) | 2.50 | m |
| - | - | Width (m) | 0.50 | m |
| - | - | Depth | 2.10 | m |
| - | - | Water | | |
| - | - | Start Depth of Water | - | m |
| - | - | Depth of Water | - | m |
| - | - | 75% Full | - | m |
| - | - | 25% Full | - | m |
| - | - | 75%-25% | - | m |
| - | - | Volume of water (75%-25%) | - | m ³ |
| - | - | Area of Drainage | 12.60 | m ² |
| - | - | Area of Drainage (75%-25%) | - | 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 |



$f = \frac{V}{A \cdot t}$ or $f = \frac{V}{A \cdot t}$
 m/min or m/s

SOAKAWAY TEST



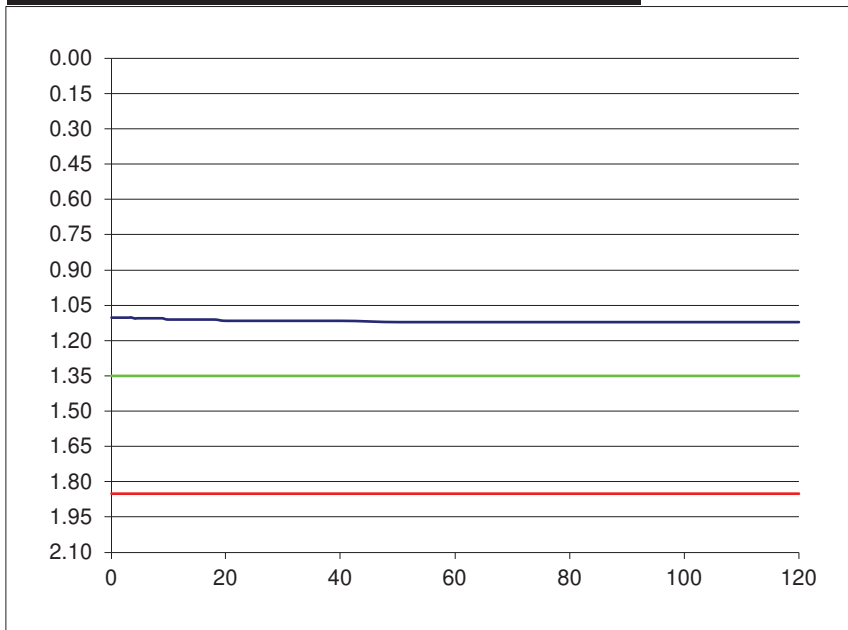
| | |
|---------------------------|--------------------|
| Project Reference: | 5861 |
| Contract name: | Gorey Hill |
| Location: | Gorey, Co. Wexford |
| Test No: | TP07 |
| Date: | 09/06/2021 |

| Ground Conditions | | |
|--------------------------|------|---|
| From | To | Description |
| 0.00 | 0.10 | TOPSOIL. |
| 0.10 | 2.10 | Firm becoming stiff brown slightly sandy gravelly silty CLAY with low cobble content. |

Remarks:
Completed adjacent to TP07.

| 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 | 1.11 |
| 4.5 | 1.11 |
| 5 | 1.11 |
| 6 | 1.11 |
| 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 | 1.12 |
| 25 | 1.12 |
| 30 | 1.12 |
| 40 | 1.12 |
| 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) | 0.50 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%) | 0.75 m ³ |
| Area of Drainage | 14.70 m ² |
| Area of Drainage (75%-25%) | 5.00 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** m/min or **Fail** m/s

SOAKAWAY TEST



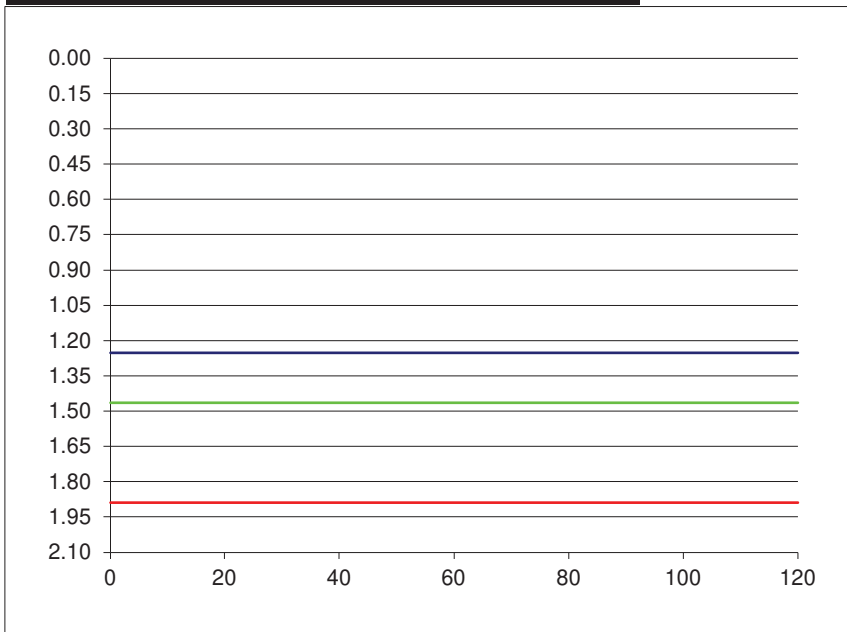
| | |
|---------------------------|--------------------|
| Project Reference: | 5861 |
| Contract name: | Gorey Hill |
| Location: | Gorey, Co. Wexford |
| Test No: | TP08 |
| Date: | 09/06/2021 |

| Ground Conditions | | |
|--------------------------|------|--|
| From | To | Description |
| 0.00 | 0.20 | TOPSOIL. |
| 0.20 | 2.10 | Firm becoming stiff brown slightly sandy slightly gravelly silty CLAY with low cobble content. |

Remarks:
Completed adjacent to TP08.

| Elapsed Time (mins) | Fall of Water (m) |
|---------------------|-------------------|
| 0 | 1.25 |
| 0.5 | 1.25 |
| 1 | 1.25 |
| 1.5 | 1.25 |
| 2 | 1.25 |
| 2.5 | 1.25 |
| 3 | 1.25 |
| 3.5 | 1.25 |
| 4 | 1.25 |
| 4.5 | 1.25 |
| 5 | 1.25 |
| 6 | 1.25 |
| 7 | 1.25 |
| 8 | 1.25 |
| 9 | 1.25 |
| 10 | 1.25 |
| 12 | 1.25 |
| 14 | 1.25 |
| 16 | 1.25 |
| 18 | 1.25 |
| 20 | 1.25 |
| 25 | 1.25 |
| 30 | 1.25 |
| 40 | 1.25 |
| 50 | 1.25 |
| 60 | 1.25 |
| 75 | 1.25 |
| 90 | 1.25 |
| 120 | 1.25 |

| Pit Dimensions (m) | |
|----------------------------|-----------------------------|
| Length (m) | 3.00 m |
| Width (m) | 0.50 m |
| Depth | 2.10 m |
| Water | |
| Start Depth of Water | 1.25 m |
| Depth of Water | 0.85 m |
| 75% Full | 1.46 m |
| 25% Full | 1.89 m |
| 75%-25% | 0.43 m |
| Volume of water (75%-25%) | 0.64 m ³ |
| Area of Drainage | 14.70 m ² |
| Area of Drainage (75%-25%) | 4.48 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 m/min or Fail m/s

Appendix 3
Geotechnical Laboratory Test Results

Classification Tests in accordance with BS1377: Part 4

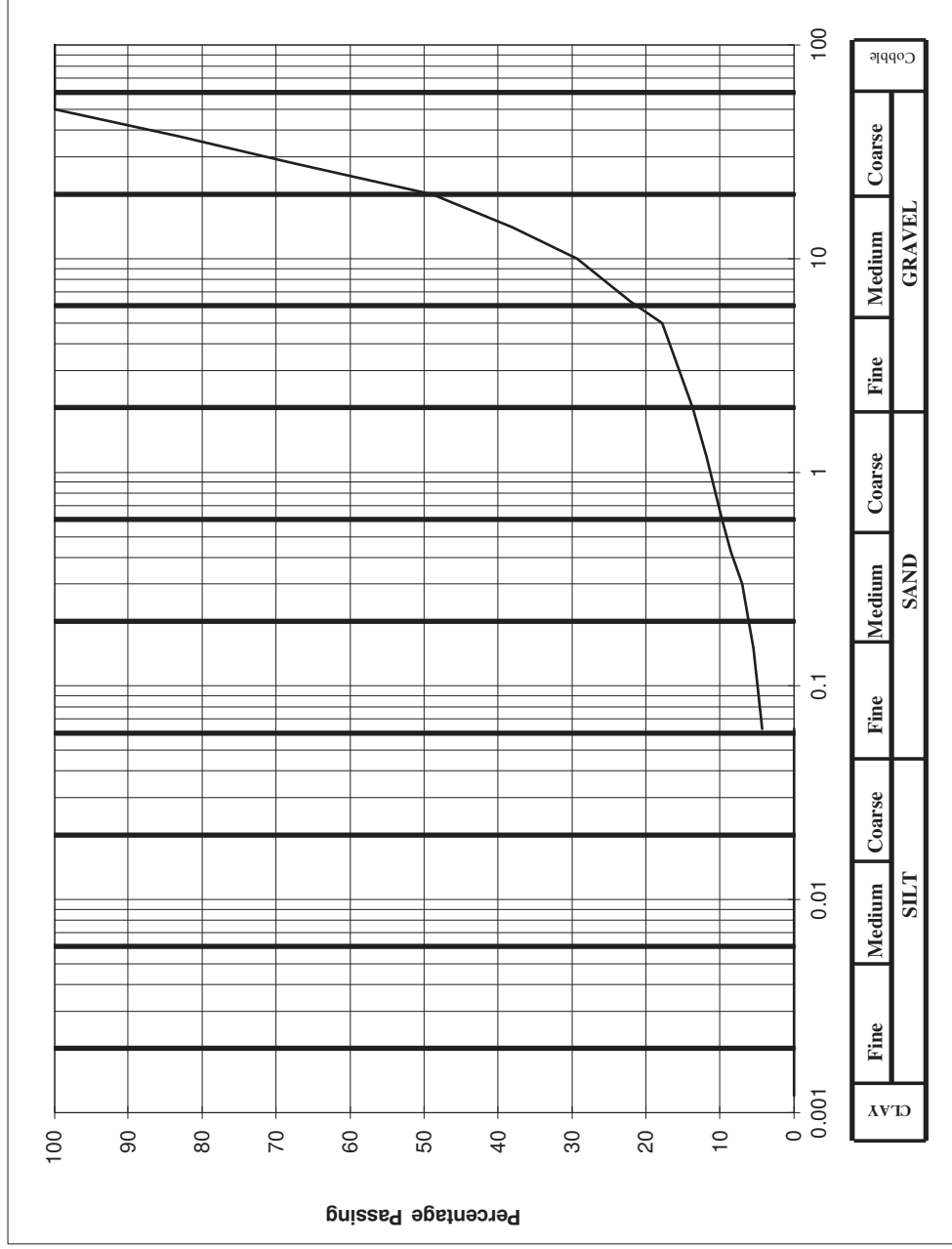
| | |
|--------------|---|
| Client | Gerard Gannon Properties Ltd. |
| Site | Gorey Hill, Gorey |
| S.I. File No | 5851 / 21 |
| Test Lab | Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie |
| Report Date | 21st June 2021 |

| 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 M=Silt C=Clay; L=Low; I=Intermediate; H=High; V=Very High; E=Extremely High |
|---------|-------|-----------|-------------|-------------|----------------------------|----------------|-----------------|-----------------|------------------------------------|------------------------------------|-----------------|----------|--|
| TP01 | 1.00 | MK27 | 21/598 | B | 8.9 | 32 | 18 | 14 | | | 8.5 | | CL |
| TP02 | 1.00 | MK03 | 21/600 | B | 11.0 | 30 | 18 | 12 | | | 18.2 | | CL |
| TP03 | 1.80 | MK24 | 21/602 | B | 11.7 | 33 | 19 | 14 | | | 15.3 | | CL |
| TP04 | 1.50 | MK14 | 21/604 | B | 12.1 | 32 | 20 | 12 | | | 44.6 | | CL |
| TP05 | 1.00 | MK06 | 21/606 | B | 14.8 | 33 | 18 | 15 | | | 53.6 | | CL |
| TP06 | 1.50 | MK21 | 21/608 | B | 9.1 | 32 | 21 | 11 | | | 6.8 | | CL |
| TP07 | 1.00 | MK10 | 21/610 | B | 12.6 | 31 | 19 | 12 | | | 49.3 | | CL |
| TP08 | 1.50 | MK18 | 21/612 | B | 11.8 | 35 | 20 | 15 | | | 46.0 | | CL/CI |

BS 1377 Particle Size Analysis

| 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 | 83.2 | | |
| 28 | 67.7 | | |
| 20 | 48.9 | | |
| 14 | 38 | | |
| 10 | 29.3 | | |
| 6.3 | 22 | | |
| 5.0 | 17.8 | | |
| 2.36 | 14.4 | | |
| 2.00 | 13.7 | | |
| 1.18 | 11.8 | | |
| 0.600 | 9.7 | | |
| 0.425 | 8.5 | | |
| 0.300 | 7 | | |
| 0.212 | 6.2 | | |
| 0.150 | 5.5 | | |
| 0.063 | 4 | | |

| | |
|----------------|----|
| Cobbles, % | 0 |
| Gravel, % | 86 |
| Sand, % | 10 |
| Clay / Silt, % | 4 |



Client : Gerard Gannon Properties Ltd.
 Project : Gorey Hill, Gorey

Lab. No : 21/598
 Sample No : MK27

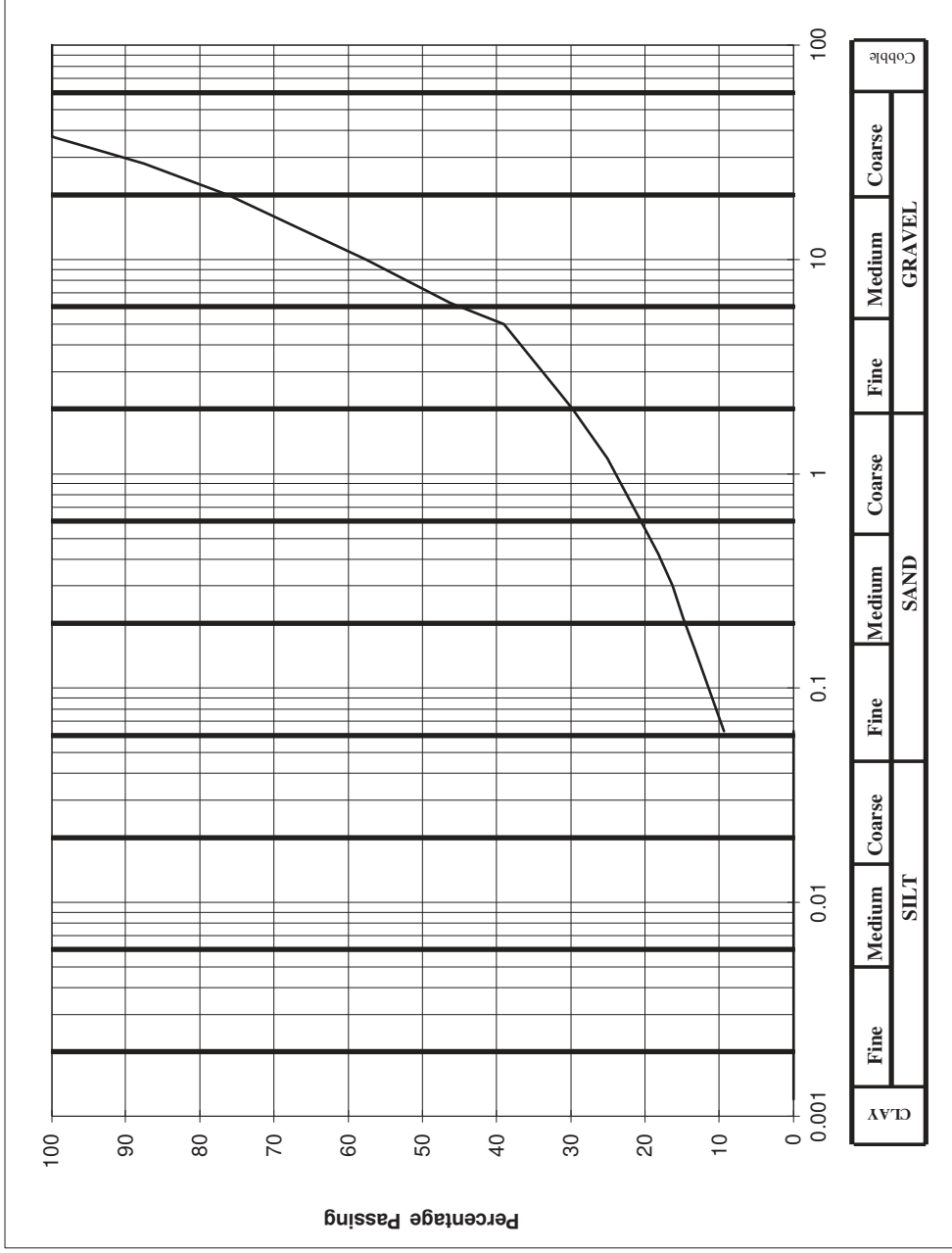
Hole ID : TP01
 Depth, m : 1.00

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

BS 1377 Particle Size Analysis

| 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 | 87.5 | | |
| 20 | 76.2 | | |
| 14 | 66.6 | | |
| 10 | 57.6 | | |
| 6.3 | 46.3 | | |
| 5.0 | 39 | | |
| 2.36 | 31.4 | | |
| 2.00 | 29.7 | | |
| 1.18 | 25.1 | | |
| 0.600 | 20.5 | | |
| 0.425 | 18.2 | | |
| 0.300 | 16.3 | | |
| 0.212 | 14.8 | | |
| 0.150 | 13.2 | | |
| 0.063 | 9 | | |

| | |
|----------------|----|
| Cobbles, % | 0 |
| Gravel, % | 70 |
| Sand, % | 21 |
| Clay / Silt, % | 9 |



Client : Gerard Gannon Properties Ltd.
 Project : Gorey Hill, Gorey

Lab. No : 21/600
 Sample No : MK03

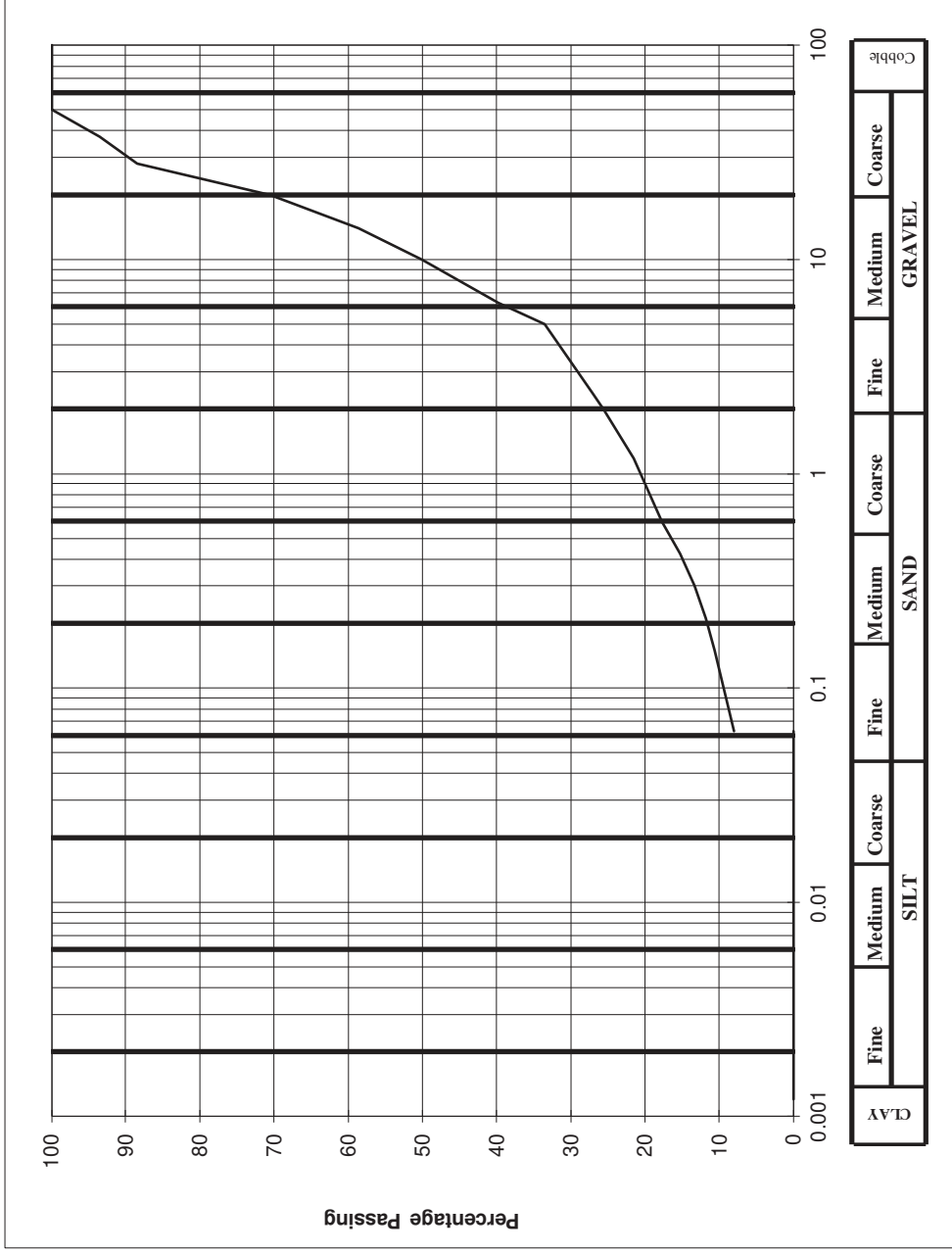
Hole ID : TP 02
 Depth, m : 1.00

Material description : silty very sandy GRAVEL
 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 1377 Particle Size Analysis

| 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 | 93.5 | | |
| 28 | 88.4 | | |
| 20 | 70.5 | | |
| 14 | 58.6 | | |
| 10 | 50.1 | | |
| 6.3 | 39.8 | | |
| 5.0 | 33.5 | | |
| 2.36 | 27 | | |
| 2.00 | 25.6 | | |
| 1.18 | 21.5 | | |
| 0.600 | 17.7 | | |
| 0.425 | 15.3 | | |
| 0.300 | 13.3 | | |
| 0.212 | 11.8 | | |
| 0.150 | 10.6 | | |
| 0.063 | 8 | | |

| | |
|----------------|----|
| Cobbles, % | 0 |
| Gravel, % | 74 |
| Sand, % | 18 |
| Clay / Silt, % | 8 |



Client : Gerard Gannon Properties Ltd.
 Project : Gorey Hill, Gorey

Lab. No : 21/602
 Sample No : MK24

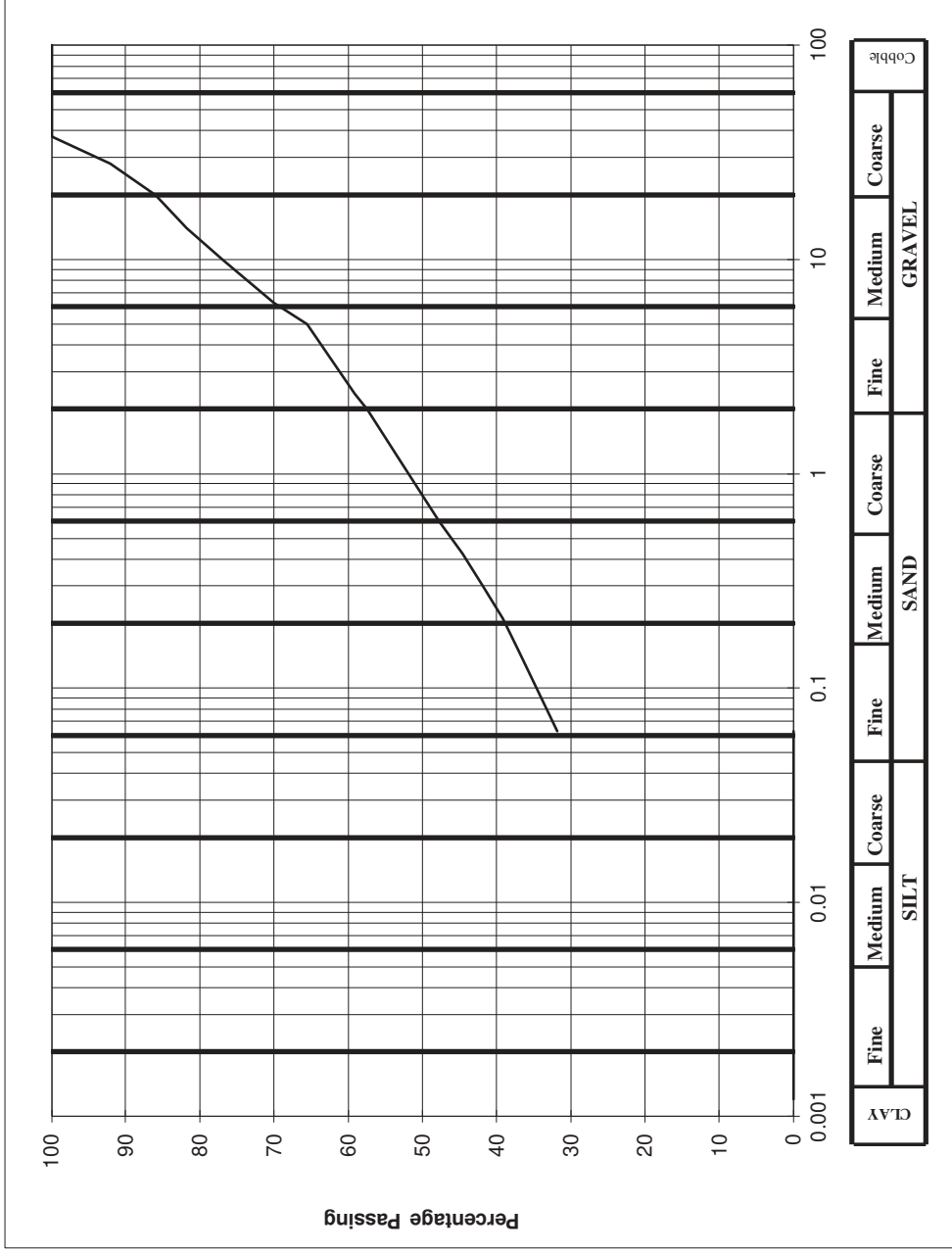
Hole ID : TP 03
 Depth, m : 1.80

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

BS 1377 Particle Size Analysis

| 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 | 92.1 | | |
| 20 | 86 | | |
| 14 | 81.8 | | |
| 10 | 76.9 | | |
| 6.3 | 70 | | |
| 5.0 | 65.5 | | |
| 2.36 | 59.1 | | |
| 2.00 | 57.4 | | |
| 1.18 | 53.2 | | |
| 0.600 | 47.7 | | |
| 0.425 | 44.6 | | |
| 0.300 | 41.9 | | |
| 0.212 | 39.2 | | |
| 0.150 | 37.1 | | |
| 0.063 | 32 | | |

| | |
|----------------|----|
| Cobbles, % | 0 |
| Gravel, % | 43 |
| Sand, % | 25 |
| Clay / Silt, % | 32 |



Client : Gerard Gannon Properties Ltd.
 Project : Gorey Hill, Gorey

Lab. No : 21/604
 Sample No : MK 14

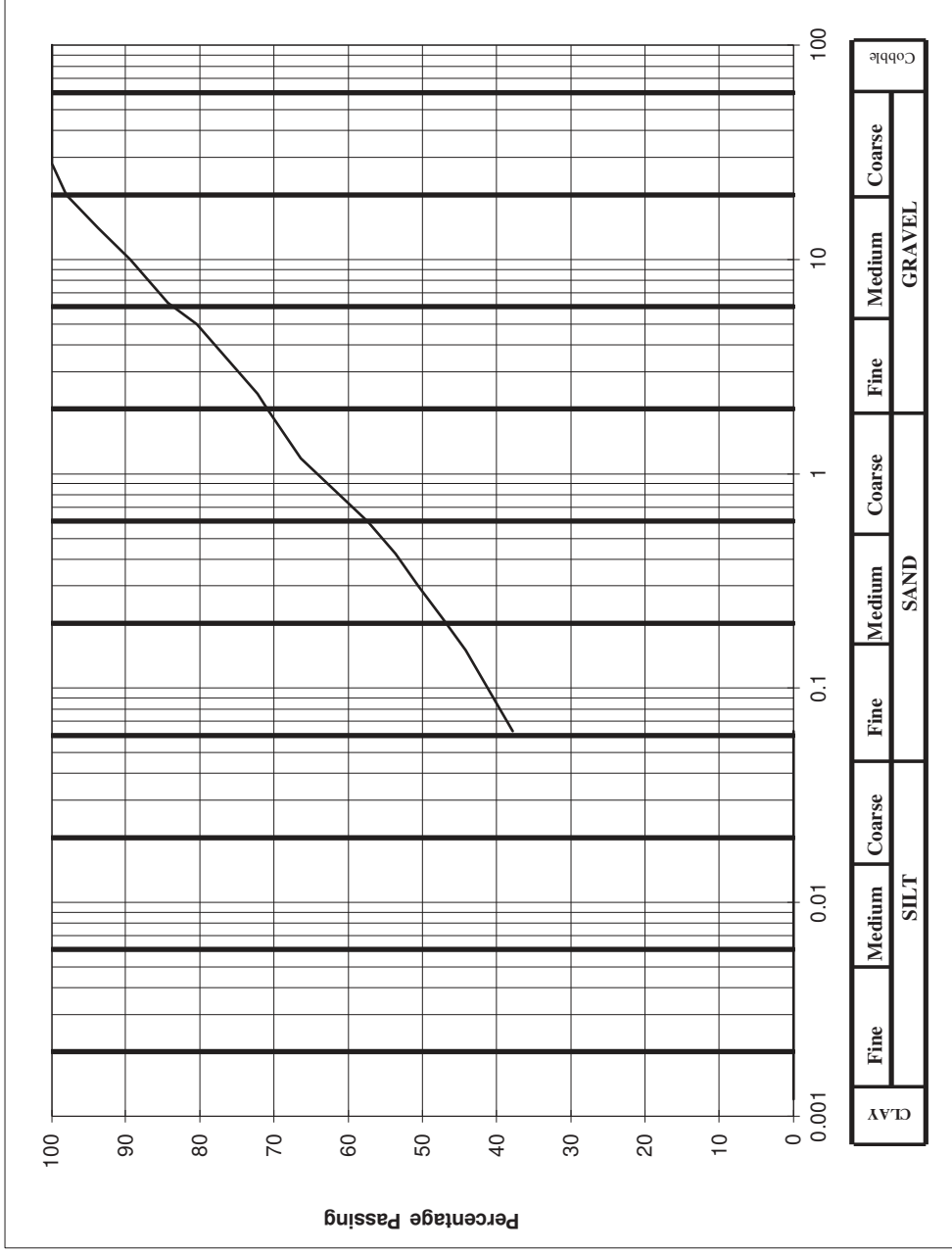
Hole ID : TP 04
 Depth, m : 1.50

Material description : slightly sandy gravelly silty CLAY
 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 1377 Particle Size Analysis

| 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 | | |
| 14 | 93.7 | | |
| 10 | 89.4 | | |
| 6.3 | 84.3 | | |
| 5.0 | 80.4 | | |
| 2.36 | 72.2 | | |
| 2.00 | 70.9 | | |
| 1.18 | 66.4 | | |
| 0.600 | 57.3 | | |
| 0.425 | 53.6 | | |
| 0.300 | 50.6 | | |
| 0.212 | 47.3 | | |
| 0.150 | 44.2 | | |
| 0.063 | 38 | | |

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



| | |
|-----------|-------------------------------|
| Client : | Gerard Gannon Properties Ltd. |
| Project : | Gorey Hill, Gorey |

| | |
|-------------|--------|
| Lab. No : | 21/606 |
| Sample No : | MK06 |

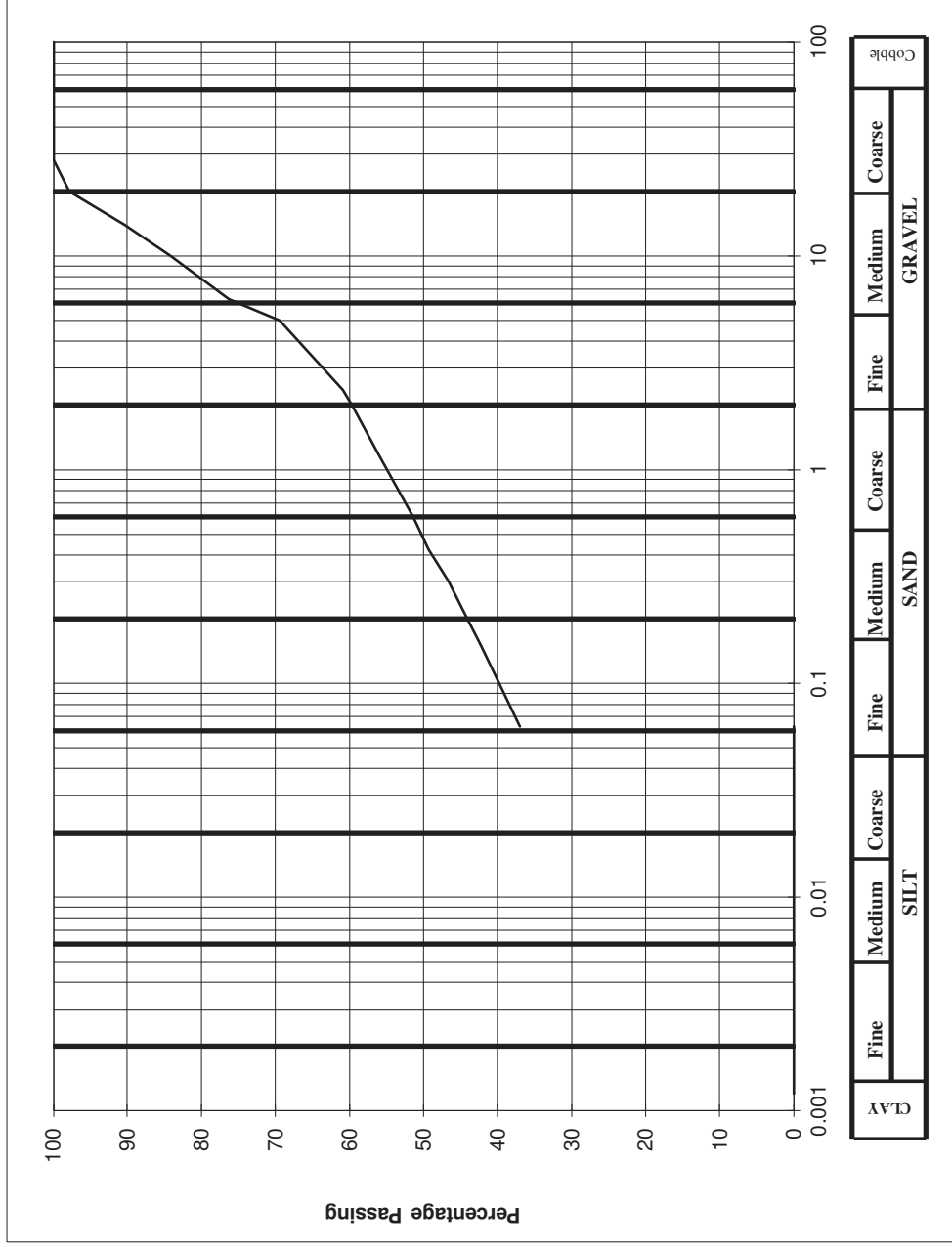
| | |
|------------|-------|
| Hole ID : | TP 05 |
| Depth, m : | 1.00 |

| | |
|------------------------|--|
| 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 1377 Particle Size Analysis

| 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 | 97.8 | | |
| 14 | 90.4 | | |
| 10 | 84.1 | | |
| 6.3 | 76.3 | | |
| 5.0 | 69.4 | | |
| 2.36 | 60.9 | | |
| 2.00 | 59.6 | | |
| 1.18 | 56.1 | | |
| 0.600 | 51.3 | | |
| 0.425 | 49.3 | | |
| 0.300 | 46.6 | | |
| 0.212 | 44.4 | | |
| 0.150 | 42.2 | | |
| 0.063 | 37 | | |

| | |
|----------------|----|
| Cobbles, % | 0 |
| Gravel, % | 40 |
| Sand, % | 23 |
| Clay / Silt, % | 37 |



| | |
|-----------|-------------------------------|
| Client : | Gerard Gannon Properties Ltd. |
| Project : | Gorey Hill, Gorey |

| | |
|-------------|--------|
| Lab. No : | 21/610 |
| Sample No : | MK 10 |

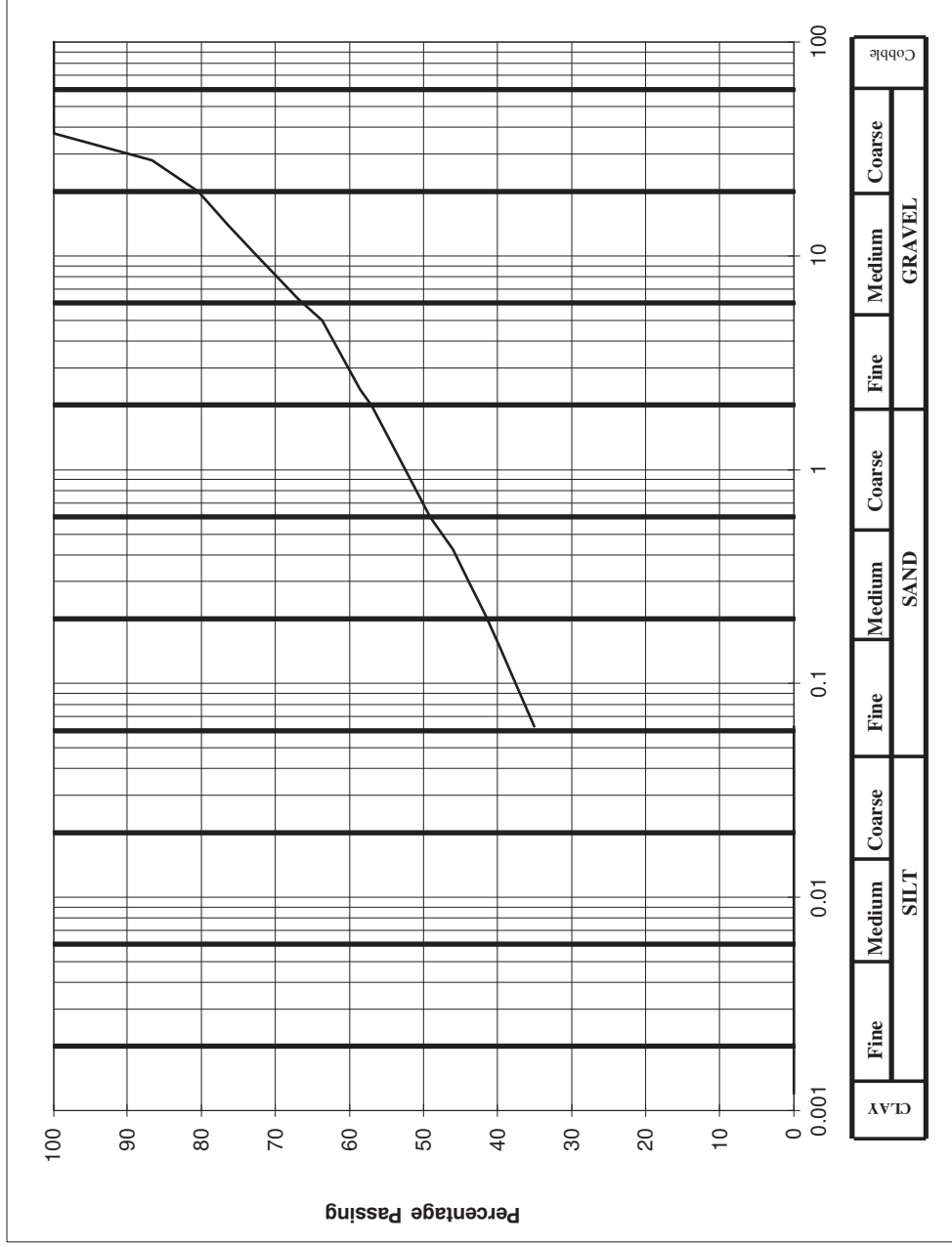
| | |
|------------|-------|
| Hole ID : | TP 07 |
| Depth, m : | 1.00 |

| | |
|------------------------|--|
| 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 1377 Particle Size Analysis

| BS Sieve size, mm | Percent passing | Hydrometer analysis | |
|-------------------|-----------------|---------------------|-----------|
| | | Diameter, mm | % passing |
| 100 | 100 | 0.0630 | |
| 90 | 100 | 0.0200 | |
| 75 | 100 | 0.0060 | |
| 63 | 100 | 0.0020 | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 86.7 | | |
| 20 | 80.4 | | |
| 14 | 76.4 | | |
| 10 | 72.5 | | |
| 6.3 | 66.9 | | |
| 5.0 | 63.7 | | |
| 2.36 | 58.5 | | |
| 2.00 | 57 | | |
| 1.18 | 53.5 | | |
| 0.600 | 49.1 | | |
| 0.425 | 46 | | |
| 0.300 | 43.9 | | |
| 0.212 | 41.7 | | |
| 0.150 | 39.8 | | |
| 0.063 | 35 | | |

| | |
|----------------|----|
| Cobbles, % | 0 |
| Gravel, % | 43 |
| Sand, % | 22 |
| Clay / Silt, % | 35 |



Client : Gerard Gannon Properties Ltd.
 Project : Gorey Hill, Gorey

Lab. No : 21/612
 Sample No : MK 18

Hole ID : TP 08
 Depth, m : 1.50

Material description : slightly sandy gravelly silty CLAY
 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

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

| | |
|--------------|---|
| Client | Gerard Gannon Properties Ltd. |
| Site | Gorey Hill, Gorey |
| S.I. File No | 5651 / 21 |
| Test Lab | Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie |
| Report Date | 21st June 2021 |

| CBR No | Depth (mBGL) | Sample No | Sample Type | Lab Ref | Moisture Content (%) | CBR Value (%) | Location / Remarks |
|--------|--------------|-----------|-------------|---------|----------------------|---------------|--------------------|
| TP01 | 0.50 | MK26 | CBR | 21/597 | 11.1 | 9.4 | |
| TP02 | 0.50 | MK02 | CBR | 21/599 | 17.9 | 7.8 | |
| TP03 | 0.50 | MK23 | CBR | 21/601 | 13.2 | 6.4 | |
| TP04 | 0.50 | MK13 | CBR | 21/603 | 14.8 | 7.1 | |
| TP05 | 0.50 | MK05 | CBR | 21/605 | 13.0 | 5.9 | |
| TP06 | 0.50 | MK20 | CBR | 21/607 | 10.3 | 6.3 | |
| TP07 | 0.50 | MK09 | CBR | 21/609 | 19.8 | 6.5 | |
| TP08 | 0.50 | MK17 | CBR | 21/611 | 13.6 | 7.1 | |

Chemical Testing
In accordance with BS 1377: Part 3

| | |
|--------------|---|
| Client | Gerard Gannon Properties Ltd. |
| Site | Gorey Hill, Gorey |
| S.I. File No | 5851 / 21 |
| Test Lab | Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie |
| Report Date | 21st June 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 |
|---------|--------------|-----------|---------|----------|--|--|--------------------------------------|---|---------------|---------|
| TP01 | 1.00 | MK27 | 21/598 | 7.95 | 0.122 | 0.017 | | 0.19 | 13.7 | |
| TP02 | 1.00 | MK03 | 21/600 | 8.55 | 0.123 | 0.038 | | 0.21 | 29.7 | |
| TP03 | 1.80 | MK24 | 21/602 | 8.11 | 0.117 | 0.030 | | 0.22 | 25.6 | |
| TP04 | 1.50 | MK14 | 21/604 | 8.37 | 0.122 | 0.070 | | 0.28 | 57.4 | |
| TP05 | 1.00 | MK06 | 21/606 | 8.32 | 0.127 | 0.090 | | 0.29 | 70.9 | |
| TP06 | 1.50 | MK21 | 21/608 | 7.91 | 0.116 | 0.017 | | 0.17 | 14.4 | |
| TP07 | 1.00 | MK10 | 21/610 | 8.24 | 0.116 | 0.070 | | 0.26 | 59.6 | |
| TP08 | 1.50 | MK18 | 21/612 | 8.36 | 0.126 | 0.072 | | 0.25 | 57.0 | |

Appendix 4
Environmental Laboratory Test Results
And Waste Classification Report



Final Report

Report No.: 21-20096-1

Initial Date of Issue: 21-Jun-2021

Client: Site Investigations Ltd

Client Address: The Grange12th, Lock Road
Lucan
Co Dublin
IRELAND

Contact(s): Stephen Letch

Project: 5861 Gorey Hill, Gorey

| | | | |
|-----------------------------|---------|-------------------------|-------------|
| Quotation No.: | | Date Received: | 14-Jun-2021 |
| Order No.: | 32/A/21 | Date Instructed: | 14-Jun-2021 |
| No. of Samples: | 8 | | |
| Turnaround (Wkdays): | 5 | Results Due: | 18-Jun-2021 |

Date Approved: 21-Jun-2021

Approved By:


Details: Glynn Harvey, Technical Manager

Results - Leachate

Project: 5861 Gorey Hill, Gorey

| Client: Site Investigations Ltd | | Chemtest Job No.: | | 21-20096 | | 21-20096 | | 21-20096 | | 21-20096 | | 21-20096 | | 21-20096 | |
|--|--|-----------------------------|--|--------------------|--|--------------------|--|--------------------|--|--------------------|--|--------------------|--|--------------------|--|
| Quotation No.: | | Chemtest Sample ID.: | | 1220386 | | 1220387 | | 1220388 | | 1220389 | | 1220390 | | 1220391 | |
| Order No.: 32/A/21 | | Client Sample Ref.: | | TP02 | | TP03 | | TP04 | | TP05 | | TP06 | | TP07 | |
| | | Sample Type: | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | | Top Depth (m): | | 0.50 | | 0.50 | | 0.50 | | 0.50 | | 0.50 | | 0.50 | |
| | | Bottom Depth (m): | | 0.50 | | 0.50 | | 0.50 | | 0.50 | | 0.50 | | 0.50 | |
| | | Date Sampled: | | 11-Jun-2021 | | 11-Jun-2021 | | 11-Jun-2021 | | 11-Jun-2021 | | 11-Jun-2021 | | 11-Jun-2021 | |
| | | Accred. | | U | | N | | N | | N | | N | | N | |
| | | SOP | | 1220 | | 1220 | | 1220 | | 1220 | | 1220 | | 1220 | |
| | | Type | | 10:1 | | 10:1 | | 10:1 | | 10:1 | | 10:1 | | 10:1 | |
| | | Units | | mg/l | | mg/l | | mg/l | | mg/l | | mg/l | | mg/l | |
| | | LOD | | 0.050 | | 0.16 | | 0.17 | | 0.16 | | 0.15 | | 0.14 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 | | 2.0 | | 1.7 | | 1.6 | | 1.5 | |
| | | mg/kg | | 0.10 | | 1.9 </ | | | | | | | | | |

Results - Soil

Project: 5861 Gorey Hill, Gorey

| Determind | Accred. | SOP | Units | LOD | Chemtest Job No.: | | 21-20096 | | 21-20096 | | 21-20096 | | 21-20096 | | 21-20096 | | 21-20096 | | |
|-------------------------------|---------|------|-------|-------|----------------------|---------------------|--------------|----------------|-------------------|---------------|---------------|----------------------|----------|------|----------|------|----------|------|------|
| | | | | | Chemtest Sample ID.: | Client Sample Ref.: | Sample Type: | Top Depth (m): | Bottom Depth (m): | Date Sampled: | Asbestos Lab: | No Asbestos Detected | TP01 | TP02 | TP03 | TP04 | TP05 | TP06 | TP07 |
| ACM Type | U | 2192 | | N/A | | 1220385 | 1220386 | 1220387 | 1220388 | 1220389 | 1220390 | 1220391 | 1220392 | | | | | | |
| Asbestos Identification | U | 2192 | | N/A | | 1220385 | 1220386 | 1220387 | 1220388 | 1220389 | 1220390 | 1220391 | 1220392 | | | | | | |
| Moisture | N | 2030 | % | 0.020 | | 12 | 21 | 16 | 13 | 12 | 11 | 22 | 12 | | | | | | |
| pH | M | 2010 | | 4.0 | | 7.1 | 6.5 | 7.1 | 7.1 | 7.3 | 7.3 | 7.3 | 7.6 | | | | | | |
| Boron (Hot Water Soluble) | M | 2120 | mg/kg | 0.40 | | < 0.40 | 0.46 | < 0.40 | < 0.40 | < 0.40 | < 0.40 | 0.83 | 0.57 | | | | | | |
| Sulphur (Elemental) | M | 2180 | mg/kg | 1.0 | | 1.1 | 1.2 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1.1 | 1.2 | | | | | | |
| Cyanide (Total) | M | 2300 | mg/kg | 0.50 | | < 0.50 | 0.80 | 0.50 | 1.0 | 0.60 | 0.50 | 0.70 | < 0.50 | | | | | | |
| Sulphide (Easily Liberatable) | N | 2325 | mg/kg | 0.50 | | < 0.50 | < 0.50 | 0.67 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | | | | | | |
| Sulphate (Total) | M | 2430 | % | 0.010 | | 0.091 | 0.096 | 0.067 | 0.061 | 0.016 | 0.022 | 0.058 | 0.023 | | | | | | |
| Arsenic | M | 2450 | mg/kg | 1.0 | | 37 | 59 | 52 | 40 | 47 | 36 | 31 | 32 | | | | | | |
| Barium | M | 2450 | mg/kg | 10 | | 42 | 97 | 80 | 57 | 42 | 48 | 48 | 39 | | | | | | |
| Cadmium | M | 2450 | mg/kg | 0.10 | | 0.15 | 0.32 | 0.18 | 0.16 | < 0.10 | 0.11 | 0.11 | < 0.10 | | | | | | |
| Chromium | M | 2450 | mg/kg | 1.0 | | 30 | 59 | 50 | 53 | 41 | 45 | 43 | 36 | | | | | | |
| Molybdenum | M | 2450 | mg/kg | 2.0 | | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | | | | | | |
| Antimony | N | 2450 | mg/kg | 2.0 | | < 2.0 | 3.1 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | | | | | | |
| Copper | M | 2450 | mg/kg | 0.50 | | 32 | 50 | 39 | 40 | 34 | 37 | 33 | 35 | | | | | | |
| Mercury | M | 2450 | mg/kg | 0.10 | | < 0.10 | 0.16 | 0.11 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | | | | | | |
| Nickel | M | 2450 | mg/kg | 0.50 | | 33 | 50 | 48 | 54 | 37 | 50 | 42 | 39 | | | | | | |
| Lead | M | 2450 | mg/kg | 0.50 | | 33 | 61 | 38 | 40 | 23 | 26 | 22 | 17 | | | | | | |
| Selenium | M | 2450 | mg/kg | 0.20 | | 0.80 | 1.3 | 1.4 | 1.1 | 0.23 | 0.67 | 1.0 | 0.37 | | | | | | |
| Zinc | M | 2450 | mg/kg | 0.50 | | 70 | 150 | 120 | 120 | 75 | 97 | 87 | 71 | | | | | | |
| Chromium (Trivalent) | N | 2490 | mg/kg | 1.0 | | 30 | 59 | 50 | 53 | 41 | 45 | 43 | 36 | | | | | | |
| Chromium (Hexavalent) | N | 2490 | mg/kg | 0.50 | | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | | | | | | |
| Total Organic Carbon | M | 2625 | % | 0.20 | | 1.5 | 2.4 | 1.3 | < 0.20 | < 0.20 | < 0.20 | 1.3 | 0.38 | | | | | | |
| Mineral Oil (TPH Calculation) | N | 2670 | mg/kg | 10 | | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | | | | | | |
| Aliphatic TPH >C5-C6 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aliphatic TPH >C6-C8 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aliphatic TPH >C8-C10 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aliphatic TPH >C10-C12 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aliphatic TPH >C12-C16 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aliphatic TPH >C16-C21 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aliphatic TPH >C21-C35 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aliphatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Total Aliphatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | | | | | | |
| Aromatic TPH >C5-C7 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aromatic TPH >C7-C8 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |
| Aromatic TPH >C8-C10 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | | | | | | |

Results - Soil

Project: 5861 Gorey Hill, Gorey

| Chemtest Job No.: | 21-20096 | | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 |
|------------------------------|----------------------|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Chemtest Sample ID.: | Client Sample Ref.: | | | | | | | | | | |
| Quotation No.: | 1220385 | TP01 | SOIL | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Order No.: | 32/A/21 | TP02 | SOIL | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Sample Type: | Top Depth (m): | | | | | | | | | | | |
| Bottom Depth (m): | Bottom Depth (m): | | | | | | | | | | | |
| Date Sampled: | 11-Jun-2021 | | | | | | | | | | | |
| Asbestos Lab: | DURHAM | | | | | | | | | | | |
| Determinand | Accred. | SOP | Units | LOD | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C10-C12 | M | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C12-C16 | M | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C21-C35 | M | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Total Aromatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Total Petroleum Hydrocarbons | N | 2680 | mg/kg | 10.0 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 |
| Benzene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Toluene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Ethylbenzene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| m & p-Xylene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| o-Xylene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Methyl Tert-Butyl Ether | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Naphthalene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Acenaphthylene | N | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Acenaphthene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Fluorene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Phenanthrene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Anthracene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Fluoranthene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Pyrene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Benzo[a]anthracene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Chrysene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Benzo[b]fluoranthene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Benzo[k]fluoranthene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Benzo[a]pyrene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Indeno[1,2,3-c,d]Pyrene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Dibenz[a,h]Anthracene | N | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Benzo[g,h,i]perylene | M | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Coronene | N | 2800 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Total Of 17 PAH's | N | 2800 | mg/kg | 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| PCB 28 | U | 2815 | mg/kg | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| PCB 52 | U | 2815 | mg/kg | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| PCB 90+101 | U | 2815 | mg/kg | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| PCB 118 | U | 2815 | mg/kg | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| PCB 153 | U | 2815 | mg/kg | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| PCB 138 | U | 2815 | mg/kg | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |
| PCB 180 | U | 2815 | mg/kg | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |

Results - Soil

Project: 5861 Gorey Hill, Gorey

| | | | | | | | | | | | | |
|--|-----------------------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Client: Site Investigations Ltd | Chemtest Job No.: | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 | 21-20096 |
| Quotation No.: | Chemtest Sample ID.: | 1220385 | 1220386 | 1220387 | 1220388 | 1220389 | 1220390 | 1220391 | 1220392 | 1220393 | 1220394 | 1220395 |
| Order No.: 32/A/21 | Client Sample Ref.: | TP01 | TP02 | TP03 | TP04 | TP05 | TP06 | TP07 | TP08 | TP09 | TP10 | TP11 |
| | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | Top Depth (m): | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| | Bottom Depth (m): | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| | Date Sampled: | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 | 11-Jun-2021 |
| | Asbestos Lab: | DURHAM | DURHAM | DURHAM | DURHAM | DURHAM | DURHAM | DURHAM | DURHAM | DURHAM | DURHAM | DURHAM |
| Determinand | Accred. | SOP | Units | LOD | | | | | | | | |
| Total PCBs (7 Congeners) | U | 2815 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Total Phenols | M | 2920 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |

Results - Single Stage WAC

Project: 5861 Gorey Hill, Gorey

| | | | |
|---|------------|-----------------------------|---|
| Chemtest Job No: 21-20096 | | | |
| Chemtest Sample ID: 1220385 | | | |
| Sample Ref: TP01 | | | |
| Sample Location: 0.50 | | | |
| Top Depth(m): 0.50 | | | |
| Bottom Depth(m): 11-Jun-2021 | | | |
| Sampling Date: | | | |
| Determinand | SOP | Accred. | Units |
| Total Organic Carbon | 2625 | M | % |
| Loss On Ignition | 2610 | M | % |
| Total BTEX | 2760 | M | mg/kg |
| Total PCBs (7 Congeners) | 2815 | M | mg/kg |
| TPH Total WAC | 2670 | M | mg/kg |
| Total (Of 17) PAH's | 2800 | N | mg/kg |
| pH | 2010 | M | 7.1 |
| Acid Neutralisation Capacity | 2015 | N | 0.0020 |
| Eluate Analysis | | | 10:1 Eluate mg/l |
| | | | 10:1 Eluate mg/kg |
| Arsenic | 1455 | U | 0.0013 |
| Barium | 1455 | U | < 0.005 |
| Cadmium | 1455 | U | < 0.00011 |
| Chromium | 1455 | U | 0.0007 |
| Copper | 1455 | U | 0.0014 |
| Mercury | 1455 | U | < 0.00005 |
| Molybdenum | 1455 | U | 0.0011 |
| Nickel | 1455 | U | < 0.0005 |
| Lead | 1455 | U | 0.0008 |
| Antimony | 1455 | U | < 0.0005 |
| Selenium | 1455 | U | < 0.0005 |
| Zinc | 1455 | U | < 0.003 |
| Chloride | 1220 | U | 1.7 |
| Fluoride | 1220 | U | 0.22 |
| Sulphate | 1220 | U | 1.4 |
| Total Dissolved Solids | 1020 | N | 36 |
| Phenol Index | 1920 | U | < 0.030 |
| Dissolved Organic Carbon | 1610 | U | 5.6 |
| Landfill Waste Acceptance Criteria | | | |
| | | Inert Waste Landfill | Stable, Non-reactive hazardous waste in non-hazardous Landfill |
| | | 3 | 5 |
| | | -- | -- |
| | | 6 | -- |
| | | 1 | -- |
| | | 500 | -- |
| | | 100 | -- |
| | | -- | >6 |
| | | -- | To evaluate |
| | | -- | To evaluate |
| Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg | | | |
| | | 0.5 | 2 |
| | | 20 | 100 |
| | | 0.04 | 1 |
| | | 0.5 | 10 |
| | | 2 | 50 |
| | | 0.01 | 0.2 |
| | | 0.5 | 10 |
| | | 0.4 | 10 |
| | | 0.5 | 10 |
| | | 0.06 | 0.7 |
| | | 0.1 | 0.5 |
| | | 4 | 50 |
| | | 800 | 15000 |
| | | 10 | 150 |
| | | 1000 | 20000 |
| | | 4000 | 60000 |
| | | 1 | -- |
| | | 500 | 800 |
| | | | 1000 |

| | |
|-----------------------------|-------|
| Solid Information | |
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 12 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 5861 Gorey Hill, Gorey

| Chemtest Job No: 21-20096 | | | |
|-------------------------------------|------|---------|-------------------|
| Chemtest Sample ID: 1220386 | | | |
| Sample Ref: TP02 | | | |
| Sample ID: | | | |
| Sample Location: 0.50 | | | |
| Top Depth(m): 0.50 | | | |
| Bottom Depth(m): 11-Jun-2021 | | | |
| Sampling Date: | | | |
| Determinand | SOP | Accred. | Units |
| Total Organic Carbon | 2625 | M | % |
| Loss On Ignition | 2610 | M | % |
| Total BTEX | 2760 | M | mg/kg |
| Total PCBs (7 Congeners) | 2815 | M | mg/kg |
| TPH Total WAC | 2670 | M | mg/kg |
| Total (Of 17) PAH's | 2800 | N | mg/kg |
| pH | 2010 | M | |
| Acid Neutralisation Capacity | 2015 | N | mol/kg |
| Eluate Analysis | | | |
| | | | 10:1 Eluate mg/l |
| | | | 10:1 Eluate mg/kg |
| Arsenic | 1455 | U | 0.0015 |
| Barium | 1455 | U | < 0.005 |
| Cadmium | 1455 | U | < 0.00011 |
| Chromium | 1455 | U | 0.0009 |
| Copper | 1455 | U | 0.0018 |
| Mercury | 1455 | U | < 0.00005 |
| Molybdenum | 1455 | U | 0.0008 |
| Nickel | 1455 | U | 0.0007 |
| Lead | 1455 | U | 0.0012 |
| Antimony | 1455 | U | < 0.0005 |
| Selenium | 1455 | U | 0.0007 |
| Zinc | 1455 | U | < 0.003 |
| Chloride | 1220 | U | 1.7 |
| Fluoride | 1220 | U | 1.5 |
| Sulphate | 1220 | U | 4.1 |
| Total Dissolved Solids | 1020 | N | 32 |
| Phenol Index | 1920 | U | < 0.030 |
| Dissolved Organic Carbon | 1610 | U | 8.0 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 21 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 5861 Gorey Hill, Gorey

| Chemtest Job No: 21-20096 | | | |
|-------------------------------------|------|---------|-------------------|
| Chemtest Sample ID: 1220387 | | | |
| Sample Ref: TP03 | | | |
| Sample ID: | | | |
| Sample Location: 0.50 | | | |
| Top Depth(m): 0.50 | | | |
| Bottom Depth(m): 11-Jun-2021 | | | |
| Sampling Date: | | | |
| Determinand | SOP | Accred. | Units |
| Total Organic Carbon | 2625 | M | % |
| Loss On Ignition | 2610 | M | % |
| Total BTEX | 2760 | M | mg/kg |
| Total PCBs (7 Congeners) | 2815 | M | mg/kg |
| TPH Total WAC | 2670 | M | mg/kg |
| Total (Of 17) PAH's | 2800 | N | mg/kg |
| pH | 2010 | M | |
| Acid Neutralisation Capacity | 2015 | N | mol/kg |
| Eluate Analysis | | | |
| | | | 10:1 Eluate mg/l |
| | | | 10:1 Eluate mg/kg |
| Arsenic | 1455 | U | 0.0012 |
| Barium | 1455 | U | < 0.005 |
| Cadmium | 1455 | U | < 0.00011 |
| Chromium | 1455 | U | 0.0009 |
| Copper | 1455 | U | 0.0010 |
| Mercury | 1455 | U | < 0.00005 |
| Molybdenum | 1455 | U | 0.0008 |
| Nickel | 1455 | U | < 0.0005 |
| Lead | 1455 | U | 0.0006 |
| Antimony | 1455 | U | < 0.0005 |
| Selenium | 1455 | U | < 0.0005 |
| Zinc | 1455 | U | < 0.003 |
| Chloride | 1220 | U | 1.0 |
| Fluoride | 1220 | U | 1.7 |
| Sulphate | 1220 | U | 4.9 |
| Total Dissolved Solids | 1020 | N | 24 |
| Phenol Index | 1920 | U | < 0.030 |
| Dissolved Organic Carbon | 1610 | U | 4.4 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 16 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 5861 Gorey Hill, Gorey

| | | | |
|-------------------------------------|------------|-------------------------|--------------------------|
| Chemtest Job No: 21-20096 | | | |
| Chemtest Sample ID: 1220388 | | | |
| Sample Ref: TP04 | | | |
| Sample ID: | | | |
| Sample Location: 0.50 | | | |
| Top Depth(m): 0.50 | | | |
| Bottom Depth(m): 11-Jun-2021 | | | |
| Sampling Date: | | | |
| Determinand | SOP | Accred. | Units |
| Total Organic Carbon | 2625 | M | % |
| Loss On Ignition | 2610 | M | % |
| Total BTEX | 2760 | M | mg/kg |
| Total PCBs (7 Congeners) | 2815 | M | mg/kg |
| TPH Total WAC | 2670 | M | mg/kg |
| Total (Of 17) PAH's | 2800 | N | mg/kg |
| pH | 2010 | M | 7.1 |
| Acid Neutralisation Capacity | 2015 | N | < 0.0020 |
| Eluate Analysis | | | |
| | | 10:1 Eluate mg/l | 10:1 Eluate mg/kg |
| Arsenic | 1455 | U | < 0.0002 |
| Barium | 1455 | U | < 0.005 |
| Cadmium | 1455 | U | < 0.00011 |
| Chromium | 1455 | U | < 0.0005 |
| Copper | 1455 | U | < 0.0005 |
| Mercury | 1455 | U | < 0.00005 |
| Molybdenum | 1455 | U | 0.0007 |
| Nickel | 1455 | U | < 0.0005 |
| Lead | 1455 | U | < 0.0005 |
| Antimony | 1455 | U | < 0.0005 |
| Selenium | 1455 | U | < 0.0005 |
| Zinc | 1455 | U | < 0.003 |
| Chloride | 1220 | U | < 1.0 |
| Fluoride | 1220 | U | 0.090 |
| Sulphate | 1220 | U | 10 |
| Total Dissolved Solids | 1020 | N | 27 |
| Phenol Index | 1920 | U | < 0.030 |
| Dissolved Organic Carbon | 1610 | U | 3.1 |

| | |
|-----------------------------|-------|
| Solid Information | |
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 13 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 5861 Gorey Hill, Gorey

| | | | |
|-------------------------------------|------------|----------------|--------------------------|
| Chemtest Job No: 21-20096 | | | |
| Chemtest Sample ID: 1220390 | | | |
| Sample Ref: TP06 | | | |
| Sample ID: | | | |
| Sample Location: 0.50 | | | |
| Top Depth(m): 0.50 | | | |
| Bottom Depth(m): 11-Jun-2021 | | | |
| Sampling Date: | | | |
| Determinand | SOP | Accred. | Units |
| Total Organic Carbon | 2625 | M | % |
| Loss On Ignition | 2610 | M | % |
| Total BTEX | 2760 | M | mg/kg |
| Total PCBs (7 Congeners) | 2815 | M | mg/kg |
| TPH Total WAC | 2670 | M | mg/kg |
| Total (Of 17) PAH's | 2800 | N | mg/kg |
| pH | 2010 | M | |
| Acid Neutralisation Capacity | 2015 | N | mol/kg |
| Eluate Analysis | | | |
| | | | 10:1 Eluate mg/l |
| | | | 10:1 Eluate mg/kg |
| Arsenic | 1455 | U | < 0.0002 |
| Barium | 1455 | U | < 0.005 |
| Cadmium | 1455 | U | < 0.00011 |
| Chromium | 1455 | U | < 0.0005 |
| Copper | 1455 | U | < 0.0005 |
| Mercury | 1455 | U | < 0.00005 |
| Molybdenum | 1455 | U | 0.0009 |
| Nickel | 1455 | U | < 0.0005 |
| Lead | 1455 | U | < 0.0005 |
| Antimony | 1455 | U | < 0.0005 |
| Selenium | 1455 | U | < 0.0005 |
| Zinc | 1455 | U | < 0.003 |
| Chloride | 1220 | U | 1.1 |
| Fluoride | 1220 | U | 0.089 |
| Sulphate | 1220 | U | 3.4 |
| Total Dissolved Solids | 1020 | N | 23 |
| Phenol Index | 1920 | U | < 0.030 |
| Dissolved Organic Carbon | 1610 | U | 2.7 |

| | |
|-----------------------------|-------|
| Solid Information | |
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 11 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 5861 Gorey Hill, Gorey

| Chemtest Job No: 21-20096 | | | |
|------------------------------------|------|---------|-------------------|
| Chemtest Sample ID: 1220391 | | | |
| Sample Ref: TP07 | | | |
| Sample ID: | | | |
| Sample Location: 0.50 | | | |
| Top Depth(m): 0.50 | | | |
| Bottom Depth(m): | | | |
| Sampling Date: 11-Jun-2021 | | | |
| Determinand | SOP | Accred. | Units |
| Total Organic Carbon | 2625 | M | % |
| Loss On Ignition | 2610 | M | % |
| Total BTEX | 2760 | M | mg/kg |
| Total PCBs (7 Congeners) | 2815 | M | mg/kg |
| TPH Total WAC | 2670 | M | mg/kg |
| Total (Of 17) PAH's | 2800 | N | mg/kg |
| pH | 2010 | M | |
| Acid Neutralisation Capacity | 2015 | N | mol/kg |
| Eluate Analysis | | | |
| | | | 10:1 Eluate mg/l |
| | | | 10:1 Eluate mg/kg |
| Arsenic | 1455 | U | < 0.0002 |
| Barium | 1455 | U | < 0.005 |
| Cadmium | 1455 | U | < 0.00011 |
| Chromium | 1455 | U | < 0.0005 |
| Copper | 1455 | U | < 0.0005 |
| Mercury | 1455 | U | < 0.00005 |
| Molybdenum | 1455 | U | 0.0008 |
| Nickel | 1455 | U | < 0.0005 |
| Lead | 1455 | U | < 0.0005 |
| Antimony | 1455 | U | < 0.0005 |
| Selenium | 1455 | U | < 0.0005 |
| Zinc | 1455 | U | < 0.003 |
| Chloride | 1220 | U | < 1.0 |
| Fluoride | 1220 | U | 0.085 |
| Sulphate | 1220 | U | 2.6 |
| Total Dissolved Solids | 1020 | N | 15 |
| Phenol Index | 1920 | U | < 0.030 |
| Dissolved Organic Carbon | 1610 | U | 3.3 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 22 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

| | | | | | | | | | | | | |
|---|------|--|-----------|--|------|--|--------|--|--|--|--|--|
| Project: 5861 Gorey Hill, Gorey Chemtest Job No: 21-20096 Chemtest Sample ID: 1220392 Sample Ref: TP08 Sample ID: Sample Location: 0.50 Top Depth(m): 0.50 Bottom Depth(m): Sampling Date: 11-Jun-2021 | | SOP 2625 2610 2760 2815 2670 2800 2010 2015 | | Accred. M M M M M N M N | | Units % % mg/kg mg/kg mg/kg mg/kg mol/kg | | 10:1 Eluate mg/kg 0.38 3.9 < 0.010 < 0.10 < 10 < 2.0 7.6 < 0.0020 | | Landfill Waste Acceptance Criteria Limits Inert Waste Landfill 3 -- 6 1 500 100 -- -- Stable, Non-reactive hazardous waste in non-hazardous Landfill 5 -- -- -- -- -- >6 To evaluate Hazardous Waste Landfill 6 10 -- -- -- -- -- -- To evaluate | | |
| Eluate Analysis | | | | | | | | | | | | |
| | | | | | | 10:1 Eluate mg/l | | 10:1 Eluate mg/kg | | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg | | |
| Arsenic | 1455 | U | < 0.0002 | < 0.0002 | 0.5 | 2 | 25 | | | | | |
| Barium | 1455 | U | < 0.005 | < 0.0005 | 20 | 100 | 300 | | | | | |
| Cadmium | 1455 | U | < 0.00011 | < 0.00011 | 0.04 | 1 | 5 | | | | | |
| Chromium | 1455 | U | < 0.0005 | < 0.0005 | 0.5 | 10 | 70 | | | | | |
| Copper | 1455 | U | < 0.0005 | < 0.0005 | 2 | 50 | 100 | | | | | |
| Mercury | 1455 | U | < 0.00005 | < 0.00005 | 0.01 | 0.2 | 2 | | | | | |
| Molybdenum | 1455 | U | 0.0008 | 0.0078 | 0.5 | 10 | 30 | | | | | |
| Nickel | 1455 | U | < 0.0005 | < 0.0005 | 0.4 | 10 | 40 | | | | | |
| Lead | 1455 | U | < 0.0005 | < 0.0005 | 0.5 | 10 | 50 | | | | | |
| Antimony | 1455 | U | < 0.0005 | < 0.0005 | 0.06 | 0.7 | 5 | | | | | |
| Selenium | 1455 | U | < 0.0005 | < 0.0005 | 0.1 | 0.5 | 7 | | | | | |
| Zinc | 1455 | U | < 0.003 | < 0.003 | 4 | 50 | 200 | | | | | |
| Chloride | 1220 | U | 1.0 | 10 | 800 | 15000 | 25000 | | | | | |
| Fluoride | 1220 | U | 0.088 | < 1.0 | 10 | 150 | 500 | | | | | |
| Sulphate | 1220 | U | 4.8 | 48 | 1000 | 20000 | 50000 | | | | | |
| Total Dissolved Solids | 1020 | N | 22 | 220 | 4000 | 60000 | 100000 | | | | | |
| Phenol Index | 1920 | U | < 0.030 | < 0.30 | 1 | - | - | | | | | |
| Dissolved Organic Carbon | 1610 | U | 2.7 | < 50 | 500 | 800 | 1000 | | | | | |

| | |
|-----------------------------|-------|
| Solid Information | |
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 12 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

| SOP | Title | Parameters included | Method summary |
|------|--|--|--|
| 1010 | pH Value of Waters | pH | pH Meter |
| 1020 | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters | Conductivity Meter |
| 1220 | Anions, Alkalinity & Ammonium in Waters | Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium | Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser. |
| 1455 | Metals in Waters by ICP-MS | Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc | Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS). |
| 1610 | Total/Dissolved Organic Carbon in Waters | Organic Carbon | TOC Analyser using Catalytic Oxidation |
| 1920 | Phenols in Waters by HPLC | Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded. | Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection. |
| 2010 | pH Value of Soils | pH | pH Meter |
| 2015 | Acid Neutralisation Capacity | Acid Reserve | Titration |
| 2030 | Moisture and Stone Content of Soils(Requirement of MCERTS) | Moisture content | Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C. |
| 2040 | Soil Description(Requirement of MCERTS) | Soil description | As received soil is described based upon BS5930 |
| 2120 | Water Soluble Boron, Sulphate, Magnesium & Chromium | Boron; Sulphate; Magnesium; Chromium | Aqueous extraction / ICP-OES |
| 2180 | Sulphur (Elemental) in Soils by HPLC | Sulphur | Dichloromethane extraction / HPLC with UV detection |
| 2192 | Asbestos | Asbestos | Polarised light microscopy / Gravimetry |
| 2300 | Cyanides & Thiocyanate in Soils | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate | Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser. |
| 2325 | Sulphide in Soils | Sulphide | Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine. |
| 2430 | Total Sulphate in soils | Total Sulphate | Acid digestion followed by determination of sulphate in extract by ICP-OES. |
| 2450 | Acid Soluble Metals in Soils | Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc | Acid digestion followed by determination of metals in extract by ICP-MS. |
| 2490 | Hexavalent Chromium in Soils | Chromium [VI] | Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide. |
| 2610 | Loss on Ignition | loss on ignition (LOI) | Determination of the proportion by mass that is lost from a soil by ignition at 550°C. |
| 2625 | Total Organic Carbon in Soils | Total organic Carbon (TOC) | Determined by high temperature combustion under oxygen, using an Eltra elemental analyser. |
| 2670 | Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID | TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40 | Dichloromethane extraction / GC-FID |
| 2680 | TPH A/A Split | Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44 | Dichloromethane extraction / GCxGC FID detection |

Test Methods

| SOP | Title | Parameters included | Method summary |
|------|--|---|--|
| 2760 | Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS | Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule | Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds. |
| 2800 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS | Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene* | Dichloromethane extraction / GC-MS |
| 2815 | Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS | ICES7 PCB congeners | Acetone/Hexane extraction / GC-MS |
| 2920 | Phenols in Soils by HPLC | Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded. | 60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection. |
| 640 | Characterisation of Waste (Leaching C10) | Waste material including soil, sludges and granular waste | ComplianceTest for Leaching of Granular Waste Material and Sludge |

Report Information

Key

| | |
|-----|---|
| U | UKAS accredited |
| M | MCERTS and UKAS accredited |
| N | Unaccredited |
| S | This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis |
| SN | This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis |
| T | This analysis has been subcontracted to an unaccredited laboratory |
| I/S | Insufficient Sample |
| U/S | Unsuitable Sample |
| N/E | not evaluated |
| < | "less than" |
| > | "greater than" |
| SOP | Standard operating procedure |
| LOD | Limit of detection |

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

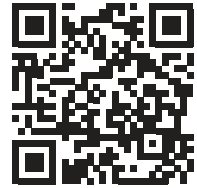
customerservices@chemtest.com



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)



BWDNT-89H9H-KV6V6

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

Job name

5861

Description/Comments

Client: Gerard Gannon Properties
Engineer: Waterman Moylan

Project

Gorey Hill

Site

Gorey, Co. Wexford

Classified by

Name: **Stephen Letch**
Date: **23 Jun 2021 08:26 GMT**
Telephone: **00353 86817 9449**

Company: **Site Investigations Ltd**

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 | 0.50-0.50 | Non Hazardous | | Pass | Pass | 2 |
| 2 | TP02-0.50 | 0.50-0.50 | Non Hazardous | | Pass | Pass | 6 |
| 3 | TP03-0.50 | 0.50-0.50 | Non Hazardous | | Pass | Pass | 10 |
| 4 | TP04-0.50 | 0.50-0.50 | Non Hazardous | | Pass | Pass | 14 |
| 5 | TP05-0.50 | 0.50-0.50 | Non Hazardous | | Pass | Pass | 18 |
| 6 | TP06-0.50 | 0.50-0.50 | Non Hazardous | | Pass | Pass | 22 |
| 7 | TP07-0.50 | 0.50-0.50 | Non Hazardous | | Pass | Pass | 26 |
| 8 | TP08-0.50 | 0.50-0.50 | Non Hazardous | | Pass | Pass | 30 |

Related documents

| # | Name | Description |
|---|--|-----------------------------------|
| 1 | HWOL_21-20096-20210622 122628 REV.hwol | .hwol file used to create the 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: 23 Jun 2021 08:26 GMT

| Appendices | Page |
|---|------|
| Appendix A: Classifier defined and non CLP determinands | 34 |
| Appendix B: Rationale for selection of metal species | 36 |
| Appendix C: Version | 37 |



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) |
| 0.50-0.50 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 |
|----|---|--------------------------------------|---|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 1 | pH | | PH | | 7.1 pH | | 7.1 pH | 7.1 pH | | |
| 2 | boron { diboron trioxide; boric oxide } | | | | <0.4 mg/kg | 3.22 | <1.288 mg/kg | <0.000129 % | | <LOD |
| | 005-008-00-8 | 215-125-8 | 1303-86-2 | | | | | | | |
| 3 | sulfur { sulfur } | | | | 1.1 mg/kg | | 0.968 mg/kg | 0.0000968 % | ✔ | |
| | 016-094-00-1 | 231-722-6 | 7704-34-9 | | | | | | | |
| 4 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | | | | <0.5 mg/kg | 1.884 | <0.942 mg/kg | <0.0000942 % | | <LOD |
| | 006-007-00-5 | | | | | | | | | |
| 5 | barium { barium oxide } | | | | 42 mg/kg | 1.117 | 41.266 mg/kg | 0.00413 % | ✔ | |
| | | 215-127-9 | 1304-28-5 | | | | | | | |
| 6 | cadmium { cadmium oxide } | | | | 0.15 mg/kg | 1.142 | 0.151 mg/kg | 0.0000151 % | ✔ | |
| | 048-002-00-0 | 215-146-2 | 1306-19-0 | | | | | | | |
| 7 | molybdenum { molybdenum(VI) oxide } | | | | <2 mg/kg | 1.5 | <3 mg/kg | <0.0003 % | | <LOD |
| | 042-001-00-9 | 215-204-7 | 1313-27-5 | | | | | | | |
| 8 | antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex } | | | 1 | <2 mg/kg | | <2 mg/kg | <0.0002 % | | <LOD |
| | 051-003-00-9 | | | | | | | | | |
| 9 | arsenic { arsenic } | | | | 37 mg/kg | | 32.56 mg/kg | 0.00326 % | ✔ | |
| | 033-001-00-X | 231-148-6 | 7440-38-2 | | | | | | | |
| 10 | granulated copper; [particle length: from 0,9 mm to 6,0 mm; particle width: from 0,494 to 0,949 mm] | | | | 32 mg/kg | | 28.16 mg/kg | 0.00282 % | ✔ | |
| | 029-024-00-X | 231-159-6 | 7440-50-8 | | | | | | | |
| 11 | mercury { mercury } | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 080-001-00-0 | 231-106-7 | 7439-97-6 | | | | | | | |
| 12 | nickel { nickel(II) oxide (nickel monoxide) } | | | | 33 mg/kg | 1.273 | 36.956 mg/kg | 0.0037 % | ✔ | |
| | 028-003-00-2 | 215-215-7 [1] 234-323-5 [2] - [3] | 1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3] | | | | | | | |
| 13 | lead { lead compounds with the exception of those specified elsewhere in this Annex } | | | 1 | 33 mg/kg | | 29.04 mg/kg | 0.0029 % | ✔ | |
| | 082-001-00-6 | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|----|--|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | | | |
| 14 | selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } | | | | 0.8 | mg/kg | 1.405 | 0.989 | mg/kg | 0.0000989 % | ✓ | |
| | 034-002-00-8 | | | | | | | | | | | |
| 15 | zinc { zinc oxide } | | | | 70 | mg/kg | 1.245 | 76.674 | mg/kg | 0.00767 % | ✓ | |
| | 030-013-00-7 | 215-222-5 | 1314-13-2 | | | | | | | | | |
| 16 | chromium in chromium(VI) compounds { chromium(VI) oxide } | | | | <0.5 | mg/kg | 1.923 | <0.962 | mg/kg | <0.0000962 % | | <LOD |
| | 024-001-00-0 | 215-607-8 | 1333-82-0 | | | | | | | | | |
| 17 | chromium in chromium(III) compounds { chromium(III) oxide } | | | | 30 | mg/kg | 1.462 | 38.585 | mg/kg | 0.00386 % | ✓ | |
| | | 215-160-9 | 1308-38-9 | | | | | | | | | |
| 18 | TPH (C6 to C40) petroleum group | | | | <10 | mg/kg | | <10 | mg/kg | <0.001 % | | <LOD |
| | | | TPH | | | | | | | | | |
| 19 | benzene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | | | |
| 20 | toluene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | | | |
| 21 | ethylbenzene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 22 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | | | |
| 23 | naphthalene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 24 | acenaphthylene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 25 | acenaphthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 26 | fluorene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 27 | phenanthrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 28 | anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 29 | fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 30 | pyrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 31 | benzo[a]anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 32 | chrysene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 33 | benzo[b]fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 34 | benzo[k]fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 35 | benzo[a]pyrene; benzo[def]chrysene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 36 | indeno[123-cd]pyrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 37 | dibenz[a,h]anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 38 | benzo[ghi]perylene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 39 | coronene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-881-7 | 191-07-1 | | | | | | | | | |
| 40 | monohydric phenols | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | | P1186 | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------|---------------|---------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 41 | xylene | | | | <2 µg/kg | | <0.002 mg/kg | <0.0000002 % | | <LOD |
| | 601-022-00-9 | 202-422-2 [1] | 95-47-6 [1] | | | | | | | |
| | | 203-396-5 [2] | 106-42-3 [2] | | | | | | | |
| | | 203-576-3 [3] | 108-38-3 [3] | | | | | | | |
| | | 215-535-7 [4] | 1330-20-7 [4] | | | | | | | |
| 42 | ● polychlorobiphenyls; PCB | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 602-039-00-4 | 215-648-1 | 1336-36-3 | | | | | | | |
| Total: | | | | | | | | 0.0306 % | | |

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: 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) | % | 1.5 | 3 | 5 |
| 2 | LOI (loss on ignition) | % | 6.6 | - | - |
| 3 | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg | <0.01 | 6 | - |
| 4 | PCBs (polychlorinated biphenyls, 7 congeners) | mg/kg | <0.1 | 1 | - |
| 5 | Mineral oil (C10 to C40) | mg/kg | <10 | 500 | - |
| 6 | PAHs (polycyclic aromatic hydrocarbons) | mg/kg | <2 | 100 | - |
| 7 | pH | pH | 7.1 | - | >6 |
| 8 | ANC (acid neutralisation capacity) | mol/kg | 0.002 | - | - |
| Eluate Analysis 10:1 | | | | | |
| 9 | arsenic | mg/kg | 0.013 | 0.5 | 2 |
| 10 | barium | mg/kg | <0.0005 | 20 | 100 |
| 11 | cadmium | mg/kg | <0.0001 | 0.04 | 1 |
| 12 | chromium | mg/kg | 0.0074 | 0.5 | 10 |
| 13 | copper | mg/kg | 0.014 | 2 | 50 |
| 14 | mercury | mg/kg | <5.0e-05 | 0.01 | 0.2 |
| 15 | molybdenum | mg/kg | 0.011 | 0.5 | 10 |
| 16 | nickel | mg/kg | <0.0005 | 0.4 | 10 |
| 17 | lead | mg/kg | 0.0077 | 0.5 | 10 |
| 18 | antimony | mg/kg | <0.0005 | 0.06 | 0.7 |
| 19 | selenium | mg/kg | <0.0005 | 0.1 | 0.5 |
| 20 | zinc | mg/kg | <0.0025 | 4 | 50 |
| 21 | chloride | mg/kg | 17 | 800 | 15,000 |
| 22 | fluoride | mg/kg | 2.2 | 10 | 150 |
| 23 | sulphate | mg/kg | 14 | 1,000 | 20,000 |
| 24 | phenol index | mg/kg | <0.3 | 1 | - |
| 25 | DOC (dissolved organic carbon) | mg/kg | 56 | 500 | 800 |
| 26 | TDS (total dissolved solids) | mg/kg | 360 | 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) |
| 0.50-0.50 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 |
|----|---|--------------------------------------|---|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | | | |
| 1 | ● pH | | | | 6.5 | pH | | 6.5 | pH | 6.5 pH | | |
| 2 | boron { diboron trioxide; boric oxide } | | | | 0.46 | mg/kg | 3.22 | 1.17 | mg/kg | 0.000117 % | ✓ | |
| | 005-008-00-8 | 215-125-8 | 1303-86-2 | | | | | | | | | |
| 3 | sulfur { sulfur } | | | | 1.2 | mg/kg | | 0.948 | mg/kg | 0.0000948 % | ✓ | |
| | 016-094-00-1 | 231-722-6 | 7704-34-9 | | | | | | | | | |
| 4 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | | | | 0.8 | mg/kg | 1.884 | 1.191 | mg/kg | 0.000119 % | ✓ | |
| | 006-007-00-5 | | | | | | | | | | | |
| 5 | barium { barium oxide } | | | | 97 | mg/kg | 1.117 | 85.558 | mg/kg | 0.00856 % | ✓ | |
| | | 215-127-9 | 1304-28-5 | | | | | | | | | |
| 6 | cadmium { cadmium oxide } | | | | 0.32 | mg/kg | 1.142 | 0.289 | mg/kg | 0.0000289 % | ✓ | |
| | 048-002-00-0 | 215-146-2 | 1306-19-0 | | | | | | | | | |
| 7 | molybdenum { molybdenum(VI) oxide } | | | | <2 | mg/kg | 1.5 | <3 | mg/kg | <0.0003 % | | <LOD |
| | 042-001-00-9 | 215-204-7 | 1313-27-5 | | | | | | | | | |
| 8 | antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex } | | | 1 | 3.1 | mg/kg | | 2.449 | mg/kg | 0.000245 % | ✓ | |
| | 051-003-00-9 | | | | | | | | | | | |
| 9 | arsenic { arsenic } | | | | 59 | mg/kg | | 46.61 | mg/kg | 0.00466 % | ✓ | |
| | 033-001-00-X | 231-148-6 | 7440-38-2 | | | | | | | | | |
| 10 | granulated copper; [particle length: from 0,9 mm to 6,0 mm; particle width: from 0,494 to 0,949 mm] | | | | 50 | mg/kg | | 39.5 | mg/kg | 0.00395 % | ✓ | |
| | 029-024-00-X | 231-159-6 | 7440-50-8 | | | | | | | | | |
| 11 | mercury { mercury } | | | | 0.16 | mg/kg | | 0.126 | mg/kg | 0.0000126 % | ✓ | |
| | 080-001-00-0 | 231-106-7 | 7439-97-6 | | | | | | | | | |
| 12 | nickel { nickel(II) oxide (nickel monoxide) } | | | | 50 | mg/kg | 1.273 | 50.267 | mg/kg | 0.00503 % | ✓ | |
| | 028-003-00-2 | 215-215-7 [1] 234-323-5 [2] - [3] | 1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3] | | | | | | | | | |
| 13 | lead { lead compounds with the exception of those specified elsewhere in this Annex } | | | 1 | 61 | mg/kg | | 48.19 | mg/kg | 0.00482 % | ✓ | |
| | 082-001-00-6 | | | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|----|--|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | | | |
| 14 | selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } | | | | 1.3 | mg/kg | 1.405 | 1.443 | mg/kg | 0.000144 % | ✓ | |
| | 034-002-00-8 | | | | | | | | | | | |
| 15 | zinc { zinc oxide } | | | | 150 | mg/kg | 1.245 | 147.499 | mg/kg | 0.0147 % | ✓ | |
| | 030-013-00-7 | 215-222-5 | 1314-13-2 | | | | | | | | | |
| 16 | chromium in chromium(VI) compounds { chromium(VI) oxide } | | | | <0.5 | mg/kg | 1.923 | <0.962 | mg/kg | <0.0000962 % | | <LOD |
| | 024-001-00-0 | 215-607-8 | 1333-82-0 | | | | | | | | | |
| 17 | chromium in chromium(III) compounds { chromium(III) oxide } | | | | 59 | mg/kg | 1.462 | 68.123 | mg/kg | 0.00681 % | ✓ | |
| | | 215-160-9 | 1308-38-9 | | | | | | | | | |
| 18 | TPH (C6 to C40) petroleum group | | | | <10 | mg/kg | | <10 | mg/kg | <0.001 % | | <LOD |
| | | | TPH | | | | | | | | | |
| 19 | benzene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | | | |
| 20 | toluene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | | | |
| 21 | ethylbenzene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 22 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | | | |
| 23 | naphthalene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 24 | acenaphthylene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 25 | acenaphthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 26 | fluorene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 27 | phenanthrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 28 | anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 29 | fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 30 | pyrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 31 | benzo[a]anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 32 | chrysene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 33 | benzo[b]fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 34 | benzo[k]fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 35 | benzo[a]pyrene; benzo[def]chrysene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 36 | indeno[123-cd]pyrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 37 | dibenz[a,h]anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 38 | benzo[ghi]perylene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 39 | coronene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-881-7 | 191-07-1 | | | | | | | | | |
| 40 | monohydric phenols | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | | P1186 | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------|---------------|---------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 41 | xylene | | | | <2 µg/kg | | <0.002 mg/kg | <0.0000002 % | | <LOD |
| | 601-022-00-9 | 202-422-2 [1] | 95-47-6 [1] | | | | | | | |
| | | 203-396-5 [2] | 106-42-3 [2] | | | | | | | |
| | | 203-576-3 [3] | 108-38-3 [3] | | | | | | | |
| | | 215-535-7 [4] | 1330-20-7 [4] | | | | | | | |
| 42 | ● polychlorobiphenyls; PCB | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 602-039-00-4 | 215-648-1 | 1336-36-3 | | | | | | | |
| Total: | | | | | | | | 0.0509 % | | |

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: 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) | % | 2.4 | 3 | 5 |
| 2 | LOI (loss on ignition) | % | 9 | - | - |
| 3 | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg | <0.01 | 6 | - |
| 4 | PCBs (polychlorinated biphenyls, 7 congeners) | mg/kg | <0.1 | 1 | - |
| 5 | Mineral oil (C10 to C40) | mg/kg | <10 | 500 | - |
| 6 | PAHs (polycyclic aromatic hydrocarbons) | mg/kg | <2 | 100 | - |
| 7 | pH | pH | 6.5 | - | >6 |
| 8 | ANC (acid neutralisation capacity) | mol/kg | <0.002 | - | - |
| Eluate Analysis 10:1 | | | | | |
| 9 | arsenic | mg/kg | 0.015 | 0.5 | 2 |
| 10 | barium | mg/kg | <0.0005 | 20 | 100 |
| 11 | cadmium | mg/kg | <0.0001 | 0.04 | 1 |
| 12 | chromium | mg/kg | 0.0092 | 0.5 | 10 |
| 13 | copper | mg/kg | 0.018 | 2 | 50 |
| 14 | mercury | mg/kg | <5.0e-05 | 0.01 | 0.2 |
| 15 | molybdenum | mg/kg | 0.0075 | 0.5 | 10 |
| 16 | nickel | mg/kg | 0.0069 | 0.4 | 10 |
| 17 | lead | mg/kg | 0.012 | 0.5 | 10 |
| 18 | antimony | mg/kg | <0.0005 | 0.06 | 0.7 |
| 19 | selenium | mg/kg | 0.0075 | 0.1 | 0.5 |
| 20 | zinc | mg/kg | <0.0025 | 4 | 50 |
| 21 | chloride | mg/kg | 17 | 800 | 15,000 |
| 22 | fluoride | mg/kg | 1.5 | 10 | 150 |
| 23 | sulphate | mg/kg | 41 | 1,000 | 20,000 |
| 24 | phenol index | mg/kg | <0.3 | 1 | - |
| 25 | DOC (dissolved organic carbon) | mg/kg | 80 | 500 | 800 |
| 26 | TDS (total dissolved solids) | mg/kg | 320 | 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) |
| 0.50-0.50 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 |
|----|---|--------------------------------------|---|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 1 | pH | | PH | | 7.1 pH | | 7.1 pH | 7.1 pH | | |
| 2 | boron { diboron trioxide; boric oxide } | | | | <0.4 mg/kg | 3.22 | <1.288 mg/kg | <0.000129 % | | <LOD |
| | 005-008-00-8 | 215-125-8 | 1303-86-2 | | | | | | | |
| 3 | sulfur { sulfur } | | | | <1 mg/kg | | <1 mg/kg | <0.0001 % | | <LOD |
| | 016-094-00-1 | 231-722-6 | 7704-34-9 | | | | | | | |
| 4 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | | | | 0.5 mg/kg | 1.884 | 0.791 mg/kg | 0.0000791 % | ✔ | |
| | 006-007-00-5 | | | | | | | | | |
| 5 | barium { barium oxide } | | | | 80 mg/kg | 1.117 | 75.029 mg/kg | 0.0075 % | ✔ | |
| | | 215-127-9 | 1304-28-5 | | | | | | | |
| 6 | cadmium { cadmium oxide } | | | | 0.18 mg/kg | 1.142 | 0.173 mg/kg | 0.0000173 % | ✔ | |
| | 048-002-00-0 | 215-146-2 | 1306-19-0 | | | | | | | |
| 7 | molybdenum { molybdenum(VI) oxide } | | | | <2 mg/kg | 1.5 | <3 mg/kg | <0.0003 % | | <LOD |
| | 042-001-00-9 | 215-204-7 | 1313-27-5 | | | | | | | |
| 8 | antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex } | | | 1 | <2 mg/kg | | <2 mg/kg | <0.0002 % | | <LOD |
| | 051-003-00-9 | | | | | | | | | |
| 9 | arsenic { arsenic } | | | | 52 mg/kg | | 43.68 mg/kg | 0.00437 % | ✔ | |
| | 033-001-00-X | 231-148-6 | 7440-38-2 | | | | | | | |
| 10 | granulated copper; [particle length: from 0,9 mm to 6,0 mm; particle width: from 0,494 to 0,949 mm] | | | | 39 mg/kg | | 32.76 mg/kg | 0.00328 % | ✔ | |
| | 029-024-00-X | 231-159-6 | 7440-50-8 | | | | | | | |
| 11 | mercury { mercury } | | | | 0.11 mg/kg | | 0.0924 mg/kg | 0.00000924 % | ✔ | |
| | 080-001-00-0 | 231-106-7 | 7439-97-6 | | | | | | | |
| 12 | nickel { nickel(II) oxide (nickel monoxide) } | | | | 48 mg/kg | 1.273 | 51.311 mg/kg | 0.00513 % | ✔ | |
| | 028-003-00-2 | 215-215-7 [1] 234-323-5 [2] - [3] | 1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3] | | | | | | | |
| 13 | lead { lead compounds with the exception of those specified elsewhere in this Annex } | | | 1 | 38 mg/kg | | 31.92 mg/kg | 0.00319 % | ✔ | |
| | 082-001-00-6 | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|----|--|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | | | |
| 14 | selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } | | | | 1.4 | mg/kg | 1.405 | 1.652 | mg/kg | 0.000165 % | ✓ | |
| | 034-002-00-8 | | | | | | | | | | | |
| 15 | zinc { zinc oxide } | | | | 120 | mg/kg | 1.245 | 125.467 | mg/kg | 0.0125 % | ✓ | |
| | 030-013-00-7 | 215-222-5 | 1314-13-2 | | | | | | | | | |
| 16 | chromium in chromium(VI) compounds { chromium(VI) oxide } | | | | <0.5 | mg/kg | 1.923 | <0.962 | mg/kg | <0.0000962 % | | <LOD |
| | 024-001-00-0 | 215-607-8 | 1333-82-0 | | | | | | | | | |
| 17 | chromium in chromium(III) compounds { chromium(III) oxide } | | | | 50 | mg/kg | 1.462 | 61.385 | mg/kg | 0.00614 % | ✓ | |
| | | 215-160-9 | 1308-38-9 | | | | | | | | | |
| 18 | TPH (C6 to C40) petroleum group | | | | <10 | mg/kg | | <10 | mg/kg | <0.001 % | | <LOD |
| | | | TPH | | | | | | | | | |
| 19 | benzene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | | | |
| 20 | toluene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | | | |
| 21 | ethylbenzene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 22 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | | | |
| 23 | naphthalene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 24 | acenaphthylene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 25 | acenaphthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 26 | fluorene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 27 | phenanthrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 28 | anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 29 | fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 30 | pyrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 31 | benzo[a]anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 32 | chrysene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 33 | benzo[b]fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 34 | benzo[k]fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 35 | benzo[a]pyrene; benzo[def]chrysene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 36 | indeno[123-cd]pyrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 37 | dibenz[a,h]anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 38 | benzo[ghi]perylene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 39 | coronene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-881-7 | 191-07-1 | | | | | | | | | |
| 40 | monohydric phenols | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | | P1186 | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------|---------------|---------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 41 | xylene | | | | <2 µg/kg | | <0.002 mg/kg | <0.0000002 % | | <LOD |
| | 601-022-00-9 | 202-422-2 [1] | 95-47-6 [1] | | | | | | | |
| | | 203-396-5 [2] | 106-42-3 [2] | | | | | | | |
| | | 203-576-3 [3] | 108-38-3 [3] | | | | | | | |
| | | 215-535-7 [4] | 1330-20-7 [4] | | | | | | | |
| 42 | ● polychlorobiphenyls; PCB | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 602-039-00-4 | 215-648-1 | 1336-36-3 | | | | | | | |
| Total: | | | | | | | | 0.0444 % | | |

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) | % | 1.3 | 3 | 5 |
| 2 | LOI (loss on ignition) | % | 5.9 | - | - |
| 3 | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg | <0.01 | 6 | - |
| 4 | PCBs (polychlorinated biphenyls, 7 congeners) | mg/kg | <0.1 | 1 | - |
| 5 | Mineral oil (C10 to C40) | mg/kg | <10 | 500 | - |
| 6 | PAHs (polycyclic aromatic hydrocarbons) | mg/kg | <2 | 100 | - |
| 7 | pH | pH | 7.1 | - | >6 |
| 8 | ANC (acid neutralisation capacity) | mol/kg | <0.002 | - | - |
| Eluate Analysis 10:1 | | | | | |
| 9 | arsenic | mg/kg | 0.012 | 0.5 | 2 |
| 10 | barium | mg/kg | <0.0005 | 20 | 100 |
| 11 | cadmium | mg/kg | <0.0001 | 0.04 | 1 |
| 12 | chromium | mg/kg | 0.0088 | 0.5 | 10 |
| 13 | copper | mg/kg | 0.01 | 2 | 50 |
| 14 | mercury | mg/kg | <5.0e-05 | 0.01 | 0.2 |
| 15 | molybdenum | mg/kg | 0.0079 | 0.5 | 10 |
| 16 | nickel | mg/kg | <0.0005 | 0.4 | 10 |
| 17 | lead | mg/kg | 0.0064 | 0.5 | 10 |
| 18 | antimony | mg/kg | <0.0005 | 0.06 | 0.7 |
| 19 | selenium | mg/kg | <0.0005 | 0.1 | 0.5 |
| 20 | zinc | mg/kg | <0.0025 | 4 | 50 |
| 21 | chloride | mg/kg | 10 | 800 | 15,000 |
| 22 | fluoride | mg/kg | 1.7 | 10 | 150 |
| 23 | sulphate | mg/kg | 49 | 1,000 | 20,000 |
| 24 | phenol index | mg/kg | <0.3 | 1 | - |
| 25 | DOC (dissolved organic carbon) | mg/kg | <50 | 500 | 800 |
| 26 | TDS (total dissolved solids) | mg/kg | 240 | 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) |
| 0.50-0.50 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 |
|----|---|--------------------------------------|---|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | | | |
| 1 | ● pH | | | | 7.1 | pH | | 7.1 | pH | 7.1 pH | | |
| 2 | boron { diboron trioxide; boric oxide } | | | | <0.4 | mg/kg | 3.22 | <1.288 | mg/kg | <0.000129 % | | <LOD |
| | 005-008-00-8 | 215-125-8 | 1303-86-2 | | | | | | | | | |
| 3 | sulfur { sulfur } | | | | <1 | mg/kg | | <1 | mg/kg | <0.0001 % | | <LOD |
| | 016-094-00-1 | 231-722-6 | 7704-34-9 | | | | | | | | | |
| 4 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | | | | 1 | mg/kg | 1.884 | 1.639 | mg/kg | 0.000164 % | ✔ | |
| | 006-007-00-5 | | | | | | | | | | | |
| 5 | barium { barium oxide } | | | | 57 | mg/kg | 1.117 | 55.368 | mg/kg | 0.00554 % | ✔ | |
| | | 215-127-9 | 1304-28-5 | | | | | | | | | |
| 6 | cadmium { cadmium oxide } | | | | 0.16 | mg/kg | 1.142 | 0.159 | mg/kg | 0.0000159 % | ✔ | |
| | 048-002-00-0 | 215-146-2 | 1306-19-0 | | | | | | | | | |
| 7 | molybdenum { molybdenum(VI) oxide } | | | | <2 | mg/kg | 1.5 | <3 | mg/kg | <0.0003 % | | <LOD |
| | 042-001-00-9 | 215-204-7 | 1313-27-5 | | | | | | | | | |
| 8 | antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex } | | | 1 | <2 | mg/kg | | <2 | mg/kg | <0.0002 % | | <LOD |
| | 051-003-00-9 | | | | | | | | | | | |
| 9 | arsenic { arsenic } | | | | 40 | mg/kg | | 34.8 | mg/kg | 0.00348 % | ✔ | |
| | 033-001-00-X | 231-148-6 | 7440-38-2 | | | | | | | | | |
| 10 | granulated copper; [particle length: from 0,9 mm to 6,0 mm; particle width: from 0,494 to 0,949 mm] | | | | 40 | mg/kg | | 34.8 | mg/kg | 0.00348 % | ✔ | |
| | 029-024-00-X | 231-159-6 | 7440-50-8 | | | | | | | | | |
| 11 | mercury { mercury } | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 080-001-00-0 | 231-106-7 | 7439-97-6 | | | | | | | | | |
| 12 | nickel { nickel(II) oxide (nickel monoxide) } | | | | 54 | mg/kg | 1.273 | 59.786 | mg/kg | 0.00598 % | ✔ | |
| | 028-003-00-2 | 215-215-7 [1] 234-323-5 [2] - [3] | 1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3] | | | | | | | | | |
| 13 | lead { lead compounds with the exception of those specified elsewhere in this Annex } | | | 1 | 40 | mg/kg | | 34.8 | mg/kg | 0.00348 % | ✔ | |
| | 082-001-00-6 | | | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|----|--|-----------|------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | | | |
| 14 | selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } | | | | 1.1 | mg/kg | 1.405 | 1.345 | mg/kg | 0.000134 % | ✓ | |
| | 034-002-00-8 | | | | | | | | | | | |
| 15 | zinc { zinc oxide } | | | | 120 | mg/kg | 1.245 | 129.948 | mg/kg | 0.013 % | ✓ | |
| | 030-013-00-7 | 215-222-5 | 1314-13-2 | | | | | | | | | |
| 16 | chromium in chromium(VI) compounds { chromium(VI) oxide } | | | | <0.5 | mg/kg | 1.923 | <0.962 | mg/kg | <0.0000962 % | | <LOD |
| | 024-001-00-0 | 215-607-8 | 1333-82-0 | | | | | | | | | |
| 17 | chromium in chromium(III) compounds { chromium(III) oxide } | | | | 53 | mg/kg | 1.462 | 67.392 | mg/kg | 0.00674 % | ✓ | |
| | | 215-160-9 | 1308-38-9 | | | | | | | | | |
| 18 | TPH (C6 to C40) petroleum group | | | | <10 | mg/kg | | <10 | mg/kg | <0.001 % | | <LOD |
| | | | TPH | | | | | | | | | |
| 19 | benzene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | | | |
| 20 | toluene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | | | |
| 21 | ethylbenzene | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | | | |
| 22 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <1 | µg/kg | | <0.001 | mg/kg | <0.0000001 % | | <LOD |
| | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | | | |
| 23 | naphthalene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | | | |
| 24 | acenaphthylene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-917-1 | 208-96-8 | | | | | | | | | |
| 25 | acenaphthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-469-6 | 83-32-9 | | | | | | | | | |
| 26 | fluorene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-695-5 | 86-73-7 | | | | | | | | | |
| 27 | phenanthrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 201-581-5 | 85-01-8 | | | | | | | | | |
| 28 | anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 204-371-1 | 120-12-7 | | | | | | | | | |
| 29 | fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-912-4 | 206-44-0 | | | | | | | | | |
| 30 | pyrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 204-927-3 | 129-00-0 | | | | | | | | | |
| 31 | benzo[a]anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | | | |
| 32 | chrysene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | | | |
| 33 | benzo[b]fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | | | |
| 34 | benzo[k]fluoranthene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | | | |
| 35 | benzo[a]pyrene; benzo[def]chrysene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | | | |
| 36 | indeno[123-cd]pyrene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-893-2 | 193-39-5 | | | | | | | | | |
| 37 | dibenz[a,h]anthracene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | | | |
| 38 | benzo[ghi]perylene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-883-8 | 191-24-2 | | | | | | | | | |
| 39 | coronene | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | 205-881-7 | 191-07-1 | | | | | | | | | |
| 40 | monohydric phenols | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | | | P1186 | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------|---------------|---------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 41 | xylene | | | | <2 µg/kg | | <0.002 mg/kg | <0.0000002 % | | <LOD |
| | 601-022-00-9 | 202-422-2 [1] | 95-47-6 [1] | | | | | | | |
| | | 203-396-5 [2] | 106-42-3 [2] | | | | | | | |
| | | 203-576-3 [3] | 108-38-3 [3] | | | | | | | |
| | | 215-535-7 [4] | 1330-20-7 [4] | | | | | | | |
| 42 | ● polychlorobiphenyls; PCB | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 602-039-00-4 | 215-648-1 | 1336-36-3 | | | | | | | |
| Total: | | | | | | | | 0.044 % | | |

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 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) | % | <0.2 | 3 | 5 |
| 2 | LOI (loss on ignition) | % | 4.8 | - | - |
| 3 | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg | <0.01 | 6 | - |
| 4 | PCBs (polychlorinated biphenyls, 7 congeners) | mg/kg | <0.1 | 1 | - |
| 5 | Mineral oil (C10 to C40) | mg/kg | <10 | 500 | - |
| 6 | PAHs (polycyclic aromatic hydrocarbons) | mg/kg | <2 | 100 | - |
| 7 | pH | pH | 7.1 | - | >6 |
| 8 | ANC (acid neutralisation capacity) | mol/kg | <0.002 | - | - |
| Eluate Analysis 10:1 | | | | | |
| 9 | arsenic | mg/kg | <0.0002 | 0.5 | 2 |
| 10 | barium | mg/kg | <0.0005 | 20 | 100 |
| 11 | cadmium | mg/kg | <0.0001 | 0.04 | 1 |
| 12 | chromium | mg/kg | <0.0005 | 0.5 | 10 |
| 13 | copper | mg/kg | <0.0005 | 2 | 50 |
| 14 | mercury | mg/kg | <5.0e-05 | 0.01 | 0.2 |
| 15 | molybdenum | mg/kg | 0.0072 | 0.5 | 10 |
| 16 | nickel | mg/kg | <0.0005 | 0.4 | 10 |
| 17 | lead | mg/kg | <0.0005 | 0.5 | 10 |
| 18 | antimony | mg/kg | <0.0005 | 0.06 | 0.7 |
| 19 | selenium | mg/kg | <0.0005 | 0.1 | 0.5 |
| 20 | zinc | mg/kg | <0.0025 | 4 | 50 |
| 21 | chloride | mg/kg | <10 | 800 | 15,000 |
| 22 | fluoride | mg/kg | <1 | 10 | 150 |
| 23 | sulphate | mg/kg | 100 | 1,000 | 20,000 |
| 24 | phenol index | mg/kg | <0.3 | 1 | - |
| 25 | DOC (dissolved organic carbon) | mg/kg | <50 | 500 | 800 |
| 26 | TDS (total dissolved solids) | mg/kg | 270 | 4,000 | 60,000 |

Key

User supplied data



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: |
| 0.50-0.50 m | 17 05 04 (Soil and stones other than those mentioned in 17 05 03) |
| 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 |
|----|---|--------------------------------------|---|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 1 | ● pH | | | | 7.3 pH | | 7.3 pH | 7.3 pH | | |
| 2 | boron { diboron trioxide; boric oxide } | | | | <0.4 mg/kg | 3.22 | <1.288 mg/kg | <0.000129 % | | <LOD |
| | 005-008-00-8 | 215-125-8 | 1303-86-2 | | | | | | | |
| 3 | sulfur { sulfur } | | | | <1 mg/kg | | <1 mg/kg | <0.0001 % | | <LOD |
| | 016-094-00-1 | 231-722-6 | 7704-34-9 | | | | | | | |
| 4 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | | | | 0.6 mg/kg | 1.884 | 0.995 mg/kg | 0.0000995 % | ✔ | |
| | 006-007-00-5 | | | | | | | | | |
| 5 | barium { barium oxide } | | | | 42 mg/kg | 1.117 | 41.266 mg/kg | 0.00413 % | ✔ | |
| | | 215-127-9 | 1304-28-5 | | | | | | | |
| 6 | cadmium { cadmium oxide } | | | | <0.1 mg/kg | 1.142 | <0.114 mg/kg | <0.0000114 % | | <LOD |
| | 048-002-00-0 | 215-146-2 | 1306-19-0 | | | | | | | |
| 7 | molybdenum { molybdenum(VI) oxide } | | | | <2 mg/kg | 1.5 | <3 mg/kg | <0.0003 % | | <LOD |
| | 042-001-00-9 | 215-204-7 | 1313-27-5 | | | | | | | |
| 8 | antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex } | | | 1 | <2 mg/kg | | <2 mg/kg | <0.0002 % | | <LOD |
| | 051-003-00-9 | | | | | | | | | |
| 9 | arsenic { arsenic } | | | | 47 mg/kg | | 41.36 mg/kg | 0.00414 % | ✔ | |
| | 033-001-00-X | 231-148-6 | 7440-38-2 | | | | | | | |
| 10 | granulated copper; [particle length: from 0,9 mm to 6,0 mm; particle width: from 0,494 to 0,949 mm] | | | | 34 mg/kg | | 29.92 mg/kg | 0.00299 % | ✔ | |
| | 029-024-00-X | 231-159-6 | 7440-50-8 | | | | | | | |
| 11 | mercury { mercury } | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 080-001-00-0 | 231-106-7 | 7439-97-6 | | | | | | | |
| 12 | nickel { nickel(II) oxide (nickel monoxide) } | | | | 37 mg/kg | 1.273 | 41.436 mg/kg | 0.00414 % | ✔ | |
| | 028-003-00-2 | 215-215-7 [1] 234-323-5 [2] - [3] | 1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3] | | | | | | | |
| 13 | lead { lead compounds with the exception of those specified elsewhere in this Annex } | | | 1 | 23 mg/kg | | 20.24 mg/kg | 0.00202 % | ✔ | |
| | 082-001-00-6 | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|----|--|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 14 | selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } | | | | 0.23 mg/kg | 1.405 | 0.284 mg/kg | 0.0000284 % | ✓ | |
| | 034-002-00-8 | | | | | | | | | |
| 15 | zinc { zinc oxide } | | | | 75 mg/kg | 1.245 | 82.151 mg/kg | 0.00822 % | ✓ | |
| | 030-013-00-7 | 215-222-5 | 1314-13-2 | | | | | | | |
| 16 | chromium in chromium(VI) compounds { chromium(VI) oxide } | | | | <0.5 mg/kg | 1.923 | <0.962 mg/kg | <0.0000962 % | | <LOD |
| | 024-001-00-0 | 215-607-8 | 1333-82-0 | | | | | | | |
| 17 | chromium in chromium(III) compounds { chromium(III) oxide } | | | | 41 mg/kg | 1.462 | 52.733 mg/kg | 0.00527 % | ✓ | |
| | | 215-160-9 | 1308-38-9 | | | | | | | |
| 18 | TPH (C6 to C40) petroleum group | | | | <10 mg/kg | | <10 mg/kg | <0.001 % | | <LOD |
| | | | TPH | | | | | | | |
| 19 | benzene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | |
| 20 | toluene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | |
| 21 | ethylbenzene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | |
| 22 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | |
| 23 | naphthalene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | |
| 24 | acenaphthylene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-917-1 | 208-96-8 | | | | | | | |
| 25 | acenaphthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-469-6 | 83-32-9 | | | | | | | |
| 26 | fluorene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-695-5 | 86-73-7 | | | | | | | |
| 27 | phenanthrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-581-5 | 85-01-8 | | | | | | | |
| 28 | anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 204-371-1 | 120-12-7 | | | | | | | |
| 29 | fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-912-4 | 206-44-0 | | | | | | | |
| 30 | pyrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 204-927-3 | 129-00-0 | | | | | | | |
| 31 | benzo[a]anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | |
| 32 | chrysene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | |
| 33 | benzo[b]fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | |
| 34 | benzo[k]fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | |
| 35 | benzo[a]pyrene; benzo[def]chrysene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | |
| 36 | indeno[123-cd]pyrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-893-2 | 193-39-5 | | | | | | | |
| 37 | dibenz[a,h]anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | |
| 38 | benzo[ghi]perylene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-883-8 | 191-24-2 | | | | | | | |
| 39 | coronene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-881-7 | 191-07-1 | | | | | | | |
| 40 | monohydric phenols | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | | P1186 | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------|---------------|---------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 41 | xylene | | | | <2 µg/kg | | <0.002 mg/kg | <0.0000002 % | | <LOD |
| | 601-022-00-9 | 202-422-2 [1] | 95-47-6 [1] | | | | | | | |
| | | 203-396-5 [2] | 106-42-3 [2] | | | | | | | |
| | | 203-576-3 [3] | 108-38-3 [3] | | | | | | | |
| | | 215-535-7 [4] | 1330-20-7 [4] | | | | | | | |
| 42 | ● polychlorobiphenyls; PCB | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 602-039-00-4 | 215-648-1 | 1336-36-3 | | | | | | | |
| Total: | | | | | | | | 0.0331 % | | |

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 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) | % | <0.2 | 3 | 5 |
| 2 | LOI (loss on ignition) | % | 3.5 | - | - |
| 3 | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg | <0.01 | 6 | - |
| 4 | PCBs (polychlorinated biphenyls, 7 congeners) | mg/kg | <0.1 | 1 | - |
| 5 | Mineral oil (C10 to C40) | mg/kg | <10 | 500 | - |
| 6 | PAHs (polycyclic aromatic hydrocarbons) | mg/kg | <2 | 100 | - |
| 7 | pH | pH | 7.3 | - | >6 |
| 8 | ANC (acid neutralisation capacity) | mol/kg | <0.002 | - | - |
| Eluate Analysis 10:1 | | | | | |
| 9 | arsenic | mg/kg | <0.0002 | 0.5 | 2 |
| 10 | barium | mg/kg | <0.0005 | 20 | 100 |
| 11 | cadmium | mg/kg | <0.0001 | 0.04 | 1 |
| 12 | chromium | mg/kg | <0.0005 | 0.5 | 10 |
| 13 | copper | mg/kg | <0.0005 | 2 | 50 |
| 14 | mercury | mg/kg | <5.0e-05 | 0.01 | 0.2 |
| 15 | molybdenum | mg/kg | 0.0068 | 0.5 | 10 |
| 16 | nickel | mg/kg | <0.0005 | 0.4 | 10 |
| 17 | lead | mg/kg | <0.0005 | 0.5 | 10 |
| 18 | antimony | mg/kg | <0.0005 | 0.06 | 0.7 |
| 19 | selenium | mg/kg | <0.0005 | 0.1 | 0.5 |
| 20 | zinc | mg/kg | <0.0025 | 4 | 50 |
| 21 | chloride | mg/kg | <10 | 800 | 15,000 |
| 22 | fluoride | mg/kg | <1 | 10 | 150 |
| 23 | sulphate | mg/kg | 38 | 1,000 | 20,000 |
| 24 | phenol index | mg/kg | <0.3 | 1 | - |
| 25 | DOC (dissolved organic carbon) | mg/kg | <50 | 500 | 800 |
| 26 | TDS (total dissolved solids) | mg/kg | 130 | 4,000 | 60,000 |

Key

User supplied data



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) |
| 0.50-0.50 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 |
|----|---|--------------------------------------|---|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 1 | ● pH | | | | 7.3 pH | | 7.3 pH | 7.3 pH | | |
| 2 | boron { diboron trioxide; boric oxide } | | | | <0.4 mg/kg | 3.22 | <1.288 mg/kg | <0.000129 % | | <LOD |
| | 005-008-00-8 | 215-125-8 | 1303-86-2 | | | | | | | |
| 3 | sulfur { sulfur } | | | | <1 mg/kg | | <1 mg/kg | <0.0001 % | | <LOD |
| | 016-094-00-1 | 231-722-6 | 7704-34-9 | | | | | | | |
| 4 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | | | | 0.5 mg/kg | 1.884 | 0.838 mg/kg | 0.0000838 % | ✔ | |
| | 006-007-00-5 | | | | | | | | | |
| 5 | barium { barium oxide } | | | | 48 mg/kg | 1.117 | 47.697 mg/kg | 0.00477 % | ✔ | |
| | | 215-127-9 | 1304-28-5 | | | | | | | |
| 6 | cadmium { cadmium oxide } | | | | 0.11 mg/kg | 1.142 | 0.112 mg/kg | 0.0000112 % | ✔ | |
| | 048-002-00-0 | 215-146-2 | 1306-19-0 | | | | | | | |
| 7 | molybdenum { molybdenum(VI) oxide } | | | | <2 mg/kg | 1.5 | <3 mg/kg | <0.0003 % | | <LOD |
| | 042-001-00-9 | 215-204-7 | 1313-27-5 | | | | | | | |
| 8 | antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex } | | | 1 | <2 mg/kg | | <2 mg/kg | <0.0002 % | | <LOD |
| | 051-003-00-9 | | | | | | | | | |
| 9 | arsenic { arsenic } | | | | 36 mg/kg | | 32.04 mg/kg | 0.0032 % | ✔ | |
| | 033-001-00-X | 231-148-6 | 7440-38-2 | | | | | | | |
| 10 | granulated copper; [particle length: from 0,9 mm to 6,0 mm; particle width: from 0,494 to 0,949 mm] | | | | 37 mg/kg | | 32.93 mg/kg | 0.00329 % | ✔ | |
| | 029-024-00-X | 231-159-6 | 7440-50-8 | | | | | | | |
| 11 | mercury { mercury } | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 080-001-00-0 | 231-106-7 | 7439-97-6 | | | | | | | |
| 12 | nickel { nickel(II) oxide (nickel monoxide) } | | | | 50 mg/kg | 1.273 | 56.63 mg/kg | 0.00566 % | ✔ | |
| | 028-003-00-2 | 215-215-7 [1] 234-323-5 [2] - [3] | 1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3] | | | | | | | |
| 13 | lead { lead compounds with the exception of those specified elsewhere in this Annex } | | | 1 | 26 mg/kg | | 23.14 mg/kg | 0.00231 % | ✔ | |
| | 082-001-00-6 | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|----|--|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 14 | selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } | | | | 0.67 mg/kg | 1.405 | 0.838 mg/kg | 0.0000838 % | ✓ | |
| | 034-002-00-8 | | | | | | | | | |
| 15 | zinc { zinc oxide } | | | | 97 mg/kg | 1.245 | 107.456 mg/kg | 0.0107 % | ✓ | |
| | 030-013-00-7 | 215-222-5 | 1314-13-2 | | | | | | | |
| 16 | chromium in chromium(VI) compounds { chromium(VI) oxide } | | | | <0.5 mg/kg | 1.923 | <0.962 mg/kg | <0.0000962 % | | <LOD |
| | 024-001-00-0 | 215-607-8 | 1333-82-0 | | | | | | | |
| 17 | chromium in chromium(III) compounds { chromium(III) oxide } | | | | 45 mg/kg | 1.462 | 58.535 mg/kg | 0.00585 % | ✓ | |
| | | 215-160-9 | 1308-38-9 | | | | | | | |
| 18 | TPH (C6 to C40) petroleum group | | | | <10 mg/kg | | <10 mg/kg | <0.001 % | | <LOD |
| | | | TPH | | | | | | | |
| 19 | benzene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | |
| 20 | toluene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | |
| 21 | ethylbenzene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | |
| 22 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | |
| 23 | naphthalene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | |
| 24 | acenaphthylene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-917-1 | 208-96-8 | | | | | | | |
| 25 | acenaphthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-469-6 | 83-32-9 | | | | | | | |
| 26 | fluorene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-695-5 | 86-73-7 | | | | | | | |
| 27 | phenanthrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-581-5 | 85-01-8 | | | | | | | |
| 28 | anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 204-371-1 | 120-12-7 | | | | | | | |
| 29 | fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-912-4 | 206-44-0 | | | | | | | |
| 30 | pyrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 204-927-3 | 129-00-0 | | | | | | | |
| 31 | benzo[a]anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | |
| 32 | chrysene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | |
| 33 | benzo[b]fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | |
| 34 | benzo[k]fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | |
| 35 | benzo[a]pyrene; benzo[def]chrysene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | |
| 36 | indeno[123-cd]pyrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-893-2 | 193-39-5 | | | | | | | |
| 37 | dibenz[a,h]anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | |
| 38 | benzo[ghi]perylene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-883-8 | 191-24-2 | | | | | | | |
| 39 | coronene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-881-7 | 191-07-1 | | | | | | | |
| 40 | monohydric phenols | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | | P1186 | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------|---------------|---------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 41 | xylene | | | | <2 µg/kg | | <0.002 mg/kg | <0.0000002 % | | <LOD |
| | 601-022-00-9 | 202-422-2 [1] | 95-47-6 [1] | | | | | | | |
| | | 203-396-5 [2] | 106-42-3 [2] | | | | | | | |
| | | 203-576-3 [3] | 108-38-3 [3] | | | | | | | |
| | | 215-535-7 [4] | 1330-20-7 [4] | | | | | | | |
| 42 | ● polychlorobiphenyls; PCB | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 602-039-00-4 | 215-648-1 | 1336-36-3 | | | | | | | |
| Total: | | | | | | | | 0.038 % | | |

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: 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) | % | <0.2 | 3 | 5 |
| 2 | LOI (loss on ignition) | % | 3.7 | - | - |
| 3 | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg | <0.01 | 6 | - |
| 4 | PCBs (polychlorinated biphenyls, 7 congeners) | mg/kg | <0.1 | 1 | - |
| 5 | Mineral oil (C10 to C40) | mg/kg | <10 | 500 | - |
| 6 | PAHs (polycyclic aromatic hydrocarbons) | mg/kg | <2 | 100 | - |
| 7 | pH | pH | 7.3 | - | >6 |
| 8 | ANC (acid neutralisation capacity) | mol/kg | <0.002 | - | - |
| Eluate Analysis 10:1 | | | | | |
| 9 | arsenic | mg/kg | <0.0002 | 0.5 | 2 |
| 10 | barium | mg/kg | <0.0005 | 20 | 100 |
| 11 | cadmium | mg/kg | <0.0001 | 0.04 | 1 |
| 12 | chromium | mg/kg | <0.0005 | 0.5 | 10 |
| 13 | copper | mg/kg | <0.0005 | 2 | 50 |
| 14 | mercury | mg/kg | <5.0e-05 | 0.01 | 0.2 |
| 15 | molybdenum | mg/kg | 0.0086 | 0.5 | 10 |
| 16 | nickel | mg/kg | <0.0005 | 0.4 | 10 |
| 17 | lead | mg/kg | <0.0005 | 0.5 | 10 |
| 18 | antimony | mg/kg | <0.0005 | 0.06 | 0.7 |
| 19 | selenium | mg/kg | <0.0005 | 0.1 | 0.5 |
| 20 | zinc | mg/kg | <0.0025 | 4 | 50 |
| 21 | chloride | mg/kg | 11 | 800 | 15,000 |
| 22 | fluoride | mg/kg | <1 | 10 | 150 |
| 23 | sulphate | mg/kg | 34 | 1,000 | 20,000 |
| 24 | phenol index | mg/kg | <0.3 | 1 | - |
| 25 | DOC (dissolved organic carbon) | mg/kg | <50 | 500 | 800 |
| 26 | TDS (total dissolved solids) | mg/kg | 230 | 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: |
| 0.50-0.50 m | 17 05 04 (Soil and stones other than those mentioned in 17 05 03) |
| Moisture content: | |
| 22% | |
| (wet weight correction) | |

Hazard properties

None identified

Determinands

Moisture content: 22% Wet Weight Moisture Correction applied (MC)

| # | Determinand | | | CLP Note | User entered data | | Conv. Factor | Compound conc. | | Classification value | MC Applied | Conc. Not Used |
|----|---|--------------------------------------|---|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | | | |
| 1 | ● pH | | | | 7.3 | pH | | 7.3 | pH | 7.3 pH | | |
| 2 | boron { diboron trioxide; boric oxide } | | | | 0.83 | mg/kg | 3.22 | 2.085 | mg/kg | 0.000208 % | ✓ | |
| | 005-008-00-8 | 215-125-8 | 1303-86-2 | | | | | | | | | |
| 3 | sulfur { sulfur } | | | | 1.1 | mg/kg | | 0.858 | mg/kg | 0.0000858 % | ✓ | |
| | 016-094-00-1 | 231-722-6 | 7704-34-9 | | | | | | | | | |
| 4 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | | | | 0.7 | mg/kg | 1.884 | 1.029 | mg/kg | 0.000103 % | ✓ | |
| | 006-007-00-5 | | | | | | | | | | | |
| 5 | barium { barium oxide } | | | | 48 | mg/kg | 1.117 | 41.802 | mg/kg | 0.00418 % | ✓ | |
| | | 215-127-9 | 1304-28-5 | | | | | | | | | |
| 6 | cadmium { cadmium oxide } | | | | 0.11 | mg/kg | 1.142 | 0.098 | mg/kg | 0.0000098 % | ✓ | |
| | 048-002-00-0 | 215-146-2 | 1306-19-0 | | | | | | | | | |
| 7 | molybdenum { molybdenum(VI) oxide } | | | | <2 | mg/kg | 1.5 | <3 | mg/kg | <0.0003 % | | <LOD |
| | 042-001-00-9 | 215-204-7 | 1313-27-5 | | | | | | | | | |
| 8 | antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex } | | | 1 | <2 | mg/kg | | <2 | mg/kg | <0.0002 % | | <LOD |
| | 051-003-00-9 | | | | | | | | | | | |
| 9 | arsenic { arsenic } | | | | 31 | mg/kg | | 24.18 | mg/kg | 0.00242 % | ✓ | |
| | 033-001-00-X | 231-148-6 | 7440-38-2 | | | | | | | | | |
| 10 | granulated copper; [particle length: from 0,9 mm to 6,0 mm; particle width: from 0,494 to 0,949 mm] | | | | 33 | mg/kg | | 25.74 | mg/kg | 0.00257 % | ✓ | |
| | 029-024-00-X | 231-159-6 | 7440-50-8 | | | | | | | | | |
| 11 | mercury { mercury } | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 080-001-00-0 | 231-106-7 | 7439-97-6 | | | | | | | | | |
| 12 | nickel { nickel(II) oxide (nickel monoxide) } | | | | 42 | mg/kg | 1.273 | 41.69 | mg/kg | 0.00417 % | ✓ | |
| | 028-003-00-2 | 215-215-7 [1] 234-323-5 [2] - [3] | 1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3] | | | | | | | | | |
| 13 | lead { lead compounds with the exception of those specified elsewhere in this Annex } | | | 1 | 22 | mg/kg | | 17.16 | mg/kg | 0.00172 % | ✓ | |
| | 082-001-00-6 | | | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|----|--|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 14 | selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } | | | | 1 mg/kg | 1.405 | 1.096 mg/kg | 0.00011 % | ✓ | |
| | 034-002-00-8 | | | | | | | | | |
| 15 | zinc { zinc oxide } | | | | 87 mg/kg | 1.245 | 84.466 mg/kg | 0.00845 % | ✓ | |
| | 030-013-00-7 | 215-222-5 | 1314-13-2 | | | | | | | |
| 16 | chromium in chromium(VI) compounds { chromium(VI) oxide } | | | | <0.5 mg/kg | 1.923 | <0.962 mg/kg | <0.0000962 % | | <LOD |
| | 024-001-00-0 | 215-607-8 | 1333-82-0 | | | | | | | |
| 17 | chromium in chromium(III) compounds { chromium(III) oxide } | | | | 43 mg/kg | 1.462 | 49.021 mg/kg | 0.0049 % | ✓ | |
| | | 215-160-9 | 1308-38-9 | | | | | | | |
| 18 | TPH (C6 to C40) petroleum group | | | | <10 mg/kg | | <10 mg/kg | <0.001 % | | <LOD |
| | | | TPH | | | | | | | |
| 19 | benzene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | |
| 20 | toluene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | |
| 21 | ethylbenzene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | |
| 22 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | |
| 23 | naphthalene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | |
| 24 | acenaphthylene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-917-1 | 208-96-8 | | | | | | | |
| 25 | acenaphthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-469-6 | 83-32-9 | | | | | | | |
| 26 | fluorene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-695-5 | 86-73-7 | | | | | | | |
| 27 | phenanthrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-581-5 | 85-01-8 | | | | | | | |
| 28 | anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 204-371-1 | 120-12-7 | | | | | | | |
| 29 | fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-912-4 | 206-44-0 | | | | | | | |
| 30 | pyrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 204-927-3 | 129-00-0 | | | | | | | |
| 31 | benzo[a]anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | |
| 32 | chrysene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | |
| 33 | benzo[b]fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | |
| 34 | benzo[k]fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | |
| 35 | benzo[a]pyrene; benzo[def]chrysene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | |
| 36 | indeno[123-cd]pyrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-893-2 | 193-39-5 | | | | | | | |
| 37 | dibenz[a,h]anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | |
| 38 | benzo[ghi]perylene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-883-8 | 191-24-2 | | | | | | | |
| 39 | coronene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-881-7 | 191-07-1 | | | | | | | |
| 40 | monohydric phenols | | | | 0.5 mg/kg | | 0.39 mg/kg | 0.000039 % | ✓ | |
| | | | P1186 | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------|---------------|---------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 41 | xylene | | | | <2 µg/kg | | <0.002 mg/kg | <0.0000002 % | | <LOD |
| | 601-022-00-9 | 202-422-2 [1] | 95-47-6 [1] | | | | | | | |
| | | 203-396-5 [2] | 106-42-3 [2] | | | | | | | |
| | | 203-576-3 [3] | 108-38-3 [3] | | | | | | | |
| | | 215-535-7 [4] | 1330-20-7 [4] | | | | | | | |
| 42 | ● polychlorobiphenyls; PCB | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 602-039-00-4 | 215-648-1 | 1336-36-3 | | | | | | | |
| Total: | | | | | | | | 0.0307 % | | |

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) | % | 1.3 | 3 | 5 |
| 2 | LOI (loss on ignition) | % | 6.1 | - | - |
| 3 | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg | <0.01 | 6 | - |
| 4 | PCBs (polychlorinated biphenyls, 7 congeners) | mg/kg | <0.1 | 1 | - |
| 5 | Mineral oil (C10 to C40) | mg/kg | <10 | 500 | - |
| 6 | PAHs (polycyclic aromatic hydrocarbons) | mg/kg | <2 | 100 | - |
| 7 | pH | pH | 7.3 | - | >6 |
| 8 | ANC (acid neutralisation capacity) | mol/kg | <0.002 | - | - |
| Eluate Analysis 10:1 | | | | | |
| 9 | arsenic | mg/kg | <0.0002 | 0.5 | 2 |
| 10 | barium | mg/kg | <0.0005 | 20 | 100 |
| 11 | cadmium | mg/kg | <0.0001 | 0.04 | 1 |
| 12 | chromium | mg/kg | <0.0005 | 0.5 | 10 |
| 13 | copper | mg/kg | <0.0005 | 2 | 50 |
| 14 | mercury | mg/kg | <5.0e-05 | 0.01 | 0.2 |
| 15 | molybdenum | mg/kg | 0.0082 | 0.5 | 10 |
| 16 | nickel | mg/kg | <0.0005 | 0.4 | 10 |
| 17 | lead | mg/kg | <0.0005 | 0.5 | 10 |
| 18 | antimony | mg/kg | <0.0005 | 0.06 | 0.7 |
| 19 | selenium | mg/kg | <0.0005 | 0.1 | 0.5 |
| 20 | zinc | mg/kg | <0.0025 | 4 | 50 |
| 21 | chloride | mg/kg | <10 | 800 | 15,000 |
| 22 | fluoride | mg/kg | <1 | 10 | 150 |
| 23 | sulphate | mg/kg | 26 | 1,000 | 20,000 |
| 24 | phenol index | mg/kg | <0.3 | 1 | - |
| 25 | DOC (dissolved organic carbon) | mg/kg | <50 | 500 | 800 |
| 26 | TDS (total dissolved solids) | mg/kg | 150 | 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) |
| 0.50-0.50 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 |
|----|---|--------------------------------------|---|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | | | |
| 1 | ● pH | | | | 7.6 | pH | | 7.6 | pH | 7.6 pH | | |
| 2 | boron { diboron trioxide; boric oxide } | | | | 0.57 | mg/kg | 3.22 | 1.615 | mg/kg | 0.000162 % | ✓ | |
| | 005-008-00-8 | 215-125-8 | 1303-86-2 | | | | | | | | | |
| 3 | sulfur { sulfur } | | | | 1.2 | mg/kg | | 1.056 | mg/kg | 0.000106 % | ✓ | |
| | 016-094-00-1 | 231-722-6 | 7704-34-9 | | | | | | | | | |
| 4 | cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | | | | <0.5 | mg/kg | 1.884 | <0.942 | mg/kg | <0.0000942 % | | <LOD |
| | 006-007-00-5 | | | | | | | | | | | |
| 5 | barium { barium oxide } | | | | 39 | mg/kg | 1.117 | 38.318 | mg/kg | 0.00383 % | ✓ | |
| | | 215-127-9 | 1304-28-5 | | | | | | | | | |
| 6 | cadmium { cadmium oxide } | | | | <0.1 | mg/kg | 1.142 | <0.114 | mg/kg | <0.0000114 % | | <LOD |
| | 048-002-00-0 | 215-146-2 | 1306-19-0 | | | | | | | | | |
| 7 | molybdenum { molybdenum(VI) oxide } | | | | <2 | mg/kg | 1.5 | <3 | mg/kg | <0.0003 % | | <LOD |
| | 042-001-00-9 | 215-204-7 | 1313-27-5 | | | | | | | | | |
| 8 | antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex } | | | 1 | <2 | mg/kg | | <2 | mg/kg | <0.0002 % | | <LOD |
| | 051-003-00-9 | | | | | | | | | | | |
| 9 | arsenic { arsenic } | | | | 32 | mg/kg | | 28.16 | mg/kg | 0.00282 % | ✓ | |
| | 033-001-00-X | 231-148-6 | 7440-38-2 | | | | | | | | | |
| 10 | granulated copper; [particle length: from 0,9 mm to 6,0 mm; particle width: from 0,494 to 0,949 mm] | | | | 35 | mg/kg | | 30.8 | mg/kg | 0.00308 % | ✓ | |
| | 029-024-00-X | 231-159-6 | 7440-50-8 | | | | | | | | | |
| 11 | mercury { mercury } | | | | <0.1 | mg/kg | | <0.1 | mg/kg | <0.00001 % | | <LOD |
| | 080-001-00-0 | 231-106-7 | 7439-97-6 | | | | | | | | | |
| 12 | nickel { nickel(II) oxide (nickel monoxide) } | | | | 39 | mg/kg | 1.273 | 43.675 | mg/kg | 0.00437 % | ✓ | |
| | 028-003-00-2 | 215-215-7 [1] 234-323-5 [2] - [3] | 1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3] | | | | | | | | | |
| 13 | lead { lead compounds with the exception of those specified elsewhere in this Annex } | | | 1 | 17 | mg/kg | | 14.96 | mg/kg | 0.0015 % | ✓ | |
| | 082-001-00-6 | | | | | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|----|--|-----------|------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 14 | selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } | | | | 0.37 mg/kg | 1.405 | 0.457 mg/kg | 0.0000457 % | ✓ | |
| | 034-002-00-8 | | | | | | | | | |
| 15 | zinc { zinc oxide } | | | | 71 mg/kg | 1.245 | 77.77 mg/kg | 0.00778 % | ✓ | |
| | 030-013-00-7 | 215-222-5 | 1314-13-2 | | | | | | | |
| 16 | chromium in chromium(VI) compounds { chromium(VI) oxide } | | | | <0.5 mg/kg | 1.923 | <0.962 mg/kg | <0.0000962 % | | <LOD |
| | 024-001-00-0 | 215-607-8 | 1333-82-0 | | | | | | | |
| 17 | chromium in chromium(III) compounds { chromium(III) oxide } | | | | 36 mg/kg | 1.462 | 46.302 mg/kg | 0.00463 % | ✓ | |
| | | 215-160-9 | 1308-38-9 | | | | | | | |
| 18 | TPH (C6 to C40) petroleum group | | | | <10 mg/kg | | <10 mg/kg | <0.001 % | | <LOD |
| | | | TPH | | | | | | | |
| 19 | benzene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-020-00-8 | 200-753-7 | 71-43-2 | | | | | | | |
| 20 | toluene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-021-00-3 | 203-625-9 | 108-88-3 | | | | | | | |
| 21 | ethylbenzene | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 601-023-00-4 | 202-849-4 | 100-41-4 | | | | | | | |
| 22 | tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane | | | | <1 µg/kg | | <0.001 mg/kg | <0.0000001 % | | <LOD |
| | 603-181-00-X | 216-653-1 | 1634-04-4 | | | | | | | |
| 23 | naphthalene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-052-00-2 | 202-049-5 | 91-20-3 | | | | | | | |
| 24 | acenaphthylene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-917-1 | 208-96-8 | | | | | | | |
| 25 | acenaphthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-469-6 | 83-32-9 | | | | | | | |
| 26 | fluorene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-695-5 | 86-73-7 | | | | | | | |
| 27 | phenanthrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 201-581-5 | 85-01-8 | | | | | | | |
| 28 | anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 204-371-1 | 120-12-7 | | | | | | | |
| 29 | fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-912-4 | 206-44-0 | | | | | | | |
| 30 | pyrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 204-927-3 | 129-00-0 | | | | | | | |
| 31 | benzo[a]anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-033-00-9 | 200-280-6 | 56-55-3 | | | | | | | |
| 32 | chrysene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-048-00-0 | 205-923-4 | 218-01-9 | | | | | | | |
| 33 | benzo[b]fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-034-00-4 | 205-911-9 | 205-99-2 | | | | | | | |
| 34 | benzo[k]fluoranthene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-036-00-5 | 205-916-6 | 207-08-9 | | | | | | | |
| 35 | benzo[a]pyrene; benzo[def]chrysene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-032-00-3 | 200-028-5 | 50-32-8 | | | | | | | |
| 36 | indeno[123-cd]pyrene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-893-2 | 193-39-5 | | | | | | | |
| 37 | dibenz[a,h]anthracene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 601-041-00-2 | 200-181-8 | 53-70-3 | | | | | | | |
| 38 | benzo[ghi]perylene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-883-8 | 191-24-2 | | | | | | | |
| 39 | coronene | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | 205-881-7 | 191-07-1 | | | | | | | |
| 40 | monohydric phenols | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | | | P1186 | | | | | | | |



| # | Determinand | | | CLP Note | User entered data | Conv. Factor | Compound conc. | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------|---------------|---------------|----------|-------------------|--------------|----------------|----------------------|------------|----------------|
| | CLP index number | EC Number | CAS Number | | | | | | | |
| 41 | xylene | | | | <2 µg/kg | | <0.002 mg/kg | <0.0000002 % | | <LOD |
| | 601-022-00-9 | 202-422-2 [1] | 95-47-6 [1] | | | | | | | |
| | | 203-396-5 [2] | 106-42-3 [2] | | | | | | | |
| | | 203-576-3 [3] | 108-38-3 [3] | | | | | | | |
| | | 215-535-7 [4] | 1330-20-7 [4] | | | | | | | |
| 42 | ● polychlorobiphenyls; PCB | | | | <0.1 mg/kg | | <0.1 mg/kg | <0.00001 % | | <LOD |
| | 602-039-00-4 | 215-648-1 | 1336-36-3 | | | | | | | |
| Total: | | | | | | | | 0.0302 % | | |

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) | % | 0.38 | 3 | 5 |
| 2 | LOI (loss on ignition) | % | 3.9 | - | - |
| 3 | BTEX (benzene, toluene, ethylbenzene and xylenes) | mg/kg | <0.01 | 6 | - |
| 4 | PCBs (polychlorinated biphenyls, 7 congeners) | mg/kg | <0.1 | 1 | - |
| 5 | Mineral oil (C10 to C40) | mg/kg | <10 | 500 | - |
| 6 | PAHs (polycyclic aromatic hydrocarbons) | mg/kg | <2 | 100 | - |
| 7 | pH | pH | 7.6 | - | >6 |
| 8 | ANC (acid neutralisation capacity) | mol/kg | <0.002 | - | - |
| Eluate Analysis 10:1 | | | | | |
| 9 | arsenic | mg/kg | <0.0002 | 0.5 | 2 |
| 10 | barium | mg/kg | <0.0005 | 20 | 100 |
| 11 | cadmium | mg/kg | <0.0001 | 0.04 | 1 |
| 12 | chromium | mg/kg | <0.0005 | 0.5 | 10 |
| 13 | copper | mg/kg | <0.0005 | 2 | 50 |
| 14 | mercury | mg/kg | <5.0e-05 | 0.01 | 0.2 |
| 15 | molybdenum | mg/kg | 0.0078 | 0.5 | 10 |
| 16 | nickel | mg/kg | <0.0005 | 0.4 | 10 |
| 17 | lead | mg/kg | <0.0005 | 0.5 | 10 |
| 18 | antimony | mg/kg | <0.0005 | 0.06 | 0.7 |
| 19 | selenium | mg/kg | <0.0005 | 0.1 | 0.5 |
| 20 | zinc | mg/kg | <0.0025 | 4 | 50 |
| 21 | chloride | mg/kg | 10 | 800 | 15,000 |
| 22 | fluoride | mg/kg | <1 | 10 | 150 |
| 23 | sulphate | mg/kg | 48 | 1,000 | 20,000 |
| 24 | phenol index | mg/kg | <0.3 | 1 | - |
| 25 | DOC (dissolved organic carbon) | mg/kg | <50 | 500 | 800 |
| 26 | TDS (total dissolved solids) | mg/kg | 220 | 4,000 | 60,000 |

Key

User supplied data



Appendix A: Classifier defined and non CLP determinands

• pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

• salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

CLP index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

• barium oxide (EC Number: 215-127-9, CAS Number: 1304-28-5)

Description/Comments: Data from ECHA's C&L Inventory Database, Sigma Aldrich SDS dated 6/2/20
Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/88825>
Data source date: 02 Apr 2020
Hazard Statements: Acute Tox. 3 H301 , Skin Corr. 1B H314 , Eye Dam. 1 H318 , Acute Tox. 1 H332

arsenic (EC Number: 231-148-6, CAS Number: 7440-38-2)

CLP index number: 033-001-00-X
Description/Comments: Worst Case: IARC considers arsenic Group 1; Carcinogenic to humans
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
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

• lead compounds with the exception of those specified elsewhere in this Annex

CLP index number: 082-001-00-6
Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following CLP protocols, considers many simple lead compounds to be Carcinogenic category 2
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
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 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

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

Description/Comments: Data from ECHA's C&L inventory database
Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>
Data source date: 30 Apr 2020
Hazard Statements: Acute Tox. 4 H302 , Skin Sens. 1 H317 , Eye Irrit. 2 H319

• 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

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

CLP index number: 601-023-00-4
Description/Comments:
Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)
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



• **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

• **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



• **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

Hazard Statements: Acute Tox. 3 H301 , Acute Tox. 3 H311 , Acute Tox. 3 H331 , Skin Corr. 1B H314 , Skin Corr. 1B H314 >= 3 % , Skin Irrit. 2 H315 1 £ conc. < 3 % , Eye Irrit. 2 H319 1 £ conc. < 3 % , Muta. 2 H341 , STOT RE 2 H373 , Aquatic Chronic 2 H411

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

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.

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

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

Appendix B: Rationale for selection of metal species

boron {diboron trioxide; boric oxide}

Diboron trioxide used as the most hazardous species.

sulfur {sulfur}

chemtest reports Elemental sulfur using this CAS

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Available species

barium {barium oxide}

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

cadmium {cadmium oxide}

Chromium VII at limits of detection. Cadmium oxide used as the next most hazardous species. No chromate present.

molybdenum {molybdenum(VI) oxide}

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

antimony {antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex}

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

arsenic {arsenic}

Worst Case Scenario

mercury {mercury}

Worst case CLP species based on hazard statements/molecular weight

nickel {nickel(II) oxide (nickel monoxide)}

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

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Chromium VI at limits of detection. Lead compounds 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 oxide}

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

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

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

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

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



Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.1, May 2018**
HazWasteOnline Classification Engine Version: 2021.162.4804.9151 (21 Jun 2021)
HazWasteOnline Database: 2021.162.4804.9151 (21 Jun 2021)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018

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 2019 - UK: 2019 No. 720 of 27th March 2019

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

POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019



Final Report

Report No.: 21-20943-1
Initial Date of Issue: 24-Jun-2021
Client: Site Investigations Ltd
Client Address: The Grange12th, Lock Road
Lucan
Co Dublin
IRELAND
Contact(s): Stephen Letch
Project: 5851 Gorey Hill
Quotation No.: **Date Received:** 18-Jun-2021
Order No.: 34/A/21 **Date Instructed:** 18-Jun-2021
No. of Samples: 8
Turnaround (Wkdays): 5 **Results Due:** 24-Jun-2021
Date Approved: 24-Jun-2021

Approved By:

Details: Glynn Harvey, Technical Manager

Results - Soil

Project: 5851 Gorey Hill

| Client: Site Investigations Ltd | | Chemtest Job No.: | | 21-20943 | | 21-20943 | | 21-20943 | | 21-20943 | | 21-20943 | | 21-20943 | |
|--|--|-----------------------------|--|--------------------|--|--------------------|--|--------------------|--|--------------------|--|--------------------|--|--------------------|--|
| Quotation No.: | | Chemtest Sample ID.: | | 1224570 | | 1224571 | | 1224572 | | 1224573 | | 1224574 | | 1224575 | |
| Order No.: | | Client Sample Ref.: | | TP02 | | TP03 | | TP04 | | TP5 | | TP06 | | TP07 | |
| 34/A/21 | | MK 27 | | MK 03 | | MK 24 | | MK 14 | | MK 06 | | MK 21 | | MK 10 | |
| | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | | Sample Type: | | 1.0 | | 1.8 | | 1.5 | | 1.0 | | 1.5 | | 1.0 | |
| | | Top Depth (m): | | 1.0 | | 1.8 | | 1.5 | | 1.0 | | 1.5 | | 1.0 | |
| | | Bottom Depth (m): | | 1.0 | | 1.8 | | 1.5 | | 1.0 | | 1.5 | | 1.0 | |
| | | Date Sampled: | | 16-Jun-2021 | | 16-Jun-2021 | | 16-Jun-2021 | | 16-Jun-2021 | | 16-Jun-2021 | | 16-Jun-2021 | |
| | | Accred. | | SOP | | Units | | LOD | | | | | | | |
| | | N | | 2030 | | % | | 0.020 | | 11 | | 8.7 | | 11 | |
| | | U | | [E] 2.0 | | [E] 2.5 | | [E] 0.42 | | [E] 1.1 | | [E] 1.1 | | [E] 8.7 | |
| | | N | | 2620 | | % | | 0.10 | | 61 | | 24 | | 15 | |
| Determinand | | | | | | | | | | | | | | | |
| Moisture | | | | | | | | | | | | | | | |
| Loss on Ignition 440 (Fines) | | | | | | | | | | | | | | | |
| Group 1 & 2 Material > 20mm | | | | | | | | | | | | | | | |

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

| Sample: | Sample Ref: | Sample ID: | Sample Location: | Sampled Date: | Deviation Code(s): | Containers Received: |
|----------------|--------------------|-------------------|-------------------------|----------------------|---------------------------|-----------------------------|
| 1224569 | TP01 | MK 27 | | 16-Jun-2021 | E | Plastic Tub 500g |
| 1224570 | TP02 | MK 03 | | 16-Jun-2021 | E | Plastic Tub 500g |
| 1224571 | TP03 | MK 24 | | 16-Jun-2021 | E | Plastic Tub 500g |
| 1224572 | TP04 | MK 14 | | 16-Jun-2021 | E | Plastic Tub 500g |
| 1224573 | TP5 | MK 06 | | 16-Jun-2021 | E | Plastic Tub 500g |
| 1224574 | TP06 | MK 21 | | 16-Jun-2021 | E | Plastic Tub 500g |
| 1224575 | TP07 | MK 10 | | 16-Jun-2021 | E | Plastic Tub 500g |
| 1224576 | TP08 | MK 18 | | 16-Jun-2021 | E | Plastic Tub 500g |

Test Methods

| SOP | Title | Parameters included | Method summary |
|------------|--|----------------------------|--|
| 2030 | Moisture and Stone Content of Soils(Requirement of MCERTS) | Moisture content | Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C. |
| 2040 | Soil Description(Requirement of MCERTS) | Soil description | As received soil is described based upon BS5930 |
| 2620 | LOI 440 | LOI 440 Trommel Fines | Determination of the proportion by mass that is lost from a soil by ignition at 440°C. |

Report Information

Key

| | |
|-----|---|
| U | UKAS accredited |
| M | MCERTS and UKAS accredited |
| N | Unaccredited |
| S | This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis |
| SN | This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis |
| T | This analysis has been subcontracted to an unaccredited laboratory |
| I/S | Insufficient Sample |
| U/S | Unsuitable Sample |
| N/E | not evaluated |
| < | "less than" |
| > | "greater than" |
| SOP | Standard operating procedure |
| LOD | Limit of detection |

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

Appendix 5
Survey Data

Survey Data

| Location | Irish Transverse Mercator | | Elevation | Irish National Grid | |
|-------------------|---------------------------|------------|-----------|---------------------|------------|
| | Easting | Northing | | Easting | Northing |
| Trial Pits | | | | | |
| TP01 | 713590.283 | 659508.660 | 119.34 | 313664.690 | 159466.052 |
| TP02 | 713669.183 | 659466.412 | 109.53 | 313743.608 | 159423.795 |
| TP03 | 713493.341 | 659306.428 | 119.73 | 313567.728 | 159263.775 |
| TP04 | 713601.218 | 659341.982 | 110.17 | 313675.628 | 159299.337 |
| TP05 | 713680.205 | 659326.329 | 103.76 | 313754.633 | 159283.681 |
| TP06 | 713441.485 | 659188.458 | 116.30 | 313515.860 | 159145.779 |
| TP07 | 713654.958 | 659207.691 | 103.83 | 313729.381 | 159165.017 |
| TP08 | 713494.287 | 659094.363 | 106.95 | 313568.675 | 159051.663 |



| | | | | | |
|--|--------------|--------------------|-----------|--------------------------|---|
| | Contract No: | 5861 | Client: | Gerard Gannon Properties | Legend Key Locations By Type - TP |
| | Contract: | Gorey Hill | Engineer: | Waterman Moylan | |
| | Location: | Gorey, Co. Wexford | Scale: | 1:2500 | |
| | Title: | Site Plan | Drawn By: | SL | |

APPENDIX 8.1: DUST MANAGEMENT PLAN

Site management

The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design and effective control strategies. At the construction planning stage, the siting of activities and storage piles will take note of the location of sensitive receptors and prevailing wind directions. As the prevailing wind is predominantly south-westerly, locating construction compounds and storage piles downwind of sensitive receptors will minimise the potential for dust nuisance to occur at sensitive receptors. The Principal Contractor or equivalent must ensure that the proposed mitigation measures are implemented, and that dust impacts and nuisance are minimised.

- It is recommended that community engagement be undertaken before works commence on site explaining the nature and duration of the works to local residents and businesses.
- The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary. A complaints register will be kept on site detailing all sources of complaints received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out.
- Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
- In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed, and satisfactory procedures implemented to rectify the problem.

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site if necessary.
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover or fence stockpiles to prevent wind whipping.

Site roads and operating vehicles / machinery

- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles using unpaved site roads.
- Access gates to the site shall be located at least 10m from sensitive receptors where possible.
- Bowers or suitable watering equipment will be available during periods of dry weather. Watering shall be conducted during sustained dry periods to ensure that unpaved areas are kept moist.

- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.
- Ensure all vehicles switch off engines when stationary.
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.

Site traffic on public roads

- Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered with tarpaulin at all times.
- At the main construction traffic exit, a wheel wash facility shall be installed. All trucks leaving the site must pass through the wheel wash. The wheel wash will be located sufficiently far from the exit to allow trucks to 'drip off' prior to exit. In addition, public roads outside the site shall be regularly inspected for cleanliness and cleaned as necessary.
- Vehicles onsite shall turn off engines when not in use to prevent idling emissions.

Onsite operations

- Only use cutting, grinding, or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays.
- Ensure an adequate water supply on the site for effective dust / particulate matter suppression.
- Use enclosed chutes and conveyors and covered skips.
- Avoid dry sweeping of large areas.
- Minimise drop heights from conveyors and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event.

Waste management

- Avoid bonfires and burning of waste materials.

Demolition activities

- Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
- Ensure effective water suppression is used during demolition operations.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives.
- Bag and remove any biological debris or damp down such material before demolition.

Earthwork's activities

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Only remove the cover in small areas during work and not all at once.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser or similar will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust.

Construction activities

- Ensure aggregates are stored in bunded areas and are not allowed to dry out unless this is required for a particular process.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in with suitable emission control systems to prevent escape of material and overfilling during delivery.
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately.
- During periods of very high winds (gales), construction activities likely to generate significant dust emissions should be postponed until the gale has subsided.

APPENDIX 11.1: VERIFIED VIEWS/PHOTOMONTAGES

Kilnahue Gorey

Method Statement - Photo-montage production.

1. Photographs are taken from locations as advised by client with a full frame SLR digital camera and prime lens. The photographs are taken horizontally with a survey level attached to the camera. The photographic positions are marked (for later surveying), the height of the camera and the focal length of the image recorded.
2. In each photograph, a minimum of 3no. visible fixed points are marked for surveying. These are control points for model alignment within the photograph. All surveying is carried out by a qualified topographical surveyor using Total Station / GPS devices.
3. The photographic positions and the control points are geographically surveyed and this survey is tied in to the site topographical survey supplied by the Architect / client.
4. The buildings are accurately modelled in 3D cad software from cad drawings supplied by the Architect. Material finishes are applied to the 3D model and scene element are place like trees and planting to represent the proposed landscaping.
5. Virtual 3D cameras are positioned according to the survey co-ordinates and the focal length is set to match the photograph. Pitch and rotation are adjusted using the survey control points to align the virtual camera to the photograph. Lighting is set to match the time of day the photograph is taken.
6. The proposed development is output from the 3D software using this camera and the image is then blended with the original photograph to give an accurate image of what the proposed development will look like in its proposed setting.
7. In the event of the development not being visible, the roof line of the development will be outlined in red if re-quested.
8. The document contains:
 - a) Site location map with view locations plotted.
 - b) Photo-montage sheet with existing or proposed conditions.
 - c) Reference information including field of view/focal length, range to site / development, date of photograph.





View Location Map

This map is for view location purposes only. Please refer to Architects drawings for site layout and redline boundary.



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 1 Existing | 27/08/21 | 74° | 24mm | 1492.79m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 1 Proposed | 27/08/21 | 74° | 24mm | 1492.79m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 2 Existing | 27/08/21 | 74° | 24mm | 1605.75m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 2 Proposed | 27/08/21 | 74° | 24mm | 1605.75m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 3 Existing | 27/08/21 | 74° | 24mm | 866.52m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 3 Proposed | 27/08/21 | 74° | 24mm | 866.52m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 4 Existing | 27/08/21 | 74° | 24mm | 355.11m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 4 Proposed | 27/08/21 | 74° | 24mm | 355.11m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 5 Existing | 27/08/21 | 74° | 24mm | 2790.69m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 5 Proposed | 27/08/21 | 74° | 24mm | 2790.69m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 6 Existing | 27/08/21 | 74° | 24mm | 1473.46m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 6 Proposed | 27/08/21 | 74° | 24mm | 1473.46m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 7 Existing | 27/08/21 | 74° | 24mm | 1418.04m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 7 Proposed | 27/08/21 | 74° | 24mm | 1418.04m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 8 Existing | 27/08/21 | 74° | 24mm | 271.97m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 8 Proposed | 27/08/21 | 74° | 24mm | 271.97m | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 9 Existing | 27/08/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|-----------------|----------|---------------|-----------------|------------------|---------------|
| View 9 Proposed | 27/08/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|------------------|----------|---------------|-----------------|------------------|---------------|
| View 10 Existing | 27/08/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|------------------|----------|---------------|-----------------|------------------|---------------|
| View 10 Proposed | 27/08/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|------------------|----------|---------------|-----------------|------------------|---------------|
| View 11 Existing | 27/08/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|------------------|----------|---------------|-----------------|------------------|---------------|
| View 11 Proposed | 27/08/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|------------------|----------|---------------|-----------------|------------------|---------------|
| View 12 Existing | 01/09/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|------------------|----------|---------------|-----------------|------------------|---------------|
| View 12 Proposed | 01/09/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|------------------|----------|---------------|-----------------|------------------|---------------|
| View 13 Existing | 01/09/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |



| Location | Date | Field of view | 35mm equivalent | Distance to site | Camera model |
|------------------|----------|---------------|-----------------|------------------|---------------|
| View 13 Proposed | 01/09/21 | 74° | 24mm | Within Redline | Canon EOS 5DS |

APPENDIX 12.1: TRAFFIC SURVEY

IDASO
Innovative Data Solutions



Idaso Ltd
National Science Park,
Dublin Road, Mullingar,
Co Westmeath, Ireland

Office
Ph: +353 (0) 4493 15019
Email: info@idaso.ie

 www.idaso.ie

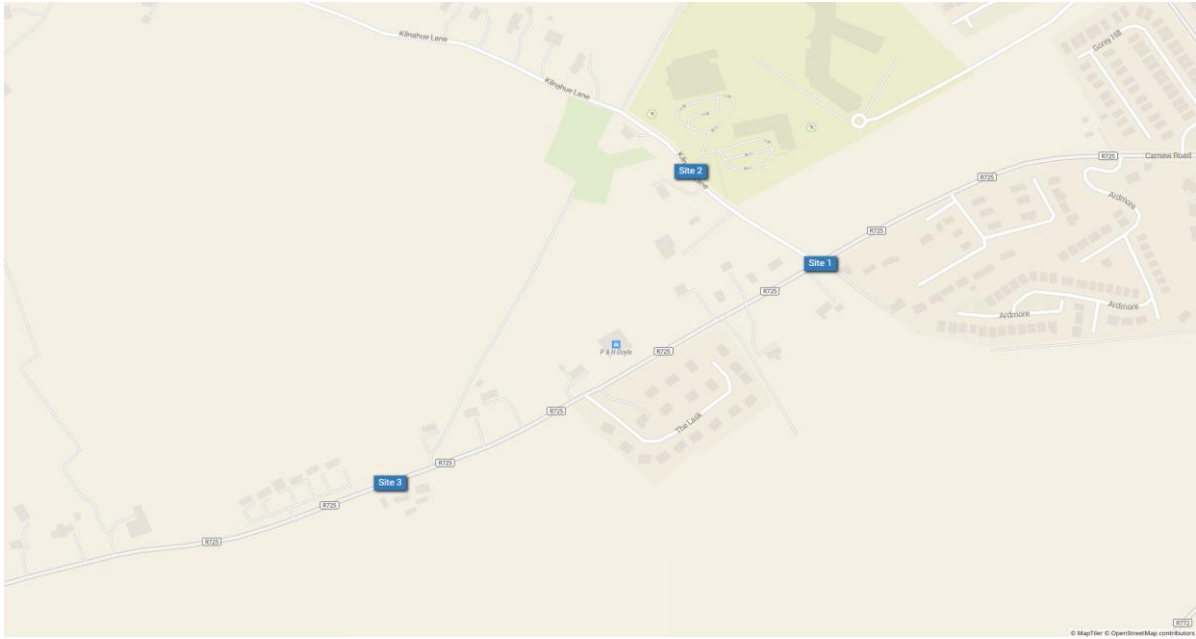
Data Analysis Services
Traffic Transportation - Commercial Innovation

159 21348 Carnew

with compliments

IDASO

Survey Name: 159 21348 Carnew
Date: Thu 07 Oct 2021





IDASO

Survey Name: 159 21348 Carnew
Site: S10
Location: R725 Carnew Road / Kinahue Lane
Date: Thu 07-Oct-2021

Table with 44 columns: TIME, P/C, M/C, CAR, TAXI, LGV, OGV1, OGV2, PSV, TOT, PCU, P/C, M/C, CAR, TAXI, LGV, OGV1, OGV2, PSV, TOT, PCU, P/C, M/C, CAR, TAXI, LGV, OGV1, OGV2, PSV, TOT, PCU, P/C, M/C, CAR, TAXI, LGV, OGV1, OGV2, PSV, TOT, PCU, P/C, M/C, CAR, TAXI, LGV, OGV1, OGV2, PSV, TOT, PCU. The table contains data for various time intervals from 00:00 to 24:00.



IDASO

Survey Name: 159 21348 Carnew
Site: 2
Location: Kinahue Lane / Access Road to School Site
Date: Thu 07-Oct-2021

Table with columns for TIME, A=>A, A=>B, and A=>C. Each section contains sub-columns for P/C, M/C, CAR, TAXI, LGV, OGV1, OGV2, PSV, and TOT. The table lists data for every 15-minute interval from 00:00 to 24:00.



IDASO

Survey Name: 159 21348 Carnew
Site: S16
Location: Unnamed Rd/R725 Carnew Rd
Date: Thu 07-Oct-2021

Table with columns for TIME, mode (P/C, M/C, CAR, TAXI, LGV, OGV1, OGV2, PSV), and direction (A=>A, A=>B, A=>C). Rows represent 15-minute intervals from 00:00 to 24:00. The final row shows a total count of 1 for each direction.

