

South Yorkshire Passenger Transport
Executive

A61, Old Mill Lane, Barnsley

Ground Conditions and
Contaminated Land Assessment

253511/G/002

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This report takes into account the particular
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It is not intended for and should not be relied
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Ove Arup & Partners Ltd
9th Floor 3 St Paul's Place
Norfolk Street
Sheffield S1 2JE
United Kingdom
www.arup.com

ARUP

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Executive summary

The site is located to the northeast of Barnsley City Centre and includes the A61, Old Mill Lane Bridge crossing the River Dearne. The proposed development involves widening and re-decking the existing bridge.

Historical land uses have included a paper mill which was situated on the southern bank of the river immediately adjacent to the existing western abutment and extended to the river edge. To the immediate east of the bridge a general works and tannery were located, and gas works to the immediate north of the river (off site).

A ground investigation was carried out by Allied Exploration & Geotechnics Ltd in June 2018 following a geotechnical and geo-environmental desk study, consisting of four boreholes up to 40.5mbgl, three window samples to 5.0mbgl and two dynamic probes. All exploratory holes on the south of the river (three boreholes and a window sample) hit obstructions within the made ground and did not prove natural ground. The obstructions may be related to the mill historically present to the south of the river. Exploratory holes north of the river encountered made ground, over alluvium, over Pennine Middle Coal Measures.

BH02 (located on the northern river bank) was drilled to 40.5mbgl and identified completely weathered bedrock at approximately 4.4mbgl (40.4mAOD). Two coal seams assumed to be the Kent's Thin and Kent's Thick Coal seams were encountered at depths of 17.5mbgl (27.26mAOD) and 38.95mbgl (5.81mOAD). A risk assessment concluded that there is a low risk that possible mineworkings will affect the proposed development and no mitigation measures are proposed.

The bridge abutments and associated wingwalls are most likely to be founded directly on the underlying mudstone.

The existing made ground beneath the proposed approach embankments will need to be excavated and recompacted to provide a suitable formation. The embankment, particularly on the north side, is expected to settle due to the presence of soft alluvial clay, but the magnitude and rate of settlement is expected to be such that no further ground improvement is required.

Buried concrete structures should be designed assuming a design sulphate classification of DS-2 AC-2.

No evidence of significant ground contamination was recorded in the ground investigation, but it is noted that the sampling coverage was limited, and unrecorded ground contamination may be encountered during site enabling works.

Recommendations for future work are as follows:

- Supplementary ground investigation should be carried out during site enabling works to confirm the anticipated ground conditions.

1 Introduction

1.1 General

Ove Arup and Partners Ltd (Arup) has been commissioned by South Yorkshire Passenger Transport Executive (SYLTE) to produce a Ground Conditions and Contaminated Land Assessment for the proposed widening and re-decking of the A61 at Old Mill Lane Bridge, Barnsley.

1.2 Proposed development

The proposed development at the site consists of widening and re-decking of the existing bridge at Old Mill Lane, extending to the west. The widening will allow for an increase from three to four traffic lanes, a bus lane and footpath. It is assumed that the widening of the bridge would require partial demolition of the northern and southern river walls, with construction of new abutments adjacent to existing and new embankment on the western side of the bridge.

1.3 Purpose of the report

The purpose of this report is to provide a brief summary of the information previously gathered for the site and summarise the ground conditions, including an evaluation of stratigraphy, including coal mining risk and groundwater to inform the planning process for development.

The findings of a ground investigation completed in 2018 by Allied Exploration and Geotechnics Ltd (AEG) have been analysed and an assessment of the risks posed by contamination to construction workers, future site users and controlled waters has been completed.

1.4 Sources of information

The following sources of information have been used for this report:

- Arup, Geotechnical and geo-environmental desk study (2018); and
- Allied Exploration & Geotechnics Ltd, 2018, A61 Old Mill Lane Bridge final factual report (2018).

Reference should be made to the Arup Desk Study (2018) for the sources of information used to compile the desk study report.

1.5 Report structure

This report has the following structure:

- Section 2 provides a summary of the site, site history, environmental and geological setting;

- Section 3 summarises the historical and recent ground investigation information on or near the site;
- Section 4 outlines the ground conditions at the site, using the ground investigation information;
- Section 5 provides a conceptual site model for the proposed development and a contamination risk assessment;
- Section 6 assesses the engineering considerations affecting the site; and
- Section 7 provides conclusions and recommendations.

1.6 Use of report and limitations

This report has been prepared by Arup on behalf of SYPTE in connection with the A61, Old Mill Lane development. This report is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party in relation to it.

All reasonable skill, care and diligence have been exercised within the timescale available and in accordance with the technical requirements of the brief. Notwithstanding the efforts made by the professional team in preparing the report, it is possible that other ground contamination or ground conditions as yet undetected may exist and consequently, reliance on this report must be limited accordingly.

2 The site

2.1 Site description and topography

The site is located to the north east of Barnsley City Centre at National Grid Reference SE350072 and is shown on Figure 1. The River Dearne flows approximately west to east through the site area.

The site primarily comprises the A61 highway and bridge (Old Mill Lane bridge), orientated in an approximate north east to south west alignment crossing the River Dearne. To allow for the widening of the bridge, the site also includes land to the west of the bridge and highway which comprises the river, river walls, river banks and land currently occupied by Asda car parking to the south and a retail park to the north. The site is bounded to the south west by car parking, to the north west by woodland and fields, and by industrial estates to the north east and south east. The site layout is provided in Figure 2.

The southern bank of the river is occupied by woodland and a public footpath. A stone river retaining wall is located on the southern bank and is approximately 3.5m – 4m high. A pipe discharges out of the river wall approximately 5m west of the bridge and approximately 2.5m below the path level behind the retaining wall.

The river wall on the northern bank is concrete and has an approximate retained height of 3m. A concrete pipe discharges out of the river wall approximately 5m to the west of the abutment with the invert level approximately 1.5m below the top of the retaining wall.

The northern bank of the river is occupied by private woodland with retail car parking for the existing Carphone Warehouse located adjacent to the north east. The woodland area is designated as being within the Green Belt and trees within this wooded area are understood to have tree preservation orders.

The A61 slopes down from around 52mAOD on the approach to the bridge, with the bridge road level at around 47mAOD, which slopes to around 45.5mAOD with progression northwards. The ground to the west of the road and bridge slopes from around 48.5m in the Asda car park to around 45mAOD on the southern river bank. The northern river bank (to the rear of the retaining wall) is at around 44 to 45mAOD.

2.2 Historical land use

A brief summary of the site history is provided below, a full description is available in the Arup Geotechnical and geo-environmental desk study (2018).

The site has been occupied by Old Mill Lane Bridge since the earliest available mapping. The date and construction of the original bridge are not known. Part of the current bridge is understood to date from the widening of a masonry arch bridge that took place circa 1936. Re-decking of the bridge was completed in 1994.

Historical land uses have included a paper mill which was situated on the southern bank of the river immediately adjacent to the existing western abutment and extended to the river edge. Immediately adjacent to this was a further Paper Mill (Dearne Paper Works) located on the site of the existing Asda Supermarket and carpark.

On late 1800's mapping, a feature (possible water channel) is noted to extend through the site to the immediate west of the bridge (north of the river) joining the weir to the north, this feature was absent from early 1900's mapping.

To the immediate east of the bridge a general works and tannery were located, and gas works to the immediate north of the river (off site).

2.3 Geology

The 1:10,000 geological map sheets SE30NW and SE30NE indicate alluvial deposits to underlie the northern two thirds of the site and the area to the immediate west of the bridge currently occupied by woodland. The River Dearne marks the southern extent of the mapped extents of the superficial deposits and therefore alluvial deposits are not anticipated to the south of the river.

The solid geology beneath the majority of the site is mapped as the Kent's Rock sandstone of the Pennine Middle Coal Measures Formation, show to have a shallow dip (3 to 4 degrees to the east). A fault, with downthrow to the north east and trending in an approximate northwest to southeast alignment crosses through the southern section of the site marking the boundary between the Kent's Rock and undifferentiated Coal Measures which are mapped across the most southerly part of the site.

The Kent's Thin and Kent's Thick coal seams are shown to outcrop to the south west of the site, dipping beneath the site.

2.4 Hydrogeology

Both the alluvium and Coal Measures are classed as Secondary A Aquifers.

No surface water, groundwater or potable water abstraction licences are present within 500m of the site. No abstraction licences are recorded within 500m of the scheme and the site is not within 1km of a Source Protection Zone.

2.5 Hydrology

The A61 bridge crosses the River Dearne (Primary River) which is at approximately 42mAOD and flows roughly west to east. The Fleets, a fishing lake of approximately 4ha is situated approximately 210m to the west of the site, upstream.

2.6 Flood risk

Part of the site is classified as a Zone 3 floodplain (high risk) and part of it is also classified as having a high Risk of Flooding from Rivers and the Sea (RoFRaS). A high RoFRaS rating corresponds with a 1 in 30 or greater chance of flooding in any given year.

2.7 Archaeological Interest

Due to the historical land uses, there is a potential for archaeological constraints at the site, in particular relating to historical mill buildings located on the southern banks of the river to the immediately west of Old Mill Land Bridge. Reference should be made to the archaeological desk study by Archaeological Services WYAS (ASWYAS).

2.8 Unexploded Ordnance (UXO)

Barnsley is recorded as an area with a low bomb risk according to the Zetica online mapping, however, the South Yorkshire Regional Unexploded Bomb Risk Map appears to show Barnsley as an area with a high bomb risk. A potential UXO was identified within the River Dearne in May 2018. A UXO risk assessment should be obtained from a specialist consultant to determine the likely risk at the site and the risk mitigation measures to be taken during development of the site.

3 Ground investigation

3.1 Historical ground investigation

No historical ground investigation data is available within the site boundary. A borehole (SE30NW21) was drilled to the immediate south west of the site in the site of the former Paper Mill (now Asda Car Park). The borehole records the main stratigraphic boundaries and presence of coal seams but provides no geotechnical or geo-environmental data.

3.2 AEG 2018 ground investigation

SYLTE commissioned a ground investigation to be completed at the site to inform the re-decking and widening proposals. Arup designed and specified the ground investigation and provided part time supervision on site. The proposed scope of works comprised the following:

- 2 no. dynamic sampling with rotary core follow-on boreholes to 30mbgl;
- 4 no. windowless sample holes to 5mbgl;
- 6 no. hand held dynamic probe holes behind the northern river wall to determine foundation locations;
- 2 no. dynamic probe holes to refusal;
- In-situ testing;
- Geotechnical, chemical and rock laboratory; and
- Post fieldwork gas and groundwater monitoring.

The hand held dynamic probe holes and one window sample hole could not be progressed due to proximity to the river.

AEG carried out the investigation between the dates of 20th and 29th June, 2018, the following scope of works was completed and the as-built locations of the exploratory holes are shown in Figure 3:

- 4 no. dynamic sampling with rotary core follow-on boreholes (three stopped on obstructions within the made ground at a maximum depth of 3.5mbgl);
- 3 no. windowless sample holes (one hit obstructions on the southern bank);
- 2 no. dynamic probe holes;
- In-situ testing;
- Geotechnical, chemical and rock laboratory; and
- Post fieldwork gas and groundwater monitoring.

Borehole BH01 located on the south side of the river hit obstructions in three different locations and could not be progressed.

3.2.1 Geotechnical and rock laboratory testing

Geotechnical laboratory testing was completed on selected soil samples. Testing included the following:

- Moisture content;
- Atterberg limits;
- Particle size distribution; and
- BRE SD1 tests (concrete in aggressive ground).

Suitable sub-samples of the rock core were tested for the followings:

- Point Load Tests (PLTs); and
- Uniaxial compressive strength tests (UCS).

3.2.2 Chemical testing

Selected soil samples were scheduled for chemical testing. The suites of soil testing carried out are listed in the Table 1.

Table 1 Completed chemical testing suites

Suite	Determinand
General	Antimony, arsenic, beryllium cadmium chromium, hexavalent chromium, copper, lead, mercury, nickel, selenium, pentavalent vanadium, zinc, cyanide total, pH, boron (water soluble), total phenols, total organic carbon
Presence and identification of asbestos	Asbestos
Polycyclic aromatic hydrocarbons (PAH), BTEX	USEPA 16 polyaromatic hydrocarbons, BTEX
PCB	Polychlorinated biphenyls

3.2.3 Gas and groundwater monitoring

Monitoring installations were installed in two of the window samples on either side of the river. Two monitoring visits were carried out after the investigation on 17th July and 2nd August 2018.

Table 2 Gas and groundwater monitoring response zones

Borehole ID	Response zone (mbgl)	Stratum
WS01	0.50 to 2.20	Made Ground
WS03	1.00 to 4.00	Made Ground/Alluvium

4 Ground conditions

4.1 Stratigraphy

Figure 4 shows the stratigraphy at the site. It shows made ground over alluvium, only present north of the river, over Middle Coal Measures. Coal was identified at 17.50mbgl and 38.90mbgl assumed to be the Kent's Thin and Kent's Thick respectively.

4.2 Made ground

Due to the size of the site and the variety of uses across it, a number of different types of made ground have been encountered and/or are anticipated across the different site areas. The recent ground investigation did not cover bridge, abutment, and river wall backfill due to restrictions of drilling close to the river. A prediction of the likely composition of these areas has been assumed from previous experience. Standard Penetration Tests (SPTs) within the made ground showed a variable strength with little noticeable increase in depth, other than high values recorded at refusal.

4.2.1.1 Bridge and abutments

In the immediate vicinity of the bridge, made ground associated with the highway construction and service trenches is anticipated. Selected fill is expected behind the abutments, likely to comprise a well-compacted coarse-grained fill and assumed to extend to bedrock. Historical drawings of the bridge show the abutment foundations at approximately 8m below road level on the west abutment, and around 7.5m below road level on the east abutment.

4.2.1.2 Southern river bank

BH01 on the south side of the river hit obstructions of brick and metal in three different locations. This may be associated with the former Mill historically present on the site. The made ground encountered was typically a sandy gravel including ash, limestone, concrete and brick. This was identified to a maximum of 3.5m thickness, all holes hit obstructions and did not prove natural ground.

4.2.1.3 Northern river bank and woodland

The exploratory holes in this area identified soft gravelly clay beneath a layer of topsoil, with mudstone, sandstone, clinker and brick noted. Made ground was encountered between 1.90m and 2.80m thick.

An Atterberg limit test was performed on one sample in the made ground and classified as an intermediate plasticity silt.

A particle size distribution test was performed on one sample in the made ground and showed a 50% sand content, although the made ground was noted to be quite variable in description.

4.2.1.4 River wall backfill

Backfill associated with the river wall construction is anticipated on both the southern and northern river banks. The nature of the backfill is unknown but is likely to comprise compacted granular fill extending to weathered bedrock.

4.3 Alluvium

Alluvium was identified to the north of the river beneath the made ground and was described as soft and firm sandy slightly gravelly clay. The two window samples identified a very loose clayey gravelly sand beneath the clay layer. This was not identified in the borehole which was situated between the two window samples.

SPT tests within the alluvium agreed with the consistency description of soft to firm with 'N' values ranging from 4 to 11; an 'N' value of 3 was recorded in the sand deposits. In addition to this, DP02 within the alluvium recorded 0 blows per 100mm penetration for all but one section between 1.90 to 3.00mbgl indicating very soft material.

Four Atterberg limit tests were performed on alluvium samples with variable results, ranging from a low plasticity silt to a high plasticity clay.

Particle size distribution tests were carried out on three alluvium samples, these showed the alluvium to be predominantly fine-grained although none of the sand bands were tested.

4.4 Pennine Middle Coal Measures

Bedrock was only encountered in BH02. A stiff sandy slightly gravelly clay was identified beneath the alluvium, thought to be completely weathered mudstone and sandstone. The dynamic sampling was not able to progress into the stiff clay but core was not able to be retrieved due to poor drilling conditions. The borehole was therefore progressed by rotary open hole techniques through the transition to mudstone at around 6.35mbgl.

Rock core was recovered from 8.0mbgl but no solid core (core with a full diameter) was recovered until around 10.15mbgl. The material above this level was described as gravelly clay (mudstone) and very weak distinctly weathered mudstone.

At 9.75m, 11.05m and 11.95mbgl stronger bands within the very weak to weak mudstone were described as medium strong, strong and very strong- respectively on the basis of point load testing. An unconfined compressive strength (UCS) test on core from 12.75mbgl indicated a value of 5.0MPa.

Below 13.15mbgl the rock was described as weak siltstone interlaminated with mudstone. Again, stronger bands were recorded at 14.38m (strong), 14.97 (very strong) and 16.55mbgl (strong). A UCS test on core from 13.35mbgl indicated a value of 11.0MPa.

Coal was identified at 17.50mbgl (0.6m thick) and 38.30mbgl (0.95m thick), assumed to be the Kent's Thin and Kent's Thick respectively based on geological mapping. No evidence of workings was encountered in the coal seams.

The strata between the coal seams included beds of siltstone, sandstone and mudstone described as very weak to medium strong.

SPTs were carried out in the upper part of the weathered rock (between 4.5m and 7.0mbgl). All tests met refusal (more than 50 blows for 300mm penetration) and were extrapolated; 'N' values ranged from 62 to 149.

The BGS geological memoir describes the strata above the Kent's Thin as potentially containing thin ironstone bands; these were not noted within borehole BH02.

4.5 Groundwater

During the June 2018 ground investigation, a groundwater strike was encountered in BH02 only, at a depth of 4.1mbgl (40.66mAOD).

Results from the post fieldwork monitoring of the gas and groundwater installations are shown in Table 3.

Table 3 Post-fieldwork groundwater readings

Borehole ID	Water depth on 17/07/2018 (mbgl)	Water depth on 02/08/2018 (mbgl)
WS01	Dry	Dry
WS03	2.13	2.15

5 Geo-environmental assessment

5.1 Introduction

A conceptual site model (CSM) describes the scenario in which the risks to human health and the environment posed by contaminated land are assessed. The potential risks are considered in the context of a source-pathway-receptor model of the site, identifying:

- The principal pollutant hazards within the site (source);
- The principal receptors at risk from the hazards; and
- The existence, or absence, of plausible pathways which may exist between the identified hazards and receptor.

For risks to be present at the site, all three elements must be present.

The previous geotechnical and geo-environmental desk study (Arup, 2018) provides an initial CSM based on the historical and existing land uses on or near the site and the proposed end use. This is presented below and is updated following the 2018 AEG ground investigation.

5.2 Initial conceptual site model

The preliminary proposed CSM as detailed in the Arup Desk Study (2018) is shown in Table 4.

Table 4 Preliminary conceptual site model

Sources	Pathways	Receptors
Potentially contaminated made ground soils	Dermal contact with soils and dust	Construction workers
	Inhalation of dust and gases/vapours	Site neighbours, pedestrians Construction workers
	Pore waters	New planting
Ground gases	Accumulation of gases to toxic, asphyxiating or explosive concentrations in confined spaces	Future maintenance workers
Leachable contamination in the made ground and free phase hydrocarbons in the made ground	Downward percolation and migration	Groundwater River Dearne
Potentially impacted groundwater	Lateral migration of contamination within granular made ground deposits and coal measures strata	River Dearne

5.3 Data screening

5.3.1 Screening methodology

To simplify the assessment of ground contamination risks, the statutory guidance suggests that generic soil quality guideline values may be used for initial screening of soil contamination results. Generic assessment criteria (GAC) and site-specific assessment criteria can be calculated using the software version of the Contaminated Land Exposure Assessment (CLEA) model. The CLEA does not consider short-term risks to humans, such as those during construction but the longer term, post-construction risks. This also does not consider the risk posed by contaminated groundwater or of contaminated soils to groundwater.

5.3.2 Soil assessment criteria

The soil results have been compared to the Arup human health generic assessment criteria (GAC) for a commercial end use which is considered to be the most appropriate scenario for the proposed development. The GAC have been generated for a soil with organic matter content of 2.5% (based on average organic matter contents identified in made ground samples taken on site) using the Contaminated Land Exposure Assessment (CLEA) model (v1.07).

5.3.3 Soil screening results

Of the fifteen samples analysed, none exceeded the respective commercial GAC value. No asbestos was identified in the five soil samples that were sent for asbestos analysis. The soil screening results are included in Appendix A.

5.3.4 Soil risk assessment

The former paper mill site (now Asda) underwent remediation but it is not clear what this consisted of or the extents of remediation and there is still potential for contamination up to the river walls, within the former paper mill extents. Due to obstructions, there is no testing information at depth on the southern river bank.

The concentrations of the contaminants measured in the soils sampled within the site are below values that might be regarded as posing an acute risk to construction workers, future maintenance workers, and site users and neighbours.

It is assumed that the proposed development will involve areas of soft landscaping, associated with new embankments and topsoil/subsoil which will have to be imported. Although not identified during the ground investigations, the potential for presence of asbestos should be considered in advance of the works and appropriate mitigation measures put in place.

Based on available data and assuming appropriate construction practices are followed, the risk of harm to construction workers, and site users and neighbours during construction is very low.

Temporary works may require sheet piling to create a cofferdam or similar to allow construction of the abutment adjacent to the river. Similarly, a piled foundation solution may be the preferred foundation solution due to site constraints. There is a risk that piling activities could create a preferential pathway for contaminant migration between the made ground downwards into the groundwater and river water.

The results of testing completed to date at the site, indicate that the made ground is unlikely to be severely contaminated, and therefore the risk of significant contamination of controlled waters is considered low.

The contamination of controlled waters with cement, concrete or grout is a possibility working immediately adjacent to the river. General good practice on site will prevent the loss of quantities of cement or grout into the watercourse.

5.4 Soil disposal

12 tests were carried out on samples of the made ground from across the site. Using the HazWasteOnline tool (www.hazwasteonline.com) these were classified for their waste disposal. None of the samples were classed as hazardous waste. Although there is the potential for elevated concentrations to be present across the site not sampled during the recent ground investigation, it gives some confidence that materials across the site will generally be non-hazardous. Results are included in Appendix A.

5.5 Ground gas

Two rounds of gas monitoring were completed in the two standpipes installed within the site as part of the 2018 ground investigation on 17th July and 2nd August 2018.

The hazardous gas flow rate for CO₂ has been calculated for each installation using the following equation. Where no flow rate was recorded, a flow of 0.1l/hr is assumed.

$$Q_{hg} = q \times \frac{C_{hg}}{100}$$

Where q is flow rate and C_{hg} is the percentage concentration of the hazardous gas.

The maximum recorded results per installation are summarised in Table 5 below.

Table 5 Ground gas monitoring readings

BH ID	CO ₂ (%)	CH ₄ (%)	CO (ppm)	Flow rate (l/hr)	Q _{hg} CO ₂ (l/hr)
WS01	1.8	0.1	<1.0	0.0	0.0018
WS03	2.3	0.2	<1.0	0.1	0.0023

5.6 Ground gas risk assessment

A hazardous gas flow rate, Q_{hg} of 0.0023l/hr is calculated for WS03 in accordance with BS8485:2015. Only two monitoring visits were carried out and so there are limited readings, however, there is no reason to suggest the concentrations or flow rates would be higher. The Gas Screening Value, GSV, is therefore taken as 0.0023l/hr and corresponds with Characteristic Gas Situation CS1, a very low hazard potential.

5.7 Concrete aggressivity

Four sulphate tests were undertaken on samples from the Middle Coal Measures and one from the made ground. A summary of the results is shown in Table 6 below.

Table 6 Summary of sulphate testing

Stratum	Sulphate aqueous extract (mg/l)		Total Sulphur, S (%)		Total Sulphate, SO ₄ (%)		pH	
	Range	Char*	Range	Char*	Range	Char*	Range	Char*
Made Ground		120		0.06		0.08		10.9
Middle Coal Measures	17 to 96	96	0.02 to 0.06	0.06	<0.01 to 0.04	0.04	7.1 to 9.3	7.1

*Char - characteristic value

The results indicate a design sulphate classification of DS-1 AC-1 for both the Made Ground and Middle Coal Measures.

Considering the sparse coverage of sampling locations and the potential variability of both the Made Ground and interbedded rock strata, it would be prudent to increase the design sulphate classification to DS-2 AC-2.

5.8 Revised conceptual site model

No evidence of significant ground contamination was recorded in the ground investigation. None of the samples tested exceeded screening criteria, nor were chemical determinands noted to be particularly elevated.

All potential sources of contamination in the conceptual site model have therefore been found to be negligible and there are no plausible pollutant linkages identified.

Although the soil screening does not consider construction workers, good hygiene, and appropriate PPE should remove any plausible pollutant linkage, even in the event of encountering unrecorded contamination.

6 Engineering Considerations

6.1 Proposed development

As described in Section 1.2, it is proposed to widen and re-deck the existing bridge to the west.

The sequence of work is described in the Approval in Principle (AiP) (report reference AIP/253511/001) document for the scheme and includes the following stages:

- Construct cofferdams around sections of the west retaining walls. Cofferdam piles will need to extend into the underlying mudstone to create a cut-off.
- Partly demolish the west retaining river walls on both sides of the river.
- Excavate for and construct new abutment foundations.
- Place fill materials to form new embankments.
- Construct the new decks, including replacement of existing deck.

The following geotechnical risks for construction have been identified for the proposed development. A summary of identified constraints and the main historical land uses are shown on Figure 5.

6.2 Potential coal mining

6.2.1 Desk study information

As described in the Arup Desk Study (2018), based on geological mapping, two coal seams were anticipated beneath the site at relatively shallow depth: the Kent's Thin and the Kent's Thick. The Kent's Thin was anticipated to be present at the base of the Kent's Rock (anticipated to be around 10 to 15mbgl) with the Kent's Thick around 20 to 25m below the Kent's Thin.

The Coal Authority online viewer indicates the majority of the site to be located outside of a 'designated high risk' area, with only the very southern tip of the site located within a high-risk area (with only changes to road layout proposed in this location). The high-risk area is assumed to relate to the presence of the Kent's Thin coal being mapped at outcrop in this area. The remainder of the site is classed as being at risk from workings at moderate depth assumed to relate to possible workings in the Kent's Thick seam.

A non-residential Mining Report has been obtained from the Coal Authority. The report states the site is in an area affected by underground workings in three seams of coal from 90m to 400m depth (the shallowest recorded workings are likely to be in the Barnsley Coal). It is stated in the report that movement associated with these seams should have stopped now.

A South Yorkshire Mining Advisory (SYMAS) report (Appendix B) for Old Mill Lane Bridge, states that no known shallow coal mining has occurred beneath the site and classified the overall risk to the bridge from unrecorded shallow mine workings in the Kent's Thin seam to be low. It notes that deep coal mining has occurred in multiple seams beneath the site, with the most recent being in the 1960s.

6.2.2 SYMAS planning consultation

South Yorkshire Mining Advisory Service (SYMAS) were consulted on the proposed development on the 12th April 2018 and had the following comments:

- Only a small section of the scheme falls within a Coal Mining Referral area in the southern vicinity, clear of the bridge.
- Considering the nature of the proposed works in this area, along with the specifics of mining/geological position (Kent's Thin coal seam anticipated to be at relatively shallow depth but unlikely to be near surface) then the associated risks would be considered low.
- No intrusive investigations would be deemed necessary from a shallow mining perspective given the very limited knowledge of underground workings associated with the Kent's Thin seam in these parts and given the scale of development.
- SYMAS would have no objections for a future application to progress without the inclusion of a Coal Mining Risk Assessment.

6.2.3 Coal mining risk assessment

During the 2018 ground investigation, two coal seams (assumed to be the Kent's Thin and Kent's Thick) were encountered in BH02 at depths of 17.5mbgl (27.26mOD) and 38.95mbgl (5.81mOD). The seams were recorded as 0.6m and 0.95m in thickness respectively. Neither of the coal seams encountered showed evidence of workings.

Figure 4 shows an interpreted cross section through the site that indicates the Kent's Thin seam is likely to lie at a depth of around 12m below the proposed abutment founding level. The Kent's Thick seam would lie at nearly 40m below.

Considering the low likelihood that the Kent's Thin seam has been worked, its limited thickness and its depth, it presents a very low risk to the proposed development and no further mitigation measures are recommended.

There is considered to be a higher likelihood of workings in the Kent's Thick seam, but it lies at sufficient depth (40m below the bridge abutments and around 12m below the new road pavement to the south of the geological fault) such that it also presents a very low risk to the proposed development and no further mitigation measures are recommended.

6.3 Temporary cofferdams

With reference to Figure 4, the ground conditions for the temporary cofferdams are likely to comprise some Made Ground over alluvial clay over weathered mudstone. The alluvial clay is likely to be absent on the south side of the river.

Assuming the cofferdams will be constructed using sheet piles, penetration is likely to be possible into the mudstone strata to a depth of several metres to provide toe restraint and water cut-off. However, the available ground investigation data indicates that some strong rock bands may be present that could affect pile penetration.

6.4 Partial removal of river walls

It is assumed that the river walls are founded at close to river bed level. Backfill materials will be highly variable and may not be suitable for re-use as fill behind the new structure.

There are several existing drainage pipes through the walls that will need dealing with as part of the works.

6.5 New abutment foundations

6.5.1 Shallow foundations

The AiP proposes that the abutments will be constructed on shallow foundations bearing at a level of approximately 38.5mOD, which is the assumed level of the existing bridge foundations.

However, the existing foundations may not have been constructed exactly as shown on the record drawings. In particular on the north side of the river, there may be alluvial deposits or completely weathered mudstone at this founding level that may not be suitable for the imposed loads.

It may therefore be necessary to excavate deeper than 38.5mOD to prove a suitable bearing stratum, and the cofferdam should be designed to accommodate such deeper excavations. Furthermore it is noted that the new foundations may need to be founded deeper than the existing to prevent unacceptable differential settlement between the old and new structures.

6.5.2 Piled foundations

Should constructability and/or site constraints be prohibitive for a shallow foundation solution, then a piled solution may be adopted.

Pile design will need to assume a conservative ground model due to the absence of ground investigation information adjacent to the river. Construction of driven or continuous flight auger (CFA) piles may be affected by the presence of bands of strong rock within the underlying strata. Rotary auger bored piles would be

preferred in this respect, and also because the actual ground encountered can be proved during construction.

6.6 Wingwalls

The current drawings of the proposed bridge show short wingwalls parallel to the highway. These would need to be founded at a similar level to the abutments.

6.7 Embankments

6.7.1 Trees

Trees are present north and south of the river and there are tree preservation orders for trees north of the river. Trees will need to be removed from beneath the full footprint of the proposed embankment.

6.7.2 Old structures

Exploratory holes on the southern river bank recorded obstructions between 2.50m and 3.50mbgl. These may be associated with the paper mill previously at the site. Such obstructions are likely to be present across the southern bank and should be fully investigated prior to embankment construction. No significant obstructions were noted at exploratory hole locations on the northern bank but these may still be present elsewhere along the bank.

Any structures that may present voids, soft spots or hard spots to the proposed embankment and/or highway pavement should be removed.

6.7.3 Form of embankment

6.7.3.1 Unretained

New embankments will need to be constructed on the western side of the existing retained highway. Ground conditions at formation level will generally comprise variable thicknesses of Made Ground. Soft compressible alluvial clay was proved beneath the Made Ground on the north side of the river.

To provide a consistent formation, it is recommended that the upper 1m of Made Ground is excavated, processed and re-compacted as general fill. Soft spots or voids at the base of excavation should be removed and backfilled.

Imported material should then be placed as general fill to the required levels to form the new embankments.

On the north side of the river, the surcharge from the new embankment fill will cause settlement of the underlying alluvial clay. With the current level of information, it is not sensible to provide a detailed estimate of either the magnitude or rate of such settlement. Additional ground investigation could be used to help determine a better estimate, but there would always be a significant degree of uncertainty.

Based on the findings of WS03 and WS04, there is likely to be only around 2m thickness of compressible clay. The clay is described as soft and of intermediate to high plasticity. A coefficient of volume compressibility (m_v) of $0.3\text{m}^2/\text{MN}$ is estimated, which would indicate around 25mm of settlement is likely to occur under a surcharge of 2m of embankment fill. During consolidation, drainage is likely to occur both upwards and downwards and hence much of this settlement is likely to occur during the construction period.

6.7.3.2 Retained

It is possible that it will be preferred for the side of the embankment to be retained vertically, to minimise the embankment footprint and hence environmental impact.

As there will be a depth of around 4m to a suitable bearing stratum, it is recommended that consideration is given to using a reinforced soil wall system to provide the retaining wall. The facing wall could be founded within the re-engineered made ground layer described earlier.

An alternative could be to use an embedded wall, such as sheet piles.

6.7.4 Fill materials

It is assumed that the new embankments will be constructed using imported fill materials. However, materials suitable for re-use as general fill may be encountered during the enabling works and should be recycled wherever feasible.

7 Conclusions and recommendations

7.1 Conclusions

The scope of the ground investigation carried out for the proposed bridge widening was limited by site access difficulties and the presence of obstructions and possible buried utilities. However, the data obtained has generally confirmed the anticipated ground conditions.

Two coal seams are anticipated to be present at around 12m and 40m below the proposed bridge abutment foundations. Risk assessment has concluded that there is a low risk that possible mineworkings will affect the proposed works and no mitigation measures are proposed.

The bridge abutments and associated wingwalls are most likely to be founded directly on the underlying mudstone.

The existing made ground beneath the proposed approach embankments will need to be excavated and recompacted to provide a suitable formation. The embankment, particularly on the north side, is expected to settle due to the presence of soft alluvial clay, but the magnitude and rate of settlement is expected to be such that no further ground improvement is required.

Buried concrete structures should be designed assuming a design sulphate classification of DS-2 AC-2.

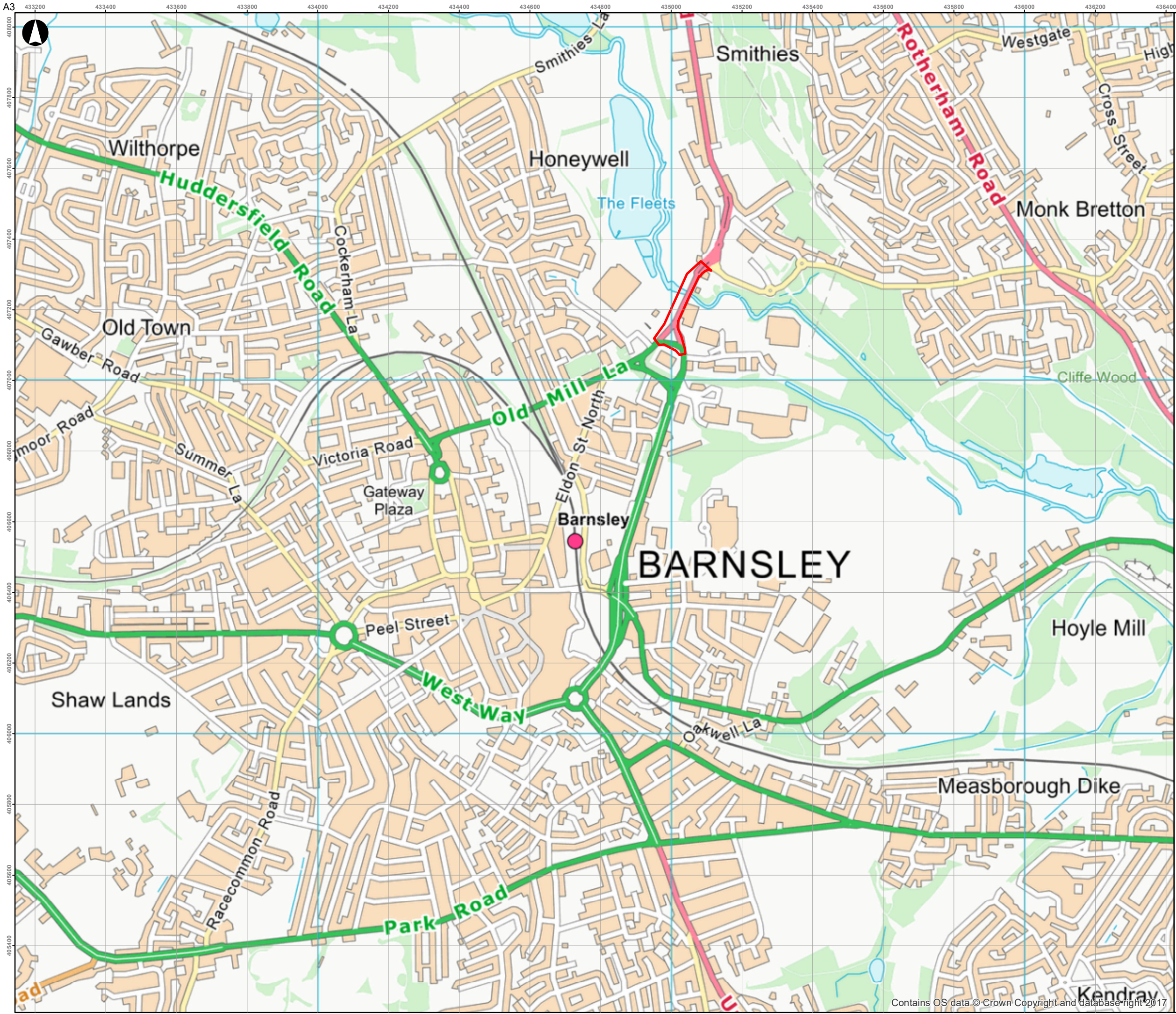
No evidence of significant ground contamination was recorded in the ground investigation, but it is noted that the sampling coverage was limited, and unrecorded ground contamination may be encountered during site enabling works.

7.2 Recommendations

Recommendations for future work are as follows:

- Supplementary ground investigation should be carried out during site enabling works to confirm the anticipated ground conditions.

Figures



Legend

Site boundary

Metres

0137.5275550

ARUP

Arup
9th Floor, 3 St Paul's Place,
Norfolk Street, Sheffield,
S1 2JE,
United Kingdom
Client

**South Yorkshire Passenger
Transport Executive (SYLTE)**

Job Title
A61 Old Mill Lane, Barnsley

Site location plan

Scale at A3
1:10,000

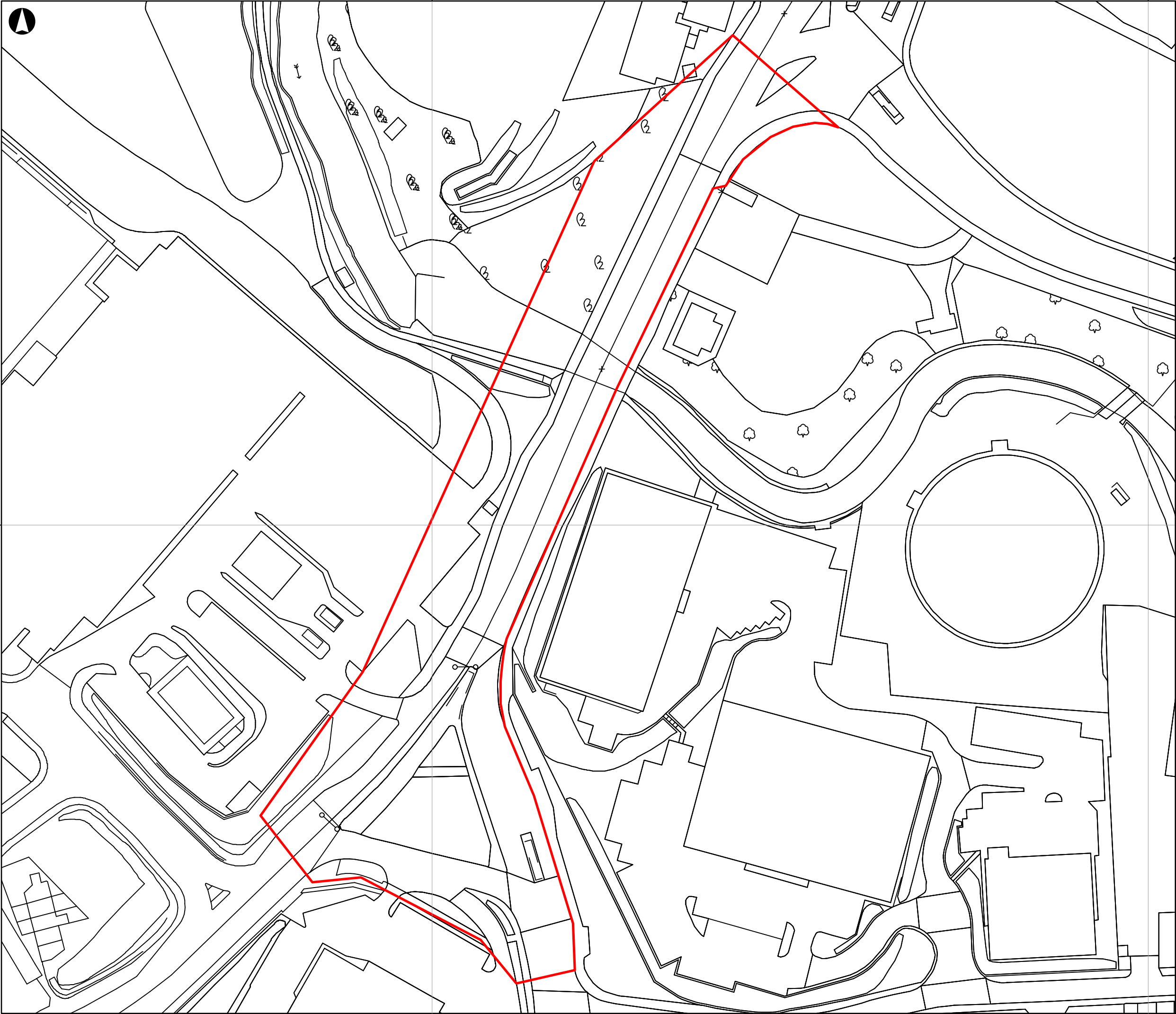
Job No 253511-00	Drawing Status Preliminary
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Drawing No Figure 1	Issue P0
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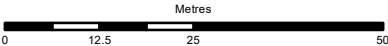


407200



Legend

Site boundary



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Arup
9th Floor, 3 St Paul's Place,
Norfolk Street, Sheffield,
S1 2JE,
United Kingdom

Client
**South Yorkshire Passenger
Transport Executive (SYPTe)**

Job Title
A61 Old Mill Lane, Barnsley

Site boundary

Scale at A3
1:1,000

Job No 253511-00	Drawing Status Preliminary
----------------------------	--------------------------------------

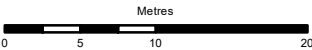
Drawing No Figure 2	Issue P0
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Legend

As-built GI

- DP
- DS
- DS+RC
- Site boundary



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United Kingdom

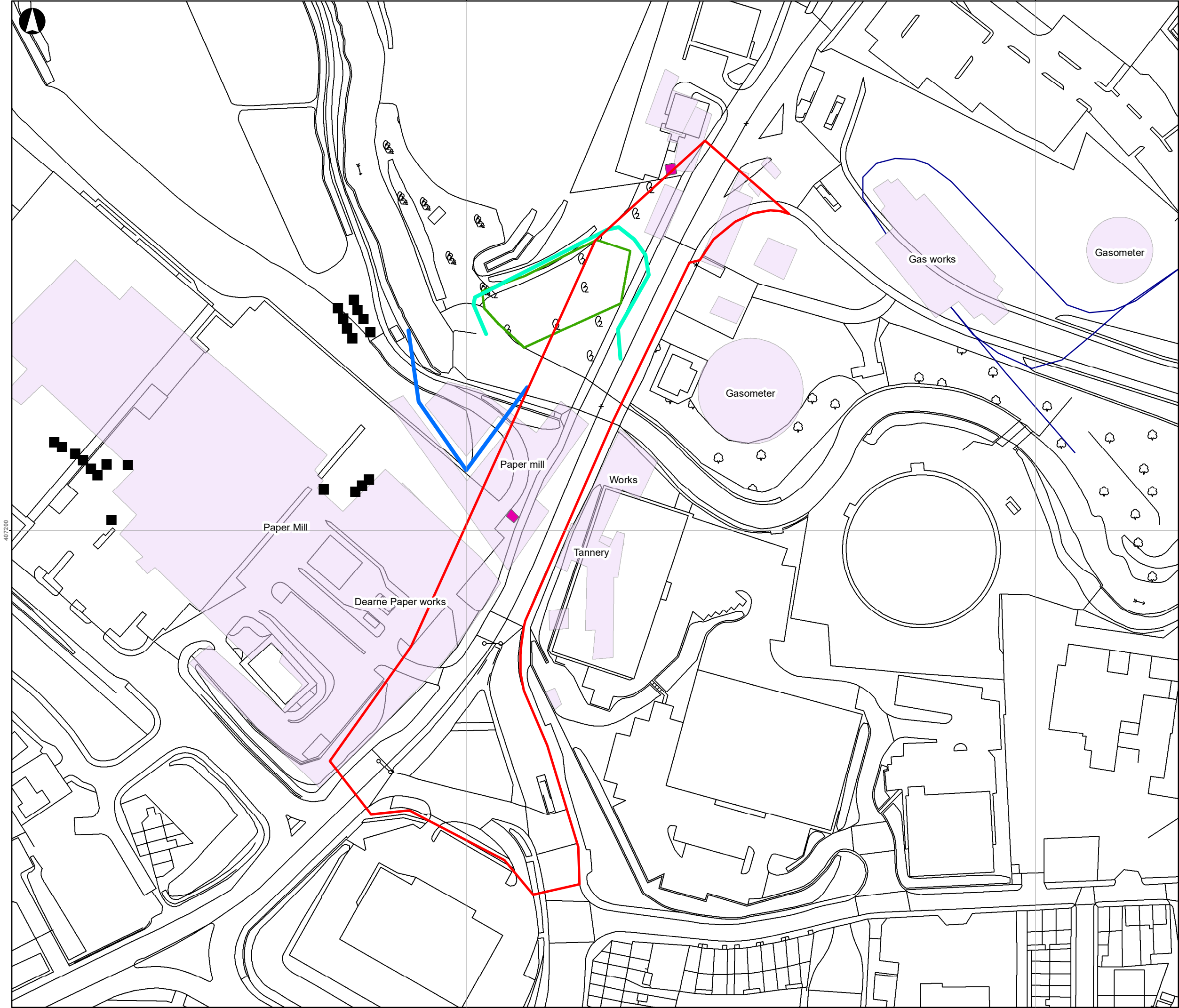
Client
**South Yorkshire Passenger
Transport Executive (SYPTE)**

Job Title
A61 Old Mill Lane, Barnsley

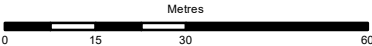
As-built exploratory hole locations

Scale at A3
1:500

Job No 253511-00	Drawing Status Preliminary	Issue P0
Drawing No Figure 3		



- Legend**
- Site boundary
 - Historical railway
 - Historical tanks
 - Former river diversion
 - Historical feature - possible water course or access road
 - Existing substations
 - Historical works and buildings extents
 - Area of TPO



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Arup
9th Floor, 3 St Paul's Place,
Norfolk Street, Sheffield,
S1 2JE,
United Kingdom
Client

**South Yorkshire Passenger
Transport Executive (SYLTE)**

Job Title
A61 Old Mill Lane, Barnsley

Features and Constraints plan

Scale at A3
1:1,250

Job No 253511-00	Drawing Status Preliminary
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Drawing No Figure 5	Issue P0
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Appendix A

Soil screening results

Soil Sample			BH01	BH02	WS01	WS01	WS01	WS01	WS03	WS03	WS03	WS03	WS04	WS04	WS04	DP01	DP02
Depth (m)			1.1	0.5	0.2	0.5	1.2	2.2	1	1.2	3	4.8	0.5	1.3	2.2	0.5	0.5
Date			04/07/2018	10/07/2018	04/07/2018	04/07/2018	09/07/2018	04/07/2018	04/07/2018	09/07/2018	07/07/2018	07/07/2018	03/07/2018	09/07/2018	07/07/2018	03/07/2018	03/07/2018
Strata			MG	MG	MG	MG	MG	MG	MG	MG	ALV	ALV	MG	MG	MG	MG	MG
Determinants	Units	Screening Criteria															
Asbestos																	
Asbestos (Presence of)	-	NONE	NAD			NAD		NAD	NAD	NAD							
Asbestos Analysis Comments	-		0			0		0	0	0							
Metals																	
Antimony	mg/kg	7350	< 1.0	1.232	1.88	< 1.0		< 1.0	1.83	7.15	1.54	4.05	1.63	2.72	1.49	1.19	< 1.0
Arsenic	mg/kg	635	3.931	7.037	13.56	3.84		5.38	18.02	25.12	5.99	7.06	15.52	26.29	13.01	8.02	6.14
Beryllium	mg/kg	12	2.843	1.664	1.15	0.21		0.40	1.47	1.93	1.04	1.48	1.29	1.55	1.13	0.50	2.17
Cadmium	mg/kg	190	< 0.1	0.103	0.36	0.52		0.42	0.28	0.27	< 0.1	< 0.1	0.29	0.19	0.13	0.41	0.72
Chromium Total	mg/kg	nc	32.472	10.984	21.51	5.18		8.25	15.11	18.34	12.10	13.34	16.39	17.07	15.77	20.69	20.82
Chromium (VI)	mg/kg	33	< 1.0			< 1.0	< 1.0			< 1.0							
Copper	mg/kg	68300	21.46	17.482	89.59	16.07		29.26	46.61	62.98	18.22	18.15	50.61	58.63	34.35	39.49	15.34
Lead	mg/kg	2300	6.628	19.252	51.46	15.68		39.21	45.66	428.99	38.01	24.12	59.73	246.17	40.80	30.93	15.50
Mercury	mg/kg	32.6 (10.7)	< 0.05	< 0.05	0.52	< 0.05		0.12	0.16	0.33	< 0.05	< 0.05	0.13	0.16	0.09	0.13	< 0.05
Nickel	mg/kg	963	12.135	11.462	16.18	6.40		7.86	26.01	29.03	20.72	30.05	24.03	44.80	26.27	11.06	5.21
Selenium	mg/kg	12261	1.125	< 0.5	0.96	< 0.5		< 0.5	0.70	0.99	< 0.5	< 0.5	< 0.5	0.53	0.87	< 0.5	0.91
Vanadium (Pentavalent)	mg/kg	6360	89.971	21.969	35.90	7.95		14.20	29.89	33.56	20.76	35.16	33.12	29.95	25.49	23.11	51.30
Zinc	mg/kg	730000	28.425	43.006	110.76	90.00		75.24	85.71	161.90	73.09	128.05	85.49	100.90	73.80	73.05	52.40
Inorganics																	
Boron	mg/kg	236000	3.27	1.61	2.57	1.44		2.04	2.00	4.92	4.03	3.70	2.90	4.67	4.34	2.62	4.39
Inorganic Free Cyanide (chronic)	mg/kg	16200	0.41	0.35	1.11	0.11		0.32	0.68	0.40	0.13	< 0.1	0.68	0.22	0.36	0.41	0.64
pH			11.31	8.61	8.08	9.01		11.00	8.32	8.04	7.74	6.92	8.20	7.91	7.92	9.97	10.30
Phenol (chronic)	mg/kg	30000	< 0.3	< 0.3	0.31	1.59		< 0.3	0.40	< 0.3	< 0.3	< 0.3	0.51	< 0.3	< 0.3	0.52	0.93
Total Organic Carbon	%	nc	2.65	3.56	4.55	5.09		4.45	7.26	7.73	2.41	0.58	8.02	6.18	6.61	3.34	4.70
Total Petroleum Hydrocarbons																	
TPH - Aliphatic EC5-EC6	mg/kg	5860 (558)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
TPH - Aliphatic >EC6-EC8	mg/kg	17400 (822)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
TPH - Aliphatic >EC8-EC10	mg/kg	4850 (190)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
TPH - Aliphatic >EC10-EC12	mg/kg	22900 (118)	< 1.5		< 1.5	< 1.5	< 1.5	< 1.5		< 1.5				< 1.5			
TPH - Aliphatic >EC12-EC16	mg/kg	81700 (59.1)	< 1.2		< 1.2	< 1.2	< 1.2	< 1.2		< 1.2				< 1.2			
Aliphatics >C16-21	mg/kg	nc	< 1.5		< 1.5	< 1.5	8.36	5.15		< 1.5				< 1.5			
Aliphatics >C21-35	mg/kg	nc	< 3.4		27.79	< 3.4	68.94	107.17		< 3.4				< 3.4			
Aliphatics >C5-35	mg/kg	nc	< 10		27.79	< 10	77.99	113.79		< 10				< 10			
TPH - Aromatic >EC5-EC7 (benzene)	mg/kg	47	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
TPH - Aromatic >EC7-EC8 (toluene)	mg/kg	106828 (1920)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
TPH - Aromatic >EC8-EC10	mg/kg	8110 (1500)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
TPH - Aromatic >EC10-EC12	mg/kg	27900 (899)	< 0.9		< 0.9	< 0.9	< 0.9	< 0.9		< 0.9				< 0.9			
TPH - Aromatic >EC12-EC16	mg/kg	37300	< 0.5		< 0.5	< 0.5	2.03	2.86		< 0.5				< 0.5			
TPH - Aromatic >EC16-EC21	mg/kg	27700	< 0.6		< 0.6	< 0.6	11.84	16.04		< 0.6				< 0.6			
TPH - Aromatic >EC21-EC35	mg/kg	28400	< 1.4		< 1.4	< 1.4	33.67	42.01		< 1.4				< 1.4			
Total Aliphatics and Aromatics C5-C35	mg/kg	nc	< 10		27.79	< 10	125.52	174.70		< 10				< 10			
Total Aromatics C5-C35	mg/kg	nc	< 10		< 10	< 10	47.53	60.91		< 10				< 10			
Polycyclic Aromatic Hydrocarbons (PAH)																	
Acenaphthene	mg/kg	97100 (141)	< 0.03		< 0.03	< 0.03	1.13	0.50		< 0.03				0.04			
Acenaphthylene	mg/kg	96800 (212)	0.0405		< 0.03	< 0.03	< 0.03	0.08		0.05				< 0.03			
Anthracene	mg/kg	536000	0.2331		< 0.03	0.09	1.92	1.00		0.15				0.10			
Benzo[ghi]perylene	mg/kg	3950	0.3141		< 0.03	0.10	0.63	0.65		0.25				0.05			
Benzo[a]anthracene	mg/kg	174	0.5776		0.09	0.21	2.09	1.54		0.57				0.16			
Benzo[a]pyrene	mg/kg	36	0.5978		0.09	0.17	1.65	1.48		0.45				0.10			
Benzo[b]fluoranthene	mg/kg	45	0.8309		0.14	0.22	2.04	1.78		0.67				0.15			
Benzo[k]fluoranthene	mg/kg	1180	0.4053		0.06	0.08	0.87	0.76		0.28				0.06			
Chrysene	mg/kg	352	0.608		0.12	0.19	1.94	1.43		0.62				0.16			
Dibenz[ah]anthracene	mg/kg	4	< 0.03		< 0.03	< 0.03	0.18	0.17		< 0.03				< 0.03			
Fluoranthene	mg/kg	22700	1.0234		0.22	0.53	5.31	3.56		1.27				0.39			
Fluorene	mg/kg	68400	0.0507		< 0.03	< 0.03	1.05	0.46		0.03				0.05			
Indeno[123-cd]pyrene	mg/kg	506	0.2736		< 0.03	0.10	0.57	0.56		0.24				0.06			
Naphthalene	mg/kg	462 (183)	0.152		< 0.03	0.03	1.17	0.59		0.03				0.16			
PAH, Total	mg/kg	nc	6.6979		1.02	2.35	30.67	20.27		6.29				2.10			
Phenanthrene	mg/kg	22300	0.6282		0.10	0.22	6.00	2.86		0.57				0.35			
Pyrene	mg/kg	54400	0.9626		0.20	0.43	4.13	2.86		1.11				0.30			
BTEX																	
Benzene	mg/kg	47	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
Toluene	mg/kg	106828 (1920)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
Ethylbenzene	mg/kg	12634 (1220)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
Xylene	mg/kg	13552 (13552)	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01				< 0.01			
Polychlorinated biphenyls (PCB)																	
PCB 28 + PCB 31	mg/kg	nc				< 0.01		< 0.01				< 0.01	< 0.01		< 0.01	< 0.01	
PCB, Total Of 7 Congeners	mg/kg	nc				< 0.01		< 0.01				< 0.01	< 0.01		< 0.01	< 0.01	
PCB-101 2,2,4,5,5 - Pentachlorobiphenyl	mg/kg	nc				< 0.01		< 0.01				< 0.01	< 0.01		< 0.01	< 0.01	
PCB-118 2,3,4,4,5 - Pentachlorobiphenyl	mg/kg	nc				< 0.01		< 0.01				< 0.01	< 0.01		< 0.01	< 0.01	
PCB-138 2,2,3,4,4,5 - Hexachlorobiphenyl	mg/kg	nc				< 0.01		< 0.01				< 0.01	< 0.01		< 0.01	< 0.01	
PCB-153 2,2,4,4,5,5 - Hexachlorobiphenyl	mg/kg	nc				< 0.01		< 0.01				< 0.01	< 0.01		< 0.01	< 0.01	
PCB-180 2,2,3,4,4,5,5 - Heptachlorobiphenyl	mg/kg	nc				< 0.01		< 0.01				< 0.01	< 0.01		< 0.01	< 0.01	
PCB-52 2,2,5,5 - Tetrachlorobiphenyl	mg/kg	nc				< 0.01		< 0.01				< 0.01	< 0.01		< 0.01	< 0.01	

Waste Classification Report



MZ62K-XD2AU-5LF87

Job name

A61, Old Mill Lane, Barnsley

Description/Comments

Project

Site

Related Documents

#	Name	Description
None		

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name:

Del Harrison

Date:

07 Mar 2019 15:50 GMT

Telephone:

020 7636 1531

Company:

Ove Arup & Partners International Ltd

13 Fitzroy Street

London

W1T 4BQ

Report

Created by: Del Harrison

Created date: 07 Mar 2019 15:50 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	BH01		Non Hazardous		3
2	BH02		Non Hazardous		5
3	WS01_0.2		Non Hazardous		7
4	WS01_0.5		Non Hazardous		9
5	WS01_1.2		Non Hazardous		11
6	WS01_2.2		Non Hazardous		13
7	WS03_1.0		Non Hazardous		15
8	WS03_1.2		Non Hazardous		17
9	WS04_0.5		Non Hazardous		19
10	WS04_1.3		Non Hazardous		21
11	WS04_2.2		Non Hazardous		23

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
12	DP01_0.5		Non Hazardous		25
13	DP02_0.5		Non Hazardous		27

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	29
Appendix B: Rationale for selection of metal species	30
Appendix C: Version	31

Classification of sample: BH01


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

Sample details

Sample Name:	LoW Code:
BH01	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: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	 antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	<1 mg/kg	1.197	<1.197	mg/kg	<0.00012 %		<LOD
2	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	3.931 mg/kg	1.32	5.19	mg/kg	0.000519 %		
3	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	2.843 mg/kg	2.775	7.89	mg/kg	0.000789 %		
4	 boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	3.27 mg/kg	3.22	10.529	mg/kg	0.00105 %		
5	 cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.1 mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
6	 chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1 mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	21.46 mg/kg	1.126	24.162	mg/kg	0.00242 %		
8	 lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	6.628 mg/kg	1.56	10.338	mg/kg	0.000663 %		
9	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
10	 nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	12.135 mg/kg	2.976	36.117	mg/kg	0.00361 %		
11	 selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			1.125 mg/kg	2.554	2.873	mg/kg	0.000287 %		
12	 zinc { zinc chromate }	024-007-00-3			28.425 mg/kg	2.774	78.855	mg/kg	0.00789 %		
13	benzene	601-020-00-8	200-753-7	71-43-2	<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3	<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
15	 ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
16		xylene				<0.01 mg/kg			<0.01 mg/kg		<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1]	95-47-6 [1]									
			203-396-5 [2]	106-42-3 [2]									
			203-576-3 [3]	108-38-3 [3]									
			215-535-7 [4]	1330-20-7 [4]									
17		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				0.41 mg/kg		1.884	0.772 mg/kg		0.0000772 %		
		006-007-00-5											
18		pH				11.31 pH			11.31 pH		11.31 pH		
				PH									
19		naphthalene				0.152 mg/kg			0.152 mg/kg		0.0000152 %		
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				0.0405 mg/kg			0.0405 mg/kg		0.00000405 %		
			205-917-1	208-96-8									
21		acenaphthene				<0.03 mg/kg			<0.03 mg/kg		<0.000003 %		<LOD
			201-469-6	83-32-9									
22		fluorene				0.0507 mg/kg			0.0507 mg/kg		0.00000507 %		
			201-695-5	86-73-7									
23		phenanthrene				0.628 mg/kg			0.628 mg/kg		0.0000628 %		
			201-581-5	85-01-8									
24		anthracene				0.233 mg/kg			0.233 mg/kg		0.0000233 %		
			204-371-1	120-12-7									
25		fluoranthene				1.023 mg/kg			1.023 mg/kg		0.000102 %		
			205-912-4	206-44-0									
26		pyrene				0.963 mg/kg			0.963 mg/kg		0.0000963 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.578 mg/kg			0.578 mg/kg		0.0000578 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.608 mg/kg			0.608 mg/kg		0.0000608 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.831 mg/kg			0.831 mg/kg		0.0000831 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.405 mg/kg			0.405 mg/kg		0.0000405 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.598 mg/kg			0.598 mg/kg		0.0000598 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				0.274 mg/kg			0.274 mg/kg		0.0000274 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				<0.03 mg/kg			<0.03 mg/kg		<0.000003 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				0.314 mg/kg			0.314 mg/kg		0.0000314 %		
			205-883-8	191-24-2									
35		phenol				<0.3 mg/kg			<0.3 mg/kg		<0.00003 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
Total:											0.0183 %		

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

Classification of sample: BH02


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

Sample details

Sample Name:	LoW Code:
BH02	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

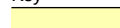
None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	1.232 mg/kg	1.197	1.475 mg/kg	0.000147 %			
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	7.037 mg/kg	1.32	9.291 mg/kg	0.000929 %			
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	1.664 mg/kg	2.775	4.618 mg/kg	0.000462 %			
4	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	1.61 mg/kg	3.22	5.184 mg/kg	0.000518 %			
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.103 mg/kg	1.142	0.118 mg/kg	0.0000118 %			
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	17.482 mg/kg	1.126	19.683 mg/kg	0.00197 %			
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	19.252 mg/kg	1.56	30.03 mg/kg	0.00193 %			
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %			<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	11.462 mg/kg	2.976	34.114 mg/kg	0.00341 %			
10	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }	034-002-00-8			<0.5 mg/kg	2.554	<1.277 mg/kg	<0.000128 %			<LOD
11	zinc { zinc chromate }	024-007-00-3			43.006 mg/kg	2.774	119.305 mg/kg	0.0119 %			
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			0.35 mg/kg	1.884	0.659 mg/kg	0.0000659 %			
13	pH		PH		8.61 pH		8.61 pH	8.61 pH			
14	phenol	604-001-00-2	203-632-7	108-95-2	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
Total:									0.0215 %		

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

Classification of sample: WS01_0.2


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

Sample details

Sample Name:	LoW Code:
WS01_0.2	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: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				1.88 mg/kg	1.197	2.251 mg/kg	0.000225 %			
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				13.56 mg/kg	1.32	17.904 mg/kg	0.00179 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				1.15 mg/kg	2.775	3.192 mg/kg	0.000319 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { diboron trioxide; boric oxide }				2.57 mg/kg	3.22	8.275 mg/kg	0.000828 %			
	005-008-00-8	215-125-8	1303-86-2								
5	cadmium { cadmium oxide }				0.36 mg/kg	1.142	0.411 mg/kg	0.0000411 %			
	048-002-00-0	215-146-2	1306-19-0								
6	copper { dicopper oxide; copper (I) oxide }				89.59 mg/kg	1.126	100.868 mg/kg	0.0101 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	51.46 mg/kg	1.56	80.268 mg/kg	0.00515 %			
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				0.52 mg/kg	1.353	0.704 mg/kg	0.0000704 %			
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				16.18 mg/kg	2.976	48.156 mg/kg	0.00482 %			
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.96 mg/kg	2.554	2.451 mg/kg	0.000245 %			
	034-002-00-8										
11	zinc { zinc chromate }				110.76 mg/kg	2.774	307.264 mg/kg	0.0307 %			
	024-007-00-3										
12	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
13	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
14	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
15	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
16	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				1.11 mg/kg	1.884	2.091 mg/kg		0.000209 %		
	006-007-00-5										
17	pH				8.08 pH		8.08 pH		8.08 pH		
			PH								
18	naphthalene				<0.03 mg/kg		<0.03 mg/kg		<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
19	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg		<0.000003 %		<LOD
		205-917-1	208-96-8								
20	acenaphthene				<0.03 mg/kg		<0.03 mg/kg		<0.000003 %		<LOD
		201-469-6	83-32-9								
21	fluorene				<0.03 mg/kg		<0.03 mg/kg		<0.000003 %		<LOD
		201-695-5	86-73-7								
22	phenanthrene				0.1 mg/kg		0.1 mg/kg		0.00001 %		
		201-581-5	85-01-8								
23	anthracene				<0.03 mg/kg		<0.03 mg/kg		<0.000003 %		<LOD
		204-371-1	120-12-7								
24	fluoranthene				0.22 mg/kg		0.22 mg/kg		0.000022 %		
		205-912-4	206-44-0								
25	pyrene				0.2 mg/kg		0.2 mg/kg		0.00002 %		
		204-927-3	129-00-0								
26	benzo[a]anthracene				0.09 mg/kg		0.09 mg/kg		0.000009 %		
	601-033-00-9	200-280-6	56-55-3								
27	chrysene				0.12 mg/kg		0.12 mg/kg		0.000012 %		
	601-048-00-0	205-923-4	218-01-9								
28	benzo[b]fluoranthene				0.14 mg/kg		0.14 mg/kg		0.000014 %		
	601-034-00-4	205-911-9	205-99-2								
29	benzo[k]fluoranthene				0.06 mg/kg		0.06 mg/kg		0.000006 %		
	601-036-00-5	205-916-6	207-08-9								
30	benzo[a]pyrene; benzo[def]chrysene				0.09 mg/kg		0.09 mg/kg		0.000009 %		
	601-032-00-3	200-028-5	50-32-8								
31	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg		<0.000003 %		<LOD
		205-893-2	193-39-5								
32	dibenz[a,h]anthracene				<0.03 mg/kg		<0.03 mg/kg		<0.000003 %		<LOD
	601-041-00-2	200-181-8	53-70-3								
33	benzo[ghi]perylene				<0.03 mg/kg		<0.03 mg/kg		<0.000003 %		<LOD
		205-883-8	191-24-2								
34	phenol				0.31 mg/kg		0.31 mg/kg		0.000031 %		
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0547 %		

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

Classification of sample: WS01_0.5


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

Sample details

Sample Name:	LoW Code:
WS01_0.5	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: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	<1 mg/kg	1.197	<1.197 mg/kg	<0.00012 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	3.84 mg/kg	1.32	5.07 mg/kg	0.000507 %		
3	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.21 mg/kg	2.775	0.583 mg/kg	0.0000583 %		
4	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	1.44 mg/kg	3.22	4.637 mg/kg	0.000464 %		
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.52 mg/kg	1.142	0.594 mg/kg	0.0000594 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	16.07 mg/kg	1.126	18.093 mg/kg	0.00181 %		
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	15.68 mg/kg	1.56	24.458 mg/kg	0.00157 %		
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	6.4 mg/kg	2.976	19.048 mg/kg	0.0019 %		
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<0.5 mg/kg	2.554	<1.277 mg/kg	<0.000128 %		<LOD
12	zinc { zinc chromate }	024-007-00-3			90 mg/kg	2.774	249.673 mg/kg	0.025 %		
13	benzene	601-020-00-8	200-753-7	71-43-2	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
16	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17	 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				0.11	mg/kg	1.884	0.207	mg/kg	0.0000207 %		
18	 pH		PH		9.01	pH		9.01	pH	9.01 pH		
19	naphthalene 601-052-00-2	202-049-5	91-20-3		0.03	mg/kg		0.03	mg/kg	0.000003 %		
20	 acenaphthylene 205-917-1	208-96-8			<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
21	 acenaphthene 201-469-6	83-32-9			<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22	 fluorene 201-695-5	86-73-7			<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
23	 phenanthrene 201-581-5	85-01-8			0.22	mg/kg		0.22	mg/kg	0.000022 %		
24	 anthracene 204-371-1	120-12-7			0.09	mg/kg		0.09	mg/kg	0.000009 %		
25	 fluoranthene 205-912-4	206-44-0			0.53	mg/kg		0.53	mg/kg	0.000053 %		
26	 pyrene 204-927-3	129-00-0			0.43	mg/kg		0.43	mg/kg	0.000043 %		
27	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		0.21	mg/kg		0.21	mg/kg	0.000021 %		
28	chrysene 601-048-00-0	205-923-4	218-01-9		0.19	mg/kg		0.19	mg/kg	0.000019 %		
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		0.08	mg/kg		0.08	mg/kg	0.000008 %		
31	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		0.17	mg/kg		0.17	mg/kg	0.000017 %		
32	 indeno[123-cd]pyrene 205-893-2	193-39-5			0.1	mg/kg		0.1	mg/kg	0.00001 %		
33	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
34	 benzo[ghi]perylene 205-883-8	191-24-2			0.1	mg/kg		0.1	mg/kg	0.00001 %		
35	phenol 604-001-00-2	203-632-7	108-95-2		1.59	mg/kg		1.59	mg/kg	0.000159 %		
Total:										0.0322 %		

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

Classification of sample: WS01_1.2


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

Sample details

Sample Name:	LoW Code:
WS01_1.2	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: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0								
2	benzene				<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
3	toluene				<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3								
4	ethylbenzene				<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4								
5	xylene				<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
6	naphthalene				1.17 mg/kg		1.17	mg/kg	0.000117 %		
	601-052-00-2	202-049-5	91-20-3								
7	acenaphthylene				<0.03 mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
		205-917-1	208-96-8								
8	acenaphthene				1.13 mg/kg		1.13	mg/kg	0.000113 %		
		201-469-6	83-32-9								
9	fluorene				1.05 mg/kg		1.05	mg/kg	0.000105 %		
		201-695-5	86-73-7								
10	phenanthrene				6 mg/kg		6	mg/kg	0.0006 %		
		201-581-5	85-01-8								
11	anthracene				1.92 mg/kg		1.92	mg/kg	0.000192 %		
		204-371-1	120-12-7								
12	fluoranthene				5.31 mg/kg		5.31	mg/kg	0.000531 %		
		205-912-4	206-44-0								
13	pyrene				4.13 mg/kg		4.13	mg/kg	0.000413 %		
		204-927-3	129-00-0								
14	benzo[a]anthracene				2.09 mg/kg		2.09	mg/kg	0.000209 %		
	601-033-00-9	200-280-6	56-55-3								
15	chrysene				1.94 mg/kg		1.94	mg/kg	0.000194 %		
	601-048-00-0	205-923-4	218-01-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
16	benzo[b]fluoranthene				2.04 mg/kg		2.04 mg/kg	0.000204 %		
	601-034-00-4	205-911-9	205-99-2							
17	benzo[k]fluoranthene				0.87 mg/kg		0.87 mg/kg	0.000087 %		
	601-036-00-5	205-916-6	207-08-9							
18	benzo[a]pyrene; benzo[def]chrysene				1.65 mg/kg		1.65 mg/kg	0.000165 %		
	601-032-00-3	200-028-5	50-32-8							
19	indeno[123-cd]pyrene				0.57 mg/kg		0.57 mg/kg	0.000057 %		
		205-893-2	193-39-5							
20	dibenz[a,h]anthracene				0.18 mg/kg		0.18 mg/kg	0.000018 %		
	601-041-00-2	200-181-8	53-70-3							
21	benzo[ghi]perylene				0.63 mg/kg		0.63 mg/kg	0.000063 %		
		205-883-8	191-24-2							
Total:								0.00327 %		

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

Classification of sample: WS01_2.2


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

Sample details

Sample Name:	LoW Code:
WS01_2.2	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: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	antimony { antimony trioxide }				<1 mg/kg	1.197	<1.197 mg/kg	<0.00012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
2	arsenic { arsenic trioxide }				5.38 mg/kg	1.32	7.103 mg/kg	0.00071 %		
	033-003-00-0	215-481-4	1327-53-3							
3	beryllium { beryllium oxide }				0.4 mg/kg	2.775	1.11 mg/kg	0.000111 %		
	004-003-00-8	215-133-1	1304-56-9							
4	boron { diboron trioxide; boric oxide }				2.04 mg/kg	3.22	6.569 mg/kg	0.000657 %		
	005-008-00-8	215-125-8	1303-86-2							
5	cadmium { cadmium oxide }				0.42 mg/kg	1.142	0.48 mg/kg	0.000048 %		
	048-002-00-0	215-146-2	1306-19-0							
6	copper { dicopper oxide; copper (I) oxide }				29.26 mg/kg	1.126	32.943 mg/kg	0.00329 %		
	029-002-00-X	215-270-7	1317-39-1							
7	lead { lead chromate }			1	39.21 mg/kg	1.56	61.16 mg/kg	0.00392 %		
	082-004-00-2	231-846-0	7758-97-6							
8	mercury { mercury dichloride }				0.12 mg/kg	1.353	0.162 mg/kg	0.0000162 %		
	080-010-00-X	231-299-8	7487-94-7							
9	nickel { nickel chromate }				7.86 mg/kg	2.976	23.393 mg/kg	0.00234 %		
	028-035-00-7	238-766-5	14721-18-7							
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.5 mg/kg	2.554	<1.277 mg/kg	<0.000128 %		<LOD
	034-002-00-8									
11	zinc { zinc chromate }				75.24 mg/kg	2.774	208.727 mg/kg	0.0209 %		
	024-007-00-3									
12	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
13	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
14	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
15	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
16	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				0.32	mg/kg	1.884	0.603	mg/kg	0.0000603 %		
	006-007-00-5											
17	pH				11	pH		11	pH	11pH		
			PH									
18	naphthalene				0.59	mg/kg		0.59	mg/kg	0.000059 %		
	601-052-00-2	202-049-5	91-20-3									
19	acenaphthylene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
		205-917-1	208-96-8									
20	acenaphthene				0.5	mg/kg		0.5	mg/kg	0.00005 %		
		201-469-6	83-32-9									
21	fluorene				0.46	mg/kg		0.46	mg/kg	0.000046 %		
		201-695-5	86-73-7									
22	phenanthrene				2.86	mg/kg		2.86	mg/kg	0.000286 %		
		201-581-5	85-01-8									
23	anthracene				1	mg/kg		1	mg/kg	0.0001 %		
		204-371-1	120-12-7									
24	fluoranthene				3.56	mg/kg		3.56	mg/kg	0.000356 %		
		205-912-4	206-44-0									
25	pyrene				2.86	mg/kg		2.86	mg/kg	0.000286 %		
		204-927-3	129-00-0									
26	benzo[a]anthracene				1.54	mg/kg		1.54	mg/kg	0.000154 %		
	601-033-00-9	200-280-6	56-55-3									
27	chrysene				1.43	mg/kg		1.43	mg/kg	0.000143 %		
	601-048-00-0	205-923-4	218-01-9									
28	benzo[b]fluoranthene				1.78	mg/kg		1.78	mg/kg	0.000178 %		
	601-034-00-4	205-911-9	205-99-2									
29	benzo[k]fluoranthene				0.76	mg/kg		0.76	mg/kg	0.000076 %		
	601-036-00-5	205-916-6	207-08-9									
30	benzo[a]pyrene; benzo[def]chrysene				1.48	mg/kg		1.48	mg/kg	0.000148 %		
	601-032-00-3	200-028-5	50-32-8									
31	indeno[123-cd]pyrene				0.56	mg/kg		0.56	mg/kg	0.000056 %		
		205-893-2	193-39-5									
32	dibenz[a,h]anthracene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
	601-041-00-2	200-181-8	53-70-3									
33	benzo[ghi]perylene				0.65	mg/kg		0.65	mg/kg	0.000065 %		
		205-883-8	191-24-2									
34	phenol				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
	604-001-00-2	203-632-7	108-95-2									
Total:										0.0343 %		

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

Classification of sample: WS03_1.0


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

Sample details

Sample Name:	LoW Code:
WS03_1.0	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

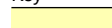
None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				1.83 mg/kg	1.197	2.191 mg/kg	0.000219 %			
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				18.02 mg/kg	1.32	23.792 mg/kg	0.00238 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				1.47 mg/kg	2.775	4.08 mg/kg	0.000408 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { diboron trioxide; boric oxide }				2 mg/kg	3.22	6.44 mg/kg	0.000644 %			
	005-008-00-8	215-125-8	1303-86-2								
5	cadmium { cadmium oxide }				0.28 mg/kg	1.142	0.32 mg/kg	0.000032 %			
	048-002-00-0	215-146-2	1306-19-0								
6	copper { dicopper oxide; copper (I) oxide }				46.61 mg/kg	1.126	52.478 mg/kg	0.00525 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	45.66 mg/kg	1.56	71.221 mg/kg	0.00457 %			
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				0.16 mg/kg	1.353	0.217 mg/kg	0.0000217 %			
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				26.01 mg/kg	2.976	77.413 mg/kg	0.00774 %			
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.7 mg/kg	2.554	1.788 mg/kg	0.000179 %			
	034-002-00-8										
11	zinc { zinc chromate }				85.71 mg/kg	2.774	237.772 mg/kg	0.0238 %			
	024-007-00-3										
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 }				0.68 mg/kg	1.884	1.281 mg/kg	0.000128 %			
	006-007-00-5										
13	pH				8.32 pH		8.32 pH	8.32 pH			
			PH								
14	phenol				0.4 mg/kg		0.4 mg/kg	0.00004 %			
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0454 %		

Key

	User supplied data
	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

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

Classification of sample: WS03_1.2


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

Sample details

Sample Name:	LoW Code:
WS03_1.2	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

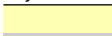
Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				7.15 mg/kg	1.197	8.559 mg/kg	0.000856 %			
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				25.12 mg/kg	1.32	33.167 mg/kg	0.00332 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				1.93 mg/kg	2.775	5.356 mg/kg	0.000536 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { diboron trioxide; boric oxide }				4.92 mg/kg	3.22	15.842 mg/kg	0.00158 %			
	005-008-00-8	215-125-8	1303-86-2								
5	cadmium { cadmium oxide }				0.27 mg/kg	1.142	0.308 mg/kg	0.0000308 %			
	048-002-00-0	215-146-2	1306-19-0								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				62.98 mg/kg	1.126	70.908 mg/kg	0.00709 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	428.99 mg/kg	1.56	669.145 mg/kg	0.0429 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				0.33 mg/kg	1.353	0.447 mg/kg	0.0000447 %			
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				29.03 mg/kg	2.976	86.401 mg/kg	0.00864 %			
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.99 mg/kg	2.554	2.528 mg/kg	0.000253 %			
	034-002-00-8										
12	zinc { zinc chromate }				161.9 mg/kg	2.774	449.134 mg/kg	0.0449 %			
	024-007-00-3										
13	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
14	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
15	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
16	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
17	 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				0.4 mg/kg	1.884	0.754 mg/kg	0.0000754 %			
18	 pH		PH		8.04 pH		8.04 pH	8.04 pH			
19	naphthalene 601-052-00-2	202-049-5	91-20-3		0.03 mg/kg		0.03 mg/kg	0.000003 %			
20	 acenaphthylene	205-917-1	208-96-8		0.05 mg/kg		0.05 mg/kg	0.000005 %			
21	 acenaphthene	201-469-6	83-32-9		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
22	 fluorene	201-695-5	86-73-7		0.03 mg/kg		0.03 mg/kg	0.000003 %			
23	 phenanthrene	201-581-5	85-01-8		0.57 mg/kg		0.57 mg/kg	0.000057 %			
24	 anthracene	204-371-1	120-12-7		0.15 mg/kg		0.15 mg/kg	0.000015 %			
25	 fluoranthene	205-912-4	206-44-0		1.27 mg/kg		1.27 mg/kg	0.000127 %			
26	 pyrene	204-927-3	129-00-0		1.11 mg/kg		1.11 mg/kg	0.000111 %			
27	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		0.57 mg/kg		0.57 mg/kg	0.000057 %			
28	chrysene 601-048-00-0	205-923-4	218-01-9		0.62 mg/kg		0.62 mg/kg	0.000062 %			
29	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		0.67 mg/kg		0.67 mg/kg	0.000067 %			
30	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.28 mg/kg		0.28 mg/kg	0.000028 %			
31	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		0.45 mg/kg		0.45 mg/kg	0.000045 %			
32	 indeno[123-cd]pyrene 205-893-2	193-39-5			0.24 mg/kg		0.24 mg/kg	0.000024 %			
33	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
34	 benzo[ghi]perylene 205-883-8	191-24-2			0.25 mg/kg		0.25 mg/kg	0.000025 %			
35	phenol 604-001-00-2	203-632-7	108-95-2		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
Total:									0.111 %		

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

Classification of sample: WS04_0.5


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

Sample details

Sample Name:	LoW Code:
WS04_0.5	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

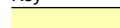
None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				1.63 mg/kg	1.197	1.951 mg/kg	0.000195 %			
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				15.52 mg/kg	1.32	20.491 mg/kg	0.00205 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				1.29 mg/kg	2.775	3.58 mg/kg	0.000358 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { diboron trioxide; boric oxide }				2.9 mg/kg	3.22	9.338 mg/kg	0.000934 %			
	005-008-00-8	215-125-8	1303-86-2								
5	cadmium { cadmium oxide }				0.29 mg/kg	1.142	0.331 mg/kg	0.0000331 %			
	048-002-00-0	215-146-2	1306-19-0								
6	copper { dicopper oxide; copper (I) oxide }				50.61 mg/kg	1.126	56.981 mg/kg	0.0057 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	59.73 mg/kg	1.56	93.168 mg/kg	0.00597 %			
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				0.13 mg/kg	1.353	0.176 mg/kg	0.0000176 %			
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				24.03 mg/kg	2.976	71.52 mg/kg	0.00715 %			
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }				<0.5 mg/kg	2.554	<1.277 mg/kg	<0.000128 %			<LOD
	034-002-00-8										
11	zinc { zinc chromate }				85.49 mg/kg	2.774	237.162 mg/kg	0.0237 %			
	024-007-00-3										
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 }				0.68 mg/kg	1.884	1.281 mg/kg	0.000128 %			
	006-007-00-5										
13	pH				8.2 pH		8.2 pH	8.2 pH			
14	phenol				0.51 mg/kg		0.51 mg/kg	0.000051 %			
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0464 %		

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

Classification of sample: WS04_1.3


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

Sample details

Sample Name:	LoW Code:
WS04_1.3	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: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				2.72 mg/kg	1.197	3.256 mg/kg	0.000326 %			
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				26.29 mg/kg	1.32	34.711 mg/kg	0.00347 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				1.55 mg/kg	2.775	4.302 mg/kg	0.00043 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { diboron trioxide; boric oxide }				4.67 mg/kg	3.22	15.037 mg/kg	0.0015 %			
	005-008-00-8	215-125-8	1303-86-2								
5	cadmium { cadmium oxide }				0.19 mg/kg	1.142	0.217 mg/kg	0.0000217 %			
	048-002-00-0	215-146-2	1306-19-0								
6	copper { dicopper oxide; copper (I) oxide }				58.63 mg/kg	1.126	66.011 mg/kg	0.0066 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	246.17 mg/kg	1.56	383.98 mg/kg	0.0246 %			
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				0.16 mg/kg	1.353	0.217 mg/kg	0.0000217 %			
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				44.8 mg/kg	2.976	133.337 mg/kg	0.0133 %			
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.53 mg/kg	2.554	1.353 mg/kg	0.000135 %			
	034-002-00-8										
11	zinc { zinc chromate }				100.9 mg/kg	2.774	279.911 mg/kg	0.028 %			
	024-007-00-3										
12	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
13	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
14	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
15	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
16	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				0.22 mg/kg	1.884	0.414 mg/kg	0.0000414 %			
	006-007-00-5										
17	pH				7.91 pH		7.91 pH	7.91 pH			
			P								
18	naphthalene				0.16 mg/kg		0.16 mg/kg	0.000016 %			
	601-052-00-2	202-049-5	91-20-3								
19	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
20	acenaphthene				0.04 mg/kg		0.04 mg/kg	0.000004 %			
		201-469-6	83-32-9								
21	fluorene				0.05 mg/kg		0.05 mg/kg	0.000005 %			
		201-695-5	86-73-7								
22	phenanthrene				0.35 mg/kg		0.35 mg/kg	0.000035 %			
		201-581-5	85-01-8								
23	anthracene				0.1 mg/kg		0.1 mg/kg	0.00001 %			
		204-371-1	120-12-7								
24	fluoranthene				0.39 mg/kg		0.39 mg/kg	0.000039 %			
		205-912-4	206-44-0								
25	pyrene				0.3 mg/kg		0.3 mg/kg	0.00003 %			
		204-927-3	129-00-0								
26	benzo[a]anthracene				0.16 mg/kg		0.16 mg/kg	0.000016 %			
	601-033-00-9	200-280-6	56-55-3								
27	chrysene				0.16 mg/kg		0.16 mg/kg	0.000016 %			
	601-048-00-0	205-923-4	218-01-9								
28	benzo[b]fluoranthene				0.15 mg/kg		0.15 mg/kg	0.000015 %			
	601-034-00-4	205-911-9	205-99-2								
29	benzo[k]fluoranthene				0.06 mg/kg		0.06 mg/kg	0.000006 %			
	601-036-00-5	205-916-6	207-08-9								
30	benzo[a]pyrene; benzo[def]chrysene				0.1 mg/kg		0.1 mg/kg	0.00001 %			
	601-032-00-3	200-028-5	50-32-8								
31	indeno[123-cd]pyrene				0.06 mg/kg		0.06 mg/kg	0.000006 %			
		205-893-2	193-39-5								
32	dibenz[a,h]anthracene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
33	benzo[ghi]perylene				0.05 mg/kg		0.05 mg/kg	0.000005 %			
		205-883-8	191-24-2								
34	phenol				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0787 %		

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

Classification of sample: WS04_2.2


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

Sample details

Sample Name:	LoW Code:
WS04_2.2	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

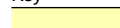
None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				1.49 mg/kg	1.197	1.784	mg/kg	0.000178 %		
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				13.01 mg/kg	1.32	17.177	mg/kg	0.00172 %		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				1.13 mg/kg	2.775	3.136	mg/kg	0.000314 %		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { diboron trioxide; boric oxide }				4.34 mg/kg	3.22	13.974	mg/kg	0.0014 %		
	005-008-00-8	215-125-8	1303-86-2								
5	cadmium { cadmium oxide }				0.13 mg/kg	1.142	0.149	mg/kg	0.0000149 %		
	048-002-00-0	215-146-2	1306-19-0								
6	copper { dicopper oxide; copper (I) oxide }				34.35 mg/kg	1.126	38.674	mg/kg	0.00387 %		
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	40.8 mg/kg	1.56	63.64	mg/kg	0.00408 %		
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				0.09 mg/kg	1.353	0.122	mg/kg	0.0000122 %		
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				26.27 mg/kg	2.976	78.186	mg/kg	0.00782 %		
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.87 mg/kg	2.554	2.222	mg/kg	0.000222 %		
	034-002-00-8										
11	zinc { zinc chromate }				73.8 mg/kg	2.774	204.732	mg/kg	0.0205 %		
	024-007-00-3										
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 }				0.36 mg/kg	1.884	0.678	mg/kg	0.0000678 %		
	006-007-00-5										
13	pH				7.92 pH		7.92	pH	7.92 pH		
			PH								
14	phenol				<0.3 mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0402 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated 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

Classification of sample: DP01_0.5


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

Sample details

Sample Name:	LoW Code:
DP01_0.5	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

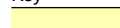
None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	 antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	1.19 mg/kg	1.197	1.425	mg/kg	0.000142 %		
2	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	8.02 mg/kg	1.32	10.589	mg/kg	0.00106 %		
3	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.5 mg/kg	2.775	1.388	mg/kg	0.000139 %		
4	 boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	2.62 mg/kg	3.22	8.436	mg/kg	0.000844 %		
5	 cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.41 mg/kg	1.142	0.468	mg/kg	0.0000468 %		
6	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	39.49 mg/kg	1.126	44.461	mg/kg	0.00445 %		
7	 lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	30.93 mg/kg	1.56	48.245	mg/kg	0.00309 %		
8	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	0.13 mg/kg	1.353	0.176	mg/kg	0.0000176 %		
9	 nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	11.06 mg/kg	2.976	32.917	mg/kg	0.00329 %		
10	 selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }	034-002-00-8			<0.5 mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<LOD
11	 zinc { zinc chromate }	024-007-00-3			73.05 mg/kg	2.774	202.651	mg/kg	0.0203 %		
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			0.41 mg/kg	1.884	0.772	mg/kg	0.0000772 %		
13	 pH		PH		9.97 pH		9.97	pH	9.97 pH		
14	phenol	604-001-00-2	203-632-7	108-95-2	0.52 mg/kg		0.52	mg/kg	0.000052 %		
Total:									0.0336 %		

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

Classification of sample: DP02_0.5


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

Sample details

Sample Name:	LoW Code:
DP02_0.5	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

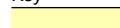
None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	 antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	<1 mg/kg	1.197	<1.197	mg/kg	<0.00012 %		<LOD
2	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	6.14 mg/kg	1.32	8.107	mg/kg	0.000811 %		
3	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	2.17 mg/kg	2.775	6.022	mg/kg	0.000602 %		
4	 boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	4.39 mg/kg	3.22	14.135	mg/kg	0.00141 %		
5	 cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.72 mg/kg	1.142	0.822	mg/kg	0.0000822 %		
6	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	15.34 mg/kg	1.126	17.271	mg/kg	0.00173 %		
7	 lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	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	<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
9	 nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	5.21 mg/kg	2.976	15.506	mg/kg	0.00155 %		
10	 selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }	034-002-00-8			0.91 mg/kg	2.554	2.324	mg/kg	0.000232 %		
11	 zinc { zinc chromate }	024-007-00-3			52.4 mg/kg	2.774	145.365	mg/kg	0.0145 %		
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			0.64 mg/kg	1.884	1.206	mg/kg	0.000121 %		
13	 pH		PH		10.3 pH		10.3	pH	10.3 pH		
14	 phenol	604-001-00-2	203-632-7	108-95-2	0.93 mg/kg		0.93	mg/kg	0.000093 %		
Total:									0.0228 %		

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

Appendix A: Classifier defined and non CLP determinands

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

CLP index number: 601-023-00-4

Description/Comments:

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s)/Risk Phrase(s):

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

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

CLP index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s)/Risk Phrase(s):

14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

■ pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Acute Tox. 4 H302

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2 H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

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

arsenic {arsenic trioxide}

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

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics (edit as required)

boron {diboron trioxide; boric oxide}

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)

cadmium {cadmium oxide}

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

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

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

copper {dicopper oxide; copper (I) oxide}

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

lead {lead chromate}

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

mercury {mercury dichloride}

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

nickel {nickel chromate}

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

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

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil. (edit as required)

zinc {zinc chromate}

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

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] (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.1, May 2018**

HazWasteOnline Classification Engine Version: 2019.63.3818.7784 (04 Mar 2019)

HazWasteOnline Database: 2019.63.3818.7784 (04 Mar 2019)

This classification utilises the following guidance and legislation:

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

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004

1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010

2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

Appendix B

South Yorkshire Mining Advisory Service report

BARNSELY
Metropolitan Borough Council

FAO: Michael Lewis

Your Ref: B3.088

Ext: 2689

Subject: PRINCIPAL BRIDGE INSPECTION B3.088 OLD MILL LANE BRIDGE, BARNSELY.

Made ground/landfill is recorded as being present in adjacent areas.

CONCLUSION:

The location of the bridge can be regarded as stable as it is remote from the active coalfield.

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Report prepared by P James 29th January 2015



Principal Mining Engineer.

Enc.

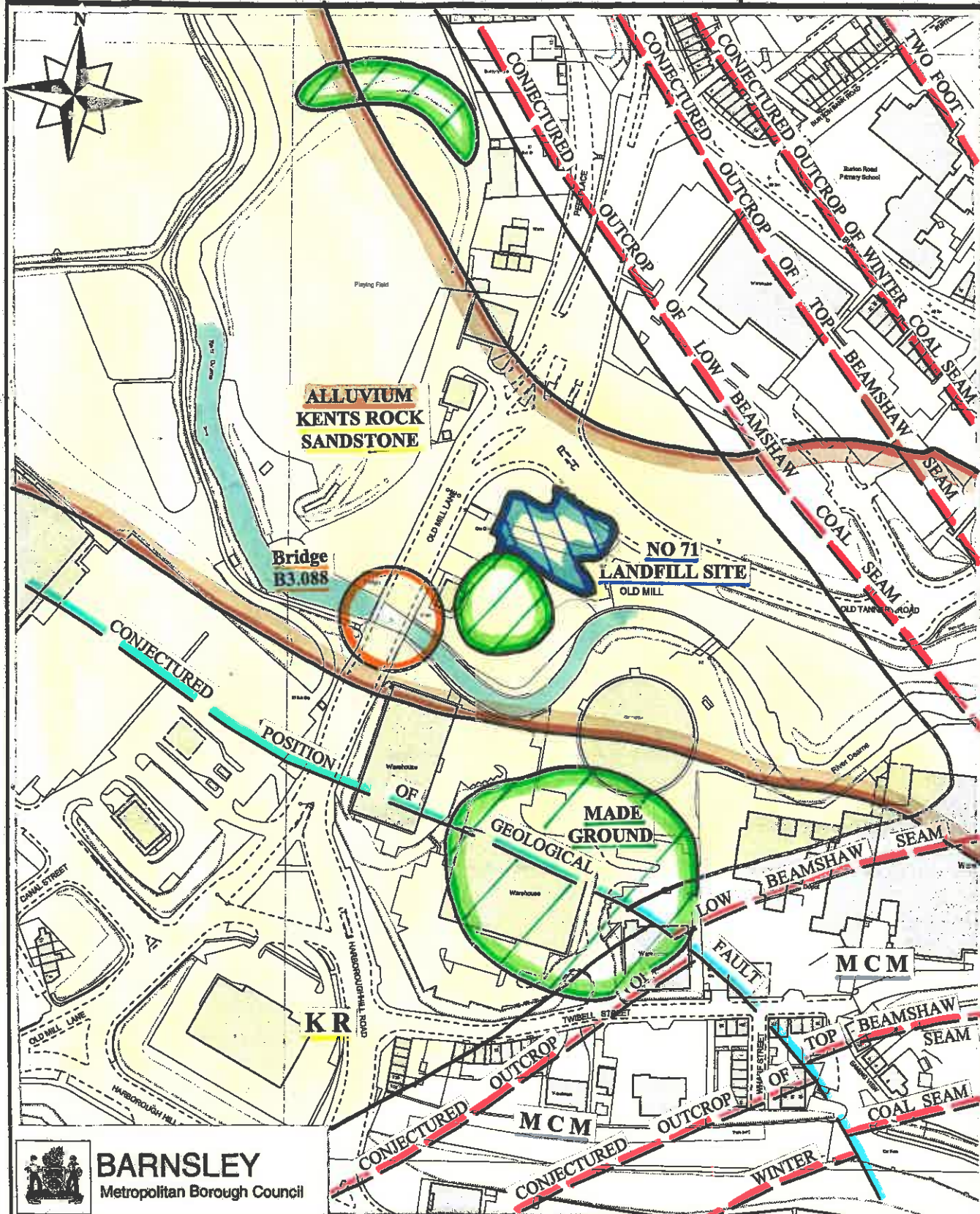
DRAWING TITLE

DRAWING NO.

PRINCIPAL BRIDGE INSPECTIONS
B3.088 OLD MILL LANE BRIDGE, BARNSELEY

**M4146B/
 B3.088**

BIMBC Licence Number 100022264 2012



BARNSELEY
 Metropolitan Borough Council

SCALE

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DATE

21.1.15

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AS

CHECKED BY

SOUTH YORKSHIRE MINING
ADVISORY SERVICE

O.S REFERENCE

SE 3507

P. JAMES BSc (Hons)
 PRINCIPAL MINING ENGINEER

