Hampshire Water Transfer and Water Recycling Project

6.2 Environmental Statement Vol II Appendix 11.2 Geotechnical and geo-environmental reports - 6 of 18 documents - Geotechnical and Geo-environmental Interpretative Report for Ground Investigation in Section H (Phase 2 and Phase 3B/3C) Addendum to Summary Report

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Contents

1 Introduction and Objectives 1
1.1 Background and Scheme Overview 1
1.2 Terms of Reference 1
1.3 Ground Investigation Programme 1
1.4 Section H Ground Investigation Objectives 2
1.5 Report Format 3

2 Section H Description 4
2.1 Location and Description 4

3 Phase 2 and Phase 3B/3C Ground Investigation 5
3.1 Rationale for Ground Investigation Locations 5
3.2 Section H Ground Investigation 6
3.3 Exploratory Holes and Monitoring Well Installations 7
3.4 Geo-Environmental Testing 8
3.5 Geotechnical Testing 8

4 Ground Model 9
4.1 Geological Setting 9
4.2 Section H Ground Investigation Results 9
4.2.1 Encountered Ground 9
4.2.2 Groundwater Levels 13
4.2.3 Visual and/or Olfactory Contamination 13

5 Generic Quantitative Risk Assessment (GQRA) 14
5.1 Soil Results 14
5.1.1 Assessment of Potential Risk to Human Health Receptors 14
5.1.2 Notable Soil Concentrations 14
5.1.3 Soil Sample Deviations 14
5.2 Soil Leachate and Groundwater Results 15
5.2.1 Comparison of Soil Leachate Results Against GAC 15
5.2.2 Comparisons of Groundwater Results Against GAC 15
5.2.3 Notable Groundwater Concentrations 16
5.3 Excavated Materials (Waste) Management 16
5.3.1 Hazardous Properties 16
5.3.2 Waste Acceptance Criteria (WAC) 17
5.4 Ground Gas Monitoring 17
5.4.1 Gas Thresholds 17

6 Land Contamination Risk Assessment Model 20
6.1 Approach and Revised Conceptual Site Model 20
6.2 Potential Sources of Contamination 20
6.3 Identification of Potential Pathways 23

6.4 Identification of Potential Receptors 23
6.5 Risk Assessment 23
6.6 Summary 26

7 Geotechnical Testing and Assessment 27
7.1 Geotechnical Testing and Assessment Summary Table for Section H boreholes 27
7.2 Standard Penetration Test (SPT) vs Depth Relationship for Section H boreholes 31
7.3 Undrained Shear Strength C_u vs Depth Relationship for Section H boreholes 34
7.4 Particle Size Distribution for Section H boreholes 35
7.5 Plasticity for Section H boreholes 37
7.6 Preliminary Geotechnical Design Parameters for Section H boreholes 38
7.7 Resistivity Testing 40
7.8 Permeability Testing 40

8 Geotechnical Considerations 41
8.1 Ground Conditions 41
8.2 Foundation Design 41
8.3 Shallow Excavation 41
8.3.1 Excavation 41
8.3.2 Groundwater Control 42
8.4 Flotation 42
8.5 Trenchless Construction 42
8.6 Ground Aggressivity 43
8.6.1 Concrete 43
8.6.2 Ferrous Metals 44
8.7 Geotechnical Hazard Assessment 45

9 Conclusions 47
9.1 Geotechnical 47
9.2 Geo-environmental 47

10 Recommendations 49
10.1 Geotechnical 49
10.2 Geo-environmental 49

References 51

Figures

Appendices

Appendix A: Section H Desk Study Information Specific to the GI
Appendix B: Chemical Analysis List of Suites and Geo-Environmental Testing
Appendix C: Deviations Reported by Analytical Laboratory
Appendix D: Geo-Environmental Laboratory Analysis Summary Screening Tables
Appendix E: HazWasteOnline™ Reports
Appendix F: Gas Monitoring Results
Appendix G: Guidance for the Assessment of Land Contamination
Appendix H: Risk Assessment Tables
Appendix I: Risk Assessment Methodology

1 Introduction and Objectives

This document has been updated at Deadline 1 to include groundwater sampling results in Appendix D for locations 3H4517SA and 3H4600SA. References to other Application documents have not been updated from the original submission. Please refer to the latest version of the Guide to the Application (Document reference 1.3, Volume 1) for the list of current versions of documents.

1.1 Background and Scheme Overview

Water for Life Hampshire (WfLH) is a programme being undertaken by Southern Water Services Limited (hereafter referred to as 'the Applicant') to address the sustainability objectives of reduced abstractions on Hampshire's two main rivers, the River Test and River Itchen, and to ensure a resilient water supply for the Applicant's customers during times of drought. The Hampshire Water Transfer and Water Recycling Project (HWTWRP) (hereafter referred to as the 'Proposed Development') is the Strategic Resource Option project being delivered as part of the WfLH programme (Southern Water, 2024). An overview of the Proposed Development, at the time of this report production, is provided in the Applicant's HWTWRP Technical Document Technology Guide (Southern Water, 2024).

1.2 Terms of Reference

Strategic Solutions Partner (SSP) has been instructed by the Applicant as part of the Proposed Development to produce a Geotechnical and Geo-environmental Interpretative Report for ground investigations (GI) completed for the construction of the proposed underground pipeline within the Draft Order Limits (DoL). The Proposed Development has been divided into 12 Sections by the Applicant; these are referred to as Sections A to M (excluding I).

1.3 Ground Investigation Programme

The GI for the Proposed Development is being completed using a phased approach, as shown in **Table 1.1**. This document reports the findings of the GI works completed during Phase 2 and Phase 3B/3C within Section H only.

Table 1.1: Ground Investigation Programme

GI Phase	Description
Phase 0	This, with Phases 1 and 3A, was completed between July 2022 and October 2023 by SOCOTEC for Clancy (Principal Contractor), as specified by SSP (AECOM), primarily for the purpose of tunnel and shaft design (Sections B, C, D and M only) and comprised 11 boreholes.
Phase 1	This, with Phases 0 and 3A, was completed between July 2022 and October 2023 by SOCOTEC for Clancy (Principal Contractor), as specified by SSP (AECOM), primarily for the purpose of tunnel and shaft design (Sections B, C, D, L and M only) and comprised 35 exploratory hole locations.
Phase 2	This is part of a wider phased GI conducted along the route between February 2023 and July 2023 by SOCOTEC for Clancy (Principal Contractor), as specified by SSP, primarily for the purpose of investigating areas for non-pipeline infrastructure, trenchless crossings and potential sources of contamination (PSC).
Phase 3A	This, with Phases 0 and 1, was completed between July 2022 and October 2023 by SOCOTEC for Clancy (Principal Contractor), as specified by SSP (AECOM), primarily for the purpose of tunnel and shaft design (Sections B, C, D, L and M only) and comprised 14 exploratory hole locations.

GI Phase	Description
Phase 3B/3C	This, with several Phase 2 GI locations was completed between May 2023 and May 2024 by SOCOTEC for Clancy (Principal Contractor), as specified by SSP, primarily for the purpose of investigating areas for non-pipeline infrastructure, trenchless crossings, PSCs and the linear route.

1.4 Section H Ground Investigation Objectives

The Phase 2 & Phase 3B/3C Section H GI investigated the following:

- Several areas of potential sources of contamination (PSCs) deemed of moderate/low risk or higher, as identified within HWTWRP Geotechnical and Geo-Environmental Desk Study Version 4 (SSP, 2024).
- The linear route at regular intervals to prove the geological conditions in line with Eurocode 7: Part 2 (BSI, 2007) recommendations.
- Trenchless crossings beneath major roads including A334 Winchester Road; Shirell Heath High Street and Winchester Road (B2177).

The Phase 2 and Phase 3B/3C Section H GI comprised the following:

- Two exploratory hole locations associated with launch/reception locations at the proposed trenchless crossing beneath Shirell Heath High Street (2H4500DR and 2H4501DR).
- Two exploratory hole locations (2H4502DS and 2H4503DS) positioned south of a historical landfill (Shirell Heath Sand Pit), and approximately 20 m and 5 m respectively from the DoL.
- One exploratory hole location associated with the reception shaft location at the proposed trenchless crossing beneath Winchester Road B2177 (3H4517SA).
- One exploratory hole location associated with the launch location at the proposed trenchless crossing beneath Winchester Road A334 (3H4600SA).
- Eight locations to prove the geology along the linear route to comply with Eurocode 7: Part 2 comprising 3H4507HP, 3H4511HP, 3H4513HP, 3H4514HP, 3H4515HP, 3H4602HP, 3H4603HP and 3H4606HP.

Borehole 3H4600SA corresponds with 3G4102SA on the western side of the trenchless crossing of A334 (Winchester Road). As the boundary of Section G / H is between 3G4102SA and 3H4600SA, 3G4102SA is discussed within Section G GIR (710166-SWS-XX-XX-RP-GE-00103). Similarly, borehole 3H4517SA connects with 3J5002SA on the western side of the trenchless crossing of B2177 Winchester Road, borehole 3J5002SA is discussed in Section J GIR (710166-SWS-XX-XX-RP-GE-00109).

The GI targeted identified PSCs with a risk rating of moderate/low or higher as identified within HWTWRP Geotechnical and Geo-Environmental Desk Study Version 4 (SSP, 2024). Several PSCs identified within a 50 m radius of the proposed DoL in Section H were not investigated during Phase 2 and Phase 3B/3C. These included unspecified ground workings (PSC 445), which may be associated with an old sand pit (PSC 103), disturbed ground (PSC 78), former tanks (PSCs 80 and 81) and a possible pig farm (PSC 512). One hand dug trial pit was excavated in the area of the possible pig farm. It is expected that the contractor will further assess identified PSCs (where additional information is needed), and other, additional PSCs, identified during subsequent phases of the Proposed Development as part of their construction phase works, to understand and comply with contaminated land, health & safety, waste classification and any other relevant guidance.

1.5 Report Format

This report comprises both geotechnical and geo-environmental interpretation of data collated during the GI as outlined below:

Section 1 Introduction and report objectives.

Section 2 Description including the location and site description.

Section 3 Summary of the Ground Investigation (SOCOTEC, 2023) (SOCOTEC, 2024).

Section 4 Ground Model.

Section 5 GI results, data interpretation and geo-environmental risk assessment, and geo-environmental considerations for the outline proposed works.

Section 6 Development of the land contamination risk assessment model from the GI.

Section 7 Geotechnical testing and assessment including geotechnical summary tables and figures and design parameters.

Section 8 Geotechnical considerations including hazard and mitigation table, discussions on ground conditions, foundation design, excavations, groundwater control, flotation, trenchless construction and concrete aggressivity.

Section 9 Conclusions.

Section 10 Recommendations based on the results of the GI.

This report provides a summary of encountered ground conditions, existing GI results, geotechnical and geo-environmental interpretation of analysis undertaken to inform design of potential future structures and pipeline, health and safety of construction and future ground workers (construction), and excavated materials (waste) management.

A land contamination risk assessment for other potential future receptors such as farmers/ farm workers or members of the public accessing and working within the Proposed Development is outside the scope of this report. Further ground investigation and human health risk assessment may be required to determine the risk to these, and any other identified potential future receptors, particularly in regard to appropriate excavated materials management (e.g. proposed reuse of soils).

Assessment of the GI data collected across the other Proposed Development Sections is included in the separate relevant sectional reports which are collated in the HWTWRP Geotechnical and Geo-environmental Interpretative Summary Report (Phase 2 and Phase 3B/3C) (Ref. 710166-SWS-XX-XX-RP-GE-00100).

2 Section H Description

2.1 Location and Description

The majority of the approximate 2.7 km length of Section H DI pipeline at 1200 mm diameter will be constructed using open-cut methods at between 3 and 6 m below ground level (bgl) across arable fields and minor roads with trenchless construction between approximately 5 and 9.8 m bgl beneath major roads such as High Street, Shirrell Heath. Temporary launch and reception shafts at the trenchless crossing locations will be excavated; Launch shaft dimensions will range between 9.0 – 9.5 m diameter and reception shafts will range between 5.0 – 5.4 m diameter. Section H route and exploratory holes are shown in the **Figures** section.

The Proposed Development route (from south to north) is as follows:

- Section H begins as a trenchless crossing at Winchester Road (A334) and runs parallel to Blind Lane (National Grid Reference (NGR) 456743E, 112246N) at approximately 54 m Ordnance Datum (OD).
- The route then travels northeast and north across agricultural/arable fields towards Pricketts Hill.
- The route progresses north beneath a small watercourse in an open-cut trench to the south of Cloverfield Farm (NGR 457094E, 112996N) at approximately 38 m OD, the lowest elevation of Section H.
- The route then progresses across fields, using open-cut construction, north and northwest towards Shirrell Heath, with a trenchless crossing beneath High Street.
- Finally, the Proposed Development progresses northwest and west, across agricultural/arable fields using open cut construction, to Black Horse Lane and then north and northwest ending as at a trenchless crossing at Winchester Road, north of Five Oaks Farm at approximately 66 m OD (NGR 456086E, 114059N), the highest point of Section H.

3 Phase 2 and Phase 3B/3C Ground Investigation

3.1 Rationale for Ground Investigation Locations

The Phase 2 GI across Section H focused on one PSC identified by the desk study to have a risk classification of Moderate for human health (construction workers, maintenance workers and future site users) (SSP, 2024); Shirrell Heath Sand Pit Historical Landfill (PSC 90) located within the 50 m boundary of the DoL. Other boreholes were drilled to target proposed excavation areas for trenchless crossings.

Phase 3B/3C investigations were completed to target proposed excavation areas for trenchless crossings, the linear route and to allow geotechnical testing to be undertaken. Several of these GI locations coincided with areas within 50m of identified PSCs and geo-environmental testing was scheduled. The rationale for the Phase 2 and Phase 3B/3C GI borehole locations is summarised in **Table 3.1.**

Table 3.1: Rationale for Locations in Section H

Hole ID	Rationale for GI Location [1]
3H4600SA	To investigate the proposed excavation area for the launch location at the trenchless crossing beneath Winchester Road A334. The data obtained are also used to investigate potential contamination from a potentially infilled gravel pit (PSC 45 approximately 45 m south of the borehole and approximately 5 m from the DoL).
3H4602HP	To confirm the geology along the linear route.
3H4507HP	To confirm the geology along the linear route. The data obtained has also been used to investigate potential contamination from a possible pig farm (PSC 512). The hand pit is located within the DoL and within the PSC.
3H4511HP	To confirm the geology along the linear route.
3H4603HP	
3H4513HP	
3H4514HP	
3H4515HP	To confirm the geology along the linear route. The data obtained can also be used to investigate potential contamination from possibly infilled land – disturbed ground (PSC 78) located within the DoL. The hand pit is located within the DoL approximately 30 m north of the PSC.
2H4500DR	To investigate proposed excavation areas for trenchless crossing (east of High Street, Shirrell Heath)
2H4501DR	To investigate proposed excavation areas for trenchless crossing (west of High Street, Shirrell Heath)
2H4502DS	To investigate potential contamination from the nearby Shirrell Heath Sand Pit Landfill (PSC 90). The boreholes are located approximately 20 m from the PSC, and approximately 20 m and 5 m respectively from the DoL[2].
2H4503DS	
3H4606HP	To confirm the geology along the linear route. The data obtained can also be used to investigate potential contamination from PSC 90 located approximately.70 m northeast of the hand pit.
3H4517SA	To investigate proposed excavation area for the reception shaft at the proposed trenchless crossing beneath Winchester Road B2177. The data obtained can also be used to investigate potential contamination from a potentially infilled sand pit (PSC 103 c.20 m west of the borehole), and from an area of unspecified worked ground (PSC 445 c. 35 m north of the borehole).

[1] PSCs within a 50 m buffer of the Section H DoL, which warranted further investigation, were identified by the desk study (SSP, 2024).
[2] 2H4502DS and 2H4503DS were originally planned within the DoL, though due to ecological reasons, the boreholes had to be moved to their drilled locations after the GI specification was issued. They are still between the PSC and proposed DoL.

3.2 Section H Ground Investigation

GI was carried out at selected locations across Section H by SOCOTEC. The investigation was completed between 28th February 2023 and 25th April 2023 (Phase 2) and then 1st November 2023 to 22nd May 2024 (Phase 3B/3C). The investigation scope was specified by SSP (SSP, 2022a), (SSP, 2023b) (SSP, 2023c).

The following exploratory holes were completed during the Phase 2 GI:

- Two boreholes (2H4500DR and 2H4501DR), completed by dynamic sampling with rotary coring follow-on, to depths of 20.0 m and 20.2 m below ground level (bgl).
- Two boreholes (2H4502DS and 2H4503DS), completed by dynamic sampling only, to depths of 4.0 m and 5.45 m bgl.

The following exploratory holes were completed during the Phase 3B/3C GI:

- Two boreholes (3H4517SA and 3H4600SA), completed by cable percussion, to depths of 18.50 m and 20.00 m bgl.
- Eight hand excavated trial pits were completed (3H4507HP, 3H4511HP, 3H4513HP, 3H4514HP, 3H4515HP, 3H4602HP, 3H4603HP and 3H4606HP) to depths between 1.10 and 1.20 m bgl.

A plan showing the exploratory hole locations is presented in the **Figures** section. The scope of the GI included: in-situ geotechnical tests, resistivity testing, hand vane and falling head permeability testing, volatile headspace testing by Photo Ionisation Detector (PID), geotechnical and geo-environmental sampling and groundwater and gas monitoring.

The details of the GI, tests and laboratory analysis are presented in the SOCOTEC Ground Investigation Report (SOCOTEC, 2023) (SOCOTEC, 2024). A description of GI locations is shown in **Table 3.2**.

Table 3.2: Description of GI Locations

Hole ID	National Grid Reference [1]	Location Description
3H4600SA	456776, 112113	Located in a field 25 m east of A334 Winchester Road, northwest of Wickham.
3H4602HP	457072, 112188	Located in a field approximately 150 m south of Blind Lane, north of Wickham.
3H4507HP	457145, 112357	Located in a field approximately 25 m south of Blind Lane, north of Wickham.
3H4511HP	457138, 112467	Located in a field between Pricketts Hill and approximately 85 m north of Blind Lane, north of Wickham.
3H4603HP	457114, 112665	In a field approximately 30 m north of Pricketts Hill, southeast of Shedfield.
3H4513HP	457045, 112950	Located in a farmer's field east of residential housing and approximately 130 m east of Pricketts Hill, southeast of Shedfield.
3H4514HP	457000, 113116	Located in a farmer's field amongst farm buildings approximately 155 m to the east of Pricketts Hill, southeast of Shedfield.
3H4515HP	456986, 113268	Located in a farmer's field immediately adjacent to a private road, approximately 230 m east of Pricketts Hill, east of Shedfield.
2H4500DR	456963, 113619	Located within a field accessed by a track approximately 120 m southeast of Nightingale Crescent off High Street, Shirrell Heath.
2H4501DR	456830, 113718	Located within a field approximately 25 m northwest of High Street and approximately 15 m to 20 m southwest of residential housing (Earlsfield).
2H4502DS	456696, 113886	

Hole ID	National Grid Reference [1]	Location Description
3H4600SA	456776, 112113	Located in a field 25 m east of A334 Winchester Road, northwest of Wickham.
3H4602HP	457072, 112188	Located in a field approximately 150 m south of Blind Lane, north of Wickham.
3H4507HP	457145, 112357	Located in a field approximately 25 m south of Blind Lane, north of Wickham.
3H4511HP	457138, 112467	Located in a field between Pricketts Hill and approximately 85 m north of Blind Lane, north of Wickham.
2H4503DS	456656 113905	Located within a field approximately 230 m to 270 m northwest of High Street, Shirrell Heath. Both GI locations are approximately 20 m southwest of Shirrell Heath Sand Pit Historical Landfill.
3H4606HP	456628, 113869	Located in a farmer's field approximately 305 m east of Winchester Road B2177, orth east of Shedfield.
3H4517SA	456425, 113815	Located in a farmer's field adjacent to forest, approximately 105 m east of Winchester Road B2177, north of Shedfield.

[1] As provided in the Final factual GI reports (SOCOTEC, 2023) (SOCOTEC, 2024).

3.3 Exploratory Holes and Monitoring Well Installations

The exploratory hole locations and borehole logs are presented in SOCOTEC's Ground Investigation Reports (Factual Account of Fieldwork Monitoring and Laboratory Testing) (SOCOTEC, 2023) (SOCOTEC, 2024).

Table 3.3 provides a summary of the locations and installation response zones. Groundwater and gas monitoring wells were installed in 2H4501DR, 2H4502DS, 2H4503DS, 3H4517SA and 3H4600SA.

Table 3.3: Summary of Groundwater and Ground Gas Monitoring

Hole ID	Response Zones (m bgl)	Groundwater Monitoring Rounds	Gas Monitoring Rounds	Groundwater Samples Collected
2H4500DR	0.0 – 6.5 (Whitecliff Sand Member)	12 No. 26/04/23, 15/05/23, 19/06/23, 17/07/23, 15/08/23, 12/09/23, 09/10/23, 13/11/23, 12/12/23, 10/01/24, 08/02/24, 06/03/24	N/A (only monitored for groundwater)	1 No. 17/07/23
2H4501DR	3.0-11.0 (Whitecliff Sand Member)	13 No. 04/05/23, 24/05/23, 19/06/23, 17/07/23, 15/08/23, 12/09/23, 10/10/23, 13/11/23, 11/12/23, 10/01/24, 08/02/24, 06/03/24, 09/04/24	13 No. 04/05/23, 24/05/23, 19/06/23, 17/07/23, 15/08/23, 12/09/23, 10/10/23, 13/11/23, 11/12/23, 10/01/24, 08/02/24, 06/03/24, 09/04/24	3 No. 03/05/23, 17/07/23, 16/09/23
2H4502DS	1.0-3.0 (Whitecliff Sand Member)	6 No. 26/04/23, 03/05/23, 04/05/23, 24/05/24, 19/06/24, 17/07/23	5 No. 04/05/23, 24/05/23, 19/06/23, 15/08/23, 12/09/23	1 No. 04/05/23
2H4503DS	1.0-5.0 (Head & Whitecliff Sand Member)	6 No.	7 No. 19/04/23, 04/05/23, 24/05/23, 19/06/23,	4 No. 28/02/23, 03/05/23, 17/07/23, 16/09/23

Hole ID	Response Zones (m bgl)	Groundwater Monitoring Rounds	Gas Monitoring Rounds	Groundwater Samples Collected
		19/04/23, 03/05/23, 04/05/23, 24/05/24, 19/06/24, 17/07/23	17/07/23, 15/08/23, 12/09/23	
3H4517SA	5.0 – 11.0 (Whitecliff Sand Member & London Clay Formation)	8 No. 03/04/24, 17/04/24, 01/05/24, 08/05/24, 22/05/24, 29/05/24, 17/06/24, 03/07/24	8 No. 03/04/24, 17/04/24, 01/05/24, 08/05/24, 22/05/24, 29/05/24, 17/06/24, 03/07/24	*3 No. 17/04/24, 01/05/24, 22/05/24
3H4600SA	7.0 – 10.0 (Wittering Formation)	6 No. 29/07/24, 12/08/24, 20/08/24, 28/08/24, 02/09/24, 30/09/24	6 No. 29/07/24, 12/08/24, 20/08/24, 28/08/24, 02/09/24, 30/09/24	2 No. 12/08/24, 20/08/24

Response zones depths and monitoring/sampling dates are taken from the SOCOTEC Ground Investigation Reports (SOCOTEC, 2023) (SOCOTEC, 2024).
*4 collected though only 3 samples analysed by the lab.

3.4 Geo-Environmental Testing

Geo-environmental laboratory testing was scheduled by SSP on selected soil and groundwater samples recovered during the GI works. The testing was carried out by SOCOTEC at their UKAS accredited environmental chemistry laboratory at Bretby, near Burton-on-Trent, in accordance with MCERTS accreditation (where applicable). The scope of testing is listed in **Appendix B** and shows that for several soil samples taken during the Phase 2 GI requested chemical analyses were not included in either AGS format or the Ground Investigation Report (SOCOTEC, 2023) (SOCOTEC, 2024). Subsequent requests were made to the analytical laboratory but the data has not been forwarded.

3.5 Geotechnical Testing

Geotechnical testing was scheduled, by SSP, on selected soil samples recovered during the GI works. The testing was carried out by nominated UKAS accredited geotechnical laboratories including: GEOLABS, near Watford, The Testing Lab (TTL) near Doncaster, and Derwentside Environmental Testing Services Ltd (DETS) near Durham. Depending on the samples available, the testing comprised a combination of moisture content, Atterberg limits, density (linear), particle size distribution, saturation moisture content (chalk), unconfined compressive strength, point load index testing, unconsolidated undrained triaxial, compaction, chalk crushing value, chalk carbonate content, BRE testing, organic matter content and loss on ignition, as appropriate. The tests completed are presented in the SOCOTEC final factual reports (SOCOTEC, 2023) (SOCOTEC, 2024).

4 Ground Model

4.1 Geological Setting

Head Deposits underlie Section H, between approximately the Pricketts Hill road crossing and around 200m southeast of the trenchless crossing at High Street, Shirrell Heath. River Terrace Deposits are encountered between A334, Blind Lane and Mill Lane. Superficial deposit extents are shown in **Table 4.1**.

Table 4.1: Summary of Mapped Superficial Deposits at Ground Level

Chainages	Geology	Typical Description
18700 - 19170	River Terrace Deposits	Undifferentiated sand and gravel
19170 - 19730	Not present	-
19730 - 20200	Head Deposits	Variable deposits of sandy silty clay, locally gravelly; chalky and flinty in dry valleys
20200 - 21300	Not present	-

The chainages have been provided by the Applicant as of 12 March 2024 as part of the Summer 2024 Design Consultation Route.

London Clay Formation bedrock crops out east of the route. Bedrock is shown to comprise Wittering Formation (clay and sand) between A334, Blind Lane and northwards to Pricketts Hill. To the north of Pricketts Hill Road, the London Clay Formation has a distinct mapped member, Whitecliff Sand Member, that outcrops for approximately 170 m in a northern direction. The London Clay Formation continues north to within approximately 80 m to 400 m southeast of Nightingale Crescent, transitioning back to its distinct Whitecliff Sand Member around the trenchless crossing, which also crops out northwest along the pipe route towards Gamblins Lane. Mapped bedrock extents are shown in **Table 4.2**.

Table 4.2: Summary of Mapped Bedrock at Ground Level

Chainages	Geology	Typical Description
18700 - 19500	Wittering Formation	Olive grey, laminated clays with sand and silt.
19500 - 19700	London Clay Formation - Whitecliff Sand Member	Fine silty sand with rounded pebbles beds.
19700 - 20100	London Clay Formation	Grey and brown silty and sandy clays with sandy and pebbly beds.
20100 - 20375	London Clay Formation - Whitecliff Sand Member	Fine silty sand with rounded pebbles beds.
20375 - 20665	London Clay Formation	Grey and brown silty and sandy clays with sandy and pebbly beds.
20665 - 21400	London Clay Formation - Whitecliff Sand Member	Fine silty sand with rounded pebbles beds.

The chainages have been provided by the Applicant as of 12 March 2024 as part of the Summer 2024 Design Consultation Route.

4.2 Section H Ground Investigation Results

4.2.1 Encountered Ground

A brief summary of the ground conditions encountered during the GI is provided in **Table 4.3** and **4.4**. Exploratory hole logs and more details are presented in the Factual GI Reports (SOCOTEC, 2023) (SOCOTEC, 2024) .

Chainages across the route for Section H are between 18700 and 21400.

In general, ground conditions encountered in the exploratory holes match that predicted by the geological mapping, however there were several instances where mapping wasn't correct. Geological maps are for guidance only, and minor variations between the encountered ground conditions and geological mapping are to be expected.

A layer of 'dense black well-rounded medium and coarse gravel of flint with a matrix of grey locally shelly clay' was encountered in 2H4500DR between 18.50 and the base of the borehole at 20.00 m bgl. London Clay Formation in this region generally comprises four upward coarsening sedimentary cycles comprising a basal flint pebble bed followed by a silty clay, and then a sand bed at the top. In this case, the Whitecliff Sand Member is categorised by King as marking the upper bed 'D' cycle (King, 1981). The dense black gravel may mark the base of bed D (i.e. D/C boundary), though this is not certain.

3H4517SA had a scheduled depth of 20.0 m but terminated at 18.50 m bgl due to very stiff clay / hard strata. Drillers were unable to seal the borehole to prevent groundwater ingress and undertake chiselling.

Table 4.3: Summary of Encountered Ground Conditions for Section H Exploratory Holes

Exploratory Hole ID:		2H4500DR	2H4501DR	2H4502DS	2H4503DS	3H4507HP	3H4511HP	3H4513HP	3H4514HP
Chainage (m)		20630	20800	21020	21075	19235	19345	19870	20075
Ground Level (m OD)		+61.33	+66.16	+61.46	+60.03	+57.94	+60.95	+43.12	+47.35
Strata	Typical description	Top to base (m bgl)							
Topsoil	Very soft to soft dark brown sandy gravelly CLAY locally SILT with frequent rootlets. / Dark brown slightly gravelly clayey or silty SAND with abundant rootlets. Gravel is of flint and chert.	0.00 – 0.25	0.00 – 0.42	0.00 – 0.28	0.00 – 0.15	0.00 – 0.35	0.00 – 0.25	0.00 - 0.40	0.00 - 0.30
Head Deposits	Orangish brown gravelly clayey fine to coarse SAND. Gravel is subangular to subrounded fine to medium chert.	-	-	-	-	-	-	-	0.30 – 0.60
	Soft to firm light yellowish brown sandy gravelly CLAY, with low cobble content. Sand is fine to coarse. Gravel and cobbles are of flint.	0.25 – 0.80	-	-	0.15 – 3.95	-	-	0.40 – 1.20	0.60 – 1.20
Wittering Formation	Orangish brown sandy CLAY. Sand is fine.	-	-	-	-	0.35 – 1.20	0.25 – 1.20	-	-
London Clay Formation - Whitecliff Sand Member	Dense to very dense (locally loose within 2H4503DS at 4 m bgl) light greyish brown clayey fine to coarse SAND, locally with thick lamination to very thin beds and lenses/pockets of firm grey clay.	0.80 – 7.50	5.45 – 11.75	0.28 – 4.00	3.95 – 5.45	-	-	-	-
London Clay Formation	Stiff orangish brown and light brownish grey silty CLAY/ Very stiff dark grey silty CLAY with occasional partings or lenses of grey silt and fine sand.	7.50 – 18.50	0.42 – 5.45 and 11.75 – 20.20	-	-	-	-	-	-
London Clay Formation - Possible D/C basal bed	Dense black well-rounded medium and coarse GRAVEL of flint with a matrix of grey locally shelly clay.	18.50 – 20.00	-	-	-	-	-	-	-
End of Hole (m bgl)		20.00	20.20	4.00	5.45	1.20	1.20	1.20	1.20

Table 4.4: Summary of Encountered Ground Conditions for Section H Exploratory Holes

Exploratory Hole ID:		3H4515HP	3H4517SA	3J5002SA[1]	3H4600SA	3G4102SA[2]	3H4602HP	3H4603HP	3H4606HP
Chainage		20255	21275	21435	18700	18600	19015	19555	21050
Ground Level (m OD)		+53.86	+54.62	+50.56	+54.21	+55.20	+54.68	+53.72	+58.79
Strata	Typical description	Top to base (m bgl)							
Topsoil	Soft brown sandy gravelly SILT / CLAY. Sand is fine. Gravel is subangular to subrounded fine to medium chert.	0.0 – 0.25	-	-	0.0 – 0.40	0.00 – 0.35	0.0 – 0.25	0.0 – 0.30	-
	Dark grey fine to medium SAND.			0.0 – 0.20	-	-	-	-	-
Made Ground	Dark brown gravelly silty SAND. Sand is medium to coarse. Gravel is subangular to subrounded medium chert and brick.	-	0.0 – 0.25	-	-	-	-	-	0.0 – 0.40
River Terrace Deposits	Soft to firm brown sand clayey gravelly CLAY / clayey GRAVEL. Gravel is subangular to subrounded fine to coarse chert.	-	-	-	0.40 – 1.70	0.35 – 4.00	0.25 – 0.95	-	-
Wittering Formation	Firm to stiff orange, grey sandy silty CLAY. Sand is fine to coarse. Rare gypsum crystals.	-	-	-	1.70 – 9.45	-	-	-	-
	Dense to very dense greenish brown glauconitic SAND. Sand is fine to coarse.	-	-	-	9.45 – 10.00	4.00 – 13.10	0.95 – 1.10	-	-
London Clay Formation - Whitecliff Sand Member	Medium dense to very dense brown clayey silty gravelly SAND. Sand is fine to medium. Gravel is subangular to subrounded fine chert	0.25 – 1.20	0.25 – 7.70	0.20 – 7.10	-	-	-	0.30 – 1.20	0.40 – 1.20
London Clay Formation	Stiff to very stiff locally firm brown gravelly sandy CLAY. Sand is fine. Gravel is subangular to rounded medium to coarse chert.	-	7.70 – 17.65	7.10 – 18.00	10.00 – 20.00	13.10 – 20.45	-	-	-
	Very stiff to hard grey gravelly sandy SILT. Gravel is subrounded to rounded medium to coarse chert. (Gravel bed)	-	17.65 – 18.50	-	-	-	-	-	-
London Clay Formation - Possible Portsmouth Sand Member	Dense grey clayey SAND.	-	-	18.00 – 20.00	-	-	-	-	-
End of Hole (m bgl)		1.20	18.50[3]	20.00	20.00	20.45	1.10	1.20	1.20

[1]3J5002SA is included in Table 4.2 as it is at the proposed location of the launch shaft at the trenchless crossing beneath Winchester Road and St Annes Lane, paired with 3H4517SA within the reception shaft location.
[2]3G4102SA is included in Table 4.2 as it is at the proposed location of the reception shaft at the trenchless crossing beneath Winchester Road, paired with 3H4600SA within the launch shaft location.
[3]SPT refusal at 18.50 m.

4.2.2 Groundwater Levels

Groundwater level and ground gas monitoring took place in selected boreholes specified by SSP. Monitoring was carried out by SOCOTEC during, and after, the main fieldwork period. **Table 4.5** summarises the groundwater strikes, and groundwater spot monitoring data collected at monitoring well locations.

Table 4.5: Summary of Groundwater Strikes and Spot Monitoring Records

Exploratory Hole	Response zone (m bgl)	Strike During Drilling – Depth and Elevation	Stratum Within Which Strike Was Recorded	Spot Monitoring – Depth and Elevation	Data Logger – Minimum/ Maximum Depth
2H4500DR	1.0 – 6.5 (Whitecliff Sand Member)	Not encountered	N/A	0.81 to 4.00 m bgl 60.52 to 57.33 m OD	N/A
2H4501DR	3.0 – 11.0 (London Clay Formation including Whitecliff Sand Member)	Seepage at 0.60 m bgl 65.56 m OD	London Clay Formation	8.05 to 9.70 m bgl 58.08 to 56.46 m OD	N/A
2H4502DS	1.0 – 3.0 (Whitecliff Sand Member)	Not encountered	N/A	2.19 m bgl to 2.38 m bgl 59.27 to 59.08 m OD	N/A
2H4503DS	1.0 – 5.0 (Head & Whitecliff Sand Member)	3.10 m bgl 56.93 m OD	Head Deposits	0.61 to 2.02 m bgl 59.42 to 58.01 m OD	N/A
3H4517SA	5.0 – 11.0 (Whitecliff Sand Member & London Clay Formation)	11.20 m bgl 43.42 m OD	London Clay Formation	1.52 to 2.55 m bgl 53.10 to 52.07 m OD	N/A
3H4600SA	7.0 – 10.0 (Wittering Formation)	3.00 m bgl 51.21 m OD	Wittering Formation	5.50 to 6.45 m bgl 48.71 to 47.76 m OD	N/A

4.2.3 Visual and/or Olfactory Contamination

There were no visual and/or olfactory evidence of contamination recorded on the Phase 2 and Phase 3B/C exploratory hole logs.

5 Generic Quantitative Risk Assessment (GQRA)

This report section assesses the soil, soil leachate, groundwater and gas data collected within the DoL for Section H only.

In accordance with the 'Land Contamination Risk Management' (LCRM) guidance (Environment Agency, 2023), the results of the geo-environmental laboratory testing undertaken on the samples of soil and groundwater recovered during the 2023 and 2024 SOCOTEC GI have been compared to current published generic assessment criteria (GAC) to identify potential hazards to the plausible receptors.

The 35 No. soil samples included 7 No. samples of topsoil, 2 No. of Made Ground, 6 No. of Head Deposits, 2 No. of River Terrace Deposits, 4 No. of Whittering Formation, 7 No. of London Clay Formation and 7 No. of Whitecliff Sand Member.

5.1 Soil Results

5.1.1 Assessment of Potential Risk to Human Health Receptors

There are no recorded exceedances of the human health GAC (commercial land use). Details of the GAC used for screening are provided in **Appendix G**.

5.1.2 Notable Soil Concentrations

GAC are not available for all determinands analysed. Chemical concentrations which appear to be elevated compared to other chemical results recorded during the GI are included in **Table 5.1.** Asbestos screening was requested for 3 No. soil samples from Phase 2 GI, but results have not been provided to date. Asbestos screening was undertaken on 5 No. soil samples from Phase 3B/3C GI; asbestos was not detected.

Table 5.1: Notable Soil Concentrations

BH ID	Location	Depth (m bgl)	Determinand	Concentration (mg/kg)	Notes
3H4507HP	c.105 m east of Winchester Road B2177	1.0 (Whittering Formation)	Cresols	0.15	Typically not expected in natural soils

In-situ PID testing results greater than the detection limit were recorded in half of the soil samples retrieved from the two exploratory locations drilled within approximately 20 m of the Shirrell Heath Sand Pit Landfill (2H4502DS and 2H4503DS). Notable concentrations include 7.1 ppm in 2H4502DS Whitecliff Sand Member sample taken at 1.7 m bgl, 22 ppm in 2H4503DS topsoil sample, and 25.9 ppm in 2H4503DS Whitecliff Sand Member sample taken at 4.5 m bgl. The in-situ PID testing undertaken in Phase 3B/3C GI locations recorded a peak value of 0.9 ppm in 3H4600SA 1.1 m bgl sample.

5.1.3 Soil Sample Deviations

Methodology deviations arose due to the acceptable (holding) time between the sampling date and laboratory analysis being exceeded, headspace presence in selected samples collected for volatile compounds, insufficient sample volumes to complete analysis, use of a non-standard volume or mass in the test, sample matrix interferences and samples failing to wholly meet the laboratory Quality Management System (QMS) requirements. Further details of the soil sample deviations are provided in **Appendix C**.

5.2 Soil Leachate and Groundwater Results

5.2.1 Comparison of Soil Leachate Results Against GAC

Of the six soil leachate (2:1 ratio) analysis requested from Phase 2 GI locations, none were reported by the analytical laboratory. One soil sample was collected during the Phase 3B/3C GI from 3H4600SA (3.3m), the location of a proposed trenchless crossing (A334 Winchester Road) and sent for leachate analysis.

Soil leachate concentrations have been compared to the Drinking Water Inspectorate Drinking Water Standard (DWS) guidance (Drinking Water Inspectorate, 2025) and the withdrawn Water Supply (Water Quality) Regs 1989 (WQS) for petroleum hydrocarbons. Concentrations of Total Ammonia as nitrogen have been compared to the Water Framework Directive (WFD) criteria (Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015). Screening against the Environmental Quality Standard (EQS) has not been performed due to absence of surface water receptors within 250 m of GI locations for which soil leachate data are available. Details on the selection of water GAC is provided in **Appendix G.**

Table 5.2: Soil Leachate Sample Exceedances of the DWS

BH ID	Depth (m bgl)	Ground Conditions	Determinand	Concentration (µg/l)	Generic Assessment Criteria (µg/l)
3H4600SA	3.30	Wittering Formation	TPH (C_6-C_{40})	110*	10**

* cleanup not reported
** Withdrawn Water Supply (Water Quality) Regulations 1989 threshold

No deviations have been reported for soil leachate samples.

5.2.2 Comparisons of Groundwater Results Against GAC

Groundwater sampling was carried out at five monitoring wells from the Phase 2 and Phase 3B/3C investigations over several monitoring rounds, and 14 No. samples were collected and analysed. Samples were screened against the same GAC used for soil leachate: DWS, WQS and WFD, and concentrations exceeding these criteria are shown in **Table 5.3 and Appendix D**. Screening against GAC protective of controlled waters (i.e. the EQS) has not been performed due to absence of surface water receptors within 250 m of GI locations for which groundwater data are available.

Table 5.3: Groundwater Exceedances of the DWS

BH ID	Sampling Date	Determinand	Concentration (µg/l)	Generic Assessment Criteria (µg/l)
2H4502DS	03/05/2023	Iron	**1,200**	200
		Lead	**15**	10
		Manganese	**2,680**	50
		TPH (C_8-C_{40})	**11,260***	10**
2H4503DS	28/02/2023	Manganese	**130**	50
		TPH (C_8-C_{40})	**330***	10**
	03/05/2023	Manganese	**50 (equal)**	50
		TPH (C_8-C_{40})	**440***	10**
	17/07/2023	Manganese	**370**	50
		TPH (C_8-C_{40})	**1,200***	10**

BH ID	Sampling Date	Determinand	Concentration (µg/l)	Generic Assessment Criteria (µg/l)
	12/09/2023	Manganese	**1,060**	50
		TPH C_8-C_{40}	**62,470***	10**
2H4500DR	19/07/2023	GRO (C_6-C_{10})	**115**	10**
2H4501DR	06/05/2023	TPH (C_6-C_{40})	**160**	10**
	16/09/2023	TPH (C_6-C_{40})	**130**	10**
3H4517SA	17/04/2024	Ammonium (NH_4)	**5,134**	500
		Nitrite (NO_2)	**1,010**	500
	01/05/2024	Lead	**14**	10
		Nickel	**24**	20
		Ammonium (NH_4)	**5,260.8**	500
		Nitrite (NO_2)	**670**	500
		TPH (C_6-C_{40})	**170***	10**
	22/05/2024	Lead	**20**	10
		Nickel	**31**	20
		Ammonium (NH_4)	**5,136.5**	500
3H4600SA	12/08/2024	TPH aromatic (C_8-C_{40})	**150**	10**
	20/08/2024	TPH aromatic (C_8-C_{40})	**250**	10**

* clean-up not reported ** Withdrawn Water Supply (Water Quality) Regulations 1989 threshold

Groundwater sample deviations and potential contaminants for which the laboratory Method Detection Limit (MDL) exceeded the corresponding GAC are presented in **Appendix C**. It is noted that testing with a MDL lower than the GAC for the PAHs listed is typically not offered by standard commercial laboratories. For all determinands analysed, but not listed in **Appendix C**, the MDLs were below the relevant GAC.

5.2.3 Notable Groundwater Concentrations

A PFOA detection of 0.012 µg/l in groundwater was recorded at 2H4503DS during the September 2023 monitoring. Chemical concentrations appear to be elevated compared to other chemical results recorded during the previous groundwater sampling rounds which were below detection. There were no additional groundwater sampling rounds after September 2023 at 2H4503DS.

5.3 Excavated Materials (Waste) Management

5.3.1 Hazardous Properties

Soil analytical results for the 35 soil samples have been screened for hazardous properties as identified in Technical Guidance WM3 - Waste Classification - Guidance on the Classification and Assessment of Waste First Edition Version 1.2 (Environment Agency, 2021). This screen was carried out using HazWasteOnline™ (HazWasteOnline, 2024) (HazWasteOnline, 2023). The results are provided in **Appendix E.**

None of the soil samples analysed were identified to possess hazardous properties, and therefore, are classified as non-hazardous for waste disposal purposes.

5.3.2 Waste Acceptance Criteria (WAC)

WAC testing was completed in accordance with BSEN 12457/2 on 1 No. sample of topsoil, 2 No. samples of Made Ground and 8 No. samples of natural soils retrieved from Phase 2 and Phase 3B/3C Section H GI locations. Results were screened against landfill waste acceptance criteria limit values for Inert Landfill.

All samples met the criteria for disposal to Inert Landfill.

It is important to note that specific inert landfills may have stricter and/or additional limits imposed for waste soil disposal, and the above assessment should be treated as indicative only. Suitability of material for disposal must be discussed with the landfill operator in advance. It is likely that additional soil sampling with chemical and WAC testing will be required beyond this preliminary ground investigation to inform on suitable disposal routes. Topsoil is not normally accepted at Inert Landfill due to its high organic content.

5.4 Ground Gas Monitoring

Ground gas monitoring results are tabulated in SOCOTEC's Ground Investigation Reports (SOCOTEC, 2023) (SOCOTEC, 2024). Up to thirteen gas monitoring visits were completed in 2H4501DR, 2H4502DS and 2H4503DS between 19th April 2023 and 9th April 2024. Up to 8 gas monitoring rounds have been completed in 3H4517SA and 3H4600SA between 3rd April 2024 and 30th September 2024. Peak concentrations (minimum for oxygen) recorded during each monitoring round are presented in the summary tables in **Appendix F**.

It is noted that 2H4503DS had less than 1 m depth between the top of the slotted standpipe and the water level on three occasions (19th June, 17th July and 15th August 2023), reducing the volume of ground gas available for analysis. In these instances, the reliability of the recorded ground gas concentrations may be reduced due to a smaller volume of accumulated gas.

The response zone in 2H4503DS was fully flooded on three occasions (19th April, 4th May and 24th May 2023), whereas in 3H4517SA and in 3H4600SA this was the case on all monitoring visits (3rd April 2024 to 30th September 2024).

In view of the flooded wells, the data from these monitoring rounds have been assessed as indicative as: "*The response zone of the gas monitoring standpipe should be wholly or partly above groundwater level to provide valid data... [and] gas standpipes with flooded response zones might exhibit measurements of elevated methane or carbon dioxide… due to dissolved gases or the presence of biodegradable material in the groundwater*" (BSI, 2015a).

Maximum peak concentrations (minimum for oxygen) are presented in the summary **Table 5.4**. Although there are no permanent building structures proposed for these areas of the scheme, the ground gas regime at 2H4501DR, 3H4517SA and 3H4600SA should be considered at the preconstruction phase in terms of risks to groundworkers. In particular, temporary deep excavations are planned as launch or reception pits for the trenchless crossings of the Shirrell Heath High Street and Winchester Road (A334 and B2177).

5.4.1 Gas Thresholds

Maximum concentrations recorded in monitoring wells have been compared to the following gas threshold concentrations:

- BSI (The British Standards Institution) Health and Safety in tunnelling in the construction industry - Code of Practice [BS 6164:2019] (BSI, 2019).
- EH40/2005 (fourth edition 2020) Workplace Exposure Limits (HSE, 2020).

Exceedances of these thresholds are shown in **Table 5.5**.

Table 5.4: Ground Gas Monitoring Results Summary

BH ID	Response Zone (m bgl) and Stratum	Peak Gas Concentrations (minimum for Oxygen)						Max Gas Flow Rate (pk) l/hr
		CH_4 %vol	CO_2 %vol	O_2 %vol	CO ppm	H_2S ppm	VOC ppmv	
GI locations within 20m of PSC 90 Shirrell Heath Sand Pit Landfill								
2H4502DS	1.0 – 3.0 London Clay Formation including Whitecliff Sand Member	0.1	6.9	12.9	1.0	1.0	0.8	<0.1
2H4503DS	1.0 – 5.0 Head & London Clay Formation (Whitecliff Sand Member)	<0.1	10.2	10.2	1.0	1.0	0.6	<0.1
Trenchless Crossing reception shaft west of Shirrell Heath High Street								
2H4501DR	3.0 – 11.0 London Clay Formation including Whitecliff Sand Member	1.8	7.5	6.9	6.0	1.0	2.0	0.5
Trenchless Crossing reception shaft c.105 m east of Winchester Road B2177								
3H4517SA*	5.0 – 11.0 London Clay Formation including Whitecliff Sand Member	<0.1	1.0	19.3	27**	10	1.3	29.6 (-67.9
Trenchless crossing reception shaft c.25 m east of A334 Winchester Road								
3H4600SA*	7.0 – 10.0 Wittering Formation	<0.1	4.4	8.9	0	<10	40	-50.1

Notes: CH_4 - Methane, CO_2 – Carbon Dioxide, O_2 – Oxygen, CO – Carbon Monoxide, H_2S – Hydrogen Sulphide, VOC – Volatile Organic Compounds, ppmv - Part per Million Volume
* - well flooded during all monitoring rounds, for full readings see Appendix F
** - all other monitoring rounds concentration recorded at 0 or below instrumentation detection limit

Table 5.5: Exceedances of Gas Thresholds

Area	BH ID	CH_4	CO_2	O_2	CO	H_2S	VOC
Location / Substance (threshold)		4.4 % vol (LEL) to 17 % vol (UEL)	0.5 % vol (LTL) 1.5 % vol (STL)	<19% by volume	20 ppm (LTL) 100 ppm (STL)	5 ppm (LTL) 10 ppm (STL)	Approx. 10000 ppmv[1] (LEL)[1]
Trenchless crossing reception shaft – west of Shirrell Heath High Street	2H4501DR	N/A	Yes	Yes	N/A	N/A	N/A
c.20 m southwest of Shirrell Heath Sand Pit Landfill (PSC 90)	2H4502DS	N/A	Yes	Yes	N/A	N/A	N/A
	2H4503DS	N/A	Yes	Yes	N/A	N/A	N/A
Trenchless crossing – launch shaft c.105 m east of Winchester Road B2177	3H4517SA*	N/A	Yes (LTL)	N/A	N/A *(27 ppm recorded during one monitoring round considered an anomaly)*	N/A *(10 ppm recorded during one monitoring round considered an anomaly)*	N/A
Trenchless crossing – reception shaft c.25 m east of A334 Winchester Road	3H4600SA*	N/A	Yes	Yes	N/A	N/A	N/A

N/A – not applicable due to no exceedance, LEL – Lower explosive limit, UEL – Upper explosive limit, STL – Short Term Limit, LTL – Long Term Limit, [1] – dependant on constituents
* - well flooded during all monitoring rounds, assessment is indicative

6 Land Contamination Risk Assessment Model

6.1 Approach and Revised Conceptual Site Model

The land contamination risk assessment presented in this section is a revised risk assessment, that has been undertaken in accordance with the procedure outlined in LCRM (Environment Agency, 2023). This revised risk assessment uses information collated as part of the Phase 2 and Phase 3B/3C GI and builds on the existing preliminary risk assessment completed as part of the desk study. The revised risk assessment will allow for recommendations to be made based on the identification and assessment of potential contaminant linkages. A summary of the guidance for the assessment of land contamination, and the approach developed and adopted by SSP is presented in the Summary Report HWTWRP Geotechnical and Geo-environmental Interpretative Summary Report (Ref. 710166-SWS-XX-XX-RP-GE-00100).

6.2 Potential Sources of Contamination

The exploratory hole locations, discussed herein, were drilled primarily to investigate the moderate / low and higher potential risks to human health and controlled waters from PSCs within and outside of the DoL. The PSC and GI data are discussed below.

Trenchless Crossing east of Winchester Road (B334)

Exploratory hole 3H4600SA was completed to investigate a proposed reception shaft location at a trenchless crossing location within the DoL, approximately 45 m north of PSC 45 (Pit-Gravel). It was drilled to a maximum depth of 20 m bgl. A review of historical data (SSP, 2024) shows the former pit has been woodland since the 1860s, suggesting that any extraction or infilling activity at this PSC occurred approximately 170 years ago or was minimal and, as such, is unlikely to be generating landfilling gases. This means that the PSC is unlikely to be a credible source of landfill gases. No GI locations were completed along the nearest point of the DoL to PSC 45 (Pit-Gravel). The ground conditions and findings at the GI location 3H4600SA is as follows:

- Made Ground was not encountered. Topsoil was underlain by River Terrace Deposits to 1.7 m bgl, followed by the Wittering Formation to 10 m bgl and then London Clay Formation to the base of excavation.
- Groundwater levels were monitored between 5.5 and 6.45 m bgl.
- Soil chemical analysis shows no exceedances of the commercial land use GAC.
- Asbestos screening was not undertaken as all encountered soils were natural.
- The results of the soil leachate (2:1) sample taken at 3.3 m bgl (Whittering Formation) show one exceedance of the adopted GAC protective of human health for TPH C_6-C_{40}.
- The groundwater results show exceedances of the GAC protective of human health for TPH C_8-C_{40} in both samples taken from 3H4600SA. The source of these concentrations is unconfirmed and may not be wholly associated with an anthropogenic source.
- The in-situ PID testing recorded a peak VOC concentration of 0.9 ppm in River Terrace Deposits (1.1 m bgl).
- Ground gas monitoring data has been used indicatively at this location; carbon dioxide concentrations were found to exceed both short and long term WELs and low concentrations of oxygen (8.9% v/v) were also encountered. It should be noted however, due to the well response zone being fully flooded on all monitoring visits, the readings are considered to be unrepresentative of the gas regime.

Shirrell Heath Sand Pit Landfill (PSC 90) – outside DoL. Potential for Made Ground/infill of unknown material and ground gas generation

Exploratory hole locations 2H4502DS and 2H4503DS were completed approximately 20 m southwest of Shirrell Heath Sand Pit Landfill (PSC 90), and approximately 10 to 20 m from the DoL, to a maximum depth of 5.45 m bgl. It is worth noting that these two boreholes were drilled closer to the landfill than the Proposed Development will be, and therefore the obtained data may provide conservative results.

- Made Ground was not encountered.
- Superficial deposits (Head deposits) were encountered below topsoil in 2H4503DS. Both GI locations were underlain by the Whitecliff Sand Member bedrock.
- Groundwater was encountered between 0.61 and 2.38 m bgl.
- Soil chemical analysis shows no exceedances of the commercial land use GAC.
- Asbestos screening was not undertaken as all samples were natural ground.
- The results of the soil leachate (2:1) samples have not been provided by the laboratory, therefore it is not possible to directly assess potential risks arising from contaminant transfer between soils and groundwater.
- Groundwater samples contained concentrations of contaminants above the adopted GAC for metals (iron, lead, and manganese), nitrite and TPH (C_8-C_{40}). TPH C_8-C_{40} was detected at both locations during all monitoring rounds; the highest concentration recorded was 62,470 µg/l in 2H4503DS on 12th September 2023 (fourth groundwater sample). The predominant TPH fraction was aliphatic C_{21}-C_{35} for all investigated samples. During soil sampling in 2H4503DS, VOC concentrations up to 25.9 ppm were measured in natural soil deposits at 4.5 m depth (Whitecliff Sand Member). These soils were below the water table at the time of sampling.
- The source of TPH in groundwater is thought likely to be the nearby Shirrell Heath Sand Pit Landfill. Given the age of the landfill, active between 1976 and 1987 (SSP, 2024), it is likely any leachable concentrations of contaminants from the landfill are dispersed into the surrounding environment.
- Ground gas monitoring data from 2H4502DS and 2H4503DS recorded methane concentrations below the LEL, whereas carbon dioxide levels exceeded both short- and long-term workplace exposure limits (WELs). The lowest recorded oxygen level was 10.2 % vol.

Exploratory hole location 3H4606HP was completed within the DoL approximately 70 m southwest of PSC 90 to a maximum depth of 1.2 m bgl. Although the primary purpose of the hole was to investigate the geology along the linear route, the obtained geo-environmental analysis results can provide further insight into the potential impact from PSC 90.

- Made Ground was encountered from ground level to 0.4 m bgl and was underlain by Whitecliff Sand Member to the base of excavation.
- Soil chemical analysis shows no exceedances of the commercial land use GAC.
- Asbestos screening was undertaken on one Made Ground sample; no asbestos was detected.
- Soil leachate (2:1) analysis was not requested.
- Groundwater was not encountered during the GI.
- The in-situ PID testing did not record VOC concentrations above the instrument's detection limit. Follow-up ground gas monitoring was not undertaken.

Exploratory Hole 3H4517SA (approximately 15 m east of the proposed trenchless crossing shaft for Winchester Road B2177)

Exploratory hole location 3H4517SA was completed within the DoL approximately 15 m east of the proposed trenchless crossing shaft reception location. The GI location is approximately 20 m east of PSC 103 (Pit-Sand) and approximately 35 m south of PSC 445 (Worked Ground) to a maximum depth of 18.5 m bgl. Exploratory hole locations not advanced to directly investigate the PSC and no GI data has been obtained from within the footprint of these PSCs. The ground conditions and findings at the GI location 3H4517SA is as follows:

- Made Ground was not encountered
- Groundwater was encountered between 1.52 and 2.55 m bgl.
- Soil chemical analysis shows no exceedances of the commercial land use GAC.
- Asbestos screening was undertaken; no asbestos was detected.
- Soil leachate (2:1) analysis was not requested.
- Four groundwater samples were taken from this trenchless crossing GI location. The results show exceedances of the GAC protective of human health for lead, nickel, ammonium, nitrite and TPH (C_6-C_{40}). The TPH exceedance was recorded in one out of the three monitoring rounds. The source of these concentration is unconfirmed.
- The in-situ PID testing did not record VOC concentrations above the instrument's detection limit.
- Ground gas monitoring data has been used indicatively at this location; carbon dioxide concentrations were found to exceed the long term WEL. It should be noted however, due to the well response zone being fully flooded on all monitoring visits, the readings are considered to be unrepresentative of the gas regime.

Trenchless Crossing Shirrell Heath High Street

Exploratory hole locations 2H4500DR and 2H4501DR were completed within the DoL at the proposed trenchless crossing shaft reception locations for the Shirrell Heath High Street crossing. The GI locations did not target specific PSCs, however it is noted that a farm building (PSC 545) is located approximately 30 m southwest of 2H4501DR.

- Made Ground was not encountered.
- Soil chemical analysis shows no exceedances of the commercial land use GAC.
- Soil leachate (2:1) analysis was requested but not received from the analytical laboratory.
- Groundwater samples collected and tested yielded TPH exceedances of GAC protective of human health. The source of these concentrations is unconfirmed.
- Ground gas monitoring recorded carbon dioxide concentrations exceeding the short- and long-term WELs. Oxygen-depleted conditions were also detected, with minimum oxygen concentrations recorded at 6.9 % vol.

Former Pig Farm (potential) (PSC 512) within the DoL

Exploratory hole location 3H4507HP was advanced in the northwestern area of PSC 512 within the current DoL. 3H4507HP was completed to a maximum depth of 1.2 m bgl. The ground conditions and findings at the GI location 3H4507HP is as follows

- Made Ground was not encountered.
- Soil chemical analysis shows no exceedances of the commercial land use GAC.
- Asbestos screening was undertaken; no asbestos was detected.
- Soil leachate (2:1) analysis was not requested.
- Groundwater was not encountered during the GI.
- The in-situ PID testing did not record VOC concentrations above the instrument's detection limit. Follow-up ground gas monitoring was not undertaken.

As only one hand pit (3H4507HP) has been advanced within the footprint of this PSC, the nature and extent of ground conditions and potential contaminants across other areas is unconfirmed. Potential contaminants include metals, parasites, pathogens and pesticides/herbicides.

6.3 Identification of Potential Pathways

During and post construction works in Section H, the following potential pathways are considered:

- Dermal contact, ingestion and inhalation of dusts, gases and vapours.
- Gas and vapour migration through permeable materials / strata and accumulation in voids and below ground chambers / receptor pits.
- Leaching through unsaturated soil to underlying groundwater.
- Migration of contamination through proposed pipe bedding.

6.4 Identification of Potential Receptors

Based on the proposed construction works, end use and surrounding land uses, the following potential receptors previously identified in the desk study preliminary risk assessment have been further assessed following Phase 2 and Phase 3B/3C GI data:

- Construction and maintenance workers.
- Future site users (workers and maintenance workers).
- Adjacent land users – only applicable to PSCs within the DoL.
- On Site existing and future property (buildings and below ground chambers / receptor pits).
- Groundwater (River Terrace Deposits, Whittering Formation and Whitecliff Sand Member are Secondary A Aquifers).
- Surface water (land drains) – only applicable to PSCs within the DoL.

Risks to off-Site receptors such as adjacent land users, surface water bodies within 250 m of the DoL and ecological receptors (statutory designated areas and ancient woodlands within 250 m of the DoL) have not been considered for the PSCs outside the DoL targeted during Phase 2 and Phase 3B/3C GI in Section H.

The proposed pipeline has not been included as a potential receptor to contaminants, that could be present in soils or groundwaters, because the pipe material will be selected during design to prevent impact from existing PSCs.

6.5 Risk Assessment

An evaluation of the above pollutant linkages has been used to undertake a qualitative risk assessment. The method of risk evaluation adopted in this document is consistent with LCRM (Environment Agency, 2023) and has been carried out in accordance with CIRIA C552 (CIRIA C552, 2001) using probability, consequence and risk classifications as shown in **Appendix I**.

Preliminary risk estimation is based on the evaluation of both desk study information collated for the route together with the Phase 2 and Phase 3B/3C GI data. For each of the identified areas with a high potential for the presence of contamination (within the search radius), a preliminary risk assessment has been completed and presented in **Table H1.0 (Appendix H)**. Definitions for probability and consequence are in Table A and Table B of **Appendix I** (respectively).

Table 6.1 summarises the risk classification (without mitigation measures) for the investigated PSCs and exploratory hole locations where unexpected contamination was encountered. The risk classification ratings are taken from the risk assessment tables (**Appendix H**). Where more than one pathway has been evaluated, the pathway with the highest risk rating is presented in **Table 6.1**. For the majority of the investigated areas

in Section H the risk rating for construction, maintenance workers and future site users for direct contact (including dermal contact, ingestion and inhalation of dusts) and inhalation of gases and vapour pathway is Moderate/Low. These evaluated pathways are detailed in the risk assessments in **Appendix H**. **Table 6.1** summarises the risk classification (without mitigation measures) for the investigated PSCs.

Table 6.1: Summary of Risk Classification for Construction and Maintenance Activities for Areas Investigated in Section H

GI Locations/Location Description	Contaminants Encountered	Risk Classification (without mitigation measures) for Potential Receptors[1]					
		Construction, maintenance workers and future site users	Adjacent Land Users	On Site existing and future property	Surface Water	Groundwater	Ecology
PSCs Targeted							
2H4502DS and **2H4503DS** 20 m southwest. PSC 90 30 m northeast of DoL.	**Shirrell Heath Sand Pit Landfill:** Groundwater sampling yielded DWS exceedances of iron, lead, and manganese, nitrite and TPH (C_8-C_{40}). TPH C_8-C_{40} the highest recorded concentration was 62,470 µg/l in 2H4503DS. Landfill gas (carbon dioxide levels exceeded both short- and long-term workplace exposure limits (WELs).	Moderate/Low	Low	Very Low	Very Low	Moderate	Low
3H4507HP advanced within the footprint of the PSC 512 Agricultural Land	**Former Pig Farm (potential):** No Made Ground encountered. No exceedances of the adopted soil GAC. Leachate testing was not carried out. Groundwater sampling was not carried out.	Moderate/Low**	Moderate/Low**	Low	Low	Moderate/Low**	Very Low
Trenchless Crossings							
2H4500DR and **2H4501DR** Shirrell Heath High Street – Trenchless Crossing PSC 545 farm building approx. 30m Southwest of 2H4501DR	Groundwater samples collected and tested yielded TPH exceedances of GAC. Carbon dioxide concentrations exceed the short- and long-term WELs. Oxygen-depleted conditions were also detected, with minimum oxygen level at 6.9 %.	Moderate/Low	Low	Low	Low	Low	Low
3H4517SA was completed within the DoL approximately 20 m east of PSC 103 and 35 m south of PSC 445. Agricultural Land approximately 100 m east of Winchester Road, where Sections H and J intersect at a Trenchless Crossing.	Groundwater sampling yielded exceedances of lead, nickel, ammonium, nitrite and TPH (C_6-C_{40}). Although gas monitoring was carried out at the location, high groundwater levels has resulted in the well becoming flooded, gas results are therefore indicative and are considered as unrepresentative of the gas regime beneath the site. However, recorded concentrations of carbon dioxide were recorded above both short and long terms WELs.	Moderate/Low*	Low	Low	Very Low	Moderate	Low
3H4600SA is located approximately 45 m north of PSC 45 (Pit-Gravel), the former pit is c. 5 m south of the DoL at the closest point. Land just to the east of Winchester Road, A334. Trenchless Crossing beneath the road.	One leachate sample tested, and two groundwater samples collected and tested yielded exceedances of TPH C_6-C_{40}. Although gas monitoring was carried out at the location, high groundwater levels has resulted in the well becoming flooded, gas results are therefore indicative and are considered as unrepresentative of the gas regime beneath the site. However recorded concentrations of carbon dioxide exceeded both short and long term WELs.	Moderate/Low* *(dermal contact, ingestion and inhalation of dusts*	Low	Low	Very Low	Moderate/Low	Low

[1] Based on available data
*Conservative risk based on indicative ground gas data, flooded wells mean it is considered unlikely for gas data to be representative of the ground gas regime.
**Risk rating carried forward from the version 4 Desk Study (SSP, 2024) due to a lack of GI data.

6.6 Summary

The Phase 2 GI comprises four GI locations. Two GI locations were focused at Shirrell Heath Sand Pit Landfill (PSC 90). The current proposed DoL is within 30 m of PSC 90. Two GI locations were completed at the proposed trenchless crossing at Shirrell Heath High Street.

The Phase 3B/3C GI in Section H comprised GI locations to collect ground conditions data for the linear route. Two trenchless crossing locations at proposed road crossings were also investigated. Several PSCs within a 50 m buffer zone of the DoL were close to these locations. These included Pit-Sand (PSC 103), Pit-Gravel (PSC 45), Worked Ground (PSC 445) and possible former Pig Farm (PSC 512).

Based on the quantitative risk assessment the following risks were determined:

- A Moderate risk rating was identified for groundwater at locations advanced to investigate the DoL closest to Shirrell Heath Landfill - PSC 90 (2H4502DS and 2H4503DS**)** and at 3H4517SA due to the presence of TPH in groundwater sampling.
- A Moderate/Low risk rating was identified for groundwater (3H4600SA) approximately 45m north of a gravel pit (PSC 45) due to the recorded exceedances of the GAC and applying a conservative approach due to only one soil leachate result.
- A Moderate/Low risk classification has been identified for impact to construction, maintenance workers and future site users via direct contact and inhalation pathways at trenchless crossings, based on the findings of TPHs in groundwater and elevated ground gas concentrations. Ground gas monitoring showed carbon dioxide exceedances for short and long-term WELs and depleted oxygen levels. Though in light of the flooded well at 3H4517SA this assessment is very conservative. It should also be noted that gas risk has been reduced to a low risk for the trenchless crossing beneath Winchester Road, at the boundary between Section G and H, due to the age of the gravel pit approximately 45 m south (PSC 45).
- Risk ratings for the possible former pig farm (PSC 512) have been carried forward from the Desk Study, version 4 (SSP, 2024) due to limited GI data across the PSC footprint (one hand pit location). Moderate/Low risk ratings identified for impact to construction, maintenance workers and future site users, adjacent site users and groundwater during construction.
- All other potential contaminant linkages were either identified as having a Low or Very Low risk.

7 Geotechnical Testing and Assessment

7.1 Geotechnical Testing and Assessment Summary Table for Section H boreholes

The below **Table 7.1** shows the varying geotechnical tests per strata specific for the boreholes drilled in Section H.

Comparing with boreholes drilled for Sections F, G and J, it is noted that Head Deposits are common to all four nearest sections, which all show similar moisture, plasticity, PSD and SPT results within the same range. It is also noted that the London Clay Formation, encountered within boreholes in Section G, H and K, shows similar moisture, plasticity and SPT data. London Clay Formation Whitecliff Sand Member shows similar testing results as those from Section J, apart from plasticity index data which was not undertaken in Section J. London Clay – D/C basal bed is not encountered in neighbouring sections of the pipeline.

Table 7.1: Geotechnical Testing and Assessment Summary for Section H Boreholes

	Geotechnical Property																										
Strata	**Moisture (%)**			**Plasticity Index (%)**			**Particle Size Distribution (Average of values)**		**Triaxial Test - Undrained Shear Strength (kPa)**			**SPT Results (uncorrected N value)**			**Uniaxial Compressive Strength, UCS (MPa)**	**Point Load Index Testing, PLT (MPa)**	**Compaction – Max Dry Density (Mg/m3) (Optimum Moisture content, %)**			**Linear (Bulk) Density (Mg/m3)**		
Made Ground (MGR)	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	None		**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	Not Applicable	Not Applicable	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**
	None			None					None			None					None			None		
Total No. of tests	0			0			0		0			0			0	0	0			0		
Head Deposits (HEAD)	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Particle Size**	**(%)**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	Not Applicable	Not Applicable	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**
							Cobbles:	3														
							Gravel:	21														
	16	23	28	8	19	31	**Sand:**	23	17	39	6	5	5	5	Not Applicable	Not Applicable	None			1.92		
							Silt:	34														
							Clay	19														
Total No. of tests	6			4			2		2			1			0	0	0			1		
River Terrace Deposits (RTD)	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Particle Size**	**(%)**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	Not Applicable	Not Applicable	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**
							Cobbles:	0														
							Gravel:	71														
	10	10	10	15	15	15	**Sand:**	14	None			8	8	8			None			None		
							Silt:	9														
							Clay	6														
Total No. of tests	2			1			3		0			1			0	0	0			0		
Wittering Formation (WTT)	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Particle Size**	**(%)**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	Not Applicable	Not Applicable	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**
							Cobbles:	0														
							Gravel:	15														
	19	30	58	31	39	44	**Sand:**	31	87	108	140	20	21	21			1.73 (19)	1.73 (19)	1.73 (19)	None		
							Silt:	28														
							Clay	26														

	Geotechnical Property																												
Strata	**Moisture (%)**			**Plasticity Index (%)**			**Particle Size Distribution (Average of values)**		**Triaxial Test - Undrained Shear Strength (kPa)**			**SPT Results (uncorrected N value)**			**Uniaxial Compressive Strength, UCS (MPa)**			**Point Load Index Testing, PLT (MPa)**			**Compaction – Max Dry Density (Mg/m3) (Optimum Moisture content, %)**			**Linear (Bulk) Density (Mg/m3)**		
Total No. of tests	7			3			3		3			2			0			0			1			0		
London Clay Formation Whitecliff Sand Member (WHI)	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Particle Size**	**(%)**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	Not Applicable			Not Applicable			**Min**	**Av**	**Max**	**Min**	**Av**	**Max**
	5	19	31	NP^	12	24	**Cobbles:**	0	None			8	38	>50							1.61 (14)	1.68 (15)	1.79 (15)	None		
							Gravel:	1																		
							Sand:	93																		
							Fines (Silt + Clay)	6																		
Total No. of tests	11			2			6		0			25*			0			0			4			0		
London Clay Formation (LC)	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Particle Size**	**(%)**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**
	20	27	74	25	33	44	**Cobbles:**	0	100	286	520	14	33	>50	0.09	0.21	0.30	0.01	0.13	0.47	1.68 (15)	1.68 (15)	1.68 (15)	2.03	2.06	2.09
							Gravel:	0																		
							Sand:	23																		
							Silt:	45																		
							Clay:	32																		
Total No. of tests	18			10			5		8			16**			6			5 No. sets of 10 determinations			1			2		
London Clay Formation – Possible D/C basal bed	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	**Particle Size**	**(%)**	**Min**	**Av**	**Max**	**Min**	**Av**	**Max**	None			None			**Min**	**Av**	**Max**	**Min**	**Av**	**Max**
	15	15	15	None			**Cobbles**	0	None			50	50	50							None			None		
							Gravel:	68																		
							Sand:	9																		
							Silt:	13																		
							Clay:	10																		
Total No. of tests	1			0			1		0			1			0			0			0			0		

*For London Clay Formation - Whitecliff Sand Member, 12 out of 25 No. SPTs were refusals and did not achieve a full 0.45 m penetration depth due to dense - very dense sands.
** For London Clay Formation, 3No. out of 16 No. SPTs was a refusal and did not achieve a full 0.45m penetration depth due to poor recovery and very dense sands of the LC and WHI boundary between 3.20 – 5.95 m bgl.
^One result tested as non-plastic.

Table 7.2: Additional Geochemical Testing

	Geochemical Testing			
Geology	**BRE SD1 values[1]**			
Head Deposits (HEAD)	**Test type**	**Min**	**Max**	**Characteristic Value**
	Water soluble SO4 (mg/l)	9	100	100
	Acid soluble SO4 (%)	0.02	0.03	0.03
	Total Sulphur (%)	0.01	0.01	0.01
	Total Potential Sulphate (%)	0.03	0.03	0.03.
	pH	7.4	7.9	7.4
No. Tests	2			
River Terrace Deposits	**Test type**	**Min**	**Max**	**Characteristic Value**
	Water soluble SO4 (mg/l)	Below limit of detection	Below limit of detection	<500
	Acid soluble SO4 (%)	Below limit of detection	Below limit of detection	Below limit of detection
	Total Sulphur (%)	0.03	0.03	0.03
	Total Potential Sulphate (%)	0.09	0.09	<0.24
	pH	8.4	8.4	8.4
No. Tests	1			
Wittering Formation	**Test type**	**Min**	**Max**	**Characteristic Value**
	Water soluble SO4 (mg/l)	620	820	800
	Acid soluble SO4 (%)	0.28	0.40	0.40
	Total Sulphur (%)	0.45	0.97	0.97
	Total Potential Sulphate (%)	1.35	2.91	2.91
	pH	8.3	8.5	8.3
No. Tests	2			
London Clay Formation - Whitecliff Sand Member	**Test type**	**Min**	**Max**	**Characteristic Value**
	Water soluble SO4 (mg/l)	Below limit of detection	100	100
	Acid soluble SO4 (%)	Below limit of detection	0.1	0.1
	Total Sulphur (%)	Below limit of detection	0.07	0.07
	Total Potential Sulphate (%)	Below limit of detection	0.21	< 0.24
	pH	5.8	8.6	5.8
No. Tests	6			
London Clay Formation	**Test type**	**Min**	**Max**	**Characteristic Value**
	Water soluble SO4 (mg/l)	60	280	300
	Acid soluble SO4 (%)	0.08	0.14	0.14
	Total Sulphur (%)	0.30	0.62	0.62
	Total Potential Sulphate (%)	0.90	1.86	1.86
	pH	7.4	8.5	7.4
No. Tests	4			
London Clay - Possible D/C basal bed	No Geochemical Testing available			

No BRE testing undertaken on encountered Made Ground at 3H4606HP, as no geotechnical samples were required as hand pit was to confirm geology along linear route.

Additional Geochemical / Geotechnical Testing

- River Terrace Deposits has a mass loss on ignition of 1%
- Wittering Formation has a mass loss on ignition of 2.5%.
- London Clay Formation - Whitecliff Sand Member has an organic content of 0%.
- London Clay Formation has a hand vane undrained shear strength, C_u value of 63 kPa, an organic matter content of 0.48% and a mass loss on ignition of 3.4%.

7.2 Standard Penetration Test (SPT) vs Depth Relationship for Section H boreholes

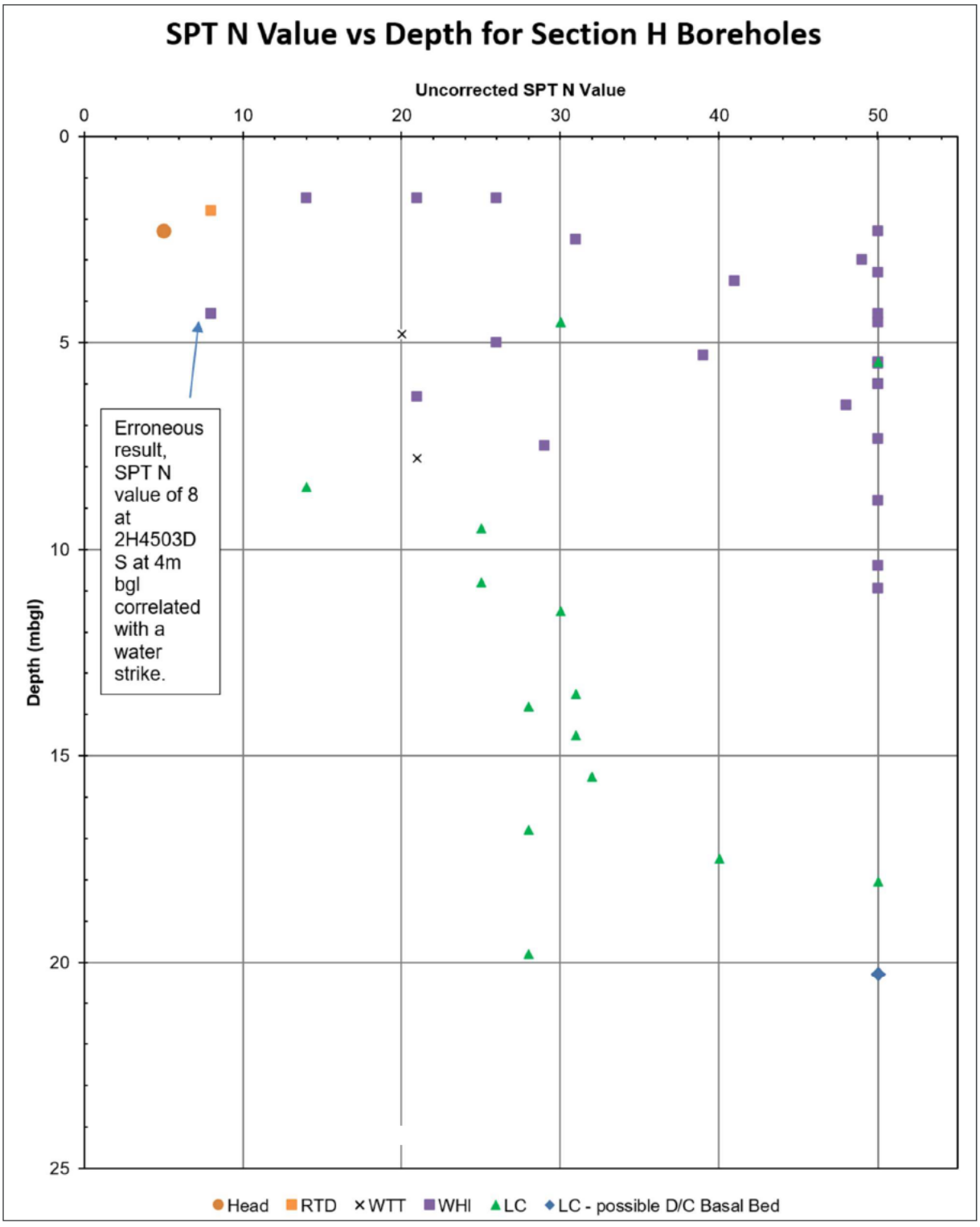
Graph 7.1 shows how SPT varies with depth across Section H boreholes. It is noted that a noticeably low uncorrected SPT N value of 8 is recorded within one test in the London Clay Formation - Whitecliff Sand Member (WHI). It is considered that this result has been affected by a water strike at the depth of this test loosening the sand within the formation, and that the other results with an uncorrected SPT N value >20 (often >50) being more applicable.

The geological boundary at 2H4500DR (for the base of the WHI) is approximately 7.90 m bgl (+53.43 m OD) while at 2H4501DR it is approximately 11.75 m bgl (+54.01 m OD). The rotary core drilling recovery within WHI was minimal due to sand being lost within the drill flush. As a result, SPTs were attempted to ascertain density/consistency, which indicated dense and very dense sand bands.

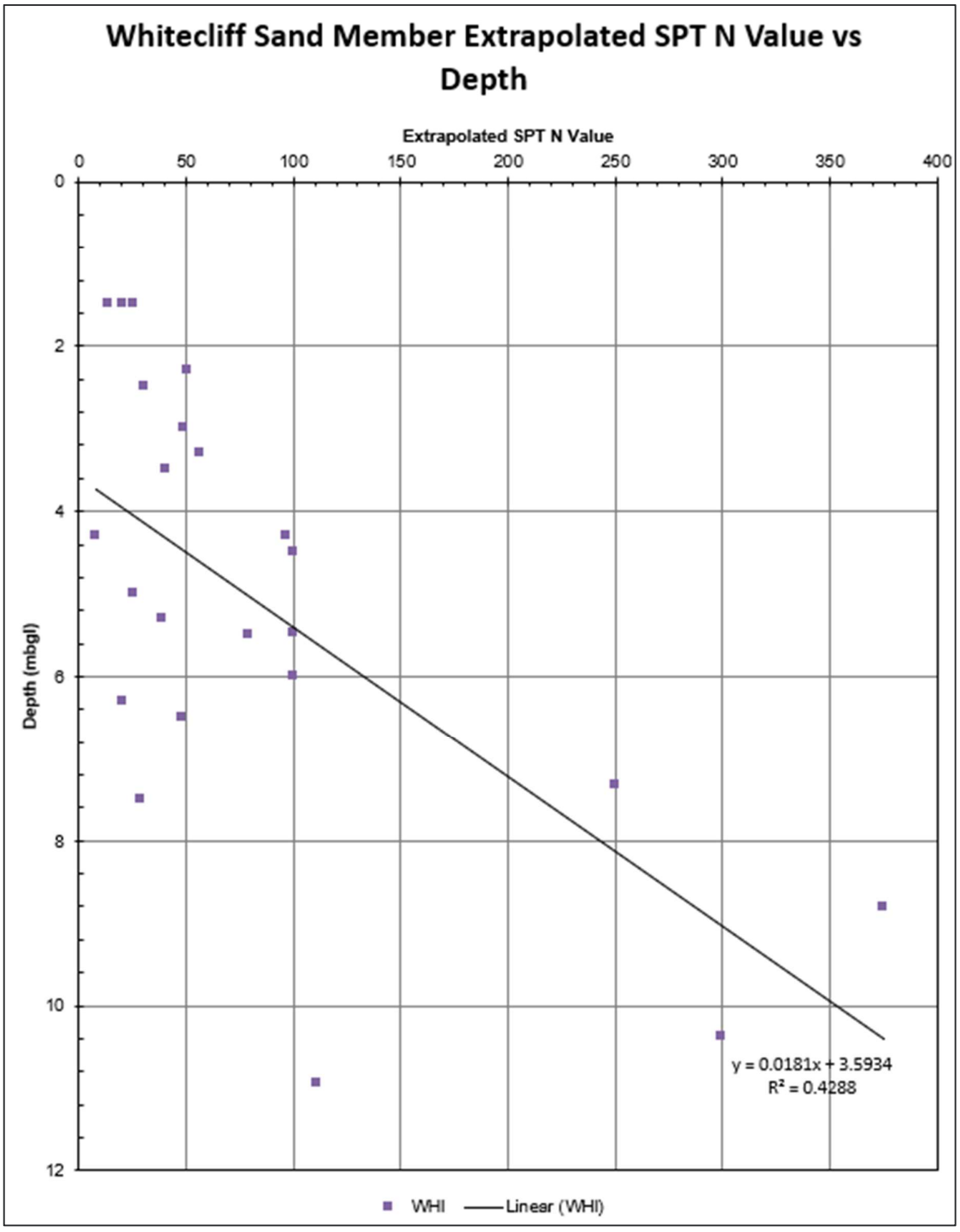
London Clay Formation shows an increase in SPT N values as depth increases. London Clay Formation - Whitecliff Sand Member does not have a relationship of increasing SPT N values with depth, and the remaining strata do not have enough data to make a statement regarding the relationship.

Approximately 50m distance separates 2H4502DS and 2H4503DS, of which 2H4502DS has consistently higher SPT N values between 1.2 m – 4 m bgl (21 at 1.20 m bgl, 50 at 2.00 m bgl, 50 at 3.00 m bgl and 50 at 4.00 m bgl) than 2H4503DS. This may be due to the water strike in 2H4503DS at 3.10 m, which rose to 1.90 m, loosening the sand resulting in lower SPT N values. Both SPT N values of 5 and 8 may be discounted as these are not typical of WHI – the stratum may be considered generally medium dense to very dense sand. 2H4502DS and 2H4503DS did not achieve their scheduled depths of 6 m bgl because of hole collapsing between 3.00 – 4.00 m bgl and 5.50 m respectively, again due to dense sand. 3 No. successive SPT refusals at 2H4502DS recording N values of 50 resulted in the borehole not achieving its scheduled depth of 6 m bgl. **Graph 7.2** shows how London Clay Formation - Whitecliff Sand Member SPT refusals are extrapolated beyond 50 blows based on recorded tool penetration.

Graph 7.1 SPT vs Depth per Strata across Section H Boreholes



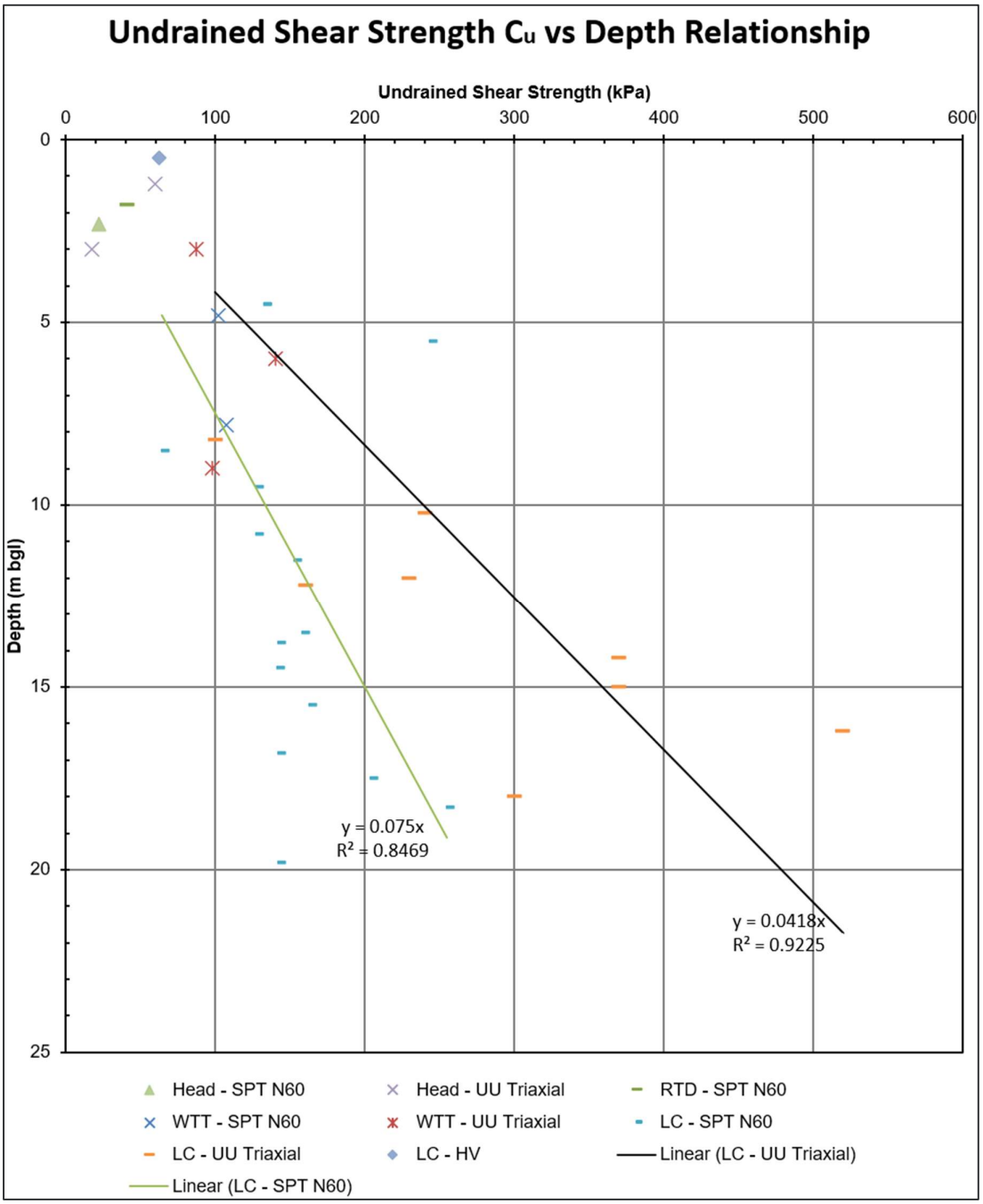
Graph 7.2 Extrapolated Whitecliff Sand Member SPT N Values vs Depth for Section H Boreholes



7.3 Undrained Shear Strength C_u vs Depth Relationship for Section H boreholes

Graph 7.3 shows the undrained shear strength vs depth relationship for Head Deposits, River Terrace Deposits, Wittering Formation and London Clay Formation. An increase in undrained shear strength with depth is visible for the London Clay Formation but not apparent for the other strata.

Graph 7.3 Undrained Shead Strength C_u vs Depth Relationship for Section H Boreholes

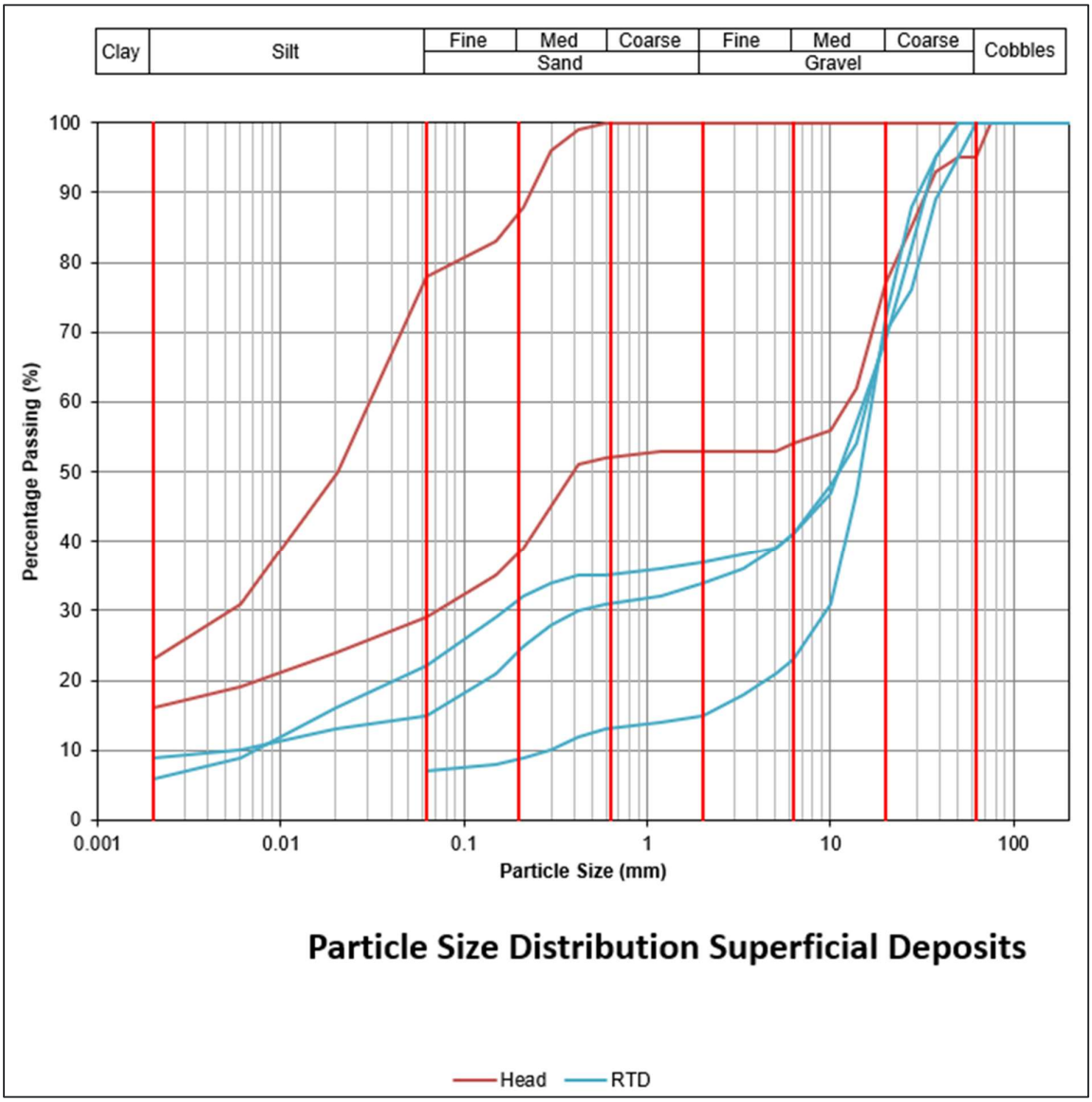


After Stroud (1975) where cu = f_1 x N60 where f_1 = 4.5

7.4 Particle Size Distribution for Section H boreholes

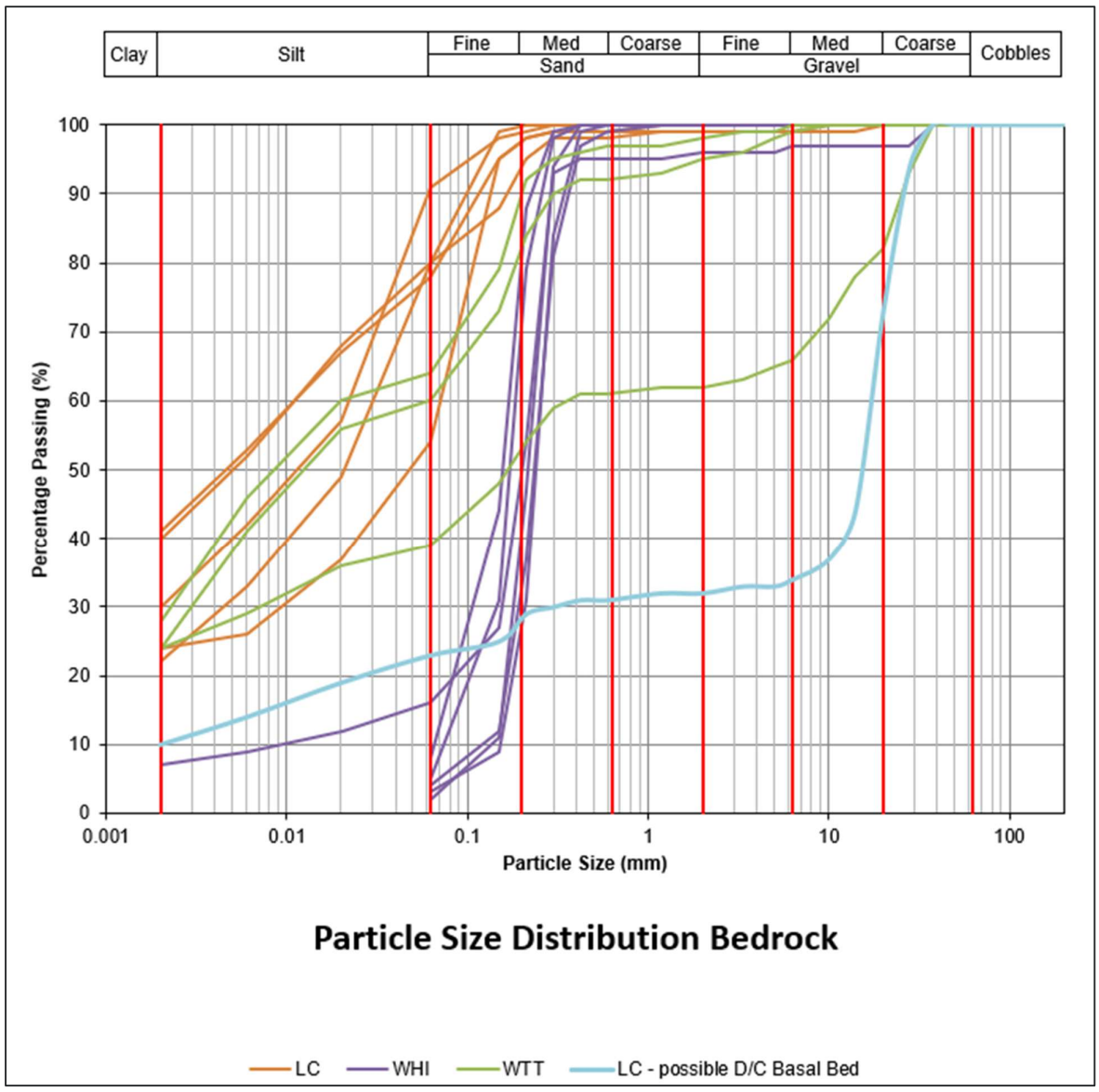
Graph 7.4 shows Head Deposits (HEAD) to be a sandy silt and gravelly silt, similar to the sandy gravelly clay description listed in **Table 4.1.** River Terrace Deposit descriptions partly align with descriptions in **Table 4.1**, with PSD testing not identifying gravelly clay material as described but presenting a sandy gravel distribution.

Graph 7.4 Particle Size Distribution (PSD) for Superficial Deposits across Section H Boreholes



The London Clay Formation - Whitecliff Sand Member (WHI) within the London Clay Formation is a well graded sand. London Clay – possible D/C basal bed is a well graded gravel, though this result is only of a single sample at 18.6 m bgl and is not likely to be representative of the whole pipeline route. The London Clay Formation and Wittering Formation are shown to be a clay and silt dominated material.

Graph 7.5 Particle Size Distribution (PSD) for Superficial Deposits across Section H Boreholes

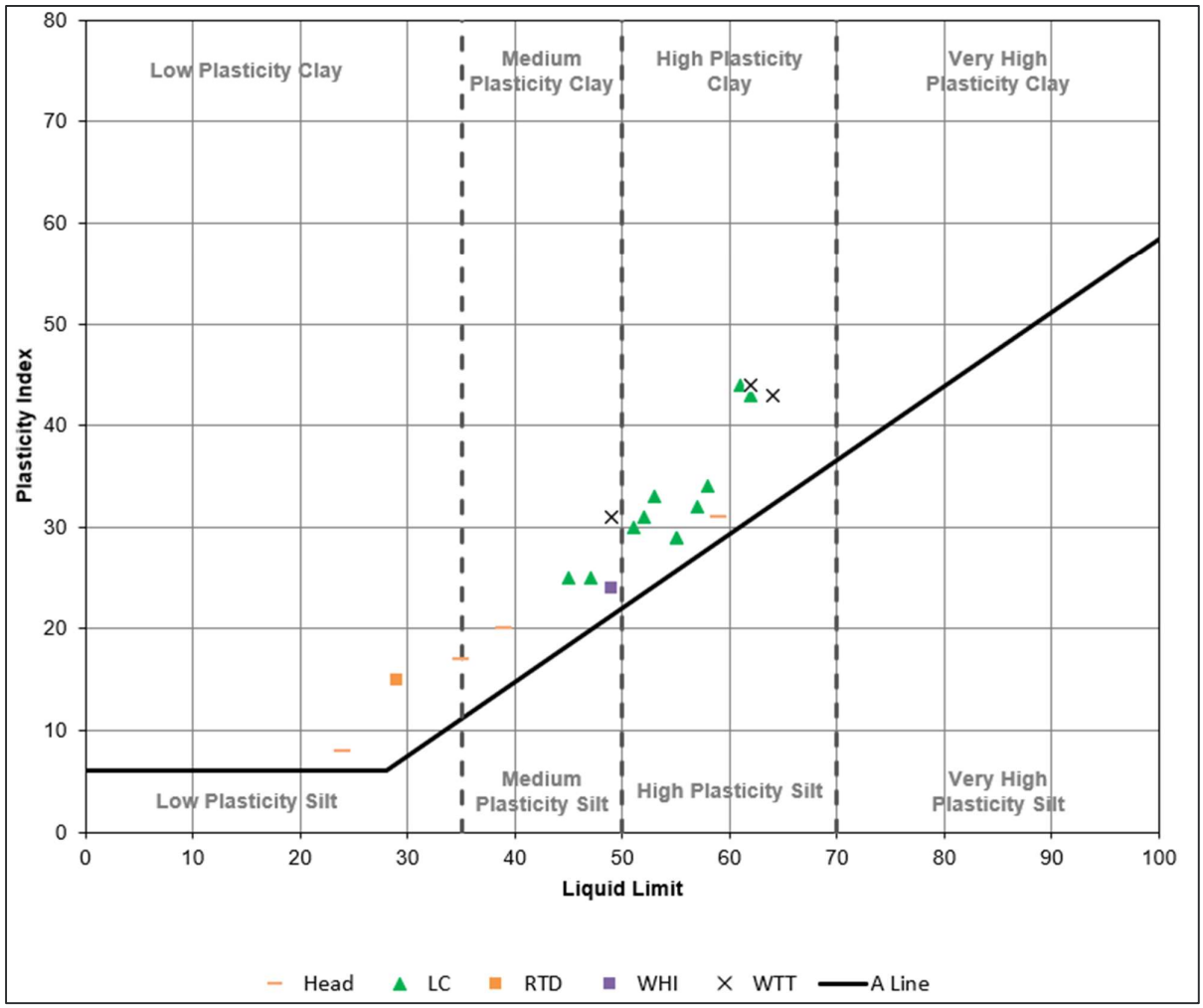


More PSD tests are required for the London Clay – Possible D/C basal bed and Head Deposits to provide a better confirmation of soil grading. Further PSDs should be scheduled in order to fully ascertain soil grading for all these strata where they are considered to impact the potential construction.

7.5 Plasticity for Section H boreholes

Graph 7.6 shows Head Deposits as most variable, recording low to high plasticity clay, River Terrace Deposits has one result; low plasticity clay. London Clay Formation is consistently medium to high plasticity clay. London Clay Formation - Whitecliff Sand Member, where encountered as cohesive, shows one result of intermediate plasticity clay. Wittering Formation testing shows it to be medium to high plasticity clay.

Graph 7.6 Plasticity across Section H Boreholes



7.6 Preliminary Geotechnical Design Parameters for Section H boreholes

Based on the soil descriptions and results obtained from the in-situ and laboratory tests, the characteristic values for each stratum have been derived and are shown in **Table 7.3.**

Table 7.3: Preliminary Geotechnical Design Parameters for Section H Boreholes

	Geotechnical Design Parameter									
Strata	**Native Soil Modulus, E'_3 (MN/m^2) [a]**	**Elastic Modulus E_u [b2]**	**Bulk weight density, γ (kN/m^3) [c]**	**Constant volume angle of shearing resistance, φ (°) [c]**	**Undrained Shear Strength, C_u (kPa) [b1]**	**Coefficient of Volume Compressibility, m_v (m^2/MN) [b1]**	**Uniaxial Compressive Strength (MPa)**	**Concrete Aggressivity [d]**	**Earthworks [b2]**	**From PSD results Embedment corresponding From Table A.3 WIS 4-08-02**
Made Ground (MGR)	Loose sand: 2 - 4	Loose sand: 3 - 10	16 - 17	Loose sand: 30º	N/A	N/A	Not Applicable	No test results available	1 V : 2.5 H	Potentially selected material suitable for S3 (Sand and coarse-grained soil with less than or equal to 12% fines) or S4 (Coarse-grained soil with more than 12% fines) bedding.
Head Deposits (HEAD)	Soft to firm clay: 3	Short Term: 2 MPa Long Term: 1 MPa	15 – 18	Based on average plasticity index result of 19%, φ = 26°	20	0.3	Not Applicable	DS-1 AC-1	1 V : 2H	Potentially selected material suitable for S4 bedding (fine grained soil some of medium to low plasticity and containing more than 25% coarse grained particles). Note however it is a variable deposit with some material being unsuitable as S4 due to having less than 25% granular material, and some material not being suitable for bedding at all due to high plasticity (liquid limit >50%). Due to the variability this material would be difficult to re-use in practice.
River Terrace Deposits (RTD)	Soft clay: 1.5 Loose gravel: 5	Soft clay Short Term: 2 MPa Long Term: 1 MPa Loose gravel 25 MPa	15 - 21	Soft clay φ = 27° Loose gravel φ = 30°	20 - 40	0.3	Not Applicable	DS-1 AC-1	1 V : 1.5 – 2 H	Potentially selected material suitable for S3 (Gravel graded) or S4 (Fine-grained soil, liquid limit <50%, medium-to-no plasticity and >25% coarse-grained material). Note however it is a variable deposit.
Wittering Formation (WTT)	Firm to stiff clay: 3 Dense sand: 9	Firm to stiff clay Short Term: 5 MPa Long Term: 4 MPa Dense sand: 25 MPa	16 - 21	Firm to stiff Clay Based on average plasticity index result of 39%, φ = 22° Dense sand φ = 35°	75 - 100	0.1	Not Applicable	DS-4 AC-4	1 V : 2 – 2.5 H	Not suitable for structural reuse as fine-grained soil, liquid limit >50% and high plasticity. Some sand beds potentially suitable as S3 bedding (if <12% fines), however further classification testing would be required.
London Clay Formation - Whitecliff Sand Member (WHI)	Medium dense to very dense sand: 4	Dense to very dense sand: 25MPa	16 - 22	φ = 29°	N / A	N / A	N / A	DS-1 AC-1	1 V : 2 H	Suitable as S3 bedding. Sand and coarse-grained soil with less than 12% fines.

	Geotechnical Design Parameter									
Strata	**Native Soil Modulus, E'_3 (MN/m^2) [a]**	**Elastic Modulus E_u [b2]**	**Bulk weight density, γ (kN/m^3) [c]**	**Constant volume angle of shearing resistance, φ (°) [c]**	**Undrained Shear Strength, C_u (kPa) [b1]**	**Coefficient of Volume Compressibility, m_v (m^2/MN) [b1]**	**Uniaxial Compressive Strength (MPa)**	**Concrete Aggressivity [d]**	**Earthworks [b2]**	**From PSD results Embedment corresponding From Table A.3 WIS 4-08-02**
London Clay Formation (LC)	Stiff to very stiff clay: 6	Short Term: 400Cu [b1] Long Term: 240Cu [b1] (most detrimental value to be used for design)	18 – 23	Based on average plasticity result of 33%, φ = 23°	75	0.1	0.09 – 0.30	DS-4 AC-4	1 V: 2.5 H	Unsuitable for structural reuse. Fine grained soil with high plasticity, containing less than 25% coarse grained particles and liquid limit >50%.
London Clay – possible D/C basal bed	Dense gravel: 15	Dense gravel 100 MPa	19 – 23	Based on soil description and density index I_D for dense gravel, φ_{dil} of 6° φ = 36°	N / A	N / A	N /A	No test results available though assume worst case value of DS-4 AC-4 with more testing required if constructing within the stratum	1 V : 1.5 H	Potentially suitable as S4 bedding. Coarse grained soil with more than 12% fines. Further classification testing including liquid limit and PSD required.

[a] (BSI, 2020) Table 13, [b1] (Tomlinson, 2001) Table 2.5,Table 2.11, Figure 2.33, Section 2.6.6, [b2] (Look, 2007) Table 11.7, Table 11.8, Figure 14.1, Table 14.10, [c] (BSI, 2015b) Figure 2 and Table 1 , [d] (BRE, 2005) Table C1, [e] (BSI, 2020) Table 24
Table 24 of BS9295:2020 corresponds to Table A.3 from the Water Industry Specification for Bedding and Side fill Materials for buried pipelines WIS 4-08-02 February 1994: Issue 1 document.

7.7 Resistivity Testing

In situ apparent resistivity testing was undertaken at two locations, the results are presented in **Table 7.4** Characteristic apparent resistivity value of 10 Ωm

Table 7.4: Electrical Resistivity Results for Section H

BH ID	Electrode Spacing (m)			
	4.0	3.0	2.0	1.0
	Apparent Resistivity (mean) (Ω.m)			
3H4513HP	43	160	70	210
3H4515HP	61	55	53	62
3H4602HP	120	120	130	140
3H4606HP	48	40	34	21

A characteristic apparent resistivity value of 21 Ωm should be taken, which indicates that the ground is highly aggressive towards ferrous metals.

7.8 Permeability Testing

Falling head permeability testing was undertaken at two locations across Section H. The results are presented in **Table 7.5.**

Table 7.5: Falling Head Permeability Testing Results

BH ID	Depth of Test (m bgl)	Test Type	Borehole / Standpipe	Test	Result (m/s)	Strata
2H4501DR	5.20 – 5.70	Falling head permeability test	Borehole	1	5.1×10^{-7}	London Clay Formation and London Clay Formation - Whitecliff Sand member
2H4502DS	1.00 – 4.00		Standpipe	1	2.6×10^{-7}	London Clay Formation - Whitecliff Sand Member

8 Geotechnical Considerations

8.1 Ground Conditions

The ground conditions recorded within the boreholes are generally in line with those anticipated from the geological mapping across the proposed section. 3H4600SA and 3H4602HP aligns with mapping with River Terrace Deposits overlying Wittering Formation. 3H4507HP and 3H4511HP aligns with mapping with Wittering Formation at ground level. 2H4501DR, 2H4502DS, 3H4515HP and 3H4603HP aligns with mapping with London Clay Formation - Whitecliff Sand Member at ground level. 3H4513HP and 3H4514HP aligns with mapping with Head Deposits at ground level.

However, several locations did not align with the BGS mapping; 2H4503DS had London Clay Formation - Whitecliff Sand Member mapped at ground level but Head Deposits was encountered overlying it at ground level. 2H4500DR does not align with mapping, London Clay Formation was mapped at ground level, however, Head Deposits overlying London Clay Formation - Whitecliff Sand Member was encountered. At 3H4517SA and 3H4606HP Made Ground was found at the ground surface overlying the mapped London Clay Formation - Whitecliff Sand Member.

- Made Ground (MGR), comprising gravelly silty sand, was encountered in two locations within Section H.
- Head Deposits (HEAD), comprising soft to firm orangish brown sandy gravelly clay, are locally encountered within the top approximate 4 m bgl.
- River Terrace Deposits (RTD), comprising soft to firm / loose gravelly clay and clayey gravel, is encountered in the south of Section H up to 4 m bgl.
- Wittering Formation (WTT), comprising firm to stiff sandy clay up to 9.45 m bgl and dense to very dense glauconitic sand, to 13.10 m bgl.
- London Clay Formation - Whitecliff Sand Member (WHI), comprising medium dense to very dense brown sand, is encountered at various levels between 0.8 m and – 11.75 m bgl.
- London Clay Formation (LC) bedrock, comprising stiff to very stiff brown and dark grey clay, is encountered between 0.4 m – 18.5 m bgl.
- London Clay – Possible D/C basal bed, comprises dense black well-rounded gravel, between 18.5 and 20.0 m bgl.

Superficial deposits and bedrock are likely to be founding strata for 1200mm diameter ductile iron (DI) open-cut pipeline sections within 3 – 6 m bgl. Near the southern end of Section H, RTD and WTT are likely to be encountered within the top 3m bgl within the first 800 m of the pipeline route from the A334 (Winchester Road) at the beginning of Section H to Pricketts Hill Road.

8.2 Foundation Design

Open-cut pipeline sections are expected to be founded with all strata within Section H described above and the ground is expected to be capable of supporting the required plant. Where cohesive superficial deposits are encountered, prior to pipeline construction, any very soft superficial deposits could potentially be removed and granular imported fill placed. For the approximate 2.7 km length of pipeline proposed across Section H; bearing resistance or settlement issues are not anticipated – the pipeline is expected to result in a net reduction in ground bearing pressure at formation level.

8.3 Shallow Excavation

8.3.1 Excavation

Shallow excavations for the proposed open-cut pipeline route are expected to be constructed between 3 m – 6 m bgl, all within Head Deposits, River Terrace Deposits, Wittering Formation, London Clay Formation -

Whitecliff Sand Member and London Clay Formation LC. Excavations are expected to be within the capability of conventional plant.

For excavations within superficial deposits full excavation support would likely be required as groundwater levels encountered suggest high groundwater levels across Section H boreholes. Where space permits (e.g. in open land), it may be possible to construct the shallow pipework within unsupported battered trenches. This is generally applicable to clays and with excavations open for a long time; supported battered trenches would be beneficial to prevent excavation collapse from occurring (CIRIA, 1992). Where fine sands are encountered within the Wittering Formation and London Clay Formation - Whitecliff Sand Member, these materials may be highly mobile below the water table.

8.3.2 Groundwater Control

Based on the ground investigation records, significant groundwater entries are likely to be encountered in shallow and deep excavations as groundwater was encountered during drilling and within monthly monitoring between 0.61 m - 9.70 m bgl (65.56 m - 56.46 m OD) within Head Deposits, Wittering Formation, London Clay Formation - Whitecliff Sand Member and London Clay Formation. Sump pumping will work within Head Deposits, cohesive River Terrace Deposits and cohesive Wittering Formation and London Clay by ponding and pumping from the base. London Clay Formation - Whitecliff Sand Member and granular Wittering Formation (likely to be encountered) that contain a large amount of fines may be controlled by ejector wells. Granular River Terrace Deposits is expected to be controlled by well pointing.

High water levels have been encountered during monitoring, which should be taken into account prior to construction.

There are a number of exploratory hole locations that did not encounter groundwater during excavation and / or drilling works including: 2H4500DR, 2H4502DS, 3H4507HP, 3H4511HP, 3H4513HP, 3H4514HP, 3H4515HP, 3H4602HP, 3H4603HP and 3H4606HP.

8.4 Flotation

There were no instances of artesian groundwater conditions above ground level during investigation.

The structures should be designed to resist flotation in all stages of temporary and permanent works.

8.5 Trenchless Construction

The Applicant have confirmed the current trenchless crossing pipeline, shaft dimensions and depths. Launch shaft dimensions will range between 9.0 m – 9.5 m diameter and reception shafts range between 5.0 m – 5.4 m diameter with a 700 mm – 800 mm diameter DI pipe within a 1200 mm internal diameter pipe jack. Trenchless crossings are presumed to be driven west to east so the launch shafts are always the most westerly shafts.

Trenchless construction depths are not currently known. However, crossing must be a minimum of 2.5 m under the lowest point of the riverbed or road. Geology at the shaft locations is summarised in **Table 8.1.**

Table 8.1: Shaft Construction Geology

Trenchless Hole Location (Launch Pit)	Base of Shaft Construction Depth m bgl (m OD)	Shaft Strata	Trenchless Hole Location (Reception Pit)	Base of Shaft Construction Depth m bgl (m OD)	Reception Pit Shaft Strata
3H4600SA	12 (+42.21)	River Terrace Deposits, Wittering Formation and London Clay Formation	3G4102SA	12 (+43.20)	River Terrace Deposits and Wittering Formation
2H4501DR	9.83 (+56.33)	London Clay Formation and London Clay Formation - Whitecliff Sand Member	2H4500DR	5 (+56.33)	Head Deposits and London Clay Formation - Whitecliff Sand Member
3J5002A	6 (+44.56)	London Clay Formation – Whitecliff Sand Group	3H4517SA	10 (+44.62)	Made Ground, London Clay Formation - Whitecliff Sand Member and London Clay Formation

All section H shafts are below the groundwater level during monitoring. Trenchless construction in Wittering Formation (within sand horizons), and Whitecliff Sand Member below the water table will need a machine with full face support (e.g. slurry // EPBM system).

Where Wittering Formation and Whitecliff Sand Member (WHI) is expected at the various trenchless construction depths, it is recommended to align the pipejack tooling deeper to target potential deeper stiff/very stiff clay. If tunnelling in stiff/very stiff clay, considered optimum material for soft-ground tunnelling as it is generally self-supporting, of low permeability, and homogenous. Both open-face and closed face tunnelling methods are likely to be suitable.

Ground investigations have not been undertaken for proposed trenchless crossings at Pricketts Hill and Blind Lane. It is not confirmed if a trenchless crossing will be required here.

8.6 Ground Aggressivity

8.6.1 Concrete

The results of the pH and sulphate tests (SO_4) undertaken on Head Deposits, River Terrace Deposits, and Whitecliff Sand Member, indicate that worst case design sulphate class is DS-1 and the worst case aggressive chemical environment for concrete (ACEC) class AC-1. For Wittering Formation and London Clay Formation, the worst-case design sulphate class is DS-4 and the worst case aggressive chemical environment for concrete (ACEC) class AC4. London Clay - Possible D/C basal bed was not tested for concrete aggressivity; however a worst case design sulphate class is DS-4 and the worst case aggressive chemical environment for concrete (ACEC) class AC4 should be applied.

8.6.2 Ferrous Metals

Strata across the proposed pipeline route has the potential to be aggressive towards ferrous metals.

Following guidance published by TRL (Eyre, D., & Lewis, D.A., 1987) if clay (within Superficial deposits and London Clay Formation) and sand (Whitecliff Sand Member) are encountered with the below characteristics, it is considered aggressive towards ferrous metals with:

- Characteristic apparent resistivity value of 10 Ωm
- Organic content greater than 0.2 %
- Plasticity index greater than 15
- Poorly drained area or groundwater above pipework level
- Moisture content greater than 20 %
- pH greater than 6
- Soluble sulphate 500 to 1000 mg/l
- Aggressive compounds in Made Ground (e.g. cinder or coke)

Eyre and Lewis' (1987) Contractor Report has two soil corrosivity assessment methods; Table A1 and B1. Using worst case scenario, these two assessments class Section H as highly aggressive (Table A1) and very aggressive (Table B1) respectively (Eyre, D., & Lewis, D.A., 1987).

8.7 Geotechnical Hazard Assessment

Table 8.2 summarises potential geotechnical hazards associated with the Site during and post construction.

Table 8.2: Potential Hazards

Hazard	Source of information/comment	Mitigation method
Unforeseen Ground Conditions	Project specific ground investigation undertaken in 2023 and 2024 to inform outline design. Trenchless bore collapse and uncontrolled ground settlement, very soft / loose material present that is inadequate for founding of pipework / chambers. No ground investigations at proposed trenchless crossings at Pricketts Hill and Blind Lane.	Exploratory holes, to include investigation at around 200m intervals and at trenchless crossings, have been undertaken. Considering the current pipe jacking depth is likely within WHI (the distinct sand horizon within LC), consideration may be given to deepen of the pipejack so that it is only within LC, not at its current proposed depth within WHI. Further ground investigation would be recommended to better profile the WHI/LC boundary between these two locations.
Groundwater/Flotation.	Lack of knowledge of groundwater conditions. Potentially result inappropriate/inadequate choice of dewatering techniques, excessive sump pumping causing settlement, unstable ground, inappropriate bore support and flotation.	Groundwater results should be reviewed over a minimum period of 6 months. At trenchless crossing locations, the groundwater levels should be reviewed over a 12 month period to estimate any potential dewatering requirements prior to construction. Continued monitoring or groundwater at boreholes with installations.
Bore / trench Collapse	Fracture indices during rotary coring highlighting areas of assumed zones of core loss. Inadequately defining the superficial deposits / London Clay Formation interface or from encountering sand horizons and within Whitecliff Sand Member is an issue to consider. It is important to define the interface with the underlying/overlying strata to ensure a suitable bore is designed.	When excavating, assess the degree of fracturing and structure as the excavation progresses in depth and lateral extent. Check to see if the excavation remains intact or blocky. If the ground becomes increasingly laminated and irregular, excavate in reduced thicknesses rather than larger blocks at a time to prevent the likelihood of collapse. Superficial deposits such as Head Deposits have relic shear surfaces, which may be encountered above WHI and LC bedrock deposits. Use vertical sided trench support: trench sheets or boxes, as required. Trenchless construction within the Whitecliff Sand Member, part of London Clay Formation, would require full face support (e.g. slurry / EPBM).
Excessive settlement, pipe failure / bursts.	Geological logs displaying strata to a maximum of 20.45 m bgl.	Ensure that proposed pipework avoids areas of unsuitable ground and buried structures where possible. If structures are within the route alignment, arrange with the Applicant and appropriate asset landowners

Hazard	Source of information/comment	Mitigation method
	Subsidence and hidden soft areas of ground previously not identified during the GI.	that the impact of the proposed construction is reviewed and appropriate mitigation undertaken. Ensure that the design includes for the use of appropriate groundwater control and excavation support methods, to be employed for the encountered ground, to minimise any impacts.
Existing buried services - strike, injury	Utility drawings provided to the Principal Contractor / Ground Investigation Contractor may not reveal all services underground and may differ.	Ensure that utility providers are contacted in advance of excavation works with any uncertainty proven on site by those providers having engineers present. They should be in attendance, where necessary, such as near high risk locations. For further confirmation, Ground Penetrating Radar (GPR) and/or PAS128 surveys may also be performed.
Unknown buried structures / Southern Water assets /	Geological logs displaying strata to a maximum of 20 m bgl. Subsidence and hidden soft areas of ground previously not identified during the GI.	Ensure that proposed pipework avoids these areas of unsuitable ground and buried structures where possible. If structures are within the route alignment, arrange with the Applicant and appropriate landowners for these to be investigated/removed as early as practicable consulting all records available to the Applicant.
Striking unexploded ordnance (UXO), triggering an explosion	The Site was impacted by bombing in WWII.	Preliminary Risk Assessments were conducted specific to each exploratory hole location to reduce the section-wide greater UXO risk. Detailed UXO assessment undertaken with the following findings (Zetica, 2024): ■ No significant sources of UXO hazard have been identified. ■ Proceed with works. An UXO awareness briefing is prudent for staff involved in excavations. LOW UXO hazard level is applied to Section H
Aggressive Chemical Environment for Concrete / Failure of new assets due to degradation	The results of the pH and sulphate tests (SO4) undertaken on Head Deposits, River Terrace Deposits, and Whitecliff Sand Member, indicate that worst case design sulphate class is DS-1 and the worst case aggressive chemical environment for concrete (ACEC) class AC-1. For Wittering Formation and London Clay Formation the worst-case design sulphate class is DS-4 and the worst case aggressive chemical environment for concrete (ACEC) class AC4.	Ensure that additional testing is carried out for Made Ground and London Clay Formation D/C Basal Bed. Resistivity testing should be undertaken at 3H4515HP and 3H4606HP.

9 Conclusions

9.1 Geotechnical

The GI data for Section H comprises 14 No. exploratory holes for the selected areas of trenchless crossings, potential sources of contamination and along the linear pipeline route.

Made Ground, Head Deposits, River Terrace Deposits, Wittering Formation, Whitecliff Sand Member and London Clay Formation bedrock are likely to be encountered during open-cut construction. Made Ground, Head Deposits, River Terrace Deposits, Whitecliff Sand Member and London Clay Formation bedrock are likely to be encountered at the proposed trenchless crossings and their reception and launch shafts.

High water levels across the borehole locations may require conventional sump pumping, well pointing and ejector wells to control the groundwater.

Pipejacking has been decided, by the Applicant, as the trenchless crossing technique due to passing under multiple sensitive land-uses. Proposed open-cut construction is to be between 3 – 6 m bgl, trenchless construction depths are currently unknown.

Head Deposits, River Terrace Deposits, and Whitecliff Sand Member indicate that worst case design sulphate class is DS-1 and the worst case aggressive chemical environment for concrete (ACEC) class AC-1. For Wittering Formation and London Clay Formation the worst-case design sulphate class is DS-4 and the worst case aggressive chemical environment for concrete (ACEC) class AC4.

Wittering Formation and London Clay Formation are unsuitable for structural reuse along the pipeline route. Made Ground, Head Deposits, River Terrace Deposits, Whitecliff Sand Member and are potentially suitable for reuse as S3 or S4 embedment material.

All ground in Section H (superficial and bedrock) are highly / very aggressive towards ferrous metals.

9.2 Geo-environmental

The Phase 2 GI completed in Section H focused on one PSC, Shirrel Heath Sand Pit Landfill (PSC 90). The current proposed DoL is within 30 m of this PSC. The Phase 2 GI locations were drilled approximately 20 m southwest of this PSC and 10 m northeast of the proposed DoL. Two GI locations at the proposed trenchless crossing at Shirrell Heath High Street were also completed during the Phase 2 works.

The Phase 3B/3C GI in Section H primarily comprised GI locations to collect ground conditions data for the linear route. Two trenchless crossing locations at proposed road crossings were also investigated. Several PSCs within a 50m buffer zone of the DoL were in proximity to the GI locations, however these have not been fully delineated. These included Pit-Sand (PSC 103), Pit-Gravel (PSC 45), Infilled Land – Disturbed Ground (PSC 78), Worked Ground (PSC 445) and Pig Farm (PSC 512).

The revised risk assessment for the PSCs, updated from the desk study with Phase 2 and Phase 3B/3C GI data, identified the following risks:

- A Moderate risk rating was identified for groundwater at locations advanced to investigate the DoL closest to Shirrell Heath Landfill - PSC 90 (2H4502DS and 2H4503DS**)** and at 3H4517SA due to the presence of TPH in groundwater sampling.
- Moderate/Low risk to groundwater due at 3H4600SA to multiple PCOC exceedances of the adopted GAC.

- A Moderate/Low risk classification has been identified for impact to construction, maintenance workers and future site users via direct contact and inhalation pathways at trenchless crossings, based on the findings of presence of TPHs in groundwater and gas concentrations. Ground gas monitoring showed carbon dioxide exceedances for short and long-term WELs and depleted oxygen levels. Though in light of the flooded well within 3H4517SA this assessment is very conservative. It should also be noted that gas risk has been reduced to a low risk for the trenchless crossing beneath Winchester Road, at the boundary between Section G and H, due to the age of the gravel pit approximately 45 m south (PSC 45).
- Risk ratings for the possible former pig farm (PSC 512) have been carried forward from the Desk Study, version 4 (SSP, 2024) due to limited GI data across the PSC footprint (one hand pit location). Moderate/Low risk ratings identified for impact to construction, maintenance workers and future site users, adjacent site users and groundwater during construction.
- Very Low/Low risk for on Site existing and future property, there are no AGP compounds within Section H, therefore the potential contaminant linkages for this receptor are not considered to require further assessment.

Ground gas is unlikely to pose a risk within areas of GI undergoing open cut excavations as any gas accumulated should quickly dissipate. At the trenchless crossings, although there are no permanent building structures proposed for this area of the scheme, the ground gas data recorded at locations should be considered at the preconstruction phase, as temporary deep excavations may be planned as reception pits.

Data Gaps

Although several exploratory holes were completed during the GIs (Phase 2 and Phase 3B/3C) in proximity to the PSCs listed below, none were advanced (except PSC 512) within the footprint of the identified PSCs (SSP, 2024). Therefore, the CSM and risk classification presented in the desk study Version 4 (SSP, 2024) for these PSCs remains current until further information is obtained.

- Infilled Land – Disturbed Ground (PSC 78)
- Pit – Sand (PSC 103)
- Worked Ground (PSC 445)
- Pig Farm (PSC 512)
- Pit-Gravel (PSC 45)

10 Recommendations

10.1 Geotechnical

Further Ground Investigation is recommended.
Section H locations are representative of a majority of the approximate 2.7 km length of pipeline.

It is recommended that

- Further GI along the route is performed to fully understand and characterise the soil required to be excavated / removed / reused and at other potential trenchless crossing locations.
- Additional groundwater monitoring takes place due to high groundwater levels present along the route.
- BRE concrete aggressivity testing is carried out on Made Ground.

Ground preparation

It is recommended that a processing plant should be used on site to screen out and remove the particles exceeding 40 mm within fine- and coarse-grained soil across the pipeline. Only material with embedment class of S4 or less are recommended to be used for as – dug soils surrounding semi-rigid pipes or the proposed 1200 mm ductile iron pipeline across the route.

10.2 Geo-environmental

Further Ground Investigation is recommended
Further soil sampling and testing prior to construction may be necessary if material reuse is planned. This is to be determined after details in the design phase are clarified.

Further GI to investigate ground conditions including geo-environmental sampling is recommended along the route in Section H at the locations of Moderate / Low risk or higher PSCs identified following the Phase 2 and Phase 3B/3C GIs and those identified in the Desk Study (SSP, 2024).

Although several exploratory holes were completed during the GIs (Phase 2 and Phase 3B/3C) close to PSCs listed below, none were advanced (except PSC 512) within the footprint of the identified PSCs (SSP, 2024):

- Infilled Land – Disturbed Ground (PSC 78)
- Pit – Sand (PSC 103)
- Worked Ground (PSC 445)
- Pig Farm (PSC 512)
- Pit-Gravel (PSC 45)

Further GI to investigate ground conditions that includes geo-environmental sampling, groundwater sampling and gas monitoring at the aforementioned PSCs is recommended due to the limited data collected thus far.

Conduct additional geo-environmental monitoring during construction
Recommendations for ground gas and groundwater monitoring / testing during construction phase should be provided within the Construction Phase Environmental Management Plan.

The ground gas data recorded at the trenchless crossing of Shirrell Heath High Street (2H4501DR), Winchester Road (A334) (3H4600SA) and Winchester Road (B2177) (3H4517SA) should be considered at the pre-construction phase in terms of risks to groundworkers in the planned launch/reception pits.

Watching Briefs

Watching briefs should be in place during construction. Groundworkers should remain vigilant throughout construction, particularly within the vicinity of PSCs, and should visual and/or olfactory indicators of contamination (including asbestos) be encountered, works should cease in that area and advice be sought from a suitably qualified geo-environmental professional. Further testing and specialist advice may be required. This is particularly applicable to parts of Section H being constructed using open-cut excavation.

Stockpile Management

Stockpile material must be well managed and kept on an area of hardstanding located down gradient of surface water drainage that may potentially discharge to a watercourse. It is recommended that any stockpiled material is covered to prevent rainfall infiltration, run off, and leachate and dust generation. Stockpiles should be secured when not in use to prevent third party access.

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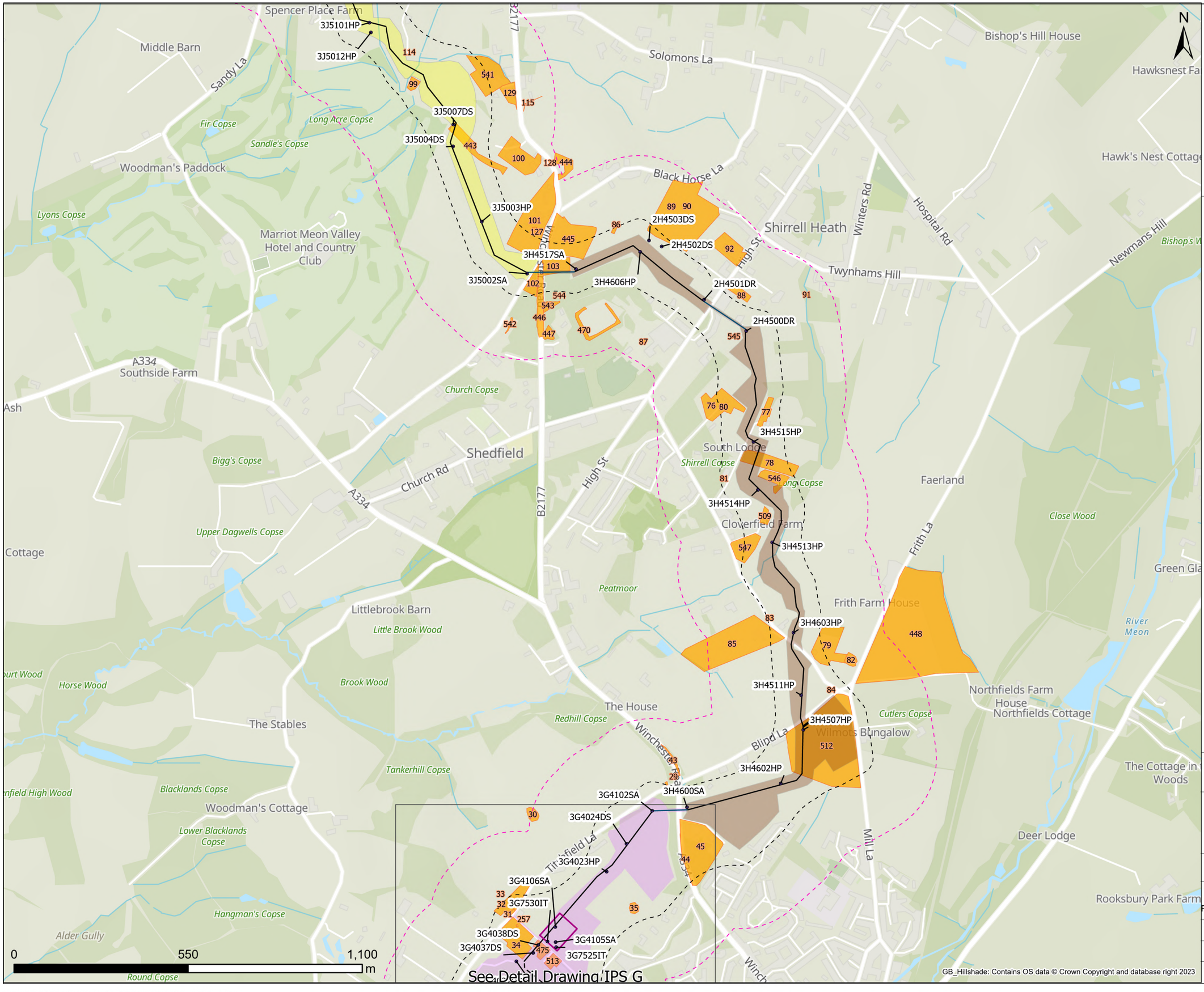
Figures



Legend

- Ground Investigations

Name

- IPS G
- Draft Order Limits 50m buffer
- Draft Order Limits 250m buffer

GI Scoping Route

- Open cut
- Open cut - Subject to Change
- Trenchless

Draft Order Limits Sections

- G
- H
- J
- Potential Sources of Contamination

Contains Southern Water preliminary data - All site locations and routes shown are preliminary only and subject to further site selection assessment and stakeholder consultation.

Stantec

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Southern Water

Project Title: Water For Life Hampshire			
Drawing Title: Section H Phase 2 3B/C Ground Investigation Locations with PSCs			
Scale: 1:11,000	Date Drawn: 04/03/2025	Page: 1.1	Sheet Size: A3
Originator: SB	Checker: GS	Reviewer: AC	Approver: JH
Project No.: 710166-SWS-XX-XX-SK-GE-00001			Revision: A

Document Path: C:\Southern Water\Hampshire Water for Life\Geo_MapSeries\GI_Scoping\GI_Scoping.aprx

PSC No.	Name	Source	Current	Dates	Description	Category	Section
1	Works - Crockerhill Brickworks	Groundsure, National Library of Scotland, ArcGIS Earth, Google Earth	Y	1868 - Present	1868 to 1939 brickfield including infilled ponds. 1939 to 1992 (last available map) Saw mills east of Forest Lane. 1999 to Present - 'Pinks' Industrial park / Welbourne Business Park	PSC & Infilled Land	F
2	Pit - Clay	NLS	N	1937-61 - 1949-70		Infilled Land	F
4	Farm - Albany Farm	National Library of Scotland, Historic Map 1856. Fareham and Gosport Council	Y	1856-1914 - Present	Area now a business centre, houses, a care home and offices. Local authority note timber furniture manufacture.	PSC	F
5	Landfill - Albany Farm Historic Landfill	Environment Agency, National Library of Scotland, Historic Map 1856	N	1856-1913 - 1949-89	Old chalk pit 1888-1913 (NLS),1949-70 (NLS) no longer labelled, markings remain. Landfill licence granted 1977 and shown in lower area until 1989.	Infilled Land	F
6	Landfill - Albany Farm Historic Landfill	Environment Agency, National Library of Scotland, Historic Map 1856	N	1977 - 1982	1892-1914 (NLS) - Old Chalk Pit. Inert backfill.	Infilled Land	F
7	Pit - Unspecified	National Library of Scotland, Historic Map 1856	N	1856 - 1965		Infilled Land	F
8	Pit - Sand	National Library of Scotland, Historic Map 1856	N	1856-1913 - 1937-61		Infilled Land	F
9	Pit - Chalk	National Library of Scotland, Fareham BC EHO, Historic Map 1856	Y	1856-1913 - 1949-70	1892-1913 (NLS) excavation markings still present 1949-92 (NLS). Chalk pit followed by farm use.	PSC & Infilled Land	F
10	Pit - Chalk	National Library of Scotland, Historic Map 1856	N	1856-1913 - 1949-78	Former pit and pond.	Infilled Land	F
11	Landfill - Heytesbury Farm Landfill	Environment Agency, National Library of Scotland / Fareham BC EHO	N	1856-1913 - 1949-70	Former clay pit. Visible on Historical 1956 Map, 1888-1913 (NLS),1949-70 (NLS) no longer labelled. First input 1980. Unknown last input. Local authority note - Waste treatment: landfill construction/demolition/builders waste.	Infilled Land	F
12	Pit - Various	Fareham Council EHO	N	Unknown	Chalk, gravel, clay pit	Infilled Land	F
14	Pit - Various	Fareham BC EHO	N	1856 - 1873	Chalk, gravel, clay pit	Infilled Land	F
15	Infilled Land - Disturbed Ground	Fareham BC EHO	N	Unknown	Unknown landfill/ Stockpiled Soil/ Raised land/ Reclaimed land/ Fly-tipping/Burnt waste - no evidence seen on historical maps.	PSC & Infilled Land	F
16	Embankment	Historic Map 1932	Y	1932 - 1987	Road embankment, road layout has changed in area.	PSC	F
17	Embankment	Historic Map 1958	N	1958 - 1992	Road embankment, layout of road has changed in area, road no longer extends up this far, although area still seems to be raised.	PSC	F
18	Waste Facility - Recycling and waste centre	Historic Map 1856, Google Earth	Y	1856 - Present	Charity Farm shown throughout Historical Maps until 1993. Current map shows area as a waste and recycling centre.	PSC	F
19	Infilled Land - Pond	Historic Map 1856	N	1856 - 1895		Infilled Land	F
20	Infilled Land - Drain	Historic Map 1856	N	1856 - 1910		Infilled Land	F
21	Farm - Whitedell Farm	Historic Maps 1856 - 1992 Google Earth 2024	Y	1856 - Present		PSC	F
22	Pit - Sand	Historic Map 1856	N	1856 - 1898		Infilled Land	F
23	Pit - Chalk	Historic Map 1873	N	1856 - 1985		Infilled Land	F
24	Pit - Chalk	Historic Map 1895	N	1895 - 1898		Infilled Land	F
25	Pit - Chalk	Historic Map 1897	N	1856 - 1985	Infilled Land, western part potentially crosses the pipeline route.	Infilled Land	F
26	Infilled Land - Channel	Historic Map 1868	N	1856 - 1910		Infilled Land	F
27	Infilled Land - Channel	Historic Map 1868	N	1856 - 1957		Infilled Land	F
28	Infilled Land - Channel	Historic Map 1868	N	1856 - 1957		Infilled Land	F
29	Electricity Sub Station (Small)	ArcGIS Earth / Google Earth	Y	1987 - Present		PSC	G
30	Infilled Land - Pond	National Library of Scotland	N	1868 - 1894		Infilled Land	G
31	Infilled Land - Pond	National Library of Scotland	N	1868 - 1938	Infilled by 1940.	Infilled Land	G
32	Farm - Cold Harbour Farm	National Library of Scotland, Google Earth	Y	1888 -1913 - Present		PSC	G
33	Garage - Drokes Farm Motor Company	Google Earth / ArcGIS Earth	Y	2017 - Present	2017 to Present (2023). Servicing, repairs and diagnostic.	PSC	G
34	Nursery	National Library of Scotland	Y	1949-70 - Present		PSC	G
35	Infilled Land - Pond	NLS	N	1888-1913 - 1999		Infilled Land	G
36	Pit - Gravel	National Library of Scotland	N	1892-1914 - 1937-61	Excavation marks visible 1937-61, no longer labelled, pipeline route no longer being passed through PSC.	Infilled Land	G
37	Pit - Gravel	National Library of Scotland	N	1868 - 1913		Infilled Land	G
38	Farm - Little Tapnage Farm	ArcGIS Earth / Google Earth	Y	2021 - Present	2021 Google Earth to Present.	PSC	G
39	Railway	National Library of Scotland	N	1909 - 1968	Appears to be dismantled by 1980. Area now a path.	PSC	G
40	Infilled Land - Pond	National Library of Scotland	N	1868-1897 - 1949-70		Infilled Land	G
41	Infilled Land - Pond	National Library of Scotland	N	1888 - 1994		Infilled Land	G
42	Hospital - Ravenswood	National Library of Scotland, Google Earth, Historic Map 1940	Y	1940-70 - Present		PSC	G
43	Embankment	Historic Map 1939	Y	1939 - Present		PSC	G
44	Embankment	Historic Map 1987	Y	1939 - Present		PSC	E
45	Pit - Gravel	Historic Map 1968	N	Pre-1868	Labelled as 'Gravel Pit Copse'; Shape seen in 1868 map and first labelled in 1888, no actual gravel pit confirmed.	Infilled Land	H
46	Pit - Various	Historic Map 1994, BGS Historical Mineral Planning Areas	N	1973 - 1994	Park Place - Sand and gravel surface mineral working (BGS) Licence granted 1972. Eastern corner pipeline passes through.	Infilled Land	G
49	Pit - Gravel	Historic Map 1895	N	1895 - 1938		Infilled Land	G
50	Infilled Land - Pond	Historic Map 1965	N	1965 - 1994		Infilled Land	G
51	Pit - Gravel	Historic Map 1895	N	1895 - 1938		Infilled Land	G
52	Pit - Gravel	Historic Map 1908	Y	1908 - Present	Pipeline no longer passes near PSC.	Infilled Land	G
53	Infilled Land - Pond	Historic Map 1868	N	1868 - 1994		Infilled Land	F
54	Infilled Land - Drain	Historic Map 1968	N	1868 - 1979	Unclear when the drain was first created, first labelled as a drain in map 1979, however shape can be seen on 1868 map.	Infilled Land	G
55	Infilled Land - Drain	Historic Map 1968	N	1868 - 1987	Unclear when the drain was first created, first labelled as a drain in map 1979, however shape can be seen on 1868 map.	Infilled Land	G
57	Infilled Land - Drain	Historic Map 1968	N	1868 -1980	Unclear when the drain was first created, first labelled as a drain in map 1979, however shape can be seen on 1868 map.	Infilled Land	G
58	Infilled Land - Drain	Historic Map 1968	N	1868 -1980	Unclear when the drain was first created, first labelled as a drain in map 1979, however shape can be seen on 1868 map.	Infilled Land	G
59	Pit - Sand	Historic Map 1868	N	1868 - 1938	Hospital built on top.	Infilled Land	G
60	Pit - Gravel	Historic Map 1895	N	1895 - 1938	Hospital built on top.	Infilled Land	G
62	Infilled Land - Drain	Historic Map 1868	N	1868 - 1994	Shown as a large channel in 1868map, no water shown in that area on ArcGIS Map, however channel outline is still visible on 1994 Map.	Infilled Land	G
64	Infilled Land - Drain	Historic Map 1868	N	1868 - 1895		Infilled Land	G
65	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
66	Infilled Land - Drain	Historic Map 1868	N	1868 - 1938		Infilled Land	G
67	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
68	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
69	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
70	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
71	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
72	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
73	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
74	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
75	Infilled Land - Drain	Historic Map 1868	N	1868	Only visible in 1868 map.	Infilled Land	G
76	Farm	Google Earth, Groundsure Historical Tanks layer	Y	Pre-1999 - Present	Tanks identified by Groundsure 1986-87.	PSC	H
77	Agricultural - Nursery / Farm	Google Earth	Y	1987 - Present	Possible greenhouses adjacent to corridor.	PSC	H
78	Infilled Land - Disturbed Ground	Google Earth	Y	2005 - Present	Ground shown as disturbed with soil and waste heaps. Land also used a farm yard.	PSC & Infilled Land	H
79	Farm	Google Earth	Y	1999 - Present	Small scale activities, no farm name.	PSC	H
80	Tank	Historic Map 1989	N	1986 - 2007		PSC	H

PSC No.	Name	Source	Current	Dates	Description	Category	Section
81	Tank	Historic Map 1989	N	1986 - 1994		PSC	H
82	Pit - Sand	Historic Map 1939	N	1939 - 1957		Infilled Land	H
83	Pit - Sand	Historic Map 1939	N	1939 - 1968		Infilled Land	H
84	Infilled Land - Pond	Historic Map 1868	N	1868 - 1909	No labels on map, however older maps potentially show a pit or an infilled pond.	PSC	H
85	Farm - Westland Farm	Historic Map 1994	Y	1994 - Present		PSC	H
86	Farm	Google Earth	Y	2014 - Present	Farm building.	PSC	H
87	Infilled Land - Swimming pool	Historic Map 1965	N	1965 - 1987		Infilled Land	H
88	Garage	Historic Map 1965, Winchester County Council, Groundsure	Y	1965 - Present		PSC	H
89	Pit - Sand	Historic Map 1965	N	1965 - 1968		Infilled Land	H
90	Landfill - Shirrel Heath Sand Pit	Historic Map 1987, Environment Agency	N	1976 - 1987	Surrounding Old sand pit site. Licence issue11/1976. Labelled as disused workings on 1987 Map. Input - inert, commercial waste.	Infilled Land	H
91	Infilled Land - Pond	Historic Map 1965	N	1965 - 1994	Partially infilled, current site has a river running through the middle. Date of infill unknown, visible on most recent historical map of area (1993) but not on current Google Earth imagery.	Infilled Land	H
92	Garage - Winkworths Garage	Historic Map 1986	Y	1986 - Present	Vehicle repair, maintenance and MOT services.	PSC	H
94	Farm - Woodman's Farm	National Library of Scotland	N	1888 - 1913		PSC	J
95	Pit - Sand	National Library of Scotland	N	1895 - 1896		Infilled Land	J
96	Industrial Estate - Woodmans Farm	Google Earth	Y	1993 - Present	On the former footprint of Woodmans Farm. Units include several vehicle maintenance garages, metal finisher and welding activities and air condition repair. Tank shown in north of site on 1993 historical map.	PSC	J
97	Landfill - Ash House Farm Landfill	National Library of Scotland	N	1868 - 1991		Infilled Land	J
98	Pit - Sand	National Library of Scotland, Historical Map 1968	N	1965 -1968		Infilled Land	J
99	Farm - Unknown	Google Earth	Y	1999 - Present	Farm or possible horse stable.	PSC	J
100	Farm - Five Oaks Farm	National Library of Scotland	Y	Present		PSC	J
101	Farm - Sandy Hill Farm	Historical Map 1868	N	1868 - 1897	From Sandy Hill Farm to Sandy Hill House in next map, 1909.	PSC	J
102	Pit - Sand	Historic Map 1869	N	1869 - 1897		Infilled Land	J
103	Pit - Sand	Historic Map 1895	N	1895 - 1957	LiDAR shows ground level lower than surrounding area. Potentially not infilled.	Infilled Land	H
104	Pit - Sand	Groundsure Historical Maps. BGS mineral planning areas and worked ground layer	N	1965 - 1987	Phillimore Sand pit 1965. 1987 map labels whole area as disused workings.	Infilled Land	J
106	Pit - Gravel	Historic Map 1869	N	1868 - 1869	Only visible on two maps. Not shown on 1895 map.	Infilled Land	K
107	Infilled Land - Marshland	Historical Map 1964	N	1964 - 1993	Not visible on current aerial photography. May still be present.	Infilled Land	K
108	Infilled Land - Marshland	Historical Map 1964	N	1964 - 1993,	Potentially infilled by 1999.	Infilled Land	K
109	Infilled Land - Drain	Historical Map 1964	N	1964 - 1993		Infilled Land	K
114	Wastewater Treatment Works - Pumping Station	Historic Map 1994	Y	1985 - Present		PSC	J
115	Infilled Land - Drain	Historic Map 1965	N	1965	Exact location and size unclear. Label 'drain' present in 1965 map only.	Infilled Land	J
116	Embankment - Park Lug	Historic Map 1964, Hants.gov.uk	Y	1964 - Present	Historical map appear to show a tree lined artificially raised land to form an embankment. Embankment identified as Park Lug on historical maps. Hants.gov.uk describes Park Lug as a boundary for a medieval deer park.	PSC	J
117	Farm - Brooklands Farm	Historic Map 1868	Y	1868 - Present	Lodge Farm/Brooklands farm currently residential housing	PSC	K
118	Infilled Land - Marshland	National Library of Scotland	N	1840-1880		Infilled Land	K
119	Infilled Land - Channel	Historic Map 1869	N	1868 - 1957		Infilled Land	K
121	Infilled Land - Channel	Historic Map 1869	N	1868 - 1985		Infilled Land	K
122	Infilled Land - Channel	Historic Map 1869	N	1868 - 1896		Infilled Land	K
123	Infilled Land - Channel	Historic Map 1869	N	1868 - 1957	Partially infilled at different times, channel is last visible on 1957 map.	Infilled Land	K
125	Railway	National Library of Scotland	N	1868 - 1964	Marked as disused from 1964.	PSC	K
126	Pit - Sand	Historic Map 1957	N	1957	Only visible on 1957 Map. Not visible on 1910 or 1965 maps.	Infilled Land	J
127	Infilled Land - Pond	Historic Map 1868	N	1868 - 1909		Infilled Land	E
128	Infilled Land - Pond	Historic Map 1909	N	1896 - 1957		Infilled Land	J
129	Farm - Dalecote Farm	Historic Map 1965	Y	1965 - Present		PSC	J
130	Farm - Treefield Farm	Historic Map 1868	Y	1957 - Present		PSC	J
131	Agricultural - Orchard	ArcGIS Earth	Y	1868 - Present		PSC	K
132	Infilled Land - Pond	National Library of Scotland	N	1868 - 1957	Infilled by 1964. Land drain still present.	Infilled Land	K
133	Infilled land - Artificial Deposit	British Geological Survey	N	Unknown	BGS Artificial Ground	Infilled Land	K
134	Infilled Land - Pond	National Library of Scotland	N	1888 - 1914		Infilled Land	K
135	Farm - Winterhill Farm	National Library of Scotland, ArcGIS Earth	N	1888 - 1913		PSC	K
136	Garage	Google Earth	Y	Present		PSC	K
137	Works - Brick works	NLS	N	1888-1913 - 1949-70	1937-61 Works.	PSC & Infilled Land	K
138	Farm - Trullingham / Laurel Farm	NLS / Google Earth	Y	1868 - Present	Shown as Trullingham on maps from 1888-1913 to 1949-70. Laurel Farm not shown until 1949-70.	PSC	K
139	Infilled Land - Landscaped bank	National Library of Scotland	N	1896 - 1993		Infilled Land	K
140	Works - Brick works	Groundsure Winchester City Council	N	1868 - 1888	Recorded as a Brick Field with Kilns on the 1885 map. No longer recorded as a Brick Field on the 1896 map and forms the rear garden of a residential property.	Infilled Land	K
143	Farm - Merry Orchard Farm	Historic Map 1964	Y	1964 - Present	Cherry Orchard Farm/Merry, possibly part of Merrytree Farm/Merry Orchard Farm.	PSC	K
146	Infilled Land - Pond	Historic Map 1993	N	1993 - 2000	Only visible on 1993 map.	Infilled Land	K
148	Infilled Land - Pond	Historic Map 1868	N	1868 - 1964		Infilled Land	K
149	Infilled Land - Marshland	Historic Map 1964	Y	1964 - Present		Infilled Land	K
150	Farm - Tangier Farm	Historic Map 1868	Y	1868 - Present	Tangier Farm.	PSC	K
151	Infilled Land - Pond	National Library of Scotland	N	1888-1913 - 1947-1970		Infilled Land	L
152	Works - Brick works	National Library of Scotland, Winchester CC EHO	N	1892-1914	The 1940 plan records the site as disused with the south eastern area of the site divided up into fields. Post 1940 site is recorded as open ground with ponds. Site developed into housing post 1963 into housing.	PSC & Infilled Land	L
153	Landfill - Sand pit	National Library of Scotland, Winchester CC EHO	N	1892-1914 - 1945-1965		Infilled Land	L
154	Embankment	National Library of Scotland	Y	1888 - Present		PSC	L
155	Infilled Land - Made Ground (BGS)	National Library of Scotland, BGS	Y	1868 - Present		PSC	L
156	Garage	Google Maps	Y	Present	Vehicle maintenance.	PSC	L
157	Industrial Estate - Simba Business Park	Google Maps	Y	Present	Business park (fuel, workshops, general trade).	PSC	L
158	Garage	Google Earth	Y	Present	Fuel store / vehicle repair.	PSC	L
159	Waste Facility - Recycling / Scrap Yard	ArcGIS Earth	Y	Present		PSC	L
160	Farm - Rockery Farm	Google Earth	Y	Present		PSC	L
161	Worked Ground	Google Earth	N	2019 - 2020		PSC	L
162	Farm - Lowhill Farm	ArcGIS Earth	Y	1868 - Present		PSC	L
163	Farm - Ashbourne Stables	Google Earth	Y	1993 - Present		PSC	L
164	Fuel Filling Station	Historical Map 1963, Winchester City Council	N	1963 - 2010	Poor map coverage post 1963. The 1983 map shows the garage and a Coach House developed on the site, 1989 only labels the coach house.	PSC	L
165	Pit - Gravel	Historic Map 1868	N	1868 - 1957		Infilled Land	L
166	Pit - Gravel	Historic Map 1996	N	1888 - 1957	Replaced with houses.	Infilled Land	L

PSC No.	Name	Source	Current	Dates	Description	Category	Section
167	Works - Old Brick Yard	Historic Map 1868, Groundsure Historical Land Use layer	N	1868 - 1968	According to 2024 Groundsure Reports, unspecified pits and ground working are also associated with this PSC.	PSC & Infilled Land	L
168	Works - Brick works	Historic Map 1868	N	1868 - 1869	Brick Works, Clay Pits, Kilns.	PSC & Infilled Land	L
170	Infilled Land - Swimming Pool	Historic Map 1937	N	1937 - 1994		PSC & Infilled Land	L
171	Infilled Land - Pond	Historic Map 1989, ArcGIS Map	Y	1989 - Present	Large areas have been infilled and a smaller pond now exists here.	Infilled Land	L
172	Infilled Land - Pond	Historic Map 1989, ArcGIS Map	Y	1989 - Present	Large areas have been infilled and a smaller pond now exists here.	Infilled Land	L
173	Infilled Land - Pond	Historic Map 1989	N	1989 - 1993		Infilled Land	L
174	Infilled Land - Drain	Historic Map 1963	N	1963 - 1995		Infilled Land	L
175	Infilled Land - Drain	Historic Map 1963, ArcGIS Map	N	1868 - 1993	Only labelled as a drain in maps 1963 & 1968; maps as far back as 1868 show shape of the watercourse without the label, modern map shows a smaller watercourse crossing the western section. Eastern section potentially re-aligned to electricity pylon route	Infilled Land	L
177	Works - Unknown	Historic Map 1963	N	1963 - 1968	Labelled as 'works' in 1963 map, structures still visible in 1968 map, but not before 1963 or 1968.	PSC	L
178	Works - Unknown	Historic Map 1963	N	1963 - 1968	Labelled as 'works' in 1963 map, structures visible in 1968 map, but not before 1963 or after 1968 maps.	PSC	L
179	Pit - Gravel	Historic Map 1939	N	1939	Only visible in 1939 map.	Infilled Land	L
180	Pit - Gravel	Historic Map 1939	N	1937	Only visible in 1937 map.	Infilled Land	L
181	Pit - Gravel	Historic Map 1909	N	1909 - 1910		Infilled Land	L
182	Farm - Tee's Farm	Historic Map 1868	N	1868 - 1939		PSC	L
183	Infilled Land - Pond	Historic Map 1868	N	1868 - 1984		Infilled Land	L
184	Infilled Land - Pond	Historic Map 1868	N	1868 - 1896.		Infilled Land	L
185	Infilled Land - Pond	Historic Map 1868	N	1868 - 1963		Infilled Land	L
186	Farm - Upper Bambridge Farm	Historic Map 1968	Y	1868 - Present		PSC	L
187	Farm - Hill's Farm	Historic Map 1939	N	1868 - 1984		PSC	L
188	Infilled Land - Pond	Historic Map 1957	N	1957	Only visible in 1957 map.	Infilled Land	L
189	Infilled Land - Pond	Historic Map 1963	N	1963 - 1968		Infilled Land	L
190	Infilled Land - Pond	Historic Map 1963	N	1963	Only visible in 1963 map.	Infilled Land	L
191	Infilled Land - Pond	Historic Map 1868	N	1868 - 1937		Infilled Land	L
192	Tank	Historic Map 1963	N	1963	Only visible in 1963 map.	PSC	L
193	Farm - Leylands Farm	Historic Map 1968	N	1868 - 1968		PSC	L
196	Infilled Land - Pond	Historic Map 1868	N	1868 - 1939		Infilled Land	L
197	Infilled Land - Pond	Historic Map 1868	N	1868 - 1964		Infilled Land	L
198	Infilled Land - Pond	Historic Map 1868	N	1868 - 1964		Infilled Land	L
199	Infilled Land - Pond	Historic Map 1994	N	1992 - 2000	Date of infill unknown. Pond shown on 1994 map, no longer shown on modern map.	Infilled Land	L
201	Works - Depot	ArcGIS Earth	Y	Present	Metal warehouse frame and outdoor storage area with equipment.	PSC	E
202	Infilled Land - Lagoon	National Library of Scotland	N	1963 - Present		Infilled Land	M
204	Railway	Google Maps	Y	1868 - Present		PSC	M
206	Infilled Land - Pond	NLS, ArcGIS Map, Historic Map 1963	N	1963 - 1984	Pond size has changed through maps, notably from 1968 map, extended in some areas and infilled in others.	Infilled Land	M
208	Water Works	Historic Map 1888, ArcGIS Earth	Y	1888 - Present	First classed as Water works; then Sewage Works and sewage farms. Site structures include sewerage septic-tanks and filter beds.	PSC	M
209	Landfill - Bugle Farm Landfill	Groundsure Historical Maps, Environment Agency	N	1937 - 1963	Extraction of alluvial sediments (sand, stone, clay, peat, marl and gravel), previously a farm. No information on first last input or waste type from Environment Agency. SSP 2023 site visit did not find evidence of landfilling.	Infilled Land	M
210	Infilled Land - Pond	Historic Map 1963	N	1963	Infilled Pond, turns into drainage area.	Infilled Land	M
214	Landfill - Brambridge Landfill	Historic Map 1957, BGS, Hampshire County Council	N	1957	Former sand and gravel pit, Made Ground (BGS). Local authority records note 'Gas risk - no info, permeability - high'.	Infilled Land	M
215	Infilled Land - Pond	Historic Map 1963	N	1963 - 1999	Pond has changed in size over time.	Infilled Land	M
216	Infilled Land - Drain	Historic Map 1963	N	1963	Only labelled on 1963 map, present day northern section seems to now have a pond.	Infilled Land	M
217	Infilled Land - Pond	Historic Map 1963	N	1963	Watercourses still present. Pond shown until last historic map in 1993.	Infilled Land	M
218	Water Works - Pumping, Treatment, Tanks	Historic Map 1939	Y	1939 - 1963	Disused Pumping Station, Waterworks, Tanks. Site still present on 1993 map. Outline still present on 2022 Google earth, but only labelled on historical map up to 1963.	PSC	E
219	Infilled Land - Drain	Historic Map 1963	N	1963 - 1968		Infilled Land	M
220	Water Works - Filter beds	Historic Map 1937	N	1937 - 1957		PSC	M
221	Infilled Land - Drain	Historic Map 1963	N	1895 - 1980	Feature only labelled as a drain in 1963 map, however structure can be seen as far back as the 1895 map.	Infilled Land	E
222	Infilled Land - Drain	Historic Map 1963	N	1869 - 1980	Feature only labelled as a drain in 1963 Map, however structure can be seen as far back as the 1869 map.	Infilled Land	E
223	Infilled Land - Drain	Historic Map 1963	N	1963	Only visible in 1963 map.	Infilled Land	E
224	Infilled Land - Drain	Historic Map 1963	N	1908 - 1980	Drain extends further SE, however that appears to still be filled with water. Feature only labelled as a drain in 1963 Map, however structure can be seen as far back as the 1908 map	Infilled Land	E
225	Infilled Land - Sluice	Historic Map 1896	N	1869 - 1896		Infilled Land	M
226	Infilled Land - Channel	Historic Map 1896	N	1869 - 1999	Unsure exactly when infilled. Visible on last historical map of the area, not shown on Google Earth 1999 image.	Infilled Land	E
227	Infilled Land - Channel	Historic Map 1869	N	1869 - 1957		Infilled Land	E
228	Infilled Land - Channel	Historic Map 1869	N	1869 - 1909		Infilled Land	M
229	Infilled Land - Channel	Historic Map 1869	N	1869 - 1999	Unsure exactly when infilled. Visible on last historical map of the area, not shown on Google Earth 1999 image.	Infilled Land	E
230	Infilled Land - Channel	Historic Map 1869	N	1869 - 1957		Infilled Land	E
231	Infilled Land - Channel	Historic Map 1896	N	1869 - 1909		Infilled Land	M
232	Infilled Land - Channel	Historic Map 1896	N	1869 - 1968		Infilled Land	E
233	Infilled Land - Pond	Historic Map 1869	N	1869 - 1999	Unsure exactly when infilled. Visible on last historical map of the area, not shown on Google Earth 1999 image.	Infilled Land	E
234	Infilled Land - Channel	Historic Map 1870	N	1870 - 1999	Unsure exactly when infilled. Visible on last historical map of the area, not shown on Google Earth 1999 image.	Infilled Land	M
235	Infilled Land - Channel	Historic Map 1870	N	1870 - 1957		Infilled Land	M
236	Infilled Land - Channel	Historic Map 1870	N	1869 - 1999	Unsure exactly when infilled. Visible on last historical map of the area, not shown on Google Earth 1999 image.	Infilled Land	E
237	Infilled Land - Drain	Historic Map 1963	N	1963 - 1999	Unsure exactly when infilled. Visible on last historical map of the area, not shown on Google Earth 1999 image.	Infilled Land	E
238	Infilled Land - Drain	Historic Map 1963	N	1957 - 1999	Unsure exactly when infilled. Visible on last historical map of the area, not shown on Google Earth 1999 image.	Infilled Land	M
239	Infilled Land - Drain	Historic Map 1993	N	1932 - 1999	Unsure exactly when infilled. Visible on last historical map of the area, not shown on Google Earth 1999 image.	Infilled Land	E
240	Infilled Land - Drain	Historic Map 1958	N	1869 - 1987		Infilled Land	E
241	Infilled Land - Drain	Historic Map 1958	N	1869 - 1987		Infilled Land	E
242	Infilled Land - Drain	Historic Map 1958	N	1958 - 1987		Infilled Land	E
243	Farm - Bugle Farm	Historic Map 1968	Y	1968 - Present		PSC	E
256	Infilled Land - Pond	Historic Map 1993	N	1896-1993		Infilled Land	K
257	Infilled Land - Tank	Historic Map 1994	N	1994	Former tank, now part of a nursery (agricultural).	PSC & Infilled Land	G
258	Farm - Prior's Holds Farms	NLS	Y	1888-1913 - Present		PSC	E
259	Farm	NLS	Y	Pre-1999 - Present		PSC	E
260	Pit - Gravel	National Library of Scotland	N	1888 - 1913		Infilled Land	E
261	Farm - Heath Farm	Google Earth	Y	Present		PSC	E
262	Pit - Unspecified	National Library of Scotland	N	1888 - 1970	Local authority suggest pit present in 1878.	Infilled Land	E

PSC No.	Name	Source	Current	Dates	Description	Category	Section
263	Farm - Pigeionhouse Farm	National Library of Scotland	N	1856-1913 - 1949-70	Currently residential property.	PSC	E
264	Pit - Chalk	National Library of Scotland	N	1856-1913 - 1949-70		Infilled Land	E
265	Infilled Land - Pond	National Library of Scotland	N	1856-1931 - 1949-70		Infilled Land	E
266	Worked Ground	National Library of Scotland	N	1937-61 - 1949-70	1937-61 unspecified buildings.1949-70 (NLS) unspecified heaps. Area identified by local authority as a former anti-aircraft battery during 2nd world war.	PSC	E
267	Pit - Chalk	National Library of Scotland	N	1888-1913 - 1949-70		Infilled Land	E
268	Pit - Chalk	National Library of Scotland	N	1856-1913 - 1937-61		Infilled Land	E
269	Pit - Chalk	National Library of Scotland	N	1908 - 1913	Local authority suggest pit present in 1873.	Infilled Land	E
270	Pit - Chalk	National Library of Scotland	N	1888-1913 - 1949-70		Infilled Land	E
271	Pit - Chalk	National Library of Scotland	N	1888-1913 - 1937-61		Infilled Land	E
273	Water Works - Reservoir	National Library of Scotland	N	1938 - 1951	Reservoir(Portsmouth Water Works).	PSC	E
274	Infilled Land - Pond	National Library of Scotland	N	1937-61 - 1949-70		Infilled Land	E
275	Pit - Chalk	Historic Map 1860	N	1856 - 1980		Infilled Land	E
276	Pit - Chalk	Historic Map 1869	N	1856 - 1980		Infilled Land	E
277	Pit - Chalk	Historic Map 1869	N	1856 - 1978		Infilled Land	E
278	Pit - Chalk	Historic Map 1869, Groundsure Historical Industrial Land Uses layer	N	1856 - 1957		Infilled Land	E
279	Works - Kiln	Historic Map 1869	N	1869 - 1957		PSC	E
280	Infilled Land - Pond	Historic Map 1856	N	1856 - 1897		Infilled Land	E
281	Pit - Chalk	Historic Map 1873	N	1873 - 1980		Infilled Land	E
282	Works - Kiln	Historic Map 1856	N	1856 - 1957		PSC	E
283	Pit - Chalk	Historic Map 1856	N	1856 - 1993		Infilled Land	E
284	Pit - Chalk	Historic Map 1856	N	1856 - 1895		Infilled Land	E
285	Pit - Chalk	Historic Map 1856	N	1856 - 1873		Infilled Land	E
286	Infilled Land - Well	Historic Map 1868	N	1868 - 1965		Infilled Land	E
287	Pit - Chalk	Historic Map 1873	N	1873 - 1978		Infilled Land	E
288	Pit - Chalk	Historic Map 1895	N	1895 - 1980		Infilled Land	E
289	Pit - Chalk	Historic Map 1895	N	1895 - 1978		Infilled Land	E
290	Pit - Chalk	Historic Map 1895	N	1895 - 1957		Infilled Land	E
291	Pit - Chalk	Historic Map 1895	N	1895 - 1993		Infilled Land	E
292	Pit - Chalk	Historic Map 1895	N	1895 - 1941		Infilled Land	E
293	Pit - Chalk	Historic Map 1895	N	1895 - 1908		Infilled Land	E
294	Pit - Chalk	Historic Map 1897	N	1897 - 1972		Infilled Land	E
295	Pit - Chalk	Historic Map 1909	N	1909 - 1957		Infilled Land	E
296	Infilled Land - Pond	Historic Map 1909	N	1868 - 1957		Infilled Land	E
297	Military - Fort Widley	Historic Map 1963	Y	1850 - 1972	Various uses. Last military use 1972. See Zeticia Report P14032-24-R10 Site E. Sold to Portsmouth Council 1972.	Military	E
298	Farm - New Barns Farm	Historic Map 1968	Y	1968 - Present		PSC	E
299	Infilled Land - Pond	National Library of Scotland	N	1860 - 1913		Infilled Land	D
300	Pit - Chalk	National Library of Scotland	N	1888 - 1913		Infilled Land	D
301	Infilled Land - Pond	National Library of Scotland	N	1892 - 1914		Infilled Land	D
302	Pit - Chalk	National Library of Scotland, Havant Borough Council	N	1866 - 1980	Known or suspected filled ground.	Infilled Land	D
303	Pit - Chalk	National Library of Scotland	N	1888 - 1913		Infilled Land	D
304	Military - Farlington Redoubt	https://www.heritagegateway.org.uk/Gateway/. Zetica Detailed UXO report.	N	1860s - 1991	1860s - Farlington Redoubt, former barracks. Chalk pit 1931 - 1991. Chalk pit used as firing range during 1944.	Infilled Land	D
305	Waste Facility - Physical Treatment Facility	Google Earth	Y	Present	L&S Waste Management. EA Permit Number - DP3295HN, A16 : Physical Treatment Facility.	PSC	D
306	Pit - Chalk	National Library of Scotland	N	1860 - 1913	Former quarry	Infilled Land	D
307	Water Works - Treatment Works	Groundsure, Google Earth	Y	1931 - Present	Filter beds shown in the northern portion of the map. Filter tanks also shown on maps.	PSC	D
308	Water Works - Reservoir	National Library of Scotland	N	1897 - Present		PSC	D
310	Garage	Google Earth	Y	Present	Tyre repair / replacement garage.	PSC	E
311	Pit - Chalk	Historic Map 1859	N	1859 - 1932	Labelled 'old chalk pit' on 1859 map. Shown as 'Old chalk pit' and 'Collyer's Pit' on 1897 map buildings in the central area. Cottages shown by 1951.	Infilled Land	D
313	Pit - Chalk	National Library of Scotland	N	1859 - 1913	Eastern part extends across pipeline route.	Infilled Land	D
314	Pit - Unspecified	National Library of Scotland	N	1860-1913 - 1949-1970	Labelled 'The Dell'	Infilled Land	D
315	Infilled Land - Pond	National Library of Scotland	N	1869 - 1914		Infilled Land	D
316	Farm - Highbank Farm	National Library of Scotland	N	1970 - 1973		PSC	D
317	Infilled Land - Pond	National Library of Scotland	N	1888 - 1973		Infilled Land	D
318	Infilled Land - Pond	National Library of Scotland	N	1860 - 1913		Infilled Land	D
319	Water Works - Reservoir	National Library of Scotland	N	1897 - 1991	Reservoir(Portsmouth Water Works).	Infilled Land	D
320	Railway - Portsdown & Horndean (Tram)	Historic Map 1910, Wikipedia	N	1903 - 1935	Portsdown & Horndean Light railway (tram).	PSC	D
321	Electricity Sub Station (Small)	ArcGIS Earth	Y	1960 - Present		PSC	D
322	Pit - Chalk	Historic Map 1859	N	1859 - 1995		Infilled Land	D
323	Pit - Chalk	Historic Map 1859	N	1859 - 1971		Infilled Land	D
324	Pit - Chalk	Historic Map 1859	N	1859 - 1963		Infilled Land	E
325	Pit - Clay	Historic Map 1860, Havant Borough Council	N	1860 - 1907	Known or suspected Made Ground (local authority records).	Infilled Land	D
326	Pit - Sand	Historic Map 1860, Environment Agency, Havant Borough Council	N	1860 - 1960	Privett Road Sand Pit. Input data and type unknown.	Infilled Land	D
327	Infilled Land - Pond	Historic Map 1860	N	1860 - 1991		Infilled Land	D
328	Infilled Land - Pond	Historic Map 1860	N	1860 - 1869		Infilled Land	D
329	Pit - Chalk	Historic Map 1866	N	1866 - 1969		Infilled Land	D
330	Pit - Chalk	Historic Map 1866, Havant Borough Council	N	1866 - 1897	Known or suspected filled ground (local authority records).	Infilled Land	D
331	Pit - Unspecified	Historic Map 1868	N	1868 - 1897	Davis's Grave / Beris's Grave	Infilled Land	D
332	Infilled Land - Pond	Historic Map 1895	N	1895 - 1937		Infilled Land	D
333	Infilled Land - Pond	Historic Map 1895	N	1895 - Present		Infilled Land	D
334	Infilled Land - Pond	Historic Map 1895	N	1895 - 1930		Infilled Land	D
335	Infilled Land - Pond	Historic Map 1895	N	1895 - 1937		Infilled Land	D
336	Pit - Gravel	Historic Map 1897, Havant Borough Council, Groundsure Historical Industrial Use layer	N	1897 - 1930	Known or suspected filled ground (local authority records).	Infilled Land	D
337	Infilled Land - Pond	Historic Map 1898	N	1898 - 1907		Infilled Land	D
338	Pit - Sand	Historic Map 1930	N	1930 - 1937		Infilled Land	D
339	Pit - Sand	Historic Map 1930	N	1930 - 1952		Infilled Land	D

PSC No.	Name	Source	Current	Dates	Description	Category	Section
340	Military - Fort Purbrook	Historic Map 1932	Y	1861 - 1968	Various uses. Last military use 1968. See Zeticia Detailed UXO Report P14032-24-R11, D Site.	Military	D
341	Agricultural - Nursery	Historic Map 1937	N	1937 - 1963		PSC	D
344	Water Works	Historic Map 1950	Y	1950 - Present	Drain (covered).	PSC	D
345	Infilled Land - Drain	Historic Map 1950	N	1950 - 1993	Drain (covered).	Infilled Land	D
346	Infilled Land - Drain	Historic Map 1950	N	1950 - 1993		Infilled Land	D
347	Infilled Land - Drain	Historic Map 1950	N	1950 - 1973		Infilled Land	D
348	Infilled Land - Drain	Historic Map 1950	N	1950 - 1973		Infilled Land	D
349	Electricity Sub Station (Small)	Historic Map 1951	Y	1951 - Present		PSC	D
350	Infilled Land - Pond	Historic Map 1952	N	1952 - 1959		Infilled Land	D
351	Infilled Land - Drain	Historic Map 1960	N	1960 - 1979		Infilled Land	D
352	Farm - Highbank Farm	Historic Map 1960	N	1960 - 1973		PSC	D
353	Infilled Land - Pond	Historic Map 1960	N	1960 - 1973		Infilled Land	E
354	Infilled Land - Drain	Historic Map 1960	N	1960 - 1975		Infilled Land	E
355	Infilled Land - Drain	Historic Map 1960	Y	1960 - Present	Looks to be covered but still mapped. Possibly realigned but Groundsure show a watercourse in this location by woodland	Infilled Land	E
356	Infilled Land - Swimming Pool	Historic Map 1969	N	1969 - 1982	Swimming Pool.	Infilled Land	D
357	Electricity Sub Station (Small)	Historic Map 1968	Y	1968 - Present		PSC	D
358	Water Works	Historic Map 1969	Y	1969 - Present	Reservoir (Covered).	Infilled Land	D E
359	Infilled Land - Swimming Pool	Historic Map 1969	N	1969 - 1973	Swimming Pool.	Infilled Land	D
360	Infilled Land - Swimming Pool	Historic Map 1969	N	1969 - 1973	Swimming Pool.	Infilled Land	D
361	Pit - Chalk	Historic Map 1969	N	1859 - 1980	Northern portion crosses pipeline route.	Infilled Land	D
363	Electricity Sub Station (Small)	Historic Map 1971	Y	1971 - Present		PSC	D
364	Water Works	Historic Map 1973	N	1973	Tank.	PSC	D
365	Water Works	Historic Map 1973	N	1973 - 1991		PSC	D
366	Water Works - Reservoir	Historic Map 1991	Y	1991 - Present	Covered Reservoir.	Infilled Land	D
367	Pit - Chalk	Historic Map 1993	N	1991 - Present	Potentially Infilled.	Infilled Land	D E
368	Infilled Land - Marshland	Historic Map 1993	Y	1993 - Present		Infilled Land	E
369	Infilled Land - Marshland	Historic Map 1993	Y	1993 - Present		Infilled Land	E
370	Infilled Land - Made Ground (BGS)	Historic Map 1866, Havant Borough Council	N	1866 - 1974	Potential infill with Earth Spoils, Domestic Refuse, Incinerator Ash (local authority records).	Infilled Land	WRP (C), Budds Farm to WRP (C)
372	Infilled Land - Marshland	Historic Map 1866	N	1866 - 1993	Broad Marsh.	Infilled Land	WRP (C), Budds Farm to WRP (C), D
375	Infilled Land - Watercourse	Historic Map 1867	N	1863 - 1969	Former Hermitage Stream to Storehouse Lake.	Infilled Land	WRP (C), Budds Farm to WRP (C)
378	Wastewater Treatment Works - Budds Farm	Historic Map 1969	Y	1969 - Present	Budd's Farm Sewage Works.	PSC	Budds Farm (C), Budds Farm to WRP (C)
379	Wastewater Treatment Works - Lagoons	Historic Map 1969	N	1969 - 1991	Sewage Sludge.	Infilled Land	Budds Farm (C), Budds Farm to WRP (C)
381	Works - Aggregate	Historic Map 1991	Y	1991 - Present	Aggregate works currently owned by Tarmac. Hanson ready mixed concrete plant located on site.	PSC	Budds Farm to WRP (C)
382	Works	Google Earth, Historic Map 1971, Havant Borough Council	Y	1958 - Present	Garage / Depot / Works / Factory. Area of known or suspected filled ground (local authority records).	PSC	WRP to Havant Thicket Reservoir (B)
383	Railway - Building and siding	National Library of Scotland	N	1892 - 1914	Historical Maps do not detail use. Possibly for storage.	PSC	WRP to Havant Thicket Reservoir (B)
385	Infilled Land - Pond	National Library of Scotland	N	1892 - 1914	In proposed tunnel area.	Infilled Land	WRP to Havant Thicket Reservoir (B)
386	Infilled Land - Watercourse	National Library of Scotland	N	1888 - 1913		Infilled Land	WRP to Havant Thicket Reservoir (B)
387	Works - Corn Mill	National Library of Scotland, Historic Map 1866	N	1866 - 1951	Including Mills Dams and pond areas that have been infilled.	PSC	WRP to Havant Thicket Reservoir (B)
388	Wastewater Treatment Works	National Library of Scotland	N	1931 - 1966	Tanks and filter beds shown on 1939 historical map onwards.	PSC	WRP to Havant Thicket Reservoir (B)
389	Infilled Land - Watercourse	National Library of Scotland, Havant Borough Council	N	1892 - 1978	Area of known or suspected infilled soils (local authority records)	Infilled Land	WRP to Havant Thicket Reservoir (B)
391	Railway - South Western Railway	Historic Map 1866	Y	1866 - Present	South Western Railway branch line.	PSC	WRP to Havant Thicket Reservoir (B), D
392	Infilled Land - Pond	Historic Map 1866	N	1866 - 1951		Infilled Land	WRP to Havant Thicket Reservoir (B)
393	Infilled Land - Pond	Historic Map 1886	N	1868 - 1971		Infilled Land	WRP to Havant Thicket Reservoir (B)
394	Infilled Land - Pond	Historic Map 1886	N	1868 - 1907		Infilled Land	WRP to Havant Thicket Reservoir (B)
395	Water Works - Tank	Historic Map 1939	N	1939 - 1961		PSC	WRP to Havant Thicket Reservoir (B)
396	Water Works - Tank	Historic Map 1939	Y	1939 - Present		PSC	WRP to Havant Thicket Reservoir (B)
397	Water Works - Tank	Historic Map 1939	Y	1939 - Present		PSC	WRP to Havant Thicket Reservoir (B)
398	Water Works - Tank	Historic Map 1939	Y	1939 - Present		PSC	WRP to Havant Thicket Reservoir (B)
399	Water Works - Tank	Historic Map 1939	Y	1939 - Present		PSC	WRP to Havant Thicket Reservoir (B)
400	Water Works - Tank	Historic Map 1939	Y	1939 - Present		PSC	WRP to Havant Thicket Reservoir (B)
401	Water Works - Tank	Historic Map 1939	Y	1939 - Present		PSC	WRP to Havant Thicket Reservoir (B)
403	Wastewater Treatment Works	Historic Map 1952	N	1952 - 1957	1952 map shows sludge beds, filter beds, settling tanks, congestion tanks (east of Dunsbury Way) and humus tanks (west side of Dunsbury Way). Now an industrial estate.	PSC	WRP to Havant Thicket Reservoir (B)
405	Infilled Land - Pond	Historic Map 1953	N	1953 - 1971	Pond likely infilled, now forms part of residential gardens.	Infilled Land	WRP to Havant Thicket Reservoir (B)
406	Infilled Land - Pond	Historic Map 1953	N	1953 - 1973		Infilled Land	WRP to Havant Thicket Reservoir (B)
407	Water Works - Pumping station	Historic Map 1955	N	1955 - 1998		Infilled Land	WRP to Havant Thicket Reservoir (B)
408	Farm - Health Farm	Historic Map 1955	N	1955 - 1973	Farm	PSC	WRP to Havant Thicket Reservoir (B)
409	Infilled Land - Pond	Historic Map 1955	N	1955 - 1978	Pond, potentially infilled land	Infilled Land	WRP to Havant Thicket Reservoir (B)
411	Infilled Land - Drain	Historic Map 1955	N	1955 - 1978		Infilled Land	WRP to Havant Thicket Reservoir (B)
413	Infilled Land - Drain	Historic Map 1963	N	1963 - 1973		Infilled Land	WRP to Havant Thicket Reservoir (B)
414	Infilled Land - Drain	Historic Map 1963	N	1955 - 1973		Infilled Land	WRP to Havant Thicket Reservoir (B)
415	Farm - Hook's Farm	Historic Map 1966	N	1966 - 1971	Farm.	PSC	WRP to Havant Thicket Reservoir (B)
416	Infilled Land - Drain	Historic Map 1966	N	1966 - 1971	Drain - Infilled Land.	Infilled Land	WRP to Havant Thicket Reservoir (B)
417	Infilled Land - Drain	Historic Map 1966	N	1961 - 1973		Infilled Land	WRP to Havant Thicket Reservoir (B)
418	Infilled Land - Drain	Historic Map 1967	N	1967 - 1987		Infilled Land	E
420	Infilled Land - Swimming Pool	Historic Map 1974	Y	1974 - 1993	Swimming Pool - No Longer present, last record 1993.	PSC	WRP to Havant Thicket Reservoir (B)
421	Infilled Land - Pond	National Library of Scotland	N	1892 - 1914		Infilled Land	E
422	Farm - Dunsbury Hill Farm	National Library of Scotland, Google Earth	N	1840-1880- 1999	Last available map shown 1963 NLS map. Not shown on 1999 google photography.	PSC	E
424	Infilled Land - Pond	Historic Map 1952	Y	1866 - 1966	Pond - Potentially still present but obscured by trees.	Infilled Land	Havant Thicket Reservoir (A)
425	Infilled Land - Swimming Pool	Historic Map 1952	N	1952 - 1956	Swimming Pool - Part of Stockheath Naval Camp.	Infilled Land	Havant Thicket Reservoir (A)
426	Embankment	Historic Map 1956	N	1956 - 1964	Embankment - Crosses Pipeline Route.	PSC	WRP to Havant Thicket Reservoir (B)
427	Infilled Land - Drain	Historic Map 1975	Y	1975 - Present	Drain - Likely still present, potentially obscured by trees.	Infilled Land	Havant Thicket Reservoir (A)
428	Infilled Land - Drain	Historic Map 1988	N	1988 - 1991		Infilled Land	Havant Thicket Reservoir (A)
429	Infilled Land - Marshland	Historic Map 1866	N	1866 - 1938		Infilled Land	WRP (C), WRP to Bedhampton Springs (B)
430	Infilled Land - Pond	Historic Map 1951	N	1939 - 1969	Potentially still present.	Infilled Land	D

PSC No.	Name	Source	Current	Dates	Description	Category	Section
431	Works - Portsdown Windmill	Historic Map 1869	N	1856 - 1869		PSC	E
432	Pit - Unspecified	Historic Map 1980, Groundsure Historical Industrial Land use and waste disposal layers	N	1856 - 1991	Disused pit on 1980 map. Widley Dell on previous maps. Groundsure Waste Disposal layer notes 1952 used as landfill or other waste disposal site. Site may extend southwest outside of boundary.	Infilled Land	E
433	Pit - Chalk	Historic Map 1941	N	1908 - 1957		Infilled Land	E
434	Pit - Chalk	Historic Map 1908	N	1908 - 1993		Infilled Land	E
435	Pit - Gravel	Historic Map 1868	N	1868 - 1950		Infilled Land	G
437	Infilled Land - Worked Ground (BGS)	BGS	N	1963 - 1993	Appears to have been infilled by 1993.	Infilled Land	M
438	Infilled Land - Made Ground (BGS)	BGS	N	Unknown		Infilled Land	M
439	Pit - Unspecified	Groundsure Historical Land Use Layer	N	1869 - 1957		Infilled Land	L
440	Infilled Land - Made Ground (BGS)	BGS	N	Unknown		Infilled Land	L
441	Landfill - Crowd Hill Landfill	Environment Agency	N	1962 - 1972	SW Phase 2 ground investigation 2023 found very little to denote landfill. Approx 0 - 0.5m MG overlying natural deposits.	Infilled Land	L
442	Works - Brick works	Groundsure Historical Industrial Land Use layer	N	1895		PSC	L
443	Landfill - Land at Rossgarth Landfill	Hampshire County Council, Environment Agency. Phase 3c GI	N	1988 - 1995	EA input 1988 to 1995 (licence surrendered).Inert waste. Local authority note - 'Gas risk - Gassing, Permeability - high'. Boundary extended west following Phase 3c GI hole 3J5007DS. MG to 3.6m bgl inc brick, concrete, glass, ceramics, cement.	Infilled Land	J
444	Works - Smithy	Groundsure Historical Industrial Land Use layer	N	1910		PSC	H
445	Worked Ground - unspecified	Groundsure Historical Land Use Layer	N	1965 - 1987	LiDAR shows ground level lower than surrounding area. Potentially not infilled.	Infilled Land	H
446	Worked Ground - Unspecified heap	Groundsure Historical Industrial Land Use layer	N	1868 - 1965		PSC	H
447	Pit - Unspecified	Groundsure Historical Industrial Land Use layer	N	1868 - 1869		Infilled Land	H
448	Landfill - Firth Lane Sand Pit	Winchester City Council, Hampshire County Council, Environment Agency, Google Earth	N	1998 - 2007	A01: co-disposal landfill site (EA), Licence application desk study undertaken 1997. Google Earth appears to show site closure by 2007.	Infilled Land	H
449	Landfill - Quob Copse Landfill	Environment Agency	N	1971 - 1972	Droxford Rural District Council, household / commercial landfill.	Infilled Land	G
450	Worked Ground - unspecified	Groundsure Historical Industrial Land Use layer	N	1908 - 1938		Infilled Land	G
451	Fuel Filling Station	Groundsure Historical Garages Layer	N	1961 - 1993	Information from Groundsure layer. Site is currently residential properties and a public house.	PSC	E
452	Infilled Land - Christ Church, London Road	Havant Borough Council	N	1897 - 1998	Waste type - Putrescible.	PSC	D
453	Pit - Unspecified	Groundsure Historical Industrial Land Use layer	N	1895		Infilled Land	D
454	Landfill - Disused Sand Pit B Brick and Tile works	Groundsure Historical Industrial Land use / Havant Borough Council	N	1930 - 1938	Local authority - suspected filled ground along the south of site.	Infilled Land	D
455	Pit - Unspecified	Groundsure Historical Industrial Land Use layer	N	1898 - 1938		Infilled Land	D
456	Landfill	Portsmouth City Council	N	1952	Waste disposal / unknown infill. Considered a landfill by the local authority.	Infilled Land	D
457	Pit - Chalk	Havant Borough Council, Groundsure Historical Industrial Land Use layer	N	1895 - 1963	Unknown material used to fill a small quarry hole.	Infilled Land	D
459	Infilled Land - Made Ground (BGS)	BGS / Havant Borough Council	Y	1969 - Present	Known or suspected infilled soils (local authority records). Historical mapping shows potential highways construction activities.	Infilled Land	WRP to Havant Thicket Reservoir (B), WRP (C), Budds Farm to WRP (C), D
460	Landfill - Land South of Budds Farm	Environment Agency, Havant Borough Council	N	2014	Bund erosion and water egress noted to EA. Former domestic waste landfill.	Infilled Land	Budds Farm (C), Budds Farm to WRP (C)
461	Infilled Land - Made Ground (BGS)	BGS	N	Unknown		Infilled Land	E
462	Landfill - Bedhampton Waterworks	Environment Agency, Havant Borough Council, Groundsure Historical Industrial Land use	N	Unknown	L05 inert landfill registered to Portsmouth Water. Area of known or suspected infilled soils (local authority records).	Infilled Land	WRP to Havant Thicket Reservoir (B)
463	Worked Ground - Heap	Groundsure Historical Industrial Land Use layer	N	1910 - 1963	Unspecified heap apart from 1931 which is recorded as unspecified ground workings. Tank recorded on site between 1897 - 1910.	Infilled Land	Havant Thicket Reservoir (A)
464	Pit - Unspecified	Groundsure Historical Industrial Land Use layer	N	1963 - 1991	Potential embankment on Historical Mapping.	Infilled Land	WRP to Havant Thicket Reservoir (B)
465	Pit - Unspecified	Groundsure Historical Industrial Land Use layer	N	1907 - 1963		Infilled Land	WRP to Havant Thicket Reservoir (B)
466	Landfill - Harts Farm Landfill	Environment Agency	N	1978 - unknown	Household waste landfill, site ref FHA15, 1760/1/13/6.	Infilled Land	WRP (C), Budds Farm to WRP (C), D
467	Worked Ground - unspecified	Groundsure Waste Disposal and Historical Industrial Uses layers	N	1952	Unknown hole. Potentially landfilled.	Infilled Land	E
468	Military - Research Facility	Google Maps, http://www.portsdown-tunnels.org.uk/	Y	1950 - Present	QinetiQ Technology Business park. Potential tanks on site.	Military	E
469	Military - Fort Southwick	Winchester County Council, / http://www.portsdown-tunnels.org.uk/	N	1861 - 2002	Various uses. Last military use 1968. See Zeticia Detailed UXO Report P14032-24-R11, D Site.	Military	E
470	Worked Ground - unspecified	Groundsure Historical Industrial Land Use layer	N	1986 - 1987		Infilled Land	H
471	Worked Ground - unspecified	Groundsure Historical Industrial Land Use layer	N	1987		Infilled Land	J
472	Landfill - Crowd Hill Landfill	BGS Historical Landfill point	N	Unknown	Risk code G2, boundaries unknown, location shown at point.	Infilled Land	L
473	Worked Ground - unspecified	Groundsure Historical Industrial Land Use layer	N	1957 - 1968		Infilled Land	L
474	Military - Wintershill Hall (Former military / civilian base)	https://wintershill.net/about/	N	1941 - 1946	Headquarters of the Hampshire Fire Service. The lower lawn was covered in Nissen huts for offices and additional accommodation. 20m south of BPT-4.	PSC	K
475	Garage	Google Earth, Site visit 04052023	Y	Unknown - Present	Streetview shows Motorhome Service Centre. Above ground tank (metal) and bunded tank (plastic) at approx. 456320, 111685.	PSC	G
476	Works - Parchow Groundworks	Ground investigation site visit 26 March 2023	Y	Unknown - Present	Former telephone exchange.	PSC	E
478	Infilled Land - Artificial Ground	ROL-2-562-575-0135-1979 MAP	N	1937 - 1993	Artificial Land / Worked Ground may be associated with removal of woodlands	Infilled Land	M
479	Water Works - Pump house	A60-21-SU-0089	Y	1988 - Present	Pump House.	PSC	D
480	Pit - Various	HAM-076-10-XX-1909-G-01	N	1909 - 1932	Potentially Infilled Pit (Sand and Gravel) associated with RTD deposits.	PSC	D
481	Waste Facility - Incinerator	Groundsure 2023 Report	N	1987 - 1993		PSC	WRP (C)
482	Infilled Land - Pond	SU51SE-03-G-1957	Y	1939 - 1957	Former Un-named building which at present is an infilled pond (associated with the River Meon).	PSC	G
483	Farm - Crockerhill Farm	SU-51SE-03-G-1957	Y	1957		PSC	F
484	Farm - Building (potential)	SU-51E-03-G-1957	Y	1957		PSC	G
485	Wastewater Treatment Works	SU-51SE-01-G_1987	Y	1987	Sewage Works with 5 tanks, two settlement tanks.	PSC	G
487	Building - Un-named	HAM-075-03-XX-1941-G-01_1941	Y	1941		PSC	E
488	Infilled Land - Pond	ROL-4-1741-1750-0290_1986	Y	1986		Infilled Land	F
490	Infilled Land - Pond	SU810_S1_SEP_1994_1994	Y	1994		Infilled Land	F
492	Infilled Land - Pond	SU6109_1965_1965	Y	1965		Infilled Land	E
493	Railway - Meon	SU-51SE-03-G_1957	Y	1909 - 1957	Meon Railway.	PSC	G
494	Infilled Land - Pond	SU5909_S1_NOV_1992_1992	Y	1992		Infilled Land	F
495	Water Works - Reservoir (covered)	SU-51SE-01-G-1987	Y	1987		PSC	F G
496	Pit - Gravel	HAM-075-02-xx-1932	N	1932		Infilled Land	F
498	Wastewater Treatment Works	Groundsure Google Earth	Y	1965 - Present		PSC	E
499	Landfill	Portsmouth Borough Council Waste Disposal GIS	N	1952 - 1980	Potential landfill recorded by local authority, unknown infill (dated 1952 by local authority).	Infilled Land	E
500	Military - Belmont Camp II	Safelane WfL UXO Report 9714 RA Section 9.1.3	N	1940 - 1950	Camp's facilities included classrooms, training grounds, barracks, and administrative buildings.	PSC	D
501	Military - Stockheath Naval Camp	Safelane WfL UXO Report 9714 RA Section 9.1.3	N	1941 - 1970	Nissen huts in west of Camp, assault course south of PSC 425 swimming pool, practice trench in the north. South of PSC 428 drain. Site demolished in 1950 to 1970 and replaced with housing	Military	WRP to Havant Thicket Reservoir (B)
502	Military - HMS Daedalus III	Safelane WfL UXO Report 9714 RA Section 9.1.3 / Zetica P14032-24-R1-A Zetica UXO Desk Study Havant Thicket Pipeline	N	1940 - 1950	Camp's facilities included classrooms, training grounds, barracks, and administrative buildings. Eastern extent passes pipeline route.	Military	WRP to Havant Thicket Reservoir (B)
503	Military - Fraser Naval Camp	Safelane WfL UXO Report 9714 RA Section 9.1.3	N	1940 - 1950	Camp's facilities included classrooms, training grounds, barracks, and administrative buildings. Northern part of the former barracks potentially passes through the pipeline route.	Military	WRP to Havant Thicket Reservoir (B)
504	Military - Belmont Naval Camp	Safelane WfL UXO Report 9714 RA Section 9.1.3	N	1940 - 1950	Camp's facilities included classrooms, training grounds, barracks, and administrative buildings.	Military	WRP to Havant Thicket Reservoir (B)
505	Farm - Widley Farm	Groundsure 2023 Report Winchester County Council	N	1860 - 1980	Farm buildings. Unknown filled ground (possible pond) noted in east of site by local authority	PSC	E
507	Farm - Offwell Farm	Groundsure 2023 Report	Y	1867 - Present		PSC	E
508	Landfill - Whitedell Farm	Environment, Agency Groundsure	N	1980 - 1982	Licence 10/14, FFA7, 1760/7 - Inert landfill.	PSC	F
509	Farm - Cloverfield Farm	OS Zoomstack maps	Y	2005 - Present		PSC	H
510	Worked Ground	Google Maps	Y	2023		PSC & Infilled Land	F
511	Worked Ground	Google Maps	Y	2023	Potential stockpile of unknown soil.	Infilled Land	F
512	Farm - Pig farm (potential)	Google Earth (2005)	N	2005 - 2007	Potential pig Farm.	PSC	H

PSC No.	Name	Source	Current	Dates	Description	Category	Section
513	Farm - Barn	Google Maps, Groundsure Maps	Y	1986 - Present		PSC	G
514	Infilled Land - Made Ground (asbestos)	WfL Phase 2 Ground Investigation	Y	2023	Made Ground up to 0.7m bgl including brick, tile and macadam. Asbestos cement (0.147%) detected at 0.5m bgl. Source not delineated.	Infilled Land	J
515	Infilled Land - Artificial Ground	Groundsure Historic Maps	N	1937 - 1993		Infilled Land	M
516	Pit - Gravel	Groundsure Historic Maps, Winchester City Council Contaminated Land Data	N	1938 - 2010		Infilled Land	M
517	Farm - Storage area	Google Earth	Y	2015 - Present	Storage area.	PSC	M
519	Infilled Land - Artificial Ground	Winchester City Council Contaminated Land Data (Site Reports)	N	2016		Infilled Land	M
520	Infilled Land - Marshland	Groundsure Historic Maps	N	1868 - 1968		Infilled Land	L
522	Infilled Land - Marshland	Groundsure Historic Maps	N	1939 - 1968		Infilled Land	L
523	Farm - Storage area	Google Earth	Y	2000 - Present	Storage area.	PSC	L
524	Infilled Land - Watercourse	Groundsure Historic Map 1869, LIDAR data	N	1869 - 1888		Infilled Land	L
525	Infilled Land - Pond	Groundsure Historic Maps, LIDAR data, Google Earth	N	1868-1992		Infilled Land	L
526	Farm - Storage area	Google Earth, LIDAR data	Y	2014 - Present	Storage area for farm / stables to the southeast.	PSC	L
527	Embankment	Groundsure Historic Maps, LIDAR data	Y	1964 - Present		Infilled Land	L
528	Agricultural - Orchard	Groundsure Historic Maps	N	1868 - 1957		PSC	K
529	Worked Ground - Stockpile	Google Earth, LIDAR data	N	2012 - Present	Ground workings. Soil heap first visible in 2012, still present but overgrown in 2024 aerial photography.	PSC	K
530	Worked Ground - unspecified	Google Earth, Google Maps, LIDAR data	Y	2019 - Present		PSC	K
531	Infilled Land - Watercourse	Groundsure Historic Maps	N	1868 - 1964		Infilled Land	K
532	Infilled Land - Made Ground (BGS)	BGS, LIDAR data, Google Earth	N	Unknown	BGS Made Ground	Infilled Land	K
533	Embankment - (potential)	Groundsure Historic Maps, LIDAR data	Y	1964 - Present		PSC	J
534	Embankment	Groundsure Historic Maps, LIDAR data	Y	1964 - Present		PSC	J
535	Tank	Groundsure Historic Maps, Google Earth	N	1993 - 2012		PSC	J
536	Infilled Land - Pond	Groundsure Historic Maps, LIDAR data	N	1869 - 1964		Infilled Land	J
538	Farm - Storage area	Google Earth, Google Maps	Y	2019 - Present	Storage area.	PSC	J
539	Worked Ground - Stockpile	Google Earth, LIDAR data	Y	2014 - Present	Unspecified heap.	PSC	J
540	Farm - Storage area	Google Earth, Google Maps	Y	2012 - Present	Storage area.	PSC	J
541	Agricultural - Orchard	Groundsure Historic Maps	N	1868 - 1968		PSC	J
542	Infilled Land - Pond	Groundsure Historic Maps, LIDAR data	N	1868 - 1957		Infilled Land	J
543	Infilled Land - Pond	Groundsure Historic Maps	N	1868 - 1869		Infilled Land	H
544	Infilled Land - Marshland	Groundsure Historic Maps	N	1895 - 1896		Infilled Land	H
545	Farm - Building	Google Earth	Y	2005 - Present	Farm building.	PSC	H
546	Farm - Yard / Storage area	Google Earth	Y	2012 - Present	Yard / Storage area.	PSC	H
547	Farm	Google Earth	Y	pre-1999 - Present		PSC	H
548	Farm	Groundsure Historic Maps, Google Earth	Y	1868 - Present		PSC	K
582	Filter Beds or Potential Tanks	Historical Maps A28-17-SU7006SW 1959, Google Earth	N	1959-2007		PSC & Infilled Land	B
584	Tanks	Historical Maps 1969	Y	1969 - Present		PSC	D
587	Tanks	Historical Maps - 1939 HAM-076-10-XX-1939	N	1939 - 1969		PSC & Infilled Land	WRP to Havant Thicket Reservoir (B)
588	Farm - Mayles Farm	Historical Map - A48-06-SU-0380-1980	Y	1980 - Present		PSC	G
592	Pit - Gravel	Groundsure Historical Maps	N	1859 - 1985		Infilled Land	F
593	Infilled Land - Reservoir	Historical Maps - HAM-075-01-XX-1910	N	1897 - 1910		Infilled Land	F
594	Infilled Land - Pond	Historical Maps - HAM-075-01-XX-1859	N	1856 - 1957		Infilled Land	F
595	Farm - Castle Farm	Historical Maps HAM-067-13-XX-1897-G-01	Y	1897 - Present		PSC	G
596	Wastewater Treatment Works - Filter beds / tanks	Historical Maps - A54-02-SU-0360_1969	N	1939 - 1993		PSC & Infilled Land	WRP to Havant Thicket Reservoir (B)
597	Wastewater Treatment Works - Settlement Tanks	Historical Maps 2500 A33-18-SU-0239_1952	N	1952 - 1958		PSC & Infilled Land	WRP to Havant Thicket Reservoir (B)
598	Wastewater Treatment Works - Filter beds (former)	Historical Maps 2500 - A33-18-SU-0239_1952	N	1952 - 1964		PSC	WRP to Havant Thicket Reservoir (B)
599	Tank - Congestion	Historical Maps 2500 - A33-18-SU-0239_1952	N	1952 - 1958		PSC & Infilled Land	WRP to Havant Thicket Reservoir (B)
600	Infilled Land - Former Sludge Beds	Historical Maps - 2500 A33-18-SU-0239_1952	N	1952 - 1958		PSC & Infilled Land	WRP to Havant Thicket Reservoir (B)
601	Water Works - Pumping station	Historical Map - A49-02SU-0211_1971	N	1955 - 1975		PSC	WRP to Havant Thicket Reservoir (B)
602	Embankment	A28-22-SU7107-1_1955	N	1955 - 1971		PSC	WRP to Havant Thicket Reservoir (B)
603	Tank	Historical Maps - SU7108SE_1971 TO 1993, Google Earth	Y	1971 - Present		PSC	WRP to Havant Thicket Reservoir (B)
604	Electricity Sub Station (Small)	Historical Mapping - SU107SW_1969, Google Street View	Y	1969 - Present		PSC	WRP to Havant Thicket Reservoir (B)
605	Electricity Sub Station (Small)	Historical Maps - A60-01-SU-0576_1973, Groundsure Historical Energy Features	Y	1973 - Present	Potentially 2 substations have existed at this location. 1st substation approximately 1973 later replaced approximately 1993.	PSC	D
606	Infilled Land - Pond	Historical Map - A28-08-SU108NW-1_1957	N	1952 - 1964		Infilled Land	Havant Thicket Reservoir (A)
607	Fuel Petrol Filling Station	Google Earth Imagery	Y	1999 - Present		PSC	G
609	Electricity Sub Station (Small)	A32-04-SU7008-4_1964 - Groundsure	N	1964 - 1971		PSC	WRP to Havant Thicket Reservoir (B)
610	Garage	A32-04-SU7008-4_1964 - Groundsure	N	1964 - 1995		PSC	WRP to Havant Thicket Reservoir (B)
611	Farm - Leigh Park Farm	Groundsure Historical Map 1975	N	1991 - Present		PSC	WRP to Havant Thicket Reservoir (B)
612	Pit - Unspecified	Groundsure 2024 Report	N	1968 - 1980	Unspecified Hole. No additional information on Groundsure maps. Potentially an infilled pit.	Infilled Land	M
613	Water Works - Pumping station	Groundsure 2024 Report	N	1980	Groundsure maps indicate a pumping station.	Ground Investigation	L
614	Wastewater Treatment Works	Aerial imagery and Groundsure 2024 reporting	Y	1993 - Present	Sewage Treatment Works.	PSC	K
621	Works - Industrial Estate	Groundsure	N	1939 - 1992	Saw Mills between 1939 - 1990s, then industrial estate.	PSC	F
622	Military - Anti-aircraft Battery	Winchester City Council	N	1939 - 1946	Dates are approximate. Information from Winchester City Council Potential Contaminative use GIS 1_2500 2km buffer 2022.	PSC	Havant Thicket Reservoir (A)
623	Military - Leigh Park House	Zetica Detailed Desk Study	N	1940 - 1957	Used by Admiralty Mine Design Department for administration and design of mines, depth changes and minesweeping. Explosive stored in the 'ice house'. See Zetica Detrail Risk Assessment for detail.	PSC	Havant Thicket Reservoir (A)
624	Pit - Unspecified	Groundsure Winchester City Council	N	1868	Shown only on 1868 map. Reduced ground level also visible on LiDAR.	Infilled Land	E
626	Infilled Land - Drain	Groundsure	N	1868 - 1980	Partially infilled by 1980 south of Mayles Lodge.	Infilled Land	G
627	Infilled Land - Drain	Groundsure	N	1868 - 1994	Drain south of sewage works no longer shown on maps.	Infilled Land	G
628	Works - Depot	Groundsure Google Maps Winchester City Council	Y	1964 - Present	'Depot' shown on maps until 1989. Buildings remain on 2019 Google Earth photography	PSC	K

Appendices

Appendix A: Section H Desk Study Information Specific to the GI

Table A1 summarise desk study information specific for the Phase 2 and Phase 3B/3C GI areas in Section H. The information was used to develop the preliminary conceptual site model (CSM) presented in the HWTWRP Geotechnical and Geo-environmental desk study Version 4 (SSP, 2024).

Table A1: Geo-environmental Desk Study Summary Information for Phase 2 and Phase 3B/3C GI Locations at Section H

		3H4600SA, 3H4602HP	3H4507HP	3H4511HP	3H4603HP	3H4513HP, 3H4514HP	3H4515HP	2H4500DR	2H4501DR	2H4502DS, 2H4503DS	3H4606HP	3H4517SA
Geology	Superficial Deposits	River Terrace Deposits	Absent			Head	Head deposits c.10 m east	Head deposits c.140 m east	Absent	Absent	Absent	
	Bedrock Geology	Whittering Formation			Whitecliff Sand Member	London Clay Formation	Whitecliff Sand Member	London Clay Formation	Whitecliff Sand Member			
	Artificial/ Made Ground [1]	Absent								BGS Infilled Ground c. 30 m northeast	BGS Infilled Ground c. 75 m northeast	Absent
Hydrogeology	Bedrock Aquifer Classification	Secondary A			Secondary A	Unproductive	Secondary A	Unproductive	Secondary A			
	Superficial Aquifer Classification	Secondary A	N/A			Secondary Undifferentiated	N/A					
	Source Protection Zones (SPZs)	None										
	Drinking Water Safeguard Zone (DWSgZ)	None										
	Groundwater Abstractions [1]	None										
	Groundwater Nitrate Vulnerable Zone (NVZ)	None										
Hydrology	Surface Water Courses [1]	No watercourses or waterbodies within 250 m.			Land drains c.200 m northwest	Land drains c.30 m east & 150 m southeast	Land drains c.220 m east	No watercourses or waterbodies within 250 m.				
	Surface Water DWSgZ	None										
	Surface Water Abstractions [1]	None										
	Surface Water NVZ	None		Eutrophic Water ET2 – Chichester, Langstone and Portsmouth Harbours Eutrophic NVZ.								
Flooding	Risk from Rivers and the Sea	Flood Zone 1										
Site History	On-Site	The earliest mapping indicated the Section was located within an undeveloped area, with the northern area of the Section within Shirrell Copse, south of Shirrell Heath, partial deforestation recorded on c.1937-61 mapping. Allotment gardens are recorded within the northern area, east of Shirrell Copse (c.1892-1914, unrecorded by c. 1937-61 and 1945-65 mapping); additional allotment gardens are recorded within the northern area of the Section (c.1892-1914, unrecorded by c. 1937-61 and 1945-65 mapping).										
	Surrounding Land	The surrounding land comprises allotment gardens, mixed woodland and the village of Shirrell Heath. Allotment gardens are no longer recorded on 1937-1961 mapping.								The surrounding land comprises allotment gardens, mixed woodland and the village of Shirrell Heath. Allotment gardens are no longer recorded on 1937-1961 mapping. A sand pit is shown on the 1949-1973 map c.60 m northeast (identified as PSC 89 in the desk study and fully overlaps with PSC 90).		
Landfill Sites		There are no historical or current landfill sites within 250 m.								Shirrell Heath Sand Pit Landfill (site ref. FW1, 5/1) (PSC 90), located approximately 20-70 m northeast, licensed from 1976 for disposal of inert and commercial waste. License surrender date is unknown.		There are no historical or current landfill sites within 250 m.
Pollution Incidents		There are no pollution incidents (category 1 or 2) within 50 m of the GI locations.										
Ecological Sensitivity (250 m radius)	Sites of Special Scientific Interest (SSSI)	None				None				None		
	Special Areas of Conservation (SAC)											
	Special Protection Areas (SPAs)											
	RAMSAR site											
	National Nature Reserve (NNR)											
	Ancient Woodlands					Shirrell Copse c.100-230 m northwest and an unnamed woodland c.80 m east to 180 m northeast	Shirrell Copse c.115 m west and an unnamed woodland c.160 m southeast	Shirrell Copse c.170 m south	Shirrell Copse c.100 m southwest			
Overall Risk Assessment from the Desk Study		PSC 44 & 45	PSC 512	N/A	PSC 85	PSC 546 & 547	PSC 78	N/A		**PSC 90**: potential contaminant linkages with a moderate risk were identified for construction and maintenance workers and future sites users relating to direct dermal contact, ingestion and inhalation of dusts, gases and vapours. Potential contaminant linkages with a moderate / low risk were identified for adjacent land users, on Site existing and future property and groundwater. All other receptors were classified as low risk.		PSC 103 & 445

Notes:[1] Includes active groundwater and surface water abstractions within 500 m; surface waters up to 250 m; artificial ground up to 250 m. All distances are approximate.

Appendix B: Chemical Analysis List of Suites and Geo-Environmental Testing

Table B1: Summary of Geo-Environmental Laboratory Tests

Sample ID	Analysis Suites [1]															
	Soils Suites							Soil Leachate Suites (including Suite 3.0 Soil Leachate Prep)				Groundwater Suites				
	1.1	1.3	1.7	1.8	1.10	2.1	2.16	3.1	3.6	3.7	4.15	3.1	3.6	3.7	3.9	4.15
	Made Ground	Natural [2]	Pesticides	Herbicides	Waste Acceptance Criteria (WAC)	Farms Standard	BGS Made Ground / Landfill [3]	Standard	Pesticides	Herbicides	BGS Made Ground / Landfill	Standard	Pesticides	Herbicides	Hydrogeology Suite [4]	BGS Made Ground / Landfill [4]
2H4500DR 0.1m		✓	✓	✓				R	R	R						
2H4500DR 1.0m		✓														
2H4500DR 1.75m		R						R								
2H4500DR 8.5m		✓														
2H4501DR 1.0m		✓														
2H4501DR 3.1m		✓			✓											
2H4501DR 4.0m		✓						R								
2H4502DS 0.1m		✓														
2H4502DS 0.5m							✓				R					
2H4502DS 2.7m							✓				R					
2H4503DS 0.3m		✓														
2H4503DS 1.0m		✓														
2H4503DS 2.6m		✓														
2H4503DS 4.5m							✓				R					
3H4507HP 0.2m						✓										
3H4507HP 1.0m						✓										
3H4511HP 0.2m		✓														
3H4511HP 0.5m		✓														
3H4513HP 0.2m		✓														
3H4513HP 1.0m		✓														
3H4514HP 0.5m		✓														
3H4514HP 1.0m		✓														
3H4515HP 0.2m		✓	✓	✓												
3H4515HP 1.0m		✓														
3H4517SA 0.2m	✓ [5]															
3H4517SA 1.0m	✓ [5]															
3H4517SA 8.0m		✓			✓											
3H4600SA 1.1m		✓			✓											
3H4600SA 3.3m		✓						✓								
3H4600SA 9.45m		✓														
3H4602HP 0.5m		✓														
3H4602HP 1.0m		✓														
3H4603HP 0.2m		✓	✓	✓												
3H4603HP 1.0m		✓														

Sample ID	Analysis Suites [1]															
	Soils Suites							Soil Leachate Suites (including Suite 3.0 Soil Leachate Prep)				Groundwater Suites				
	1.1	1.3	1.7	1.8	1.10	2.1	2.16	3.1	3.6	3.7	4.15	3.1	3.6	3.7	3.9	4.15
	Made Ground	Natural [2]	Pesticides	Herbicides	Waste Acceptance Criteria (WAC)	Farms Standard	BGS Made Ground / Landfill [3]	Standard	Pesticides	Herbicides	BGS Made Ground / Landfill	Standard	Pesticides	Herbicides	Hydrogeology Suite [4]	BGS Made Ground / Landfill [4]
3H4606HP 0.2m	✓ [5]		✓	✓												
3H4606HP 1.0m		✓														
2H4500DR	N/A											✓ 17/07/2023	✓ 17/07/2023	✓ 17/07/2023	✓ 17/07/2023	
2H4501DR	N/A											✓ 03/05/2023 17/07/2023 12/09/2023			✓ 03/05/2023 17/07/2023 12/09/2023	
2H4502DS	N/A															✓ 03/05/2023
2H4503DS	N/A															✓ 28/02/2023 03/05/2023 17/07/2023 12/09/2023
3H4517SA	N/A											✓ 17/04/2024 01/05/2024 22/05/2024				
3H4600SA	N/A														✓ 12/08/2024 20/08/2024	✓ 12/08/2024 20/08/2024
Total completed / requested	**3 / 3**	**27 / 28**	**4 / 4**	**4 / 4**	**3 / 3**	**2 / 2**	**3 / 3**	**1 / 4**	**0 / 1**	**0 / 1**	**0 / 3**	**7 / 7**	**1 / 1**	**1 / 1**	**6 / 6**	**7 / 7**

Notes:
1 List of analytes included in each suite is presented in **Appendix B**.
2 Although requested, nickel analysis was not completed.
3 Although requested, asbestos screening was not completed.
4 Although requested, ammonia and total dissolved solids (TDS) analyses were not completed.
5 Although requested, boron results are not provided.
✓ Requested and completed.
R Requested but not received to date in either AGS format or Ground Investigation reports (SOCOTEC, 2023) (SOCOTEC, 2024).
N/A Not applicable
For groundwater samples the date shows the date of groundwater sampling from the Ground Investigation reports.

Soil Suites				**Suite L1.0 Soil Generic Analysis**													**Suite L2.0 - Potential Source of Contamination Soil Suites** *(use add ons from Suite 1.0 if required in addition)*													
Chemical	Method	LOD units		Generic Analysis - For locations not included in Suite 2.0 or where required													Farms (buildings/yards)		Fuel filling stations and garages	Electrical substations	Current and former works/industry		Current and historic railway land		STWs and Water Supply Works		Former military facility		Former hospital	Agricultural nursery building	Landfill sites / potentially infilled areas	
			Suite No.	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12	1.13	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.10	2.11	2.12	2.13	2.14	2.15	2.16
			Suite Name	Made Ground	Made Ground + add. metals + inorganics	Natural	Barrier pipe (PE/Metal)	VOCs with TICs	SVOCs with TICs	Pesticides	Herbicides	PFAS (inc PFOS / PFOA)	WAC (1-stage) inc solid suite	Core Logs (including PAK marker)	Tar anlysis (PAH, phenol) - ADEPT 2019 method	Tar analysis Assessment - ADEPT 2019 method	Farms Standard	Farms Standard + VOCs +pestcides	Fuel filling & Garages	Electrical Substations	Works Standard	Works Standard + S/VOC+PCBs	General Railway land	Depots / Yards	STW Standard	STW/WSW + VOCs +PCBs	Standard	Standard + S/VOC+PCBs	Former Hospital	Agri. Nursery	Potentially infilled Land	BGS Made Ground / Landfill
Metals		**mg/kg** (unless stated)																													
Arsenic	ICP-OES / MS	<0.5		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Cadmium	ICP-OES / MS	<0.5		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Chromium (trivalent)	ICP-OES / MS	<0.5		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Chromium, Hexavalent	Skalar CFA / ICP-OES	<1		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Chromium (total)		<1																													
Selenium	ICP-OES / MS	<0.5		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Copper	ICP-OES / MS	<0.5		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Lead	ICP-OES / MS	<3		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Mercury	ICP-OES / MS	<0.3		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Nickel	ICP-OES / MS	<0.5		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Zinc	ICP-OES / MS	<2		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Boron, water soluble	ICP-OES / MS	<1.0		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Vanadium	ICP-OES / MS	TBC																													
Antimony	ICP-OES / MS	TBC																													
Barium	ICP-OES / MS	TBC																													
Molybdenum	ICP-OES / MS	TBC			x																				x						
Aluminium	ICP-OES / MS	TBC			x																				x						
Manganese	ICP-OES / MS	TBC			x																				x						x
Iron	ICP-OES / MS	TBC			x																				x						x
Inorganics																															
Sulphate, Total	ICP-OES / MS	<10		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Sulphide, Easily liberated	Skalar CFA	<10		x	x												x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Phosphate	TBC by lab	TBC			x																					x		x			x
Chloride	TBC by lab	TBC			x																				x	x					x
Cyanide, Free	Skalar CFA	<1			x																x	x			x	x		x		x	x
Cyanide, Total	Skalar CFA	<1			x																x	x			x	x		x		x	x
Cyanide, Complex	Skalar CFA	<1			x																x	x			x	x		x		x	x
Thiocyanate	TBC by lab	TBC			x																				x	x				x	x
Ammonia	TBC by lab	TBC			x												x								x	x			x		x
Ammonium	TBC by lab	TBC			x												x								x	x			x		x
% Stones Greater than 10mm				x	x	x											x	x	x		x	x	x	x	x	x	x	x	x	x	x
Asbestos ID	HSG 248	Presence		x	x												x	x	x		x	x	x	x	x	x	x	x	x	x	x
Asbestos Quantification (if asbestos ID positive)	Gravimetric	<0.001%		x	x												x	x	x		x	x	x	x	x	x	x	x	x	x	x
pH	Potentiometric	+/- 0.1		x	x	x	x										x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Phenols (total)															x																
Total Phenols includes following Phenol, Resorcinol, Methylphenols (Cresols), Dimethylphenols (Xylenols), 1-Napthols, Trimentylphenols.	HPLC	<0.1		x													x	x	x		x	*	x	*	x		x	*	x		x	
Total Speciated Phenols includes the following Phenol, Pentachlorophenol, 2,4,5-Trichlorophenol, 2,4,6 -Trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4-chloro-3-methylphenol, 4-methylphenol	GCMS	<0.05			x													x				*		*		x		*		x		*

Chemical	Method	LOD units		Generic Analysis - For locations not included in Suite 2.0 or where required													Farms (buildings/yards)		Fuel filling stations and garages	Electrical substations	Current and former works/industry		Current and historic railway land		STWs and Water Supply Works		Former military facility		Former hospital	Agricultural nursery building	Landfill sites / potentially infilled areas	
			Suite No.	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12	1.13	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.10	2.11	2.12	2.13	2.14	2.15	2.16
			Suite Name	Made Ground	Made Ground + add. metals + inorganics	Natural	Barrier pipe (PE/Metal)	VOCs with TICs	SVOCs with TICs	Pesticides	Herbicides	PFAS (inc PFOS / PFOA)	WAC (1-stage) inc solid suite	Core Logs (including PAK marker)	Tar anlysis (PAH, phenol) - ADEPT 2019 method	Tar analysis Assessment - ADEPT 2019 method	Farms Standard	Farms Standard + VOCs +pestcides	Fuel filling & Garages	Electrical Substations	Works Standard	Works Standard + S/VOC+PCBs	General Railway land	Depots / Yards	STW Standard	STW/WSW + VOCs +PCBs	Standard	Standard + S/VOC+PCBs	Former Hospital	Agri. Nursery	Potentially infilled Land	BGS Made Ground / Landfill
BTEX																															
Benzene	GCMS	<0.05		x	x		x										x			x	x		x		x		x		x	x	
Toluene	GCMS	<0.05		x	x		x										x			x	x		x		x		x		x	x	
Ethylbenzene	GCMS	<0.05		x	x		x										x			x	x		x		x		x		x	x	
o-xylene	GCMS	<0.05		x	x		x										x			x	x		x		x		x		x	x	
m-xylene	GCMS	<0.05		x	x		x										x			x	x		x		x		x		x	x	
p-xylene	GCMS	<0.05		x	x		x										x			x	x		x		x		x		x	x	
Total BTEX	GCMS	<1.0		x	x		x										x			x	x		x		x		x		x	x	
MTBE				x	x		x										x			x	x		x		x		x		x	x	
PAH by GCMS																															
PAH 17 (total and speciated incl coronene)	GCMS	<0.1		x	x												x	x	x		x	*	x	*	x	x	x	*	x	x	x	*
PAK Marker (PAH indicator test)														x																		
PCBs																																
PCB 7 Congeners (speciated and total)	GCMS	<0.001			x															x		x		x		x		x	x	x		x
Petroleum Hydrocarbons																																
TPHCWG	GC-FID / GCMS	<0.1			x		x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
TPH >C6-C44 - with silica clean-up	GC-FID or GCMS	<1		x		x											x															
TPHCWG (if over 1000 mg/kg)				x		o											o															
TPH Identification (if over 1000 mg/kg)				o	o	o											o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
o - complete test if threshold reached.																																
VOCs/Semi-VOCs																																
Volatile Organic Compounds (VOCs) inc TICS	GCMS	<0.01						x										x	x			x		x		x		x	x			x
Semi-volatile Organic Compounds (SVOC) incl TICs	GCMS	<0.01					x		x													x		x				x				x
Pesticides / Herbicides																																
Pesticides (organochlorine, organophosphate)	GC-MS	<0.001								x								x												x		x
Herbicides (Organonitrogen / triazine herbicides (to include Atrazine) and acid herbicides)	LC-MS	<0.1									x							x					x	x						x		x
Other																																
Soil Organic Matter	Titration	<0.1%		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Conductivity	Potentiometric	<10 µS/cm		x	x	x	x										x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Redox Potential		v		x	x	x	x										x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Moisture Content Ratio (% of as received sample)	Gravimetric	<0.1%		x	x	x											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Waste Acceptance Criteria (1-stage) including solid suite	Various	Various		x	x								x				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
PFAS (to include PFOS and PFOA)	Lab to confirm	<0.001										x														x		x				x
Pathogens																																
Total coliforms	Lab to confirm	TBC																							x							
E.coli	Lab to confirm	TBC																							x							
Faecal coliforms	Lab to confirm	TBC																							x							
Faecal streptococci	Lab to confirm	TBC																							x							
To be confirmed																																
Radioisotopes - TBC site/PSC specific	TBC	TBC																										x	x			
Explosives TBC following UXO assessment	TBC	TBC																										x				
Road surfacing - Coal Tar																																
Coal tar interpretation															x	x																
Note - Ethylene glycol to be included in VOC TICs analysis.																																
Request lab provides the result with the lowest LOD where chemicals are tested twice using different methods (e.g benzene in BTEX suite and VOC analysis.)																																

Water and Leachate Suites					**Suite 3.0 Generic Groundwater Analysis**									**Suite 4.0 - Potential Source of Contamination Groundwater Suites** *(use add ons from Suite 3.0 if required in addition)*													
	Analysis	LOD units			Generic Analysis - For locations not included in Suite 4 or where required									Farms	Fuel filling stations & garages	Electrical substations	Current and former works/industry		Current and historic railway land		Sewage Treatment Works (STW)	Water Supply Works (WSW)	Former military facility		Former hospital	Agricultural nursery building (storage/buildings)	Landfill sites / potentially infilled areas	
		µg/l unless stated	Suite No.	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.10	4.11	4.12	4.13	4.14	4.15
			Suite Name	Soil leachate preparation	Standard	Standard + add. metals + inorganics	TPH CWG	VOCs with TICs	SVOCs with TICs	Pesticides	Herbicides	PFAS (inc PFOS / PFOA)	Hydrogeo Suite	Farms	Fuel filling & Garages	Electrical Substations	Works Standard	Works Standard + S/VOC+PCBs	General Railway land	Depots / Yards	STW	WSW	Military Standard	Military Standard + inorg + S/VOC	Former Hospital	Agri. Nursery	Potentially infilled Land	BGS Made Ground / Landfill
Metals (dissolved)																											
Arsenic	ICP-OES / MS	<5			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Cadmium	ICP-OES / MS	<0.01			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Chromium (trivalent)	ICP-OES / MS	<1			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Chromium, Hexavalent	Skalar CFA	<1			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Chromium (total)		<1																										
Selenium	ICP-OES / MS	<1			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Copper	ICP-OES / MS	<0.1			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Lead	ICP-OES / MS	<1			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Mercury	ICP-OES / MS	<0.05			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Nickel	ICP-OES / MS	<1			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Zinc	ICP-OES / MS	<5			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Boron, water soluble	ICP-OES / MS	<10			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Vanadium	ICP-OES / MS	<10																										
Antimony	ICP-OES / MS	1																										
Barium	ICP-OES / MS	500																										
Molybdenum	ICP-OES / MS	10				x															x	x						
Aluminium	ICP-OES / MS	10				x															x	x						
Manganese	ICP-OES / MS	5				x															x	x						x
Iron	ICP-OES / MS	100				x															x	x						x
Inorganics																												
Sulphate	ICP-OES / MS	<10 mg/l			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Sulphide	Skalar CFA	<10 mg/l			x	x								x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Phosphorous (total and ortho)	TBC by lab	TBC				x															x	x		x				x
Chloride	TBC by lab	<0.15 mg/l			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Cyanide, Free	Skalar CFA	<0.1			x	x											x	x			x	x		x			x	x
Cyanide, Total	Skalar CFA	<0.1			x	x											x	x			x	x		x			x	x
Thiocyanate	TBC by lab	TBC				x															x	x					x	x
Ammonia	TBC by lab	<0.01 mg/l			x	x							x	x							x	x				x	x	x
Nitrates, nitrites	TBC by lab	<1 mg/l			x	x							x	x							x	x				x	x	x
Total Nitrogen	TBC by lab	TBC				x								x							x	x				x		x
Ammoniacal Nitrogen	TBC by lab	<0.1				x								x							x	x				x		x
Fluoride	TBC by lab	<1 mg/l			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Dissolved Methane	TBC by lab	TBC																									x	x
pH	Potentiometric	+/- 0.1			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Calcium		<1 mg/l											x															
Magnesium	ICP-OES / MS	<0.5 mg/l											x															
Sodium		<1 mg/l											x															
Potassium		<1 mg/l											x															
Bicarbonate		<10 mg/l											x															
Phenols																												
Total Phenols includes following Phenol, Resorcinol, Methylphenols (Cresols), Dimethylphenols (Xylenols), 1-Napthols, Trimentylphenols.	HPLC	<0.1			x									x	x		x		x		x	x	x		x		x	
Total Speciated Phenols includes the following Phenol, Pentachlorophenol, 2,4,5-Trichlorophenol, 2,4,6 -Trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4-chloro-3-methylphenol, 4-methylphenol	GCMS	<0.1				x																				x		

Water and Leachate Suites	Analysis	LOD units			Generic Analysis - For locations not included in Suite 4 or where required									Farms	Fuel filling stations & garages	Electrical substations	Current and former works/industry		Current and historic railway land		Sewage Treatment Works (STW)	Water Supply Works (WSW)	Former military facility		Former hospital	Agricultural nursery building (storage/buildings)	Landfill sites / potentially infilled areas	
		µg/l unless stated	Suite No.	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.10	4.11	4.12	4.13	4.14	4.15
			Suite Name	Soil leachate preparation	Standard	Standard + add. metals + inorganics	TPH CWG	VOCs with TICs	SVOCs with TICs	Pesticides	Herbicides	PFAS (inc PFOS / PFOA)	Hydrogeo Suite	Farms	Fuel filling & Garages	Electrical Substations	Works Standard	Works Standard + S/VOC+PCBs	General Railway land	Depots / Yards	STW	WSW	Military Standard	Military Standard + inorg + S/VOC	Former Hospital	Agri. Nursery	Potentially infilled Land	BGS Made Ground / Landfill
BTEX																												
Benzene	GCMS	<0.1			x	x	x									x	x		x			x	x			x	x	
Toluene	GCMS	<0.1			x	x	x									x	x		x			x	x			x	x	
Ethylbenzene	GCMS	<0.1			x	x	x									x	x		x			x	x			x	x	
o-xylene	GCMS	<0.1			x	x	x									x	x		x			x	x			x	x	
m-xylene	GCMS	<0.1			x	x	x									x	x		x			x	x			x	x	
p-xylene	GCMS	<0.1			x	x	x									x	x		x			x	x			x	x	
Total BTEX	GCMS	<1.0			x	x	x									x	x		x			x	x			x	x	
MTBE	GCMS	<1			x	x	x									x	x		x			x	x			x	x	
PAHs																												
PAH 17 (total and speciated incl coronene)	GCMS	<0.0001			x	x							x	x	x		x	*	x	*	x	x	x	*	x	x	x	*
PCBs																												
PCB 7 Congeners (speciated and total)	GCMS	<0.01				x										x		x		x	x			x	x			x
Petroleum Hydrocarbon																												
TPHCWG	GCMS	<1.0				x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
TPH >C6-C44	GC-FID or GCMS	<10			x								x															
Free product Identification (if found)					o	o								o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
VOCs/Semi-VOCs																												
Volatile Organic Compounds (VOCs) inc TICS	GCMS	<0.001						x						x	x			x		x	x			x	x			x
Semi-volatile Organic Compounds (SVOC) incl TICs	GCMS	<0.001							x									x		x				x				x
Pesticides / Herbicides																												
Pesticides (organochlorine, organophosphate)	GC-MS	<0.001								x				x												x		x
Herbicides (Organonitrogen / triazine herbicides (to include Atrazine) and acid herbicides)	LC-MS	<0.001									x			x					x	x						x		x
Other																												
Conductivity	Potentiometric	<1 µS/cm			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Redox Potential		v																			x							x
Total hardness (as CaCO3)	ICP-OES / MS	1 mg CaCO3/L			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Total dissolved solids (TDS)	Gravimetric	10 mg/l			x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
PFAS (to include PFOS and PFOA)	Lab to confirm	<0.001 (total)										x									x			x				x
Pathogens																												
Total coliforms	Lab to confirm	TBC																			x							
E.coli	Lab to confirm	TBC																			x							
Faecal coliforms	Lab to confirm	TBC																			x							
faecal streptococci	Lab to confirm	TBC																			x							
Soil leachate preparation				x																								
Note - Ethylene glycol to be included in VOC TICs analysis.																												

Appendix C: Deviations Reported by Analytical Laboratory

The following sample deviations have been reported by the analytical laboratory:

- The quality control (QC) associated with some results has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
- Due to matrix interference, the internal standard and/or surrogate has not met the Quality Management System (QMS) requirements. This should be taken into consideration when utilising the data.
- A non-standard volume or mass has been used which has resulted in a raised detection limit.
- Acceptable (holding) time between the sampling date and laboratory analysis was exceeded. Holding times are derived based on 'stability'; the ability of a property to remain unchanged, within a stated uncertainty, under given storage conditions and a specific timeframe. If a reported result is within the holding time it is known that the degree of change (if it occurs) is not statistically meaningful. If the sample result is reported as 'deviating', the degree of change is unknown and therefore may have affected the result the result must; therefore, be treated as potentially indicative.
- Headspace was present in sample. The presence of headspace and air bubbles in volatile organic analysis sampling vials lowers the actual aqueous concentration of these compounds due to the partitioning of solutes into the gaseous phase. Due to the loss of volatile analytes, the result must be treated as potentially indicative.
- An incorrect or no preservative was used in the sample bottle.
- The sample volume or mass was insufficient to complete the analysis.

Table C1: Soil Sample Deviations

Analyte or Analytical Method	BH ID and Sample Depth (m bgl)																
	2H4500DR	2H4501DR	2H4502DS		2H4503DS		3H4507HP		3H4517SA			3H4600SA			3H4602HP		3H4606HP
	3.1	1.0	0.5	2.7	2.6	4.5	0.2	1.0	0.2	1.0	8.0-8.1	1.1	3.3	9.45	0.5	1.0	0.2
Boron (Water Soluble) by ICPOES					#	#											
Lead	C																
Mercury	C																
pH (2.5:1)		#			#	#			#	#							
Total GRO (>C6-C10)		#			#								#	#	#	#	
TPH (>C10-C40) Total with Silica Cleanup					#	#											
GRO CWG UK (C5-C10) Ali/Aro Split						#											B
TPH (CWG UK) Aliphatic Split with Carbon Banding						#											
TPH (CWG UK) Aromatic Split with Carbon Banding						#											
SOM: Soil Organic Matter (%) (Calc)					#	#											
TOC: Total Organic Carbon						#											
Cyanide (Complex, Free and Total) by SFA						#											
Sulphide by SFA						#											
Thiocyanate by SFA						#											
1,2,4-Trimethylbenzene						B											
2,4-Dinitrotoluene			B														
2,4,6-Trichlorophenol				B													
Benzo[g,h,i]perylene			B														
Benzyl alcohol			B	B													
bis(2-Chloroisopropyl)ether				B													
bis(2-Ethylhexyl)phthalate				B													
Bromomethane			B														
Butylbenzylphthalate				B													
Chloromethane			B														
Dibenzo[a,h]anthracene			B														
Hexachloroethane				B													
Indeno[1,2,3-cd]pyrene			B														
Pyrene							B	B			B						
Styrene						B											

Analyte or Analytical Method	BH ID and Sample Depth (m bgl)																
	2H4500DR	2H4501DR	2H4502DS		2H4503DS		3H4507HP		3H4517SA			3H4600SA			3H4602HP		3H4606HP
	3.1	1.0	0.5	2.7	2.6	4.5	0.2	1.0	0.2	1.0	8.0-8.1	1.1	3.3	9.45	0.5	1.0	0.2
Toluene			B	B													B
Trichlorofluoromethane			B														
p-Isopropyltoluene						B											
Vinyl Chloride						B											
Basic Solid Description, DW35 - CLand Prep and Dry Weight Correction to 35°C, Stone Content					#	#											
BTEX by GCFID						#											
SVOCs (Target List and TICs) by GCMS						#											
VOCs (Target List and TICs) by GCMS						#											
PCB 28												B					

Notes:
B – The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed.
C – Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements.
– Acceptable (holding) time between the sampling date and laboratory analysis was exceeded

Table C2: WAC (10:1 Soil Leachate) Sample Deviations

Analyte or Analytical Method	BH ID and Sample Depth (m bgl)		
	2H4500DR	2H4501DR	2H4503DS
	3.1	3.1	4.5
Lead	C	C	
Mercury	C	C	
17 PAHs (inc. Coronene) for WAC by GCMS			#

Notes:
C – Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements.
– Acceptable (holding) time between the sampling date and laboratory analysis was exceeded.

GROUNDWATER

Table C3: Groundwater Sample Deviations

Analyte or Analytical Method	BH ID and Sampling Date												
	2H4500DR	2H4501DR			2H4502DS	2H4503DS				3H4517SA			3H4600SA
	17/7/23	17/7/23	3/5/23	12/9/23	3/5/23	28/2/23	17/7/23	3/5/23	12/9/23	17/4/24	01/5/24	22/5/24	12/8/24 & 20/8/24: Lab reports not provided
Electrical Conductivity @ 25°C	#	#	#	#		#	#	#	#		#	#	
pH	#	#	#	#		#	#	#	#		#	#	
>C10-C12 (Aromatic)					B	B	D		#				
>C12-C16 (Aromatic)					B	B	D		#				
>C16-C21 (Aromatic)							D		D, #				
>C21-C35 (Aromatic)							D		#				
>C35-C44 (Aromatic)									D, #				
>C10-C12 (Aliphatic)							D		#				
>C12-C16 (Aliphatic)							D		#				
>C16-C21 (Aliphatic)							D		#				
>C21-C35 (Aliphatic)							D		#				
>C35-C44 (Aliphatic)							D		#				
Total GRO (>C6-C10)				^									
>C6-C40	IS	D								D		#	
>C10-C40	IS	D											
Bromoform						B							
Chloroethane						B							

Analyte or Analytical Method	BH ID and Sampling Date												
	2H4500DR	2H4501DR			2H4502DS	2H4503DS				3H4517SA			3H4600SA
	17/7/23	17/7/23	3/5/23	12/9/23	3/5/23	28/2/23	17/7/23	3/5/23	12/9/23	17/4/24	01/5/24	22/5/24	12/8/24 & 20/8/24: Lab reports not provided
Chloromethane							B						
1,2,3-Trichlorobenzene							B						
2-Chlorotoluene					B			B					
4-Chlorotoluene					B			B					
Vinyl Chloride							B						
BTEX by GCFID				^			#						
BTEX & MTBE by GCMS	#	#											
VOCs (Target List and TICs) by GCMS							#						
m and p-Xylene										B			
OCP: Organochlorine Pesticides by GCMS	IS												
17 PAHs (inc. Coronene) by GCMS	IS								D	D		D, #	
Benzo[a]anthracene											B		
Benzo[g,h,i]perylene											B		
PCBs, ICES 7 Congeners							D						
SFAPI											#, ~		

Notes:
B – The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed.
D – A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
IS – Insufficient Sample to complete analysis.
– Acceptable (holding) time between the sampling date and laboratory analysis was exceeded.
^ – Headspace was present in sample.
~ - Incorrect / No preservative

Table C4: Groundwater Sample MDL Exceedances of the DWS

BH ID	Sampling Date	Analyte and Analytical Method	LOD (µg/l)	Generic Assessment Criteria (µg/l)
2H4502DS	03/05/2023	Benzene (BTEX by GCFID method)	5 *	1
2H4503DS	28/02/2023 03/05/2023 17/07/2023 12/09/2023	Benzene (BTEX by GCFID method)	5 *	1
	12/09/2023	Benzo(a)pyrene	0.04	0.01
		Sum (benzo b, k, ghi & indeno123cd)	0.16	0.1
3H4517SA	17/04/2024	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(g,h,i)perylene Indeno(1,2,3-c,d)pyrene	0.2	0.1
		Benzo(a)pyrene	0.2	0.01
		TPH >C6-40	2,200	10
	22/05/2024	TPH >C6-40	1,100	10
3H4600SA	12/08/2024 20/08/2024	Benzene (BTEX by GCFID method)	5	1
		GRO CWG UK (C5-C10) Aliphatic Split	100	10
		GRO CWG UK (C5-C10) >C8 to C10 Aromatic Split	20	10
		TPH (CWG UK) Aliphatic and Aromatic Split with Carbon Banding	100 to 200	10
	20/08/2024	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(g,h,i)perylene Indeno(1,2,3-c,d)pyrene	0.2	0.1
		Benzo(a)pyrene	0.2	0.01

*Benzene also analysed as part of the VOC suite, which has a MDL of 1 µg/l.

Appendix D: Geo-Environmental Laboratory Analysis Summary Screening Tables

	A	C	D	E	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	IG	IH	II	IJ	IK	IL	IM
4		Screening Criteria	54UL Reference Page	Sample ID	2H4500DR	2H4500DR	2H4500DR	2H4501DR	2H4501DR	2H4501DR	2H4502DS	2H4502DS	2H4502DS	2H4503DS	2H4503DS	2H4503DS	2H4503DS	3H4507HP	3H4507HP	3H4511HP	3H4511HP	3H4513HP	3H4513HP	3H4514HP
5		GAC Land Use	Commercial	Sample Depth	0.1	1.0	8.5	1.0	3.1	4.0	0.1	0.5	2.7	0.3	1.0	2.6	4.5	0.2	1.0	0.2	0.5	0.2	1.0	0.5
6		SOM	1.0%	Sample GEOL GEOL	TOP	WHI		LC	LC	LC	TOP	WHI	WHI	Head	Head	Head	WHI	TOP	WTT	TOP	WTT	TOP	Head	Head
7	Analyte	*Units*		Lab ID	G2034-222023030209 1808	G2034-222023030209 1915	G2034-222023030911 5845	#47398234972 40012	G2034-222023042411 0213	G2034-222023041901 1630	#63429225405 30002	#6342922540530005		#60904187597 60004	#60904187597 60008	G2034-222023030808 2255		#95079720437 00001	#95079720437 00005	#22528135088 40001	#22528135088 40004	#82461033706 60002	#82461033706 60005	#00761972368 10002
8	Arsenic	mg/kg	640		10.3	11.5	10	5.6	5.7	7.2	17.3	14	2.8	7.2	6.9	9.3	4.2	7.4	8	7.7	10.2	8	8.5	3.2
9	Cadmium	mg/kg	190		6.3	0.4	<0.2	<0.2	<0.2	<0.2	0.6	0.4	<0.2	0.4	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10	Chromium	mg/kg	8600		24.9	24.8	39	42.2	40	42.2	21.7	32.7	9.8	15.9	24.9	26.7	10.7	16.5	36.1	20.6	41.2	22.2	25.1	10.5
11	Chromium, Hexavalent	mg/kg	33		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
12	Selenium	mg/kg	12000		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
13	Copper	mg/kg	68000		21.5	12	16.3	13.6	16.9	19.1	25.7	38.1	8.9	17.6	89	14.9	4.5	8.7	10	10.7	11.6	6.9	10.3	7.9
14	Lead	mg/kg	1100		31.3	15.5	10.5	9.1	10.3	12.3	39.2	76.8	4.7	61.9	153.5	9.1	3.6	23	9.6	17.2	11.5	19.6	9.7	10.5
15	Elemental Mercury	mg/kg	58 (25.8)																					
16	Mercury	mg/kg	1100		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
17	Methylmercury	mg/kg	320																					
18	Nickel	mg/kg	980									30.8	4.3				12	5.7	8					
19	Zinc	mg/kg	730000		77.5	41.9	77.6	27.8	39.4	59.8	154.1	117.1	20.8	104.6	362.8	49.5	<16.0	31.7	24.7	34.3	26.9	36.8	40.9	25.2
20	Beryllium	mg/kg	12																					
21	Boron, water soluble	mg/kg	240000		0.6	0.7	0.8	<0.5	0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	0.7	0.6	0.7	<0.5	0.7	0.5	<0.5	<0.5	<0.5
22	Vanadium	mg/kg	9000																					
23	Antimony	mg/kg																						
24	Barium	mg/kg																						
25	Molybdenum	mg/kg																						
26	Manganese	mg/kg										567.5	22.2				155.3							
27	***Inorganics***																							
28	Elemental Sulphur	mg/kg																						
29	Sulphate, Total	mg/kg			295	971	540	138	165	1300	253	162	33	152	107	<20	51	347	198	369	211	212	139	130
30	Sulphide, Easily liberated	mg/kg										<0.6	<0.6				<0.6	<0.6	<0.6					
31	Chloride	mg/kg										7	17				20							
32	Cyanide, Free	mg/kg										<0.6	<0.6				<0.6							
33	Cyanide, Total	mg/kg										<0.6	<0.6				<0.6							
34	Cyanide, Complex	mg/kg																						
35	Thiocyanate	mg/kg										<2.2	<2.4				<2.4							
36	Ammonia	mg/kg																						
37	% Stones Greater than 10mm	%			4.1	<0.1	<0.1	1.3	1.8	2.5	3.9	<0.1	<0.1	1.5	<0.1	<0.1	<0.1	1.2	0.5	1	<0.1	8.9	17.5	<0.1
38	Asbestos	Identifed																NAIIS	NAIIS					
39	pH	pH			7.2	7.5	6	5.4	4.8	5.1	6.6	6.9	8.9	7.3	7.3	8.4	7.8	7.6	7.4	7.3	7.6	6.7	5.9	7.6
40	Soil Organic Matter	%			2.27	0.77	0.63	0.5	0.5	0.38	1.48	0.37	0.34	0.48	0.5	0.48	0.34	1.8	0.75	2.19	0.87	1.25	0.46	0.81
41																								
42	***Phenols***																							
43	Phenol	mg/kg	440									<0.1	<0.1				<0.1	0.16	<0.12					
44	Chlorophenols	mg/kg	3500									<0.6(4-Chlorophenol), <0.1(2,4-Dichlorophenol), <0.1(2,4,6-Trichlorophenol), <0.1(2-Chlorophenol), <0.1(2,4,5-Trichlorophenol)	<0.6(4-Chlorophenol), <0.1(2,4-Dichlorophenol), <0.1(2,4,6-Trichlorophenol), <0.1(2-Chlorophenol), <0.1(2,4,5-Trichlorophenol)				<0.6(4-Chlorophenol), <0.1(2,4-Dichlorophenol), <0.1(2,4,6-Trichlorophenol), <0.1(2-Chlorophenol), <0.1(2,4,5-Trichlorophenol)								
45	Pentachlorophenol	mg/kg	400		<0.10							<0.10	<0.10				<0.10							
46	Catechol	mg/kg																						
47	Resorcinol	mg/kg																						
48	Cresols	mg/kg																<0.11	0.15					
49	Xylenols & Ethylphenols	mg/kg																<0.11	<0.12					
50	Naphthols	mg/kg																						
51	Trimethylphenol	mg/kg																<0.11	<0.12					
52	2,4-Dimethylphenol	mg/kg										<0.1	<0.1				<0.1							
53	Total Phenols	mg/kg																						
54																								
55	***BTEX***																							
56	Benzene	mg/kg	27						<0.013			<0.001	<0.001				<0.001	<0.012	<0.013					
57	Toluene	mg/kg	56000 (869)						<0.013			<0.006	<0.006				<0.006	<0.012	<0.013					
58	Ethylbenzene	mg/kg	5700 (518)						<0.013			<0.002	<0.002				<0.002	<0.012	<0.013					
59	o-xylene	mg/kg	6600 (478*)						<0.013			<0.002	<0.002				<0.002	<0.012	<0.013					
60	m-xylene	mg/kg	6200 (625)																					
61	p-xylene	mg/kg	5900 (576*)																					
62	m,p-xylene		#N/A						<0.026			<0.005	<0.005				<0.005	<0.023	<0.026					
63	Total Xylenes (calculated for HWO)	mg/kg	#N/A																					
64	Total BTEX		#N/A						<0.076			<0.067	<0.073				<0.073	<0.070	<0.077					
65	MTBE		#N/A									<0.001	<0.001				<0.001	<0.023	<0.026					
66	***PAH by GCMS***																							
67	Naphthalene	mg/kg	190 (76.4*)						<0.10			<0.006	<0.006				<0.006	<0.09	<0.10					
68	Acenaphthylene	mg/kg	83000 (86.1*)						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
69	Acenaphthene	mg/kg	84000 (57*)						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
70	Fluorene	mg/kg	63000 (30.9*)						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
71	Phenanthrene	mg/kg	22000						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
72	Anthracene	mg/kg	520000						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
73	Fluoranthene	mg/kg	23000						<0.10			<0.09	<0.10				<0.10	0.1	<0.10					
74	Pyrene	mg/kg	54000						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
75	Benzo(a)anthracene	mg/kg	170						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
76	Chrysene	mg/kg	350						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
77	Benzo(b)fluoranthene	mg/kg	44						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
78	Benzo(k)fluoranthene	mg/kg	1200						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
79	Benzo(a)pyrene	mg/kg	35						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
80	Indeno(1,2,3-cd)pyrene	mg/kg	500						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
81	Dibenzo(a,h)anthracene	mg/kg	3.5						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
82	Benzo(g,h,i)perylene	mg/kg	3900						<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
83	Coronene	mg/kg							<0.10			<0.09	<0.10				<0.10	<0.09	<0.10					
84	Coal Tar	mg/kg	15																					
85	Polyaromatic hydrocarbons, Total 17	mg/kg							<1.73			<1.52	<1.65				<1.65	1.59	<1.74					
86	Benzo(j)fluoranthene	mg/kg																						
87	Sum of detected PCB 7 Congeners	mg/kg																<0.041	<0.045					
88	Dioxins and similar PCBs (equiv)	mg/kg																						
89																								
90	***Petroleum Hydrocarbon (1% SOM)***																							
91	Aliphatics >C5-C6	mg/kg	3200 (304*)									<0.224	<0.242				<0.243							
92	Aliphatics >C6-C8	mg/kg	7800 (144*)									<0.224	<0.242				<0.243							
93	Aliphatics >C8-C10	mg/kg	2000 (78*)									<0.224	<0.242				<0.243							
94	Aliphatics >C10-C12	mg/kg	9700 (48*)									5.66	<4.84				<4.87							
95	Aliphatics >C12-C16	mg/kg	59000 (24*)									11.1	<4.84				7.14							
96	Aliphatics >C16-C21	mg/kg										5.27	<4.84				<4.87							
97	Aliphatic EC16 - 35	mg/kg	1600000																					
98	Aliphatics >C21-C35	mg/kg										14.2	<12.1				12.4							
99	Aliphatics >C35-C44	mg/kg	1600000									<6.73	10.6				8.67							
100	Aromatics >EC5-EC7	mg/kg	26000 (1220*)																					
101	Aromatics >EC7-EC8	mg/kg	56000 (869)									<0.011	<0.012				<0.012							
102	Aromatics >EC8-EC10	mg/kg	3500 (613)									<0.045	<0.048				<0.049							
103	Aromatics >EC10-EC12	mg/kg	16000 (364*)									<4.48	<4.84				12.7							
104	Aromatics >EC12-EC16	mg/kg	36000 (169*)									7.82	<4.84				28.9							
105	Aromatics >EC16-EC21	mg/kg	28000									8.45	<4.84				17.8							
106	Aromatics >EC21-EC35	mg/kg	28000									<11.2	<12.1				32.1							
107	Aromatics >EC35-EC44	mg/kg	28000									<6.73	16.3				41.1							
108	Ali&Aro EC44-70	mg/kg	28000																					

	A	C	D	E	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	IG	IH	II	IJ	IK	IL	IM
4		Screening Criteria	S4UL Reference Page	Sample ID	2H4500DR	2H4500DR	2H4500DR	2H4501DR	2H4501DR	2H4501DR	2H4502DS	2H4502DS	2H4502DS	2H4503DS	2H4503DS	2H4503DS	2H4503DS	3H4507HP	3H4507HP	3H4511HP	3H4511HP	3H4513HP	3H4513HP	3H4514HP
5		GAC Land Use	Commercial	Sample Depth	0.1	1.0	8.5	1.0	3.1	4.0	0.1	0.5	2.7	0.3	1.0	2.6	4.5	0.2	1.0	0.2	0.5	0.2	1.0	0.5
6		SOM	1.0%	Sample GEOL GEOL	TOP	WHI		LC	LC	LC	TOP	WHI	WHI	Head	Head	Head	WHI	TOP	WTT	TOP	WTT	TOP	Head	Head
7	Analyte	*Units*		Lab ID	G2034-222023030209 1808	G2034-222023030209 1915	G2034-222023030911 5845	#47398234972 40012	G2034-222023042411 0213	G2034-222023041901 1630	#63429225405 30002	#6342922540530005		#60904187597 60004	#60904187597 60008	G2034-222023030808 2255		#95079720437 00001	#95079720437 00005	#22528135088 40001	#22528135088 40004	#82461033706 60002	#82461033706 60005	#00761972368 10002
109	Petrol Range Organics^	mg/kg																						
110	Diesel Range Organics^	mg/kg																						
111	Sum of C5-C44 Ali/Aro (CWG)	mg/kg	#N/A		0	0	0	0	0	0	0	52.5	26.9	0	0	0	160.81	0	0	0	0	0	0	0
112	TPH >C10-C40	mg/kg			64.4	46.5	<25.0	120	83.7	153	43.3	47.7	<24.2	59.2	47	124	<24.3	41.3	60.5	98.3	53.3	75.3	64.2	53.2
113	1,2,4-Trimethylbenzene	mg/kg										<0.001	<0.001				<0.001							
114	Isopropylbenzene	mg/kg										<0.001	<0.001				<0.001							
115	Propylbenzene	mg/kg										<0.001	<0.001				<0.001							
116	Styrene	mg/kg										<0.001	<0.001				<0.001							
117	TPH MAX Value				64.4	46.5	<25.0	120.0	83.7	153.0	43.3	52.5	26.9	59.2	47.0	124.0	160.8	41.3	60.5	98.3	53.3	75.3	64.2	53.2
118	***Volatile Organic Compounds***																							
119	Vinyl Chloride	mg/kg	0.059									<0.001	<0.001				<0.001							
120	1,1-Dichloroethene	mg/kg										<0.001	<0.001				<0.001							
121	Dichloromethane	mg/kg																						
122	trans-1,2-Dichloroethene	mg/kg										<0.001	<0.001				<0.001							
123	1,1-Dichloroethane	mg/kg										<0.001	<0.001				<0.001							
124	2,2-Dichloropropane	mg/kg										<0.002	<0.002				<0.002							
125	cis-1,2-Dichloroethene	mg/kg										<0.006	<0.006				<0.006							
126	Bromochloromethane	mg/kg										<0.001	<0.001				<0.001							
127	Chloroform	mg/kg	99									<0.001	<0.001				<0.001							
128	1,1,1-Trichloroethane	mg/kg	660									<0.001	<0.001				<0.001							
129	Carbontetrachloride	mg/kg	2.9									<0.001	<0.001				<0.001							
130	1,1-Dichloropropene	mg/kg										<0.001	<0.001				<0.001							
131	1,2-Dichloroethane	mg/kg	0.67									<0.001	<0.001				<0.001							
132	1,2-Dichloropropane	mg/kg										<0.001	<0.001				<0.001							
133	Dibromomethane	mg/kg										<0.001	<0.001				<0.001							
134	Bromodichloromethane	mg/kg										<0.001	<0.001				<0.001							
135	trans-1,3-Dichloropropene	mg/kg										<0.001	<0.001				<0.001							
136	cis-1,3-Dichloropropene	mg/kg										<0.001	<0.001				<0.001							
137	1,1,2-Trichloroethane	mg/kg										<0.001	<0.001				<0.001							
138	1,3-Dichloropropane	mg/kg										<0.001	<0.001				<0.001							
139	Dibromochloromethane	mg/kg										<0.001	<0.001				<0.001							
140	1,2-Dibromoethane	mg/kg										<0.001	<0.001				<0.001							
141	Chlorobenzene	mg/kg	56									<0.001	<0.001				<0.001							
142	1,1,2,2-Tetrachloroethane	mg/kg	270									<0.001	<0.001				<0.001							
143	1,1,1,2-Tetrachloroethane	mg/kg	110									<0.001	<0.001				<0.001							
144	Trichloroethene	mg/kg	1.2									<0.001	<0.001				<0.001							
145	Tetrachloroethene	mg/kg	19									<0.004	<0.003				<0.004							
146	2,4,6 Trinitrotoluene (TNT)	mg/kg	1000																					
147	HMX	mg/kg	110000																					
148	RDX	mg/kg	210000																					
149	1,2,3,4-Tetrachlorobenzene (TeCB)	mg/kg	1700 (122)		<0.00118							<0.00112	<0.00121				<0.00122							
150	1,2,3,5-Tetrachlorobenzene (TeCB)	mg/kg	49 (39.4)																					
151	1,2,4,5-Tetrachlorobenzene	mg/kg	42 (19.7*)																					
152	Pentachlorobenzene (PeCB)	mg/kg	640 (43*)		<0.00118							<0.00112	<0.00121				<0.00122							
153	Carbon Disulphide	mg/kg	11																					
154	Hexachlorobutadiene	mg/kg	31									<0.002	<0.002				<0.002							
155	2,4-Dinitrotoluene	mg/kg										<0.2	<0.2				<0.2							
156	2,6-Dinitrotoluene	mg/kg										<0.6	<0.6				<0.6							
157	2-Chloronaphthalene	mg/kg										<0.1	<0.1				<0.1							
158	Biphenyl	mg/kg										<0.1	<0.1				<0.1							
159	Bromobenzene	mg/kg										<0.001	<0.001				<0.001							
160	Bromoform	mg/kg										<0.001	<0.001				<0.001							
161	Chloroethane	mg/kg										<0.002	<0.002				<0.002							
162	Chloromethane	mg/kg										<0.004	<0.003				<0.004							
163	bis(2-Ethylhexyl) phthalate	mg/kg										<0.2	<0.2				<0.2							
164	Butylbenzyl phthalate	mg/kg										<0.2	<0.2				<0.2							
165	Diethyl phthalate	mg/kg										<0.1	<0.1				<0.1							
166	n-Dibutyl phthalate	mg/kg										<0.1	<0.1				<0.1							
167	n-Dioctyl phthalate	mg/kg										<0.2	<0.2				<0.2							
168																								
169	***Herbicides/Insecticides***																							
170	Aldrin	mg/kg	170		<0.00235							<0.00224	<0.00242				<0.00243							
171	Dieldrin	mg/kg	170		<0.00588							<0.00561	<0.00605				<0.00608							
172	Atrazine	mg/kg	9300		<0.00235							<0.00224	<0.00242				<0.00243							
173	Dichlorvos (DDVP)	mg/kg	140		<0.00235							<0.00224	<0.00242				<0.00243							
174	Alpha-Endosulfan	mg/kg	5600 (0.003)		<0.00118							<0.00112	<0.00121				<0.00122							
175	Beta-Endosulfan	mg/kg	6300 (0.00007)		<0.0118							<0.0112	<0.0121				<0.0122							
176	Alpha-Hexachlorocyclohexanes	mg/kg	170		<0.00235							<0.00224	<0.00242				<0.00243							
177	Beta-Hexachlorocyclohexanes	mg/kg	65		<0.00235							<0.00224	<0.00242				<0.00243							
178	Gamma-Hexachlorocyclohexanes	mg/kg	67		<0.00118							<0.00112	<0.00121				<0.00122							
179	1,2-Dichlorobenzene	mg/kg	2000 (571*)									<0.001	<0.001				<0.001							
180	1,3-Dichlorobenzene	mg/kg	30									<0.001	<0.001				<0.001							
181	1,4-Dichlorobenzene	mg/kg	4400 (224)									<0.001	<0.001				<0.001							
182	1,2,3-Trichlorobenzene	mg/kg	102		<0.00118							<0.00112	<0.00121				<0.00122							
183	1,2,4-Trichlorobenzene	mg/kg	220									<0.004	<0.003				<0.004							
184	1,3,5-Trichlorobenzene	mg/kg	23		<0.00118							<0.00112	<0.00121				<0.00122							
185	Hexachlorobenzene	mg/kg	110 (0.2)		<0.00235							<0.00224	<0.00242				<0.00243							
186	Hexachloroethane	mg/kg										<0.1	<0.1				<0.1							
187	Total CFC (for Haz)	mg/kg																						
188																								
189	***Moisture.***																							
190	Moisture Content Ratio (% of as received sample)	%			14.9	17.2	20	24	21.5	22.3	13.9	10.8	17.4	14	14.5	18.9	17.8	14.3	21.8	17.6	24.8	15.6	16.3	17
191	***PFOA/PFOS***																							
192	PFOA	mg/kg	0.6									<3e-05	<3e-05				<3e-05							
193	PFOS	mg/kg	0.6									<3e-05	<3e-05				<3e-05							
194	PFHxS	mg/kg	0.6																					
195	PFNA	mg/kg	0.6																					
196	Hazard Quotient	%	1																					

	A	C	D	E	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB
4		Screening Criteria	S4UL Reference Page	Sample ID	3H4514HP	3H4515HP	3H4515HP	3H4517SA	3H4517SA	3H4517SA	3H4600SA	3H4600SA	3H4600SA	3H4602HP	3H4602HP	3H4603HP	3H4603HP	3H4606HP	3H4606HP
5		GAC Land Use	Commercial	Sample Depth	1.0	0.2	1.0	0.2	1.0	8.0	1.1	3.3	9.5	0.5	1.0	0.2	1.0	0.2	1.0
6		SOM	1.0%	Sample GEOL GEOL	Head	TOP	LC	MGR	WHI	LC	RTD	WTT		RTD	WTT	TOP	WHI	MGR	LC
7	Analyte	*Units*		Lab ID	#00761972368 10003	#60558293881 00001	#60558293881 00003	#64876288764 50001	#64876288764 50006	#83312578118 90034	G4011-24 Phase 3B/C20240521 012311	G4011-24 Phase 3B/C20240521 012604	G4011-24 Phase 3B/C20240522 093150		#49660231941 10005	#47979373972 80001	#47979373972 80005	#76632750535 60001	#76632750535 60003
8	Arsenic	mg/kg	640		4.6	4.4	7.9	2.2	0.6	9.7	3.6	2.2	4.7	15.6	8.9	5.4	4.2	12	8.3
9	Cadmium	mg/kg	190		<0.2	<0.2	<0.2	0.2	<0.2	0.8	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2
10	Chromium	mg/kg	8600		23.1	8.6	34.8	9.5	1.2	19.1	15.9	22	15.3	38.9	21.9	10.8	13.5	32.5	33.1
11	Chromium, Hexavalent	mg/kg	33		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2	0.9	<0.1	<0.1	<0.1	<0.1
12	Selenium	mg/kg	12000		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
13	Copper	mg/kg	68000		6.1	10.3	6.8	44.7	<1.6	15.6	4.6	9.3	5.5	7.8	5.1	66.7	5.3	11.8	17.9
14	Lead	mg/kg	1100		8.3	21.2	7.3	39	2	9.2	6.1	12.6	6.2	10.9	10	43	4.4	22.7	14.5
15	Elemental Mercury	mg/kg	58 (25.8)																
16	Mercury	mg/kg	1100		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
17	Methylmercury	mg/kg	320																
18	Nickel	mg/kg	980					3.9	<2.0									17.6	
19	Zinc	mg/kg	730000		24	29	16.4	90.8	<16.0	45.5	<16.0	43.8	26.6	26.3	16.1	62.4	<16.0	48.5	61.2
20	Beryllium	mg/kg	12																
21	Boron, water soluble	mg/kg	240000		2.5	2.7	1.5			0.5	2.3	<0.5	<0.5	<0.5	<0.5	0.9	2.2		0.5
22	Vanadium	mg/kg	9000																
23	Antimony	mg/kg																	
24	Barium	mg/kg																	
25	Molybdenum	mg/kg																	
26	Manganese	mg/kg																	
27	***Inorganics***																		
28	Elemental Sulphur	mg/kg																	
29	Sulphate, Total	mg/kg			<20	144	77	298	71	854	91	132	279	122	125	262	73	283	249
30	Sulphide, Easily liberated	mg/kg						0.7	<0.5									<0.7	
31	Chloride	mg/kg																	
32	Cyanide, Free	mg/kg																	
33	Cyanide, Total	mg/kg																	
34	Cyanide, Complex	mg/kg																	
35	Thiocyanate	mg/kg																	
36	Ammonia	mg/kg																	
37	% Stones Greater than 10mm	%			<0.1	<0.1	<0.1	2.2	<0.1	<0.1	7.1	<0.1	1.1	0.9	<0.1	9.5	4.4	<0.1	<0.1
38	Asbestos	Identifed						NAIIS	NAIIS									NAIIS	
39	pH	pH			7.3	7.1	7.2	7.4	7.2	5.8	8.5	7.2	6.6	8.3	7.9	6.5	7.2	8.3	8.1
40	Soil Organic Matter	%			0.77	1.36	0.87	1.92	0.2	1.58	0.25	2.2	0.7	1.06	1.31	1.75	0.3	2.93	0.69
41																			
42	***Phenols***																		
43	Phenol	mg/kg	440					<0.10	<0.10									0.33	
44	Chlorophenols	mg/kg	3500																
45	Pentachlorophenol	mg/kg	400			<0.10										<0.10		<0.10	
46	Catechol	mg/kg																	
47	Resorcinol	mg/kg																	
48	Cresols	mg/kg						<0.10	<0.10									<0.11	
49	Xylenols & Ethylphenols	mg/kg						<0.10	<0.10									<0.11	
50	Naphthols	mg/kg																	
51	Trimethylphenol	mg/kg						<0.10	<0.10									<0.11	
52	2,4-Dimethylphenol	mg/kg																	
53	Total Phenols	mg/kg																	
54																			
55	***BTEX***																		
56	Benzene	mg/kg	27					<0.012	<0.011	<0.013	<0.011							<0.014	
57	Toluene	mg/kg	56000 (869)					<0.012	<0.011	<0.013	<0.011							<0.014	
58	Ethylbenzene	mg/kg	5700 (518)					<0.012	<0.011	<0.013	<0.011							<0.014	
59	o-xylene	mg/kg	6600 (478*)					<0.012	<0.011	<0.013	<0.011							<0.014	
60	m-xylene	mg/kg	6200 (625)																
61	p-xylene	mg/kg	5900 (576*)																
62	m,p-xylene		#N/A					<0.023	<0.021	<0.026	<0.022							<0.027	
63	Total Xylenes (calculated for HWO)	mg/kg	#N/A																
64	Total BTEX		#N/A					<0.070	<0.063	<0.077	<0.065							<0.082	
65	MTBE		#N/A					<0.023	<0.021									<0.027	
66	***PAH by GCMS***																		
67	Naphthalene	mg/kg	190 (76.4*)					<0.09	<0.08	<0.10	<0.09							<0.11	
68	Acenaphthylene	mg/kg	83000 (86.1*)					<0.09	<0.08	<0.10	<0.09							<0.11	
69	Acenaphthene	mg/kg	84000 (57*)					<0.09	<0.08	<0.10	<0.09							<0.11	
70	Fluorene	mg/kg	63000 (30.9*)					<0.09	<0.08	<0.10	<0.09							<0.11	
71	Phenanthrene	mg/kg	22000					<0.09	<0.08	<0.10	<0.09							<0.11	
72	Anthracene	mg/kg	520000					<0.09	<0.08	<0.10	<0.09							<0.11	
73	Fluoranthene	mg/kg	23000					0.19	<0.08	<0.10	<0.09							<0.11	
74	Pyrene	mg/kg	54000					0.17	<0.08	<0.10	<0.09							<0.11	
75	Benzo(a)anthracene	mg/kg	170					<0.09	<0.08	<0.10	<0.09							<0.11	
76	Chrysene	mg/kg	350					0.18	<0.08	<0.10	<0.09							<0.11	
77	Benzo(b)fluoranthene	mg/kg	44					0.22	<0.08	<0.10	<0.09							<0.11	
78	Benzo(k)fluoranthene	mg/kg	1200					0.13	<0.08	<0.10	<0.09							<0.11	
79	Benzo(a)pyrene	mg/kg	35					0.16	<0.08	<0.10	<0.09							<0.11	
80	Indeno(1,2,3-cd)pyrene	mg/kg	500					0.12	<0.08	<0.10	<0.09							<0.11	
81	Dibenzo(a,h)anthracene	mg/kg	3.5					<0.09	<0.08	<0.10	<0.09							<0.11	
82	Benzo(g,h,i)perylene	mg/kg	3900					0.13	<0.08	<0.10	<0.09							<0.11	
83	Coronene	mg/kg						<0.09	<0.08	<0.10	<0.09							<0.11	
84	Coal Tar	mg/kg	15																
85	Polyaromatic hydrocarbons, Total 17	mg/kg						2.14	<1.43	<1.74	<1.48							<1.86	
86	Benzo(j)fluoranthene	mg/kg																	
87	Sum of detected PCB 7 Congeners	mg/kg						<0.041	<0.037	<0.045	<0.038								
88	Dioxins and similar PCBs (equiv)	mg/kg																	
89																			
90	***Petroleum Hydrocarbon (1% SOM)***																		
91	Aliphatics >C5-C6	mg/kg	3200 (304*)					<0.233	<0.210									<0.274	
92	Aliphatics >C6-C8	mg/kg	7800 (144*)					<0.233	<0.210									<0.274	
93	Aliphatics >C8-C10	mg/kg	2000 (78*)					<0.233	<0.210									<0.274	
94	Aliphatics >C10-C12	mg/kg	9700 (48*)					<4.66	<4.20									<5.47	
95	Aliphatics >C12-C16	mg/kg	59000 (24*)					<4.66	<4.20									<5.47	
96	Aliphatics >C16-C21	mg/kg						<4.66	<4.20									<5.47	
97	Aliphatic EC16 - 35	mg/kg	1600000																
98	Aliphatics >C21-C35	mg/kg						20.1	<10.5									<13.7	
99	Aliphatics >C35-C44	mg/kg	1600000					<6.99	<6.30									<8.21	
100	Aromatics >EC5-EC7	mg/kg	26000 (1220*)																
101	Aromatics >EC7-EC8	mg/kg	56000 (869)					<0.012	<0.011									<0.014	
102	Aromatics >EC8-EC10	mg/kg	3500 (613)					<0.047	<0.043									<0.055	
103	Aromatics >EC10-EC12	mg/kg	16000 (364*)					<4.66	<4.20									<5.47	
104	Aromatics >EC12-EC16	mg/kg	36000 (169*)					<4.66	<4.20									<5.47	
105	Aromatics >EC16-EC21	mg/kg	28000					<4.66	<4.20									<5.47	
106	Aromatics >EC21-EC35	mg/kg	28000					26.1	<10.5									<13.7	
107	Aromatics >EC35-EC44	mg/kg	28000					<6.99	<6.30									<8.21	
108	Ali&Aro EC44-70	mg/kg	28000																

	A	C	D	E	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB
4		Screening Criteria	S4UL Reference Page	Sample ID	3H4514HP	3H4515HP	3H4515HP	3H4517SA	3H4517SA	3H4517SA	3H4600SA	3H4600SA	3H4600SA	3H4602HP	3H4602HP	3H4603HP	3H4603HP	3H4606HP	3H4606HP
5		GAC Land Use	Commercial	Sample Depth	1.0	0.2	1.0	0.2	1.0	8.0	1.1	3.3	9.5	0.5	1.0	0.2	1.0	0.2	1.0
6		SOM	1.0%	Sample GEOL GEOL	Head	TOP	LC	MGR	WHI	LC	RTD	WTT		RTD	WTT	TOP	WHI	MGR	LC
7	Analyte	*Units*		Lab ID	#007619723681 0003	#60558293881 00001	#60558293881 00003	#64876288764 50001	#64876288764 50006	#83312578118 90034	G4011-24 Phase 3B/C20240521 012311	G4011-24 Phase 3B/C20240521 012604	G4011-24 Phase 3B/C20240522 093150		#49660231941 10005	#47979373972 80001	#47979373972 80005	#76632750535 60001	#76632750535 60003
109	Petrol Range Organics^	mg/kg																	
110	Diesel Range Organics^	mg/kg																	
111	Sum of C5-C44 Ali/Aro (CWG)	mg/kg	#N/A		0	0	0	46.2	0	0	0	0	0	0	0	0	0	0	0
112	TPH >C10-C40	mg/kg			57.6	53.8	35.1	72.3	<21.0	71.5	25.1	60.3	36.9	35.8	33	42.3	<23.9	<27.4	<25.5
113	1,2,4-Trimethylbenzene	mg/kg																	
114	Isopropylbenzene	mg/kg																	
115	Propylbenzene	mg/kg																	
116	Styrene	mg/kg																	
117	TPH MAX Value				57.6	53.8	35.1	72.3	<21.0	71.5	25.1	60.3	36.9	35.8	33.0	42.3	<23.9	<27.4	<25.5
118	***Volatile Organic Compounds***																		
119	Vinyl Chloride	mg/kg	0.059																
120	1,1-Dichloroethene	mg/kg																	
121	Dichloromethane	mg/kg																	
122	trans-1,2-Dichloroethene	mg/kg																	
123	1,1-Dichloroethane	mg/kg																	
124	2,2-Dichloropropane	mg/kg																	
125	cis-1,2-Dichloroethene	mg/kg																	
126	Bromochloromethane	mg/kg																	
127	Chloroform	mg/kg	99																
128	1,1,1-Trichloroethane	mg/kg	660																
129	Carbontetrachloride	mg/kg	2.9																
130	1,1-Dichloropropene	mg/kg																	
131	1,2-Dichloroethane	mg/kg	0.67																
132	1,2-Dichloropropane	mg/kg																	
133	Dibromomethane	mg/kg																	
134	Bromodichloromethane	mg/kg																	
135	trans-1,3-Dichloropropene	mg/kg																	
136	cis-1,3-Dichloropropene	mg/kg																	
137	1,1,2-Trichloroethane	mg/kg																	
138	1,3-Dichloropropane	mg/kg																	
139	Dibromochloromethane	mg/kg																	
140	1,2-Dibromoethane	mg/kg																	
141	Chlorobenzene	mg/kg	56																
142	1,1,2,2-Tetrachloroethane	mg/kg	270																
143	1,1,1,2-Tetrachloroethane	mg/kg	110																
144	Trichloroethene	mg/kg	1.2																
145	Tetrachloroethene	mg/kg	19																
146	2,4,6 Trinitrotoluene (TNT)	mg/kg	1000																
147	HMX	mg/kg	110000																
148	RDX	mg/kg	210000																
149	1,2,3,4-Tetrachlorobenzene (TeCB)	mg/kg	1700 (122)			<0.00114										<0.00112		<0.00137	
150	1,2,3,5-Tetrachlorobenzene (TeCB)	mg/kg	49 (39.4)																
151	1,2,4,5-Tetrachlorobenzene	mg/kg	42 (19.7*)																
152	Pentachlorobenzene (PeCB)	mg/kg	640 (43*)			<0.00114										<0.00112		<0.00137	
153	Carbon Disulphide	mg/kg	11																
154	Hexachlorobutadiene	mg/kg	31																
155	2,4-Dinitrotoluene	mg/kg																	
156	2,6-Dinitrotoluene	mg/kg																	
157	2-Chloronaphthalene	mg/kg																	
158	Biphenyl	mg/kg																	
159	Bromobenzene	mg/kg																	
160	Bromoform	mg/kg																	
161	Chloroethane	mg/kg																	
162	Chloromethane	mg/kg																	
163	bis(2-Ethylhexyl) phthalate	mg/kg																	
164	Butylbenzyl phthalate	mg/kg																	
165	Diethyl phthalate	mg/kg																	
166	n-Dibutyl phthalate	mg/kg																	
167	n-Dioctyl phthalate	mg/kg																	
168																			
169	***Herbicides/Insecticides***																		
170	Aldrin	mg/kg	170			<0.00228										<0.00224		<0.00274	
171	Dieldrin	mg/kg	170			<0.00569										<0.00561		<0.00684	
172	Atrazine	mg/kg	9300			<0.00228										<0.00224		<0.00274	
173	Dichlorvos (DDVP)	mg/kg	140			<0.00228										<0.00224		<0.00274	
174	Alpha-Endosulfan	mg/kg	5600 (0.003)			<0.00114										<0.00112		<0.00137	
175	Beta-Endosulfan	mg/kg	6300 (0.00007)			<0.0114										<0.0112		<0.0137	
176	Alpha-Hexachlorocyclohexanes	mg/kg	170			<0.00228										<0.00224		<0.00274	
177	Beta-Hexachlorocyclohexanes	mg/kg	65			<0.00228										<0.00224		<0.00274	
178	Gamma-Hexachlorocyclohexanes	mg/kg	67			<0.00114										<0.00112		<0.00137	
179	1,2-Dichlorobenzene	mg/kg	2000 (571*)																
180	1,3-Dichlorobenzene	mg/kg	30																
181	1,4-Dichlorobenzene	mg/kg	4400 (224)																
182	1,2,3-Trichlorobenzene	mg/kg	102			<0.00114										<0.00112		<0.00137	
183	1,2,4-Trichlorobenzene	mg/kg	220																
184	1,3,5-Trichlorobenzene	mg/kg	23			<0.00114										<0.00112		<0.00137	
185	Hexachlorobenzene	mg/kg	110 (0.2)			<0.00228										<0.00224		<0.00274	
186	Hexachloroethane	mg/kg																	
187	Total CFC (for Haz)	mg/kg																	
188																			
189	***Moisture.***																		
190	Moisture Content Ratio (% of as received sample)	%			23.3	12.2	17.5	14.2	4.7	21.7	8.2	27	38.4	18.1	10.7	10.8	16.3	26.9	21.7
191	***PFOA/PFOS***																		
192	PFOA	mg/kg	0.6																
193	PFOS	mg/kg	0.6																
194	PFHxS	mg/kg	0.6																
195	PFNA	mg/kg	0.6																
196	Hazard Quotient	%	1																

			LOC ID	3H4600SA
			DEPTH	3.30
			GEOL	WTT
		Assessment Criteria	LAB ID	G4011-24 Phase 3B/C202405210 12604
Analyte	Units	LOD	Human Consumption	LAB RECEIVED DATE	27/05/2024
Alkalinity as CaCO3	µg/l		-		
Arsenic	µg/l	1	10		<1.0
Boron	µg/l	10	1000		<10.0
Cadmium	µg/l	0.02	5		0.07
Chromium (Total)	µg/l	1	50		<1.0
Chromium Trivalent	µg/l	3	-		<3.0
Chromium Hexavalant	µg/l	3	-		<3.0
Copper	µg/l	1	2000		<1.0
Iron	µg/l		200		
Lead	µg/l	1	10		2
Mercury	µg/l	0.03	1		<0.03
Manganese	µg/l		50		
Fluoride	µg/l	1	1500		<100.0
Nickel	µg/l	1	20		2
Selenium	µg/l	1	10		1
Zinc	µg/l	2	5000		4
Total Ammonia (N)	µg/l	20	-		41.2
Ammoniacal Nitrogen as N	µg/l	20	-		
Ammoniacal Nitrogen as NH3	µg/l	20	-		50
Ammonium (NH4)	µg/l	20	500		52.9
Chloride	µg/l	1000	250000		3000
Chlorine	µg/l		-		
Cyanide	µg/l	20	50		<20.0
Nitrate as NO3	µg/l	900	50000		<900.0
Nitrite as NO2	µg/l	40	500		50
Phenol	µg/l		0.5		
Pentachlorophenol	µg/l	0.04	-		
PCBs	µg/l		-		
Sodium	µg/l		200000		
Sulphate	µg/l	3000	250000		33000
pH	pH Units	1	-		7.4
Dichloromethane	µg/l		-		
1,2 Dichloroethane	µg/l		3		
Trichloroethene (PCE)	µg/l		10		
1,1,1 Trichloroethane	µg/l		-		
1,1,2 Trichloroethane	µg/l		-		
Trichloromethane (Chloroform)	µg/l		100		
1,2,3 Trichlorobenzene	µg/l	0.01	-		
1,2,4 Trichlorobenzene	µg/l		-		
Trichlorobenzene (1,2,3 & 1,2,4)	µg/l		-		
Tetrachloroethene	µg/l		10		
Tetrachloromethane	µg/l		3		
1,1,1,2 Tetrachloroethane	µg/l		-		
Vinyl Chloride (Chloroethene)	µg/l		0.5		
>C5 to C6 Aliphatic	µg/l	100	10		
>C6 to C8 Aliphatic	µg/l	100	10		
>C8 to C10 Aliphatic	µg/l	100	10		
>C10 to C12 Aliphatic	µg/l	10	10		
>C12 to C16 Aliphatic	µg/l	10	10		
>C16 to C21 Aliphatic	µg/l	10	10		
>C21 to C35 Aliphatic	µg/l	10	10		
>C35 to C44 Aliphatic	µg/l	10	10		
Total Aliphatic C5-35	µg/l	340	10		
>C5 to C7 Aromatic	µg/l	5	10		
>C7 to C8 Aromatic	µg/l	5	10		
>C8 to C10 Aromatic	µg/l	20	10		
>C10 to C12 Aromatic	µg/l	10	10		
>C12 to C16 Aromatic	µg/l	10	10		
>C16 to C21 Aromatic	µg/l	10	10		
>C21 to C35 Aromatic	µg/l	10	10		
>C35 to C44 Aromatic	µg/l	10	10		
Total Aromatic C5-C35	µg/l	70	10		
TPH Ali/Aro	µg/l	410	10		110.0 (TPH >C6-40)
Benzene	µg/l	1	1		<1
Ethylbenzene	µg/l	0.5	300		<0.5
Toluene	µg/l	1	700		<1
Xylene	µg/l		500		
M- & P-Xylene	µg/l	1	-		<1
O-Xylene	µg/l	1	-		<1
Total Xylene (M, P & O)	µg/l	2	-		
MTBE	µg/l	1	15		<1
naphthalene	µg/l	0.01	-		0.25
acenaphthylene	µg/l	0.01	-		0.02
acenaphthene	µg/l	0.01	-		0.52
fluorene	µg/l	0.01	-		0.15
phenanthrene	µg/l	0.01	-		0.03
anthracene	µg/l	0.01	-		<0.01
fluoranthene	µg/l	0.01	-		<0.01
pyrene	µg/l	0.01	-		<0.01
benzo(a)anthracene	µg/l	0.01	-		<0.01
chrysene	µg/l	0.01	-		<0.01
benzo(b)fluoranthene	µg/l	0.01	0.1		<0.01
benzo(k)fluoranthene	µg/l	0.01	0.1		<0.01
benzo(a)pyrene	µg/l	0.01	0.01		<0.01
benzo(g,h,i)perylene	µg/l	0.01	0.1		<0.01

dibenzo(ah)anthracene	µg/l	0.01	-		<0.01
indeno(1,2,3-c,d)pyrene	µg/l	0.01	0.1		<0.01
Sum (benzo b, k, ghi & indeno123cd)	µg/l	0.04	0.1		
Total PAH	µg/l	0.16	-		1.08
PFOS	µg/l	0.01	0.1		
PFOA	µg/l	0.01	0.1		

Groundwater Results highlighting Exceedances above Generic Assessment Criteria

				LOC ID	2H4500DR	2H4501DR	2H4501DR	2H4501DR	2H4502DS	2H4503DS	2H4503DS	2H4503DS	2H4503DS	3H4517SA	3H4517SA	3H4517SA	3H4600SA	3H4600SA
				DEPTH	5.80	10.00	8.87	9.20	2.42	1.80	1.90	3.70	4.11	10.00	5.00	7.00	7.00	8.00
				GEOL	WHI	LC	WHI	WHI	WHI	Head	Head	Head	WHI	WHI	WHI	WHI	WTT	WTT
			Assessment Criteria	LAB ID			2H4501DRW03/05/23110054	2H4501DRW3104423	2H4502DSW03/05/23110844	2H4503DSW03/05/2311360 7	#60904187597 60014		2H4503DSW3104456		#11021980834 60075			
Analyte	Units	LOD	Human Consumption	LAB RECEIVED DATE	19/07/2023	19/07/2023	06/05/2023	16/09/2023	06/05/2023	06/05/2023	03/03/2023	19/07/2023	16/09/2023	24/05/2024	19/04/2024	09/05/2024	14/08/2024	24/08/2024
Alkalinity as CaCO3	µg/l		-															
Arsenic	µg/l	1	10		2	<1.0	2	<1.0	3	<1.0	<1.0	<1.0	<1.0	9	<1.0	7	<1.0	<1.0
Boron	µg/l	10	1000		140	70	80	70	<10.0	60	50	70	80	240	280	260	20	<10.0
Cadmium	µg/l	0.02	5		<0.02	<0.02	<0.02	0.1	1.4	0.05	<0.02	0.03	0.06	0.4	0.04	0.35	<0.02	<0.02
Chromium (Total)	µg/l	1	50		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	23	<1.0	18	<1.0	<1.0
Chromium Trivalent	µg/l	3	-		<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	23	<3.0	18	<3.0	<3.0
Chromium Hexavalant	µg/l	3	-		<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Copper	µg/l	1	2000		<1.0	<1.0	<1.0	1	40	3	2	2	4	38	1	34	<1.0	<1.0
Iron	µg/l		200						1200	<10.0	<10.0	<10.0	50					
Lead	µg/l	1	10		<1.0	<1.0	<1.0	<1.0	15	<1.0	<1.0	<1.0	<1.0	20	<1.0	14	<1.0	<1.0
Mercury	µg/l	0.03	1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	<0.03
Manganese	µg/l		50						2680	50	130	370	1060					
Fluoride	µg/l	1	1500		IS mg/l	<100.0	100	<100.0	100	100	100	100	200	100	100	100	200	<100.0
Nickel	µg/l	1	20		7	9	8	17	16	2	7	5	7	31	6	24	4	4
Selenium	µg/l	1	10		<1.0	<1.0	<1.0	<1.0	2	1	1	<1.0	<1.0	2	<1.0	1	<1.0	<1.0
Zinc	µg/l	2	5000		14	14	4	22	197	6	11	10	9	176	18	81	5	4
Total Ammonia (N)	µg/l	20	-		16.5	197.6	16.5	<16.5	107.1	57.6	16.5	123.5	197.6	4002.4	4002.4	4101.2	74.1	41.2
Ammoniacal Nitrogen as N	µg/l	20	-						110	60	20	120	200					
Ammoniacal Nitrogen as NH3	µg/l	20	-		20	240	20	20	130	70	20	150	240	4860	4860	4980	90	50
Ammonium (NH4)	µg/l	20	500		21.2	254.1	21.2	21.2	137.6	74.1	21.2	158.8	254.1	5145.9	5145.9	5272.9	95.3	52.9
Chloride	µg/l	1000	250000		112000	21000	35000	20000	12000	80000	132000	183000	245000	25000	27000	25000	27000	30000
Chlorine	µg/l		-															
Cyanide	µg/l	20	50		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	30	<20.0	<20.0
Nitrate as NO3	µg/l	900	50000		<900.0	3600	<900.0	12200	<900.0	4200	9100	2000	<900.0	5900	9200	12000	<900.0	<900.0
Nitrite as NO2	µg/l	40	500		<40.0	<40.0	<40.0	<40.0	<40.0	40	40	140	130	330	1010	670	<40.0	<40.0
Phenol	µg/l		0.5						<20.0	<20.0	<20.0	<20.0	<20.0				<0.5	<0.5
Pentachlorophenol	µg/l	0.04	-		<0.04				<0.04	<0.04	<0.04	<0.04	<0.04					
PCBs	µg/l		-															
Sodium	µg/l		200000		86000	16000	43000	9000									20000	21000
Sulphate	µg/l	3000	250000		<3000.0	29000	47000	31000	7000	10000	8000	17000	14000	41000	30000	38000	63000	63000
pH	pH Units	1	-		7.4	6.8	7.2	5.8	7.5	6.7	6.8	7	6.8	7	7.1	7.1	6.8	6.9
Dichloromethane	µg/l		-															
1,2 Dichloroethane	µg/l		3						<1	<1	<1	<1	<1					
Trichloroethene (PCE)	µg/l		10						<5	<5	<5	<5	<5					
1,1,1 Trichloroethane	µg/l		-						<1	<1	<1	<1	<1					
1,1,2 Trichloroethane	µg/l		-						<1	<1	<1	<1	<1					
Trichloromethane (Chloroform)	µg/l		100						<5	<5	<5	<5	<5					
1,2,3 Trichlorobenzene	µg/l	0.01	-		IS				<0.01	<0.01	<0.01	<0.01	<0.01					
1,2,4 Trichlorobenzene	µg/l		-						<5.0	<5.0	<5.0	<5.0	<5.0					
Trichlorobenzene (1,2,3 & 1,2,4)	µg/l		-															
Tetrachloroethene	µg/l		10						<5	<5	<5	<5	<5					
Tetrachloromethane	µg/l		3						<1	<1	<1	<1	<1					
1,1,1,2 Tetrachloroethane	µg/l		-						<1	<1	<1	<1	<1					
Vinyl Chloride (Chloroethene)	µg/l		0.5						<1	<1	<1	<1	<1					
>C5 to C6 Aliphatic	µg/l	100	10						<100.0	<100.0	<100.0	<100.0	<100.0				<100.0	<100.0
>C6 to C8 Aliphatic	µg/l	100	10						<100.0	<100.0	<100.0	<100.0	<100.0				<100.0	<100.0
>C8 to C10 Aliphatic	µg/l	100	10						<100.0	<100.0	<100.0	<100.0	<100.0				<100.0	<100.0
>C10 to C12 Aliphatic	µg/l	10	10						<10.0	<10.0	50	<200.0	500				<100.0	<200.0
>C12 to C16 Aliphatic	µg/l	10	10						20	<10.0	10	<200.0	220				<100.0	<200.0
>C16 to C21 Aliphatic	µg/l	10	10						280	<10.0	20	<200.0	1590				<100.0	<200.0
>C21 to C35 Aliphatic	µg/l	10	10						9970	360	170	<200.0	54500				<100.0	<200.0
>C35 to C44 Aliphatic	µg/l	10	10						930	40	30	<200.0	5570				<100.0	<200.0
Total Aliphatic C5-35	µg/l	340	10															
>C5 to C7 Aromatic	µg/l	5	10						<5.0	<5.0	<5.0	<5.0	<5.0				<5.0	<5.0
>C7 to C8 Aromatic	µg/l	5	10						<5.0	<5.0	<5.0	<5.0	<5.0				<5.0	<5.0
>C8 to C10 Aromatic	µg/l	20	10						<20.0	<20.0	<20.0	<20.0	<20.0				<20.0	<20.0
>C10 to C12 Aromatic	µg/l	10	10						<10.0	<10.0	<10.0	<200.0	<200.0				<100.0	<200.0
>C12 to C16 Aromatic	µg/l	10	10						<10.0	<10.0	<10.0	<200.0	<200.0				<100.0	<200.0
>C16 to C21 Aromatic	µg/l	10	10						<10.0	<10.0	<10.0	<200.0	<200.0				<100.0	<200.0
>C21 to C35 Aromatic	µg/l	10	10						140	30	<10.0	<200.0	370				<100.0	<200.0
>C35 to C44 Aromatic	µg/l	10	10						20	10	20	410	<200.0				<100.0	<200.0
Total Aromatic C5-C35	µg/l	70	10															
TPH Ali/Aro	µg/l	410	10		115.0 (GRO >C6-10) , IS mg (EPH >C10-40) , IS mg (TPH >C6-40)	<100.0 (GRO >C6-10) , <200.0 (EPH >C10-40) , <2200.0 (TPH >C6-40)	<100.0 (GRO >C6-10) , 60.0 (EPH >C10-40) , 160.0 (TPH >C6-40)	<100.0 (GRO >C6-10) , 30.0 (EPH >C10-40) , 130.0 (TPH >C6-40)	<100.0 (GRO >C5-10) , 11100.0 (Aliphatics >C8-40) , 160.0 (Aromatics >C8-40)	<100.0 (GRO >C5-10) , 400.0 (Aliphatics >C8-40) , 40.0 (Aromatics >C8-40)	<100.0 (GRO >C5-10) , 300.0 (Aliphatics >C8-40) , 30.0 (Aromatics >C8-40)	<100.0 (GRO >C5-10) , 620.0 (Aliphatics >C8-40) , 580.0 (Aromatics >C8-40)	<100.0 (GRO >C5-10) , 62000.0 (Aliphatics >C8-40) , 470.0 (Aromatics >C8-40)	<1100.0 (TPH >C6-40)	<2200.0 (TPH >C6-40)	170.0 (TPH >C6-40)	<100.0 (GRO >C5-10) , <100.0 (GRO >C6-10) , <100.0 (EPH >C10-40) , <100.0 (Aliphatics >C8-40) , 150.0 (Aromatics >C8-40)	<100.0 (GRO >C5-10) , <100.0 (GRO >C6-10) , <200.0 (EPH >C10-40) , <200.0 (Aliphatics >C8-40) , 250.0 (Aromatics >C8-40)
Benzene	µg/l	1	1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5
Ethylbenzene	µg/l	0.5	300		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
Toluene	µg/l	1	700		5	<1	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5
Xylene	µg/l		500															
M- & P-Xylene	µg/l	1	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10
O-Xylene	µg/l	1	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5
Total Xylene (M, P & O)	µg/l	2	-															
MTBE	µg/l	1	15		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10
naphthalene	µg/l	0.01	-		IS	<0.01	0.02	<0.01	<0.01	<0.01	0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
acenaphthylene	µg/l	0.01	-		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
acenaphthene	µg/l	0.01	-		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
fluorene	µg/l	0.01	-		IS	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
phenanthrene	µg/l	0.01	-		IS	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20

IS - Insufficient Sample

Groundwater Results highlighting Exceedances above Generic Assessment Criteria

				LOC ID	2H4500DR	2H4501DR	2H4501DR	2H4501DR	2H4502DS	2H4503DS	2H4503DS	2H4503DS	2H4503DS	3H4517SA	3H4517SA	3H4517SA	3H4600SA	3H4600SA
				DEPTH	5.80	10.00	8.87	9.20	2.42	1.80	1.90	3.70	4.11	10.00	5.00	7.00	7.00	8.00
				GEOL	WHI	LC	WHI	WHI	WHI	Head	Head	Head	WHI	WHI	WHI	WHI	WTT	WTT
			Assessment Criteria	LAB ID			2H4501DRW03/05/23110054	2H4501DRW3104423	2H4502DSW03/05/23110844	2H4503DSW03/05/2311360 7	#60904187597 60014		2H4503DSW3104456		#11021980834 60075			
Analyte	Units	LOD	Human Consumption	LAB RECEIVED DATE	19/07/2023	19/07/2023	06/05/2023	16/09/2023	06/05/2023	06/05/2023	03/03/2023	19/07/2023	16/09/2023	24/05/2024	19/04/2024	09/05/2024	14/08/2024	24/08/2024
anthracene	µg/l	0.01	-		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
fluoranthene	µg/l	0.01	-		IS	<0.01	0.04	<0.01	<0.01	<0.01	0.02	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
pyrene	µg/l	0.01	-		IS	<0.01	0.04	<0.01	0.03	<0.01	0.02	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
benzo(a)anthracene	µg/l	0.01	-		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
chrysene	µg/l	0.01	-		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
benzo(b)fluoranthene	µg/l	0.01	0.1		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
benzo(k)fluoranthene	µg/l	0.01	0.1		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
benzo(a)pyrene	µg/l	0.01	0.01		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
benzo(g,h,i)perylene	µg/l	0.01	0.1		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
dibenzo(ah)anthracene	µg/l	0.01	-		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
indeno(1,2,3-c,d)pyrene	µg/l	0.01	0.1		IS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.10	<0.20	<0.01	<0.10	<0.20
Sum (benzo b, k, ghi & indeno123cd)	µg/l	0.04	0.1															
Total PAH	µg/l	0.16	-		IS	<0.16	0.22	<0.16	0.18	<0.16	0.21	<0.16	<0.64	<1.60	<3.20	<0.16	<1.60	<3.20
PFOS	µg/l	0.01	0.1						<0.008	<0.008	<0.008		<0.008					
PFOA	µg/l	0.01	0.1						<0.008	<0.008	<0.008		0.012					

IS - Insufficient Sample

Appendix E: HazWasteOnline™ Reports

Waste Classification Report

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

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

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

LRK8M-RCW8N-JMPPY

Job name

Hampshire Water Transfer and Water Recycling Project (HWTWRP)[5]

Description/Comments

Waste Classification of soils to be excavated for proposed pipeline.
Boreholes 2H4500DR, 2H4501DR, 2H4502DS and 2H4503DS located in agricultural land.

Project

Phase 2 GIR

Site

Section H

Classified by

Name:
Akansha Patel
Date:
08 Feb 2024 17:42 GMT
Telephone:
07722598325

Company:
Stantec UK Ltd
The Stills, 1st Floor
80 Turnmill Street
LONDON
EC1M5QU

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

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	09 Feb 2023

Next 3 year Refresher due by Feb 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Off High Street, Shirrell Heath, Hampshire **Post Code** N/A

SIC for the process giving rise to the waste

42910 Construction of water projects

Description of industry/producer giving rise to the waste

Water Industry

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

Excavation of trenches for pipeline installations

Description of the waste

Topsoil is dark brown slightly gravelly clayey sand with gravel of flint and chert (2H4500DR and 2H4502DS 0.1m samples). Head deposits in 2H4503DS (0.3m, 1.0m, 2.6m samples). Whitecliff Sand Member in 2H4500DR (1.0m sample), 2H450DS (0.5m and 2.7m samples) and 2H450DS (4.5m sample). London Clay Formation in 2H4500DR (8.5m sample), 2H4501DR (1.0m, 3.1m, and 4.0m samples).

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	2H4500DR	0.10	Non Hazardous		3
2	2H4500DR[2]	1.00	Non Hazardous		5
3	2H4500DR[3]	8.50	Non Hazardous		7
4	2H4501DR	1.00	Non Hazardous		9
5	2H4501DR[2]	3.10	Non Hazardous		11
6	2H4501DR[3]	4.00	Non Hazardous		14
7	2H4502DS	0.10	Non Hazardous		16
8	2H4502DS[2]	0.50	Non Hazardous		18
9	2H4502DS[3]	2.70	Non Hazardous		23
10	2H4503DS	0.30	Non Hazardous		28
11	2H4503DS[2]	1.00	Non Hazardous		30
12	2H4503DS[3]	2.60	Non Hazardous		32
13	2H4503DS[4]	4.50	Non Hazardous		34

Related documents

#	Name	Description
1	GAC Tool Template v4	waste stream template used to create this Job

Report

Created by: Akansha Patel

Created date: 08 Feb 2024 17:42 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	39
Appendix B: Rationale for selection of metal species	42
Appendix C: Version	42

Classification of sample: 2H4500DR

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

Sample details

Sample name:
2H4500DR
Sample Depth:
0.10 m
Moisture content:
14.9%
(no 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% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.3 mg/kg	1.32	13.599 mg/kg	0.00136 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		6.3 mg/kg	1.142	7.197 mg/kg	0.00072 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		24.9 mg/kg	1.462	36.393 mg/kg	0.00364 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21.5 mg/kg	1.126	24.207 mg/kg	0.00242 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	31.3 mg/kg	1.56	48.822 mg/kg	0.00313 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		77.5 mg/kg	2.469	191.37 mg/kg	0.0191 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.6 mg/kg	3.22	1.932 mg/kg	0.000193 %		
11	pH			PH		7.2 pH		7.2 pH	7.2 pH		
12	pentachlorophenol	604-002-00-8	201-778-6	87-86-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	TPH (C6 to C40) petroleum group			TPH		64.4 mg/kg		64.4 mg/kg	0.00644 %		
14	pentachlorobenzene	602-074-00-5	210-172-0	608-93-5		<0.0011 mg/kg		<0.0011 mg/kg	<0.000000118 %		<LOD
15	aldrin (ISO)	602-048-00-3	206-215-8	309-00-2		<0.0023 mg/kg		<0.0023 mg/kg	<0.000000235 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16		dieldrin (ISO)				<0.0058 mg/kg		<0.0058 mg/kg	<0.000000588 %		<**LOD**
		602-049-00-9	200-484-5	60-57-1							
17		atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine				<0.0023 mg/kg		<0.0023 mg/kg	<0.000000235 %		<**LOD**
		613-068-00-7	217-617-8	1912-24-9							
18		dichlorvos (ISO); 2,2-dichlorovinyl dimethyl phosphate				<0.0023 mg/kg		<0.0023 mg/kg	<0.000000235 %		<**LOD**
		015-019-00-X	200-547-7	62-73-7							
19		endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite				<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<**LOD**
		602-052-00-5	204-079-4	115-29-7							
20		hexachlorocyclohexanes, including lindane				<0.0058 mg/kg		<0.0058 mg/kg	<0.000000588 %		<**LOD**
		602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1							
21		lindane (ISO); g-HCH or g-BHC; g-1,2,3,4,5,6-hexachlorocyclohexane				<0.0011 mg/kg		<0.0011 mg/kg	<0.000000118 %		<**LOD**
		602-043-00-6	200-401-2	58-89-9							
22		1,2,3-trichlorobenzene				<0.0011 mg/kg		<0.0011 mg/kg	<0.000000118 %		<**LOD**
			201-757-1	87-61-6							
23		hexachlorobenzene				<0.0023 mg/kg		<0.0023 mg/kg	<0.000000235 %		<**LOD**
		602-065-00-6	204-273-9	118-74-1							
								Total:	0.0372 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00644%)

Classification of sample: 2H4500DR[2]

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

Sample details

Sample name:
2H4500DR[2]
Sample Depth:
1.00 m
Moisture content:
17.2%
(no 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: 17.2% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.5	mg/kg	1.32	15.184	mg/kg	0.00152 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.457	mg/kg	0.0000457 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		24.8	mg/kg	1.462	36.247	mg/kg	0.00362 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12	mg/kg	1.126	13.511	mg/kg	0.00135 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15.5	mg/kg	1.56	24.177	mg/kg	0.00155 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		41.9	mg/kg	2.469	103.464	mg/kg	0.0103 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.7	mg/kg	3.22	2.254	mg/kg	0.000225 %		
11	pH			PH		7.5	pH		7.5	pH	7.5 pH		
12	TPH (C6 to C40) petroleum group			TPH		46.5	mg/kg		46.5	mg/kg	0.00465 %		
										Total:	0.0235 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00465%)

Classification of sample: 2H4500DR[3]

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

Sample details

Sample name:
2H4500DR[3]
Sample Depth:
8.50 m
Moisture content:
20%
(no 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% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10	mg/kg	1.32	13.203	mg/kg	0.00132 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		39	mg/kg	1.462	57.001	mg/kg	0.0057 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16.3	mg/kg	1.126	18.352	mg/kg	0.00184 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10.5	mg/kg	1.56	16.378	mg/kg	0.00105 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		77.6	mg/kg	2.469	191.617	mg/kg	0.0192 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.8	mg/kg	3.22	2.576	mg/kg	0.000258 %		
11	pH			PH		6	pH		6	pH	6pH		
12	TPH (C6 to C40) petroleum group			TPH		25	mg/kg		25	mg/kg	0.0025 %		
										Total:	0.032 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0025%)

Classification of sample: 2H4501DR

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

Sample details

Sample name:
2H4501DR
Sample Depth:
1.00 m
Moisture content:
24%
(no 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: 24% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.6	mg/kg	1.32	7.394	mg/kg	0.000739 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		42.2	mg/kg	1.462	61.678	mg/kg	0.00617 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13.6	mg/kg	1.126	15.312	mg/kg	0.00153 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	9.1	mg/kg	1.56	14.194	mg/kg	0.00091 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		27.8	mg/kg	2.469	68.646	mg/kg	0.00686 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5	mg/kg	3.22	<1.61	mg/kg	<0.000161 %		<LOD
11	pH			PH		5.4	pH		5.4	pH	5.4 pH		
12	TPH (C6 to C40) petroleum group			TPH		120	mg/kg		120	mg/kg	0.012 %		
										Total:	0.0286 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.012%)

Classification of sample: 2H4501DR[2]

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

Sample details

Sample name:
2H4501DR[2]
Sample Depth:
3.10 m
Moisture content:
21.5%
(no 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: 21.5% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.7	mg/kg	1.32	7.526	mg/kg	0.000753 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40	mg/kg	1.462	58.462	mg/kg	0.00585 %		
4		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16.9	mg/kg	1.126	19.028	mg/kg	0.0019 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10.3	mg/kg	1.56	16.066	mg/kg	0.00103 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		39.4	mg/kg	2.469	97.29	mg/kg	0.00973 %		
10		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5	mg/kg	3.22	<1.61	mg/kg	<0.000161 %		<LOD
11		pH			PH		4.8	pH		4.8	pH	4.8 pH		
12		benzene	601-020-00-8	200-753-7	71-43-2		<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
13		toluene	601-021-00-3	203-625-9	108-88-3		<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
14		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.039	mg/kg		<0.039	mg/kg	<0.0000039 %		<**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]									
16		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-052-00-2	202-049-5	91-20-3									
17		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
18		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
19		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
20		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
22		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
23		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
24		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
25		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
26		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
27		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
28		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
29		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
30		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
31		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
32		coronene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-881-7	191-07-1									
33		polychlorobiphenyls; PCB				<0.045	mg/kg		<0.045	mg/kg	<0.0000045 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
34		TPH (C6 to C40) petroleum group				83.7	mg/kg		83.7	mg/kg	0.00837 %		
				TPH									
										Total:	0.0282 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00837%)

Classification of sample: 2H4501DR[3]

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

Sample details

Sample name:
2H4501DR[3]
Sample Depth:
4.00 m
Moisture content:
22.3%
(no 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: 22.3% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.2	mg/kg	1.32	9.506	mg/kg	0.000951 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		42.2	mg/kg	1.462	61.678	mg/kg	0.00617 %		
4		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19.1	mg/kg	1.126	21.504	mg/kg	0.00215 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12.3	mg/kg	1.56	19.186	mg/kg	0.00123 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		59.8	mg/kg	2.469	147.664	mg/kg	0.0148 %		
10		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.6	mg/kg	3.22	1.932	mg/kg	0.000193 %		
11		pH			PH		5.1	pH		5.1	pH	5.1 pH		
12		TPH (C6 to C40) petroleum group			TPH		153	mg/kg		153	mg/kg	0.0153 %		
											Total:	0.0409 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0153%)

Classification of sample: 2H4502DS

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

Sample details

Sample name:
2H4502DS
Sample Depth:
0.10 m
Moisture content:
13.9%
(no 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% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17.3	mg/kg	1.32	22.842	mg/kg	0.00228 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.6	mg/kg	1.142	0.685	mg/kg	0.0000685 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21.7	mg/kg	1.462	31.716	mg/kg	0.00317 %		
4		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25.7	mg/kg	1.126	28.935	mg/kg	0.00289 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	39.2	mg/kg	1.56	61.145	mg/kg	0.00392 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		154.1	mg/kg	2.469	380.519	mg/kg	0.0381 %		
10		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5	mg/kg	3.22	<1.61	mg/kg	<0.000161 %		<LOD
11		pH			PH		6.6	pH		6.6	pH	6.6 pH		
12		TPH (C6 to C40) petroleum group			TPH		43.3	mg/kg		43.3	mg/kg	0.00433 %		
											Total:	0.055 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00433%)

Classification of sample: 2H4502DS[2]

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

Sample details

Sample name:
2H4502DS[2]
Sample Depth:
0.50 m
Moisture content:
10.8%
(no 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: 10.8% No Moisture Correction applied (MC)

#		Determinand EU CLP index number / EC Number / CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide } 033-003-00-0 / 215-481-4 / 1327-53-3		14 mg/kg	1.32	18.485 mg/kg	0.00185 %		
2		cadmium { cadmium oxide } 048-002-00-0 / 215-146-2 / 1306-19-0		0.4 mg/kg	1.142	0.457 mg/kg	0.0000457 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) } 215-160-9 / 1308-38-9		32.7 mg/kg	1.462	47.793 mg/kg	0.00478 %		
4		chromium in chromium(VI) compounds { chromium(VI) oxide } 024-001-00-0 / 215-607-8 / 1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8		<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6		copper { dicopper oxide; copper (I) oxide } 029-002-00-X / 215-270-7 / 1317-39-1		38.1 mg/kg	1.126	42.896 mg/kg	0.00429 %		
7		lead { lead chromate } 082-004-00-2 / 231-846-0 / 7758-97-6	1	76.8 mg/kg	1.56	119.794 mg/kg	0.00768 %		
8		mercury { mercury dichloride } 080-010-00-X / 231-299-8 / 7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9		nickel { nickel chromate } 028-035-00-7 / 238-766-5 / 14721-18-7		30.8 mg/kg	2.976	91.669 mg/kg	0.00917 %		
10		zinc { zinc sulphate } 030-006-00-9 / 231-793-3 [1] 231-793-3 [2] / 7446-19-7 [1] 7733-02-0 [2]		117.1 mg/kg	2.469	289.155 mg/kg	0.0289 %		
11		boron { diboron trioxide } 005-008-00-8 / 215-125-8 / 1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
12		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5		<0.6 mg/kg	1.884	<1.13 mg/kg	<0.000113 %		<LOD
13		ammonia ....% 007-001-01-2 / 215-647-6 / 1336-21-6		<0.79 mg/kg		<0.79 mg/kg	<0.000079 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		pH				6.9	pH		6.9	pH	6.9 pH		
				PH									
15		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
16		pentachlorophenol				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
17		benzene				<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
18		toluene				<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
19		ethylbenzene				<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.033	mg/kg		<0.033	mg/kg	<0.0000033 %		<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]									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
			205-883-8	191-24-2									
37		coronene				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
			205-881-7	191-07-1									
38		polychlorobiphenyls; PCB				<0.039	mg/kg		<0.039	mg/kg	<0.0000039 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
39		TPH (C6 to C40) petroleum group				47.7	mg/kg		47.7	mg/kg	0.00477 %		
				TPH									
40		vinyl chloride; chloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
41		1,1-dichloroethylene; vinylidene chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-025-00-8	200-864-0	75-35-4									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
42		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
43		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			203-458-1, 200-863-5	107-06-2, 75-34-3							
44		2,2-dichloropropane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<**LOD**
			209-832-0	594-20-7							
45		bromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			200-826-3	74-97-5							
46		chloroform; trichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-006-00-4	200-663-8	67-66-3							
47		1,1,1-trichloroethane; methyl chloroform				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-013-00-2	200-756-3	71-55-6							
48		carbon tetrachloride; tetrachloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5							
49		1,1-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-031-00-0	209-253-3	563-58-6							
50		1,2-dichloroethane; ethylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-012-00-7	203-458-1	107-06-2							
51		1,2-dichloropropane; propylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-020-00-0	201-152-2	78-87-5							
52		dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-003-00-8	200-824-2	74-95-3							
53		bromodichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			200-856-7	75-27-4							
54		trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			431-460-4	10061-02-6							
55		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]							
56		1,1,2-trichloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-014-00-8	201-166-9	79-00-5							
57		1,3-dichloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			205-531-3	142-28-9							
58		dibromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			204-704-0	124-48-1							
59		1,2-dibromoethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-010-00-6	203-444-5	106-93-4							
60		chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-033-00-1	203-628-5	108-90-7							
61		1,1,2,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-015-00-3	201-197-8	79-34-5							
62		1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			211-135-1	630-20-6							
63		trichloroethylene; trichloroethene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6							
64		tetrachloroethylene				0.004 mg/kg		0.004 mg/kg	0.0000004 %		
		602-028-00-4	204-825-9	127-18-4							
65		pentachlorobenzene				<0.0011 mg/kg		<0.0011 mg/kg	<0.000000112 %		<**LOD**
		602-074-00-5	210-172-0	608-93-5							
66		hexachlorobutadiene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
			201-765-5	87-68-3							
67		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]							
68		2,6-dinitrotoluene				<0.6 mg/kg		<0.6 mg/kg	<0.00006 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
69		2-chloronaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			202-079-9	91-58-7									
70		biphenyl; diphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-042-00-8	202-163-5	92-52-4									
71		bromobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
72		bromoform; tribromomethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
73		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									
74		chloromethane; methyl chloride				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
75		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
76		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
77		BBP; benzyl butyl phthalate				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
78		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-550-6	84-66-2									
79		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
80		di-n-octyl phthalate				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			204-214-7	117-84-0									
81		aldrin (ISO)				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000224 %		<LOD
		602-048-00-3	206-215-8	309-00-2									
82		dieldrin (ISO)				<0.0056	mg/kg		<0.0056	mg/kg	<0.000000561 %		<LOD
		602-049-00-9	200-484-5	60-57-1									
83		atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000224 %		<LOD
		613-068-00-7	217-617-8	1912-24-9									
84		dichlorvos (ISO); 2,2-dichlorovinyl dimethyl phosphate				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000224 %		<LOD
		015-019-00-X	200-547-7	62-73-7									
85		endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite				<0.0123	mg/kg		<0.0123	mg/kg	<0.00000123 %		<LOD
		602-052-00-5	204-079-4	115-29-7									
86		hexachlorocyclohexanes, including lindane				<0.0056	mg/kg		<0.0056	mg/kg	<0.00000056 %		<LOD
		602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
87		lindane (ISO); g-HCH or g-BHC; g-1,2,3,4,5,6-hexachlorocyclohexane				<0.0011	mg/kg		<0.0011	mg/kg	<0.000000112 %		<LOD
		602-043-00-6	200-401-2	58-89-9									
88		1,2-dichlorobenzene; o-dichlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
89		1,4-dichlorobenzene; p-dichlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
90		1,2,3-trichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-757-1	87-61-6									
91		1,2,4-trichlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
92		hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
93		hexachloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			200-666-4	67-72-1									
										Total:	0.0628 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00477%)

Classification of sample: 2H4502DS[3]

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

Sample details

Sample name:
2H4502DS[3]
Sample Depth:
2.70 m
Moisture content:
17.4%
(no 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: 17.4% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2.8 mg/kg	1.32	3.697 mg/kg	0.00037 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		9.8 mg/kg	1.462	14.323 mg/kg	0.00143 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		8.9 mg/kg	1.126	10.02 mg/kg	0.001 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	4.7 mg/kg	1.56	7.331 mg/kg	0.00047 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		4.3 mg/kg	2.976	12.798 mg/kg	0.00128 %		
10	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		20.8 mg/kg	2.469	51.361 mg/kg	0.00514 %		
11	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
12	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.6 mg/kg	1.884	<1.13 mg/kg	<0.000113 %		<LOD
13	ammonia ....%	007-001-01-2	215-647-6	1336-21-6		<0.85 mg/kg		<0.85 mg/kg	<0.000085 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		pH				8.9	pH		8.9	pH	8.9 pH		
				PH									
15		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
16		pentachlorophenol				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
17		benzene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
18		toluene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
19		ethylbenzene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.036	mg/kg		<0.036	mg/kg	<0.0000036 %		<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]									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
			205-883-8	191-24-2									
37		coronene				<0.4	mg/kg		<0.4	mg/kg	<0.00004 %		<LOD
			205-881-7	191-07-1									
38		polychlorobiphenyls; PCB				<0.042	mg/kg		<0.042	mg/kg	<0.0000042 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
39		TPH (C6 to C40) petroleum group				24.2	mg/kg		24.2	mg/kg	0.00242 %		
				TPH									
40		vinyl chloride; chloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
41		1,1-dichloroethylene; vinylidene chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-025-00-8	200-864-0	75-35-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
43		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
44		2,2-dichloropropane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			209-832-0	594-20-7									
45		bromochloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			200-826-3	74-97-5									
46		chloroform; trichloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
47		1,1,1-trichloroethane; methyl chloroform				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
48		carbon tetrachloride; tetrachloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
49		1,1-dichloropropene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
50		1,2-dichloroethane; ethylene dichloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-012-00-7	203-458-1	107-06-2									
51		1,2-dichloropropane; propylene dichloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
52		dibromomethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
53		bromodichloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			200-856-7	75-27-4									
54		trans-1,3-dichloropropene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			431-460-4	10061-02-6									
55		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
56		1,1,2-trichloroethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
57		1,3-dichloropropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			205-531-3	142-28-9									
58		dibromochloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			204-704-0	124-48-1									
59		1,2-dibromoethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
60		chlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
61		1,1,2,2-tetrachloroethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
62		1,1,1,2-tetrachloroethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			211-135-1	630-20-6									
63		trichloroethylene; trichloroethene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
64		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
65		pentachlorobenzene				<0.0012	mg/kg		<0.0012	mg/kg	<0.000000121 %		<LOD
		602-074-00-5	210-172-0	608-93-5									
66		hexachlorobutadiene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-765-5	87-68-3									
67		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
68		2,6-dinitrotoluene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
		609-049-00-8	210-106-0	606-20-2									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
69		2-chloronaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			202-079-9	91-58-7									
70		biphenyl; diphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-042-00-8	202-163-5	92-52-4									
71		bromobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
72		bromoform; tribromomethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
73		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									
74		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
75		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
76		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
77		BBP; benzyl butyl phthalate				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
78		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-550-6	84-66-2									
79		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
80		di-n-octyl phthalate				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			204-214-7	117-84-0									
81		aldrin (ISO)				<0.0024	mg/kg		<0.0024	mg/kg	<0.000000242 %		<LOD
		602-048-00-3	206-215-8	309-00-2									
82		dieldrin (ISO)				<0.006	mg/kg		<0.006	mg/kg	<0.000000605 %		<LOD
		602-049-00-9	200-484-5	60-57-1									
83		atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine				<0.0024	mg/kg		<0.0024	mg/kg	<0.000000242 %		<LOD
		613-068-00-7	217-617-8	1912-24-9									
84		dichlorvos (ISO); 2,2-dichlorovinyl dimethyl phosphate				<0.0024	mg/kg		<0.0024	mg/kg	<0.000000242 %		<LOD
		015-019-00-X	200-547-7	62-73-7									
85		endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite				<0.0133	mg/kg		<0.0133	mg/kg	<0.00000133 %		<LOD
		602-052-00-5	204-079-4	115-29-7									
86		hexachlorocyclohexanes, including lindane				<0.006	mg/kg		<0.006	mg/kg	<0.000000605 %		<LOD
		602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
87		lindane (ISO); g-HCH or g-BHC; g-1,2,3,4,5,6-hexachlorocyclohexane				<0.0012	mg/kg		<0.0012	mg/kg	<0.000000121 %		<LOD
		602-043-00-6	200-401-2	58-89-9									
88		1,2-dichlorobenzene; o-dichlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
89		1,4-dichlorobenzene; p-dichlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
90		1,2,3-trichlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			201-757-1	87-61-6									
91		1,2,4-trichlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
92		hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
93		hexachloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			200-666-4	67-72-1									
										Total:	0.0134 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00242%)

Classification of sample: 2H4503DS

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

Sample details

Sample name:
2H4503DS
Sample Depth:
0.30 m
Moisture content:
14%
(no 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% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.2	mg/kg	1.32	9.506	mg/kg	0.000951 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.457	mg/kg	0.0000457 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15.9	mg/kg	1.462	23.239	mg/kg	0.00232 %		
4		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		17.6	mg/kg	1.126	19.816	mg/kg	0.00198 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	61.9	mg/kg	1.56	96.553	mg/kg	0.00619 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		104.6	mg/kg	2.469	258.288	mg/kg	0.0258 %		
10		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5	mg/kg	3.22	<1.61	mg/kg	<0.000161 %		<LOD
11		pH			PH		7.3	pH		7.3	pH	7.3 pH		
12		TPH (C6 to C40) petroleum group			TPH		59.2	mg/kg		59.2	mg/kg	0.00592 %		
											Total:	0.0436 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00592%)

Classification of sample: 2H4503DS[2]

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

Sample details

Sample name:
2H4503DS[2]
Sample Depth:
1.00 m
Moisture content:
14.5%
(no 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: 14.5% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.9	mg/kg	1.32	9.11	mg/kg	0.000911 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5	mg/kg	1.142	0.571	mg/kg	0.0000571 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		24.9	mg/kg	1.462	36.393	mg/kg	0.00364 %		
4		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		89	mg/kg	1.126	100.204	mg/kg	0.01 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	153.5	mg/kg	1.56	239.432	mg/kg	0.0154 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		362.8	mg/kg	2.469	895.861	mg/kg	0.0896 %		
10		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.6	mg/kg	3.22	1.932	mg/kg	0.000193 %		
11		pH			PH		7.3	pH		7.3	pH	7.3 pH		
12		TPH (C6 to C40) petroleum group			TPH		47	mg/kg		47	mg/kg	0.0047 %		
											Total:	0.125 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0047%)

Classification of sample: 2H4503DS[3]

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

Sample details

Sample name:
2H4503DS[3]
Sample Depth:
2.60 m
Moisture content:
18.9%
(no 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: 18.9% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.3	mg/kg	1.32	12.279	mg/kg	0.00123 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26.7	mg/kg	1.462	39.024	mg/kg	0.0039 %		
4		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1	mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
5		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5	mg/kg	1.405	<0.703	mg/kg	<0.0000703 %		<LOD
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		14.9	mg/kg	1.126	16.776	mg/kg	0.00168 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	9.1	mg/kg	1.56	14.194	mg/kg	0.00091 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5	mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
9		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		49.5	mg/kg	2.469	122.23	mg/kg	0.0122 %		
10		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.7	mg/kg	3.22	2.254	mg/kg	0.000225 %		
11		pH			PH		8.4	pH		8.4	pH	8.4 pH		
12		TPH (C6 to C40) petroleum group			TPH		124	mg/kg		124	mg/kg	0.0124 %		
											Total:	0.0327 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0124%)

Classification of sample: 2H4503DS[4]

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

Sample details

Sample name:
2H4503DS[4]
Sample Depth:
4.50 m
Moisture content:
17.8%
(no 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: 17.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.2 mg/kg	1.32	5.545 mg/kg	0.000555 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		10.7 mg/kg	1.462	15.639 mg/kg	0.00156 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		4.5 mg/kg	1.126	5.066 mg/kg	0.000507 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	3.6 mg/kg	1.56	5.615 mg/kg	0.00036 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		12 mg/kg	2.976	35.715 mg/kg	0.00357 %		
10	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		<16 mg/kg	2.469	<39.509 mg/kg	<0.00395 %		<LOD
11	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.6 mg/kg	3.22	1.932 mg/kg	0.000193 %		
12	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.6 mg/kg	1.884	<1.13 mg/kg	<0.000113 %		<LOD
13	ammonia ....%	007-001-01-2	215-647-6	1336-21-6		<0.85 mg/kg		<0.85 mg/kg	<0.000085 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		pH				7.8	pH		7.8	pH	7.8 pH		
				PH									
15		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
16		pentachlorophenol				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
17		benzene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
18		toluene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
19		ethylbenzene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.036	mg/kg		<0.036	mg/kg	<0.0000036 %		<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]									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.6	mg/kg		<0.6	mg/kg	<0.00006 %		<LOD
			205-883-8	191-24-2									
37		coronene				<0.4	mg/kg		<0.4	mg/kg	<0.00004 %		<LOD
			205-881-7	191-07-1									
38		polychlorobiphenyls; PCB				<0.043	mg/kg		<0.043	mg/kg	<0.0000043 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
39		TPH (C6 to C40) petroleum group				24.3	mg/kg		24.3	mg/kg	0.00243 %		
				TPH									
40		vinyl chloride; chloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
41		1,1-dichloroethylene; vinylidene chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-025-00-8	200-864-0	75-35-4									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
42		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
43		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			203-458-1, 200-863-5	107-06-2, 75-34-3							
44		2,2-dichloropropane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<**LOD**
			209-832-0	594-20-7							
45		bromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			200-826-3	74-97-5							
46		chloroform; trichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-006-00-4	200-663-8	67-66-3							
47		1,1,1-trichloroethane; methyl chloroform				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-013-00-2	200-756-3	71-55-6							
48		carbon tetrachloride; tetrachloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5							
49		1,1-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-031-00-0	209-253-3	563-58-6							
50		1,2-dichloroethane; ethylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-012-00-7	203-458-1	107-06-2							
51		1,2-dichloropropane; propylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-020-00-0	201-152-2	78-87-5							
52		dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-003-00-8	200-824-2	74-95-3							
53		bromodichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			200-856-7	75-27-4							
54		trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			431-460-4	10061-02-6							
55		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]							
56		1,1,2-trichloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-014-00-8	201-166-9	79-00-5							
57		1,3-dichloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			205-531-3	142-28-9							
58		dibromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			204-704-0	124-48-1							
59		1,2-dibromoethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-010-00-6	203-444-5	106-93-4							
60		chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-033-00-1	203-628-5	108-90-7							
61		1,1,2,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-015-00-3	201-197-8	79-34-5							
62		1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
			211-135-1	630-20-6							
63		trichloroethylene; trichloroethene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6							
64		tetrachloroethylene				0.004 mg/kg		0.004 mg/kg	0.0000004 %		
		602-028-00-4	204-825-9	127-18-4							
65		pentachlorobenzene				<0.0012 mg/kg		<0.0012 mg/kg	<0.000000122 %		<**LOD**
		602-074-00-5	210-172-0	608-93-5							
66		hexachlorobutadiene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
			201-765-5	87-68-3							
67		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]							
68		2,6-dinitrotoluene				<0.6 mg/kg		<0.6 mg/kg	<0.00006 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
69		2-chloronaphthalene											
			202-079-9	91-58-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
70		biphenyl; diphenyl											
		601-042-00-8	202-163-5	92-52-4		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
71		bromobenzene											
		602-060-00-9	203-623-8	108-86-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
72		bromoform; tribromomethane											
		602-007-00-X	200-854-6	75-25-2		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
73		chloroethane											
		602-009-00-0	200-830-5	75-00-3		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
74		chloromethane; methyl chloride											
		602-001-00-7	200-817-4	74-87-3		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
75		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane											
		603-181-00-X	216-653-1	1634-04-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
76		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP											
		607-317-00-9	204-211-0	117-81-7		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
77		BBP; benzyl butyl phthalate											
		607-430-00-3	201-622-7	85-68-7		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
78		diethyl phthalate											
			201-550-6	84-66-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
79		dibutyl phthalate; DBP											
		607-318-00-4	201-557-4	84-74-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
80		di-n-octyl phthalate											
			204-214-7	117-84-0		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
81		aldrin (ISO)											
		602-048-00-3	206-215-8	309-00-2		<0.0024	mg/kg		<0.0024	mg/kg	<0.000000243 %		<LOD
82		dieldrin (ISO)											
		602-049-00-9	200-484-5	60-57-1		<0.006	mg/kg		<0.006	mg/kg	<0.000000608 %		<LOD
83		atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine											
		613-068-00-7	217-617-8	1912-24-9		<0.0024	mg/kg		<0.0024	mg/kg	<0.000000243 %		<LOD
84		dichlorvos (ISO); 2,2-dichlorovinyl dimethyl phosphate											
		015-019-00-X	200-547-7	62-73-7		<0.0024	mg/kg		<0.0024	mg/kg	<0.000000243 %		<LOD
85		endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite											
		602-052-00-5	204-079-4	115-29-7		<0.0134	mg/kg		<0.0134	mg/kg	<0.00000134 %		<LOD
86		hexachlorocyclohexanes, including lindane											
		602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1		<0.006	mg/kg		<0.006	mg/kg	<0.000000608 %		<LOD
87		lindane (ISO); g-HCH or g-BHC; g-1,2,3,4,5,6-hexachlorocyclohexane											
		602-043-00-6	200-401-2	58-89-9		<0.0012	mg/kg		<0.0012	mg/kg	<0.000000122 %		<LOD
88		1,2-dichlorobenzene; o-dichlorobenzene											
		602-034-00-7	202-425-9	95-50-1		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
89		1,4-dichlorobenzene; p-dichlorobenzene											
		602-035-00-2	203-400-5	106-46-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
90		1,2,3-trichlorobenzene											
			201-757-1	87-61-6		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
91		1,2,4-trichlorobenzene											
		602-087-00-6	204-428-0	120-82-1		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
92		hexachlorobenzene											
		602-065-00-6	204-273-9	118-74-1		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
93		hexachloroethane											
			200-666-4	67-72-1		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
										Total:	0.0143 %		

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 No liquid phase present. Hazardous limit used represents less than 1% of the waste.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00243%)

Appendix A: Classifier defined and non GB MCL determinands

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

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

pH (CAS Number: PH)

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

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

1,2,3-trichlorobenzene (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; H410

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

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

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

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

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

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

1,1-dichloroethane and 1,2-dichloroethane (combined) (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 1B; H350 , Aquatic Chronic 3; H412

2,2-dichloropropane (EC Number: 209-832-0, CAS Number: 594-20-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Eye Irrit. 2; H319

bromochloromethane (EC Number: 200-826-3, CAS Number: 74-97-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Ozone 1; H420

bromodichloromethane (EC Number: 200-856-7, CAS Number: 75-27-4)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 1A; H360

trans-1,3-dichloropropene (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 3; H301 , Asp. Tox. 1; H304 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , Aquatic Chronic 1; H410

1,3-dichloropropane (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

dibromochloromethane (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336 , Muta. 2; H341 , Aquatic Chronic 2; H411

1,1,1,2-tetrachloroethane (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , Carc. 2; H351 , Acute Tox. 4; H312 , Aquatic Chronic 3; H412 , Skin Irrit. 2; H315

hexachlorobutadiene (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 2; H310 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 2; H330 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

2-chloronaphthalene (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

diethyl phthalate (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , STOT SE 3; H335 , STOT RE 2; H373 , Repr. 2; H361 , Acute Tox. 4; H302 , STOT SE 3; H336 , Skin Sens. 1; H317 , Aquatic Chronic 1; H410

di-n-octyl phthalate (EC Number: 204-214-7, CAS Number: 117-84-0)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Repr. 2; H361 , Skin Sens. 1; H317 , Resp. Sens. 1; H334 , Eye Irrit. 2; H319 , Aquatic Chronic 4; H413

hexachloroethane (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT RE 2; H373

Appendix B: Rationale for selection of metal species

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.

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. 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.

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

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

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

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

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.

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. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead chromate}

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

mercury {mercury dichloride}

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

zinc {zinc sulphate}

There is not enough chromium available to make zinc chromate.

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

nickel {nickel chromate}

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

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

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide].

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2024.30.5942.10989 (30 Jan 2024)
HazWasteOnline Database: 2024.26.5938.10982 (26 Jan 2024)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023

Waste Classification Report

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

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

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

W3BS4-9WHWL-2DSQB

Report is invalid if pages are removed.

Job name

Water For Life - Havant Thicket - Section H Phase 3 GI

Description/Comments

Phase 3 GI was carried out between October 2023 and May 2024 by SOCOTEC UK Limited

Laboratory analysis carried out on 22 samples by SOCOTEC Environmental Chemistry.

Project

Water for Life

Site

Section H

Classified by

Name:
Samuel Doyle
Date:
18 Dec 2024 14:00 GMT
Telephone:
07505455315

Company:
Stantec UK Ltd
1st Floor, Vision Court
Caxton Place
Cardiff
CF23 8HA

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

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	08 Aug 2024

Next 3 year Refresher due by Aug 2027

Purpose of classification

2 - Material Characterisation

Address of the waste

N/A

Post Code N/A

SIC for the process giving rise to the waste

42910 Construction of water projects

Description of industry/producer giving rise to the waste

Water Industry

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

Waste created during the excavation for a new pipeline through open cut methods and trenchless crossings.

Description of the waste

Exploratory Locations advanced along Section H encountered a mix of topsoil, made ground and natural soils.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	3H4507HP	0.2	Non Hazardous		3
2	3H4507HP[2]	1	Non Hazardous		6
3	3H4511HP	0.2	Non Hazardous		9
4	3H4511HP[2]	0.5	Non Hazardous		11
5	3H4513HP	0.2	Non Hazardous		13
6	3H4513HP[2]	1	Non Hazardous		15
7	3H4514HP	0.5	Non Hazardous		17
8	3H4514HP[2]	1	Non Hazardous		19
9	3H4515HP	0.2	Non Hazardous		21
10	3H4515HP[2]	1	Non Hazardous		23
11	3H4517SA	0.2	Non Hazardous		25
12	3H4517SA[2]	1	Non Hazardous		28
13	3H4517SA[3]	8	Non Hazardous		31
14	3H4600SA	1.1	Non Hazardous		33
15	3H4600SA[2]	3.3	Non Hazardous		35
16	3H4600SA[3]	9.45	Non Hazardous		37
17	3H4602HP	0.5	Non Hazardous		39
18	3H4602HP[2]	1	Non Hazardous		41
19	3H4603HP	0.2	Non Hazardous		43
20	3H4603HP[2]	1	Non Hazardous		45
21	3H4606HP	0.2	Non Hazardous		47
22	3H4606HP[2]	1	Non Hazardous		50

Related documents

#	Name	Description
1	GAC Tool Template v4	waste stream template used to create this Job

Report

Created by: Samuel Doyle

Created date: 18 Dec 2024 14:00 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	52
Appendix B: Rationale for selection of metal species	53
Appendix C: Version	54

Classification of sample: 3H4507HP

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

Sample details

Sample name:
3H4507HP
Sample Depth:
0.2 m
Moisture content:
14.3%
(no 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: 14.3% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.4 mg/kg	1.32	9.77 mg/kg	0.000977 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16.5 mg/kg	1.462	24.116 mg/kg	0.00241 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		8.7 mg/kg	1.126	9.795 mg/kg	0.00098 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23 mg/kg	1.56	35.876 mg/kg	0.0023 %		
8	mercury { rcury dichloride me }	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		5.7 mg/kg	2.976	16.965 mg/kg	0.0017 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		31.7 mg/kg	2.774	87.94 mg/kg	0.00879 %		
11	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.7 mg/kg	3.22	2.254 mg/kg	0.000225 %		
12	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
13	pH			PH		7.6 pH		7.6 pH	7.6 pH		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		phenol				0.16	mg/kg		0.16	mg/kg	0.000016 %		
		604-001-00-2	203-632-7	108-95-2									
15		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
16		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
17		benzene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
18		toluene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
19		ethylbenzene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		naphthalene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			205-912-4	206-44-0									
27		pyrene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-883-8	191-24-2									
36		coronene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-881-7	191-07-1									
37		TPH (C6 to C40) petroleum group				41.3	mg/kg		41.3	mg/kg	0.00413 %		
				TPH									
38		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.023	mg/kg		<0.023	mg/kg	<0.0000023 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
								Total:	0.0229 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%)

because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00413%)

Classification of sample: 3H4507HP[2]

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

Sample details

Sample name:
3H4507HP[2]
Sample Depth:
1 m
Moisture content:
21.8%
(no 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: 21.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8 mg/kg	1.32	10.563 mg/kg	0.00106 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36.1 mg/kg	1.462	52.762 mg/kg	0.00528 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10 mg/kg	1.126	11.259 mg/kg	0.00113 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	9.6 mg/kg	1.56	14.974 mg/kg	0.00096 %		
8	mercury { rcury dichloride me }	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		8 mg/kg	2.976	23.81 mg/kg	0.00238 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		24.7 mg/kg	2.774	68.521 mg/kg	0.00685 %		
11	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
12	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
13	pH			PH		7.4 pH		7.4 pH	7.4 pH		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		phenol				<0.12	mg/kg		<0.12	mg/kg	<0.000012 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
15		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				0.15	mg/kg		0.15	mg/kg	0.000015 %		
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
16		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.12	mg/kg		<0.12	mg/kg	<0.000012 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
17		benzene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
18		toluene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
19		ethylbenzene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
36		coronene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-881-7	191-07-1									
37		TPH (C6 to C40) petroleum group				60.5	mg/kg		60.5	mg/kg	0.00605 %		
				TPH									
38		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.026	mg/kg		<0.026	mg/kg	<0.0000026 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
								Total:	0.0253 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00605%)

Classification of sample: 3H4511HP

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

Sample details

Sample name:
3H4511HP
Sample Depth:
0.2 m
Moisture content:
17.6%
(no 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: 17.6% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.7 mg/kg	1.32	10.167 mg/kg	0.00102 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20.6 mg/kg	1.462	30.108 mg/kg	0.00301 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.7 mg/kg	1.126	12.047 mg/kg	0.0012 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17.2 mg/kg	1.56	26.829 mg/kg	0.00172 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		34.3 mg/kg	2.774	95.153 mg/kg	0.00952 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.7 mg/kg	3.22	2.254 mg/kg	0.000225 %		
11	pH			PH		7.3 pH		7.3 pH	7.3 pH		
12	TPH (C6 to C40) petroleum group			TPH		98.3 mg/kg		98.3 mg/kg	0.00983 %		
								Total:	0.0267 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00983%)

Classification of sample: 3H4511HP[2]

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

Sample details

Sample name:
3H4511HP[2]
Sample Depth:
0.5 m
Moisture content:
24.8%
(no 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: 24.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.2 mg/kg	1.32	13.467 mg/kg	0.00135 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		41.2 mg/kg	1.462	60.216 mg/kg	0.00602 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		11.6 mg/kg	1.126	13.06 mg/kg	0.00131 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	11.5 mg/kg	1.56	17.938 mg/kg	0.00115 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		26.9 mg/kg	2.774	74.625 mg/kg	0.00746 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.5 mg/kg	3.22	1.61 mg/kg	0.000161 %		
11	pH			PH		7.6 pH		7.6 pH	7.6 pH		
12	TPH (C6 to C40) petroleum group			TPH		53.3 mg/kg		53.3 mg/kg	0.00533 %		
								Total:	0.023 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00533%)

Classification of sample: 3H4513HP

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

Sample details

Sample name:
3H4513HP
Sample Depth:
0.2 m
Moisture content:
15.6%
(no 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: 15.6% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8 mg/kg	1.32	10.563 mg/kg	0.00106 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		22.2 mg/kg	1.462	32.447 mg/kg	0.00324 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6.9 mg/kg	1.126	7.769 mg/kg	0.000777 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19.6 mg/kg	1.56	30.572 mg/kg	0.00196 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		36.8 mg/kg	2.774	102.089 mg/kg	0.0102 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
11	pH			PH		6.7 pH		6.7 pH	6.7 pH		
12	TPH (C6 to C40) petroleum group			TPH		75.3 mg/kg		75.3 mg/kg	0.00753 %		
								Total:	0.0251 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00753%)

Classification of sample: 3H4513HP[2]

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

Sample details

Sample name:
3H4513HP[2]
Sample Depth:
1 m
Moisture content:
16.3%
(no 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: 16.3% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.5 mg/kg	1.32	11.223 mg/kg	0.00112 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25.1 mg/kg	1.462	36.685 mg/kg	0.00367 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.3 mg/kg	1.126	11.597 mg/kg	0.00116 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	9.7 mg/kg	1.56	15.13 mg/kg	0.00097 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		40.9 mg/kg	2.774	113.463 mg/kg	0.0113 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
11	pH			PH		5.9 pH		5.9 pH	5.9 pH		
12	TPH (C6 to C40) petroleum group			TPH		64.2 mg/kg		64.2 mg/kg	0.00642 %		
								Total:	0.025 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00642%)

Classification of sample: 3H4514HP

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

Sample details

Sample name:
3H4514HP
Sample Depth:
0.5 m
Moisture content:
17%
(no 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% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.2 mg/kg	1.32	4.225 mg/kg	0.000423 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		10.5 mg/kg	1.462	15.346 mg/kg	0.00153 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		7.9 mg/kg	1.126	8.895 mg/kg	0.000889 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10.5 mg/kg	1.56	16.378 mg/kg	0.00105 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		25.2 mg/kg	2.774	69.908 mg/kg	0.00699 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
11	pH			PH		7.6 pH		7.6 pH	7.6 pH		
12	TPH (C6 to C40) petroleum group			TPH		53.2 mg/kg		53.2 mg/kg	0.00532 %		
								Total:	0.0165 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00532%)

Classification of sample: 3H4514HP[2]

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

Sample details

Sample name:
3H4514HP[2]
Sample Depth:
1 m
Moisture content:
23.3%
(no 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: 23.3% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.6 mg/kg	1.32	6.073 mg/kg	0.000607 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		23.1 mg/kg	1.462	33.762 mg/kg	0.00338 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6.1 mg/kg	1.126	6.868 mg/kg	0.000687 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	8.3 mg/kg	1.56	12.946 mg/kg	0.00083 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		24 mg/kg	2.774	66.58 mg/kg	0.00666 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2.5 mg/kg	3.22	8.05 mg/kg	0.000805 %		
11	pH			PH		7.3 pH		7.3 pH	7.3 pH		
12	TPH (C6 to C40) petroleum group			TPH		57.6 mg/kg		57.6 mg/kg	0.00576 %		
									Total: 0.0189 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00576%)

Classification of sample: 3H4515HP

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

Sample details

Sample name:
3H4515HP
Sample Depth:
0.2 m
Moisture content:
12.2%
(no 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% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.4 mg/kg	1.32	5.809 mg/kg	0.000581 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		8.6 mg/kg	1.462	12.569 mg/kg	0.00126 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.3 mg/kg	1.126	11.597 mg/kg	0.00116 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	21.2 mg/kg	1.56	33.068 mg/kg	0.00212 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		29 mg/kg	2.774	80.45 mg/kg	0.00805 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2.7 mg/kg	3.22	8.694 mg/kg	0.000869 %		
11	pH			PH		7.1 pH		7.1 pH	7.1 pH		
12	pentachlorophenol	604-002-00-8	201-778-6	87-86-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	TPH (C6 to C40) petroleum group			TPH		53.8 mg/kg		53.8 mg/kg	0.00538 %		
14	pentachlorobenzene	602-074-00-5	210-172-0	608-93-5		<0.0011 mg/kg		<0.0011 mg/kg	<0.000000114 %		<LOD
15	aldrin (ISO)	602-048-00-3	206-215-8	309-00-2		<0.0022 mg/kg		<0.0022 mg/kg	<0.000000228 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		dieldrin (ISO)				<0.0056	mg/kg		<0.0056	mg/kg	<0.000000569 %		<LOD
		602-049-00-9	200-484-5	60-57-1									
17		atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000228 %		<LOD
		613-068-00-7	217-617-8	1912-24-9									
18		dichlorvos (ISO); 2,2-dichlorovinyl dimethyl phosphate				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000228 %		<LOD
		015-019-00-X	200-547-7	62-73-7									
19		endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite				0.0125	mg/kg		0.0125	mg/kg	0.00000125 %		
		602-052-00-5	204-079-4	115-29-7									
20		hexachlorocyclohexanes, including lindane				0.0057	mg/kg		0.0057	mg/kg	0.00000057 %		
		602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
21		lindane (ISO); g-HCH or g-BHC; g-1,2,3,4,5,6-hexachlorocyclohexane				<0.0011	mg/kg		<0.0011	mg/kg	<0.000000114 %		<LOD
		602-043-00-6	200-401-2	58-89-9									
22		1,2,3-trichlorobenzene				<0.0011	mg/kg		<0.0011	mg/kg	<0.000000114 %		<LOD
			201-757-1	87-61-6									
23		hexachlorobenzene				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000228 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
										Total:	0.0196 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00538%)

Classification of sample: 3H4515HP[2]

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

Sample details

Sample name:
3H4515HP[2]
Sample Depth:
1 m
Moisture content:
17.5%
(no 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: 17.5% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.9 mg/kg	1.32	10.431 mg/kg	0.00104 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34.8 mg/kg	1.462	50.862 mg/kg	0.00509 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6.8 mg/kg	1.126	7.656 mg/kg	0.000766 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	7.3 mg/kg	1.56	11.387 mg/kg	0.00073 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		16.4 mg/kg	2.774	45.496 mg/kg	0.00455 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.5 mg/kg	3.22	4.83 mg/kg	0.000483 %		
11	pH			PH		7.2 pH		7.2 pH	7.2 pH		
12	TPH (C6 to C40) petroleum group			TPH		35.1 mg/kg		35.1 mg/kg	0.00351 %		
								Total:	0.0163 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00351%)

Classification of sample: 3H4517SA

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

Sample details

Sample name:
3H4517SA
Sample Depth:
0.2 m
Moisture content:
14.2%
(no 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: 14.2% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2.2 mg/kg	1.32	2.905 mg/kg	0.00029 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		9.5 mg/kg	1.462	13.885 mg/kg	0.00139 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		44.7 mg/kg	1.126	50.327 mg/kg	0.00503 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	39 mg/kg	1.56	60.833 mg/kg	0.0039 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		3.9 mg/kg	2.976	11.607 mg/kg	0.00116 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		90.8 mg/kg	2.774	251.893 mg/kg	0.0252 %		
11	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
12	pH			PH		7.4 pH		7.4 pH	7.4 pH		
13	phenol	604-001-00-2	203-632-7	108-95-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]											
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]											
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16		benzene											
		601-020-00-8	200-753-7	71-43-2		<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
17		toluene											
		601-021-00-3	203-625-9	108-88-3		<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
18		ethylbenzene											
		601-023-00-4	202-849-4	100-41-4		<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
19		naphthalene											
		601-052-00-2	202-049-5	91-20-3		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
20		acenaphthylene											
			205-917-1	208-96-8		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
21		acenaphthene											
			201-469-6	83-32-9		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
22		fluorene											
			201-695-5	86-73-7		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
23		phenanthrene											
			201-581-5	85-01-8		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
24		anthracene											
			204-371-1	120-12-7		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
25		fluoranthene											
			205-912-4	206-44-0		0.19	mg/kg		0.19	mg/kg	0.000019 %		
26		pyrene											
			204-927-3	129-00-0		0.17	mg/kg		0.17	mg/kg	0.000017 %		
27		benzo[a]anthracene											
		601-033-00-9	200-280-6	56-55-3		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
28		chrysene											
		601-048-00-0	205-923-4	218-01-9		0.18	mg/kg		0.18	mg/kg	0.000018 %		
29		benzo[b]fluoranthene											
		601-034-00-4	205-911-9	205-99-2		0.22	mg/kg		0.22	mg/kg	0.000022 %		
30		benzo[k]fluoranthene											
		601-036-00-5	205-916-6	207-08-9		0.13	mg/kg		0.13	mg/kg	0.000013 %		
31		benzo[a]pyrene; benzo[def]chrysene											
		601-032-00-3	200-028-5	50-32-8		0.16	mg/kg		0.16	mg/kg	0.000016 %		
32		indeno[123-cd]pyrene											
			205-893-2	193-39-5		0.12	mg/kg		0.12	mg/kg	0.000012 %		
33		dibenz[a,h]anthracene											
		601-041-00-2	200-181-8	53-70-3		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
34		benzo[ghi]perylene											
			205-883-8	191-24-2		0.13	mg/kg		0.13	mg/kg	0.000013 %		
35		coronene											
			205-881-7	191-07-1		<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
36		TPH (C6 to C40) petroleum group											
				TPH		72.3	mg/kg		72.3	mg/kg	0.00723 %		
37		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane											
		603-181-00-X	216-653-1	1634-04-4		<0.023	mg/kg		<0.023	mg/kg	<0.0000023 %		<LOD
										Total:	0.0456 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00723%)

Classification of sample: 3H4517SA[2]

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

Sample details

Sample name:
3H4517SA[2]
Sample Depth:
1 m
Moisture content:
4.7%
(no 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: 4.7% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		0.6 mg/kg	1.32	0.792 mg/kg	0.0000792 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		1.2 mg/kg	1.462	1.754 mg/kg	0.000175 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		<1.6 mg/kg	1.126	<1.801 mg/kg	<0.00018 %		<LOD
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	2 mg/kg	1.56	3.12 mg/kg	0.0002 %		
8	mercury { rcury dichloride me }	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		<2 mg/kg	2.976	<5.953 mg/kg	<0.000595 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		<16 mg/kg	2.774	<44.386 mg/kg	<0.00444 %		<LOD
11	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
12	pH			PH		7.2 pH		7.2 pH	7.2 pH		
13	phenol	604-001-00-2	203-632-7	108-95-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]											
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]											
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16		benzene											
		601-020-00-8	200-753-7	71-43-2		<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
17		toluene											
		601-021-00-3	203-625-9	108-88-3		<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
18		ethylbenzene											
		601-023-00-4	202-849-4	100-41-4		<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
19		naphthalene											
		601-052-00-2	202-049-5	91-20-3		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
20		acenaphthylene											
			205-917-1	208-96-8		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
21		acenaphthene											
			201-469-6	83-32-9		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
22		fluorene											
			201-695-5	86-73-7		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
23		phenanthrene											
			201-581-5	85-01-8		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
24		anthracene											
			204-371-1	120-12-7		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
25		fluoranthene											
			205-912-4	206-44-0		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
26		pyrene											
			204-927-3	129-00-0		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
27		benzo[a]anthracene											
		601-033-00-9	200-280-6	56-55-3		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
28		chrysene											
		601-048-00-0	205-923-4	218-01-9		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
29		benzo[b]fluoranthene											
		601-034-00-4	205-911-9	205-99-2		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
30		benzo[k]fluoranthene											
		601-036-00-5	205-916-6	207-08-9		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
31		benzo[a]pyrene; benzo[def]chrysene											
		601-032-00-3	200-028-5	50-32-8		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
32		indeno[123-cd]pyrene											
			205-893-2	193-39-5		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
33		dibenz[a,h]anthracene											
		601-041-00-2	200-181-8	53-70-3		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
34		benzo[ghi]perylene											
			205-883-8	191-24-2		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
35		coronene											
			205-881-7	191-07-1		<0.08	mg/kg		<0.08	mg/kg	<0.000008 %		<LOD
36		TPH (C6 to C40) petroleum group											
				TPH		<21	mg/kg		<21	mg/kg	<0.0021 %		<LOD
37		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane											
		603-181-00-X	216-653-1	1634-04-4		<0.021	mg/kg		<0.021	mg/kg	<0.0000021 %		<LOD
										Total:	0.00912 %		

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: 3H4517SA[3]

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

Sample details

Sample name:
3H4517SA[3]
Sample Depth:
8 m
Moisture content:
21.7%
(no 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% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.7 mg/kg	1.32	12.807 mg/kg	0.00128 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19.1 mg/kg	1.462	27.916 mg/kg	0.00279 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		15.6 mg/kg	1.126	17.564 mg/kg	0.00176 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	9.2 mg/kg	1.56	14.35 mg/kg	0.00092 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		45.5 mg/kg	2.774	126.224 mg/kg	0.0126 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.5 mg/kg	3.22	1.61 mg/kg	0.000161 %		
11	pH			PH		5.8 pH		5.8 pH	5.8 pH		
12	benzene	601-020-00-8	200-753-7	71-43-2		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD
13	toluene	601-021-00-3	203-625-9	108-88-3		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD
15	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-883-8	191-24-2									
31		coronene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-881-7	191-07-1									
32		TPH (C6 to C40) petroleum group				71.5	mg/kg		71.5	mg/kg	0.00715 %		
				TPH									
										Total:	0.0271 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00715%)

Classification of sample: 3H4600SA

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

Sample details

Sample name:
3H4600SA
Sample Depth:
1.1 m
Moisture content:
8.2%
(no 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: 8.2% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.6 mg/kg	1.32	4.753 mg/kg	0.000475 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15.9 mg/kg	1.462	23.239 mg/kg	0.00232 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		4.6 mg/kg	1.126	5.179 mg/kg	0.000518 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	6.1 mg/kg	1.56	9.515 mg/kg	0.00061 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		<16 mg/kg	2.774	<44.386 mg/kg	<0.00444 %		<LOD
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2.3 mg/kg	3.22	7.406 mg/kg	0.000741 %		
11	pH			PH		8.5 pH		8.5 pH	8.5 pH		
12	benzene	601-020-00-8	200-753-7	71-43-2		<0.011 mg/kg		<0.011 mg/kg	<0.0000011 %		<LOD
13	toluene	601-021-00-3	203-625-9	108-88-3		<0.011 mg/kg		<0.011 mg/kg	<0.0000011 %		<LOD
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.011 mg/kg		<0.011 mg/kg	<0.0000011 %		<LOD
15	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-917-1	208-96-8									
17		acenaphthene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			201-469-6	83-32-9									
18		fluorene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			201-695-5	86-73-7									
19		phenanthrene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			201-581-5	85-01-8									
20		anthracene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			204-371-1	120-12-7									
21		fluoranthene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-912-4	206-44-0									
22		pyrene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-883-8	191-24-2									
31		coronene				<0.09	mg/kg		<0.09	mg/kg	<0.000009 %		<LOD
			205-881-7	191-07-1									
32		TPH (C6 to C40) petroleum group				25.1	mg/kg		25.1	mg/kg	0.00251 %		
				TPH									
										Total:	0.012 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00251%)

Classification of sample: 3H4600SA[2]

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

Sample details

Sample name:
3H4600SA[2]
Sample Depth:
3.3 m
Moisture content:
27%
(no 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: 27% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2.2 mg/kg	1.32	2.905 mg/kg	0.00029 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		22 mg/kg	1.462	32.154 mg/kg	0.00322 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.3 mg/kg	1.126	10.471 mg/kg	0.00105 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12.6 mg/kg	1.56	19.654 mg/kg	0.00126 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		43.8 mg/kg	2.774	121.508 mg/kg	0.0122 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
11	pH			PH		7.2 pH		7.2 pH	7.2 pH		
12	TPH (C6 to C40) petroleum group			TPH		60.3 mg/kg		60.3 mg/kg	0.00603 %		
								Total:	0.0243 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00603%)

Classification of sample: 3H4600SA[3]

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

Sample details

Sample name:
3H4600SA[3]
Sample Depth:
9.45 m
Moisture content:
38.4%
(no 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: 38.4% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.7 mg/kg	1.32	6.206 mg/kg	0.000621 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15.3 mg/kg	1.462	22.362 mg/kg	0.00224 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5.5 mg/kg	1.126	6.192 mg/kg	0.000619 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	6.2 mg/kg	1.56	9.671 mg/kg	0.00062 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		26.6 mg/kg	2.774	73.792 mg/kg	0.00738 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
11	pH			PH		6.6 pH		6.6 pH	6.6 pH		
12	TPH (C6 to C40) petroleum group			TPH		36.9 mg/kg		36.9 mg/kg	0.00369 %		
								Total:	0.0155 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00369%)

Classification of sample: 3H4602HP

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

Sample details

Sample name:
3H4602HP
Sample Depth:
0.5 m
Moisture content:
18.1%
(no 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: 18.1% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15.6 mg/kg	1.32	20.597 mg/kg	0.00206 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38.9 mg/kg	1.462	56.855 mg/kg	0.00569 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		2 mg/kg	1.923	3.846 mg/kg	0.000385 %		
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		7.8 mg/kg	1.126	8.782 mg/kg	0.000878 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10.9 mg/kg	1.56	17.002 mg/kg	0.00109 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		26.3 mg/kg	2.774	72.96 mg/kg	0.0073 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
11	pH			PH		8.3 pH		8.3 pH	8.3 pH		
12	TPH (C6 to C40) petroleum group			TPH		35.8 mg/kg		35.8 mg/kg	0.00358 %		
								Total:	0.0213 %		

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 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: Not enough CrVI to form chromates.

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide (compound conc.: 0.00038%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 10000 mg/kg (1%)
because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00358%)

Classification of sample: 3H4602HP[2]

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

Sample details

Sample name:
3H4602HP[2]
Sample Depth:
1 m
Moisture content:
10.7%
(no 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: 10.7% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.9 mg/kg	1.32	11.751 mg/kg	0.00118 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21.9 mg/kg	1.462	32.008 mg/kg	0.0032 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		0.9 mg/kg	1.923	1.731 mg/kg	0.000173 %		
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5.1 mg/kg	1.126	5.742 mg/kg	0.000574 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10 mg/kg	1.56	15.598 mg/kg	0.001 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		16.1 mg/kg	2.774	44.664 mg/kg	0.00447 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
11	pH			PH		7.9 pH		7.9 pH	7.9 pH		
12	TPH (C6 to C40) petroleum group			TPH		33 mg/kg		33 mg/kg	0.0033 %		
								Total:	0.0142 %		

Key

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

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: Not enough CrVI to form chromates.

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide (compound conc.: 0.00017%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 10000 mg/kg (1%)
because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0033%)

Classification of sample: 3H4603HP

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

Sample details

Sample name:
3H4603HP
Sample Depth:
0.2 m
Moisture content:
10.8%
(no 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: 10.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.4 mg/kg	1.32	7.13 mg/kg	0.000713 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.343 mg/kg	0.0000343 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		10.8 mg/kg	1.462	15.785 mg/kg	0.00158 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		66.7 mg/kg	1.126	75.097 mg/kg	0.00751 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	43 mg/kg	1.56	67.072 mg/kg	0.0043 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		62.4 mg/kg	2.774	173.107 mg/kg	0.0173 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.9 mg/kg	3.22	2.898 mg/kg	0.00029 %		
11	pH			PH		6.5 pH		6.5 pH	6.5 pH		
12	pentachlorophenol	604-002-00-8	201-778-6	87-86-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	TPH (C6 to C40) petroleum group			TPH		42.3 mg/kg		42.3 mg/kg	0.00423 %		
14	pentachlorobenzene	602-074-00-5	210-172-0	608-93-5		<0.0011 mg/kg		<0.0011 mg/kg	<0.000000112 %		<LOD
15	aldrin (ISO)	602-048-00-3	206-215-8	309-00-2		<0.0022 mg/kg		<0.0022 mg/kg	<0.000000224 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		dieldrin (ISO)				<0.0056	mg/kg		<0.0056	mg/kg	<0.000000561 %		<LOD
		602-049-00-9	200-484-5	60-57-1									
17		atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000224 %		<LOD
		613-068-00-7	217-617-8	1912-24-9									
18		dichlorvos (ISO); 2,2-dichlorovinyl dimethyl phosphate				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000224 %		<LOD
		015-019-00-X	200-547-7	62-73-7									
19		endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite				0.0123	mg/kg		0.0123	mg/kg	0.00000123 %		
		602-052-00-5	204-079-4	115-29-7									
20		hexachlorocyclohexanes, including lindane				0.0056	mg/kg		0.0056	mg/kg	0.00000056 %		
		602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
21		lindane (ISO); g-HCH or g-BHC; g-1,2,3,4,5,6-hexachlorocyclohexane				<0.0011	mg/kg		<0.0011	mg/kg	<0.000000112 %		<LOD
		602-043-00-6	200-401-2	58-89-9									
22		1,2,3-trichlorobenzene				<0.0011	mg/kg		<0.0011	mg/kg	<0.000000112 %		<LOD
			201-757-1	87-61-6									
23		hexachlorobenzene				<0.0022	mg/kg		<0.0022	mg/kg	<0.000000224 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
										Total:	0.0361 %		

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 for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No liquid phase present. Insufficient concentration to produce a liquid phase. Substances contained in soil matrix includes a moisture content between 4.7% to 38.4%, reducing the risk of flammability.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00423%)

Classification of sample: 3H4603HP[2]

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

Sample details

Sample name:
3H4603HP[2]
Sample Depth:
1 m
Moisture content:
16.3%
(no 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: 16.3% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.2 mg/kg	1.32	5.545 mg/kg	0.000555 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		13.5 mg/kg	1.462	19.731 mg/kg	0.00197 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5.3 mg/kg	1.126	5.967 mg/kg	0.000597 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	4.4 mg/kg	1.56	6.863 mg/kg	0.00044 %		
8	mercury { rcury dichloride } me	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		<16 mg/kg	2.774	<44.386 mg/kg	<0.00444 %		<LOD
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2.2 mg/kg	3.22	7.084 mg/kg	0.000708 %		
11	pH			PH		7.2 pH		7.2 pH	7.2 pH		
12	TPH (C6 to C40) petroleum group			TPH		<23.9 mg/kg		<23.9 mg/kg	<0.00239 %		<LOD
								Total:	0.0113 %		

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: 3H4606HP

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

Sample details

Sample name:
3H4606HP
Sample Depth:
0.2 m
Moisture content:
26.9%
(no 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: 26.9% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12 mg/kg	1.32	15.844 mg/kg	0.00158 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32.5 mg/kg	1.462	47.501 mg/kg	0.00475 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		11.8 mg/kg	1.126	13.285 mg/kg	0.00133 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	22.7 mg/kg	1.56	35.408 mg/kg	0.00227 %		
8	mercury { rcury dichloride me }	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		17.6 mg/kg	2.976	52.382 mg/kg	0.00524 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		48.5 mg/kg	2.774	134.546 mg/kg	0.0135 %		
11	asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
12	pH			PH		8.3 pH		8.3 pH	8.3 pH		
13	phenol	604-001-00-2	203-632-7	108-95-2		0.33 mg/kg		0.33 mg/kg	0.000033 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		pentachlorophenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
15		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
16		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
17		benzene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
18		toluene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
19		ethylbenzene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		naphthalene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			205-883-8	191-24-2									
36		coronene				<0.11	mg/kg		<0.11	mg/kg	<0.000011 %		<LOD
			205-881-7	191-07-1									
37		TPH (C6 to C40) petroleum group				<27.4	mg/kg		<27.4	mg/kg	<0.00274 %		<LOD
				TPH									
38		pentachlorobenzene				<0.0013	mg/kg		<0.0013	mg/kg	.000000137 %		<LOD
		602-074-00-5	210-172-0	608-93-5									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
39		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.027 mg/kg		<0.027 mg/kg	<0.0000027 %		<LOD
		603-181-00-X	216-653-1	1634-04-4							
40		aldrin (ISO)				<0.0027 mg/kg		<0.0027 mg/kg	.000000274 %		<LOD
		602-048-00-3	206-215-8	309-00-2							
41		dieldrin (ISO)				<0.0068 mg/kg		<0.0068 mg/kg	.000000684 %		<LOD
		602-049-00-9	200-484-5	60-57-1							
42		atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine				<0.0027 mg/kg		<0.0027 mg/kg	<0.000000274 %		<LOD
		613-068-00-7	217-617-8	1912-24-9							
43		dichlorvos (ISO); 2,2-dichlorovinyl dimethyl phosphate				<0.0027 mg/kg		<0.0027 mg/kg	.000000274 %		<LOD
		015-019-00-X	200-547-7	62-73-7							
44		endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite				0.0151 mg/kg		0.0151 mg/kg	0.00000151 %		
		602-052-00-5	204-079-4	115-29-7							
45		hexachlorocyclohexanes, including lindane				0.0068 mg/kg		0.0068 mg/kg	0.000000685 %		
		602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1							
46		lindane (ISO); g-HCH or g-BHC; g-1,2,3,4,5,6-hexachlorocyclohexane				<0.0013 mg/kg		<0.0013 mg/kg	<0.000000137 %		<LOD
		602-043-00-6	200-401-2	58-89-9							
47		1,2,3-trichlorobenzene				<0.0013 mg/kg		<0.0013 mg/kg	.000000137 %		<LOD
			201-757-1	87-61-6							
48		hexachlorobenzene				<0.0027 mg/kg		<0.0027 mg/kg	.000000274 %		<LOD
		602-065-00-6	204-273-9	118-74-1							
								Total:	0.0328 %		

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: 3H4606HP[2]

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

Sample details

Sample name:
3H4606HP[2]
Sample Depth:
1 m
Moisture content:
21.7%
(no 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% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.3 mg/kg	1.32	10.959 mg/kg	0.0011 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33.1 mg/kg	1.462	48.377 mg/kg	0.00484 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %		<LOD
5	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.5 mg/kg	1.405	<0.703 mg/kg	<0.0000703 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		17.9 mg/kg	1.126	20.153 mg/kg	0.00202 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14.5 mg/kg	1.56	22.617 mg/kg	0.00145 %		
8	mercury { rcury dichloride me }	080-010-00-X	231-299-8	7487-94-7		<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		61.2 mg/kg	2.774	169.778 mg/kg	0.017 %		
10	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.5 mg/kg	3.22	1.61 mg/kg	0.000161 %		
11	pH			PH		8.1 pH		8.1 pH	8.1 pH		
12	TPH (C6 to C40) petroleum group			TPH		<25.5 mg/kg		<25.5 mg/kg	<0.00255 %		<LOD
								Total:	0.0293 %		

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 GB MCL determinands

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

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

pH (CAS Number: PH)

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

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

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

- **1,2,3-trichlorobenzene** (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; H410

Appendix B: Rationale for selection of metal species

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.

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. 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.

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

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

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

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

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.

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. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead chromate}

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

mercury {mercury dichloride}

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

nickel {nickel chromate}

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

zinc {zinc chromate}

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

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2024.347.6405.11699 (12 Dec 2024)
HazWasteOnline Database: 2024.347.6405.11699 (12 Dec 2024)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024

Appendix F: Gas Monitoring Results

Table F1: Ground Gas Monitoring Results Summary for 2H4501DR

Monitoring Date	Peak Gas Concentrations (minimum for Oxygen)						Max Gas Flow Rate (pk) l/hr
	CH_4 %vol	CO_2 %vol	O_2 %vol	CO ppm	H_2S ppm	VOC ppmv	
4 May 2023	<0.1	0.4	20.8	6	<1	0	<0.1
24 May 2023	<0.1	0.6	20.2	4	1	0	<0.1
19 June 2023	<0.1	1.1	20.1	5	1	0	<0.1
17 July 2023	<0.1	1.2	19.9	5	1	0.4	<0.1
15 August 2023	0.1	1.3	19.7	1	1	0.4	<0.1
12 September 2023	<0.1	0.8	20.9	<1	<1	0	<0.1
10 October 2023	<0.1	6.2	14.8	<1	<1	0	<0.1
13 November 2023	0.1	6.0	12.8	<1	<1	0	0.5
11 December 2023	0.1	5.9	9.8	<1	<1	<0.1	-1.4
10 January 2024	0.1	6.7	8.4	<1	<1	0.6	-5.9
8 February 2024	0.2	7.5	7.5	<1	<1	2.0	0.2
6 March 2024	0.2	6.3	6.9	<1	<1	<0.1	-4.5
9 April 2024	1.8	0.5	18.9	0	<10	0.9	-33.2

Notes:
CH_4 - Methane, CO_2 – Carbon Dioxide, O_2 – Oxygen, CO – Carbon Monoxide, H_2S – Hydrogen Sulphide, VOC – Volatile Organic Compounds.
ppmv - Part per Million Volume

Table F2: Ground Gas Monitoring Results Summary for 2H4502DS

Monitoring Date	Peak Gas Concentrations (minimum for Oxygen)						Max Gas Flow Rate (pk) l/hr
	CH_4 %vol	CO_2 %vol	O_2 %vol	CO ppm	H_2S ppm	VOC ppmv	
4 May 2023	0.1	4.9	16.1	<1	<1	0	<0.1
24 May 2023	<0.1	6.5	13.9	<1	1	0	<0.1
19 June 2023	<0.1	4.0	18.4	1	<1	0	<0.1
15 August 2023	<0.1	5.8	12.9	1	1	0.8	<0.1
12 September 2023	<0.1	6.9	13.1	<1	<1	0.1	<0.1

Notes:
CH_4 - Methane, CO_2 – Carbon Dioxide, O_2 – Oxygen, CO – Carbon Monoxide, H_2S – Hydrogen Sulphide, VOC – Volatile Organic Compounds.
ppmv - Part per Million Volume

Table F3: Ground Gas Monitoring Results Summary for 2H4503DS

Monitoring Date	Peak Gas Concentrations (minimum for Oxygen)						Max Gas Flow Rate (pk) l/hr
	CH_4 %vol	CO_2 %vol	O_2 %vol	CO ppm	H_2S ppm	VOC ppmv	
19 April 2023*	<0.1	0.4	20.4	<1	<1	0.4	<0.1
4 May 2023*	<0.1	<0.1	21.1	<1	<1	0	<0.1
24 May 2023*	<0.1	1.5	19.2	<1	1	0	<0.1
19 June 2023	<0.1	6.8	15.5	1	<1	0	<0.1
17 July 2023	<0.1	6.3	15.1	<1	<1	0.2	<0.1
15 August 2023	<0.1	7.2	10.3	1	<1	0.6	<0.1
12 September 2023	<0.1	10.2	10.2	1	<1	0	<0.1

Notes:
CH_4 - Methane, CO_2 – Carbon Dioxide, O_2 – Oxygen, CO – Carbon Monoxide, H_2S – Hydrogen Sulphide, VOC – Volatile Organic Compounds.
ppmv - Part per Million Volume
* Well response zone was fully flooded on these occasions; therefore ground gas measurements are not considered representative and have been excluded from the risk assessment.

Table F4: Ground Gas Monitoring Results Summary for 3H4517SA

Monitoring Date	Peak Gas Concentrations (minimum for Oxygen)						Max Gas Flow Rate (pk) l/hr
	CH_4 %vol	CO_2 %vol	O_2 %vol	CO ppm	H_2S ppm	VOC ppmv	
03 April 2024*	<0.1	<0.1	19.3	0	<10	1.0	29.6
17 April 2024*	<0.1	<0.1	19.3	0	<10	<0.1	0
01 May 2024*	<0.1	<0.1	20.1	0	<10	<0.1	0
08 May 2024*	<0.1	0.9	20.0	0	<10	Not reported	Not reported
22 May 2024*	<0.1	0.9	20.0	0	<10	Not reported	Not reported
29 May 2024*	<0.1	1.0	20.5	27	Not reported	1.3	-4.0
17 June 2024*	<0.1	0.7	20.3	0	<10	<0.1	-67.9
03 July 2024*	<0.1	0.7	20.4	0	10	Not reported	-21.8

Notes:
CH_4 - Methane, CO_2 – Carbon Dioxide, O_2 – Oxygen, CO – Carbon Monoxide, H_2S – Hydrogen Sulphide, VOC – Volatile Organic Compounds.
ppmv - Part per Million Volume
* Well response zone was fully flooded on these occasions; therefore ground gas measurements are not considered representative and have been excluded from the risk assessment.

Table F5: Ground Gas Monitoring Results Summary for 3H4600SA

Monitoring Date	Peak Gas Concentrations (minimum for Oxygen)						Max Gas Flow Rate (pk) l/hr
	CH_4 %vol	CO_2 %vol	O_2 %vol	CO ppm	H_2S ppm	VOC ppmv	
29 July 2024*	<0.1	4.2	8.9	0	<10	0	-20
12 August 2024*	<0.1	3.3	11.5	0	<10	0	-7.7
20 August 2024*	<0.1	2.3	15.1	0	<10	<0.1	0
28 August 2024*	<0.1	2.4	15.6	0	<10	0	-50.1
2 September 2024*	<0.1	2.7	14.5	0	<10	40.0	-34
30 September 2024*	<0.1	4.4	19.9	0	<10	0	-14.8

Notes:
CH_4 - Methane, CO_2 – Carbon Dioxide, O_2 – Oxygen, CO – Carbon Monoxide, H_2S – Hydrogen Sulphide, VOC – Volatile Organic Compounds.
ppmv - Part per Million Volume
* Well response zone was fully flooded on these occasions; therefore ground gas measurements are not considered representative and have been excluded from the risk assessment.

Appendix G: Guidance for the Assessment of Land Contamination

Selection of Soil Assessment Criteria Protective of Human Health

Generic Assessment Criteria (GAC)

To evaluate potential risks to human health receptors, including future Site users, the soil analytical results have been assessed against the following Generic Assessment Criteria (GAC):

- Suitable for Use Values (S4ULs) for commercial land use (Nathanail et al, 2015) adopting a 1% soil organic matter (SOM) value.
- Lead was compared against the Defra Category 4 Screening Level (C4SL) for a commercial end use, (Defra, 2014) because a S4UL for lead has not been published, also adopting a 1% SOM value.
- Cyanide (free) was compared to the Society of Brownfield Risk Assessment (SoBRA) Acute Generic Risk Assessment criteria for assessing risks to human health from contaminants in soil (Society of Brownfield Risk Assessment (SoBRA), 2020) since there are currently no C4SLs or S4Uls for cyanide. The assessment criterion used evaluates potential for acute harm to a child by inhalation of free cyanide. This is a conservative assessment criterion used as generic assessment criteria as allows the criteria to be adjusted if the site-specific conditions are suitable.

The GAC for a Commercial/industrial end-use have been selected as these are considered to be the most appropriate for the protection of construction workers undertaking the development and the Applicant's workers who may undertake maintenance/operational work at these locations. The GAC have been generated assuming short exposure periods over a long timescale.

The GAC have been generated using assumptions regarding soil characteristics. Where the published GAC are dependent upon Soil Organic Matter (SOM), a value of 1% has been used to provide a conservative assessment. Consideration of the default soil properties used to generate the soil GAC for protection of human health is important as these influence the fate, transport and behaviour of contaminants.

- Soil type – the model default is set as Sandy Loam and assumes a dry and relatively porous soil. The default is considered sufficiently similar to the cover/restoration soils which are variably clayey/ sandy.
- pH – pH influences the cation exchange capacity and the portioning behaviour of a chemical between soil and water. The default is pH 7. The ground encountered have been found to have a pH between 4.8 and 8.9.

Selection of Water Assessment Criteria Protective of Human Health

Generic Assessment Criteria

The Site is located over a bedrock Secondary A Aquifer (Whitecliff Sand Member). To evaluate potential risks to human health via ingestion of drinking water from the underlying aquifer, the leachate analysis results (2:1) and groundwater analysis results were assessed against the following GAC:

- UK Drinking Water Standards (DWS). These have been used to provide a very conservative assessment.

- In the absence of a TPH threshold within the Water Supply [1](Water Quality) Regs 2021, the value of 10 µg/l as presented within the withdrawn Water Supply (Water Quality) Regs 1989 has been used for reference purposes. These thresholds are considered protective of human health.

Groundwater beneath the Site is under protection for potable abstraction and on this basis an assessment of these aquifers as a drinking water resource has been undertaken.

Limit of Detection vs. Generic Assessment Criteria

Where the concentration of a determinand is below the limits of detection and the limits of detection are below the relevant threshold criterion, the concentrations recorded are not considered to present a hazard to human health or controlled waters.

Where the concentration of a determinand is below the limit of detection and the limit of detection is greater than the relevant threshold criterion, ultra-low analysis or further Detailed Quantitative Risk Assessment would be required to robustly conclude that these can be eliminated as hazards.

[1] DWI (2021) Guidance on The Water Supply (Water Quality) Regulations 2016 (as amended) specific to PFOS and PFOA concentrations in drinking water DWI, January 2021.

Appendix H: Risk Assessment Tables

Table H1: Contaminated Land Risk Assessment for Section H

PSC 90	Landfill – Shirrell Heath Sand Pit (Reference EAHLD2048 Site Ref. FW1, 5/1)					
Potential Source of Contamination	**Potential Contaminants of Concern**	**Potential Receptors**	**Potential Pathways**	**Potential Consequence of Pollutant Linkage**	**Probability of Pollutant Linkage**	**Risk (without mitigation measures)**
Inert and commercial waste type. The depth of the waste material is unconfirmed. Landfill approximately 20 m from GI locations 2H4502DS and 2H4503DS and approximately 30 m from the DoL	Metals, inorganics, asbestos, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), semi-VOCs (including phenols), PFAS. Findings from GI: Groundwater encountered in 2H4502DS and 2H4503DS at 0.61-2.38 m bgl. No soil GAC exceedances. Soil leachate results for 2H4502DS and 2H4503DS not provided. Groundwater GAC exceedances for TPH, nitrite and iron, lead, manganese. Elevated PFOA concentration (detectable by laboratory but below GAC) recorded.	**Construction, maintenance workers and future site users:** Construction workers during open cut excavations/construction, maintenance workers during	Direct dermal contact, ingestion and inhalation of dusts.	Medium	Low Likelihood No landfill areas or Made Ground encountered. No soil GAC exceedances.	Moderate/Low
		Adjacent land users: Farmland, closest residential properties are approximately 45-50 m east.	Direct dermal contact, ingestion and inhalation of dusts during excavation works and stockpiling.	Mild	Low Likelihood	Low
		On Site existing and future infrastructure property (buildings and buried services: No building structures as part of scheme.	Direct contact	Mild	Unlikely No structures. No landfill areas or Made Ground encountered.	Very Low
		Surface water bodies/watercourses: None within 250 m.	Surface water runoff from stockpiles and migration through groundwater and underground utilities.	Mild	Unlikely	Very Low
		Groundwater Whitecliff Sand Member (Secondary A Aquifer). No superficial deposits.	Leaching through unsaturated and saturated soil.	Medium	Likely Groundwater encountered during GI and follow-up monitoring. GAC exceedances in groundwater.	Moderate
		Ecological receptors (flora and fauna): No statutory designated areas within 250 m.	Plant uptake, direct contact, ingestion and inhalation of dusts, gases and vapours by animals.	Mild	Low Likelihood	Low
	Landfill ground gas (methane, carbon dioxide, carbon monoxide, hydrogen sulphide) Findings from GI: Peak CO_2 concentration of 10.2% vol exceeding STL and LTL WEL. Peak CH_4 concentration of 0.1 % vol. Minimum oxygen level of 10.2 % vol Gas flow recorded <LOD on all monitoring visits.	**Construction, maintenance workers and future site users:** Construction workers during open cut excavations / construction, maintenance workers during operation.	Inhalation of gases and vapours.	Medium	Low Likelihood CO_2 exceedances for short and long-term WELs, but ground gases are expected to disperse quickly in an open-air environment. Depleted oxygen levels possible in confined spaces.	Moderate/Low
		On Site existing and future property (buildings and buried services): No building structures as part of scheme.	Gas migration / accumulation.	Medium	Unlikely Peak CH_4 concentrations are below LEL. CO_2 concentrations up to 10.2% vol but no gas flow and no proposed structures.	Very Low

Table H2: Contaminated Land Risk Assessment for Section H

Location	Trenchless Crossing Reception Shaft east of Winchester Road (B334)					
Potential Source of Contamination	**Potential Contaminants of Concern**	**Potential Receptors**	**Potential Pathways**	**Potential Consequence of Pollutant Linkage**	**Probability of Pollutant Linkage**	**Risk (without mitigation measures)**
PSC 45 (Pit-Gravel) located 45 m southwest of GI location 3H4600SA. Due to the age of the gravel pit (>170 years), it is unlikely to be generating landfill gases. No GI locations closer to PSC 45 were completed. For areas of DoL close to PSC 45 refer to risk assessment in Desk study Version 4 (SSP, 2024).	No exceedances of commercial GAC protective of human health were encountered within soil samples. One leachate sample tested, and two groundwater samples collected and tested yielded exceedances of TPH C_6-C_{40}. The source of TPHs is unconfirmed and may not be an anthropogenic source. Carbon dioxide concentrations exceed STL and LTL. Low oxygen concentrations detected. Well was flooded during all monitoring rounds, results are considered as indicative.	**Construction, maintenance workers and future site users:** Construction workers during open cut excavations/construction, maintenance workers during operation.	Direct dermal contact, ingestion and inhalation of dusts	Medium	Low Likelihood	Moderate/Low
			Inhalation of gases and vapours	Medium	Unlikely	Low
		Adjacent land users: Farmland, closest residential property is adjacent to the DoL and within the PSC.	Direct dermal contact, ingestion and inhalation of dusts during excavation works and stockpiling.	Mild	Low Likelihood	Low
		On Site existing and future property (buildings and buried services): No building structures as part of scheme.	Direct contact and gas migration / accumulation.	Medium	Unlikely	Low
		Surface water bodies/watercourses: None within 250m.	Surface water runoff from stockpiles and migration through groundwater and underground utilities.	Mild	Unlikely	Very Low
		Groundwater: Wittering Formation - sand silt and clay (Secondary A Aquifer). Superficial deposits of River Terrace Deposits (Secondary	Leaching through unsaturated and saturated soil.	Medium	Low Likelihood	Moderate/Low
		Ecological receptors (flora and fauna): No statutory designated areas within 250 m. Gravel Pit Copse is located 45~~60~~ m southwest of the DoL and within the PSC.	Plant uptake, direct contact, ingestion and inhalation of dusts, gases and vapours by animals.	Mild	Low Likelihood	Low

Table H3: Contaminated Land Risk Assessment for Section H

Location	Trenchless Crossing Reception Shaft east of Winchester Road (B2177)					
Potential Source of Contamination	**Potential Contaminants of Concern**	**Potential Receptors**	**Potential Pathways**	**Potential Consequence of Pollutant Linkage**	**Probability of Pollutant Linkage**	**Risk (without mitigation measures)**
Former Sand Pit (PSC 103) located approximately 20 m west of 3H4517SA. Potential for Made Ground and infill areas. Trenchless crossing through former sand pit area (PSC 103). Worked Ground (PSC 445), 3H4517SA located approximately 35 m south of PSC.	No exceedances of commercial GAC protective of human health were encountered within soil samples. Groundwater sampling yielded exceedances of lead, nickel, ammonium, nitrite and TPH (C_6-C_{40}). Carbon dioxide concentrations were recorded above the long term WELs. High carbon monoxide and hydrogen sulphide concentrations were recorded once during the 6-month monitoring period. These readings are unexplained. Negative gas flow readings recorded, Well was flooded during all monitoring rounds, results are considered as indicative. No GI data has been obtained from within the assumed footprint of these PSCs. Refer to the risk assessments in the desk study (SSP, 2024) for assessment of PSC 103 and PSC 445.	**Construction, maintenance workers and future site users:** Construction workers during open cut excavations/construction, maintenance workers during operation.	Direct dermal contact, ingestion and inhalation of dusts	Medium	Low Likelihood	Moderate/Low
			Inhalation of gases and vapours	Medium	Likely	Moderate/Low
		Adjacent land users: Wooded area, residential property approximately 50 m northeast.	Direct dermal contact, ingestion and inhalation of dusts, gases and vapours during excavation works and stockpiling.	Medium	Unlikely	Low
		On Site existing and future property (buildings and buried services): No building structures as part of scheme.	Direct contact and gas migration / accumulation.	Medium	Unlikely	Low
		Surface water bodies/watercourses: None within 250 m.	Surface water runoff from stockpiles and migration through groundwater and underground utilities.	Mild	Unlikely	Very Low
		Groundwater: Whitecliff Sand Member – Sand (Secondary A Aquifer). Head deposits (Secondary undifferentiated aquifer) to the south (approximately 30m).	Leaching through unsaturated and saturated soil.	Medium	Likely	Moderate
		Ecological receptors (flora and fauna): No statutory designated areas within 250m.	Plant uptake, direct contact, ingestion and inhalation of dusts, gases and vapours by animals.	Mild	Low likelihood	Low

Table H4: Contaminated Land Risk Assessment for Section H

PSC 512	Farm – Pig Farm (potential)					
Potential Source of Contamination	**Potential Contaminants of Concern**	**Potential Receptors**	**Potential Pathways**	**Potential Consequence of Pollutant Linkage**	**Probability of Pollutant Linkage**	**Risk (without mitigation measures)**
Possible former pig farm within the DoL (circa 2005). The land use activity shown on 2005 aerial photography is not confirmed, however, a possible pig farm has been included as a PSC for completeness. There is no further information to confirm this.	3H4507HP advanced within the footprint of the PSC. No Made Ground encountered. No exceedances of the adopted soil GAC. No soil leachate testing completed. No groundwater sampling or ground gas monitoring completed. As only one hand pit has been advanced within the PSC footprint, the nature and extent of ground conditions and potential contaminants across other areas is unconfirmed. PCOCs include metals, parasites, pathogens and pesticides/herbicides.	**Construction, maintenance workers and future site users:** Construction workers during open cut excavations/construction, maintenance workers during operation.	Direct dermal contact, ingestion and inhalation of dusts.	Medium	Low Likelihood	Moderate/Low
		Adjacent land users: Arable farming	Direct dermal contact, ingestion and inhalation of dusts during excavation works and stockpiling.	Medium	Low Likelihood	Moderate/Low
		On Site future property (buildings and buried services): No building structures on DoL route.	Direct contact with materials	Medium	Unlikely	Low
		Surface water bodies/watercourses: Land drain is approximately 50 m southeast of DoL.	Surface water runoff from stockpiles and migration through groundwater and underground utilities.	Mild	Low Likelihood	Low
		Groundwater: Superficial deposits are River Terrace Deposits (Secondary A Aquifer). Bedrock is Wittering Formation, sand, silt, clay (Secondary A Aquifer).	Leaching through unsaturated and saturated soil.	Medium	Low Likelihood	Moderate/Low
		Ecological receptors (flora and fauna): no statutory designated sites within 250m	Plant uptake, direct contact, ingestion and inhalation of dusts by animals.	Mild	Unlikely	Very Low

Table H5: Contaminated Land Risk Assessment for Section H

Location	Trenchless Crossing Reception Shafts Shirrell Health High Street					
Potential Source of Contamination	**Potential Contaminants of Concern**	**Potential Receptors**	**Potential Pathways**	**Potential Consequence of Pollutant Linkage**	**Probability of Pollutant Linkage**	**Risk (without mitigation measures)**
Trenchless Crossing, no PSCs targeted at GI locations 2H4500DR and 2H4501DR. Farm building (PSC 545) located approximately 30 m southwest of 2H4501DR.	No exceedances of commercial GAC protective of human health were encountered within soil samples. Groundwater samples collected and tested yielded TPH exceedances of GAC at both locations. The source of TPHs is unconfirmed and may not be an anthropogenic source. Carbon dioxide concentrations exceed the short- and long-term WELs. Oxygen-depleted conditions were also detected, with minimum oxygen concentration at 6.9 %. Negative gas flow readings recorded.	**Construction, maintenance workers and future site users:** Construction workers during open cut excavations/construction, maintenance workers during operation.	Direct dermal contact, ingestion and inhalation of dusts	Medium	Low Likelihood	Moderate/Low
			Inhalation of gases and vapours	Medium	Low Likelihood	Moderate/Low
		Adjacent land users: Wooded area, residential property approximately 50 m northeast.	Direct dermal contact, ingestion and inhalation of dusts, gases and vapours during excavation works and stockpiling.	Medium	Unlikely	Low
		On Site existing and future property (buildings and buried services): No building structures as part of scheme.	Direct contact and gas migration / accumulation.	Medium	Unlikely	Low
		Surface water bodies/watercourses: Unnamed watercourse approximately 220 m.	Surface water runoff from stockpiles and migration through groundwater and underground utilities.	Mild	Low Likelihood	Low
		Groundwater: No superficial deposits. London Clay (unproductive stratum). Whitecliff Sand Member – Sand (Secondary A Aquifer) approximately 20m west of proposed shaft location	Leaching through unsaturated and saturated soil.	Mild	Low Likelihood	Low
		Ecological receptors (flora and fauna): No statutory designated areas within 250m.	Plant uptake, direct contact, ingestion and inhalation of dusts, gases and vapours by animals.	Mild	Low likelihood	Low

Appendix I: Risk Assessment Methodology

Risk Assessment Methodology

Risk Classification Methodology

The method of risk evaluation adopted in this document is consistent with CIRIA C552 (2001). Hence, risk is considered to be a function of both the probability (likelihood) of contamination occurring at the study site and also the potential severity (consequence) of the environmental impacts associated with this contamination.

The classification system used to define contaminant probability, consequence and risk is described in the following tables.

Table A: Classification of probability

Classification	Definition
High Likelihood	There is a contaminant linkage and an event that appears either very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a contaminant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term, and likely over the long term.
Low Likelihood	There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Unlikely	There is contaminant linkage but circumstances are such that it is improbable that an event would occur even in the long term.

Table B: Classification of consequence

Classification	Receptor	Definition	Examples
Severe	Humans	Short-term (acute) risk to human health likely to result in "significant harm" as defined in the Environmental Protection Act 1990, Part 2a.	High concentrations of cyanide on the surface of an informal recreation area
	Controlled waters	Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource	Major spillage of contaminants from site into controlled water
	Property	Catastrophic damage to buildings/property	Explosion, causing building collapse (can also equate to an acute human health risk if buildings are occupied)
	Ecology	A short-term risk to a particular ecosystem, or organism forming part of such eco-system	Potentially long term derogation of a designated site or protected species
Medium	Humans	Chronic damage to human health ("significant harm" as defined in the Environmental Protection Act 1990, Part 2a.)	Concentrations of a contaminant from a residential site exceed the site-specific assessment criteria
	Controlled waters	Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution)	Leaching of contaminants from a site to a principal or secondary aquifer
	Property	Significant damage to crops, buildings, structures and services	Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
	Ecology	A significant change in a particular ecosystem	Death of a species within a designated nature reserve
Mild	Humans	Contamination present although unlikely to constitute a significant chronic health risk	Concentrations of a contaminant from a public access site moderately exceed the generic assessment criteria
	Controlled waters	Pollution of non-water resources	Pollution of non-classified groundwater
	Property	Damage to sensitive. buildings/structures/services	Aggressive ground conditions leading to potential for long term degradation of buried concrete
	Ecology	Damage to the environment	Localised damage to aquatic habitat causing temporary relocation of certain species
Minor	Humans	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.)	The presence of contaminants at such concentrations that protective equipment is required during site works.
	Controlled waters	Potential minor release of contamination to local water features	Short term or low volume release of potentially polluting material to a secondary surface water course of low existing quality
	Property	Easily reparable effects of damage to buildings, structures and services. Harm which may result in a financial loss, or expenditure to resolve.	The loss of plants in a landscaping scheme. Discolouration of concrete
	Ecology	Short term, localised damage may occur; consequences are spatially and temporally limited	Short term or localised disruption to in situ flora or fauna; no lasting effects

Table C: Risk classification (comparison of consequence and probability)

Probability (likelihood)		Consequence (severity)			
		Severe	***Medium***	***Mild***	***Minor***
	High likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk