CHAPTER 6

LAND, SOILS, GEOLOGY & HYDROGEOLOGY

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6.0 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY

6.1 INTRODUCTION

6.1 This chapter assesses and evaluates the potential impacts of the development on the land, soil, geological and hydrogeological aspects of the site and surrounding area. In assessing likely potential and predicted effects, account is taken of both the importance of the attributes and the predicted scale and duration of the likely effects.

6.2 METHODOLOGY

6.2.1 Criteria for rating of effects

6.2 This chapter evaluates the effects, if any, which the proposed development will have on Land, Soils, Geology and Hydrogeology as defined in the Environmental Protection Agency (EPA) 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA, 2022). The Draft EPA document entitled 'Advice Notes for Preparing Environmental Impact Statements' (EPA, 2015) is also followed in this geological and hydrogeological assessment and classification of environmental effects. Due consideration is also given to the guidelines provided by the Institute of Geologists of Ireland (IGI) in the document entitled Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements' (IGI 2013). In addition, the document entitled 'Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' by the National Roads Authority (NRA, 2009) is referenced where the methodology for assessment of impact is appropriate.

6.3 The rating of potential environmental effects on the land, soil, geological and hydrogeological environment is based on the standard EIAR impact predictions table included in Chapter 1 which takes account of the quality, significance, duration and type of effect characteristic identified (in accordance with impact assessment criteria provided in the EPA Guidelines (2022) publication).

6.4 The duration of each effect is considered to be either momentary, brief, temporary, short-term, medium term, long-term, or permanent. Momentary effects are considered to be those that last from seconds to minutes. Brief effects are those that last less than a day. Temporary effects are considered to be those which are construction related and last less than one year. Short term effects are seen as effects lasting one to seven years; medium-term effects lasting seven to fifteen years; long-term effects lasting fifteen to sixty years; and permanent effects lasting over sixty years.

6.5 The TII criteria for rating the magnitude and significance of impacts on the geological related attributes and the importance of hydrogeological attributes at the site during the EIA stage are also relevant in assessing the impact and are presented in Tables 1-5 in Appendix 6.1.

6.6 The principal attributes (and effects) to be assessed include the following:

- Geological heritage sites in the vicinity of the perimeter of the subject site;
- Landfills, industrial sites in the vicinity of the site and the potential risk of encountering contaminated ground;

- The quality, drainage characteristics and range of agricultural uses of soil around the site;
- Quarries or mines in the vicinity, the potential implications (if any) for existing activities and extractable reserves;
- The extent of topsoil and subsoil cover and the potential use of this material on site as well or requirement to remove it off-site as waste for disposal or recovery;
- High-yielding water supply springs/ wells in the vicinity of the site to within a 2km radius and the potential for increased risk presented by the proposed development;
- Classification (regionally important, locally important etc.) and extent of aquifers underlying the site perimeter area and increased risks presented to them by the proposed development associated with aspects such as for example removal of subsoil cover, removal of aquifer (in whole or part), drawdown in water levels, alteration in established flow regimes, change in groundwater quality;
- Natural hydrogeological/karst features in the area and potential for increased risk presented by the activities at the site; and
- Groundwater-fed ecosystems and the increased risk presented by operations both spatially and temporally.

6.2.2 Sources of Information

6.7 Desk-based geological information on the substrata (both Quaternary deposits and bedrock geology) underlying the extent of the site was obtained through accessing databases and other archives where available. Data was sourced from the following:

- Geological Survey of Ireland (GSI) - on-line mapping, Geo-hazard Database, Geological Heritage Sites & Sites of Special Scientific Interest, Bedrock Memoirs and 1: 100,000 mapping;
- Teagasc soil and subsoil database;
- Ordnance Survey Ireland - aerial photographs and historical mapping;
- Environmental Protection Agency (EPA) – website mapping and database information;
- National Parks and Wildlife Services (NPWS) – Protected Site Register; and
- Dublin County Council - illegal landfill information.

6.8 Site specific data was derived from the following sources:

- Ground Investigations Ireland (GII). Waste Classification Report. Santry Development (May 2019);
- Outline Construction Environmental Management Plan (CEMP), included in this application;
- Resource and Waste Management Plan (RWMP). Residential Development, Lands Northwest of Omni Park Shopping Centre, Swords Road, Santry, Dublin 9. EirEng Consulting Engineers (August 2021);
- Various design site plans and drawings; and
- Consultation with site engineers.

6.3 RECEIVING ENVIRONMENT

6.9 The receiving environment is discussed in terms of land geology, soils, hydrogeology and site history including potential for existing and historical contamination.

6.3.1 General Description of the Site

6.10 The site is located to the north west corner of the Omni Park Shopping Centre, Santry and at Santry Hall Industrial Estate, Swords Road, Dublin 9 D09FX31 and D09HC84. The site is bounded on the north by an existing industrial estate, on the west by residential houses, and on the south and east by the Omni Park Shopping Centre development.

6.11 The proposed development will consist of the demolition of all existing buildings on site and the construction of a mixed-use development comprised mainly of residential apartments with commercial, cheche, community and amenity spaces located at ground floor. An underground basement will provide car parking as well as plant rooms and lifts to service the development (Refer to Figure 6.1 below).

6.12 The site falls from the east (c. 59.5m AOD) to west (c. 56.6m AOD). There are no watercourses at the site or in the immediate vicinity of the site. According to the EPA river network (EPA maps, https://gis.epa.ie/EPAMaps/ accessed on 16-08-2021), the nearest watercourse to the site is the Santry River which resides c. 1 Km to the north of the site (refer to Figure 6.1 below). However, the site lies within the Tolka River sub-catchment (refer to Chapter 7 for further details); the Tolka River is located c.2.5 Km to the south. The Dublin Bay coastal waterbody is the nearest water receptor and is located c. 9 Km southeast of the proposed development.

Figure 6.1 *Site Location (Indicative site boundary in red)*

6.3.2 Site Investigation

6.13 Site investigations were carried out by GII during April 2019. These investigations included the following:

- Excavation of fourteen (14 No.) Window sample boreholes to a maximum depth of 2.9 mbgl (metres below ground level);
- Collection of subsoil samples for chemical analysis;
- Environmental laboratory testing.
- Waste classification; and
- Assessment of subsoil quality against human health Generic Assessment Criteria (GAC).

6.14 Window sample borehole logs are included in Appendix 6.2, which includes a description of the lithologies observed in each excavation. Samples were collected from the arisings from all of the window samples. Appendix 6.2 presents the GII report which includes all soil analytical test results. The full analytical laboratory reports are also presented in Appendix 6.2.

6.15 The locations of window sample boreholes are presented Figure 6.2 below.

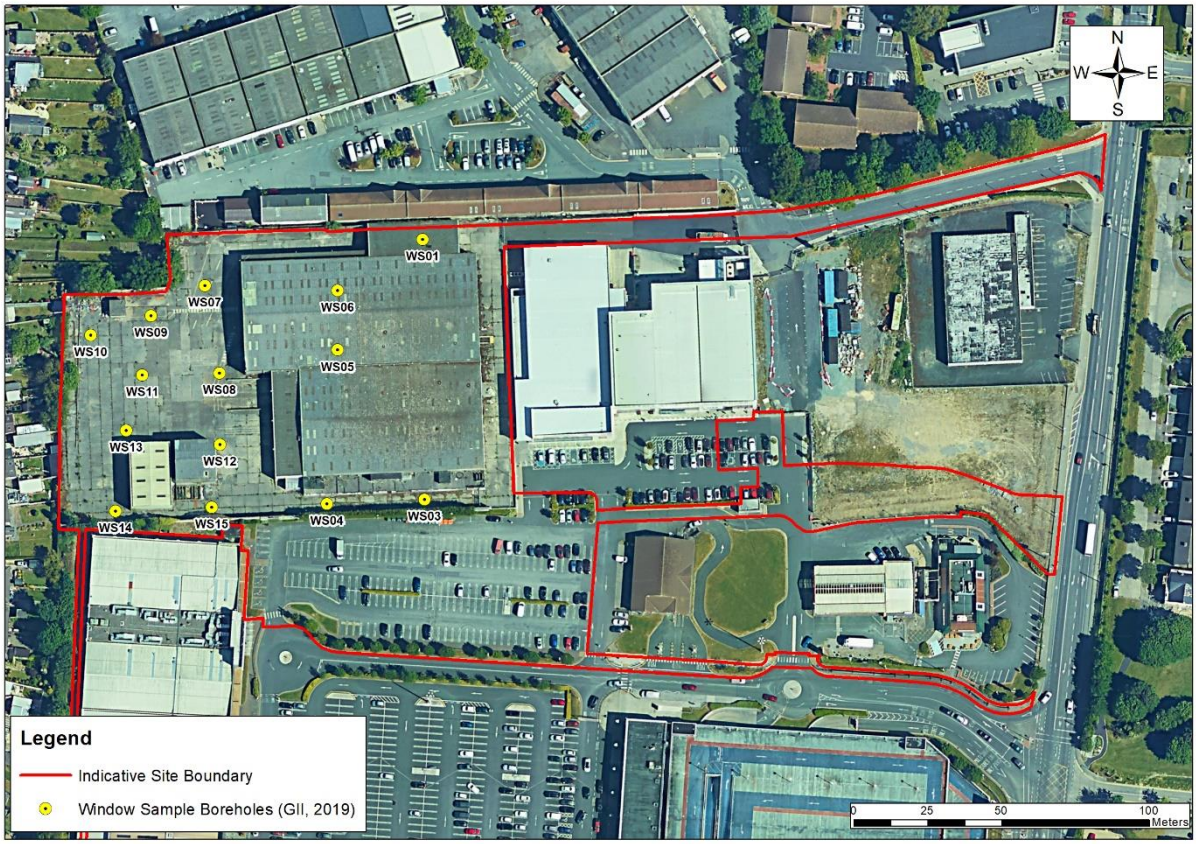

Figure 6.2 *Site Investigation Points (GII, 2019)*

6.3.3 Land Use

6.16 According to Historical Ordnance Survey (O.S) maps, a private estate identified as Santry Hall previously occupied the eastern part of the site on all historical maps. Aerial photograph records indicates that the site had been developed since at least 1995.

6.17 Refer to Figure 6.3 and Figure 6.4 which both include available O.S. maps from 1830 (the historic 6" maps) and 1900 from the historic 25" maps, respectively. The buildings which currently occupy the site are identifiable on the aerial photograph record since 1995 (refer to Figure 6.5 below).

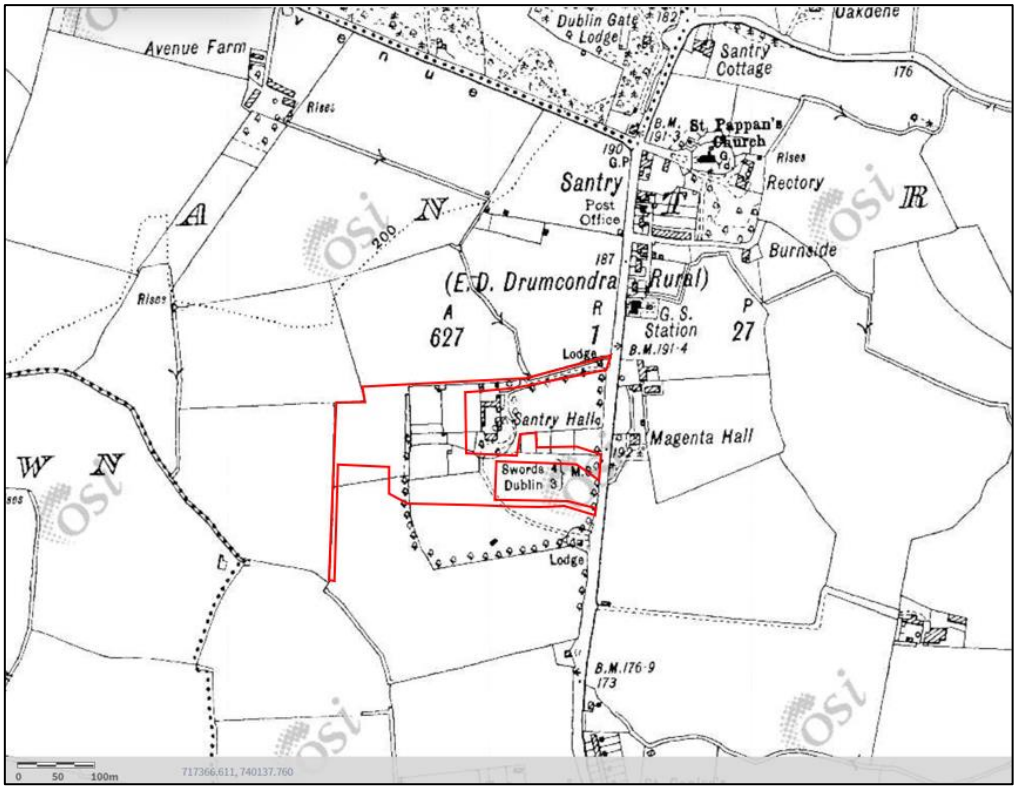

Figure 6.3 *Historic 6" mapping. Site Outline indicative only (Source: OSi, 2022)*

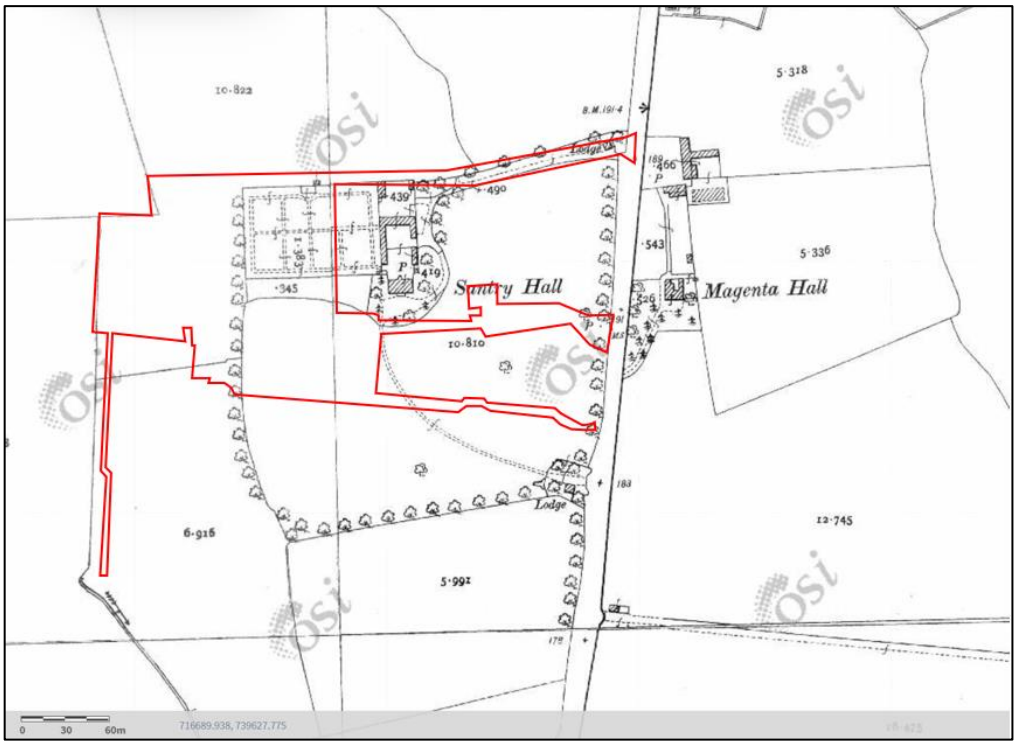

Figure 6.4 *Historic 1888-1913 mapping. Site Outline indicative only (Source: OSi, 2022)*

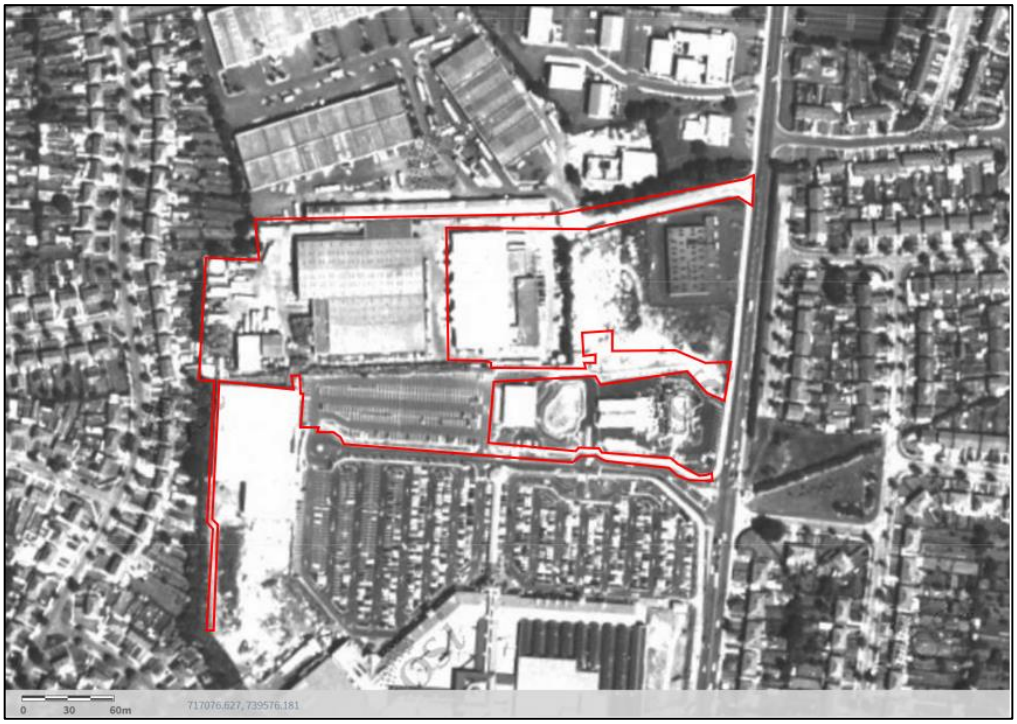

Figure 6.5 *Aerial 1995 Map. Site Outline indicative only (Source: OSi, 2022)*

6.18 According to the EPA records, there are no active IEL or IPPC licensed facilities within a radius of 700 m. The IPPC Licence No. P0278-01 associated to the operations of Computer Plating Specialists Limited was identified in Santry Avenue Industrial Estate (c. 200 to the north of the subject site). However, this licence was surrendered in 1998.

6.19 Consultation with Fingal County Council have confirmed that there are no known illegal/historic landfills within 500 metres of the site.

6.3.4 Soils

6.20 The GSI/ Tegasc mapping shows that the soil type beneath the local area is composed of Made Ground which is consistent with urban environment surrounding the subject site (refer to Figure 6.6 below).

Figure 6.6 *Soils Map (Source: Teagasc, 2022)*

6.3.5 Subsoils

6.21 The Quaternary geological period extends from about 1.5 million years ago to the present day and can be sub-divided into the Pleistocene Epoch, which covers the Ice Age period, and which extended up to 10,000 years ago and the Holocene Epoch, which extends from that time to the present day.

6.22 The GSI/ Teagasc mapping database of the subsoils in the area of the subject site indicates one principal soil type, as shown in Figure 6.7 below. The subsoil type present across the site is:

- LIMESTONE till Carboniferous (TLs). The whole subject site is composed of limestone TILL. This till is made up of glacial CLAYs which are less permeable than alluvium subsoils.

Figure 6.7 *Subsoils Map (Source: GSI, 2022)*

6.23 As mentioned above, GII undertook an environmental site investigation in 2019 at the subject site to establish the shallow soil conditions. The sequence of strata encountered were consistent across the site and are generally comprised;

- TOP SOIL: Reinforced Concrete was encountered in all the exploratory holes and was present to a depth of 0.13 to 0.30 mbgl.
- MADE GROUND: Made ground was encountered beneath the surfacing and was present to a depth of between 0.5mbgl and 2.5mbgl and was typically described as sandy gravelly Clay with varying levels of anthropogenic materials including plastics, redbrick, glass, ceramics, mortar and charcoal fragments. The made ground deposits were shallowest at the eastern end of the site with the deepest sequence of made ground encountered in the south western section of the site.
- COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as sandy gravelly CLAY with occasional cobbles. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. This strata was encountered to the maximum depth explored (i.e., 2.9 mbgl).

6.24 Neither groundwater nor perched water were encountered during the excavation works. Refer to Figure 6.2 above for locations of trial pits and boreholes. Further details can be observed in Appendix 6.2.

6.3.6 Bedrock Geology

6.25 Mapping from the Geological Society of Ireland (GSI maps, http://www.gsi.ie) indicates the bedrock underlying the site is part of the Lucan Formation (code CDLUCN) and made up of dark limestone and shale (Calp). The lithological description comprises dark-grey to black, fine-grained, occasionally cherty, micritic limestones that weather paler, usually to pale grey. There are rare dark coarser grained calcarenitic limestones, sometimes graded, and interbedded dark-grey calcar. The beds are predominantly fine-grained distal turbidites in the north Dublin Basin. The formation is intermittently exposed on the coast between Rush and Drumanagh Head. The formation ranges from 300m to 800m in thickness. There are no geological faults indicated in the study area (refer to Figure 6.8 below).

Figure 6.8 *Bedrock Geology Map (Source: GSI, 2022)*

6.26 Bedrock was not encountered in any of the window sample boreholes undertaken by GII in 2019, which had a maximum exploration depth of 2.9 mbgl. The GSI geotechnical map presents a database of geotechnical boreholes across Ireland. In the wider area of the subject site, it shows a number of boreholes that have not encountered bedrock to depths much deeper than the GII window sample boreholes:

- Borehole located at N1 (c. 350 m to the east of the subject site): 28 mbgl;
- Borehole next to R104 (c.470 m to the northeast): 18 mbgl;
- A group of boreholes along Santry Avenue (c. 900 m to the northwest): up to 6.5 mbgl
- A borehole also located at N1 (c. 730 m to the southwest) did encounter bedrock at a depth of 29 mbgl

6.3.7 Regional Hydrogeology

6.27 The GSI has devised a system for classifying the bedrock aquifers in Ireland. The aquifer classification for bedrock depends on a number of parameters including, the area extent of the aquifer (km^2), well yield (m^3/d), specific capacity ($m^3/d/m$) and groundwater transmissivity (mm^3/d). There are three main classifications: regionally important, locally important and poor aquifers. Where an aquifer has been classified as regionally important, it is further subdivided according to the main groundwater flow regime within it. This sub-division includes regionally important fissured aquifers (Rf) and regionally important karstified aquifers (Rk). Locally important aquifers are sub-divided into those that are generally moderately productive (Lm) and those that are generally moderately productive only in local zones (Ll). Similarly, poor aquifers are classed as either generally unproductive except for local zones (Pl) or generally unproductive (Pu).

6.28 The bedrock aquifers underlying the subject site according to the GSI National Draft Bedrock Aquifer Map are classified dark-grey, calcareous, commonly bioturbated mudstones and subordinate thin micritic limestones. GSI mapping has shown the site overlies a Locally Important Aquifer (LI) which is moderately productive only in Local Zones (refer to Figure 6.9 below). The proposed development is within the 'Dublin' groundwater body and is classified as 'Poorly productive bedrock'.

Figure 6.9 *Aquifer Classification Map (Source: GSI, 2022)*

6.3.8 Aquifer Vulnerability

6.29 Aquifer vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated generally by human activities. Due to the nature of the flow of

groundwater through bedrock in Ireland, which is almost completely through fissures, the main feature that protects groundwater from contamination, and therefore the most important feature in protection of groundwater, is the subsoil (which can consist solely or of mixtures of peat, sand, gravel, glacial till, clays or silts).

6.30 The GSI currently classifies the aquifer vulnerability in the region as 'Low' (L). As can be seen from Table 6.1 below a Low vulnerability with clayey subsoil denotes a depth to bedrock of >10m, indicating good protection of the underlying aquifer by low permeability subsoil.

6.31 The aquifer vulnerability class in the region of the site is presented below as Figure 6.10.

Figure 6.10 *Aquifer Vulnerability Map (Source: GSI, 2022)*

Table 6.1 *Vulnerability Mapping Guidelines (Source: GSI, 2021)*

Vulnerability Rating	Hydrogeological Condition				
	Subsoil Permeability (type) and Thickness			Unsaturated Zone	Karst Features
	High Permeability (sand/gravel)	Moderate Permeability (e.g. sandy subsoil)	Low Permeability (e.g. clayey subsoil, clay, peat)	(Sand/ gravel aquifers only)	(<30 m radius)
Extreme (E)	0 - 3 m	0 - 3 m	0 - 3 m	0 - 3 m	-
High (H)	> 3 m	3 - 10 m	3 - 5 m	> 3 m	n/a
Moderate (M)	n/a	1. > 10 m	5 - 10 m	n/a	n/a
Low (L)	n/a	n/a	> 10 m	n/a	n/a

Notes: (1) n/a: Not applicable

(2) Precise permeability values cannot be given at present

(3) Release point of contaminants is assumed to be 1-2 below ground surface

6.32 According to the GSI geotechnical information, bedrock would be located at depths even deeper than 20 mbgl in the vicinity of the subject site (refer to Section 6.3.6 above), which is consistent with a 'Low' vulnerability classification.

6.3.9 Groundwater Wells and Flow Direction

6.33 The GSI Well Card Index is a record of wells drilled in Ireland, water supply and site investigation boreholes. It is noted that this record is not comprehensive as licensing of wells is not currently a requirement in the Republic of Ireland. This current index does not show any wells drilled or springs at the site or surrounding area with the nearest recorded wells located 1.8 km to the north of the site (Ballystruan, crossing the M50 motorway). The area is serviced by Local Authority mains therefore it is unlikely that any wells are used for potable supply. The site is not located near any public groundwater supplies or group schemes. There are no groundwater source protection zones in the immediate vicinity of the site. The closest is 15 km to the west (Dunboyne PWS) and the proposed site is outside of the zone of contribution of this supply.

6.34 Figure 6.11 below presents the GSI well search for the area surrounding the site (note this source does not include all wells). Regional groundwater flow would most likely be to the east – southeast towards the River Tolka and Dublin Bay.

Figure 6.11 *GSI Well Search Map (Source: GSI, 2022)*

6.3.10 Soil Quality

6.35 There are no legislated threshold values for soils in Ireland. As such soil samples were compared to a Generic Assessment Criteria (GAC) derived to be protective of human health, water bodies (including groundwater) and also ecology for a resident and commercial/industrial end use.

6.36 Generic Assessment Criteria in the UK has been derived using the Contaminated Land Exposure Assessment (CLEA) model to be protective of human health for a number of different land uses. LQM (Land Quality Management) and the CIEH (Chartered Institute of Environmental Health) developed a document in July 2009 detailing their own research and derivation of their own 'LQM GACs'. A total of 82 substances including many organic substances had LQM GACs derived, for the standard land uses of residential, commercial/industrial and allotments. This was updated in 2015 following further research and the derived results are now called LQM/CIEH Suitable 4 Use Level (S4UL). The LQM/CIEH S4ULs are intended for use in assessing the potential risks posed to human health by contaminants in soil and as derived and cautious "trigger values" above which further assessment of the risks or remedial action may be needed. For each contaminant S4ULs have been derived for six land use scenarios based on assessing exposure pathways in each planning scenario. In this instance the commercial scenario has been considered. Soil type and soil organic matter (SOM) has an influence on the behaviour of contaminants. S4ULs have been derived for three SOM contents (1%, 2.5% and 6%) to cover the likely range in soils. A prudent approach has been taken by considering the lower 1% SOM content.

6.37 The UK values do not have any legal standing within the Republic of Ireland and no statutory guidance for assessing the significance of soil contamination currently exists.

However, the values do provide a means of placing the data within context when considering magnitude of risk and have been used in that capacity for this assessment.

6.38 In total, 30 no. soil samples were collected by GII in 2019 and analysed throughout the subject site. Full laboratory result tables for the soil samples are presented in Appendix 6.3. The soil samples were analysed for the following parameters:

- Metals (Sb, As, Ba, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Se and Zn);
- Polychlorinated Biphenyls (PCB);
- Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Waste Acceptance Criteria (WAC) for inert waste landfills in accordance with the 2002 European Landfill Directive (2002/33/EC).
- BTEX compounds (benzene, toluene, ethylbenzene and xylenes) and methyl tert-butyl ether (MTBE);
- Total organic carbon (TOC); and
- Leachable component of a range of organic and inorganic parameters.
- Asbestos.

6.39 The full analytical laboratory report is presented in Appendix 6.2. Soil results were compared to the Generic Assessment Criteria (GAC) concentrations. GACs are soil concentrations that have been derived for a defined set of generic assumptions and are used as trigger values in determining whether further risk management action is required in cases where detailed quantitative risk assessment is not being undertaken. There are no published Generic Assessment Criteria for soils in the Republic of Ireland. Instead reliance is often placed on criteria from the UK and the Netherlands.

6.40 Soil sample analysis are summarised below. Detailed tables are presented in Appendix 6.2 and 6.3. Table 1 in Appendix 6.3 exhibits the soil quality across the site from the 30 no. representative samples taken across the subject site.

Metals

6.41 All metal parameter concentrations recorded values below the most conservative threshold value for the LQM/CIEH for HHRA (Human Health Risk Assessment) Residential and Commercial Threshold at 1% SOM, with the exception of WS15 (at 0-1 mbgl) which recorded 1.5 mg/kg for Mercury and exceeded the Residential threshold value (1.2 mg/kg) but not the Commercial threshold (58 mg/kg). See Appendix 6.3.

Total Petroleum Hydrocarbon Criteria Working Group (TPH CWG)

6.42 All parameters recorded concentrations below the threshold value for the LQM/CIEH for HHRA (Human Health Risk Assessment) for Residential and Commercial use at 1% SOM.

PCBs

6.43 All parameters recorded below the laboratory's LOD for all samples collected across the subject site.

PAHs

6.44 With regard to the Polycyclic Aromatic Hydrocarbons, only the WS15 (at 0.1 mbgl) sample recorded concentration over the LQM/CIEH for HHRA (Human Health Risk Assessment) Residential threshold value for the following parameters:

- Benzo(a)anthracene (7.86 mg/kg versus 7.2 mg/kg)
- Dibenzo(ah)anthracene (1.44 mg/kg versus 0.24 mg/l)
- Benzo(b)fluoranthene (9.19 mg/kg versus 2.6 mg/kg)

6.45 All remaining samples and parameters recorded below the LQM/CIEH for HHRA (Human Health Risk Assessment) Residential threshold value at 1% SOM. All samples recorded concentrations below the Commercial threshold value.

Waste Acceptance Criteria (WAC) Analysis

6.46 All 30 no. samples were analysed and compared against Waste Acceptance Criteria (WAC) set out by the adopted EU Council Decision 2003/33/EC which established criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002).

6.47 According to the GII Waste Classification, all samples were classified as non-hazardous with the exception of WS-09 which was classified as hazardous between ground level and 1.0m. The hazardous classification was assigned due to the presence of hazardous levels of TPH.

6.48 Waste Acceptance Criteria (WAC) have been agreed by the EC (Council Decision 2003/33/EC) and are only applicable to material if it is to be disposed as a waste at a landfill facility. Each individual member state and operators of a licenced landfill may apply more stringent WAC. WAC limits and the associated laboratory analysis are not suitable for use in the determination of whether a waste is hazardous or non-hazardous for any use outside of disposal to landfill. The data have been compared to the WAC limits set out in Council Decision 2003/33/EC as well as the specific WAC which the EPA have applied to the Integrated Materials Solutions (IMS) Landfill in north County Dublin. The IMS landfill has higher limits for a range of parameters while still operating under an inert landfill licence. All other samples were within the inert or IMS WAC with the following exceptions.

- The level of selenium detected at WS-09 between 2m and 2.9m and WS-15 between 1.0m and 2.0m exceeded the inert WAC.
- The level of Molybdenum detected at WS-06 between ground level and 1.0m, WS-12 between 1.0m and 2.0m and WS-15 between ground level and 1.0m exceeded the exceeded the inert WAC.
- The level of Total Dissolved Solids detected at WS-06 between ground level and 1.0m exceeded the inert WAC.
- The level of Antimony detected at WS-06 and WS-08 between ground level and 1.0m exceeded the inert WAC.
- The level of selenium detected at WS-09 between 2m and 2.9m, and WS-15 between 1m and 2m exceeded the inert WAC.
- The level of molybdenum detected at WS-06 between ground level and 1m and in WS-15 and WS-12 between 1m and 2m exceeded the inert WAC.
- The level of TOC detected at WS-08, 14 and 15 between ground level and 1.0m exceeded at least the inert WAC.

- The level of mineral oil at WS-09 and PAHs at WS-15 between ground level and 1.0m exceeded the inert WAC as well as the IMS limit.

6.49 The WAC analysis identifies that the representative samples (with the above referenced exceptions) are suitable for classification as Category A – Inert. Based on the laboratory results and parametric concentrations obtained from the site investigation, material from the sample locations would be acceptable at inert waste facilities (Category A). It should be noted that waste facilities develop facility specific criteria also and this should be considered should any soil/ material to be removed from site in the future. The comparison tables for the analysed samples against current WAC criteria can be seen in Appendix 6.2.

Asbestos

6.50 There were no asbestos containing materials (ACM) identified in any of the samples taken.

6.3.11 Groundwater Quality

6.51 The Water Framework Directive (WFD) Directive 2000/60/EC, was adopted in 2000 as a single piece of legislation covering rivers, lakes, groundwater and transitional (estuarine) and coastal waters. In addition to protecting said waters, its objectives include the attainment of 'Good Status' in water bodies that are of lesser status at present and retaining 'Good Status' or better where such status exists at present. 'Good Status' was to be achieved in all waters by 2015 ot, at least, by 2027, as well as maintaining 'high status' where the status already exists. The EPA co-ordinates the activities of the River Basin Districts, local authorities and state agencies in implementing the directive, and operates a groundwater quality monitoring programme undertaking surveys and studies across the Republic of Ireland.

6.52 Presently, the groundwater body in the region of the site (Dublin GWB) is classified under the WFD Risk Score system (EPA, 2022) as 'under review'. The Dublin GWB was given a classification of 'Good' for the last WFD cycle (2013-2018).

6.53 During the GII 2019 site investigation no groundwater was encountered during the excavation of the window sample boreholes.

6.3.12 Economic Geology

6.54 The GSI (2021) mineral database was consulted to determine whether there were any mineral sites close to the study area. The Huntstown Quarry is located c. 5.2 km to the northwest of the site and is an active limestone quarry.

6.3.13 Geological Heritage

6.55 The Geological Survey of Ireland (GSI) Public Viewer (www.gsi.ie/mapping) was reviewed to identify sites of geological heritage for the site and surrounding area. The Glasnevin Cemetery (Site Code DC004) to the south is the closest audited site (c 2.8 Km). The Huntstown Quarry (Site Code DF022) to the northwest is located over 5.2 km northwest of the site.

6.3.14 Radon

6.56 According to the EPA (now incorporating the Radiological Protection Institute of Ireland) the site location in Santry is a Low Radon Area where is it estimated that less than 1% of dwellings will exceed the Reference Level of 200 Bq/m^3. This is the lowest of the five radon categories which are assessed by the EPA

6.3.15 Geohazards

6.57 Much of the Earth's surface is covered by unconsolidated sediments which can be especially prone to instability. Water often plays a key role in lubricating slope failure. Instability is often significantly increased by man's activities in building houses, roads, drainage and agricultural changes. Landslides, mud flows, bog bursts (in Ireland) and debris flows are a result. In general, Ireland suffers few landslides. Landslides are more common in unconsolidated material than in bedrock, and where the sea constantly erodes the material at the base of a cliff and leads to recession of the cliffs. Landslides have also occurred in Ireland in recent years in upland peat areas due to disturbance of peat associated with construction activities. The GSI landslide database was consulted and the nearest landslide to the proposed development was 2.5 km to the south west of the site, referred to as the M3 J4 Clonee 2014 which occurred on 3rd February 2014. There have been no recorded landslide events at the site. Due to the local topography and the underlying strata there is a negligible risk of a landslide event occurring at the site.

6.58 In Ireland, seismic activity is recorded by the Irish National Seismic Network. The Geophysics Section of the School of Cosmic Physics at the Dublin Institute for Advanced Studies (DIAS) has been recording seismic events in Ireland since 1978. The station configuration has varied over the years. Currently there are five permanent broadband seismic recording stations in Ireland and operated by DIAS. The seismic data from the stations comes into DIAS in real-time and are studied for local and regional events. Records since 1980 show that the nearest seismic activity to the proposed location was in the Irish sea (1.0 – 2.0 Ml magnitude) and ~55 km to the south in the Wicklow Mountains. There is a very low risk of seismic activity to the proposed development site.

6.59 There are no active volcanoes in Ireland so there is no risk from volcanic activity.

6.3.16 Areas of Conservation

6.60 According to the NPWS (2021) on-line database there are no special protected area on or in the vicinity of the subject site. The closest European listed sites are as follows;

- Santry Demesne (site code 00178) pNHA – circa 350 m to the north of the subject site;
- The Royal Canal (site code 002103) pNHA – circa 3.6 km to the south of the site;
- South Dublin Bay and River Tolka Estuary SPA (site code 004024) and North Dublin Bay pNHA (site code 000206) – circa 3.8 km to the southeast of the site

6.61 The site would have an indirect hydrological connection with the North Dublin Bay SPA/SAC/pNHA through the local drainage network (refer to Chapter 7 for further details).

6.3.17 Conceptual Site Model

6.62 The subsoil underlying the site is classified as Tills (generally low permeable) by the GSI and the underlying limestone aquifer (Locally Important aquifer) has a 'Low' vulnerability based on site investigations and GSI information.

6.63 The soil profile encountered can be summarised as follows:

- Top soil: Reinforce concrete up to 0.3 mbgl;
- Made Ground: Made ground deposits (described as sandy gravelly Clay with fragments of plastic redbrick, glass, ceramics, mortar and charcoal fragments) were encountered to a variable depths between 0.5-2.5 mbgl;
- Cohesive Deposits: Deposits described as low permeability stiff sandy gravelly Clay were encountered beneath the Made Ground up to the maximum explored depth (2.9 mbgl). According to information from the GSI, the cohesive deposit layer would is believed to be up to about 20 m deep.
- The depth of bedrock head was not proven during the site investigation. According to the GSI geotechnical information, bedrock would be located at depths even deeper than 20 mbgl in the vicinity of the subject site.

6.64 During the GII 2019 site investigation no groundwater was encountered during the excavation of the window sample boreholes.

6.65 Review of the hydrogeology and geology in the surrounding region indicates that there are no sensitive receptors such as groundwater-fed wetlands, Council Water Supplies/ Group Water Schemes or geological heritage sites which could be impacted by this development. No evidence of disposal of waste material was identified in the subject area. Collection and analysis of representative soil samples for a wide range of parameters shows no evidence of contamination.

6.66 A local geological cross section can be seen in Figure 6.12 below.

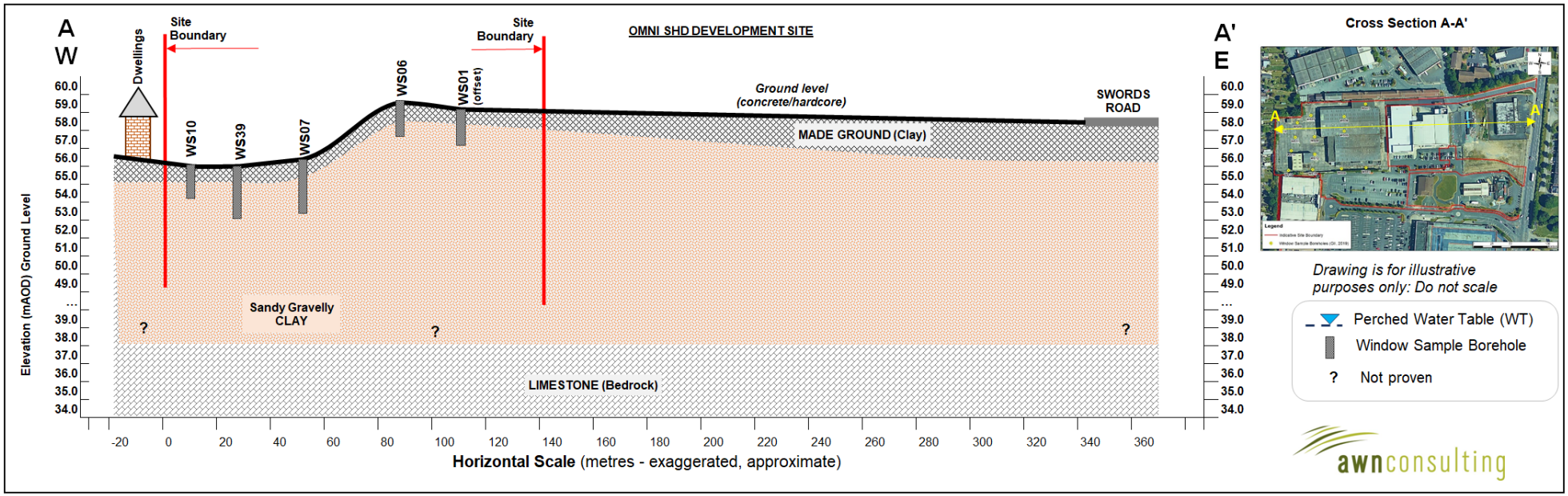

Figure 6.12 *Local Cross Section*

6.3.18 Rating of Importance of Geological and Hydrogeological Attributes

6.67 Based on the TII methodology (2009) (See Appendix 6.1), criteria for rating site importance of geological features, the importance of the bedrock and soil features at this site is rated as '***Low Importance***' with low quality, significance or value on a local scale.

6.68 Based on the TII methodology (2009) (See Appendix 6.1) the importance of the hydrogeological features at this site is rated as '***Medium Importance***' based on the assessment that the attribute has a medium quality significance or value on a local scale. The aquifer is a Locally Important aquifer but is not widely used for public water supply, or generally for potable use. In addition, there would not be direct or indirect hydrogeological connection between the site and any protected sites (SAC, SPA, NHA).

6.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

6.69 Permission for a 7 year duration is sought by Serendale Limited for a Strategic Housing Development which comprises the demolition of the existing industrial / warehouse buildings northwest of Omni Park Shopping Centre, Santry, Dublin 9 and the construction of 457 no. apartments across 4 no. blocks, ranging in height from 4-12 storeys (over basement). The proposal includes 2 no. retail/café/restaurant units, 1 no. community building, 1 no. childcare facility, 1no. residential amenity space and 5 no. ESB substations.

6.70 The development also provides for a basement carpark of 213 no. spaces and 7 no. motorcycle spaces with 7 no. creche drop-off parking spaces and 6 no. carshare parking spaces located in newly reconfigured surface carpark. The proposal provides for 768 no. bicycle parking spaces.

6.71 The proposal includes the provision of a new public open space plaza, with consequential revisions to existing commercial car parking areas, to integrate the proposals with the wider District Centre.

6.72 The proposal includes the provision of pedestrian and cycle connections and improvements through Omni Park Shopping Centre, including a plaza and cycle/pedestrian link substantially in the form permitted as part of the Omni Living Strategic Housing Development (Ref. ABP-307011-20).

6.73 Access to the proposed 213 no. basement car parking spaces is via the existing Omni Park Shopping Centre. A secondary servicing and emergency access is via the existing service road to the rear of existing retail premises at Omni Park Shopping Centre and accessed from the Swords Road.

6.74 The development provides for all associated and ancillary site development, demolition and clearance works, hoarding during construction, revisions to car parking within the Omni Park Shopping Centre, soft and hard landscaping, public realm works, public lighting and signage, ancillary spaces, plant including photovoltaic panels, water infrastructure, utilities and services.

6.75 The existing ground level is c. 56.65 m AOD, whilst the projected basement excavation level will be c. 51.90 m AOD (i.e., c. 4.75 m deep).

6.76 The proposed development is described in further detail in Chapter 2 (Description of the Proposed Development). The details of the construction and operation of the development in terms of Land, Soils Geology and Hydrogeology is detailed in the Table 6.2 below.

Table 6.2 Summary of site activities

Phase	Activity	Description
Construction	Discharge to Ground	Run-off percolating to ground at the construction site.
	Earthworks: Excavation of Superficial Deposits	Excavations across the site are required for the site preparation and levelling works, to achieve foundation level and facilitate construction. The project engineers have estimated that c. 44,213 m3 of material will require excavation for the basement, attenuation tank and foundations. This volume comprises topsoil (made ground) and cohesive deposits. It is envisaged that bedrock will not be exposed as part of the excavation works. In addition to this there is a net import of suitable engineering fill up to c. 4,000 m^3 under basement slabs, and for attenuation tank, hardstanding's fire tender access, plazas, walkways, etc. These estimates will be refined prior to commencement of construction. It is predicted that the majority of the spoil generated during site preparation/levelling will be removed from site. The removal of localised overburden material will be required during preparation of the foundations and platform for the proposed structures. The planned earthworks foresee the excavations of up to depths of c. 4.75 mbgl, with the removal of topsoil and subsoil (cohesive deposits).
	Storage of soils/aggregates	Aggregate materials such as sands and gravels will be stored in clearly marked receptacles within a secure compound area to prevent contamination. Temporary storage of spoil will be managed to prevent accidental release of dust and uncontrolled surface water run-off which may contain sediment and solid matter. Materials will be sent off site for recycling where possible and, if not suitable for recycling, materials will be disposed of to an appropriate permitted/licensed waste disposal facility.
	Storage of hazardous Material	Temporary storage of fuel required for on site for construction traffic. Liquid materials i.e. fuel storage will be located within temporary bunded areas, doubled skinned tanks or bunded containers (all bunds will conform to standard bunding specifications - BS8007-1987) to prevent spillage.
	Import/Export of Materials	Where possible soil will be reused for site levelling, roads, car parking areas, berms and other landscaping purposes. Excess soil/subsoil or rock not required for re-use on site will be transferred off site for re-use or disposal. Material removed from site may be re-used offsite for beneficial use on other sites with appropriate planning/waste permissions/derogations (e.g., in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011) as amended or will be reused, recovered and/or disposed off-site at appropriately authorised waste facilities. The removal of waste from the site will be carried out in accordance with Waste Regulations, Regional Waste Plan (Eastern Midland Region) and Waste Hierarchy/Circular Economy Principals. Refer to Chapter 14 Waste Management for further detail. The importation of fill will be required to establish the foundation level and basement slab in addition to some non-residential facilities. It is envisaged that c. 4,000 m^3 of soil will be imported.
	Dewatering	The deepest excavation is c. 4.75mbgl. According to site investigations, groundwater would not be encountered at this depth, therefore no significant dewatering is anticipated. It can be expected during the excavation works that localised dewatering of the subsoils may be required to address localised perched groundwater, even though the site investigations at the site did not encounter any groundwater.
Operation	Increase in hard standing area	The subject site is currently 100% hardstanding. There would even be a decrease in hardstanding for roof areas, plazas and footways.

Phase	Activity	Description
	Storage of hazardous Material	No storage of hazardous material is foreseen on the development site.

6.77 As outlined in Table 6.2 the activities required for the construction phase of the proposed development represents the greatest risk of potential impact on the hydrogeological environment. These activities primarily pertain to the site preparation, excavation, levelling and infilling activities required to facilitate construction of the proposed development.

6.5 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

6.78 An analysis of the potential impacts of the proposed development on the land, soils, geology and hydrogeological environment during the construction and operation is outlined below. Due to the inter-relationship between soils, geology and hydrogeology and surface water (hydrology) the following impacts discussed will be considered applicable to both Chapter 6 and 7 of the EIAR. Remediation and mitigation measures included in the design of this project to address these potential impacts are presented in Section 6.6 below.

6.5.1 Construction Phase

6.5.1.1 Excavation and Infilling

6.79 According to the Site Investigations carried out by GII in 2019, the risk of contaminated soils being present onsite is low and this was confirmed by onsite soil sampling and analysis. Nonetheless material, which is exported from site, if not correctly managed or handled, could impact negatively on human beings (onsite and offsite) as well as water and soil environments.

6.80 The excavation for foundations for the main buildings will require the excavation of topsoil (made ground), and subsoil (cohesive deposits, if encountered). The maximum excavation level would be c. 4.75 mbgl. Therefore, it is very unlikely that bedrock could be exposed due to planned earthworks as its depth is presumably >20 mbgl.

6.81 Excavated material could be reused on site for infilling and landscaping works where possible. Import of c. 4,000 m^3 of fill will be required.

6.82 Site investigation and laboratory analysis has not identified any existing contamination. However, if contaminated soil/water is encountered, it will be required to be removed by a licensed waste contractor.

6.83 No groundwater is expected to ingress to the excavation area. However, given the characteristics of the subsoil it is expected during the excavation works that localised dewatering of the subsoils will be required to address perched groundwater even though the site investigations at the site did not encounter any groundwater.

6.84 It can be expected to encounter minor ingress of rainfall in the excavation during the construction phase.

6.5.1.2 Accidental Spills and Leaks

6.85 As with all construction projects there is potential for water (rainfall and/or groundwater) to become contaminated with pollutants associated with construction activity. Contaminated water which arises from construction sites can pose a significant short-term risk to groundwater quality for the duration of the construction if contaminated water is allowed percolate to the aquifer.

6.86 During construction of the development, there is a risk of accidental pollution incidences from the following sources:

- Suspended solids (muddy water with increase turbidity) – arising from excavation and ground disturbance;
- Cement/concrete (increase turbidity and pH) – arising from construction materials;
- Hydrocarbons (ecotoxic) – accidental spillages from construction plant or onsite storage;
- Wastewater (nutrient and microbial rich) – arising from accidental discharge from on-site toilets and washrooms.

6.87 Accidental spillages which are not mitigated may result in localised contamination of soils and groundwater underlying the site, should contaminants migrate through the subsoil's and impact the underlying groundwater. Groundwater vulnerability at the site is currently classified as 'Low' throughout the site. Any soil stripping will also further reduce the thickness of subsoil and the natural protection they provide to the underlying aquifer; however, bedrock is assumed to be > 20 mbgl.

6.5.2 Operational Phase

6.88 There are no discharges to ground included in the design and no abstractions from the aquifer. The proposed development site includes car parking area at the site. Leakage of petrol/ diesel fuel may occur from these areas; run-off may contain a worst-case scenario of 70 litres for example. However, in the event of an accidental leakage of oil from the parking areas, this will be intercepted by the drainage infrastructure proposed and any releases to drainage will be mitigated through hydrocarbon interceptors.

6.89 There will not be any increase in hardstanding as a result of the development of the facilities as the subject site is currently 100% hardstanding. There would in fact be a decrease in hardstanding as a result of the proposed roof areas, plazas and footways.

6.6 REMEDIAL AND MITIGATION MEASURES

6.90 The design has taken account of the potential impacts of the development on the soils, geology and hydrogeology environment local to the area where construction is taking place and containment of contaminant sources during operation. Measures have been incorporated in the design to mitigate the potential effects on the surrounding soils, geology and hydrogeology. These are described below.

6.91 Due to the inter-relationship between soils, geology, hydrogeology and hydrology, the following mitigation measures discussed will be considered applicable to all. Waste Management is also considered an interaction in some sections.

6.6.1 Construction Phase

6.92 In order to reduce impacts on the soils and geology environment, a number of mitigation measures will be adopted as part of the construction works on site. The measures will address the main activities of potential impact which include:

- Control of soil excavation and export from site;
- Fuel and chemical handling, transport and storage; and
- Control of water during construction.

6.6.1.1 Construction Environment Management Plan and Resource and Waste Management Plan

6.93 An Outline Construction Environmental Management Plan (CEMP) and a Resource and Waste Management Plan (RWMP) have been prepared by AWN and EirEng, respectively for the proposed development and is included with the planning documentation. In advance of work starting on site, the works Contractor will prepare a detailed CEMP. The detailed CEMP will set out the overarching vision of how the construction of the proposed development will be managed in a safe and organised manner by the Contractor. The CEMP will be a live document and it will go through a number of iterations before works commence and during the works. It will set out requirements and standards which must be met during the construction stage and will include the relevant mitigation measures outlined in the EIA Report and any subsequent planning conditions relevant to the proposed development.

6.94 As a minimum, the CEMP has been formulated in accordance with best international practice including but not limited to:

- CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors;
- Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C650), 2005;
- BPGCS005, Oil Storage Guidelines;
- Eastern Regional Fisheries Board, (2006), Fisheries Protection Guidelines: Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites;
- CIRIA 697, The SUDS Manual, 2007; and
- UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004.

6.6.1.2 Control of Soil Excavation

6.95 Site preparation, excavations and levelling works required to facilitate construction of foundations, access roads and the installation of services will require to excavate c. 44,213 m^3 and 4,000m^3 of imported material. Suitable soils could be reused on site as backfill, where possible. Contractors shall be required to submit and adhere to a method statement indicating the extent of areas likely to be affected and demonstrating that this is the minimum disturbance necessary to achieve the required works.

6.96 According to onsite investigations, the bedrock vulnerability is ‘Low’ throughout the site. Removal and reinstatement of subsoil cover will not alter the vulnerability category of the underlying bedrock. The deposition of infill soil would increase the overburden thickness and thus may even decrease the groundwater vulnerability.

6.97 Temporary storage of soil will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment and the material will be stored away from any open surface water drains. Movement of material will be minimised in order to reduce degradation of soil structure and generation of dust.

6.98 Although there is no evidence of historical contamination in the proposed development area, all excavated materials will be visually assessed for signs of possible contamination such as staining or strong odours. Site investigations classified the subsoils as mostly 'inert' with some punctual exceptions as presented in Section 6.3.10 above. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of possible contaminants in order to ensure that historical pollution of the soil has not occurred. Should it be determined that any of the soil excavated is contaminated, this will be disposed of by a licensed waste disposal contractor. Site investigations presented some punctual exceedances of the 'inert' WAC for some parameters (refer to Section 6.3.10 above).

6.99 Stockpiles have the potential to cause negative impacts on air and water quality. The effects of soil stripping and stockpiling will be mitigated against through the implementation of appropriate earthworks handling protocol during construction. It is anticipated that any stockpiles will be formed within the boundary of the site and there will be no direct link or pathway from this area to any surface water body. Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site, where possible.

6.6.1.3 Sources of Fill and Aggregates

6.100 All fill and aggregate for the Proposed Development will be sourced from reputable suppliers. All suppliers will be vetted for:

- Aggregate compliance certificates/declarations of conformity for the classes of material specified for the Proposed Development;
- Environmental Management status; and
- Regulatory and Legal Compliance status of the Company.

6.101 It is anticipated that approximately 4,000 m^3 engineered fill will be required to facilitate construction. There will be no impact to mineral resources in the area as a result of the Proposed Development.

6.6.1.4 Fuel and Chemical Handling

6.102 To minimise any impact on the underlying subsurface strata from material spillages, all oils, solvents and paints used during construction will be stored within temporary bunded areas. Oil and fuel storage tanks shall be stored in designated areas, and these areas shall be bunded to a volume of 110% of the capacity of the largest tank/container within the bunded area(s) (plus an allowance of 30 mm for rainwater ingress). Drainage from the bunded area(s) shall be diverted for collection and safe disposal.

6.103 Refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles will take place in a designated area (or where possible off the site), this should be sensitively located away from surface water, gulleys or drains. These refuelling areas are to be identified in the updated CEMP prepared by the construction contractor. In the event of a machine requiring refuelling outside of this area, fuel will be transported in a mobile double skinned tank. An adequate supply of spill kits and

hydrocarbon adsorbent packs will be stored in this area. All relevant personnel will be fully trained in the use of this equipment. Guidelines such as "Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors" (CIRIA 532, 2001) will be complied with.

6.104 Where feasible all ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.

6.105 In the case of drummed fuel or other chemicals which may be used during construction, containers should be stored in a dedicated internally bunded chemical storage cabinet and labelled clearly to allow appropriate remedial action in the event of a spillage.

6.6.1.5 Control of Water during Construction

6.106 Care will be taken to ensure that exposed soil surfaces are stable to minimise erosion. All exposed soil surfaces will be within the main excavation site which limits the potential for any offsite impacts.

6.107 There may be localised pumping of surface run-off from the excavations during and after heavy rainfall events to ensure that the trenches are kept relatively dry. Any minor ingress of groundwater and collected rainfall in the excavation will be pumped out during construction. It is estimated that the inflow rate of groundwater will be low and limited to localised perched water. Due to the very low permeability of the Dublin Boulder Clay and the relative shallow nature for excavations, infiltration to the underlying aquifer is not anticipated.

6.108 Pre-treatment and silt reduction measures on site will include a combination of silt fencing, settlement measures (silt traps, 20 m buffer zone between machinery and watercourses, refuelling of machinery off site) and hydrocarbon interceptors. The use of slit traps and an oil interceptor (if required) will be adopted if the monitoring indicates the requirements for the same with no silt or contaminated water permitted to discharge to water. Extensive monitoring will be adopted to ensure that the water is of sufficient quality to discharge to water or sewer.

6.6.2 Operational Phase

6.109 There are no discharges to ground included in the design and no abstractions from the aquifer. In the event of an accidental leakage of oil from the parking areas, this will be intercepted by the drainage infrastructure proposed.

6.7 CUMULATIVE IMPACT

Section 2.10 of Chapter 2 provides a description of relevant cumulative developments within the area which have the potential to produce environmental impacts during their operational and/or construction phases which, when combined with the predicted impacts for this proposed development may give rise to overall significant impacts.

In considering construction related impacts the following cumulative developments are deemed relevant; Omni Living, Santry Place (Blocks D, E and F), and Santry Avenue.

With respect to operational impacts the following cumulative developments are deemed relevant; Omni Living, Santry Place (Blocks A, B, C, D and E, F), Santry Avenue, and Swiss Cottages.

6.7.1.1 Construction Phase

There are existing residential and commercial developments close by, along with multiple permissions remaining in place in the area. In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase.

Contractors for the proposed development will be contractually required to operate in compliance with the CEMP which includes the mitigation measures outlined in this EIA report. The other developments aforementioned will also have to incorporate measures to protect soil and water quality in compliance with legislative standards for receiving water quality (European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010 and S.I. 266 of 2016). As can be seen in Chapter 2, these developments comprise excavation for basement and foundations. As a result, there would be minimal cumulative potential for change in soil quality or the natural groundwater regime. The cumulative impact is considered to be neutral and imperceptible.

6.7.1.2 Operational Phase

Given the characteristics of the abovementioned developments, which do not include discharges to ground and abstractions from aquifer during their operational phases and considering that they will not increase the hardstanding area, no cumulative impact on recharge to the aquifer is expected. All developments are required to manage groundwater discharges in accordance with S.I. 9 of 2010 and S.I. 266 of 2016 amendments. As such there will be no cumulative impact to groundwater quality and therefore there will be no cumulative impact on the Groundwater Body Status. The operation of the proposed development is concluded to have a long-term, imperceptible significance with a neutral impact on soil and water quality.

As has been identified in the receiving environment section all cumulative developments that are already built and in operation contribute to the characterisation of the baseline environment. As such any further environmental impacts that the proposed development may have in addition to these already constructed and operational cumulative developments has been assessed in the preceding sections of this chapter.

6.8 RESIDUAL IMPACTS OF THE PROPOSED DEVELOPMENT

6.8.1 Construction Phase

6.110 The implementation of mitigation measures outlined above (Section 6.6) will ensure that the predicted impacts on the geological and hydrogeological environment do not occur during the construction phase and that the residual impact will be ***short-term-imperceptible-neutral***. Following the TII criteria (refer to Appendix 6.1) for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of impact is considered ***negligible***.

6.8.2 Operational Phase

6.111 The implementation of mitigation measures highlighted above (Section 6.6) will ensure that the predicted impacts on the geological and hydrogeological environment do not occur during the operational phase and that the residual impact will be ***long-term-imperceptible-neutral***. Following the TII criteria (refer to Appendix 6.1) for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of impact is considered ***negligible***.

6.9 MONITORING OR REINSTATEMENT

6.9.1 Construction Phase

6.112 During construction phase the following monitoring measures will be considered:

- Regular inspection of surface water run-off and sediments controls e.g. silt traps will be carried out during the construction phase.
- Soil sampling to confirm disposal options for excavated soils.
- Regular inspection of construction/mitigation measures will be undertaken e.g. concrete pouring, refuelling etc.

6.9.2 Operational Phase

6.113 There will be no requirement for groundwater monitoring as there is no likely discharge to ground. Maintenance of the surface water drainage system, including hydrocarbon interceptors, and foul sewers as per normal urban developments is recommended to minimise any accidental discharges to ground.

APPENDIX 6.1

CRITERIA FOR RATING THE MAGNITUDE AND SIGNIFICANCE OF IMPACTS AT EIA STAGE NATIONAL ROADS AUTHORITY (NRA-TII, 2009)

Table 1 Criteria for Rating Site Attributes – Estimation of Importance of Soil and Geology Attributes (NRA)

Importance	Criteria	Typical Example
Very High	Attribute has a high quality, significance or value on a regional or national scale. Degree or extent of soil contamination is significant on a national or regional scale. Volume of peat and/or soft organic soil underlying route is significant on a national or regional scale.	Geological feature rare on a regional or national scale (NHA). Large existing quarry or pit. Proven economically extractable mineral resource
High	Attribute has a high quality, significance or value on a local scale. Degree or extent of soil contamination is significant on a local scale. Volume of peat and/or soft organic soil underlying route is significant on a local scale.	Contaminated soil on site with previous heavy industrial usage. Large recent landfill site for mixed wastes. Geological feature of high value on a local scale (County Geological Site). Well drained and/or high fertility soils. Moderately sized existing quarry or pit. Marginally economic extractable mineral resource.
Medium	Attribute has a medium quality, significance or value on a local scale. Degree or extent of soil contamination is moderate on a local scale.	Contaminated soil on site with previous light industrial usage. Small recent landfill site for mixed wastes. Moderately drained and/or moderate fertility soils. Small existing quarry or pit. Sub-economic extractable mineral resource.

	Volume of peat and/or soft organic soil underlying route is moderate on a local scale	
Low	Attribute has a low quality, significance or value on a local scale. Degree or extent of soil contamination is minor on a local scale. Volume of peat and/or soft organic soil underlying route is small on a local scale.	Large historical and/or recent site for construction and demolition wastes. Small historical and/or recent landfill site for construction and demolition wastes. Poorly drained and/or low fertility soils. Uneconomically extractable mineral resource.

Table 2 Criteria for Rating Site Attributes – Estimation of Importance of Hydrogeological Attributes (NRA)

Importance	Criteria	Typical Examples
Extremely High	Attribute has a high quality or value on an international scale	Groundwater supports river, wetland or surface water body ecosystem protected by EU legislation e.g. SAC or SPA status.
Very High	Attribute has a high quality or value on a regional or national scale	Regionally Important Aquifer with multiple well fields. Groundwater supports river, wetland or surface water body ecosystem protected by national legislation – NHA status. Regionally important potable water source supplying >2500 homes. Inner source protection area for regionally important water source.
High	Attribute has a high quality or value on a local scale	Regionally Important Aquifer. Groundwater provides large proportion of baseflow to local rivers. Locally important potable water source supplying >1000 homes. Outer source protection area for regionally important water source. Inner source protection area for locally important water source.
Medium	Attribute has a medium quality or value on a local scale	Locally Important Aquifer. Potable water source supplying >50 homes. Outer source protection area for locally important water source.
Low	Attribute has a low quality or value on a local scale	Poor Bedrock Aquifer Potable water source supplying <50 homes

Table 3 Criteria for Rating Impact Significance at EIS Stage – Estimation of Magnitude of Impact on Soil/ Geology Attribute (NRA)

Magnitude of Impact	Criteria	Typical Examples
Large Adverse	Results in loss of attribute	Loss of high proportion of future quarry or pit reserves. Irreversible loss of high proportion of local high fertility soils. Removal of entirety of geological heritage feature. Requirement to excavate/remediate entire waste site. Requirement to excavate and replace high proportion of peat, organic soils and/or soft mineral soils beneath alignment.
Moderate Adverse	Results in impact on integrity of attribute or loss of part of attribute	Loss of moderate proportion of future quarry or pit reserves. Removal of part of geological heritage feature. Irreversible loss of moderate proportion of local high fertility soils. Requirement to excavate/remediate significant proportion of waste site. Requirement to excavate and replace moderate proportion of peat, organic soils and/or soft mineral soils beneath alignment.
Small Adverse	Results in minor impact on integrity of attribute or loss of small part of attribute	Loss of small proportion of future quarry or pit reserves. Removal of small part of geological heritage feature. Irreversible loss of small proportion of local high fertility soils and/or high proportion of local low fertility soils. Requirement to excavate/remediate small proportion of waste site.

		Requirement to excavate and replace small proportion of peat, organic soils and/or soft mineral soils beneath alignment.
Negligible	Results in an impact on attribute but of insufficient magnitude to affect either use or integrity	No measurable changes in attributes
Minor Beneficial	Results in minor improvement of attribute quality	Minor enhancement of geological heritage feature
Moderate Beneficial	Results in moderate improvement of attribute quality	Moderate enhancement of geological heritage feature
Major Beneficial	Results in major improvement of attribute quality	Major enhancement of geological heritage feature

Table 4 Criteria for Rating Impact Significance at EIS Stage – Estimation of Magnitude of Impact on Hydrogeological Attribute (NRA)

Magnitude of Impact	Criteria	Typical Examples
Large Adverse	Results in loss of attribute and /or quality and integrity of attribute	Removal of large proportion of aquifer. Changes to aquifer or unsaturated zone resulting in extensive change to existing water supply springs and wells, river baseflow or ecosystems. Potential high risk of pollution to groundwater from routine run-off. Calculated risk of serious pollution incident >2% annually.

Moderate Adverse	Results in impact on integrity of attribute or loss of part of attribute	Removal of moderate proportion of aquifer. Changes to aquifer or unsaturated zone resulting in moderate change to existing water supply springs and wells, river baseflow or ecosystems. Potential medium risk of pollution to groundwater from routine run-off. Calculated risk of serious pollution incident >1% annually.
Small Adverse	Results in minor impact on integrity of attribute or loss of small part of attribute	Removal of small proportion of aquifer. Changes to aquifer or unsaturated zone resulting in minor change to water supply springs and wells, river baseflow or ecosystems. Potential low risk of pollution to groundwater from routine run-off. Calculated risk of serious pollution incident >0.5% annually.
Negligible	Results in an impact on attribute but of insufficient magnitude to affect either use or integrity	Calculated risk of serious pollution incident <0.5% annually.

Table 5 Rating of Significant Environmental Impacts at EIS Stage (NRA)

Importance of Attribute	Magnitude of Importance			
	Negligible	Small Adverse	Moderate Adverse	Large Adverse
Extremely High	Imperceptible	Significant	Profound	Profound
Very High	Imperceptible	Significant/moderate	Profound/Significant	Profound
High	Imperceptible	Moderate/Slight	Significant/moderate	Profound/Significant
Medium	Imperceptible	Slight	Moderate	Significant
Low	Imperceptible	Imperceptible	Slight	Slight/Moderate

APPENDIX 6.2

GII SITE INVESTIGATION REPORT (2019)

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Santry Development

Waste Classification Report

DOCUMENT CONTROL SHEET

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GROUND INVESTIGATIONS IRELAND

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APPENDICES

1.0 Preamble

Ground Investigations Ireland Limited (GII) was appointed by Serendale Ltd. to carry out a Waste Classification assessment for a proposed development at Santry, Dublin 9. The site investigation works were completed in April 2019.

2.0 Purpose & Scope

GII understand that as part of the proposed development there may be an excavation to accommodate underground parking and as such the material which may be excavated and removed from site needs to be assessed in terms of waste disposal outlets. GII understand that the proposed end us of the site is residential.

The purpose of the waste classification exercise was as follows.

- Classification, in terms of waste management and final disposal outlets, of material that may require disposal following excavation during the construction phase.
- Suitability for any material left on site for the proposed use following development.

The scope of the work undertaken to facilitate the waste classification exercise included the following:

- Excavation of fourteen (14 No.) Window sample boreholes;
- Collection of subsoil samples for chemical analysis;
- Environmental laboratory testing.
- Waste classification; and
- Assessment of subsoil quality against human health Generic Assessment Criteria (GAC).

3.0 Standards

The works were undertaken on a phased basis and in sequence, as is industry best practice, and were carried out with cognisance of the following:

- BS 10175:2011, Investigation of Potentially Contaminated Sites. Code of practice;
- Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007); and
- BS 5930:2015, Code of Practice for ground investigations;

4.0 Limitations

GII has prepared this report for the sole use of Serendale Ltd. No other warranty, express orimplied, is made as to the professional advice included in this report or other services provided by GII.

The conclusions and recommendations contained in this report are based upon information provided by others and the assumption that all relevant information has been provided by those bodies from whom it has been requested. Information obtained from third parties has not been independently verified by GII, unless otherwise stated in this report.

This report has been prepared in line with best industry standards and within the project's budgetary and time constraints. The methodology adopted, and the sources of information used by GII in providing its services are outlined in this report.

GII disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to GII's attention after the date of the Report.

The conclusions presented in this report represent GII's best professional judgement based on review of site conditions observed during the site visit and the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.

It was not possible to excavate boreholes or collect soil samples from beneath a large portion of the on-site buildings due to the presence of liquid coolant pipework in the floor slab preventing coring of the slab. The window sample WS-02 was not accessible at the time of the investigation.

The waste classification exercise is reflective of and applicable to the ground conditions on site at the time of the site investigation and sampling. Alterations to the ground conditions or any further excavations carried out on site since the site investigation phase are not reflected in this report and GII are not liable for any such alterations if they have occurred.

5.0 Site Location and Layout

The site is located in the Santry Hall Industrial Estate in Santry, Dublin 9 (Figure 1). The site is bounded to the south and east by the Omni Shopping Centre and to the north by commercial buildings which form part of the Santry Hall Industrial Estate. The site is bounded to the west by housing. The site is an open yard in the western section with an industrial/commercial building occupying the central and eastern section. There is a smaller industrial unit in the south western section of the site. To the rear of this building there is a concrete bund which appeared to house a number of over ground fuel storage tanks. The tanks appeared to have been removed a number of years before the site investigation. The eastern section of the site is slightly more elevated than the western section. There is a former car/truck washing area in the north western corner of the site with an associated silt trap/interceptor. The foundations of a former above ground water storage tank are visible in the north western corner of the site.

6.0 Site History

GII reviewed the aerial photographs and historical maps maintained by the Ordnance Survey of Ireland (OSI) and the google imagery records. These included the 6-inch maps that were produced between 1829 and 1842, the 25-inch maps that were produced between 1888 and 1913 and the 6-inch Cassini Maps that were produced between the 1830's and 1930's. A private estate identified as Santry Hall previously occupied the eastern part of the site on all historical maps. A review of the google earth aerial photograph

record and the aerial photograph records held by the OSI indicates that the site had been developed since at least 1995. The buildings which currently occupy the site are identifiable on the aerial photograph record since 1995. The water tank in the north western corner of the site is visible on the photos record until 2005.

7.0 Subsurface Exploration

During the ground investigation a programme of intrusive investigation was undertaken to determine the sub surface conditions at the proposed site. Regular sampling and in-situ testing was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling. The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

7.1. Window Sampling

The window sampling was carried out at the locations shown on Figure2 in Appendix 1 using a Tecop Tec 10 percussion drilling rig. The window sampling consists of a 1m long steel tube with a cutting edge and an internal plastic liner which is mechanically driven into the ground utilising a 50kg weight falling a height of 500mm. Upon completion of the 1m sample, the tube is withdrawn and the plastic liner removed and sealed for logging and sub sampling by a Geotechnical Engineer/Engineering Geologist. The tube is replaced in the borehole and a subsequent 1m sample can be recovered. Occasionally outer casing or a reduced diameter tube is utilised to enable the window sample to progress in difficult drilling conditions. Geotechnical or environmental soil samples can be recovered from each of the liners following logging. The sample location WS-02 was not accessible and shallow refusal at WS-13 resulted in no samples from that location. The window sample records are provided in Appendix 2 of this Report.

7.2. Surveying

The exploratory hole locations have been recorded using a Trimble R10 GNSS System which records the coordinates and elevation of the locations to ITM or Irish National Grid as required by the project specification. The coordinates and elevations are provided on the exploratory hole logs in the appendices of this Report.

8.0 Ground Conditions

8.1. General

The ground conditions encountered during the investigation are summarised below with reference to insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of this report.

The sequence of strata encountered were consistent across the site and are generally comprised;

- Surfacing
- Fill/ Made Ground
- Cohesive Deposits

SURFACING: Reinforced Concrete was encountered in all the exploratory holes and was present to a depth of 0.13 to 0.30m BGL.

MADE GROUND: Made ground was encountered beneath the surfacing and was present to a depth of between 0.5m and 2.5m BGL and was typically described *as firm dark brown grey slightly sandy gravelly Clay* with varying levels of anthropogenic materials including *plastics, redbrick, glass, ceramics, mortar and charcoal fragments.* The made ground deposits were shallowest at the eastern end of the site with the deepest sequence of made ground encountered in the south western section of the site. The full details of these deposits are recorded on the window sampling logs in Appendix 2.

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as *dark brown, grey or dark grey slightly sandy gravelly CLAY with occasional cobbles*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. These deposits had some, occasional cobble content where noted on the exploratory hole logs in Appendix 2.

8.2. Laboratory Testing

8.2.1. Waste Classification Analysis

In order to assess materials, which may be excavated from site, in terms of waste classification, the samples collected were analysed for a suite of parameters which allows for the assessment of the soils in terms of total pollutant content for classification of materials as *hazardous* or *non-hazardous* (RILTA Suite). The suite also allows for the assessment of the soils in terms of suitability for placement at licenced landfills (inert, stable non-reactive, hazardous etc.). The parameter list for the RILTA suite includes analysis of the solid samples for arsenic, barium, cadmium, chromium, copper, cyanide, lead, nickel, mercury, zinc, speciated aliphatic and aromatic petroleum hydrocarbons, pH, sulphate, sulphide, moisture content, soil organic matter and an asbestos screen.
The RILTA suite also includes those parameters specified in the EC Council Decision establishing criteria for the acceptance of waste at Landfills (Council Decision 2003/33/EC), which for the solid samples are pH, total organic carbon (TOC), speciated aliphatic and aromatic petroleum hydrocarbons, BTEX, phenol, polychlorinated biphenyls (PCB) and PAH.

As part of the RILTA suite a leachate is generated from the solid samples which is analysed for antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, chloride, fluoride, soluble sulphate, sulphide, phenols, dissolved organic carbon (DOC) and total dissolved solids (TDS). The suite was selected due to the unknown origin of the material underlying the site and no evidence of specific contaminants of concern highlighted in the site history. The full laboratory reports for all analyses are presented in Appendix 3.

9.0 Asbestos

Asbestos was **not** detected in any of the samples analysed.

10.0 Waste Classification

GII understand that any materials which may be excavated from site would meet the definition of waste under the Waste Framework Directive. This may not be the case at the time of excavation when all or some of the materials may have been declared a by-product in line with Article 27 of the European Communities (Waste Directive) Regulations 2011[1].

Excess soil and stone resulting from excavation works (the primary purpose of which is not the production of soil and stone) may be declared a by-product if all four by-product conditions are met.[2]

a) further use of the soil and stone is certain;

b) the soil and stone can be used directly without any further processing other than normal industrial practice;

c) the soil and stone is produced as an integral part of a production process; and

d) further use is lawful in that the soil and stone fulfils all relevant requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

Due to the varying levels of anthropogenic materials encountered in the made ground there are potentially two sets of List of Waste (LoW) with a “mirror” entry LoW (formerly EWC) codes which may be applied to excavated materials to be removed from site.

1. 17-05-03* (soil and stone containing dangerous substances, classified as hazardous) or 17-05-04 (soil and stone other than those mentioned in 17-05-03, not hazardous); or

[1] S.I. No. 126/2011 - European Communities (Waste Directive) Regulations 2011 (Article 27).
[2] As set out in Article 5 of the 2008 Waste Framework Directive and Article 27 of the Waste Directive Regulations 2011.

2. 17-09-03* (other construction and demolition wastes (including mixed wastes) containing hazardous substances) or 17-09-04 (mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03).

Where waste is a mirror entry in the LoW, it can be classified via a process of analysis against standard criteria set out in in the Waste Framework Directive. The assessment process is described in detail in guidance published by the UK regulatory authorities (Guidance on the Classification and Assessment of Waste: Technical Guidance WM3, 2015). The assessment involves comparison of the concentration of various parameters against defined threshold values.

The specific LoW code which should be applied to the material at each SI location is summarised in Table 1 below.

GII use HazWasteOnline™, a web-based commercial waste classification software tool which assists in the classification of potentially hazardous materials. This tool was used to determine whether the materials on site are classified as hazardous or non-hazardous. The use of the online tool is accepted by the EPA (EPA 2014).

The conclusions presented in the report are based on GII's professional opinion. **It should be noted that the environmental regulator (in this case the EPA) and the waste acceptor (in this case a landfill operator) shall decide whether a waste is hazardous or non-hazardous and suitable for disposal at their facility.**

11.0 HazWasteOnLine™ Results

In total thirty (30 No.) samples were assessed using the HazWasteOnLine™ Tool. All samples were classified as non-hazardous with the exception of **WS-09** which was classified as hazardous between ground level and 1.0m. The hazardous classification was assigned due to the presence of hazardous levels of TPH and the associated hazardous properties HP 7 carcinogenic[3] and HP 11 mutagenic[4] The complete HazWasteOnLine™ report for all samples are included in Appendix 4.

Table 1 Waste Classification Summary

Sample I.D.	Sample Depth (m)	LoW Code	Hazardous/Non-Hazardous	Asbestos Type Detected
WS01	0.00-1.00	17 09 04	Non-Hazardous	NAD[5]
WS01	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS03	1.00-2.00	17 05 04	Non-Hazardous	NAD

[3] HP7 Carcinogenic - waste which induces cancer or increases its incidence.
[4] HP11 Mutagenic - waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell.
[5] NAD – no asbestos detected.

Sample I.D.	Sample Depth (m)	LoW Code	Hazardous/Non-Hazardous	Asbestos Type Detected
WS04	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS04	1.00-2.00	17 09 04	Non-Hazardous	NAD
WS05	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS05	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS06	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS06	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS07	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS08	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS08	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS08	2.00-2.90	17 05 04	Non-Hazardous	NAD
WS09	**0.00-1.00**	**17 09 03**	**Hazardous**	**NAD**
WS09	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS09	2.00-2.90	17 05 04	Non-Hazardous	NAD
WS10	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS10	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS11	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS11	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS11	2.00-2.70	17 05 04	Non-Hazardous	NAD
WS12	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS12	1.00-2.00	17 09 04	Non-Hazardous	NAD
WS12	2.00-2.90	17 05 04	Non-Hazardous	NAD
WS14	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS14	1.00-2.00	17 09 04	Non-Hazardous	NAD
WS14	2.00-2.70	17 05 04	Non-Hazardous	NAD
WS15	0.00-1.00	17 09 04	Non-Hazardous	NAD
WS15	1.00-2.00	17 05 04	Non-Hazardous	NAD
WS15	2.00-3.00	17 05 04	Non-Hazardous	NAD

12.0 Landfill Waste Acceptance Criteria

Waste Acceptance Criteria (WAC) have been agreed by the EC (Council Decision 2003/33/EC) and **are only applicable to material if it is to be disposed as a waste at a landfill facility**. Each individual member state and operators of a licenced landfill may apply more stringent WAC. WAC limits and the associated laboratory analysis are not suitable for use in the determination of whether a waste is hazardous or non-hazardous. The data have been compared to the WAC limits set out in Council Decision 2003/33/EC as well as the specific WAC which the EPA have applied to the Integrated Materials Solutions (IMS) Landfill in north County Dublin. The IMS landfill has higher limits for a range of parameters while still operating under an inert landfill licence.

The level of selenium detected at WS-09 between 2m and 2.9m and WS-15 between 1.0m and 2.0m exceeded the inert WAC.

The level of Molybdenum detected at WS-06 between ground level and 1.0m, WS-12 between 1.0m and 2.0m and WS-15 between ground level and 1.0m exceeded the exceeded the inert WAC.

The level of Total Dissolved Solids detected at WS-06 between ground level and 1.0m exceeded the inert WAC.

The level of Antimony detected at WS-06 and WS-08 between ground level and 1.0m exceeded the inert WAC.

The level of selenium detected at WS-09 between 2m and 2.9m, and WS-15 between 1m and 2m exceeded the inert WAC.

The level of molybdenum detected at WS-06 between ground level and 1m and in WS-15 and WS-12 between 1m and 2m exceeded the inert WAC.

The level of TOC detected at WS-08, 14 and 15 between ground level and 1.0m exceeded at least the inert WAC.

The level of mineral oil at WS-09 and PAHs at WS-15 between ground level and 1.0m exceeded the inert WAC as well as the IMS limit.

All other samples were within the inert or IMS WAC. The WAC data is presented in Figures 5 to 7 and Appendix 5.

13.0 Suitable for Use Assessment

GII assessed the soils data collected from the window samples against the LQM/CIEH S4ULs for Human Health Risk Assessment (S4ULs)[6]. The S4ULs present soil assessment criteria for an extended range of 89 substances. For each substance, S4ULs have been derived for a range of generic land uses and Soil Organic Matter (%SOM) contents. All toxicological and physical-chemical inputs used in the derivation of the S4ULs are clearly identified and discussed. For each substance, S4ULs have been derived for six generic land uses (including the two Public Open Space land uses defined in C4SL guidance) and a range of Soil Organic Matter contents (organic contaminants only). All toxicological and physical-chemical data inputs used in the derivation of the S4ULs are presented and discussed in the publication. The proposed future use of the site is residential therefore the residential with homegrown produce S4UL criteria have been applied to the data.

The levels of arsenic, cadmium and mercury at WS-11 between 2m and 2.7m, WS-12 between ground level and 2.9m, WS-14 between ground level and 2.7m, and WS-15 between ground level and 3m exceeded the residential with homegrown produce S4UL.

The levels of the PAHs Benzo(a)pyrene, Dibenzo(ah)anthracene and Benzo(b)fluoranthene at WS-15 between ground level and 1m exceeded the residential with homegrown produce S4ULs. All remaining

[6] LQM/CIEH 'Suitable 4 Use Levels' (S4ULs). Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3746. All rights reserved.

samples were all within the residential without homegrown produce S4ULs. A full summary of the S4UL data is presented in Figure 8 to 10 and Appendix 6.

14.0 Hydrocarbon Impacted Soils

TPH was detected in the samples collected from WS-09 between ground level and 1.0m at a level of 1,347mg/kg which is significant enough to classify the waste as hazardous. The laboratory interpretation of the source of the TPH is degraded diesel and lubricating oil. There was no identifiable source of diesel in the vicinity of WS-09 during the investigation. There had been a truck wash with an associated silt trap/interceptor located to the north of WS-09 which may be a potential source of the elevated TPH.

15.0 Conclusions & Recommendations

The recommendations given and opinions expressed in this report are based on the findings of the site investigation works and laboratory testing undertaken. Where any opinion is expressed on the classification of material between site investigations locations, this is for guidance only and no liability can be accepted for its accuracy. No responsibility can be accepted for conditions which have not been revealed by the findings at the site investigation locations.

15.1. Waste Classification

The sampled materials on site are considered to be non-hazardous with the exception of the material at WS-09 between ground level and 1m below ground level. Final waste classification is at the discretion of the landfill operator.

15.2. Waste Acceptance Criteria

The classification of the materials to be removed from site in terms of waste acceptance criteria and acceptance at landfill is presented in Figure 5 to 7 and as tabulated in Appendix 6.

15.3. Asbestos

Asbestos was **not** detected on site.

15.4. S4UL Assessment

The material which has been identified as having levels of metals and PAHs which exceed the residential with home grown produce S4UL should where necessary be excavated and either or removed from site or else place beneath hardstanding areas or the footprints of structures. Where it is to be left in situ and not covered with hardstanding features or structures the material should be overlain with at least 1m of clean subsoils. These measures will allow the material to be left in place without resulting in a risk to human health of future site users in a residential use context.

15.5. Waste Transfer

Any firm engaged to transport waste material from site and the operator of any waste facility that may accept material excavated from this site, should be furnished with, at a minimum, copies of the **full unabridged** laboratory reports and HazWasteOnLine™ report for all samples presented in this report.

The LoW codes applied at the time of removal from site may be based on the observations made during the bulk excavation which may supersede the LoW codes applied in Table 1.

The made ground material which contains less than 2% anthropogenic material and which **meets** the inert WAC may be removed to an inert licensed facility under the LoW code 17 05 04. Where it contains more than 2% anthropogenic material the LoW code 17 09 04 may be applied.

The made ground material which contains less than 2% anthropogenic material and which **exceeds** the inert WAC may be removed to a non-hazardous licensed facility under the LoW code 17 05 04. Where it contains more than 2% anthropogenic material the LoW code 17 09 04 may be applied.

The natural ground material which meets the inert WAC may be removed to a soil recovery facility or inert landfill facility under the LoW code 17 05 04.

The natural ground material which exceeds the inert WAC may be removed to a non-hazardous licensed facility under the LoW code 17 05 04.

Where material exceeds the inert WAC but complies with the IMS WAC it may be removed to the IMS landfill under either the LoW code 17 05 04 or 07 09 04 as it is licensed to accept both waste codes.

Where TPH or PAHs have been detected the material is not suitable for removal to a soil and stone recovery facility but may be removed to an inert landfill facility.

The waste classification presented in the report are based on GII's professional opinion. It should be noted that the environmental regulator (in this case the EPA) and the waste acceptor (in this case a landfill operator) shall decide whether a waste is hazardous or non-hazardous and suitable for disposal at their facility.

16.0 References

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http://www.epa.ie/pubs/consultation/soilrecoveryconsultation/

APPENDIX 1 – Figures

Site Location

Site Boundary

Client:

barina
New Homes Since 1975

Project Code:
8556-03-19

Project Title:
Santry Development

Drawing Title:
Figure 1 Site Location

GROUND INVESTIGATIONS IRELAND
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 10 20 30 40 50 60 m

Drawn By:	Date:
BS	14/02/2019

Site Location

Client:

barina
New Homes Since 1975

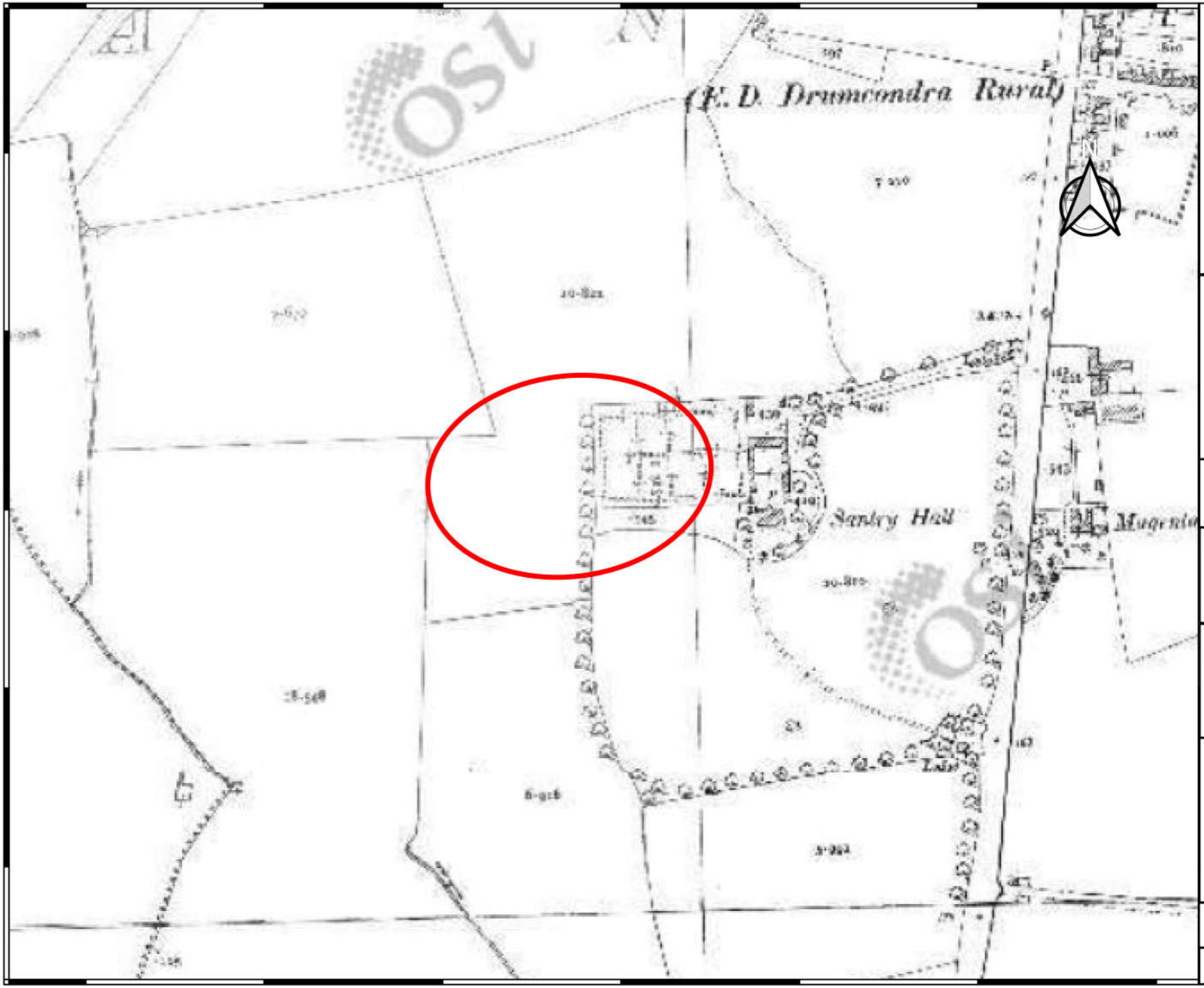
Project Code:
8556-03-19

Project Title:
Omni, Santry

Drawing Title:
Figure 2 OSI 6-Inch Map

GROUND INVESTIGATIONS IRELAND
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Drawn By:	Date:
BS	22/05/2019



Site Location

Client:

barina
New Homes Since 1975

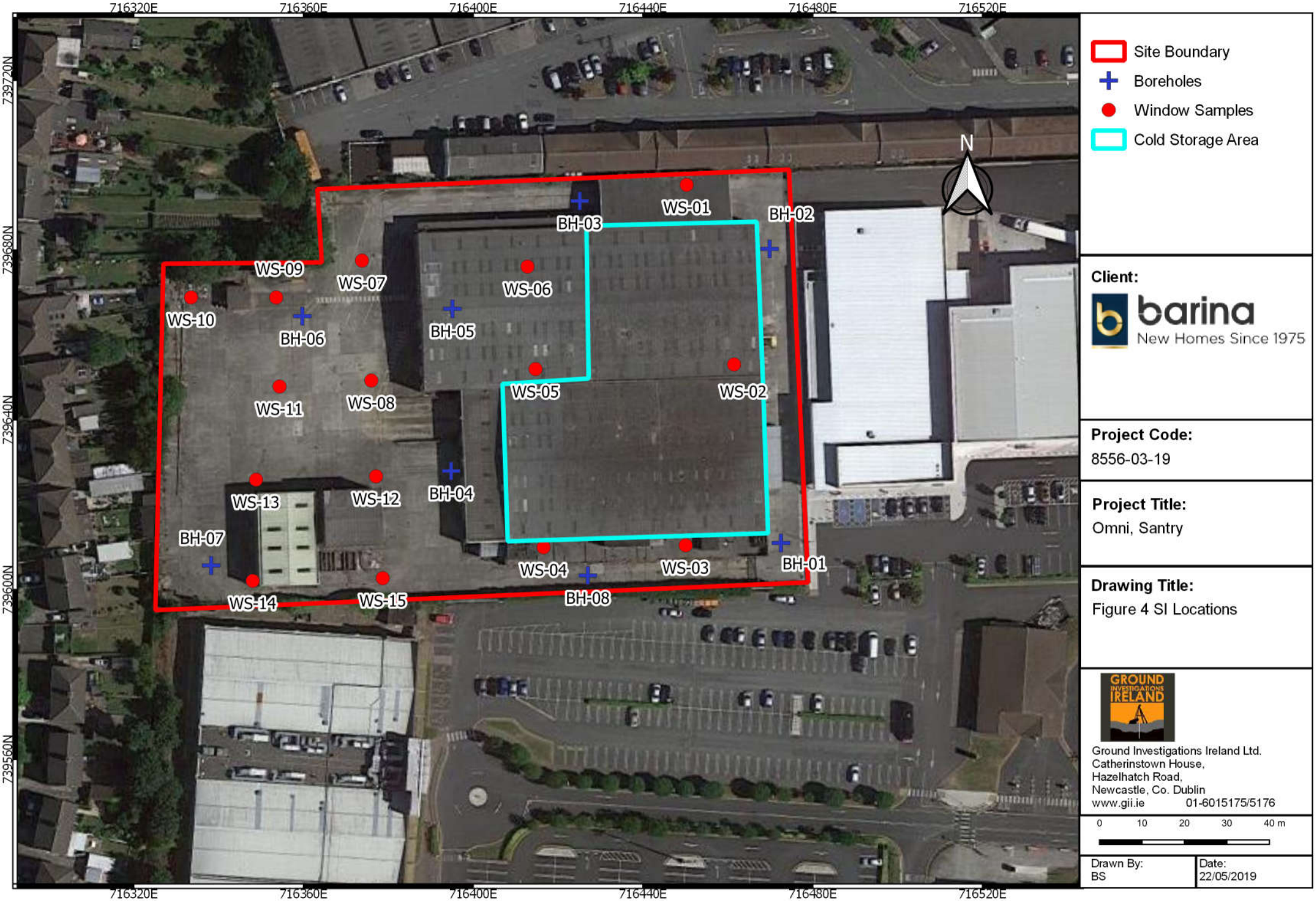
Project Code:
8556-03-19

Project Title:
Omni, Santry

Drawing Title:
Figure 3 OSI 25-Inch Map

GROUND INVESTIGATIONS IRELAND
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Drawn By:	Date:
BS	22/05/2019



Client:

barina
New Homes Since 1975

Project Code:
8556-03-19

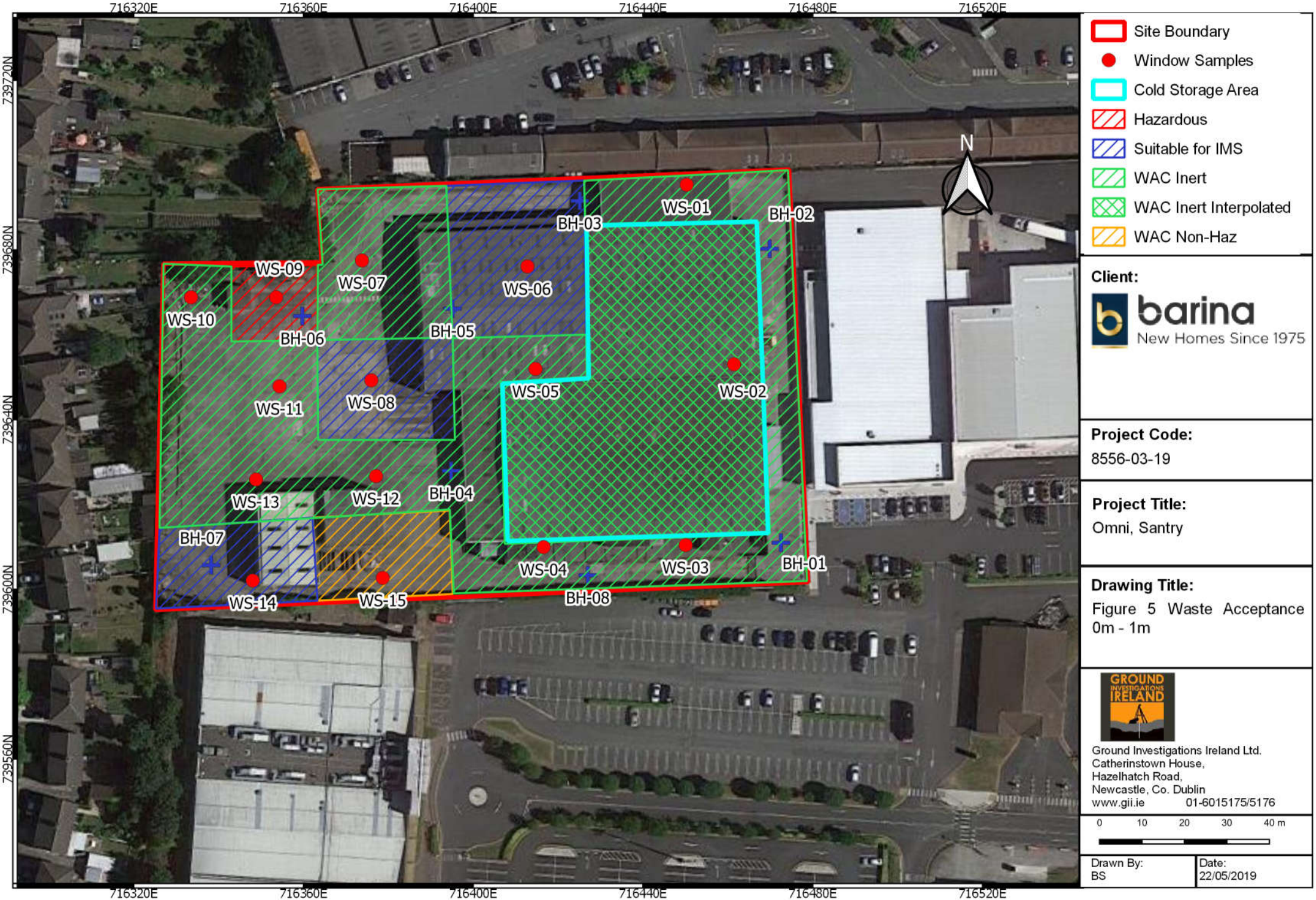
Project Title:
Omni, Santry

Drawing Title:
Figure 4 SI Locations

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 10 20 30 40 m

Drawn By:	Date:
BS	22/05/2019



Site Boundary
Window Samples
Cold Storage Area
Hazardous
Suitable for IMS
WAC Inert
WAC Inert Interpolated
WAC Non-Haz

Client:

barina
New Homes Since 1975

Project Code:
8556-03-19

Project Title:
Omni, Santry

Drawing Title:
Figure 5 Waste Acceptance 0m - 1m

Ground Investigations Ireland Ltd.
Catherinstown House,
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Newcastle, Co. Dublin
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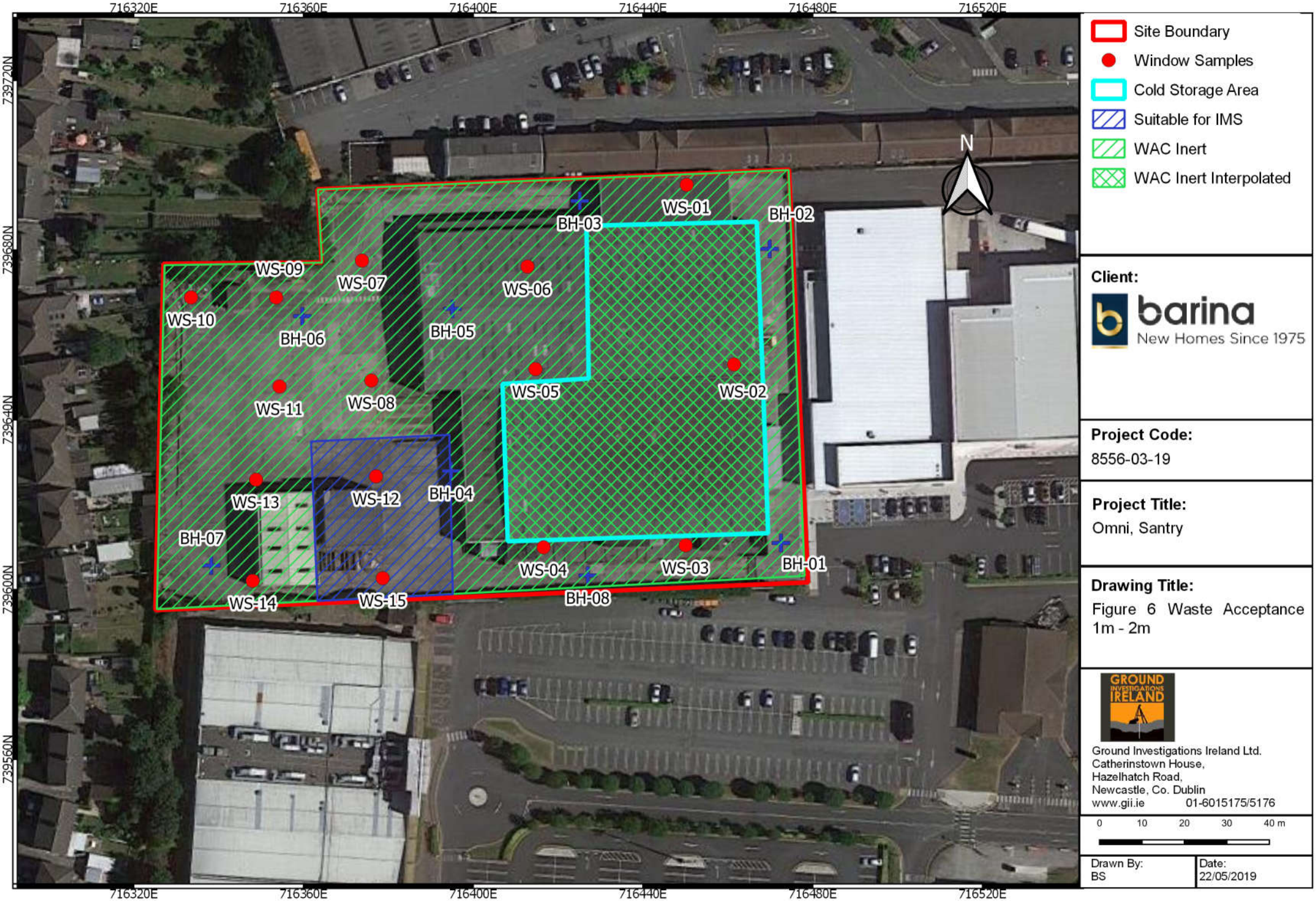
0 10 20 30 40 m

Drawn By:	Date:
BS	22/05/2019



Site Boundary
Window Samples
Cold Storage Area
Suitable for IMS
WAC Inert
WAC Inert Interpolated

Client:

barina
New Homes Since 1975

Project Code:
8556-03-19

Project Title:
Omni, Santry

Drawing Title:
Figure 6 Waste Acceptance 1m - 2m

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Newcastle, Co. Dublin
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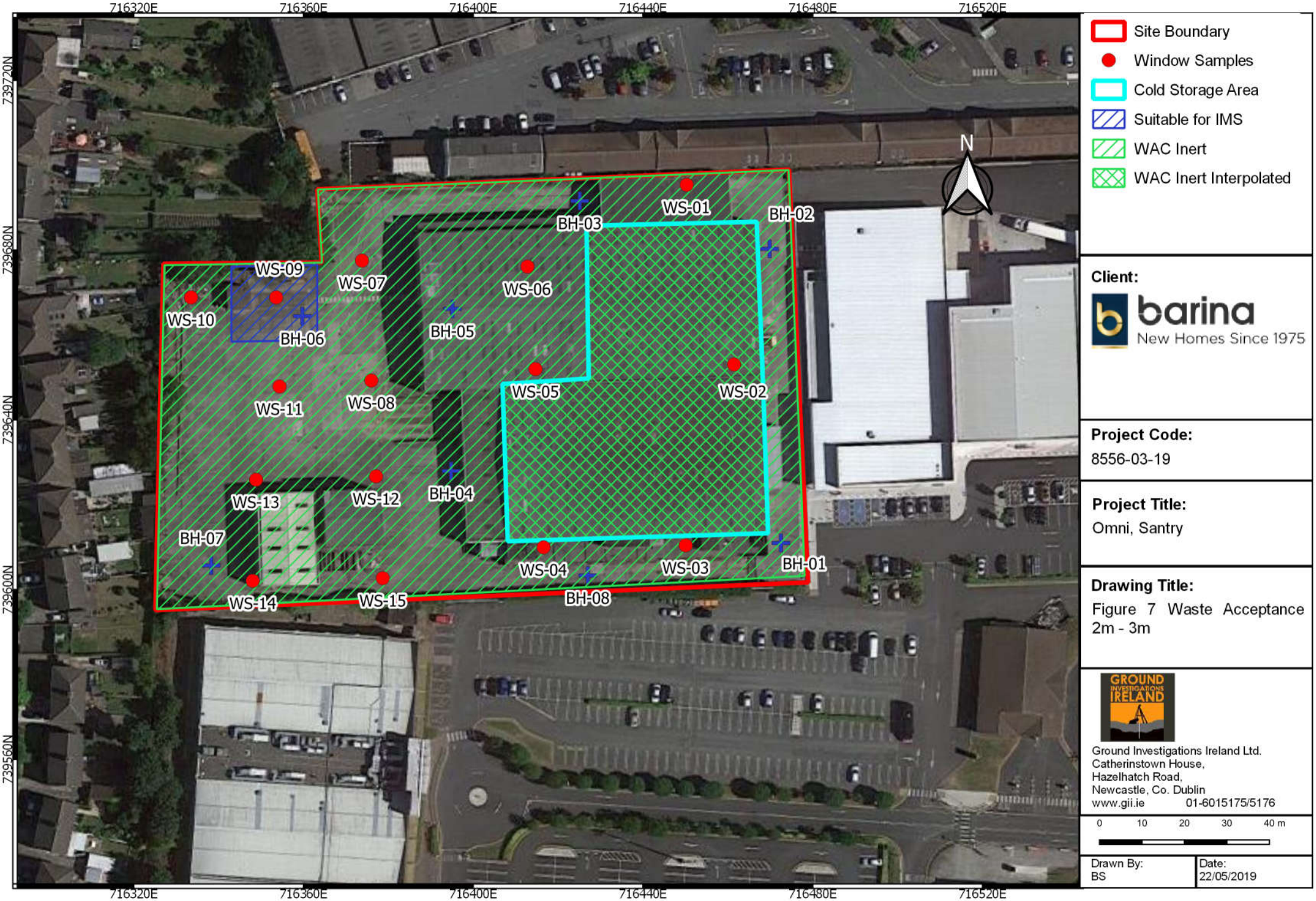
0 10 20 30 40 m

Drawn By:	Date:
BS	22/05/2019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WS-12
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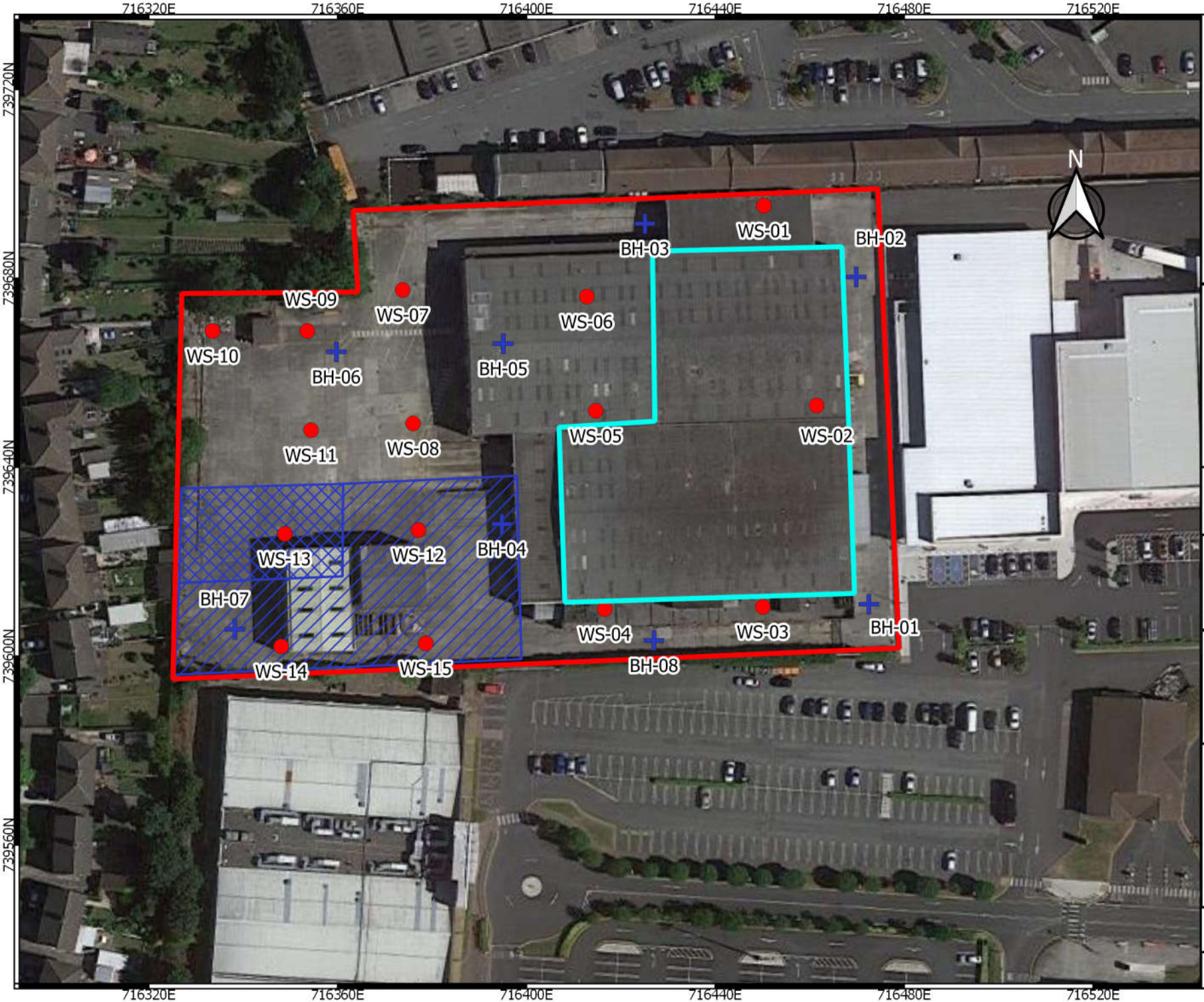
BH-07
BH-01
WS-04
WS-03
WS-14
WS-15
BH-08
Site Boundary
Window Samples
Cold Storage Area
Suitable for IMS
WAC Inert
WAC Inert Interpolated
Client:
barina
New Homes Since 1975
Project Code:
8556-03-19
Project Title:
Omni, Santry
Drawing Title:
Figure 7 Waste Acceptance 2m - 3m
GROUND INVESTIGATIONS IRELAND
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176
0 10 20 30 40 m
Drawn By:
BS
Date:
22/05/2019



Site Boundary
Window Samples
Exceedes S4UL
May Exceed S4UL
Cold Storage Area
Boreholes

Client:

barina
New Homes Since 1975

Project Code:
8556-03-19

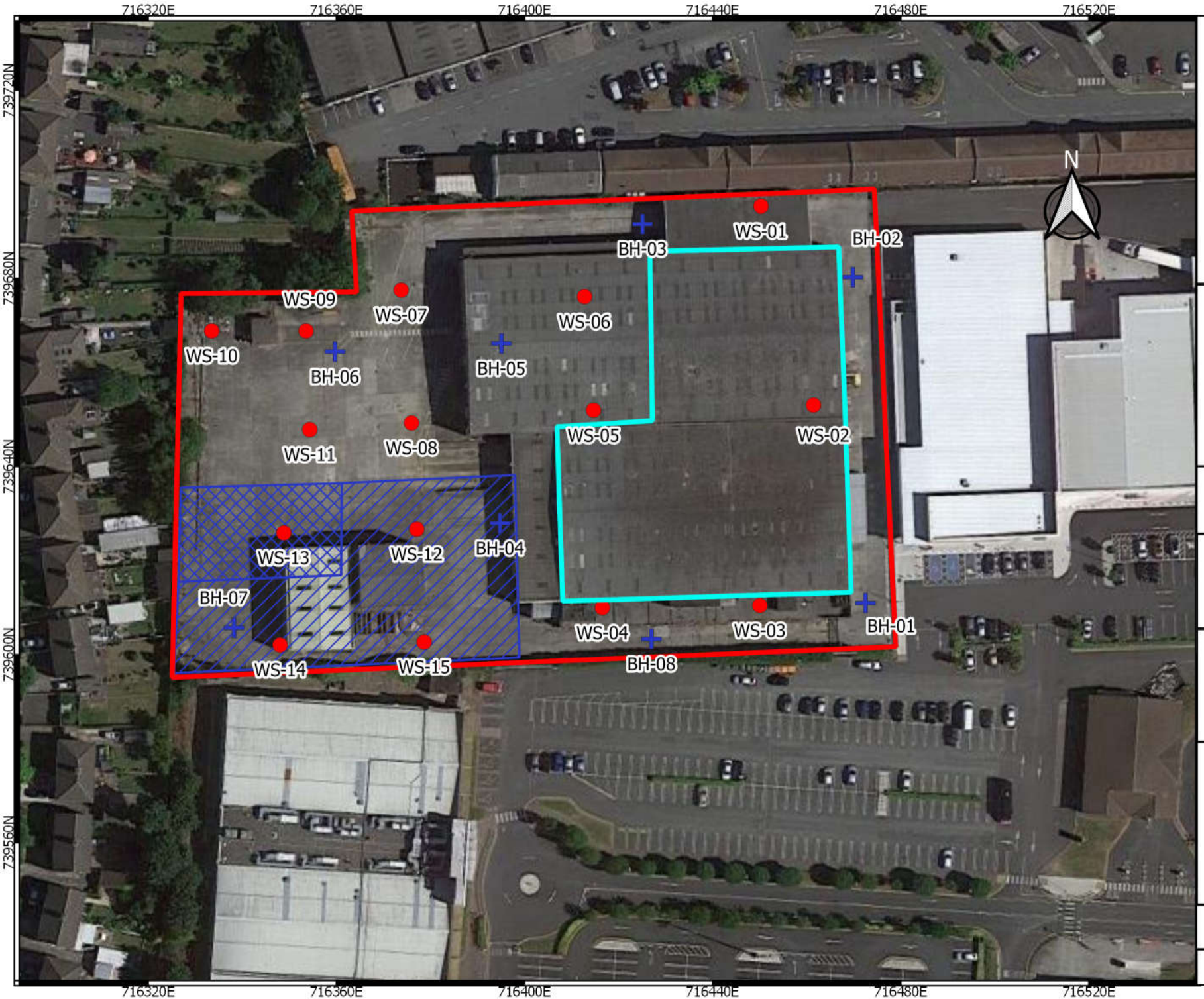
Project Title:
Omni, Santry

Drawing Title:
Figure 8 S4UL Data 0m -1m

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 10 20 30 40 m

Drawn By:	Date:
BS	22/05/2019



Site Boundary
Exceedes S4UL
May Exceed S4UL
Boreholes
Window Samples
Cold Storage Area

Client:

barina
New Homes Since 1975

Project Code:
8556-03-19

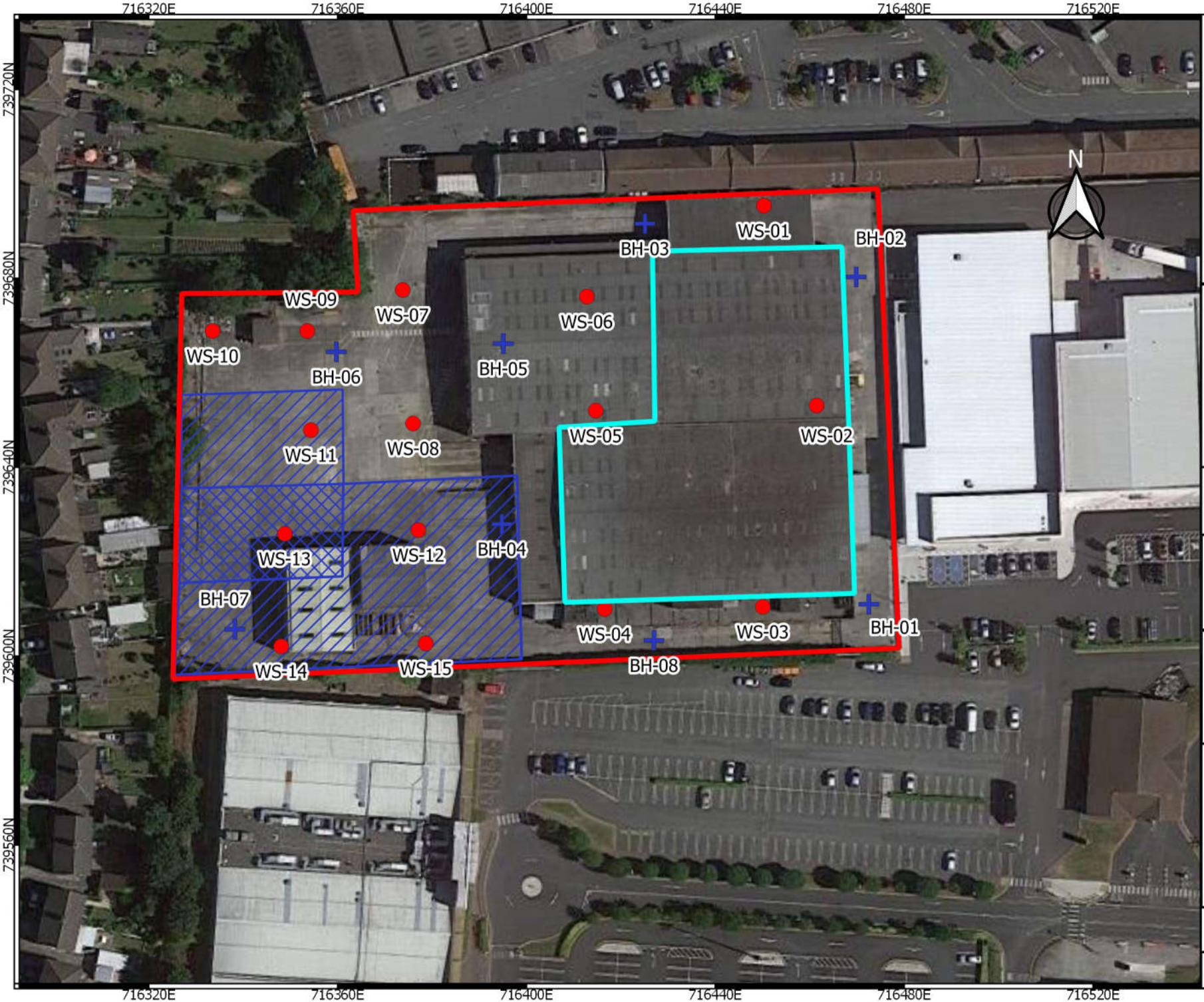
Project Title:
Omni, Santry

Drawing Title:
Figure 9 S4UL Exceedance 1m - 2m

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 10 20 30 40 m

Drawn By:	Date:
BS	22/05/2019



Site Boundary
Exceedes S4UL
May Exceed S4UL
Boreholes
Window Samples
Cold Storage Area

Client:

barina
New Homes Since 1975

Project Code:
8556-03-19

Project Title:
Omni, Santry

Drawing Title:
Figure 10 S4UL Exceedance 2m - 3m

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 10 20 30 40 m

Drawn By:	Date:
BS	22/05/2019

APPENDIX 2 – Window Sample Logs

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS01
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 59.50	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716448.1 E 739693 N	**Dates** 16/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.24)	Concrete.		
				59.26	0.24	MADE GROUND: Soft brown grey very clayey sandy fine to medium sub-angular to sub-rounded Gravel with a plastic layer.		
					(0.32)			
				58.94	0.56	Brown slightly clayey slightly gravelly fine to medium grained SAND.		
						0.00-1.00m - 66% recovery.		
1.00-2.00	EN				(0.92)			
				58.02	1.48	Firm to stiff light brown dark grey slightly sandy gravelly CLAY with occasional cobbles. Gravel is sub-angular to sub-rounded		
					(0.52)	1.00-2.00m - 82% recovery.		
				57.50	2.00	Refusal at 2.00m BGL.		
						Complete at 2.00m		

Remarks

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS01

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS03
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.46	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716448.8 E 739605.1 N	**Dates** 16/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.27)	Concrete.		
				56.19	0.27	MADE GROUND: Dark grey black very clayey slightly sandy fine to coarse sub-angular to sub-rounded Gravel with redbrick mortar and root fragments. Occasional sub-angular cobbles.		
					(0.83)	0.00-1.00m - 86% recovery.		
1.00-2.00	EN			55.36	1.10	Firm light brown mottled grey slightly sandy gravelly CLAY with some small root fragments. Gravel is fine to coarse sub-rounded to rounded.		
					(0.90)	1.00-2.00m - 100% recovery.		
				54.46	2.00	Refusal at 2.00m BGL.		
						Complete at 2.90m		

Remarks

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS03

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS04
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.52	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716415.7 E 739603.6 N	**Dates** 16/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.24)	Concrete.		
				56.28	0.24	MADE GROUND: Dark grey very clayey sandy fine to coarse angular to sub-angular Gravel.		
					(0.63)	0.00-1.00m - 84% recovery.		
				55.65	0.87	MADE GROUND: Soft brown light brown slightly sandy gravelly Clay with redbrick mortar charcoal glass ceramics and root fragments.		
1.00-2.00	EN				(1.02)	1.00-2.00m - 100% recovery.		
				54.63	1.89	Soft to firm light brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is fine to medium angular to sub-angular.		
2.00-2.90	EN				(0.70)	Sand lense.		
						2.00-2.90m - 100% recovery		
				53.93	2.59	Firm dark brown grey slightly sandy gravelly CLAY. Gravel is sub-rounded to rounded.		
					(0.31)			
				53.62	2.90	Refusal at 2.90m BGL.		
						Complete at 2.90m		

Remarks

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS04

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS05
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 60.80	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716419.4 E 739655.6 N	**Dates** 16/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.30)	Concrete.		
				60.50	0.30			
					(0.10)	MADE GROUND: Brownish grey clayey very sandy fine to coarse angular to sub-angular Gravel.		
				60.40	0.40			
					(0.38)	MADE GROUND: Dark grey black slightly sandy very clayey fine to coarse sub-angular to sub-rounded Gravel with redbrick and mortar fragments.		
						0.00-1.00m - 86% recovery.		
				60.02	0.78			
					(0.42)	MADE GROUND: Soft to firm light brown grey slightly sandy slightly gravelly Clay with small redbrick mortar ceramic and glass fragments. Occasional cobbles.		
1.00-2.00	EN							
				59.60	1.20	Firm light brown mottled grey slightly sandy gravelly CLAY.		
						1.00-2.00m - 100% recovery.		
					(1.32)			
2.00-2.82	EN					2.00-2.82m - 100% recovery		
				58.28	2.52	Firm dark brown grey slightly sandy gravelly CLAY.		
					(0.30)			
				57.98	2.82	Refusal at 2.82m BGL.		
						Complete at 2.82m		

Remarks

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS05

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS06
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 59.88	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716419.3 E 739675.7 N	**Dates** 16/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.13)	Concrete.		
				59.75	0.13	MADE GROUND: Brownish grey clayey very sandy fine to coarse angular to sub-angular Gravel.		
					(0.26)			
				59.49	0.39	MADE GROUND: Dark brown grey very clayey sandy fine to coarse sub-angular to sub-rounded Gravel.		
					(0.25)			
				59.24	0.64	0.00-1.00m - 99% recovery.		
					(0.32)	MADE GROUND: Stiff light brown mottled grey slightly sandy slightly gravelly Clay with small redbrick mortar and charcoal fragments.		
				58.92	0.96	Firm light brown mottled grey slightly sandy gravelly CLAY with small root fibres.		
1.00-2.00	EN							
					(1.20)	1.00-2.00m - 100% recovery.		
2.00-2.60	EN							
				57.72	2.16	Stiff dark grey black slightly sandy gravelly CLAY with small root fibres.		
					(0.44)	2.00-2.60m - 100% recovery		
				57.28	2.60	Refusal at 2.60m BGL.		
						Complete at 2.60m		

Remarks

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS06

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS07
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.70	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716374.4 E 739677.4 N	**Dates** 16/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.26)	Concrete.		
				56.44	0.26	MADE GROUND: Brown very clayey sandy fine to coarse angular to sub-angular Gravel with occasional cobbles.		
					(0.89)	0.00-1.00m - 60% recovery.		
1.00-2.00	EN			55.55	1.15	Brown grey slightly clayey slightly gravelly fine to medium grained SAND.		
					(0.30)			
				55.25	1.45	Firm light brown slightly sandy gravelly CLAY with occasional cobbles. Gravel is sub-angular to sub-rounded		
					(0.40)	1.00-1.85m - 100% recovery.		
				54.85	1.85	Firm to stiff dark brown grey slightly sandy gravelly CLAY.		
					(0.55)			
				54.30	2.40	Refusal at 2.40m BGL.		
						Complete at 2.40m		

Remarks

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS07

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS08
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.63	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716379.4 E 739647.8 N	**Dates** 15/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.18)	Concrete.		
				56.45	0.18	MADE GROUND: Grey very clayey sandy fine to coarse angular to sub-rounded Gravel.		
					(0.24)			
				56.21	0.42	MADE GROUND: Soft brown slightly sandy gravelly Clay with charcoal and mortar fragments.		
					(0.15)			
				56.06	0.57	MADE GROUND: Firm to stiff brown to light brown slightly sandy slightly gravelly Clay with redbrick charcoal mortar ceramics fragments.		
					(0.40)	0.00-1.00m - 98% recovery.		
				55.66	0.97			
1.00-2.00	EN					Firm to stiff dark brown mottled grey slightly sandy gravelly CLAY. Gravel is fine to coarse sub-rounded to rounded		
						1.00-2.00m - 100% recovery.		
					(1.31)			
2.00-2.90	EN							
				54.35	2.28	Firm to stiff dark brown grey slightly sandy gravelly CLAY. Gravel is sub-rounded to rounded.		
					(0.62)	2.00-2.90m - 100% recovery.		
				53.73	2.90	Refusal at 2.90m BGL.		
						Complete at 2.90m		

Remarks
Hydrocarbon odour noted.

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS08

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS09
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.46	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716356.3 E 739667.2 N	**Dates** 15/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.13)	Concrete.		
				56.33	0.13			
					(0.20)	MADE GROUND: Grey very clayey slightly sandy fine to coarse angular to sub-angular Gravel.		
				56.13	0.33			
					(0.82)	MADE GROUND: Soft to firm light brown mottled grey slightly sandy gravelly Clay with mortar and root fragments. 0.00-1.00m - 87% recovery.		
1.00-2.00	EN							
				55.31	1.15	Firm light brown mottled grey slightly sandy gravelly CLAY.		
					(0.58)	1.00-2.00m - 100% recovery.		
				54.73	1.73			
2.00-2.90	EN					Firm to very stiff dark grey black slightly sandy gravelly CLAY. Gravel is fine to coarse angular to sub-angular.		
					(1.17)	2.00-2.90m - 100% recovery.		
				53.56	2.90	Refusal at 2.90m BGL.		
						Complete at 2.90m		

Remarks
Hydrocarbon odour noted.

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS09

Ground Investigations Ireland Ltd
www.gii.ie

Site	Number
Santry	WS10

Machine / Method	Dimensions	Ground Level (mOD)	Client	Job Number
Machine : GeoTech 10 Method : Drive-in Windowless Sampler		56.60	Barina Property Group	8556-03-19
	Location 716335.9 E 739660.6 N	**Dates** 15/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.22)	Concrete.		
				56.38	0.22	MADE GROUND: Grey very clayey slightly sandy fine to coarse angular to sub-angular Gravel.		
					(0.23)			
				56.15	0.45	MADE GROUND: Soft to firm light brown mottled yellow slightly sandy very gravelly Clay with redbrick mortar and charcoal fragments. Occasional angular sub-angular cobbles.		
					(0.55)	0.00-1.00m - 75% recovery.		
1.00-2.00	EN			55.60	1.00	Firm light brown to brown mottled grey slightly sandy gravelly CLAY. Gravel is angular to sub-angular. Occasional cobbles.		
					(1.00)	1.00-2.00m - 100% recovery.		
2.00-2.45	EN			54.60	2.00	Firm to stiff brown to dark brown mottled grey slightly sandy gravelly CLAY. Gravel is sub-rounded.		
					(0.45)	2.00-2.45m - 100% recovery		
				54.15	2.45	Refusal at 2.45m BGL.		
						Complete at 2.45m		

Remarks
Hydrocarbon odour noted.

Scale (approx)	Logged By
1:25	NM

Figure No.
8556-03-19.WS10

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS11
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.58	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716353.3 E 739647.2 N	**Dates** 15/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.22)	Concrete.		
				56.36	0.22	MADE GROUND: Grey brown very clayey sandy fine to coarse angular to sub-angular Gravel.		
					(0.28)			
				56.08	0.50	MADE GROUND: Firm dark brown grey slightly sandy gravelly Clay with redbrick mortar and charcoal fragments. Occasional cobbles		
					(0.50)	0.00-1.00m - 75% recovery.		
1.00-2.00	EN			55.58	1.00	MADE GROUND: Firm light brown mottled grey slightly sandy gravelly Clay with mortar fragments.		
					(0.40)			
				55.18	1.40	POSSIBLE MADE GROUND: Soft to firm light brown mottled grey slightly sandy gravelly CLAY. Gravel is fine to coarse sub-angular to sub-rounded.		
					(0.80)	1.00-2.00m - 100% recovery.		
2.00-2.70	EN			54.38	2.20	Firm to stiff dark brown grey slightly sandy gravelly CLAY. Gravel is fine to coarse sub-rounded to rounded.		
					(0.50)	2.00-2.70m - 100% recovery.		
				53.88	2.70	Refusal at 2.70m BGL.		
						Complete at 2.70m		

Remarks
Hydrocarbon odour noted.

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS11

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS12
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.52	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716379.6 E 739623.6 N	**Dates** 15/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.30)	Concrete.		
				56.22	0.30			
					(0.15)	MADE GROUND: Grey very clayey sandy fine to coarse angular to sub-angular Gravel.		
				56.07	0.45			
					(0.30)	MADE GROUND: Firm to stiff brown mottled grey sandy gravelly Clay with redbrick mortar and charcoal fragments.		
						0.00-1.00m - 93% recovery.		
				55.77	0.75			
1.00-2.00	EN				(0.65)	MADE GROUND: Firm to stiff dark brown to light brown mottled grey slightly sandy gravelly Clay with redbrick mortar ceramic and charcoal fragments.		
						1.00-2.00m - 90% recovery.		
				55.12	1.40			
					(0.75)	POSSIBLE MADE GROUND: Firm light brown mottled grey orange slightly sandy gravelly CLAY. Rare sub-angular to sub-rounded cobbles.		
2.00-2.90	EN							
				54.37	2.15			
					(0.75)	Firm to stiff dark brown black grey slightly sandy gravelly CLAY.		
						2.00-3.00m - 100% recovery.		
				53.62	2.90	Refusal at 2.90m BGL.		
						Complete at 2.90m		

Remarks
Hydrocarbon odour noted.

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS12

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS13
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.50	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716347.9 E 739628.4 N	**Dates** 15/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Concrete.		
				56.25	0.25	No recovery - Gravel Fill		
					(0.55)			
				55.70	0.80	Refusal at 0.80m BGL due to rock or boulder.		
						Complete at 0.80m		

Remarks
Refusal at 0.80m BGL due to rock or boulder

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS13

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS14
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.43	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716344.3 E 739601.1 N	**Dates** 16/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.20)	Concrete.		
				56.23	0.20	MADE GROUND: Soft grey black clayey sandy fine to coarse angular to sub-angular Gravel.		
					(0.36)	0.00-1.00m - 84% recovery.		
				55.87	0.56	MADE GROUND: Soft to firm brown slightly clayey very sandy fine to coarse sub-rounded Gravel.		
					(0.20)			
				55.67	0.76	MADE GROUND: Firm light brown mottled grey slightly sandy gravelly Clay with small redbrick mortar and charcoal fragments.		
1.00-2.00	EN				(0.84)			
						1.00-2.00m - 95% recovery.		
				54.83	1.60	Stiff brown mottled grey slighty sandy gravelly CLAY.		
2.00-2.70	EN				(1.10)			
						2.00-2.70m - 100% recovery.		
				53.73	2.70	Refusal at 2.70m BGL.		
						Complete at 2.70m		

Remarks
Hydrocarbon odour noted.

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS14

Ground Investigations Ireland Ltd
www.gii.ie

Site Santry			**Number** WS15
Machine : GeoTech 10 **Method :** Drive-in Windowless Sampler	**Dimensions**	**Ground Level (mOD)** 56.36	**Client** Barina Property Group	**Job Number** 8556-03-19
	Location 716376.8 E 739602.5 N	**Dates** 15/04/2019	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	EN				(0.25)	Concrete.		
				56.11	0.25	MADE GROUND: Soft grey very clayey slightly sandy fine to coarse angular to sub-angular Gravel with occasional cobbles.		
					(0.30)			
				55.81	0.55	MADE GROUND: Soft to firm dark brown grey slightly sandy slightly gravelly Clay with redbrick mortar fragments.		
					(0.45)	0.00-1.00m - 87% recovery.		
1.00-2.00	EN			55.36	1.00	MADE GROUND: Firm grey brown slightly sandy slightly gravelly Clay with redbrick and charcoal fragments.		
					(0.30)			
				55.06	1.30	POSSIBLE MADE GROUND: Firm light brown mottled grey slightly sandy gravelly Clay with rare sub-angular to sub-angular cobbles.		
					(1.20)	1.00-2.00m - 100% recovery.		
2.00-3.00	EN			53.86	2.50	Stiff dark brown slightly sandy gravelly CLAY. Gravel is fine to coarse angular to sub-angular.		
					(0.50)	2.00-3.00m - 100% recovery		
				53.36	3.00	Refusal at 3.00m BGL.		
						Complete at 3.00m		

Remarks
Hydrocarbon odour noted.

Scale (approx)	Logged By
1:25	NM

Figure No. 8556-03-19.WS15

APPENDIX 3 – Laboratory Reports

Exova Jones Environmental

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Ground Investigations Ireland
Catherinestown House
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Attention :	Barry Sexton
Date :	3rd May, 2019
Your reference :	8556-03-19
Our reference :	Test Report 19/6453 Batch 1
Location :	Santry
Date samples received :	18th April, 2019
Status :	Final report
Issue :	1

Thirty four samples were received for analysis on 18th April, 2019 of which thirty were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Where Waste Acceptance Criteria Suite (EC Decision of 19 December 2002 (2003/33/EC)) has been requested, all analyses have been performed using the relevant EN methods where they exist.

Compiled By:

Phil Sommerton BSc
Project Manager

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-3	4-6	7-9	10-12	13-15	19-21	22-24	28-30	31-33	37-39	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07			
Depth	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Antimony	1	2	2	4	2	2	2	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	7.2	10.7	11.8	22.7	10.5	15.8	8.9	10.5	7.5	10.2	<0.5	mg/kg	TM30/PM15
Barium #	77	91	61	185	65	117	60	66	73	69	<1	mg/kg	TM30/PM15
Cadmium #	1.5	1.9	2.1	2.8	2.0	6.7	2.1	2.5	2.2	2.0	<0.1	mg/kg	TM30/PM15
Chromium #	16.2	20.3	20.0	32.1	23.1	29.8	27.2	29.9	26.1	20.3	<0.5	mg/kg	TM30/PM15
Copper #	18	26	28	91	28	88	26	28	23	26	<1	mg/kg	TM30/PM15
Lead #	12	16	24	127	16	81	16	17	14	17	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	1.5	3.8	3.0	4.1	3.9	3.2	3.5	4.2	3.6	3.8	<0.1	mg/kg	TM30/PM15
Nickel #	25.0	39.3	39.8	54.1	40.5	38.6	35.8	37.7	32.5	38.9	<0.7	mg/kg	TM30/PM15
Selenium #	1	3	<1	2	<1	1	1	1	5	4	<1	mg/kg	TM30/PM15
Zinc #	64	74	74	220	77	1910	79	77	70	77	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	0.09	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	0.13	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	0.11	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	0.10	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	0.14	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22	0.35	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	0.73	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	100	92	98	91	89	95	97	93	82	95	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-3	4-6	7-9	10-12	13-15	19-21	22-24	28-30	31-33	37-39	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07			
Depth	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	0.2 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	<0.1	0.2 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Benzene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Toluene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-3	4-6	7-9	10-12	13-15	19-21	22-24	28-30	31-33	37-39	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07			
Depth	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Natural Moisture Content	12.9	13.8	12.4	26.6	15.2	21.8	13.8	17.4	12.6	13.8	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	11.5	12.2	11.1	21.0	13.2	17.9	12.1	14.9	11.2	12.1	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	16.2	20.3	20.0	32.1	23.1	29.8	27.2	29.9	26.1	20.3	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.28	0.61	0.68	1.79	0.48	2.06	0.40	0.41	0.46	0.63	<0.02	%	TM21/PM24
pH #	9.16	8.82	8.50	8.30	8.03	7.95	8.65	8.59	8.65	8.64	<0.01	pH units	TM73/PM11
Mass of raw test portion	0.105	0.1037	0.1015	0.114	0.1	0.1058	0.1022	0.109	0.1	0.1015		kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	40-42	43-45	46-48	49-51	52-54	55-57	58-60	61-63	67-69	70-72	LOD/LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11			
Depth	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Antimony	3	2	2	4	2	2	4	2	3	2	<1	mg/kg	TM30/PM15
Arsenic #	18.2	10.7	8.7	17.1	9.0	8.5	22.0	9.9	20.2	10.0	<0.5	mg/kg	TM30/PM15
Barium #	142	80	72	125	153	86	114	59	136	85	<1	mg/kg	TM30/PM15
Cadmium #	2.7	2.2	2.3	2.5	2.1	1.9	2.9	2.1	2.7	2.2	<0.1	mg/kg	TM30/PM15
Chromium #	55.6	27.8	16.0	46.5	22.3	19.2	50.8	19.7	32.7	24.2	<0.5	mg/kg	TM30/PM15
Copper #	57	27	26	47	27	27	57	25	44	27	<1	mg/kg	TM30/PM15
Lead #	88	20	15	28	14	15	85	17	70	16	<5	mg/kg	TM30/PM15
Mercury #	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	6.8	5.2	3.9	5.7	3.7	3.6	5.4	3.0	5.5	3.8	<0.1	mg/kg	TM30/PM15
Nickel #	61.2	46.4	37.8	68.5	35.9	36.7	66.9	38.4	67.5	47.7	<0.7	mg/kg	TM30/PM15
Selenium #	1	2	3	2	2	4	2	2	2	2	<1	mg/kg	TM30/PM15
Zinc #	127	89	90	133	70	61	170	73	116	85	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	0.16	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	0.26	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	0.25	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.10	<0.06	0.25	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	0.26	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.10	<0.07	0.53	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	0.31	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.20	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.09	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.20	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.23	<0.22	1.50	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	2.61	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	0.38	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	0.15	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	99	95	97	90	83	98	75	93	99	99	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	40	922	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	40-42	43-45	46-48	49-51	52-54	55-57	58-60	61-63	67-69	70-72	LOD/LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11			
Depth	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	0.6	0.2 SV	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1 SV	0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	2.2	5.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	10	177	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	14	353	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	<7	<7	14	374	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	12	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	40	922	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	<0.1	0.6	0.2 SV	0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	41	709	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	<10	254	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	3.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	<4	78	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7	<7	<7	161	<7	<7	10	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	<7	<7	<7	173	<7	<7	20	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	10	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26	<26	<26	425	<26	<26	30	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	<52	<52	<52	1347	<52	<52	<52	<52	<52	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	<10	<10	290	<10	<10	17	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10	<10	<10	82	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5 SV	<5	<5 SV	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5 SV	<5	<5 SV	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Toluene #	<5	<5	<5 SV	<5	<5 SV	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5 SV	<5	<5 SV	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5 SV	<5	<5 SV	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5	<5 SV	<5	<5 SV	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	40-42	43-45	46-48	49-51	52-54	55-57	58-60	61-63	67-69	70-72	LOD/LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11			
Depth	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Natural Moisture Content	27.7	12.7	11.5	15.9	11.6	10.3	22.2	11.9	25.6	14.0	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	21.7	11.3	10.4	13.7	10.4	9.3	18.2	10.6	20.4	12.3	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	55.6	27.8	16.0	46.5	22.3	19.2	50.8	19.7	32.7	24.2	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	3.57	0.49	0.73	0.69	0.77	0.66	1.50	0.39	1.86	0.51	<0.02	%	TM21/PM24
pH #	7.91	8.79	8.73	8.36	8.69	8.36	8.46	8.83	7.91	8.78	<0.01	pH units	TM73/PM11
Mass of raw test portion	0.1056	0.101	0.1003	0.1019	0.1041	0.0999	0.108	0.1012	0.1118	0.1033		kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	73-75	76-78	79-81	82-84	85-87	88-90	91-93	94-96	97-99	100-102	LOD/LOR	Units	Method No.
Sample ID	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15			
Depth	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Antimony	2	2	2	2	3	2	2	3	2	2	<1	mg/kg	TM30/PM15
Arsenic #	9.6	18.6	12.0	9.8	22.0	11.3	9.1	21.7	10.9	10.4	<0.5	mg/kg	TM30/PM15
Barium #	89	141	99	77	96	61	59	139	78	63	<1	mg/kg	TM30/PM15
Cadmium #	2.1	1.4	2.8	2.0	1.4	2.6	2.3	2.0	2.4	2.1	<0.1	mg/kg	TM30/PM15
Chromium #	17.6	26.1	21.6	19.6	23.1	17.3	23.9	37.0	28.9	17.4	<0.5	mg/kg	TM30/PM15
Copper #	25	38	33	25	33	27	25	63	29	26	<1	mg/kg	TM30/PM15
Lead #	15	78	20	15	73	16	15	137	15	15	<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.4	<0.1	<0.1	0.1	<0.1	<0.1	1.5	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.5	2.5	4.4	3.5	1.9	3.3	3.0	4.2	3.6	3.8	<0.1	mg/kg	TM30/PM15
Nickel #	37.3	37.8	48.8	38.8	31.0	49.0	35.8	49.6	48.8	39.0	<0.7	mg/kg	TM30/PM15
Selenium #	4	2	1	4	<1	1	2	2	<1	2	<1	mg/kg	TM30/PM15
Zinc #	73	94	93	77	143	85	89	142	71	73	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	0.19	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	3.01	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	0.09	<0.04	<0.04	0.06	0.06	<0.04	2.36	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.76	<0.03	<0.03	0.05	<0.03	<0.03	20.22	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	0.14	<0.04	<0.04	<0.04	<0.04	<0.04	2.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.92	<0.03	<0.03	<0.03	<0.03	<0.03	18.44	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.77	<0.03	<0.03	<0.03	<0.03	<0.03	15.61	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	0.54	<0.06	<0.06	<0.06	<0.06	<0.06	7.86	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.49	<0.02	<0.02	<0.02	<0.02	<0.02	7.13	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	0.80	<0.07	<0.07	<0.07	<0.07	<0.07	12.76	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	0.42	<0.04	<0.04	<0.04	<0.04	<0.04	7.29	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	0.25	<0.04	<0.04	<0.04	<0.04	<0.04	4.21	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	<0.04	1.44	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	0.26	<0.04	<0.04	<0.04	<0.04	<0.04	4.49	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	0.73	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	2.65	<0.22	<0.22	<0.22	<0.22	<0.22	47.19	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	5.69	<0.64	<0.64	<0.64	<0.64	<0.64	107.93	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	0.58	<0.05	<0.05	<0.05	<0.05	<0.05	9.19	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	3.57	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	4	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	98	95	97	93	96	98	92	101	99	88	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	<30	<30	<30	164	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	73-75	76-78	79-81	82-84	85-87	88-90	91-93	94-96	97-99	100-102	LOD/LOR	Units	Method No.
Sample ID	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15			
Depth	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	0.2 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	<4	<4	<4	26	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	<7	<7	<7	53	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	<7	<7	<7	<7	<7	85	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	<26	<26	<26	164	<26	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10	0.2 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	<10	<10	<10	109	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	<10	<10	<10	47	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 #	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	<4	<4	<4	16	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7	<7	<7	<7	15	50	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	<7	62	<7	<7	41	17	<7	53	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26	62	<26	<26	56	83	<26	53	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40)	<52	62	<52	<52	56	247	<52	53	<52	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 #	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	19	<10	<10	30	68	<10	13	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10	46	<10	<10	30	<10	<10	44	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Benzene #	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Toluene #	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
o-Xylene #	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	73-75	76-78	79-81	82-84	85-87	88-90	91-93	94-96	97-99	100-102	LOD/LOR	Units	Method No.
Sample ID	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15			
Depth	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Natural Moisture Content	10.7	24.8	14.2	10.6	26.6	14.7	14.5	33.3	16.2	11.5	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	9.7	19.9	12.4	9.5	21.0	12.8	12.7	25.0	13.9	10.3	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	17.6	26.1	21.6	19.6	23.1	17.3	23.9	37.0	28.9	17.4	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.85	2.58	0.49	0.64	3.04	0.48	0.49	5.64	0.43	0.64	<0.02	%	TM21/PM24
pH #	8.76	8.01	8.41	8.85	8.31	8.26	8.41	7.82	8.46	8.86	<0.01	pH units	TM73/PM11
Mass of raw test portion	0.1011	0.1034	0.1042	0.1026	0.1138	0.1042	0.1037	0.1194	0.1038	0.0977		kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-3	4-6	7-9	10-12	13-15	19-21	22-24	28-30	31-33	37-39	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07			
Depth	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	0.006	<0.002	0.007	0.003	0.004	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	0.07	0.03	0.04	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0038	<0.0025	0.0035	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	0.038	<0.025	0.035	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.011	0.011	0.006	0.007	0.018	0.018	0.026	0.019	0.014	0.010	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.11	0.11	0.06	0.07	0.18	0.18	0.26	0.19	0.14	0.10	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.002	0.038	0.007	0.013	0.021	0.032	0.021	0.055	0.031	0.025	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	<0.02	0.38	0.07	0.13	0.21	0.32	0.21	0.55	0.31	0.25	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	<0.002	0.005	0.002	0.003	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	0.03	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003	<0.003	0.009	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	0.09	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	0.5	<0.3	0.3	<0.3	0.4	0.3	<0.3	0.3	0.4	<0.3	mg/l	TM173/PM0
Fluoride	<3	5	<3	3	<3	4	<3	<3	<3	4	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	1.7	2.8	6.3	31.0	11.1	40.3	19.1	36.6	4.2	2.3	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	17	28	63	310	111	403	191	366	42	23	<5	mg/kg	TM38/PM0
Chloride #	<0.3	<0.3	<0.3	<0.3	0.4	4.9	<0.3	4.4	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3	<3	4	49	<3	44	<3	<3	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	<2	<2	2	4	3	10	3	6	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	20	40	30	100	30	60	<20	<20	<20	mg/kg	TM60/PM0
pH	8.84	8.39	8.18	8.19	8.22	8.27	8.36	8.31	8.16	8.22	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	46	43	72	127	91	157	102	465	69	215	<35	mg/l	TM20/PM0
Total Dissolved Solids #	460	430	720	1271	910	1571	1020	4648	690	2151	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	40-42	43-45	46-48	49-51	52-54	55-57	58-60	61-63	67-69	70-72	LOD/LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11			
Depth	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Dissolved Antimony #	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	0.0053	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	0.053	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.047	0.007	0.017	0.009	0.022	0.011	0.011	0.008	0.046	0.004	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.47	0.07	0.17	0.09	0.22	0.11	0.11	0.08	0.46	0.04	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.040	0.030	0.033	0.032	0.010	0.039	0.017	0.022	0.026	0.022	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.40	0.30	0.33	0.32	0.10	0.39	0.17	0.22	0.26	0.22	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	0.006	<0.002	<0.002	<0.002	0.005	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	0.06	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	0.008	<0.003	<0.003	0.012	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	0.08	<0.03	<0.03	0.12	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	2.1	3.3	2.0	0.5	6.9	9.7	1.2	35.4	1.9	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	21	33	20	5	69	97	12	354	19	<5	mg/kg	TM38/PM0
Chloride #	8.5	<0.3	<0.3	<0.3	0.3	1.8	<0.3	<0.3	0.9	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	85	<3	<3	<3	3	18	<3	<3	9	<3	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	11	<2	<2	<2	5	<2	2	<2	8	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	110	<20	<20	<20	50	<20	20	<20	80	<20	<20	mg/kg	TM60/PM0
pH	7.89	6.75	7.05	7.72	8.15	8.15	8.07	8.10	8.20	8.21	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	177	48	<35	44	107	56	79	<35	210	38	<35	mg/l	TM20/PM0
Total Dissolved Solids #	1770	480	<350	440	1070	560	790	<350	2101	380	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	73-75	76-78	79-81	82-84	85-87	88-90	91-93	94-96	97-99	100-102	LOD/LOR	Units	Method No.
Sample ID	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15			
Depth	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019			
Dissolved Antimony #	<0.002	0.003	<0.002	<0.002	0.004	0.004	0.004	0.004	0.003	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	0.03	<0.02	<0.02	0.04	0.04	0.04	0.04	0.03	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0066	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.066	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.015	0.038	0.006	0.007	0.056	0.050	0.020	0.047	0.018	0.008	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.15	0.38	0.06	0.07	0.56	0.50	0.20	0.47	0.18	0.08	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.031	0.015	0.060	0.037	0.034	0.020	0.035	0.055	0.007	0.050	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.31	0.15	0.60	0.37	0.34	0.20	0.35	0.55	0.07	0.50	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.015	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3	0.4	0.3	<0.3	<0.3	0.3	<0.3	<0.3	0.6	<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	4	3	<3	<3	<3	<3	<3	6	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	2.5	11.4	1.3	1.2	32.3	10.8	4.5	39.4	2.8	1.8	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	25	114	13	12	323	108	45	394	28	18	<5	mg/kg	TM38/PM0
Chloride #	<0.3	0.8	<0.3	<0.3	<0.3	1.9	<0.3	1.9	0.9	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	<3	8	<3	<3	<3	19	<3	19	9	<3	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	<2	2	<2	<2	5	2	<2	11	3	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	20	<20	<20	50	<20	<20	110	30	<20	<20	mg/kg	TM60/PM0
pH	8.19	8.23	8.60	8.04	7.90	8.35	8.68	8.00	8.64	8.95	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	<35	74	42	37	210	94	42	178	50	40	<35	mg/l	TM20/PM0
Total Dissolved Solids #	<350	740	420	370	2099	940	420	1779	500	400	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-3	4-6	7-9	10-12	13-15	19-21	22-24	28-30	31-33	37-39	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07						
Depth	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00						
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1	1	1	1						
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019						
Solid Waste Analysis																
Total Organic Carbon #	0.28	0.61	0.68	1.79	0.48	2.06	0.40	0.41	0.46	0.63	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025 SV	<0.025	<0.025 SV	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 SV	6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	0.35	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	0.73	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	0.038	<0.025	0.035	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.11	0.11	0.06	0.07	0.18	0.18	0.26	0.19	0.14	0.10	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	<0.02	0.38	0.07	0.13	0.21	0.32	0.21	0.55	0.31	0.25	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	0.03	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	0.07	0.03	0.04	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	0.09	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	460	430	720	1271	910	1571	1020	4648	690	2151	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	20	40	30	100	30	60	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.105	0.1037	0.1015	0.114	0.1	0.1058	0.1022	0.109	0.1	0.1015	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	85.8	87.2	88.2	79.3	90.0	84.7	88.2	82.9	90.1	88.9	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.885	0.887	0.888	0.877	0.89	0.884	0.888	0.881	0.89	0.889	-	-	-		l	NONE/PM17
Eluate Volume	0.89	0.85	0.25	0.7	0.85	0.85	0.85	0.65	0.85	0.25	-	-	-		l	NONE/PM17
pH #	9.16	8.82	8.50	8.30	8.03	7.95	8.65	8.59	8.65	8.64	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	5	<3	3	<3	4	<3	<3	<3	4	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	17	28	63	310	111	403	191	366	42	23	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	<3	4	49	<3	44	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	40-42	43-45	46-48	49-51	52-54	55-57	58-60	61-63	67-69	70-72	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11						
Depth	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00						
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1	1	1	1						
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019						
Solid Waste Analysis																
Total Organic Carbon #	3.57	0.49	0.73	0.69	0.77	0.66	1.50	0.39	1.86	0.51	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025 SV	<0.025	<0.025 SV	<0.025 SV	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	40	922	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.23	<0.22	1.50	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	2.61	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	0.053	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.47	0.07	0.17	0.09	0.22	0.11	0.11	0.08	0.46	0.04	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.40	0.30	0.33	0.32	0.10	0.39	0.17	0.22	0.26	0.22	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	0.06	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	0.03	<0.02	0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	0.08	<0.03	<0.03	0.12	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	1770	480	<350	440	1070	560	790	<350	2101	380	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	110	<20	<20	<20	50	<20	20	<20	80	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1056	0.101	0.1003	0.1019	0.1041	0.0999	0.108	0.1012	0.1118	0.1033	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	85.0	88.8	89.5	87.9	86.5	90.3	83.0	88.8	80.8	87.5	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.884	0.889	0.889	0.888	0.886	0.89	0.882	0.889	0.879	0.887	-	-	-		l	NONE/PM17
Eluate Volume	0.65	0.89	0.4	0.89	0.87	0.5	0.85	0.85	0.55	0.85	-	-	-		l	NONE/PM17
pH #	7.91	8.79	8.73	8.36	8.69	8.36	8.46	8.83	7.91	8.78	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	21	33	20	5	69	97	12	354	19	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	85	<3	<3	<3	3	18	<3	<3	9	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton
JE Job No.: 19/6453

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	73-75	76-78	79-81	82-84	85-87	88-90	91-93	94-96	97-99	100-102	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15						
Depth	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00						
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1	1	1	1						
Date of Receipt	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019						
Solid Waste Analysis																
Total Organic Carbon #	0.85	2.58	0.49	0.64	3.04	0.48	0.49	5.64	0.43	0.64	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025 SV	<0.025	<0.025	<0.025 SV	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	164	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	2.65	<0.22	<0.22	<0.22	<0.22	<0.22	47.19	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	5.69	<0.64	<0.64	<0.64	<0.64	<0.64	107.93	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.066	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.15	0.38	0.06	0.07	0.56	0.50	0.20	0.47	0.18	0.08	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.31	0.15	0.60	0.37	0.34	0.20	0.35	0.55	0.07	0.50	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	0.03	<0.02	<0.02	0.04	0.04	0.04	0.04	0.03	<0.02	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	<350	740	420	370	2099	940	420	1779	500	400	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	20	<20	<20	50	<20	<20	110	30	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1011	0.1034	0.1042	0.1026	0.1138	0.1042	0.1037	0.1194	0.1038	0.0977	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.3	87.3	86.4	88.0	79.2	86.0	86.7	75.3	86.9	92.2	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.887	0.886	0.888	0.876	0.885	0.886	0.87	0.887	0.892	-	-	-		l	NONE/PM17
Eluate Volume	0.85	0.77	0.64	0.63	0.68	0.7	0.61	0.7	0.8	0.7	-	-	-		l	NONE/PM17
pH #	8.76	8.01	8.41	8.85	8.31	8.26	8.41	7.82	8.46	8.86	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3	4	3	<3	<3	<3	<3	<3	6	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	25	114	13	12	323	108	45	394	28	18	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	8	<3	<3	<3	19	<3	19	9	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland **Matrix : Solid**
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	EPH Interpretation
19/6453	1	WS01	0.00-1.00	1-3	No interpretation possible
19/6453	1	WS01	1.00-2.00	4-6	No interpretation possible
19/6453	1	WS03	1.00-2.00	7-9	No interpretation possible
19/6453	1	WS04	0.00-1.00	10-12	No interpretation possible
19/6453	1	WS04	1.00-2.00	13-15	No interpretation possible
19/6453	1	WS05	0.00-1.00	19-21	No interpretation possible
19/6453	1	WS05	1.00-2.00	22-24	No interpretation possible
19/6453	1	WS06	0.00-1.00	28-30	No interpretation possible
19/6453	1	WS06	1.00-2.00	31-33	No interpretation possible
19/6453	1	WS07	1.00-2.00	37-39	No interpretation possible
19/6453	1	WS08	0.00-1.00	40-42	No interpretation possible
19/6453	1	WS08	1.00-2.00	43-45	No interpretation possible
19/6453	1	WS08	2.00-2.90	46-48	Trace of degraded diesel
19/6453	1	WS09	0.00-1.00	49-51	Degraded diesel & Possible lubricating oil
19/6453	1	WS09	1.00-2.00	52-54	No interpretation possible
19/6453	1	WS09	2.00-2.90	55-57	No interpretation possible
19/6453	1	WS10	0.00-1.00	58-60	No interpretation possible
19/6453	1	WS10	1.00-2.00	61-63	No interpretation possible
19/6453	1	WS11	0.00-1.00	67-69	No interpretation possible
19/6453	1	WS11	1.00-2.00	70-72	No interpretation possible
19/6453	1	WS11	2.00-2.70	73-75	No interpretation possible
19/6453	1	WS12	0.00-1.00	76-78	Possible PAH's
19/6453	1	WS12	1.00-2.00	79-81	No interpretation possible
19/6453	1	WS12	2.00-2.90	82-84	No interpretation possible
19/6453	1	WS14	0.00-1.00	85-87	No interpretation possible
19/6453	1	WS14	1.00-2.00	88-90	Degraded diesel & Possible lubricating oil
19/6453	1	WS14	2.00-2.70	91-93	No interpretation possible
19/6453	1	WS15	0.00-1.00	94-96	Possible PAH's
19/6453	1	WS15	1.00-2.00	97-99	No interpretation possible
19/6453	1	WS15	2.00-3.00	100-102	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 19/03/8556
Location: Santry
Contact: Barry Sexton

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

Signed on behalf of Jones Environmental Laboratory:

Ryan Butterworth
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
19/6453	1	WS01	0.00-1.00	2	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS01	1.00-2.00	5	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS03	1.00-2.00	8	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS04	0.00-1.00	11	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS04	1.00-2.00	14	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS05	0.00-1.00	20	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS05	1.00-2.00	23	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD

Client Name: Ground Investigations Ireland
Reference: 19/03/8556
Location: Santry
Contact: Barry Sexton

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
19/6453	1	WS05	1.00-2.00	23	25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS06	0.00-1.00	29	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS06	1.00-2.00	32	25/04/2019	**General Description (Bulk Analysis)**	soil/stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS07	1.00-2.00	38	25/04/2019	**General Description (Bulk Analysis)**	soil/stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS08	0.00-1.00	41	25/04/2019	**General Description (Bulk Analysis)**	soil/stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS08	1.00-2.00	44	25/04/2019	**General Description (Bulk Analysis)**	soil/stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS08	2.00-2.90	47	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS09	0.00-1.00	50	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS09	1.00-2.00	53	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS09	2.00-2.90	56	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD

Client Name: Ground Investigations Ireland
Reference: 19/03/8556
Location: Santry
Contact: Barry Sexton

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
19/6453	1	WS09	2.00-2.90	56	25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS10	0.00-1.00	59	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS10	1.00-2.00	62	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS11	0.00-1.00	68	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS11	1.00-2.00	71	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS11	2.00-2.70	74	25/04/2019	**General Description (Bulk Analysis)**	soil/stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS12	0.00-1.00	77	25/04/2019	**General Description (Bulk Analysis)**	soil.stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS12	1.00-2.00	80	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS12	2.00-2.90	83	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD

Client Name: Ground Investigations Ireland
Reference: 19/03/8556
Location: Santry
Contact: Barry Sexton

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
19/6453	1	WS14	0.00-1.00	86	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS14	1.00-2.00	89	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS14	2.00-2.70	92	25/04/2019	**General Description (Bulk Analysis)**	soil-stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS15	0.00-1.00	95	25/04/2019	**General Description (Bulk Analysis)**	soil/stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS15	1.00-2.00	98	25/04/2019	**General Description (Bulk Analysis)**	soil/stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD
19/6453	1	WS15	2.00-3.00	101	25/04/2019	**General Description (Bulk Analysis)**	soil/stones
					25/04/2019	**Asbestos Fibres**	NAD
					25/04/2019	**Asbestos ACM**	NAD
					25/04/2019	**Asbestos Type**	NAD
					25/04/2019	**Asbestos Level Screen**	NAD

Client Name: Ground Investigations Ireland
Reference: 8556-03-19
Location: Santry
Contact: Barry Sexton

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
No deviating sample report results for job 19/6453						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 19/6453

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa.
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to an Exova Jones Environmental approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

Appendix - Methods used for WAC (2003/33/EC)

JE Job No.: 19/6453

Leachate tests	
10l/kg; 4mm	I.S. EN 12457-2:2002 Specified particle size; water added to L/S ratio; capped; agitated for 24 ± 0.5 hours; eluate settled and filtered over 0.45 µm membrane filter.
Eluate analysis	
As	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ba	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cd	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cr total	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cu	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Hg	I.S. EN 13370 rec. EN 1483 (CVAAS)
Mo	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ni	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Pb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Sb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Se	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Zn	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Chloride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Fluoride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Sulphate	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Phenol index	I.S. EN 13370 rec. ISO 6439 (4-Aminoantipyrine spectrometic methods after distillation)* (BY HPLC - Jones Env)
DOC	I.S. EN 1484
TDS	I.S. EN 15216
Compositional analysis	
TOC	I.S. EN 13137 Method B: carbonates removed with acid; TOC by combustion.
BTEX	GC-FID
PCB7**	I.S. EN 15308 analysis by GC-ECD.
Mineral oil	I.S. EN 14039 C10 to C40 analysis by GC-FID.
PAH17***	I.S. EN 15527 PAH17 analysis by GC-MS
Metals	I.S. EN 13657 - Aqua regia digestion: EN ISO 11885 (ICP-OES)
Other	
Dry matter	I.S. EN 14346 sample is dried to a constant mass in an oven at 105 ± 3 °C; Method B Water content by direct Karl-Fischer-titration and either volumetric or coulometric detection.
LOI	I.S. EN 15169 Difference in mass after heating in a furnace up to 550 ± 25 °C.
ANC	CEN/TS 15364 Determined by amouns of acid or base needed to cover the pH range

Notes:

*If not suitable due to LOD, precision, etc., any other suitable method can be used, e.g. AFS, ICP-MS
**PCB-28, PCB-52, PCB-101, PCB-118, PCB-138, PCB-153 and PCB-180

***Naphthalene, Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Chrysene, Coronene, Dibenzo(a,h)anthracene, Fluorene, Fluoranthene, Indeno(1,2,3-c,d)pyrene, Phenanthrene and Pyrene.

JE Job No: 19/6453

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270 method for the solvent extraction and determination of 16 PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270 method for the solvent extraction and determination of 16 PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM17	Modified US EPA method 8270. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3: 1990/USEPA 160.3 Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes

JE Job No: 19/6453

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM17	Modified method BS EN12457-2 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.	Yes		AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results can be confirmed using GCMS.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results can be confirmed using GCMS.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods 325.2 (Chloride), 375.4 (Sulphate), 365.2 (o-Phosphate), 353.1 (TON), 354.1 (Nitrite), 350.1 (NH4+) comparable to BS ISO 15923-1, 7196A (Hex Cr)	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods 325.2 (Chloride), 375.4 (Sulphate), 365.2 (o-Phosphate), 353.1 (TON), 354.1 (Nitrite), 350.1 (NH4+) comparable to BS ISO 15923-1, 7196A (Hex Cr)	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes

JE Job No: 19/6453

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060, APHA Standard Methods for Examination of Water and Wastewater 5310B, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM61	Modified US EPA methods 245.7 and 200.7. Determination of Mercury by Cold Vapour Atomic Fluorescence.	PM0	No preparation is required.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 340.2	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM17	Modified method BS EN12457-2 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.			AR	
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.			AR	

APPENDIX 4 – HazWasteOnLine™ Report

Waste Classification Report

MFDTT-SR6HZ-6N8N2

Job name

Omni Site Santry

Description/Comments

Project

8556-03-19

Site

Omni Site Santry

Related Documents

#	Name	Description
1	Omni Site Santry.hwol	.hwol file used to create the Job

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name:
Barry Sexton
Date:
03 May 2019 13:35 GMT
Telephone:
00353876119640

Company:
Ground Investigations Ireland
Catherinestown House,
Hazelhatch Road, Newcastle
Co. Dublin

Report

Created by: Barry Sexton
Created date: 03 May 2019 13:35 GMT

Job summary

Classification of sample: WS01-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS01-16/04/2019-0.00-1.00m
Moisture content:
11.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.059 mg/kg	0.000106 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.2 mg/kg	1.32	8.413 mg/kg	0.000841 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.5 mg/kg	1.142	1.516 mg/kg	0.000152 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		16.2 mg/kg	1.462	20.954 mg/kg	0.0021 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		18 mg/kg	1.126	17.935 mg/kg	0.00179 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	16.565 mg/kg	0.00106 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		1.5 mg/kg	1.5	1.992 mg/kg	0.000199 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		25 mg/kg	2.976	65.85 mg/kg	0.00658 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.26 mg/kg	0.000226 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		64 mg/kg	1.245	70.501 mg/kg	0.00705 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		9.16	pH		9.16	pH	9.16 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		77	mg/kg	1.117	76.084	mg/kg	0.00761 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0332 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS01-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS01-16/04/2019-1.00-2.00m
Moisture content:
12.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.2% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	2.102	mg/kg	0.00021 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.7	mg/kg	1.32	12.404	mg/kg	0.00124 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9	mg/kg	1.142	1.906	mg/kg	0.000191 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		20.3	mg/kg	1.462	26.05	mg/kg	0.0026 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26	mg/kg	1.126	25.702	mg/kg	0.00257 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16	mg/kg	1.56	21.912	mg/kg	0.0014 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8	mg/kg	1.5	5.005	mg/kg	0.000501 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		39.3	mg/kg	2.976	102.697	mg/kg	0.0103 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				3	mg/kg	2.554	6.726	mg/kg	0.000673 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		74	mg/kg	1.245	80.872	mg/kg	0.00809 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.82	pH		8.82	pH	8.82 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				91	mg/kg	1.117	89.207	mg/kg	0.00892 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0421 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS03-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS03-16/04/2019-1.00-2.00m
Moisture content:
11.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.1% 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		antimony { antimony trioxide } 051-005-00-X / 215-175-0 / 1309-64-4		2 mg/kg	1.197	2.128 mg/kg	0.000213 %	✓	
2		arsenic { arsenic trioxide } 033-003-00-0 / 215-481-4 / 1327-53-3		11.8 mg/kg	1.32	13.85 mg/kg	0.00139 %	✓	
3		cadmium { cadmium oxide } 048-002-00-0 / 215-146-2 / 1306-19-0		2.1 mg/kg	1.142	2.133 mg/kg	0.000213 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide } / 215-160-9 / 1308-38-9		20 mg/kg	1.462	25.986 mg/kg	0.0026 %	✓	
5		chromium in chromium(VI) compounds { chromium(VI) oxide } 024-001-00-0 / 215-607-8 / 1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide } 029-002-00-X / 215-270-7 / 1317-39-1		28 mg/kg	1.126	28.026 mg/kg	0.0028 %	✓	
7		lead { lead chromate } 082-004-00-2 / 231-846-0 / 7758-97-6	1	24 mg/kg	1.56	33.28 mg/kg	0.00213 %	✓	
8		mercury { mercury dichloride } 080-010-00-X / 231-299-8 / 7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9		molybdenum { molybdenum(VI) oxide } 042-001-00-9 / 215-204-7 / 1313-27-5		3 mg/kg	1.5	4.001 mg/kg	0.0004 %	✓	
10		nickel { nickel chromate } 028-035-00-7 / 238-766-5 / 14721-18-7		39.8 mg/kg	2.976	105.307 mg/kg	0.0105 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8 / /		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12		zinc { zinc oxide } 030-013-00-7 / 215-222-5 / 1314-13-2		74 mg/kg	1.245	81.885 mg/kg	0.00819 %	✓	
13		TPH (C6 to C40) petroleum group / / TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X / 216-653-1 / 1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.5	pH		8.5	pH	8.5 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		61	mg/kg	1.117	60.547	mg/kg	0.00605 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0402 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS04-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS04-16/04/2019-0.00-1.00m
Moisture content:
21%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		4 mg/kg	1.197	3.783 mg/kg	0.000378 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		22.7 mg/kg	1.32	23.677 mg/kg	0.00237 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.8 mg/kg	1.142	2.527 mg/kg	0.000253 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		32.1 mg/kg	1.462	37.064 mg/kg	0.00371 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		91 mg/kg	1.126	80.94 mg/kg	0.00809 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	127 mg/kg	1.56	156.496 mg/kg	0.01 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.214 mg/kg	0.0000214 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.1 mg/kg	1.5	4.859 mg/kg	0.000486 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		54.1 mg/kg	2.976	127.203 mg/kg	0.0127 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	4.035 mg/kg	0.000403 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		220 mg/kg	1.245	216.331 mg/kg	0.0216 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.3	pH		8.3	pH	8.3 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				0.09	mg/kg		0.0711	mg/kg	0.00000711 %	✓	
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				0.13	mg/kg		0.103	mg/kg	0.0000103 %	✓	
			205-912-4	206-44-0									
27		pyrene				0.11	mg/kg		0.0869	mg/kg	0.00000869 %	✓	
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.1	mg/kg		0.079	mg/kg	0.0000079 %	✓	
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.08	mg/kg		0.0632	mg/kg	0.00000632 %	✓	
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.1	mg/kg		0.079	mg/kg	0.0000079 %	✓	
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.04	mg/kg		0.0316	mg/kg	0.00000316 %	✓	
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.08	mg/kg		0.0632	mg/kg	0.00000632 %	✓	
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				185	mg/kg	1.117	163.177	mg/kg	0.0163 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0819 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS04-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS04-16/04/2019-1.00-2.00m
Moisture content:
13.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 13.2% Wet Weight Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	2.078	mg/kg	0.000208 %	✓	
2		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.5	mg/kg	1.32	12.033	mg/kg	0.0012 %	✓	
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2	mg/kg	1.142	1.983	mg/kg	0.000198 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		23.1	mg/kg	1.462	29.305	mg/kg	0.00293 %	✓	
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28	mg/kg	1.126	27.364	mg/kg	0.00274 %	✓	
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16	mg/kg	1.56	21.663	mg/kg	0.00139 %	✓	
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.9	mg/kg	1.5	5.078	mg/kg	0.000508 %	✓	
10		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		40.5	mg/kg	2.976	104.628	mg/kg	0.0105 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
12		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		77	mg/kg	1.245	83.192	mg/kg	0.00832 %	✓	
13		TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.03	pH		8.03	pH	8.03 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		65	mg/kg	1.117	62.993	mg/kg	0.0063 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.04 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS05-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS05-16/04/2019-0.00-1.00m
Moisture content:
17.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	1.966	mg/kg	0.000197 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15.8	mg/kg	1.32	17.127	mg/kg	0.00171 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		6.7	mg/kg	1.142	6.284	mg/kg	0.000628 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		29.8	mg/kg	1.462	35.758	mg/kg	0.00358 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		88	mg/kg	1.126	81.343	mg/kg	0.00813 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	81	mg/kg	1.56	103.729	mg/kg	0.00665 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.2	mg/kg	1.5	3.941	mg/kg	0.000394 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		38.6	mg/kg	2.976	94.32	mg/kg	0.00943 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1	mg/kg	2.554	2.097	mg/kg	0.00021 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		1910	mg/kg	1.245	1951.848	mg/kg	0.195 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				7.95	pH		7.95	pH	7.95 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				117	mg/kg	1.117	107.248	mg/kg	0.0107 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.242 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS05-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS05-16/04/2019-1.00-2.00m
Moisture content:
12.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.1% 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		antimony { antimony trioxide }		2 mg/kg	1.197	2.105 mg/kg	0.00021 %	✓	
		051-005-00-X / 215-175-0 / 1309-64-4							
2		arsenic { arsenic trioxide }		8.9 mg/kg	1.32	10.329 mg/kg	0.00103 %	✓	
		033-003-00-0 / 215-481-4 / 1327-53-3							
3		cadmium { cadmium oxide }		2.1 mg/kg	1.142	2.109 mg/kg	0.000211 %	✓	
		048-002-00-0 / 215-146-2 / 1306-19-0							
4		chromium in chromium(III) compounds { chromium(III) oxide }		27.2 mg/kg	1.462	34.944 mg/kg	0.00349 %	✓	
		/ 215-160-9 / 1308-38-9							
5		chromium in chromium(VI) compounds { chromium(VI) oxide }		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
		024-001-00-0 / 215-607-8 / 1333-82-0							
6		copper { dicopper oxide; copper (I) oxide }		26 mg/kg	1.126	25.731 mg/kg	0.00257 %	✓	
		029-002-00-X / 215-270-7 / 1317-39-1							
7		lead { lead chromate }	1	16 mg/kg	1.56	21.937 mg/kg	0.00141 %	✓	
		082-004-00-2 / 231-846-0 / 7758-97-6							
8		mercury { mercury dichloride }		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
		080-010-00-X / 231-299-8 / 7487-94-7							
9		molybdenum { molybdenum(VI) oxide }		3.5 mg/kg	1.5	4.615 mg/kg	0.000462 %	✓	
		042-001-00-9 / 215-204-7 / 1313-27-5							
10		nickel { nickel chromate }		35.8 mg/kg	2.976	93.658 mg/kg	0.00937 %	✓	
		028-035-00-7 / 238-766-5 / 14721-18-7							
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		1 mg/kg	2.554	2.245 mg/kg	0.000224 %	✓	
		034-002-00-8 / /							
12		zinc { zinc oxide }		79 mg/kg	1.245	86.434 mg/kg	0.00864 %	✓	
		030-013-00-7 / 215-222-5 / 1314-13-2							
13		TPH (C6 to C40) petroleum group		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
		/ / TPH							
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
		603-181-00-X / 216-653-1 / 1634-04-4							

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.65	pH		8.65	pH	8.65 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		60	mg/kg	1.117	58.885	mg/kg	0.00589 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.039 %		

Key

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

Classification of sample: WS06-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS06-16/04/2019-0.00-1.00m
Moisture content:
14.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 14.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.037 mg/kg	0.000204 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.5 mg/kg	1.32	11.798 mg/kg	0.00118 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.5 mg/kg	1.142	2.43 mg/kg	0.000243 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		29.9 mg/kg	1.462	37.189 mg/kg	0.00372 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	26.828 mg/kg	0.00268 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17 mg/kg	1.56	22.566 mg/kg	0.00145 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.2 mg/kg	1.5	5.362 mg/kg	0.000536 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		37.7 mg/kg	2.976	95.487 mg/kg	0.00955 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.173 mg/kg	0.000217 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		77 mg/kg	1.245	81.562 mg/kg	0.00816 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.59	pH		8.59	pH	8.59 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				66	mg/kg	1.117	62.71	mg/kg	0.00627 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0396 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS06-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS06-16/04/2019-1.00-2.00m
Moisture content:
11.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.2% 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		antimony { antimony trioxide } 051-005-00-X / 215-175-0 / 1309-64-4		2 mg/kg	1.197	2.126 mg/kg	0.000213 %	✓	
2		arsenic { arsenic trioxide } 033-003-00-0 / 215-481-4 / 1327-53-3		7.5 mg/kg	1.32	8.793 mg/kg	0.000879 %	✓	
3		cadmium { cadmium oxide } 048-002-00-0 / 215-146-2 / 1306-19-0		2.2 mg/kg	1.142	2.232 mg/kg	0.000223 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide } 215-160-9 / 1308-38-9		26.1 mg/kg	1.462	33.874 mg/kg	0.00339 %	✓	
5		chromium in chromium(VI) compounds { chromium(VI) oxide } 024-001-00-0 / 215-607-8 / 1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide } 029-002-00-X / 215-270-7 / 1317-39-1		23 mg/kg	1.126	22.995 mg/kg	0.0023 %	✓	
7		lead { lead chromate } 082-004-00-2 / 231-846-0 / 7758-97-6	1	14 mg/kg	1.56	19.392 mg/kg	0.00124 %	✓	
8		mercury { mercury dichloride } 080-010-00-X / 231-299-8 / 7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9		molybdenum { molybdenum(VI) oxide } 042-001-00-9 / 215-204-7 / 1313-27-5		3.6 mg/kg	1.5	4.796 mg/kg	0.00048 %	✓	
10		nickel { nickel chromate } 028-035-00-7 / 238-766-5 / 14721-18-7		32.5 mg/kg	2.976	85.895 mg/kg	0.00859 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8		5 mg/kg	2.554	11.338 mg/kg	0.00113 %	✓	
12		zinc { zinc oxide } 030-013-00-7 / 215-222-5 / 1314-13-2		70 mg/kg	1.245	77.371 mg/kg	0.00774 %	✓	
13		TPH (C6 to C40) petroleum group TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X / 216-653-1 / 1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.65	pH		8.65	pH	8.65 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		73	mg/kg	1.117	72.376	mg/kg	0.00724 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0389 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS07-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS07-16/04/2019-1.00-2.00m
Moisture content:
12.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.1% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.105 mg/kg	0.00021 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.2 mg/kg	1.32	11.838 mg/kg	0.00118 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2 mg/kg	1.142	2.008 mg/kg	0.000201 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		20.3 mg/kg	1.462	26.08 mg/kg	0.00261 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26 mg/kg	1.126	25.731 mg/kg	0.00257 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17 mg/kg	1.56	23.308 mg/kg	0.00149 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8 mg/kg	1.5	5.011 mg/kg	0.000501 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		38.9 mg/kg	2.976	101.768 mg/kg	0.0102 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				4 mg/kg	2.554	8.978 mg/kg	0.000898 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		77 mg/kg	1.245	84.246 mg/kg	0.00842 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.64	pH		8.64	pH	8.64 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				69	mg/kg	1.117	67.717	mg/kg	0.00677 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0405 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS08-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS08-16/04/2019-0.00-1.00m
Moisture content:
21.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 21.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.812 mg/kg	0.000281 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		18.2 mg/kg	1.32	18.815 mg/kg	0.00188 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.7 mg/kg	1.142	2.415 mg/kg	0.000241 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		55.6 mg/kg	1.462	63.629 mg/kg	0.00636 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		57 mg/kg	1.126	50.25 mg/kg	0.00502 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	88 mg/kg	1.56	107.478 mg/kg	0.00689 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.424 mg/kg	0.0000424 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.8 mg/kg	1.5	7.988 mg/kg	0.000799 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		61.2 mg/kg	2.976	142.621 mg/kg	0.0143 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	1.999 mg/kg	0.0002 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		127 mg/kg	1.245	123.776 mg/kg	0.0124 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		7.91	pH		7.91	pH	7.91 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.08	mg/kg		0.0626	mg/kg	0.00000626 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		142	mg/kg	1.117	124.14	mg/kg	0.0124 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0662 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS08-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS08-16/04/2019-1.00-2.00m
Moisture content:
11.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	2.124	mg/kg	0.000212 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.7	mg/kg	1.32	12.531	mg/kg	0.00125 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.2	mg/kg	1.142	2.229	mg/kg	0.000223 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		27.8	mg/kg	1.462	36.04	mg/kg	0.0036 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27	mg/kg	1.126	26.964	mg/kg	0.0027 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20	mg/kg	1.56	27.671	mg/kg	0.00177 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.2	mg/kg	1.5	6.919	mg/kg	0.000692 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		46.4	mg/kg	2.976	122.494	mg/kg	0.0122 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2	mg/kg	2.554	4.53	mg/kg	0.000453 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		89	mg/kg	1.245	98.261	mg/kg	0.00983 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.79	pH		8.79	pH	8.79 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				80	mg/kg	1.117	79.227	mg/kg	0.00792 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0463 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS08-16/04/2019-2.00-2.90m

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

Sample details

Sample Name:
WS08-16/04/2019-2.00-2.90m
Moisture content:
10.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.4% Wet Weight Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	2.145	mg/kg	0.000215 %	✓	
2		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.7	mg/kg	1.32	10.292	mg/kg	0.00103 %	✓	
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.3	mg/kg	1.142	2.354	mg/kg	0.000235 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		16	mg/kg	1.462	20.953	mg/kg	0.0021 %	✓	
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26	mg/kg	1.126	26.229	mg/kg	0.00262 %	✓	
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15	mg/kg	1.56	20.964	mg/kg	0.00134 %	✓	
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.9	mg/kg	1.5	5.242	mg/kg	0.000524 %	✓	
10		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		37.8	mg/kg	2.976	100.803	mg/kg	0.0101 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				3	mg/kg	2.554	6.864	mg/kg	0.000686 %	✓	
12		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		90	mg/kg	1.245	100.374	mg/kg	0.01 %	✓	
13		TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.73	pH		8.73	pH	8.73 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		72	mg/kg	1.117	72.028	mg/kg	0.0072 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0415 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS09-16/04/2019-0.00-1.00m

Hazardous Waste
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample Name:
WS09-16/04/2019-0.00-1.00m
Moisture content:
13.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.116%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.116%)

Determinands

Moisture content: 13.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		4	mg/kg	1.197	4.132	mg/kg	0.000413 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17.1	mg/kg	1.32	19.484	mg/kg	0.00195 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.5	mg/kg	1.142	2.465	mg/kg	0.000246 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		46.5	mg/kg	1.462	58.652	mg/kg	0.00587 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		47	mg/kg	1.126	45.667	mg/kg	0.00457 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	28	mg/kg	1.56	37.691	mg/kg	0.00242 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
9		molybdenum { molybdenum(VI) oxide }				5.7	mg/kg	1.5	7.38	mg/kg	0.000738 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
10		nickel { nickel chromate }				68.5	mg/kg	2.976	175.943	mg/kg	0.0176 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				2	mg/kg	2.554	4.408	mg/kg	0.000441 %	✓	
		034-002-00-8											
12		zinc { zinc oxide }				133	mg/kg	1.245	142.867	mg/kg	0.0143 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
13		TPH (C6 to C40) petroleum group				1347	mg/kg		1162.461	mg/kg	0.116 %	✓	
				TPH									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.36	pH		8.36	pH	8.36 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				125	mg/kg	1.117	120.443	mg/kg	0.012 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.177 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Solid wast without liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.116%)

Classification of sample: WS09-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS09-16/04/2019-1.00-2.00m
Moisture content:
10.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.145 mg/kg	0.000215 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9 mg/kg	1.32	10.647 mg/kg	0.00106 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.149 mg/kg	0.000215 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		22.3 mg/kg	1.462	29.203 mg/kg	0.00292 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	27.237 mg/kg	0.00272 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14 mg/kg	1.56	19.566 mg/kg	0.00125 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.7 mg/kg	1.5	4.973 mg/kg	0.000497 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35.9 mg/kg	2.976	95.736 mg/kg	0.00957 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	4.576 mg/kg	0.000458 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		70 mg/kg	1.245	78.068 mg/kg	0.00781 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.69	pH		8.69	pH	8.69 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		153	mg/kg	1.117	153.06	mg/kg	0.0153 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0475 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS09-16/04/2019-2.00-2.90m

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

Sample details

Sample Name:
WS09-16/04/2019-2.00-2.90m
Moisture content:
9.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.172 mg/kg	0.000217 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.5 mg/kg	1.32	10.179 mg/kg	0.00102 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9 mg/kg	1.142	1.969 mg/kg	0.000197 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		19.2 mg/kg	1.462	25.452 mg/kg	0.00255 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	27.572 mg/kg	0.00276 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	21.221 mg/kg	0.00136 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6 mg/kg	1.5	4.898 mg/kg	0.00049 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		36.7 mg/kg	2.976	99.071 mg/kg	0.00991 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				4 mg/kg	2.554	9.264 mg/kg	0.000926 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		61 mg/kg	1.245	68.866 mg/kg	0.00689 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.36	pH		8.36	pH	8.36 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				86	mg/kg	1.117	87.09	mg/kg	0.00871 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0405 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS10-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS10-16/04/2019-0.00-1.00m
Moisture content:
18.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.2% 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		antimony { antimony trioxide }		4 mg/kg	1.197	3.917 mg/kg	0.000392 %	✓	
		051-005-00-X / 215-175-0 / 1309-64-4							
2		arsenic { arsenic trioxide }		22 mg/kg	1.32	23.761 mg/kg	0.00238 %	✓	
		033-003-00-0 / 215-481-4 / 1327-53-3							
3		cadmium { cadmium oxide }		2.9 mg/kg	1.142	2.71 mg/kg	0.000271 %	✓	
		048-002-00-0 / 215-146-2 / 1306-19-0							
4		chromium in chromium(III) compounds { chromium(III) oxide }		50.8 mg/kg	1.462	60.734 mg/kg	0.00607 %	✓	
		/ 215-160-9 / 1308-38-9							
5		chromium in chromium(VI) compounds { chromium(VI) oxide }		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
		024-001-00-0 / 215-607-8 / 1333-82-0							
6		copper { dicopper oxide; copper (I) oxide }		57 mg/kg	1.126	52.496 mg/kg	0.00525 %	✓	
		029-002-00-X / 215-270-7 / 1317-39-1							
7		lead { lead chromate }	1	85 mg/kg	1.56	108.454 mg/kg	0.00695 %	✓	
		082-004-00-2 / 231-846-0 / 7758-97-6							
8		mercury { mercury dichloride }		0.2 mg/kg	1.353	0.221 mg/kg	0.0000221 %	✓	
		080-010-00-X / 231-299-8 / 7487-94-7							
9		molybdenum { molybdenum(VI) oxide }		5.4 mg/kg	1.5	6.627 mg/kg	0.000663 %	✓	
		042-001-00-9 / 215-204-7 / 1313-27-5							
10		nickel { nickel chromate }		66.9 mg/kg	2.976	162.874 mg/kg	0.0163 %	✓	
		028-035-00-7 / 238-766-5 / 14721-18-7							
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		2 mg/kg	2.554	4.178 mg/kg	0.000418 %	✓	
		034-002-00-8 / /							
12		zinc { zinc oxide }		170 mg/kg	1.245	173.09 mg/kg	0.0173 %	✓	
		030-013-00-7 / 215-222-5 / 1314-13-2							
13		TPH (C6 to C40) petroleum group		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
		/ / TPH							
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X / 216-653-1 / 1634-04-4							

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.46	pH		8.46	pH	8.46 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.06	mg/kg		0.0491	mg/kg	0.00000491 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.07	mg/kg		0.0573	mg/kg	0.00000573 %	✓	
27		pyrene		204-927-3	129-00-0		0.07	mg/kg		0.0573	mg/kg	0.00000573 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.1	mg/kg		0.0818	mg/kg	0.00000818 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.05	mg/kg		0.0409	mg/kg	0.00000409 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.07	mg/kg		0.0573	mg/kg	0.00000573 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.03	mg/kg		0.0245	mg/kg	0.00000245 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.06	mg/kg		0.0491	mg/kg	0.00000491 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		114	mg/kg	1.117	104.116	mg/kg	0.0104 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0719 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS10-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS10-16/04/2019-1.00-2.00m
Moisture content:
10.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.14 mg/kg	0.000214 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.9 mg/kg	1.32	11.686 mg/kg	0.00117 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.145 mg/kg	0.000214 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		19.7 mg/kg	1.462	25.741 mg/kg	0.00257 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	25.164 mg/kg	0.00252 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17 mg/kg	1.56	23.706 mg/kg	0.00152 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3 mg/kg	1.5	4.024 mg/kg	0.000402 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		38.4 mg/kg	2.976	102.174 mg/kg	0.0102 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	4.566 mg/kg	0.000457 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		73 mg/kg	1.245	81.233 mg/kg	0.00812 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.83	pH		8.83	pH	8.83 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				59	mg/kg	1.117	58.891	mg/kg	0.00589 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0387 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS11-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS11-16/04/2019-0.00-1.00m
Moisture content:
20.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 20.4% 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		antimony { antimony trioxide } 051-005-00-X / 215-175-0 / 1309-64-4		3 mg/kg	1.197	2.859 mg/kg	0.000286 %	✓	
2		arsenic { arsenic trioxide } 033-003-00-0 / 215-481-4 / 1327-53-3		20.2 mg/kg	1.32	21.23 mg/kg	0.00212 %	✓	
3		cadmium { cadmium oxide } 048-002-00-0 / 215-146-2 / 1306-19-0		2.7 mg/kg	1.142	2.455 mg/kg	0.000246 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide } / 215-160-9 / 1308-38-9		32.7 mg/kg	1.462	38.043 mg/kg	0.0038 %	✓	
5		chromium in chromium(VI) compounds { chromium(VI) oxide } 024-001-00-0 / 215-607-8 / 1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide } 029-002-00-X / 215-270-7 / 1317-39-1		44 mg/kg	1.126	39.433 mg/kg	0.00394 %	✓	
7		lead { lead chromate } 082-004-00-2 / 231-846-0 / 7758-97-6	1	70 mg/kg	1.56	86.913 mg/kg	0.00557 %	✓	
8		mercury { mercury dichloride } 080-010-00-X / 231-299-8 / 7487-94-7		0.2 mg/kg	1.353	0.215 mg/kg	0.0000215 %	✓	
9		molybdenum { molybdenum(VI) oxide } 042-001-00-9 / 215-204-7 / 1313-27-5		5.5 mg/kg	1.5	6.568 mg/kg	0.000657 %	✓	
10		nickel { nickel chromate } 028-035-00-7 / 238-766-5 / 14721-18-7		67.5 mg/kg	2.976	159.915 mg/kg	0.016 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8		2 mg/kg	2.554	4.065 mg/kg	0.000407 %	✓	
12		zinc { zinc oxide } 030-013-00-7 / 215-222-5 / 1314-13-2		116 mg/kg	1.245	114.932 mg/kg	0.0115 %	✓	
13		TPH (C6 to C40) petroleum group / / TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X / 216-653-1 / 1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		7.91	pH		7.91	pH	7.91 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		0.05	mg/kg		0.0398	mg/kg	0.00000398 %	✓	
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.16	mg/kg		0.127	mg/kg	0.0000127 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.26	mg/kg		0.207	mg/kg	0.0000207 %	✓	
27		pyrene		204-927-3	129-00-0		0.25	mg/kg		0.199	mg/kg	0.0000199 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.25	mg/kg		0.199	mg/kg	0.0000199 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.26	mg/kg		0.207	mg/kg	0.0000207 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.38	mg/kg		0.302	mg/kg	0.0000302 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.15	mg/kg		0.119	mg/kg	0.0000119 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.31	mg/kg		0.247	mg/kg	0.0000247 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.2	mg/kg		0.159	mg/kg	0.0000159 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.09	mg/kg		0.0716	mg/kg	0.00000716 %	✓	
35		benzo[ghi]perylene		205-883-8	191-24-2		0.2	mg/kg		0.159	mg/kg	0.0000159 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		136	mg/kg	1.117	120.868	mg/kg	0.0121 %	✓	
38		coronene		205-881-7	191-07-1		0.05	mg/kg		0.0398	mg/kg	0.00000398 %	✓	
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0622 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS11-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS11-16/04/2019-1.00-2.00m
Moisture content:
12.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	2.1	mg/kg	0.00021 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10	mg/kg	1.32	11.579	mg/kg	0.00116 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.2	mg/kg	1.142	2.204	mg/kg	0.00022 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		24.2	mg/kg	1.462	31.019	mg/kg	0.0031 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27	mg/kg	1.126	26.66	mg/kg	0.00267 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16	mg/kg	1.56	21.887	mg/kg	0.0014 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8	mg/kg	1.5	5	mg/kg	0.0005 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		47.7	mg/kg	2.976	124.506	mg/kg	0.0125 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2	mg/kg	2.554	4.479	mg/kg	0.000448 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		85	mg/kg	1.245	92.787	mg/kg	0.00928 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.78	pH		8.78	pH	8.78 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				85	mg/kg	1.117	83.23	mg/kg	0.00832 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0452 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS11-16/04/2019-2.00-2.70m

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

Sample details

Sample Name:
WS11-16/04/2019-2.00-2.70m
Moisture content:
9.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.162 mg/kg	0.000216 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.6 mg/kg	1.32	11.446 mg/kg	0.00114 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.166 mg/kg	0.000217 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		17.6 mg/kg	1.462	23.228 mg/kg	0.00232 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	25.417 mg/kg	0.00254 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	21.128 mg/kg	0.00135 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.5 mg/kg	1.5	4.741 mg/kg	0.000474 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		37.3 mg/kg	2.976	100.246 mg/kg	0.01 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				4 mg/kg	2.554	9.224 mg/kg	0.000922 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		73 mg/kg	1.245	82.05 mg/kg	0.00821 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.76	pH		8.76	pH	8.76 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		89	mg/kg	1.117	89.73	mg/kg	0.00897 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0418 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS12-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS12-16/04/2019-0.00-1.00m
Moisture content:
19.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	1.918	mg/kg	0.000192 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		18.6	mg/kg	1.32	19.671	mg/kg	0.00197 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.4	mg/kg	1.142	1.281	mg/kg	0.000128 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		26.1	mg/kg	1.462	30.555	mg/kg	0.00306 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		38	mg/kg	1.126	34.27	mg/kg	0.00343 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	78	mg/kg	1.56	97.454	mg/kg	0.00625 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4	mg/kg	1.353	0.434	mg/kg	0.0000434 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.5	mg/kg	1.5	3.004	mg/kg	0.0003 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		37.8	mg/kg	2.976	90.115	mg/kg	0.00901 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2	mg/kg	2.554	4.091	mg/kg	0.000409 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		94	mg/kg	1.245	93.719	mg/kg	0.00937 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		62	mg/kg		49.662	mg/kg	0.00497 %	✓	
14	confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
19		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
20		pH			PH		8.01	pH		8.01	pH	8.01 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		0.05	mg/kg		0.0401	mg/kg	0.00000401 %	✓	
22		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
23		acenaphthene		201-469-6	83-32-9		0.07	mg/kg		0.0561	mg/kg	0.00000561 %	✓	
24		fluorene		201-695-5	86-73-7		0.09	mg/kg		0.0721	mg/kg	0.00000721 %	✓	
25		phenanthrene		201-581-5	85-01-8		0.76	mg/kg		0.609	mg/kg	0.0000609 %	✓	
26		anthracene		204-371-1	120-12-7		0.14	mg/kg		0.112	mg/kg	0.0000112 %	✓	
27		fluoranthene		205-912-4	206-44-0		0.92	mg/kg		0.737	mg/kg	0.0000737 %	✓	
28		pyrene		204-927-3	129-00-0		0.77	mg/kg		0.617	mg/kg	0.0000617 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.54	mg/kg		0.433	mg/kg	0.0000433 %	✓	
30		chrysene	601-048-00-0	205-923-4	218-01-9		0.49	mg/kg		0.392	mg/kg	0.0000392 %	✓	
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.58	mg/kg		0.465	mg/kg	0.0000465 %	✓	
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.22	mg/kg		0.176	mg/kg	0.0000176 %	✓	
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.42	mg/kg		0.336	mg/kg	0.0000336 %	✓	
34		indeno[123-cd]pyrene		205-893-2	193-39-5		0.25	mg/kg		0.2	mg/kg	0.00002 %	✓	
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.07	mg/kg		0.0561	mg/kg	0.00000561 %	✓	
36		benzo[ghi]perylene		205-883-8	191-24-2		0.26	mg/kg		0.208	mg/kg	0.0000208 %	✓	
37		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
38		barium { barium oxide }		215-127-9	1304-28-5		141	mg/kg	1.117	126.099	mg/kg	0.0126 %	✓	
39		coronene		205-881-7	191-07-1		0.06	mg/kg		0.0481	mg/kg	0.00000481 %	✓	
40		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0524 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Solid wast without liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00497%)

Classification of sample: WS12-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS12-16/04/2019-1.00-2.00m
Moisture content:
12.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.097 mg/kg	0.00021 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12 mg/kg	1.32	13.879 mg/kg	0.00139 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.8 mg/kg	1.142	2.802 mg/kg	0.00028 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		21.6 mg/kg	1.462	27.655 mg/kg	0.00277 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	32.547 mg/kg	0.00325 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	27.328 mg/kg	0.00175 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.4 mg/kg	1.5	5.782 mg/kg	0.000578 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		48.8 mg/kg	2.976	127.232 mg/kg	0.0127 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	2.554	2.237 mg/kg	0.000224 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		93 mg/kg	1.245	101.404 mg/kg	0.0101 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.41	pH		8.41	pH	8.41 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		99	mg/kg	1.117	96.828	mg/kg	0.00968 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0484 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS12-16/04/2019-2.00-2.90m

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

Sample details

Sample Name:
WS12-16/04/2019-2.00-2.90m
Moisture content:
9.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.167 mg/kg	0.000217 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.8 mg/kg	1.32	11.71 mg/kg	0.00117 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2 mg/kg	1.142	2.068 mg/kg	0.000207 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		19.6 mg/kg	1.462	25.925 mg/kg	0.00259 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	25.473 mg/kg	0.00255 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	21.174 mg/kg	0.00136 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.5 mg/kg	1.5	4.752 mg/kg	0.000475 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		38.8 mg/kg	2.976	104.509 mg/kg	0.0105 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				4 mg/kg	2.554	9.244 mg/kg	0.000924 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		77 mg/kg	1.245	86.738 mg/kg	0.00867 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.85	pH		8.85	pH	8.85 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				77	mg/kg	1.117	77.804	mg/kg	0.00778 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0418 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS14-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS14-16/04/2019-0.00-1.00m
Moisture content:
21%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

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		antimony { antimony trioxide } 051-005-00-X / 215-175-0 / 1309-64-4		3 mg/kg	1.197	2.837 mg/kg	0.000284 %	✓	
2		arsenic { arsenic trioxide } 033-003-00-0 / 215-481-4 / 1327-53-3		22 mg/kg	1.32	22.947 mg/kg	0.00229 %	✓	
3		cadmium { cadmium oxide } 048-002-00-0 / 215-146-2 / 1306-19-0		1.4 mg/kg	1.142	1.263 mg/kg	0.000126 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide } / 215-160-9 / 1308-38-9		23.1 mg/kg	1.462	26.672 mg/kg	0.00267 %	✓	
5		chromium in chromium(VI) compounds { chromium(VI) oxide } 024-001-00-0 / 215-607-8 / 1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide } 029-002-00-X / 215-270-7 / 1317-39-1		33 mg/kg	1.126	29.352 mg/kg	0.00294 %	✓	
7		lead { lead chromate } 082-004-00-2 / 231-846-0 / 7758-97-6	1	73 mg/kg	1.56	89.955 mg/kg	0.00577 %	✓	
8		mercury { mercury dichloride } 080-010-00-X / 231-299-8 / 7487-94-7		0.1 mg/kg	1.353	0.107 mg/kg	0.0000107 %	✓	
9		molybdenum { molybdenum(VI) oxide } 042-001-00-9 / 215-204-7 / 1313-27-5		1.9 mg/kg	1.5	2.252 mg/kg	0.000225 %	✓	
10		nickel { nickel chromate } 028-035-00-7 / 238-766-5 / 14721-18-7		31 mg/kg	2.976	72.889 mg/kg	0.00729 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8 / /		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12		zinc { zinc oxide } 030-013-00-7 / 215-222-5 / 1314-13-2		143 mg/kg	1.245	140.615 mg/kg	0.0141 %	✓	
13		TPH (C6 to C40) petroleum group / / TPH		56 mg/kg		44.24 mg/kg	0.00442 %	✓	
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X / 216-653-1 / 1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.31	pH		8.31	pH	8.31 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		0.06	mg/kg		0.0474	mg/kg	0.00000474 %	✓	
24		phenanthrene		201-581-5	85-01-8		0.05	mg/kg		0.0395	mg/kg	0.00000395 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		96	mg/kg	1.117	84.676	mg/kg	0.00847 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.049 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Solid wast without liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00442%)

Classification of sample: WS14-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS14-16/04/2019-1.00-2.00m
Moisture content:
12.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	2.088	mg/kg	0.000209 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.3	mg/kg	1.32	13.01	mg/kg	0.0013 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.6	mg/kg	1.142	2.59	mg/kg	0.000259 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		17.3	mg/kg	1.462	22.048	mg/kg	0.0022 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27	mg/kg	1.126	26.508	mg/kg	0.00265 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16	mg/kg	1.56	21.763	mg/kg	0.0014 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.3	mg/kg	1.5	4.317	mg/kg	0.000432 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		49	mg/kg	2.976	127.17	mg/kg	0.0127 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1	mg/kg	2.554	2.227	mg/kg	0.000223 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		85	mg/kg	1.245	92.258	mg/kg	0.00923 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		247	mg/kg		215.384	mg/kg	0.0215 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.26	pH		8.26	pH	8.26 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				0.06	mg/kg		0.0523	mg/kg	0.00000523 %	✓	
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				61	mg/kg	1.117	59.389	mg/kg	0.00594 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0583 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Solid wast without liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0215%)

Classification of sample: WS14-16/04/2019-2.00-2.70m

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

Sample details

Sample Name:
WS14-16/04/2019-2.00-2.70m
Moisture content:
12.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.09 mg/kg	0.000209 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.1 mg/kg	1.32	10.489 mg/kg	0.00105 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.3 mg/kg	1.142	2.294 mg/kg	0.000229 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		23.9 mg/kg	1.462	30.495 mg/kg	0.00305 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	24.573 mg/kg	0.00246 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.426 mg/kg	0.00131 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3 mg/kg	1.5	3.929 mg/kg	0.000393 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35.8 mg/kg	2.976	93.018 mg/kg	0.0093 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	4.459 mg/kg	0.000446 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		89 mg/kg	1.245	96.711 mg/kg	0.00967 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.41	pH		8.41	pH	8.41 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		59	mg/kg	1.117	57.508	mg/kg	0.00575 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0393 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS15-16/04/2019-0.00-1.00m

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

Sample details

Sample Name:
WS15-16/04/2019-0.00-1.00m
Moisture content:
25%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 25% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.693 mg/kg	0.000269 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		21.7 mg/kg	1.32	21.488 mg/kg	0.00215 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2 mg/kg	1.142	1.713 mg/kg	0.000171 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		37 mg/kg	1.462	40.558 mg/kg	0.00406 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		63 mg/kg	1.126	53.198 mg/kg	0.00532 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	137 mg/kg	1.56	160.271 mg/kg	0.0103 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.5 mg/kg	1.353	1.523 mg/kg	0.000152 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.2 mg/kg	1.5	4.726 mg/kg	0.000473 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		49.6 mg/kg	2.976	110.717 mg/kg	0.0111 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	3.83 mg/kg	0.000383 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		142 mg/kg	1.245	132.562 mg/kg	0.0133 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		53 mg/kg		39.75 mg/kg	0.00398 %	✓	
14	confirm TPH has NOT arisen from diesel or petrol					☑					

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
16		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
17		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
18		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
19		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
20		pH				7.82	pH		7.82	pH	7.82 pH		
				PH									
21		naphthalene				0.19	mg/kg		0.143	mg/kg	0.0000143 %	✓	
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				0.15	mg/kg		0.113	mg/kg	0.0000113 %	✓	
			205-917-1	208-96-8									
23		acenaphthene				3.01	mg/kg		2.258	mg/kg	0.000226 %	✓	
			201-469-6	83-32-9									
24		fluorene				2.36	mg/kg		1.77	mg/kg	0.000177 %	✓	
			201-695-5	86-73-7									
25		phenanthrene				20.22	mg/kg		15.165	mg/kg	0.00152 %	✓	
			201-581-5	85-01-8									
26		anthracene				2.04	mg/kg		1.53	mg/kg	0.000153 %	✓	
			204-371-1	120-12-7									
27		fluoranthene				18.44	mg/kg		13.83	mg/kg	0.00138 %	✓	
			205-912-4	206-44-0									
28		pyrene				15.61	mg/kg		11.708	mg/kg	0.00117 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				7.86	mg/kg		5.895	mg/kg	0.000589 %	✓	
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				7.13	mg/kg		5.348	mg/kg	0.000535 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				9.19	mg/kg		6.893	mg/kg	0.000689 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				3.57	mg/kg		2.678	mg/kg	0.000268 %	✓	
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				7.29	mg/kg		5.468	mg/kg	0.000547 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				4.21	mg/kg		3.158	mg/kg	0.000316 %	✓	
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				1.44	mg/kg		1.08	mg/kg	0.000108 %	✓	
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				4.49	mg/kg		3.368	mg/kg	0.000337 %	✓	
			205-883-8	191-24-2									
37		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
38		barium { barium oxide }				139	mg/kg	1.117	116.396	mg/kg	0.0116 %	✓	
			215-127-9	1304-28-5									
39		coronene				0.73	mg/kg		0.548	mg/kg	0.0000548 %	✓	
			205-881-7	191-07-1									
40		benzo[j]fluoranthene				4	mg/kg		3	mg/kg	0.0003 %	✓	
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0716 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Solid wast without liquid phase

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00398%)

Classification of sample: WS15-16/04/2019-1.00-2.00m

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

Sample details

Sample Name:
WS15-16/04/2019-1.00-2.00m
Moisture content:
13.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 13.9% Wet Weight Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	2.061	mg/kg	0.000206 %	✓	
2		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.9	mg/kg	1.32	12.391	mg/kg	0.00124 %	✓	
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.4	mg/kg	1.142	2.361	mg/kg	0.000236 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		28.9	mg/kg	1.462	36.368	mg/kg	0.00364 %	✓	
5		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29	mg/kg	1.126	28.112	mg/kg	0.00281 %	✓	
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15	mg/kg	1.56	20.145	mg/kg	0.00129 %	✓	
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6	mg/kg	1.5	4.65	mg/kg	0.000465 %	✓	
10		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		48.8	mg/kg	2.976	125.053	mg/kg	0.0125 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
12		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		71	mg/kg	1.245	76.091	mg/kg	0.00761 %	✓	
13		TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.46	pH		8.46	pH	8.46 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		78	mg/kg	1.117	74.982	mg/kg	0.0075 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0432 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS15-16/04/2019-2.00-3.00m

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

Sample details

Sample Name:
WS15-16/04/2019-2.00-3.00m
Moisture content:
10.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.148 mg/kg	0.000215 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.4 mg/kg	1.32	12.317 mg/kg	0.00123 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.152 mg/kg	0.000215 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		17.4 mg/kg	1.462	22.812 mg/kg	0.00228 %	✓	
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26 mg/kg	1.126	26.258 mg/kg	0.00263 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.987 mg/kg	0.00135 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8 mg/kg	1.5	5.114 mg/kg	0.000511 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		39 mg/kg	2.976	104.119 mg/kg	0.0104 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2 mg/kg	2.554	4.581 mg/kg	0.000458 %	✓	
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		73 mg/kg	1.245	81.505 mg/kg	0.00815 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.86	pH		8.86	pH	8.86 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				63	mg/kg	1.117	63.095	mg/kg	0.00631 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0392 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non CLP determinands

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

Conversion factor: 1.462
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: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Repr. 1B H360FD , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302 , Acute Tox. 4 H332

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

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

pH (CAS Number: PH)

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

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

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

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 Chronic 1 H410 , Aquatic Acute 1 H400

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

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

- **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: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Acute Tox. 4 H302

- **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: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315

- **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 Chronic 1 H410 , Aquatic Acute 1 H400

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

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

Conversion factor: 1.117
Description/Comments: Data from C&L Inventory Database; No entries in Registered Substances Database, IARC or Pesticide Properties Database
Data source:
http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=88825&HarmOnly=no?fc=true&lang=en
Data source date: 02 Jun 2014
Hazard Statements: Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Corr. 1A H314 , Acute Tox. 3 H301 , Acute Tox. 4 H302 , Acute Tox. 4 H332

- **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

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

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings (edit as required)

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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 (edit as required)

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 (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

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. (edit as required)

zinc {zinc oxide}

Cr VI not detected

barium {barium oxide}

Cr VI not detected

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018
HazWasteOnline Classification Engine Version: 2019.115.3847.7849 (25 Apr 2019)
HazWasteOnline Database: 2019.115.3847.7849 (25 Apr 2019)

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 Wastes 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
POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

APPENDIX 5 – Waste Acceptance Criteria Data

WAC Data - Santry, April 2019

Sample ID	WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07	Inert	IMS*	Stable Non-reactive	Hazardous	LOD LOR	Units
Sample Depth (m)	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00						
Total Organic Carbon*	0.28	0.61	0.68	1.79	0.48	2.06	0.40	0.41	0.46	0.63	3	6	5	6	<0.02	%
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	6	-	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	1	-	-	<0.035	mg/kg
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	500	-	-	<30	mg/kg
PAH Sum of 6	<0.22	<0.22	<0.22	0.35	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	-	<0.22	mg/kg
PAH Sum of 17	<0.64	<0.64	<0.64	0.73	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	100	-	-	<0.64	mg/kg
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	0.038	<0.025	0.035	<0.025	<0.025	0.5	1.5	2	25	<0.025	mg/kg
Barium	0.11	0.11	0.06	0.07	0.18	0.18	0.26	0.19	0.14	0.10	20	20	100	300	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	0.04	1	5	<0.005	mg/kg
Chromium	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	0.5	10	70	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	2	50	100	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.01	0.2	2	<0.0001	mg/kg
Molybdenum	<0.02	0.38	0.07	0.13	0.21	0.32	0.21	0.55	0.31	0.25	0.5	1.5	10	30	<0.02	mg/kg
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	0.03	<0.02	<0.02	0.4	0.4	10	40	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	0.5	10	50	<0.05	mg/kg
Antimony	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	0.07	0.03	0.04	0.06	0.18	0.7	5	<0.02	mg/kg
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.3	0.5	7	<0.03	mg/kg
Zinc	<0.03	<0.03	<0.03	<0.03	<0.03	0.09	<0.03	<0.03	<0.03	<0.03	4	4	50	200	<0.03	mg/kg
Total Dissolved Solids**	460	430	720	1271	910	1571	1020	4648	690	2151	4000	12,000	60000	100000	<350	mg/kg
Dissolved Organic Carbon	<20	<20	20	40	30	100	30	60	<20	<20	500	500	800	1000	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	-	<0.1	mg/kg
Sulphate as SO4**	17	28	63	310	111	403	191	366	42	23	1,000	3,000	20000	50000	<0.5	mg/kg
Chloride**	<3	<3	<3	<3	4	49	<3	44	<3	<3	800	2,400	15000	25000	<3	mg/kg
Asbestos	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	<0.001	%
Asbestos Type	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	-	%

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

WAC Data - Santry, April 2019

Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11	Inert	IMS*	Stable Non-reactive	Hazardous	LOD LOR	Units
Sample Depth (m)	**0.00-1.00**	**1.00-2.00**	**2.00-2.90**	**0.00-1.00**	**1.00-2.00**	**2.00-2.90**	**0.00-1.00**	**1.00-2.00**	**0.00-1.00**	**1.00-2.00**						
Total Organic Carbon*	3.57	0.49	0.73	0.69	0.77	0.66	1.50	0.39	1.86	0.51	3	6	5	6	<0.02	%
Sum of BTEX	<0.025	<0.025	<0.025[sv]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	6	-	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	1	-	-	<0.035	mg/kg
Mineral Oil	<30	<30	40	922	<30	<30	<30	<30	<30	<30	500	500	-	-	<30	mg/kg
PAH Sum of 6	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.23	<0.22	1.50	<0.22	-	-	-	-	<0.22	mg/kg
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	2.61	<0.64	100	100	-	-	<0.64	mg/kg
Arsenic	0.053	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	1.5	2	25	<0.025	mg/kg
Barium	0.47	0.07	0.17	0.09	0.22	0.11	0.11	0.08	0.46	0.04	20	20	100	300	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	0.04	1	5	<0.005	mg/kg
Chromium	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	0.5	10	70	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	2	50	100	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.01	0.2	2	<0.0001	mg/kg
Molybdenum	0.40	0.30	0.33	0.32	0.10	0.39	0.17	0.22	0.26	0.22	0.5	1.5	10	30	<0.02	mg/kg
Nickel	0.06	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	0.03	<0.02	0.4	0.4	10	40	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	0.5	10	50	<0.05	mg/kg
Antimony	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	0.06	0.18	0.7	5	<0.02	mg/kg
Selenium	<0.03	<0.03	0.08	<0.03	<0.03	0.12	<0.03	<0.03	<0.03	<0.03	0.1	0.3	0.5	7	<0.03	mg/kg
Zinc	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	4	50	200	<0.03	mg/kg
Total Dissolved Solids**	1770	480	<350	440	1070	560	790	<350	2101	380	4000	12,000	60000	100000	<350	mg/kg
Dissolved Organic Carbon	110	<20	<20	<20	50	<20	20	<20	80	<20	500	500	800	1000	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	-	<0.1	mg/kg
Sulphate as SO4**	<5	21	33	20	5	69	97	12	354	19	1000	3,000	20000	50000	<0.5	mg/kg
Chloride**	85	<3	<3	<3	3	18	<3	<3	9	<3	800	2,400	15000	25000	<3	mg/kg
Asbestos	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	<0.001	%
Asbestos Type	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	-	%

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

WAC Data - Santry, April 2019

Sample ID	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15	Inert	IMS*	Stable Non-reactive	Hazardous	LOD LOR	Units
Sample Depth (m)	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00						
Total Organic Carbon*	0.85	2.58	0.49	0.64	3.04	0.48	0.49	5.64	0.43	0.64	3	6	5	6	<0.02	%
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	6	-	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	1	-	-	<0.035	mg/kg
Mineral Oil	<30	<30	<30	<30	<30	164	<30	<30	<30	<30	500	500	-	-	<30	mg/kg
PAH Sum of 6	<0.22	2.65	<0.22	<0.22	<0.22	<0.22	<0.22	47.19	<0.22	<0.22	-	-	-	-	<0.22	mg/kg
PAH Sum of 17	<0.64	5.69	<0.64	<0.64	<0.64	<0.64	<0.64	107.93	<0.64	<0.64	100	100	-	-	<0.64	mg/kg
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.066	<0.025	<0.025	0.5	1.5	2	25	<0.025	mg/kg
Barium	0.15	0.38	0.06	0.07	0.56	0.50	0.20	0.47	0.18	0.08	20	20	100	300	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	0.04	1	5	<0.005	mg/kg
Chromium	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	0.5	10	70	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	2	50	100	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.01	0.2	2	<0.0001	mg/kg
Molybdenum	0.31	0.15	0.60	0.37	0.34	0.20	0.35	0.55	0.07	0.50	0.5	1.5	10	30	<0.02	mg/kg
Nickel	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	0.4	10	40	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	0.5	10	50	<0.05	mg/kg
Antimony	<0.02	0.03	<0.02	<0.02	0.04	0.04	0.04	0.04	0.03	<0.02	0.06	0.18	0.7	5	<0.02	mg/kg
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	<0.03	0.1	0.3	0.5	7	<0.03	mg/kg
Zinc	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	4	50	200	<0.03	mg/kg
Total Dissolved Solids**	<350	740	420	370	2099	940	420	1779	500	400	4000	12,000	60000	100000	<350	mg/kg
Dissolved Organic Carbon	<20	20	<20	<20	50	<20	<20	110	30	<20	500	500	800	1000	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	-	<0.1	mg/kg
Sulphate as SO4**	25	114	13	12	323	108	45	394	28	18	1000	3,000	20000	50000	<0.5	mg/kg
Chloride**	<3	8	<3	<3	<3	19	<3	19	9	<3	800	2,400	15000	25000	<3	mg/kg
Asbestos	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	<0.001	%
Asbestos Type	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	-	%

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

APPENDIX 6 – Suitable 4 Use Data

S4UL - Metals (Residential with homgrown produce), Santry, April 2019

Sample ID	WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07	Max Level Detected	Units	Residential with homegrown produce
Sample Depth (m)	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00			
Antimony	1	2	2	4	2	2	2	2	2	2	4	mg/kg	ne
Arsenic	7.2	10.7	11.8	22.7	10.5	15.8	8.9	10.5	7.5	10.2	22.7	mg/kg	37
Barium	77	91	61	185	65	117	60	66	73	69	185	mg/kg	ne
Cadmium	1.5	1.9	2.1	2.8	2	6.7	2.1	2.5	2.2	2	6.7	mg/kg	11
Chromium	16.2	20.3	20	32.1	23.1	29.8	27.2	29.9	26.1	20.3	32.1	mg/kg	910
Copper	18	26	28	91	28	88	26	28	23	26	91	mg/kg	2,400
Lead	12	16	24	127	16	81	16	17	14	17	127	mg/kg	ne
Mercury	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	mg/kg	1.2
Molybdenum	1.5	3.8	3	4.1	3.9	3.2	3.5	4.2	3.6	3.8	4.2	mg/kg	ne
Nickel	25	39.3	39.8	54.1	40.5	38.6	35.8	37.7	32.5	38.9	54.1	mg/kg	130
Selenium	1	3	<1	2	<1	1	1	1	5	4	5	mg/kg	250
Zinc	64	74	74	220	77	1910	79	77	70	77	1910	mg/kg	3,700
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0	mg/kg	6*

S4UL - Metals (Residential with homgrown produce), Santry, April 2019

Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11	Max Level Detected	Units	Residential with homegrown produce
Sample Depth (m)	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00			
Antimony	3	2	2	4	2	2	4	2	3	2	4	mg/kg	ne
Arsenic	18.2	10.7	8.7	17.1	9	8.5	22	9.9	20.2	10	22	mg/kg	37
Barium	142	80	72	125	153	86	114	59	136	85	153	mg/kg	ne
Cadmium	2.7	2.2	2.3	2.5	2.1	1.9	2.9	2.1	2.7	2.2	2.9	mg/kg	11
Chromium	55.6	27.8	16	46.5	22.3	19.2	50.8	19.7	32.7	24.2	55.6	mg/kg	910
Copper	57	27	26	47	27	27	57	25	44	27	57	mg/kg	2,400
Lead	88	20	15	28	14	15	85	17	70	16	88	mg/kg	ne
Mercury	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	0.4	mg/kg	1.2
Molybdenum	6.8	5.2	3.9	5.7	3.7	3.6	5.4	3	5.5	3.8	6.8	mg/kg	ne
Nickel	61.2	46.4	37.8	68.5	35.9	36.7	66.9	38.4	67.5	47.7	68.5	mg/kg	130
Selenium	1	2	3	2	2	4	2	2	2	2	4	mg/kg	250
Zinc	127	89	90	133	70	61	170	73	116	85	170	mg/kg	3,700
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0	mg/kg	6*

S4UL - Metals (Residential with homgrown produce), Santry, April 2019

Sample ID	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15	Max Level Detected	Units	Residential with homegrown produce
Sample Depth (m)	**2.00-2.70**	**0.00-1.00**	**1.00-2.00**	**2.00-2.90**	**0.00-1.00**	**1.00-2.00**	**2.00-2.70**	**0.00-1.00**	**1.00-2.00**	**2.00-3.00**			
Antimony	9.6	18.6	12	9.8	22	11.3	9.1	21.7	10.9	10.4	22	mg/kg	ne
Arsenic	89	141	99	77	96	61	59	139	78	63	141	mg/kg	37
Barium	2.1	1.4	2.8	2	1.4	2.6	2.3	2	2.4	2.1	2.8	mg/kg	ne
Cadmium	17.6	26.1	21.6	19.6	23.1	17.3	23.9	37	28.9	17.4	37	mg/kg	11
Chromium	25	38	33	25	33	27	25	63	29	26	63	mg/kg	910
Copper	15	78	20	15	73	16	15	137	15	15	137	mg/kg	2,400
Lead	<0.1	0.4	<0.1	<0.1	0.1	<0.1	<0.1	1.5	<0.1	<0.1	1.5	mg/kg	ne
Mercury	3.5	2.5	4.4	3.5	1.9	3.3	3	4.2	3.6	3.8	4.4	mg/kg	1.2
Molybdenum	37.3	37.8	48.8	38.8	31	49	35.8	49.6	48.8	39	49.6	mg/kg	ne
Nickel	4	2	1	4	<1	1	2	2	<1	2	4	mg/kg	130
Selenium	73	94	93	77	143	85	89	142	71	73	143	mg/kg	250
Zinc	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0	mg/kg	3,700
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0	mg/kg	6*

S4UL - Organic Compounds (Residential with Homegrown Produce), Santry, April 2019

													Residential with homegrown produce		
Commercial	**WS01**	**WS01**	**WS03**	**WS04**	**WS04**	**WS05**	**WS05**	**WS06**	**WS06**	**WS07**	**Max Level**	**Units**	**LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]**		
	0.00-1.00	**1.00-2.00**	**1.00-2.00**	**0.00-1.00**	**1.00-2.00**	**0.00-1.00**	**1.00-2.00**	**0.00-1.00**	**1.00-2.00**	**1.00-2.00**	**Detected**		**1 % SOM**	**2.5 % SOM**	**6 % SOM**
Aliphatics															
>C5-C6 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	42	78	160
>C6-C8 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	100	230	530
>C8-C10	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	mg/kg	27	65	150
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.00	mg/kg	130	330	760
>C12-C16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	0.00	mg/kg	1,100	2,400	4,300
>C16-C21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	0.00	mg/kg	ne	ne	ne
>C21-C35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	0.00	mg/kg	ne	ne	ne
>C16-C35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	0.00	mg/kg	65000	92000	110000
>C35-C40	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	0.20	mg/kg	ne	ne	ne
Total aliphatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	0.00	mg/kg	ne	ne	ne
>C6-C10	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	ne	ne	ne
>C10-C25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.00	mg/kg	ne	ne	ne
>C25-C35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.00	mg/kg	ne	ne	ne
Aromatics															
>C5-EC7 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	70	140	300
>EC7-EC8 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	130	290	660
>EC8-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	34	83	190
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.00	mg/kg	74	180	380
>EC12-EC16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	0.00	mg/kg	140	330	660
>EC16-EC21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	0.00	mg/kg	260	540	930
>EC21-EC35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	0.00	mg/kg	1,100	1,500	1,700
>EC35-EC40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	0.00	mg/kg	ne	ne	ne
Total aromatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	0.00	mg/kg	ne	ne	ne
Total aliphatics and aromatics(C5-40)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	0.00	mg/kg	ne	ne	ne
>EC6-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	ne	ne	ne
>EC10-EC25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.00	mg/kg	ne	ne	ne
>EC25-EC35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.00	mg/kg	ne	ne	ne
BTEX															
MTBE #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	ne	ne	ne
Benzene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	0.087	0.17	0.37
Toluene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	130	290	660
Ethylbenzene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	47	110	260
m/p-Xylene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	56	130	310
o-Xylene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2.06	mg/kg	60	140	330
TOC	0.28	0.61	0.68	1.79	0.48	2.06	0.4	0.41	0.46	0.63		%			
SOM (Note 1)	0.48	1.05	1.17	3.09	0.83	3.55	0.69	0.71	0.79	1.09					

Note 1 - TOC * 1.724

S4UL - Organic Compounds (Residential with Homegrown Produce), Santry, April 2019

Commercial	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11	Max Level	Units	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	Detected		1 % SOM	2.5 % SOM	6 % SOM
Aliphatics															
>C5-C6 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	42	78	160
>C6-C8 #	<0.1	0.6	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.60	mg/kg	100	230	530
>C8-C10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	mg/kg	27	65	150
>C10-C12 #	<0.2	<0.2	2.2	5.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5.70	mg/kg	130	330	770
>C12-C16 #	<4	<4	10	177	<4	<4	<4	<4	<4	<4	177.00	mg/kg	1,100	2,400	4,400
>C16-C21 #	<7	<7	14	353	<7	<7	<7	<7	<7	<7	353.00	mg/kg	ne	ne	ne
>C21-C35 #	<7	<7	14	374	<7	<7	<7	<7	<7	<7	374.00	mg/kg	ne	ne	ne
>C16-C35 #	<7	<7	<7	12.00	<7	<7	<7	<7	<7	<7	922.00	mg/kg	65000	92000	110000
>C35-C40	<14	<14	<14	386.00	<14	<14	<14	<14	<14	<14	0.60	mg/kg	ne	ne	ne
Total aliphatics C5-40	<26	<26	40	922	<26	<26	<26	<26	<26	<26	709.00	mg/kg	ne	ne	ne
>C6-C10	<0.1	0.6	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	254.00	mg/kg	ne	ne	ne
>C10-C25	<10	<10	41	709	<10	<10	<10	<10	<10	<10	0.00	mg/kg	ne	ne	ne
>C25-C35	<10	<10	<10	254	<10	<10	<10	<10	<10	<10		mg/kg	ne	ne	ne
Aromatics															
>C5-EC7 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	370	690	1400
>EC7-EC8 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	860	1800	3900
>EC8-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.00	mg/kg	47	110	270
>EC10-EC12 #	<0.2	<0.2	<0.2	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	78.00	mg/kg	250	590	1200
>EC12-EC16 #	<4	<4	<4	78	<4	<4	<4	<4	<4	<4	161.00	mg/kg	1800	2300	2500
>EC16-EC21 #	<7	<7	<7	161	<7	<7	10	<7	<7	<7	173.00	mg/kg	1900	1900	1900
>EC21-EC35 #	<7	<7	<7	173	<7	<7	20	<7	<7	<7	10.00	mg/kg	1,900	1,900	1,900
>EC35-EC40	<7	<7	<7	10	<7	<7	<7	<7	<7	<7	425.00	mg/kg	ne	ne	ne
Total aromatics C5-40	<26	<26	<26	425	<26	<26	30	<26	<26	<26	1347.00	mg/kg	ne	ne	ne
Total aliphatics and aromatics(C5-40)	<52	<52	<52	1347	<52	<52	<52	<52	<52	<52	0.00	mg/kg	ne	ne	ne
>EC6-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	290.00	mg/kg	ne	ne	ne
>EC10-EC25	<10	<10	<10	290	<10	<10	17	<10	<10	<10	82.00	mg/kg	ne	ne	ne
>EC25-EC35	<10	<10	<10	82	<10	<10	<10	<10	<10	<10	0.00	mg/kg	ne	ne	ne
BTEX															
MTBE #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	ne	ne	ne
Benzene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	0.38	0.7	1.4
Toluene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	880	1900	3900
Ethylbenzene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	83	190	440
m/p-Xylene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	79	180	430
o-Xylene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	3.57	mg/kg	88	210	480
TOC	3.57	0.49	0.73	0.69	0.77	0.66	1.5	0.39	1.86	0.51		%			
SOM (Note 1)	6.15	0.84	1.26	1.19	1.33	1.14	2.59	0.67	3.21	0.88					

Note 1 - TOC * 1.724

S4UL - Organic Compounds (Residential with Homegrown Produce), Santry, April 2019

Commercial	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15	Max Level Detected	Units	Residential without homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00			1 % SOM	2.5 % SOM	6 % SOM
Aliphatics															
>C5-C6 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	42	78	160
>C6-C8 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	100	230	530
>C8-C10	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	mg/kg	27	65	150
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.00	mg/kg	130	330	770
>C12-C16 #	<4	<4	<4	<4	<4	26	<4	<4	<4	<4	26.00	mg/kg	1,100	2,400	4,400
>C16-C21 #	<7	<7	<7	<7	<7	53	<7	<7	<7	<7	53.00	mg/kg	ne	ne	ne
>C21-C35 #	<7	<7	<7	<7	<7	85	<7	<7	<7	<7	85.00	mg/kg	ne	ne	ne
>C16-C35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	164.00	mg/kg	65000	92000	110000
>C35-C40	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	0.20	mg/kg	ne	ne	ne
Total aliphatics C5-40	<26	<26	<26	<26	<26	164	<26	<26	<26	<26	109.00	mg/kg	ne	ne	ne
>C6-C10	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	47.00	mg/kg	ne	ne	ne
>C10-C25	<10	<10	<10	<10	<10	109	<10	<10	<10	<10	0.00	mg/kg	ne	ne	ne
>C25-C35	<10	<10	<10	<10	<10	47	<10	<10	<10	<10		mg/kg	ne	ne	ne
Aromatics															
>C5-EC7 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	370	690	1400
>EC7-EC8 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	860	1800	3900
>EC8-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	mg/kg	47	110	270
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	16.00	mg/kg	250	590	1200
>EC12-EC16 #	<4	<4	<4	<4	<4	16	<4	<4	<4	<4	50.00	mg/kg	1800	2300	2500
>EC16-EC21 #	<7	<7	<7	<7	15	50	<7	<7	<7	<7	62.00	mg/kg	1900	1900	1900
>EC21-EC35 #	<7	62	<7	<7	41	17	<7	53	<7	<7	0.00	mg/kg	1,900	1,900	1,900
>EC35-EC40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	83.00	mg/kg	ne	ne	ne
Total aromatics C5-40	<26	62	<26	<26	56	83	<26	53	<26	<26	247.00	mg/kg	ne	ne	ne
Total aliphatics and aromatics(C5-40)	<52	62	<52	<52	56	247	<52	53	<52	<52	0.00	mg/kg	ne	ne	ne
>EC6-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	68.00	mg/kg	ne	ne	ne
>EC10-EC25	<10	19	<10	<10	30	68	<10	13	<10	<10	46.00	mg/kg	ne	ne	ne
>EC25-EC35	<10	46	<10	<10	30	<10	<10	44	<10	<10	0.00	mg/kg	ne	ne	ne
BTEX															
MTBE #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	ne	ne	ne
Benzene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	0.38	0.7	1.4
Toluene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	880	1900	3900
Ethylbenzene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	83	190	440
m/p-Xylene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00	mg/kg	79	180	430
o-Xylene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5.64	mg/kg	88	210	480
TOC	0.85	2.58	0.49	0.64	3.04	0.48	0.49	5.64	0.43	0.64		%			
SOM (Note 1)	1.47	4.45	0.84	1.10	5.24	0.83	0.84	9.72	0.74	1.10					

Note 1 - TOC * 1.724

S4UL - PAHs (Residential with Homwgrown Produce), Santry, April 2019

													Residential with homegrown produce		
	WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07	Max Level Detected	Units	LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00			1 % SOM	2.5 % SOM	6 % SOM
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	2.3	5.6	13
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.00	mg/kg	170	420	920
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.00	mg/kg	210	510	1,100
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	170	400	860
Phenanthrene	<0.03	<0.03	<0.03	0.09	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.09	mg/kg	95	220	440
Anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	2,400	5,400	11,000
Fluoranthene	<0.03	<0.03	<0.03	0.13	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.13	mg/kg	280	560	890
Pyrene	<0.03	<0.03	<0.03	0.11	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.11	mg/kg	620	1,200	2,000
Benzo(a)anthracene	<0.06	<0.06	<0.06	0.1	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.10	mg/kg	7.2	11	13
Chrysene	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	mg/kg	15	22	27
Benzo(bk)fluoranthene	<0.07	<0.07	<0.07	0.14	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.14	mg/kg	ne	ne	ne
Benzo(a)pyrene	<0.04	<0.04	<0.04	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.08	mg/kg	2.2	2.7	3
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	27	36	41
Dibenzo(ah)anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	0.24	0.28	0.3
Benzo(ghi)perylene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	320	340	350
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	ne	ne	ne
PAH 6 Total	<0.22	<0.22	<0.22	0.35	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.35	mg/kg	ne	ne	ne
PAH 17 Total	<0.64	<0.64	<0.64	0.73	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	0.73	mg/kg	ne	ne	ne
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.10	mg/kg	2.6	3.3	3.7
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	mg/kg	77	93	100
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.00	mg/kg	ne	ne	ne
SOM (Note 1)	0.5	1.1	1.2	3.1	0.8	3.6	0.7	0.7	0.8	1.1		%			

Note 1 - TOC * 1.724

S4UL - PAHs (Residential with Homwgrown Produce), Santry, April 2019

Residential without homegrown produce

	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS11	WS11	Max Level Detected	Units	LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00			1 % SOM	2.5 % SOM	6 % SOM
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	2.3	5.6	13
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	0.05	mg/kg	2,900	4,600	6,000
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.00	mg/kg	3000	4700	6,000
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	2800	3800	4500
Phenanthrene	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	0.16	<0.03	0.16	mg/kg	1300	1500	1500
Anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.00	mg/kg	31,000	35,000	37,000
Fluoranthene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	0.26	<0.03	0.26	mg/kg	1500	1600	1600
Pyrene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	0.25	<0.03	0.25	mg/kg	3,700	3,800	3,800
Benzo(a)anthracene	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.1	<0.06	0.25	<0.06	0.25	mg/kg	11	14	15
Chrysene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	0.26	<0.02	0.26	mg/kg	30	31	32
Benzo(bk)fluoranthene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.1	<0.07	0.53	<0.07	0.53	mg/kg	ne	ne	ne
Benzo(a)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	0.31	<0.04	0.31	mg/kg	3.2	3.2	3.2
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.2	<0.04	0.20	mg/kg	45	46	46
Dibenzo(ah)anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.09	<0.04	0.09	mg/kg	0.31	0.32	0.32
Benzo(ghi)perylene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.2	<0.04	0.20	mg/kg	360	360	360
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	0.05	mg/kg	ne	ne	ne
PAH 6 Total	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.23	<0.22	1.5	<0.22	1.50	mg/kg	ne	ne	ne
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	2.61	<0.64	2.61	mg/kg	ne	ne	ne
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	0.38	<0.05	0.38	mg/kg	3.9	4	4
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	0.15	<0.02	0.15	mg/kg	110	110	110
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.00	mg/kg	ne	ne	ne
SOM (Note 1)	6.2	0.8	1.3	1.2	1.3	1.1	2.6	0.7	3.2	0.9		%			

Note 1 - TOC * 1.724

S4UL - PAHs (Residential with Homwgrown Produce), Santry, April 2019

	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15	Max Level Detected	Units	Residential with homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW]		
	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00			1 % SOM	2.5 % SOM	6 % SOM
Naphthalene	<0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	0.19	<0.04	<0.04	0.19	mg/kg	2.3	5.6	13
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	0.15	mg/kg	170	420	920
Acenaphthene	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	3.01	<0.05	<0.05	3.01	mg/kg	210	510	1,100
Fluorene	<0.04	0.09	<0.04	<0.04	0.06	0.06	<0.04	2.36	<0.04	<0.04	2.36	mg/kg	170	400	860
Phenanthrene	<0.03	0.76	<0.03	<0.03	0.05	<0.03	<0.03	20.22	<0.03	<0.03	20.22	mg/kg	95	220	440
Anthracene	<0.04	0.14	<0.04	<0.04	<0.04	<0.04	<0.04	2.04	<0.04	<0.04	2.04	mg/kg	2,400	5,400	11,000
Fluoranthene	<0.03	0.92	<0.03	<0.03	<0.03	<0.03	<0.03	18.44	<0.03	<0.03	18.44	mg/kg	280	560	890
Pyrene	<0.03	0.77	<0.03	<0.03	<0.03	<0.03	<0.03	15.61	<0.03	<0.03	15.61	mg/kg	620	1,200	2,000
Benzo(a)anthracene	<0.06	0.54	<0.06	<0.06	<0.06	<0.06	<0.06	7.86	<0.06	<0.06	7.86	mg/kg	7.2	11	13
Chrysene	<0.02	0.49	<0.02	<0.02	<0.02	<0.02	<0.02	7.13	<0.02	<0.02	7.13	mg/kg	15	22	27
Benzo(bk)fluoranthene	<0.07	0.8	<0.07	<0.07	<0.07	<0.07	<0.07	12.76	<0.07	<0.07	12.76	mg/kg	ne	ne	ne
Benzo(a)pyrene	<0.04	0.42	<0.04	<0.04	<0.04	<0.04	<0.04	7.29	<0.04	<0.04	7.29	mg/kg	2.2	2.7	3
Indeno(123cd)pyrene	<0.04	0.25	<0.04	<0.04	<0.04	<0.04	<0.04	4.21	<0.04	<0.04	4.21	mg/kg	27	36	41
Dibenzo(ah)anthracene	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	<0.04	1.44	<0.04	<0.04	1.44	mg/kg	0.24	0.28	0.3
Benzo(ghi)perylene	<0.04	0.26	<0.04	<0.04	<0.04	<0.04	<0.04	4.49	<0.04	<0.04	4.49	mg/kg	320	340	350
Coronene	<0.04	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	0.73	<0.04	<0.04	0.73	mg/kg	ne	ne	ne
PAH 6 Total	<0.22	2.65	<0.22	<0.22	<0.22	<0.22	<0.22	47.19	<0.22	<0.22	47.19	mg/kg	ne	ne	ne
PAH 17 Total	<0.64	5.69	<0.64	<0.64	<0.64	<0.64	<0.64	107.93	<0.64	<0.64	107.93	mg/kg	ne	ne	ne
Benzo(b)fluoranthene	<0.05	0.58	<0.05	<0.05	<0.05	<0.05	<0.05	9.19	<0.05	<0.05	9.19	mg/kg	2.6	3.3	3.7
Benzo(k)fluoranthene	<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	3.57	<0.02	<0.02	3.57	mg/kg	77	93	100
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	4	<1	<1	4.00	mg/kg	ne	ne	ne
SOM (Note 1)	1.5	4.4	0.8	1.1	5.2	0.8	0.8	9.7	0.7	1.1		%			

Note 1 - TOC * 1.724

APPENDIX 6.3

SOIL QUALITY RESULTS

Sample ID					WS01	WS01	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07	WS08	WS08	WS08	WS09	WS09
Laboratory					Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones
Report					19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453
Sample Type					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Depth					0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	1.00-2.00	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00
Sample Date					18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
Parameters	**Units**	**LOD**	**LQM/CIEH S4ul for HHRA Residental Threshold (mg/kg)**	**LQM/CIEH S4ul for HHRA Commercial Threshold (mg/kg)**															
Metals																			
Antimony	mg/kg	<1	nv	nv	1	2	2	4	2	2	2	2	2	2	3	2	2	4	2
Arsenic	mg/kg	<0.5	40	640	7.2	10.7	11.8	22.7	10.5	15.8	8.9	10.5	7.5	10.2	18.2	10.7	8.7	17.1	9.0
Barium	mg/kg	<1	nv	nv	77	91	61	185	65.0	117.0	60.0	66.0	73.0	69.0	142.0	80.0	72.0	125.0	153.0
Cadmium	mg/kg	<0.1	85	190	1.5	1.9	2.1	2.8	2	6.7	2.1	2.5	2.2	2	2.7	2.2	2.3	2.5	2.1
Chromium	mg/kg	<0.5	910	8,600	16.2	20.3	20	32.1	23.1	29.8	27.2	29.9	26.1	20.3	55.6	27.8	16	46.5	22.3
Copper	mg/kg	<1	7,100	68,000	18	26	28	91	28	88	26	28	23	26	57	27	26	47	27
Lead	mg/kg	<5	nv	nv	12	16	24	127	16	81	16	17	14	17	88	20	15	28	14
Mercury	mg/kg	<0.1	1.2	58vap (25.8)	-	-	-	0.2	-	-	-	-	-	-	0.4	-	-	-	-
Molybdenum	mg/kg	<0.1	nv	nv	1.5	3.8	3	4.1	3.9	3.2	3.5	4.2	3.6	3.8	6.8	5.2	3.9	5.7	3.7
Nickel	mg/kg	<0.7	180	980	25	39.3	39.8	54.1	40.5	38.6	35.8	37.7	32.5	38.9	61.2	46.4	37.8	68.5	35.9
Selenium	mg/kg	<1	430	12,000	1	3	-	2	-	1	1	1	5	4	1	2	3	2	2
Zinc	mg/kg	<5	40,000	730,000	64	74	74	220	77	1,910	79	77	70	77	127	89	90	133	70
PAH MS																			
Naphthalene	mg/kg	<0.04	2.3	190(76.4)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	<0.03	170	83000(86.1)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	<0.05	210	84000(57.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	<0.04	170	63000(30.9)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	<0.03	95	22,000	-	-	-	0.09	-	-	-	-	-	-	0.08	-	-	-	-
Anthracene	mg/kg	<0.04	2,400	520,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	<0.03	280	23,000	-	-	-	0.13	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	<0.03	620	54,000	-	-	-	0.11	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	<0.06	7.2	170	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	<0.02	15	350	-	-	-	0.08	-	-	-	-	-	-	-	-	-	-	-
Benzo(bk)fluoranthene	mg/kg	<0.07	nv	nv	-	-	-	0.14	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	<0.04	2.2	35	-	-	-	0.08	-	-	-	-	-	-	-	-	-	-	-
Indeno(123cd)pyrene	mg/kg	<0.04	nv	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(ah)anthracene	mg/kg	<0.04	0.24	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	<0.04	320	3,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coronene	mg/kg	<0.04	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAH 16 Total	mg/kg	<0.22	nv	nv	-	-	-	0.35	-	-	-	-	-	-	-	-	-	-	-
PAH 17 Total	mg/kg	<0.64	nv	nv	-	-	-	0.73	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	<0.05	2.6	44	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	<0.02	77	1,200	-	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-
Benzo(j)fluoranthene	mg/kg	<1	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAH Surrogate % Recovery	mg/kg	<0	nv	nv	100	92	98	91	89	95	97	93	82	95	99	95	97	90	83
Mineral Oil (C10-C40)	mg/kg	<30	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	40	922	-
TPH CWG																			
Aliphatics																			
>C5-C6	mg/kg	<0.1	42	3,200 (304) sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C6-C8	mg/kg	<0.1	100	7,800 (144)sol	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-
>C8-C10	mg/kg	<0.1	27	2,000 (78)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-
>C10-C12	mg/kg	<0.2	130	9,700 (48)sol	-	-	-	-	-	-	-	-	-	-	-	-	2.2	5.7	-
>C12-C16	mg/kg	<4	1100	59,000 (24)sol	-	-	-	-	-	-	-	-	-	-	-	-	10	177	-
>C16-C21	mg/kg	<7	65,000 (combined)	1,600,000 (combined)	-	-	-	-	-	-	-	-	-	-	-	-	14	353	-
>C21-C35	mg/kg	<7	65,000	1,600,000	-	-	-	-	-	-	-	-	-	-	-	-	14	374	-
>C35-C40	mg/kg	<7	65,000	1,600,000	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-
Total aliphatics C5-40	mg/kg	<19	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	40	922	-
Aromatics																			
>C5-EC7	mg/kg	<0.1	370	26,000(1220)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC7-EC8	mg/kg	<0.1	860	56,000(869)vap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC8-EC10	mg/kg	<0.1	47	3,500(613)vap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC10-EC12	mg/kg	<0.2	250	16,000(364)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
>EC12-EC16	mg/kg	<4	1800	36,000(169)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-
>EC16-EC21	mg/kg	<7	1900	28,000	-	-	-	-	-	-	-	-	-	-	-	-	-	161	-
>EC21-EC35	mg/kg	<7	1900	28,000	-	-	-	-	-	-	-	-	-	-	-	-	-	173	-
>EC35-EC40	mg/kg	<7	1900	28,000	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-
Total aromatics C5-40	mg/kg	<19	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	425	-
Total aliphatics and aromatics(C5-40)	mg/kg	<38	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	1,347	-
Methyl Tertiary Butyl Ether	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	<0.005	0.38	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	<0.005	880(869)vap	56,000(869)vap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	<0.005	83	5,700(518)vap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m/p-Xylene	mg/kg	<0.005	m: 820 p: 790	m: 6,200(625)vap p: 5,900(576)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/kg	<0.005	88	6,600(478)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 28	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 52	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 101	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 118	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 138	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 153	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 180	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 7 PCBs	ug/kg	<35	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Natural Moisture Content	%	<0.1	nv	nv	12.9	13.8	12.4	26.6	15.2	21.8	13.8	17.4	12.6	13.8	27.7	12.7	11.5	15.9	11.6
Moisture Content (% Wet Weight)	%	<0.1	nv	nv	11.5	12.2	11.1	21	13.2	17.9	12.1	14.9	11.2	12.1	21.7	11.3	10.4	13.7	10.4
Hexavalent Chromium	mg/kg	<0.3	6	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium III	mg/kg	<0.5	910	8,600	16.2	20.3	20	32.1	23.1	29.8	27.2	29.9	26.1	20.3	55.6	27.8	16	46.5	22.3
Total Organic Carbon	%	<0.02	nv	nv	0.28	0.61	0.68	1.79	0.48	2.06	0.4	0.41	0.46	0.63	3.57	0.49	0.73	0.69	0.77
pH	pH units	<0.01	nv	nv	9.16	8.82	8.5	8.3	8.03	7.95	8.65	8.59	8.65	8.64	7.91	8.79	8.73	8.36	8.69

Legend

0.45 Results exceed LQM/CIEH S4ul for HHRA Residential Threshold without homegrown produce at 1% SOM (mg/kg)

0.45 Results exceed LQM/CIEH S4ul for HHRA Commercial Threshold at 1% SOM (mg/kg)

\- Results below LOD

nv Guideline threshold value not available

Notes

HHRA 2015 - LQM/CIEH Suitable 4 Use Levels based on 'Commercial' and/or 'residential' land use using 1% SOM. Metals are compared against a 6% SOM

Sol : sol S4UL presented exceed the solubility saturation limit, which is presented in brackets

Vap: vap S4UL presented exceed the vapour stauration limit which is presented in brackets

Sample ID					WS09	WS10	WS10	WS11	WS11	WS11	WS12	WS12	WS12	WS14	WS14	WS14	WS15	WS15	WS15
Laboratory					Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones	Jones
Report					19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453	19/6453
Sample Type					Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Depth					2.00-2.90	0.00-1.00	1.00-2.00	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-2.90	0.00-1.00	1.00-2.00	2.00-2.70	0.00-1.00	1.00-2.00	2.00-3.00
Sample Date					18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
Parameters	**Units**	**LOD**	**LQM/CIEH S4ul for HHRA Residental Threshold (mg/kg)**	**LQM/CIEH S4ul for HHRA Commercial Threshold (mg/kg)**															
Metals																			
Antimony	mg/kg	<1	nv	nv	2	4	2	3	2	2	2	2	2	3	2	2	3	2	2
Arsenic	mg/kg	<0.5	40	640	8.5	22.0	9.9	20.2	10.0	9.6	18.6	12.0	9.8	22.0	11.3	9.1	21.7	10.9	10.4
Barium	mg/kg	<1	nv	nv	86.0	114.0	59.0	136.0	85.0	89.0	141.0	99.0	77.0	96.0	61.0	59.0	139.0	78.0	63.0
Cadmium	mg/kg	<0.1	85	190	1.9	2.9	2.1	2.7	2.2	2.1	1.4	2.8	2	1.4	2.6	2.3	2	2.4	2.1
Chromium	mg/kg	<0.5	910	8,600	19.2	50.8	19.7	32.7	24.2	17.6	26.1	21.6	19.6	23.1	17.3	23.9	37	28.9	17.4
Copper	mg/kg	<1	7,100	68,000	27	57	25	44	27	25	38	33	25	33	27	25	63	29	26
Lead	mg/kg	<5	nv	nv	15	85	17	70	16	15	78	20	15	73	16	15	137	15	15
Mercury	mg/kg	<0.1	1.2	58vap (25.8)	-	0.2	-	0.2	-	-	0.4	-	-	0.1	-	-	**1.5**	-	-
Molybdenum	mg/kg	<0.1	nv	nv	3.6	5.4	3	5.5	3.8	3.5	2.5	4.4	3.5	1.9	3.3	3	4.2	3.6	3.8
Nickel	mg/kg	<0.7	180	980	36.7	66.9	38.4	67.5	47.7	37.3	37.8	48.8	38.8	31	49	35.8	49.6	48.8	39
Selenium	mg/kg	<1	430	12,000	4	2	2	2	2	4	2	1	4	-	1	2	2	-	2
Zinc	mg/kg	<5	40,000	730,000	61	170	73	116	85	73	94	93	77	143	85	89	142	71	73
PAH MS																			
Naphthalene	mg/kg	<0.04	2.3	190(76.4)sol	-	-	-	-	-	-	0.05	-	-	-	-	-	0.19	-	-
Acenaphthylene	mg/kg	<0.03	170	83000(86.1)sol	-	-	-	0.05	-	-	-	-	-	-	-	-	0.15	-	-
Acenaphthene	mg/kg	<0.05	210	84000(57.0)	-	-	-	-	-	-	0.07	-	-	-	-	-	3.01	-	-
Fluorene	mg/kg	<0.04	170	63000(30.9)sol	-	-	-	-	-	-	0.09	-	-	0.06	0.06	-	2.36	-	-
Phenanthrene	mg/kg	<0.03	95	22,000	-	0.06	-	0.16	-	-	0.76	-	-	0.05	-	-	20.22	-	-
Anthracene	mg/kg	<0.04	2,400	520,000	-	-	-	-	-	-	0.14	-	-	-	-	-	2.04	-	-
Fluoranthene	mg/kg	<0.03	280	23,000	-	0.07	-	0.26	-	-	0.92	-	-	-	-	-	18.44	-	-
Pyrene	mg/kg	<0.03	620	54,000	-	0.07	-	0.25	-	-	0.77	-	-	-	-	-	15.61	-	-
Benzo(a)anthracene	mg/kg	<0.06	7.2	170	-	0.1	-	0.25	-	-	0.54	-	-	-	-	-	**7.86**	-	-
Chrysene	mg/kg	<0.02	15	350	-	0.05	-	0.26	-	-	0.49	-	-	-	-	-	7.13	-	-
Benzo(bk)fluoranthene	mg/kg	<0.07	nv	nv	-	0.1	-	0.53	-	-	0.8	-	-	-	-	-	12.76	-	-
Benzo(a)pyrene	mg/kg	<0.04	2.2	35	-	0.06	-	0.31	-	-	0.42	-	-	-	-	-	7.29	-	-
Indeno(123cd)pyrene	mg/kg	<0.04	nv	500	-	-	-	0.2	-	-	0.25	-	-	-	-	-	4.21	-	-
Dibenzo(ah)anthracene	mg/kg	<0.04	0.24	4	-	-	-	0.09	-	-	0.07	-	-	-	-	-	**1.44**	-	-
Benzo(ghi)perylene	mg/kg	<0.04	320	3,900	-	-	-	0.2	-	-	0.26	-	-	-	-	-	4.49	-	-
Coronene	mg/kg	<0.04	nv	nv	-	-	-	0.05	-	-	0.06	-	-	-	-	-	0.73	-	-
PAH 16 Total	mg/kg	<0.22	nv	nv	-	0.23	-	1.5	-	-	2.65	-	-	-	-	-	47.19	-	-
PAH 17 Total	mg/kg	<0.64	nv	nv	-	-	-	2.61	-	-	5.69	-	-	-	-	-	107.93	-	-
Benzo(b)fluoranthene	mg/kg	<0.05	2.6	44	-	0.07	-	0.38	-	-	0.58	-	-	-	-	-	**9.19**	-	-
Benzo(k)fluoranthene	mg/kg	<0.02	77	1,200	-	0.03	-	0.15	-	-	0.22	-	-	-	-	-	3.57	-	-
Benzo(j)fluoranthene	mg/kg	<1	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-
PAH Surrogate % Recovery	mg/kg	<0	nv	nv	98	75	93	99	99	98	95	97	93	96	98	92	101	99	88
Mineral Oil (C10-C40)	mg/kg	<30	nv	nv	-	-	-	-	-	-	-	-	-	-	164	-	-	-	-
TPH CWG																			
Aliphatics																			
>C5-C6	mg/kg	<0.1	42	3,200 (304) sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C6-C8	mg/kg	<0.1	100	7,800 (144)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8-C10	mg/kg	<0.1	27	2,000 (78)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C12	mg/kg	<0.2	130	9,700 (48)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12-C16	mg/kg	<4	1100	59,000 (24)sol	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-
>C16-C21	mg/kg	<7	65,000 (combined)	1,600,000 (combined)	-	-	-	-	-	-	-	-	-	-	53	-	-	-	-
>C21-C35	mg/kg	<7	65,000	1,600,000	-	-	-	-	-	-	-	-	-	-	85	-	-	-	-
>C35-C40	mg/kg	<7	65,000	1,600,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total aliphatics C5-40	mg/kg	<19	nv	nv	-	-	-	-	-	-	-	-	-	-	164	-	-	-	-
Aromatics																			
>C5-EC7	mg/kg	<0.1	370	26,000(1220)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC7-EC8	mg/kg	<0.1	860	56,000(869)vap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC8-EC10	mg/kg	<0.1	47	3,500(613)vap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC10-EC12	mg/kg	<0.2	250	16,000(364)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC12-EC16	mg/kg	<4	1800	36,000(169)sol	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-
>EC16-EC21	mg/kg	<7	1900	28,000	-	10	-	-	-	-	-	-	-	15	50	-	-	-	-
>EC21-EC35	mg/kg	<7	1900	28,000	-	20	-	-	-	-	62	-	-	41	17	-	53	-	-
>EC35-EC40	mg/kg	<7	1900	28,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total aromatics C5-40	mg/kg	<19	nv	nv	-	-	-	-	-	-	62	-	-	56	83	-	53	-	-
Total aliphatics and aromatics(C5-40)	mg/kg	<38	nv	nv	-	-	-	-	-	-	62	-	-	56	247	-	53	-	-
Methyl Tertiary Butyl Ether	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	<0.005	0.38	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	<0.005	880(869)vap	56,000(869)vap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	<0.005	83	5,700(518)vap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m/p-Xylene	mg/kg	<0.005	m: 820 p: 790	m: 6,200(625)vap p: 5,900(576)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/kg	<0.005	88	6,600(478)sol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 28	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 52	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 101	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 118	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 138	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 153	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 180	ug/kg	<5	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 7 PCBs	ug/kg	<35	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Natural Moisture Content	%	<0.1	nv	nv	10.3	22.2	11.9	25.6	14	10.7	24.8	14.2	10.6	26.6	14.7	14.5	33.3	16.2	11.5
Moisture Content (% Wet Weight)	%	<0.1	nv	nv	9.3	18.2	10.6	20.4	12.3	9.7	19.9	12.4	9.5	21	12.8	12.7	25	13.9	10.3
Hexavalent Chromium	mg/kg	<0.3	6	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium III	mg/kg	<0.5	910	8,600	19.2	50.8	19.7	32.7	24.2	17.6	26.1	21.6	19.6	23.1	17.3	23.9	37	28.9	17.4
Total Organic Carbon	%	<0.02	nv	nv	0.66	1.5	0.39	1.86	0.51	0.85	2.58	0.49	0.64	3.04	0.48	0.49	5.64	0.43	0.64
pH	pH units	<0.01	nv	nv	8.36	8.46	8.83	7.91	8.78	8.76	8.01	8.41	8.85	8.31	8.26	8.41	7.82	8.46	8.86

Legend

0.45 Results exceed LQM/CIEH S4ul for HHRA Residential Threshold without homegrown produce at 1% SOM (mg/kg)

0.45 Results exceed LQM/CIEH S4ul for HHRA Commercial Threshold at 1% SOM (mg/kg)

\- Results below LOD

nv Guideline threshold value not available

Notes

HHRA 2015 - LQM/CIEH Suitable 4 Use Levels based on 'Commercial' and/or 'residential' land use using 1% SOM. Metals are compared against a 6% SOM

Sol : sol S4UL presented exceed the solubility saturation limit, which is presented in brackets

Vap: vap S4UL presented exceed the vapour stauration limit which is presented in brackets