JNP GROUP

CONSULTING ENGINEERS

Remediation Strategy

Project: Land off Burn Road, Huddersfield

Client: Wiggett Homes

Reference: S12616-JNP-XX-XX-RP-G-1002 P01

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FOR AND ON BEHALF OF JNP GROUP

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INTRODUCTION

1.1.1 JNP Group was instructed by Wiggett Homes to undertake a remediation strategy for a site known as Land off Burn Road, Huddersfield (hereinafter referred to as 'the site'). This report is subject to the limitations presented in **Appendix A.**

1.1.2 The site is located off Burn Road, Prince Royd, Huddersfield, approximately 3.2km northwest of Huddersfield town centre (see Figure 1 Key Plan). The centre of the site is located at National Grid Reference SE 119 189. The site covers an area of approximately 1.12 hectares and is bisecting into two areas to the north and south of a stream flowing through the site.

1.1.3 It is understood that the site is to be developed with c. 22 new two-storey residential properties with private gardens, with roads and areas of hardstanding for access servicing and parking.

1.1.4 Any comments given are based on the understanding that the proposed redevelopment will be as detailed above.

1.1.5 It should be noted that if there are any changes to the proposed redevelopment it may affect whether the remediation strategy outlined in this report is still appropriate and hence warrants further consideration.

1.1.6 Should there be any deviation from the agreed remediation strategy, then it may affect whether final discharge of any planning conditions pertaining to the site is granted by the Local Authority.

1.2 Objectives

1.2.1 The purpose of this report is to identify the Best Practicable Techniques(s) (BPT) for the remediation of the site. This has been achieved by undertaking an options appraisal of potential remediation techniques and then designing a sustainable remediation strategy including verification plan.

1.3 Methodology

1.3.1 This report has been compiled in accordance with the on-line Land contamination: risk management (LCRM) guidance produced by the Environment Agency (June 2019). This can be found on the UK government website: https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks.

1.3.2 The LCRM guidance outlines a three-stage process in deriving a remediation strategy:

- Identification of Feasible Remediation Options – this considers the general and technical factors that may affect the remedial option as well as the remediation and managerial objectives and produces a short list of potential BPT;
- Detailed Evaluation of Options – this considers the characterisation of the short listed remedial options and remediation costs. An evaluation of environmental attributes is undertaken to select the BPT most suitable for the site;
- Remediation Strategy Design – this identifies the areas of the site requiring remediation and how the works are to be phased. It outlines the verification process and plan which ensure that the remediation works are complete in line with the desired remediation and managerial objectives.

1.3.3 This report should be read in conjunction with the following reports:

- JNP Group S12616-JNP-XX-XX-RP-G-1001 P01 'Phase I and Phase II Geo-environmental Report', dated January 2025.

2 REMEDIATION REQUIREMENTS

2.1 General

2.1.1 A ground investigation was undertaken by JNP Group on 16 December 2019 and comprised ten dynamic sample boreholes (WS01 to WS05 in the northern half of the site, and WS06 to WS10 in the southern half). An additional hand excavated pit was formed at the north-west of the northern half because the drilling rig was unable to access this area. The site was too steep to investigate nearer to the river, however, as houses and gardens are proposed to be situated away from this area then it is not considered to be an issue.

2.1.2 Additional site work was undertaken by JNP Group on 10 February 2025 and comprised ten hand excavated pits (HPO1- HP10), using hand-tools to collect environmental samples, to depths of between 0.30 m and 0.45 m bgl. These works were undertaken to further delineate contamination in the made ground and topsoil.

2.1.3 Topsoil was encountered in all exploratory hole locations in December 2019 from ground level to depths between 0.20m and 0.40m bgl. The topsoil was generally described as a dark brown or grey/brown clayey loam. Topsoil was encountered in all hand excavated pits in February 2025 from ground level to depths between 0.30 and 0.40m bgl. The topsoil generally consisted of a dark brown gravelly clay with frequent rootlets and occasional roots. The proportion of gravel varied between exploratory holes and generally consisted of sandstone and occasional coal.

2.1.4 Made ground was encountered below the topsoil in WS02 in the north and WS06, WS09 and WS10 in the south to depths between 0.40 and 0.80m bgl. The made ground is generally described as brown, sandy clays and sandy, gravelly clays with gravel of potential coal and metallic gravel. Made ground was encountered in February 2025 in the vicinity of HP06 in the central north of the southern field. The made ground generally consisted of a dark brown gravelly cobbly clay with frequent rootlets and occasional roots. The gravel and cobbles generally consisted of fragments of sandstone flagstones and occasional coal.

2.1.5 Soils inferred to be of the Pennine Lower Coal Measures Formation were noted in all exploratory holes in December 2019. The soils were typically described as soft to stiff / dense, yellow and brown, sandy and gravelly clays, clayey sands and clayey gravelly sands. The top of the soils was encountered between 0.40 and 0.80m bgl and the base was encountered to depths of 0.80 and 2.60m bgl in WS02, WS06, WS09 and WS10. The remaining boreholes generally terminated in stiff clay or dense sand.

2.1.6 Bedrock of the Pennine Lower Coal Measures Formation was encountered in WS02, WS06, WS09 and WS10 from depths between 0.80 and 2.60m bgl, described as grey / yellow sandstone and weak, laminated, brown, micaceous sandstone. The base was not proven.

2.2 Pollutant Linkages

2.2.1 From the ground investigation and subsequent assessment undertaken at the site in December 2019, contamination was recorded within the topsoil and made ground in the following locations:

- WS01 in the northern field at 0.30m bgl (beryllium).
- WS06 in the southern field to the southwest at 0.10m bgl (arsenic, lead, benzo(b)fluoranthene and dibenzo(a,h)anthracene).

- WS08 in the central south of the southern field at 0.20m bgl (beryllium).
- WS10 in the central north of the southern field at 0.30m bgl (beryllium).

2.2.2 Visual evidence of detrital material consisting of metallic gravel was recorded within the made ground in WS09 in the southeast of the southern field between 0.20 to 0.40m bgl.

2.2.3 During the site walkover, derelict sheds were observed in the northern field and there was evidence of fly tipping close to the eastern boundary.

2.2.4 From the ground investigation and subsequent assessment undertaken at the site in February 2025, contamination was recorded within the topsoil and made ground in the following locations:

- HP05 in the southern field, in the northwest, at 0.30m bgl (beryllium)
- HP06 in the southern field, in the central north, at 0.40m bgl (beryllium)
- HP07 in the southern field, in the northeast, at 0.20m bgl (benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(a,h)anthracene)
- HP08 in the southern field, in the central west, at 0.30m bgl (beryllium)
- HP09 in the southern field, in the southwest, at 0.25m bgl (beryllium, lead, benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(a,h)anthracene)
- HP10 in the southern field, in the southeast, at 0.20m bgl (beryllium and lead)
- HP10 in the southern field, in the southeast, at 0.40m bgl (beryllium)

2.2.5 During the additional site work in February 2025, potential asbestos containing material (i.e. corrugated sheet roofing) was observed in the river to the west of the site.

2.3 Remediation Objectives

2.3.1 The overall remediation objective is to ensure that the site is suitable for the proposed end-use and to protect the identified receptors (construction workers and future site residents).

2.3.2 The following remediation objectives specific to the contaminants apply to the site:

- To remove the risk to receptors from PAHs and heavy metal contaminated topsoil and made ground.

2.4 Management Objectives Affecting Remediation Options

2.4.1 The following management objectives are considered to be appropriate for the site:

- To reduce the amount of hazardous waste being landfilled in line with current UK waste hierarchy (reduce - re-use – recycle – recover – disposal);
- To achieve a remediation strategy that can be agreed by all key stakeholders (client, regulators);
- To meet all regulatory requirements relevant to the installation or operation of remediation options;
- To avoid unacceptable health and safety, and adverse environmental impacts during remediation;

- To minimise long term liabilities;
- To avoid long term maintenance or monitoring obligations;
- To ensure the scheme takes into account any design requirements of the overall redevelopment.

2.5 Design Requirements Affecting Remediation Options

2.5.1 The areas of contamination determined on site include the northwest of the northern field (upper 0.40m bgl) and across the southern field to depths between 0.20 and 0.40m bgl.

2.5.2 Contaminated soils will be required to be excavated and exported, either to a soil treatment facility or suitable waste management facility, unless significant levels changes are being considered, in which case this recommendation should be reviewed considering the proposed final site levels. The extent and depth of the excavation of contaminated material is shown in drawing S12616-JNP-XX-ZZ-DR-Z-1002.

2.5.3 Suitable care should be taken to ensure that adjacent properties and fence lines are not undermined.

2.6 Material Volumes

2.6.1 JNP have calculated the approximate volumes of materials requiring excavation and possible resultant volumes requiring export from the site. These volumes do not include allowance for infrastructure arisings such as service trench arisings and foundation / piling arisings.

2.6.2 The total area of the north west of the northern field requiring remediation is approximately 1783m^2 which equates to an approximate volume of 624.05m^3, based on an excavation depth to 0.35m depth, in order to remove made ground and contaminated ground which presents a risk of metals and PAHs to end users.

2.6.3 The total area of the southern field requiring remediation is approximately 7130m^2. In the northwest and northeast of the southern field, approximately 827.5m^3 will need to be removed based on excavation to a depth of 0.35m. In the central and southern areas of the southern field, the excavations should be taken to natural ground. This would equate to a volume of 365m^3, based on an excavation depth of 0.50m in the central north, 974.8 m^3, based on excavation depth of 0.40m in the southeast and 643.2m^3, based on an excavation depth of 0.80m, in order to remove made ground and contaminated ground which presents a risk of metals and PAHs to end users.

2.6.4 To reduce the excavation depths in the southwest of the site from 0.80m, it is recommended that the soil is stripped to 0.40m and verification testing should be undertaken to ascertain if the lower 0.40m of topsoil/made ground is contaminated. This would reduce the volume of soil to be excavated to approximately 643.2m^3.

2.6.5 The total volume requiring removal off-site will therefore be in the region of 3,500m^3.

2.7 Hazardous Waste Assessment

2.7.1 The concentrations of contaminants recorded during the ground investigation in December 2019 and February 2025 have been assessed using the HazWasteOnline classification tool This classification tool is based on the methodology outlined in the Hazardous Waste Technical Guidance publication WM3 (EA, SEPA, NIA, NRW. May 2015).

2.7.2 Soil samples from WS01, WS02, WS06, WS08 and WS10 are classified as 'Non-Hazardous Waste'.

2.7.3 Soil samples from HP01-HP10 are classified as 'Non-Hazardous Waste'.

2.7.4 The Hazardous Waste Assessment is included in **Appendix B.**

2.8 Remediation Target Values

2.8.1 The initial Remedial Target Values (RTV), given in Table 2.1 that follows, have been suggested for the remediation works. The proposed RTVs have been selected to ensure that following remediation the site cannot be classified as "Contaminated Land" under Part IIA of the Environmental Protection Act 1990.

Table 2.1: Proposed RTV

Determinant	RTV (mg/kg)		Source
	December 2019	February 2025	
Beryllium	1.7	2.4	S4UL
Arsenic	37	-	C4SL (Residential with plant uptake)
Lead	200	230	C4SL (Residential with plant uptake)
Benzo(b)fluoranthene	2.6	7.2	S4UL
Benzo(a)pyrene		5.9	C4SL (Residential with plant uptake)
Dibenzo(a,h)anthracene	0.24	0.53	S4UL

2.9 Best Practicable Technique

2.9.1 Given the volume of material requiring remediation and the size of the site, the following options are best practicable at the site:

- Excavation and transfer to a soil treatment centre;
- Excavation and transfer to a suitable waste facility.

3 REMEDIATION STRATEGY – IMPLEMENTATION PLAN

3.1 Introduction

3.1.1 The main works shall be undertaken by a suitably qualified earthworks Contractor and the works shall be supervised by JNP Group on an "as and when" required basis.

3.1.2 All works on site shall be undertaken following the guidance given in C762 Environmental Good Practice on-site (CIRIA C762) and Construction Site Safety GE700E/18 (CITB 2018).

3.1.3 A Construction Environmental Management Plan (CEMP) and method statements for all aspects of work shall be provided to JNP Group by the earthworks Contractor, and any specialised subcontractors. These will include any details of proposed toolbox talks. The CEMP and method statements shall require approval prior to commencement of the works on site. The CEMP should cover, as a minimum, the following items: nuisance dust; asbestos fibres release; odours; noise; surface water run-off control and traffic management.

3.2 Programme of Works

3.2.1 In order to ensure the works are undertaken in a suitable order, the following are proposed:

- Demolition and removal of the derelict sheds to north of the site.
- Removal of materials stored on site, vegetation clearance and surface strip.
- Removal of visible ACM containing material by a qualified contractor if required.
- Site strip / excavation of reduced level areas, ideally directly onto haulage lorries for disposal off-site if the soils are considered to be contaminated. If required, temporary stockpiling may be required, however the site's small size will preclude significant stockpiling. Uncontaminated materials can be stockpiled separately on site for later re-use.
- Any deleterious material, or obvious contamination (visible ACM , hydrocarbon impacted ground) shall be stockpiled in a separate designated location for testing and assessment.
- Removal of surplus material by a designated waste receiver;
- Commencement of foundation work;
- Any drainage/service work;
- Construction phase.

3.2.2 Once the works commence, on-going activities will include excavation and off-site disposal.

3.2.3 Should unanticipated contaminated material be encountered that requires excavation then the earthworks contractor shall make the necessary arrangements with the waste receiver and programme in further excavation work.

3.3 Validation

3.3.1 The underlying ground shall be visually assessed by JNP Group. Soil samples shall be taken for chemical analysis in areas where contamination was noted or if significant or obvious contamination in present. Should the testing indicate that all contamination has not been removed, the excavation will need to be extended and re-testing until uncontaminated ground is confirmed.

3.3.2 Should unexpected hydrocarbon impacted material be encountered, this would require excavation as directed by JNP Group. The earthworks contractor shall make the necessary arrangements with the waste receiver and programme in further excavation work.

3.3.3 Should asbestos impacted material be encountered during the demolition of the shed to the north of the site, then the earthworks contractor shall arrange for its suitable disposal. In the case of any visual asbestos sheeting, this is likely to be a hand-picking exercise to be undertaken by a suitable contractor with the sheeting being bagged and disposed of appropriately. Any soils impacted with loose fibres shall require disposal to a suitable licenced landfill site and shall be transported using a suitably licenced haulier.

3.4 Earthworks

3.4.1 Records shall be kept of any material removed off-site either for treatment and re-use or as a waste destined for landfill. The Waste License and Permit Register form, as given in **Appendix C**, detailing the waste codes, haulier and waste receiver details should be completed by the Contractor for each waste material generated requiring removal. In addition, all material removed off-site shall be logged on the Waste Disposal Log form given in **Appendix D**. The completed waste management form, duty of care and consignment notes shall be provided to JNP Group for inclusion in the verification report.

3.4.2 JNP Group recommends that the proposed development works are undertaken in accordance with the definition of Waste Code of Practice (DoWCoP); in following this guidance and to ensure materials are managed correctly, a Materials Management Plan may need to be prepared and declared in advance by a Qualified Person, then implemented and documented in a Verification Report. If this process is not undertaken, then following recent changes in Landfill Tax Regulations by HMRC. There is a risk of penalties equating to twice the Landfill Tax being applied to the re-use of material o site. If the proposed works are to be undertaken outside the DoWCoP, there would need to be some of Environmental Permitting or suitable equivalent. The requirements of such are likely to be more onerous and may take longer to be granted.

3.5 Imported Fill

3.5.1 Any imported fill such as subsoil or topsoil to be used at the site should be sourced from a suitable provider of such material, who should provide provisional chemical testing certificates of the material destined for the site. These certificates should be issued to JNP Group for approval prior to accepting the material. Once imported to site, the material will require further testing to verify it is the same material.

3.5.2 In addition, the imported fill should be free of any deleterious material such as glass fragments, wire, wood and a visual inspection should be undertaken once the material arrives on site.

3.5.3 Any topsoil and subsoil imported to site shall be classified and characterised in accordance with the requirements of BS3882:2015 [Specification for topsoil and requirements for use] and BS8601:2013 [Specification for subsoil and requirements for use] respectively as well as the chemical testing criteria given in Tables 4.1 and 4.2.

3.5.4 There reader is referred to Section 4 for chemical testing requirements.

3.6 Dealing with Unexpected Contamination

3.6.1 Whilst investigation works has been undertaken at the site, it remains possible that unexpected soil, or visible asbestos containing materials may be encountered during the process of any site demolition, clearance, excavation and / or construction.

3.6.2 There is the potential for areas of previously unidentified and unexpected contamination to be present at the site such as ashy soils, significantly oily or odorous material, asbestos impacted soils and underground tanks.

3.6.3 If during the works such material is encountered, then the earthworks Contractor shall inform JNP Group immediately who shall then advise on the best course of action. Photographic and written records should be kept by the earthworks Contractor detailing any such material.

3.6.4 A copy of this strategy for dealing with unexpected contamination should be made available on site and ground workers should be made aware of it.

3.7 Environmental Incidents

3.7.1 In the event of an unforeseen environmental incident (pollution occurrence) on-site work should be stopping in that area immediately affected and the Environmental Agency should be contacted via their incident hotline 0800 807 060.

3.7.2 Emergency spill kits shall be kept on-site in strategic locations and a member of staff who is trained to use them shall be present on-site at all times.

4 REMEDIATION STRATEGY – VALIDATION PLAN

4.1 Validation Chemical Testing – Excavation level

4.1.1 Following the excavation of contaminated areas, the resulting excavation bases and faces shall be sampled at random locations by JNP Group to suit the size of the excavation, and the samples sent for chemical analysis for metals and speciated PAH only. Providing the chemical results are acceptable to the screening values given in Table 2.1, the area can then be backfilled with imported sub-soil and topsoil (or fill beneath hardstanding), or site generated subsoil / topsoil. .

4.1.2 Following the excavation of any unexpected contamination, soil samples shall be taken by JNP Group and tested for an appropriate testing suite. The results shall be compared to the criteria given in Table 2.1, or other contaminated soil screening values if different contaminants, and provided they are acceptable the area can be backfilled.

4.1.3 Should the chemical results fail then further material shall be excavated (it is suggested by extending the depth of the excavation by 200 mm) and the new excavation level sampled and tested as above.

4.1.4 All chemical testing shall be undertaken by a UKAS and MCERTS accredited testing laboratory using standard turnaround times.

4.2 Validation Chemical Testing – Imported Fill

4.2.1 Chemical testing certificates should be available for any imported fill including subsoil or topsoil, however, in line with the requirements of the NHBC and Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG) guidance as the number of plots scheduled for development in this area is up to c.22, each imported material used will need to be sampled in accordance YALPAG (**Appendix E**).

4.2.2 Provisional chemical testing certificates should be available for any imported fill including subsoil or topsoil. The further testing once the material is on-site will verify the materials are the same as those tested in the supply site / depot.

4.2.3 All chemical testing shall be undertaken by a UKAS and MCERTS accredited testing laboratory.

4.2.4 Any chemical testing results shall be compared to the screening values given in Table 4.1. As the final end use of the site is residential properties with private gardens, current UK residential with plant uptake guideline values have been selected for use.

4.2.5 In addition, as copper, nickel and zinc are considered phytotoxic in nature the criteria given in Table 4.2 should be used (these values are less than the published UK screening values and hence are considered protective of human health).

Table 4-1: Imported Fill Screening Values

Determinant	Screening Criteria (mg/kg)	Source		Determinant	Screening Criteria (mg/kg)	Source
TPH Aliphatic $C_5 – C_6$	42	LQM S4UL		Acenaphthylene	5.0	Professional judgement[6]
TPH Aliphatic $C_6 – C_8$	100	LQM S4UL		Acenaphthene	5.0	Professional judgement[6]
TPH Aliphatic $C_8 – C_{10}$	27	LQM S4UL		Anthracene	5.0	Professional judgement[6]
TPH Aliphatic $C_{10} – C_{12}$	130	LQM S4UL		Benzo(a)anthracene	5.0	Professional judgement[6]
TPH Aliphatic $C_{12} – C_{16}$	250	Professional judgement[1]		Benzo(a)pyrene	5.0	Defra C4SL[4]
TPH Aliphatic $C_{16} – C_{21}$	250	Professional judgement[1]		Benzo(b)fluoranthene	2.6	LQM S4UL
TPH Aliphatic $C_{21} – C_{35}$	250	Professional judgement[1]		Benzo(k)fluoranthene	5.0	Professional judgement[6]
TPH Aromatic $C_5 – C_7$	0.87	Professional judgement[6]		Benzo(g,h,i)perylene	5.0	Professional judgement[6]
TPH Aromatic $C_7 – C_8$	130	LQM S4UL		Chrysene	5.0	Professional judgement[6]
TPH Aromatic $C_8 – C_{10}$	34	LQM S4UL		Dibenzo(a,h)anthracene	0.24	LQM S4UL
TPH Aromatic $C_{10} – C_{12}$	74	LQM S4UL		Fluoranthene	5.0	Professional judgement[6]
TPH Aromatic $C_{12} – C_{16}$	140	Professional judgement[1]		Fluorene	5.0	Professional judgement[6]
TPH Aromatic $C_{16} – C_{21}$	260	Professional judgement[1]		Indeno(1,2,3,c-d)pyrene	5.0	Professional judgement[6]
TPH Aromatic $C_{21} – C_{35}$		Professional judgement[1]		Naphthalene	2.3	LQM S4UL
				Pyrene	5.0	Professional judgement[6]
Arsenic	37	Defra C4SL[4]		Phenanthrene	5.0	Professional judgement[6]
Cadmium	26	Defra C4SL[4]				
Chromium	910[2]	LQM S4UL		Nickel	pH dependent	Refer to Table 5.2
Mercury	40[3]	LQM S4UL		Selenium	250	LQM S4UL
Lead	200	Defra C4SL[4]		Benzene	0.87	Defra C4SL[4]
Copper	pH dependent	Refer to Table 5.2		Toluene	130	LQM S4UL
Zinc	pH dependent	Refer to Table 5.2		Ethylbenzene	47	LQM S4UL
asbestos	None present	CIRIA C733		Xylene	56[5]	LQM S4UL

LQM S4UL selected for organics based on 1% soil organic matter (SOM) for conservatism

1 Professional judgement – conservative value selected, less than LQM S4UL

2 Based on LQM S4UL for chromium III, assumes no chromium VI is likely to be present

3 Based on LQM S4UL for inorganic mercury, assumes that no elemental or methyl mercury is likely to be present
4 defra category 4 screening value
5 Based on LQM S4UL for p-xylene for conservatism
6 Professional judgment – cannot be classified as contaminated land under Part IIA

Table 4.2: Imported Fill Screening Values- phytotoxic metals

Determinant	Screening Criteria (mg/kg)			Source
	pH <6	pH 6-7	pH >7	
Copper (nitric acid extractable)	<100	<135	<200	BS 3882:2015 and BS 8601:2013
Nickel (nitric acid extractable)	<60	<75	<110	BS 3882:2015 and BS 8601:2013
Zinc (nitric acid extractable)	<200	<200	<300	BS 3882:2015 and BS 8601:2013

4.3 Verification Reporting

4.3.1 Following the completion of the remediation works, all records of works undertaken (including drawings and photographs), duty of care certificates and imported soil chemical testing certificates shall be provided to JNP Group.

4.3.2 Following the completion of the remediation works, a verification report shall be produced by JNP Group that details the remediation work undertaken, the validation testing undertaken, and the details of any material removed from or brought to the site.

4.3.3 It is recommended that a copy of this report is submitted to the regulatory authorities for their approval.

4.4 Recommendations

4.4.1 It is recommended that a copy of this options appraisal and remediation strategy be submitted to the Regulatory Authorities for their approval.

5 REFERENCES

1 BRE 2005: Special Digest 1. Concrete in Aggressive Ground. Building Research Establishment.

2 BS 5930:1999. Code of practice for site investigations. British Standards Institution. London.

3 BS 8485. 2015. Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings. British Standards Institution. London.

4 BS 8576. 2013. Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOC). British Standards Institution. London.

5 BS 10175: 2001. Investigation of potentially contaminated sites - code of practice. British Standards Institution, London.

6 BS 3882:2015. Specification for topsoil and requirements for use. British Standards Institution. London.

7 BS 8601:2013. Specification for subsoil and requirements for use. British Standards Institution. London

8 Card G, Wilson S, Mortimore S. 2012. A Pragmatic Approach to Ground Gas Risk Assessment. CL:AIRE Research Bulletin RB17. CL:AIRE. London.

9 CL:AIRE and Chartered Institute of Environmental Health (CIEH). 2008. Guidance on Comparing Soil Contamination Data with a Critical Concentration. CL:AIRE / CIEH. London.

10 CL:AIRE. 2013. SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. CL:AIRE. London.

11 CIRIA C665. 2007. Assessing Risks Posed by Hazardous Ground Gases to Buildings. CIRIA. London.

12 DEFRA. 2014. SP1010 - Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document. DEFRA. London.

13 Environment Agency. 2005. The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils. P5-080/TR3.

14 Environment Agency. 2006. Remedial Targets Methodology. Hydrogeological Risk Assessment for Land Contamination.

15 Environment Agency. 2008. Compilation of Date for Priority Organic Pollutants for Derivation of Soil Guideline Values. Science Report SC050021/SR7.

16 Environment Agency. 2009. Human Health Toxicological Assessment of Contaminants in Soil. Science Report SC050021/SR2. Bristol.

17 Environment Agency. 2009. Updated technical background to the CLEA model. Science Report SC050021/SR3. Bristol.

18 Environment Agency. 2009. CLEA Software (Version 1.06) - Science Report SC050021/SR4. Bristol.

19 Environment Agency. 2010. Waste acceptance at landfills – Guidance on waste acceptance procedures and criteria. Bristol.

20 Environment Agency. 2013. Chemical Standards Database - http://evidence.environment-agency.gov.uk/ChemicalStandards/ChemicalsByName.aspx

21 Environment Agency. 2015. Waste Classification: Guidance on the classification and assessment of waste. First Edition. Technical Guidance WM3. Bristol.

22 Environment Agency. 2019. Land Contamination: Risk Management. UK Government Website - https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks.

23 Land Quality Management & Chartered Institute of Environmental Health (2015). The LQM/CIEH S4UL for Human Health Risk Assessment - LQM CIEH. Land Quality Press, Nottingham.

24 TPH Criteria Working Group: 1997: Total Petroleum Hydrocarbon Group Series. Volume 3. Selection of Representative TPH Fractions Based on Fate and Transport Considerations.

25 Wilson S, Card G and Haines S.2008. Ground Gas Handbook. Dunbeath. Whittles Publishing.

26 Yorkshire and Humberside Pollution Advisory Council. Version 3.1 October 2014. Verification Requirements for Cover Systems. Technical Guidance for Developers, Landowners and Consultants.

Figures / Drawings

Figure 1

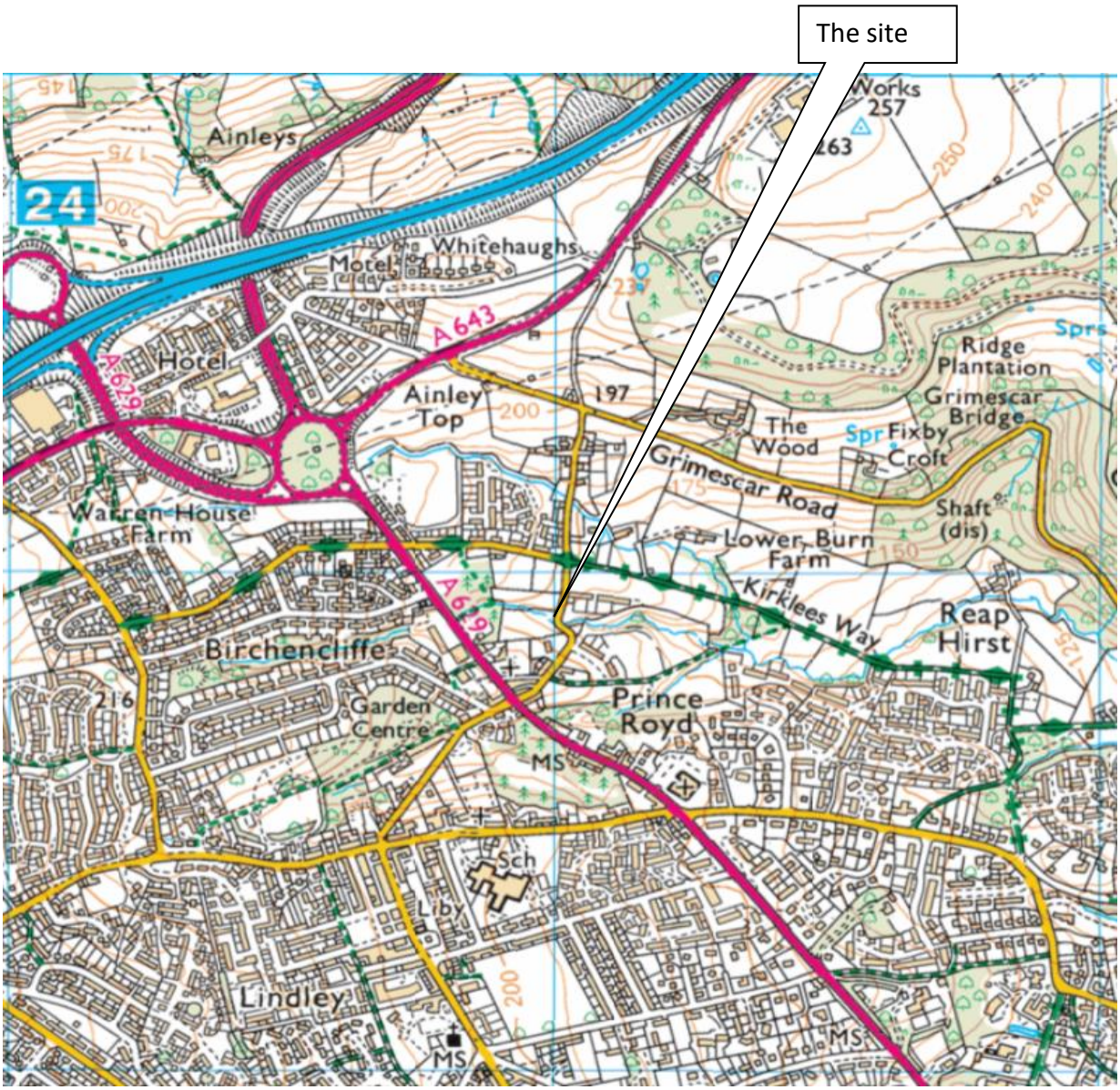
Site Location Plan

Project:

Land off Burn Road, Huddersfield

Project No:

S12616



Appendix A Limitations

INTRODUCTION

This report is confidential and has been prepared solely for the benefit of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JNP Group; a charge may be levied against such approval. JNP Group accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned, and: this document to any third party with whom and agreement has not been executed.

Any comments given within this report are based on the understanding that the proposed works to be undertaken will be as described in the introduction and the information referred to and provided by others and will be assumed to be correct and will not have been checked by JNP Group and JNP Group will not accept any liability or responsibility for any inaccuracy in such information.

Any deviation from the recommendations or conclusions contained in this report should be referred to JNP Group in writing for comment and JNP Group reserve the right to reconsider their recommendations and conclusions contained within. JNP Group will not accept any liability or responsibility for any changes or deviations from the recommendations noted in this report without prior consultation and our full approval.

The details contained within this report reflect the site conditions prevailing at the time of investigation. JNP Group warrants the accuracy of this report up to and including that date. Additional information, improved practice or changes in legislation may necessitate this report having to be reviewed in whole or in part after that date. If necessary, this report should be referred back to JNP Group for re-assessment and, if necessary, re-appraisal.

This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report. Whilst this report and the opinion made herein are correct to the best of JNP Groups' belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.

The report represents the finding and opinions of experience geotechnical and geoenvironmental engineers. JNP Group does not provide legal advice and the advice of lawyers may also be required.

It should be noted that the following were not included as part of the agreed scope of works with the client: detailed ecological surveys and assessment; groundwater monitoring and sampling; geotechnical requirements etc.

JNP Group has provided advice and made recommendations based on the findings of the work undertaken, however this is subject to the approval / acceptance by the relevant regulatory authorities.

The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

Where intrusive investigations have been undertaken they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature sampling, no investigation technique is capable of identifying all conditions present in all areas. The number of

sampling points and the methods of sampling and testing do not preclude the existence of localised “hotspots” of contamination where concentrations may be significantly higher than those actually encountered.

If costs have been included in relation to the site remediation these must be confirmed by a qualified quantity surveyor. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed from Third Party should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions accordingly.

Whilst this report and the opinion made herein are correct to the best of JNP Groups’ belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.

Gas and groundwater levels may vary from those reported due to seasonal, or other effects.

Appendix B Hazardous Waste Assessment

Waste Classification Report

MPV2W-LM93C-VN1CU

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.

Report is invalid if pages are removed.

Job name

S12616 Land off Burn Road

Description/Comments

Project

S12616

Site

Land Off Burn Road

Classified by

Name:

Charlotte Grisby **JNP Group**

Date: **Portobello House, Portobello Way 23 Jan 2025 10:43 GMT**

CV34 5GJ **Course Date**

01926 889955

Company: 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.

Warwick Telephone: -

HazWasteOnline™ Certification:

Hazardous Waste Classification -

Purpose of classification

4 - Classification of Waste Products

Address of the waste

55 Burn Road, Huddersfield **Post Code** HD3 3BT

SIC for the process giving rise to the waste

39000 Remediation activities and other waste management services

Description of industry/producer giving rise to the waste

Contaminated soil

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

Contaminated soil

Description of the waste

Contaminated soil

Job summary

WS080.20m	0.20
WS100.30m	0.30
WS010.30m	0.30
WS020.60m	0.60

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS06 0.10m	0.10	Non Hazardous		3
2	Non Hazardous				5
3	Non Hazardous				7
4	Non Hazardous				9
5	Non Hazardous				11
6	WS02 0.30m	0.3	Non Hazardous		13

Related documents

#	Name	Description
1	JNP Updated 2023 Standard	waste stream template used to create this Job

Report

Created by: Charlotte Grisby

Created date: 23 Jan 2025 10:43 GMT

NonHazardousWaste

Classification of sample: WS06 0.10m

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

Sample details

Sample name:			
WS06 0.10m	LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)	
	Chapter:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)	
Sample Depth:			
0.10 m	Entry:		

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic pentoxide }				39	mg/kg	1.534	59.821	mg/kg	0.00598 %		
		033-004-00-6	215-116-9	1303-28-2									
2		barium { barium sulphide }				120	mg/kg	1.233	148.019	mg/kg	0.0148 %		
		016-002-00-X	244-214-4	21109-95-5									
3		beryllium { beryllium oxide }				1.3	mg/kg	2.775	3.608	mg/kg	0.000361 %		
		004-003-00-8	215-133-1	1304-56-9									
4		boron { diboron trioxide }				1	mg/kg	3.22	3.22	mg/kg	0.000322 %		
		005-008-00-8	215-125-8	1303-86-2									
5		cadmium { cadmium sulfate }				1.1	mg/kg	1.855	2.04	mg/kg	0.000204 %		
		048-009-00-9	233-331-6	10124-36-4									
6		chromium in chromium(III) compounds { chromium(III) oxid }				33	mg/kg	1.462	48.231	mg/kg	0.00482 %		
			215-160-9	1308-38-9									
7		copper { copper(II) oxide }				62	mg/kg	1.252	77.61	mg/kg	0.00776 %		
		029-016-00-6	215-269-1	1317-38-0									
8		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	270	mg/kg		270	mg/kg	0.027 %		
		082-001-00-6											
9		mercury { norganic compounds of mercury with the			1	0.3	mg/kg		0.3	mg/kg	0.00003 %		

		exception of mercuric sulphide and those specified elsewhere in this Annex }											
		080-002-00-6											
10		nickel { nickel sulfate }				27	mg/kg	2.637	71.19	mg/kg	0.00712 %		
		028-009-00-5	232-104-9	7786-81-4									
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
		034-002-00-8											
12		vanadium { divanadium pentaoxide; vanadium pentoxide }				55	mg/kg	1.785	98.185	mg/kg	0.00982 %		
		023-001-00-8	215-239-8	1314-62-1									
13		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				300	mg/kg	4.398	1319.378	mg/kg	0.132 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14		naphthalene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		601-052-00-2	202-049-5	91-20-3									

#		Determinand			CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		acenaphthylene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			205-917-1	208-96-8									
16		acenaphthene				0.43	mg/kg		0.43	mg/kg	0.000043 %		
			201-469-6	83-32-9									
17		fluorene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
			201-695-5	86-73-7									
18		phenanthrene				4.1	mg/kg		4.1	mg/kg	0.00041 %		
			201-581-5	85-01-8									
19		anthracene				0.61	mg/kg		0.61	mg/kg	0.000061 %		
			204-371-1	120-12-7									
20		fluoranthene				7.2	mg/kg		7.2	mg/kg	0.00072 %		
			205-912-4	206-44-0									
21		pyrene				6.7	mg/kg		6.7	mg/kg	0.00067 %		
			204-927-3	129-00-0									
22		benz[a]anthracene				4.2	mg/kg		4.2	mg/kg	0.00042 %		
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				3.5	mg/kg		3.5	mg/kg	0.00035 %		
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				3.4	mg/kg		3.4	mg/kg	0.00034 %		
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				1.9	mg/kg		1.9	mg/kg	0.00019 %		
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				2.7	mg/kg		2.7	mg/kg	0.00027 %		
		601-032-00-3	200-028-5	50-32-8									
27		dibenz[a,h]anthracene				0.64	mg/kg		0.64	mg/kg	0.000064 %		
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				2	mg/kg		2	mg/kg	0.0002 %		

NonHazardousWaste

			205-883-8	191-24-2							
29		indeno[123-cd]pyrene				1.9	mg/kg	1.9	mg/kg	0.00019 %	
			205-893-2	193-39-5							
30		TPH (C6 to C40) petroleum group				201	mg/kg	201	mg/kg	0.0201 %	
				TPH							
31		confirm TPH has NOT arisen from diesel or petrol				☑					
									Total:	0.234 %	

Key

	User supplied data
	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
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: 250 mg/kg (0.025%) because: Nominal result to remove potential classification as liquid oil is not present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0201%)

Classification of sample: WS08 0.20m

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

Sample details

	Sample name:	
WS08 0.20m	LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
	Chapter:	
	Sample Depth:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.20 m	Entry:	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLPNote	User entered data	Conv. Factor	Compound conc.	Classification value	MCApplied	Conc. Not Used
1	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		32 mg/kg	1.534	49.084 mg/kg	0.00491 %		
2	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		120 mg/kg	1.233	148.019 mg/kg	0.0148 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		2.9 mg/kg	2.775	8.048 mg/kg	0.000805 %		
4	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 %		
5	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		2.7 mg/kg	1.855	5.007 mg/kg	0.000501 %		
6	chromium in chromium(III) compounds { chromium(III) oxid }		215-160-9	1308-38-9		35 mg/kg	1.462	51.154 mg/kg	0.00512 %		
7	copper { copper(II) oxide }	029-016-00-6	215-269-1	1317-38-0		190 mg/kg	1.252	237.838 mg/kg	0.0238 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	160 mg/kg		160 mg/kg	0.016 %		
9	mercury { norganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.3 mg/kg		0.3 mg/kg	0.00003 %		
10	nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		31 mg/kg	2.637	81.737 mg/kg	0.00817 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.405 mg/kg	0.000141 %		
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		72 mg/kg	1.785	128.533 mg/kg	0.0129 %		
13	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		210 mg/kg	4.398	923.564 mg/kg	0.0924 %		
14	naphthalene	601-052-00-2	202-049-5	91-20-3		0.26 mg/kg		0.26 mg/kg	0.000026 %		

#	Determinand	EU CLP index number	EC Number	CAS Number	CLPNote	User entered data	Conv. Factor	Compound conc.	Classification value	MCApplied	Conc. Not Used

NonHazardousWaste

15		acenaphthylene	205-917-1	208-96-8		0.05	mg/kg		0.05	mg/kg	0.000005 %	
16		acenaphthene	201-469-6	83-32-9		0.05	mg/kg		0.05	mg/kg	0.000005 %	
17		fluorene	201-695-5	86-73-7		0.05	mg/kg		0.05	mg/kg	0.000005 %	
18		phenanthrene	201-581-5	85-01-8		0.83	mg/kg		0.83	mg/kg	0.000083 %	
19		anthracene	204-371-1	120-12-7		0.16	mg/kg		0.16	mg/kg	0.000016 %	
20		fluoranthene	205-912-4	206-44-0		0.84	mg/kg		0.84	mg/kg	0.000084 %	
21		pyrene	204-927-3	129-00-0		0.78	mg/kg		0.78	mg/kg	0.000078 %	
22		benz[a]anthracene	200-280-6	56-55-3		0.45	mg/kg		0.45	mg/kg	0.000045 %	
23		chrysene	205-923-4	218-01-9		0.48	mg/kg		0.48	mg/kg	0.000048 %	
24		benzo[b]fluoranthene	205-911-9	205-99-2		0.44	mg/kg		0.44	mg/kg	0.000044 %	
25		benzo[k]fluoranthene	205-916-6	207-08-9		0.15	mg/kg		0.15	mg/kg	0.000015 %	
26		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		0.31	mg/kg		0.31	mg/kg	0.000031 %	
27		dibenz[a,h]anthracene	200-181-8	53-70-3		0.05	mg/kg		0.05	mg/kg	0.000005 %	
28		benzo[ghi]perylene	205-883-8	191-24-2		0.05	mg/kg		0.05	mg/kg	0.000005 %	
29		indeno[123-cd]pyrene	205-893-2	193-39-5		0.05	mg/kg		0.05	mg/kg	0.000005 %	
30		confirm TPH has NOT arisen from diesel or petrol				☑						
										Total:	0.18 %	

Key

User supplied data

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

CLP: Note 1Only the metal concentration has been used for classification

Classification of sample: WS10 0.30m

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

Sample details

WS10 0.30m		Sample name: LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
		Chapter:	
0.30 m		Sample Depth: Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic pentoxide }				17	mg/kg	1.534	26.076	mg/kg	0.00261 %		
		033-004-00-6	215-116-9	1303-28-2									
2		barium { barium sulphide }				120	mg/kg	1.233	148.019	mg/kg	0.0148 %		
		016-002-00-X	244-214-4	21109-95-5									
3		beryllium { beryllium oxide }				1.8	mg/kg	2.775	4.996	mg/kg	0.0005 %		
		004-003-00-8	215-133-1	1304-56-9									
4		boron { diboron trioxide }				1	mg/kg	3.22	3.22	mg/kg	0.000322 %		
		005-008-00-8	215-125-8	1303-86-2									
5		cadmium { cadmium sulfate }				0.6	mg/kg	1.855	1.113	mg/kg	0.000111 %		
		048-009-00-9	233-331-6	10124-36-4									
6		chromium in chromium(III) compounds { chromium(III) oxid }				34	mg/kg	1.462	49.693	mg/kg	0.00497 %		
			215-160-9	1308-38-9									
7		copper { copper(II) oxide }				30	mg/kg	1.252	37.553	mg/kg	0.00376 %		
		029-016-00-6	215-269-1	1317-38-0									
8		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	130	mg/kg		130	mg/kg	0.013 %		
		082-001-00-6											
9		mercury { norganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	0.3	mg/kg		0.3	mg/kg	0.00003 %		
		080-002-00-6											
10		nickel { nickel sulfate }				26	mg/kg	2.637	68.554	mg/kg	0.00686 %		
		028-009-00-5	232-104-9	7786-81-4									
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
		034-002-00-8											
12		divanadium pentaoxide; vanadium				55	mg/kg	1.785	98.185	mg/kg	0.00982 %		

NonHazardousWaste

		vanadium { pentoxide }											
		023-001-00-8	215-239-8	1314-62-1									
13		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				180	mg/kg	4.398	791.627	mg/kg	0.0792 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14		naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-052-00-2	202-049-5	91-20-3									

#		Determinand			CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		acenaphthylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-917-1	208-96-8									
16		acenaphthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-469-6	83-32-9									
17		fluorene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-695-5	86-73-7									
18		phenanthrene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
			201-581-5	85-01-8									
19		anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-371-1	120-12-7									
20		fluoranthene				0.38	mg/kg		0.38	mg/kg	0.000038 %		
			205-912-4	206-44-0									
21		pyrene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
			204-927-3	129-00-0									
22		benz[a]anthracene				0.23	mg/kg		0.23	mg/kg	0.000023 %		
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				0.23	mg/kg		0.23	mg/kg	0.000023 %		
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
		601-032-00-3	200-028-5	50-32-8									
27		dibenz[a,h]anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-883-8	191-24-2									
29		indeno[123-cd]pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-893-2	193-39-5									
30		confirm TPH has NOT arisen from diesel or petrol											

	●				☑					
								Total:	0.136 %	

Key

User supplied data

● 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

CLP: Note 1Only the metal concentration has been used for classification

Classification of sample: WS01 0.30m

Classified as 17 05 04 in the List of Waste

Sample details

Sample name:			
WS01 0.30m	LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)	
	Chapter:		
Sample Depth:		17 05 04 (Soil and stones other than those mentioned in 17 05 03)	
0.30 m	Entry:		

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic pentoxide }				23	mg/kg	1.534	35.279	mg/kg	0.00353 %		
		033-004-00-6	215-116-9	1303-28-2									
2		barium { ● barium sulphide }				310	mg/kg	1.233	382.383	mg/kg	0.0382 %		
		016-002-00-X	244-214-4	21109-95-5									
3		beryllium { beryllium oxide }				2	mg/kg	2.775	5.551	mg/kg	0.000555 %		
		004-003-00-8	215-133-1	1304-56-9									
4		boron { diboron trioxide }				2	mg/kg	3.22	6.44	mg/kg	0.000644 %		
		005-008-00-8	215-125-8	1303-86-2									
5		cadmium { cadmium sulfate }				0.5	mg/kg	1.855	0.927	mg/kg	0.0000927 %		
		048-009-00-9	233-331-6	10124-36-4									
6		chromium in chromium(III) compounds { ● chromium(III) oxid }				35	mg/kg	1.462	51.154	mg/kg	0.00512 %		
			215-160-9	1308-38-9									
7		copper { copper(II) oxide }				37	mg/kg	1.252	46.316	mg/kg	0.00463 %		
		029-016-00-6	215-269-1	1317-38-0									
8		lead { lead compounds with the exception of those ● specified elsewhere in this Annex (worst case) }			1	200	mg/kg		200	mg/kg	0.02 %		

NonHazardousWaste

		082-001-00-6										
9		mercury { norganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	0.3	mg/kg		0.3	mg/kg	0.00003 %	
		080-002-00-6										
10		nickel { nickel sulfate }				34	mg/kg	2.637	89.647	mg/kg	0.00896 %	
		028-009-00-5	232-104-9	7786-81-4								
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %	
		034-002-00-8										
12		vanadium { divanadium pentaoxide; vanadium pentoxide }				64	mg/kg	1.785	114.252	mg/kg	0.0114 %	
		023-001-00-8	215-239-8	1314-62-1								
13		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				270	mg/kg	4.398	1187.44	mg/kg	0.119 %	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
14		naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %	
		601-052-00-2	202-049-5	91-20-3								

#		Determinand			CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		acenaphthylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-917-1	208-96-8									
16		acenaphthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-469-6	83-32-9									
17		fluorene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-695-5	86-73-7									
18		phenanthrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-581-5	85-01-8									
19		anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-371-1	120-12-7									
20		fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-912-4	206-44-0									
21		pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-927-3	129-00-0									
22		benz[a]anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		

		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.05	mg/kg		0.05	mg/kg	0.000005 %	
26		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.05	mg/kg		0.05	mg/kg	0.000005 %	
27		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.05	mg/kg		0.05	mg/kg	0.000005 %	
28		benzo[ghi]perylene		205-883-8	191-24-2		0.05	mg/kg		0.05	mg/kg	0.000005 %	
29		indeno[123-cd]pyrene		205-893-2	193-39-5		0.05	mg/kg		0.05	mg/kg	0.000005 %	
30		TPH (C6 to C40) petroleum group			TPH		20	mg/kg		20	mg/kg	0.002 %	
31		confirm TPH has NOT arisen from diesel or petrol					☑						
											Total:	0.214 %	

Key

User supplied data

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

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: 250 mg/kg (0.025%) because: Nominal result to remove potential classification as liquid oil is not present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.002%)

Classification of sample: WS02 0.60m

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

Sample details

Sample name:			
WS02 0.60m	LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)	
	Chapter:		
Sample Depth:		17 05 04 (Soil and stones other than those mentioned in 17 05 03)	
0.60 m	Entry:		

NonHazardousWaste

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLPNote	User entered data	Conv. Factor	Compound conc.	Classification value	MCApplied	Conc. Not Used
1	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		3 mg/kg	1.534	4.602 mg/kg	0.00046 %		
2	barium { barium sulphide }	056-002-00-X	244-214-4	21109-95-5		96 mg/kg	1.233	118.415 mg/kg	0.0118 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.6 mg/kg	2.775	4.441 mg/kg	0.000444 %		
4	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.4 mg/kg	3.22	1.288 mg/kg	0.000129 %		
5	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.2 mg/kg	1.855	0.371 mg/kg	0.0000371 %		
6	chromium in chromium(III) compounds { chromium(III) oxid }		215-160-9	1308-38-9		58 mg/kg	1.462	84.77 mg/kg	0.00848 %		
7	copper { copper(II) oxide }	029-016-00-6	215-269-1	1317-38-0		33 mg/kg	1.252	41.309 mg/kg	0.00413 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	23 mg/kg		23 mg/kg	0.0023 %		
9	mercury { norganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.3 mg/kg		0.3 mg/kg	0.00003 %		
10	nickel { nickel sulfate }	028-009-00-5	232-104-9	7786-81-4		43 mg/kg	2.637	113.377 mg/kg	0.0113 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1 mg/kg	1.405	1.405 mg/kg	0.000141 %		
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		46 mg/kg	1.785	82.119 mg/kg	0.00821 %		
13	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta					150 mg/kg	4.398	659.689 mg/kg	0.066 %		

		hydrate); [1] zinc sulphate (anhydrous) [2] }										
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
14		naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-052-00-2	202-049-5	91-20-3								

#		Determinand			CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		acenaphthylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-917-1	208-96-8									
16		acenaphthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-469-6	83-32-9									
17		fluorene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-695-5	86-73-7									
18		phenanthrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-581-5	85-01-8									
19		anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-371-1	120-12-7									
20		fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-912-4	206-44-0									
21		pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-927-3	129-00-0									
22		benz[a]anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-032-00-3	200-028-5	50-32-8									
27		dibenz[a,h]anthracene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-883-8	191-24-2									
29		indeno[123-cd]pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-893-2	193-39-5									
30		confirm TPH has NOT arisen from diesel or petrol				☑							
										Total:	0.114 %		

Key

User supplied data

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

CLP: Note 1Only the metal concentration has been used for classification

NonHazardousWaste

Classification of sample: WS02 0.30m

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

Sample details

Sample name:			
WS02 0.30m	LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)	
	Chapter:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)	
Sample Depth:			
0.3 m	Entry:		

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic pentoxide }				3	mg/kg	1.534	4.602	mg/kg	0.00046 %		
		033-004-00-6	215-116-9	1303-28-2									
2		barium { barium sulphide }				110	mg/kg	1.233	135.684	mg/kg	0.0136 %		
		016-002-00-X	244-214-4	21109-95-5									
3		beryllium { beryllium oxide }				1.7	mg/kg	2.775	4.718	mg/kg	0.000472 %		
		004-003-00-8	215-133-1	1304-56-9									
4		boron { diboron trioxide }				0.2	mg/kg	3.22	0.644	mg/kg	0.0000644 %		
		005-008-00-8	215-125-8	1303-86-2									
5		cadmium { cadmium sulfate }				0.2	mg/kg	1.855	0.371	mg/kg	0.0000371 %		
		048-009-00-9	233-331-6	10124-36-4									
6		chromium in chromium(III) compounds { chromium(III) oxid }				60	mg/kg	1.462	87.693	mg/kg	0.00877 %		
			215-160-9	1308-38-9									
7		copper { copper(II) oxide }				34	mg/kg	1.252	42.56	mg/kg	0.00426 %		
		029-016-00-6	215-269-1	1317-38-0									
8		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	24	mg/kg		24	mg/kg	0.0024 %		
		082-001-00-6											
9		mercury { inorganic compounds of mercury with the			1	0.3	mg/kg		0.3	mg/kg	0.00003 %		

		exception of mercuric sulphide and those specified elsewhere in this Annex } 080-002-00-6										
10		nickel { nickel sulfate } 028-009-00-5	232-104-9	7786-81-4		45	mg/kg	2.637	118.651	mg/kg	0.0119 %	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				1	mg/kg	1.405	1.405	mg/kg	0.000141 %	
12		vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8	215-239-8	1314-62-1		48	mg/kg	1.785	85.689	mg/kg	0.00857 %	
13		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] } 030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		150	mg/kg	4.398	659.689	mg/kg	0.066 %	
14		naphthalene 601-052-00-2	202-049-5	91-20-3		0.05	mg/kg		0.05	mg/kg	0.000005 %	

#		Determinand EU CLP index number	EC Number	CAS Number	CLPNote	User entered data		Conv. Factor	Compound conc.		Classification value	MCApplied	Conc. Not Used
15		acenaphthylene	205-917-1	208-96-8		0.05	mg/kg		0.05	mg/kg	0.000005 %		
16		acenaphthene	201-469-6	83-32-9		0.05	mg/kg		0.05	mg/kg	0.000005 %		
17		fluorene	201-695-5	86-73-7		0.05	mg/kg		0.05	mg/kg	0.000005 %		
18		phenanthrene	201-581-5	85-01-8		0.05	mg/kg		0.05	mg/kg	0.000005 %		
19		anthracene	204-371-1	120-12-7		0.05	mg/kg		0.05	mg/kg	0.000005 %		
20		fluoranthene	205-912-4	206-44-0		0.05	mg/kg		0.05	mg/kg	0.000005 %		
21		pyrene	204-927-3	129-00-0		0.05	mg/kg		0.05	mg/kg	0.000005 %		
22		benz[a]anthracene 601-033-00-9	200-280-6	56-55-3		0.05	mg/kg		0.05	mg/kg	0.000005 %		
23		chrysene 601-048-00-0	205-923-4	218-01-9		0.05	mg/kg		0.05	mg/kg	0.000005 %		
24		benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		0.05	mg/kg		0.05	mg/kg	0.000005 %		
25		benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.05	mg/kg		0.05	mg/kg	0.000005 %		
26		benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		0.05	mg/kg		0.05	mg/kg	0.000005 %		
27		dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.05	mg/kg		0.05	mg/kg	0.000005 %		
28		benzo[ghi]perylene				0.05	mg/kg		0.05	mg/kg	0.000005 %		

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			205-883-8	191-24-2							
29		indeno[123-cd]pyrene				0.05	mg/kg	0.05	mg/kg	0.000005 %	
			205-893-2	193-39-5							
30		confirm TPH has NOT arisen from diesel or petrol				☑					
									Total:	0.117 %	

Key

User supplied data

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

CLP: Note 1Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

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

GB MCL index number: 016-002-00-X Description/Comments:
Additional Hazard Statement(s): EUH031 >= 0.8 % Reason for
additional Hazards Statement(s):
20 Nov 2021 - EUH031 >= 0.8 % hazard statement sourced from: WM3, Table C12.2

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

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

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

GB MCL index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350 Reason for
additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

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

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

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

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

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic pentoxide}

Worst case most likely species to be present

barium {barium sulphide}

Chromate less likley to be found on site

beryllium {beryllium oxide}

most likely species to be present on site

boron {diboron trioxide}

most likely species to be on site

cadmium {cadmium sulfate}

Worst case species (edit as required)

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

---

most likely species to be present on site

copper {copper(II) oxide}

---

most likely species to be present on site

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

Chromate unlikley to be found on site

mercury {inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex}

---

most likely species to be present on site

nickel {nickel sulfate}

---

worst case most likely species to be present on site

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

---

most likely species to be present on site

vanadium {divanadium pentaoxide; vanadium pentoxide}

Only choice available

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

Chromate unlikley to be on site

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.7.6439.11737 (07 Jan 2025) HazWasteOnline Database: 2025.7.6439.11737 (07 Jan 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.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 C Waste License and Environmental Permit

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Environmental License and Permit Register

Material Description	EWC	Origin	Material carrier			Disposal site/Treatment works	
			Name	License Number	Expiry Date	Name	License No: Exemption Ref.

Appendix D Waste Disposal Records

Waste Disposal Log

Waste Disposal Records

Date Removed	Waste Type	Identifying of the person removing the waste	Site the waste of being taken to and whether licensed or exempt	Waste carrier and registration number	Confirmation of delivery*

*Evidence of waste carrier registration and waste transfer or hazardous waste consignment notes for each removal of waste should be provided either as part of the plan, or filed and cross references

Appendix E Yorkshire and Lincolnshire Pollution Advisory Group guidance (YALPAG) Sampling & Testing Matrix

Appendix 1a – Sampling & Testing Matrix

Type	Number of Samples	Testing Schedule	Assessment Criteria
	Please note that these guidelines apply to a typical residential development, and relaxation of the guidelines or more stringent requirements may apply dependent on local and site specific factors. Therefore, all parameters need to be agreed with the Local Authority.		
Virgin Quarried Material	1 or 2 depending on the type of stone utilised, to confirm the inert nature of the material.	Standard metals/metalloids (should include as a minimum As, Cd, Cr, CrVI, Cu, Hg, Ni, Pb, Se, Zn)	The assessment criteria need to be UK based, e.g. LQM S4ULs, Defra C4SLs or other similarly derived GACs.
Crushed Hardcore, Stone, Brick (excluding asphalt)	Minimum 1 per 500m^3	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos, total TPH. Any additional analysis dependant on the history of the donor site (e.g. phenol, total cyanide, BTEX, MTBE).	
Greenfield/ Manufactured Soils	Minimum 3 Dependent on source and receptor, between 1 per 50m^3 and 1 per 250m^3	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos, pH and soil organic matter (SOM) (or calculated from total organic carbon (TOC)).	
Brownfield/ Screened Soils	Minimum 6 Dependent on source and receptor, between 1 per 50m^3 and 1 per 100m^3	Standard metals/ metalloids (as above), PAH (16 USEPA speciation), TPH (CWG banded), asbestos, pH and SOM (or calculated from TOC). Any additional analysis dependant on the history of the donor site (e.g. phenol, total cyanide, BTEX, MTBE).	

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