Southern Testing
Environmental & Geotechnical

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Report on a Pond Survey

Desk Studies | Risk Assessments | Site Investigations | Geotechnical | Contamination Investigations | Remediation Design and Validation

Site: Slindon Pond, Slindon, West Sussex

Client: Slindon Parish Council

Report Date: 18th December 2020

Project Reference: J14617

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A INTRODUCTION

1 Authority

Our authority for carrying out this work is contained in a completed STL order for from Ms Sarah Linfield of Slindon Parish Council, dated 20th October 2020.

2 Location

The site is located on the south-west side of Slindon Village, near Arundel West Sussex. The approximate National Grid Reference of the site is SU 96222 08184. The site location is shown on the attached plan, Figure 1, Appendix A.

3 Investigation Brief

In accordance with the Client's instructions, and our quotation, the following was included in our brief for this investigation:

- Survey of the silt depth in the pond
- Collection of silt samples for contamination testing
- Contamination Risk Assessment and Waste Classification

The fieldwork was carried out on the 23rd November 2020 at which time the weather was generally dry and overcast with sunny spells. The rainfall in the South of England for the preceding three months was close to the long-term average.

4 Scope

This report presents our survey and test results only. As with any site there may be differences in soil conditions between exploratory hole positions.

This report is not an engineering design and the figures and calculations contained in the report should be used by the Engineer, taking note that variations will apply, according to variations in design loading, in techniques used, and in site conditions. Our figures therefore should not supersede the Engineer's design.

The site investigation was conducted and this report has been prepared for the sole internal use and reliance of Slindon Parish Council and their appointed Engineers. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Southern Testing Laboratories Limited. If an unauthorised third party comes into possession of this report they rely on it at their peril and the authors owe them no duty of care and skill.

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For and on behalf of Southern Testing Laboratories Limited

B FIELDWORK

5 General Site Description

The site comprises the village pond, situated on the south-western outskirts of the village. The pond is approximately elliptical in shape and about 40m across at its widest. There are a number of mature trees overhanging the pond, notably a large Willow on the north-eastern side adjacent to Church Road and other smaller trees on the south-western and northern sides. There is a floating island anchored towards the north of the pond which is vegetated.

The south-eastern end of the pond is shallow, and has a gravelly bottom. This area is retained by a submerged wooden retaining wall. This shallow area is becoming overgrown with reeds and Bullrushes. The pond is bound to the north and east by Church Road and by the garden of an adjacent property, to the south by agricultural land, and to the west by woodland. The water level of the pond is approximately 1m lower than the level of Church Road.

6 Geology

The British Geological Survey Map for the area indicates that the site geology consists of the Lambeth group.

6.1 Lambeth Group

The Lambeth Group comprises a vertically and laterally very variable sequence of multicoloured and mottled clays and sands. The sands are greenish yellow or brown, and generally alternate with the multicoloured mottled clays and sometimes bands of lignite. Pebble Beds, locally cemented into conglomerate, and some bands of concretionary ironstone may also be present. Shells are frequently found in the clays and are sometimes locally cemented into a limestone bed that may form an obstruction to pile borings. At the base of the formation there can be layer of greenish sands with flint pebbles where they rest directly above the Thanet Beds.

Clays within this group are known to contain pyrite.

7 Silt Survey

A survey of the depth of silt in the pond was carried out by a specially adapted boat with 'moon-pool' allowing probing of the pond bottom through the bottom of the boat. The boat was restricted to straight line transits of the pond by a taught rope anchored to the ground at the pond sides.

A lightweight neutral buoyancy probe with a circular foot was used to determine the depth from water level to the top of the silt. A dense metal probe was then pushed to the bottom of the silt, and the silt depth calculated by simple subtraction. Multiple points were determined, however, some locations were inaccessible due to weed, overhanging trees or reeds.

Please see attached Figures 2 and 3 for drawings showing the depth of silt established.

8 Silt Sampling and Composition

Based on the anticipated volume of silt requiring removal, three samples of silt were tested for our 'Key' contaminants test, suitable for use where the nature of any contamination is unknown. The locations of the sampling points are shown on Figure 4. In addition to this, one sample, comprising a composite of all three samples was subjected to Waste Acceptance Criteria testing to help determine the waste classification of the silt, should it require removal to a licensed waste facility.

Sampling was carried out using a dedicated tubular vacuum silt sampler. The silt recovered was a very wet, dark grey to black clayey silt with little to no fibrous organic matter. Subsequent testing revealed high moisture contents in the range of 57% to 72% and organic matter contents of 8.4% to 10%.

9 Laboratory Testing

Three silt samples (S1 – S3) were scheduled for the STL Preliminary waste classification suite and a single composite sample for WAC (Waste Acceptance Criteria) analysis. The table below presents details of the contaminants and the results of the chemical testing are presented in Appendix B.

Test	Test type	Detail
Full WAC Suite	Soil	Moisture content, TOC, acid neutralisation capacity and loss on ignition, pH, BTEX (sum), PAH (sum), PCB EC7 (sum), Mineral Oil (C10-C40).
	Leachate	Antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, chloride, fluoride, sulphate, TDS and DOC.
Characterisation Testing Suite (Air dried testing)	Soil	Arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, TPH (C6-C40), PAHs (speciated), mono phenol, cyanide, moisture content, pH, asbestos screening, sulphate, organic matter.

10 Analytical Framework

There is no single methodology that covers all the various aspects of the assessment of potentially contaminated land and groundwater. Therefore, the analytical framework adopted for this investigation is made up of a number of procedures, which are outlined below. All of these are based on a Risk Assessment methodology centered on the identification and analysis of Source – Pathway – Receptor linkages.

The CLEA model Ref [1], provides a methodology for quantitative assessment of the long-term risks posed to human health by exposure to contaminated soils. Toxicological data is used to calculate a Soil Guideline Value (SGV) for an individual contaminant, based on the proposed site use; these represent minimal risk concentrations and may be used as screening values.

In the absence of any published SGVs for certain substances, Southern Testing have derived or adopted Tier 1 screening values for initial assessment of the soil, based on available current UK guidance including the LQM/CIEH S4UL's Ref [2] and CL:AIRE Soil Generic Assessment Criteria Ref [4]. In addition, in 2014, DEFRA Ref [3] published the results of a research programme to develop screening values to assist decision making under Part 2A of the Environmental Protection Act. Category 4 screening levels were published for 6 substances, with reference to human health risk only. This guidance includes revisions of the CLEA exposure parameters, presenting parameters for public open space land use scenarios, and also of the toxicological approach. The screening levels represent a low risk scenario, based on a 'Low Level of Toxicological Concern' rather than the 'Minimal Risk' of CLEA, and the analytical results of this investigation may be considered relative to these levels.

CLEA requires a statistical treatment of the test results to take into account the normal variations in concentration of potential contaminants in the soil and allow comparisons to be made with published guidance.

The results of any groundwater analyses are compared to relevant quality criteria, e.g. Environmental Quality Standards (EQS) or Drinking Water Standards (DWS).

The contamination screening values used are valid at the time of writing but may be subject to change and any such changes will have implications for the assessments based upon them. Their validity should be confirmed at the time of site development.

10.1 Risk Assessment

We understand it is proposed to dredge the pond to remove much of the silt. Consideration will be given to re-use of the silt, potentially on agricultural land, or it will be removed to landfill. The soils tested have therefore been assessed in terms of Human Health criteria and also for the purposes of re-use or removal to a licensed waste management facility (Landfill).

We would note that of the routine contaminants tested for in the Key contaminants test, the concentrations of the PAH compounds (as indicated by Benzo(a)Pyrene as a surrogate marker) exceed the screening values for all the land use scenarios including the least stringent of 'Commercial/Industrial' use. In general, the remaining contaminant concentrations are much lower, with an exceedance only for lead for use in a 'residential with home grown produce consumption'.

Petroleum Hydrocarbon concentrations are also elevated but would require further speciation to allow meaningful human health risk assessment, but could in theory also exceed the LQM/CIEH screening values for all land uses other than Commercial/Industrial.

In summary, the contaminant concentrations negate the use of the soils for residential, agricultural or parkland use and will require removal to a licensed waste management facility.

The contents of this report and the attached test results should be provided to the dredging contractor in order they may carry out their own risk assessment with respect to protection of site works and the general public during excavation works.

11 Waste Disposal

As discussed in Section 9.1 above, the proposal is to dredge out the pond, and with the potential of re-using the dry dredged silt on agricultural land or disposed of to a landfill.

Dredged/excavated soils intended for reuse under a D1 exemption or for disposal to a landfill, are required to be classified as either hazardous or non-hazardous and assigned an appropriate EWC code.

11.1 Waste Classification and Waste Acceptance Criteria (WAC)

The current relevant waste legislation and technical guidance (WM3 1st edition version 1.1, 2018) on the assessment and classification of hazardous waste, sets out the requirement for classification and provides the basis for the methodology employed to ensure compliance with the regulations. This report sets out to fulfil the requirements of basic characterisation.

Waste classification indicates whether the material is hazardous or non-hazardous. If material is classified as non-hazardous, there is a choice of sending the material to a non-hazardous or an inert landfill (subject to meeting inert waste acceptance levels based on WAC analysis). Where the waste is classified as hazardous, WAC analysis will be required to demonstrate that the concentrations meet the acceptance levels for hazardous landfill or stable non-reactive hazardous (SNRH) landfill.

The List of Wastes (England) Regulations 2005 shows those wastes that are absolute entries (i.e. hazardous waste regardless of their concentration) and mirror entries (hazardous waste only if hazardous substances are present above the specified threshold concentrations).

Section 17 of the List of Wastes relates to Construction and Demolition Wastes (including Excavated Soil from Contaminated Sites, stones and dredging spoil). Dredging spoil is a "mirror entry" under code '17 05 05* (17 05 06)', and is not automatically assigned a hazardous or non-hazardous nature. Instead, an assessment of the composition of the soil is undertaken to determine the concentrations of hazardous substances, and the waste classified accordingly. The assessment of contaminated soil to determine whether it is hazardous waste is dependent on the presence of "hazardous substances" exceeding particular thresholds.

11.2 Waste Classification Assessment

The waste classification assessment has been undertaken using the results of the chemical analyses on the samples analysed. The classification of the materials was conducted using the concentrations of each identified substance attributed to its 'worst-case' compound (where relevant), as per Environment Agency (EA) document WM3 (2018). The assessment was carried out using the HazWaste Online Toolkit. The details of the waste classification are presented in Appendix B.

A summary of the assessment results is presented below:

Sample ID	Classification	EWC	Hazardous Substance	Hazardous Properties
S1	Hazardous	17 05 05*	TPH C6-C40	HP7, HP11
S2	Non-Hazardous	17 05 06	None	None
S3	Non-Hazardous	17 05 06	None	None
Sample Average	Non-Hazardous	17 05 06	None	None

The results of the chemical analysis indicate no significant hazardous substances in the samples analyzed except for sample S1 where a TPH C6-C40 concentration was recorded at 2300 mg/kg with corresponding B(a)P concentration at 54 mg/kg. Given that the B(a)P concentration is greater than 0.01% of the TPH concentration, the recorded TPH is considered carcinogenic (HP7) and

mutagenic (HP11).

Based on the above assessment, sample S1 has been classified as Hazardous with EWC Code 17 05 05*. The other two samples have been classified as Non-Hazardous with EWC Code 17 05 06.

Given that it will not be practicable to separate materials during dredging, the mean concentrations of the analysed contaminants were used for the classification to reflect the as-dredged silts. The classification assessment carried out using the mean concentrations indicate Non-Hazardous waste.

11.3 Waste Acceptance Criteria (WAC) Analysis

The results of the analysis indicate that the soils fail the Inert Landfill acceptance criteria due to the high total organic content (TOC) above the inert threshold in all samples. Elevated PAH and TPH concentrations above the inert criteria is also recorded. The concentrations of leachable antimony, sulphate and total dissolve solids (TDS) also exceeded inert landfill criteria.

Based on the results of the limited chemical analysis carried out, the dredged materials should be considered Non-Hazardous and could be disposed of as Non-hazardous.

Additional testing to confirm this classification on dredged materials prior to removal from site.

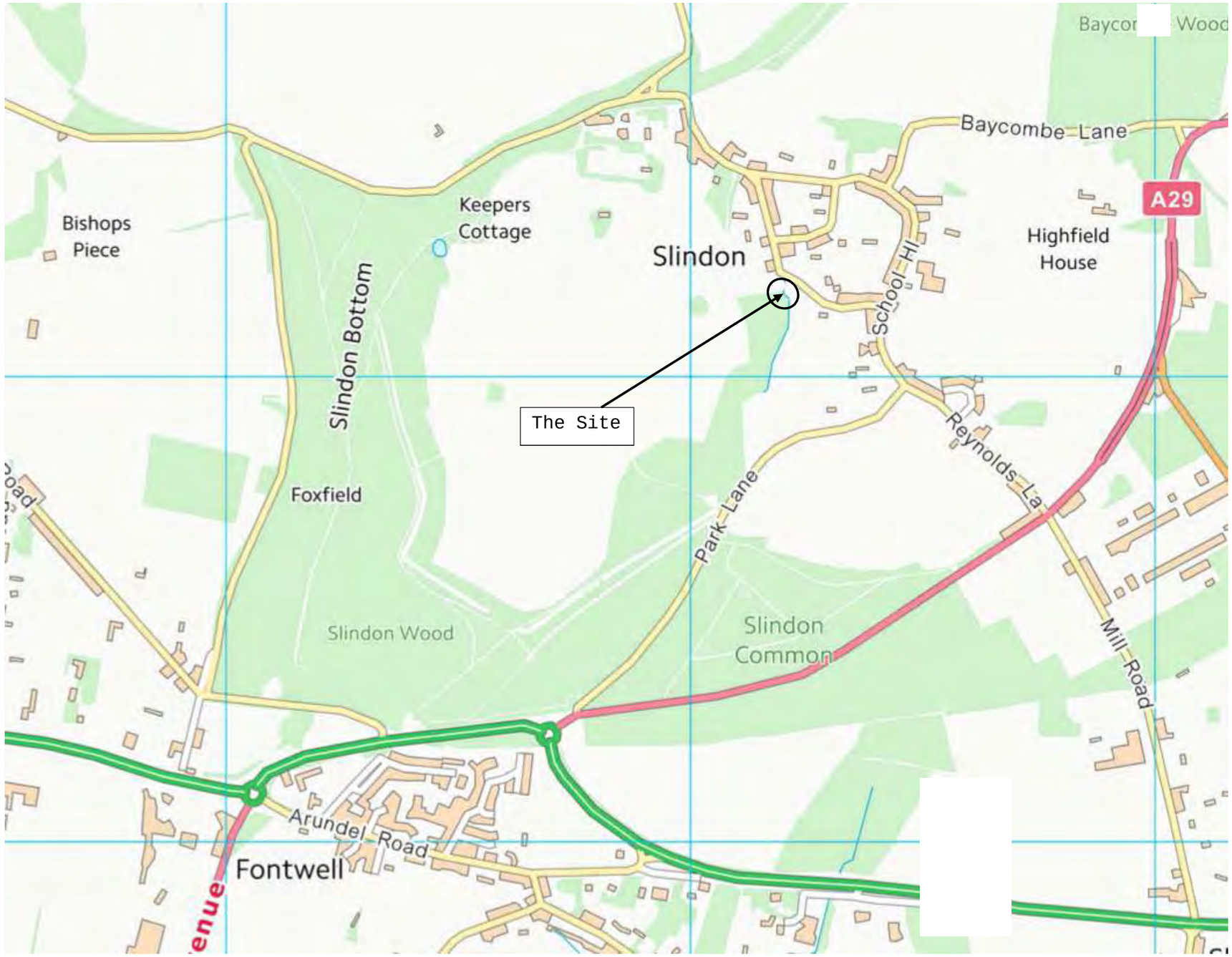
[1] Environment Agency, "Updated technical background to the CLEA model," 2009.

[2] Contaminated Land: Applications in Real Environments (CL:AIRE), "Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination," 2014.

[3] CIRIA, "C665 Assessing risks posed by hazardous ground gases to buildings," 2007

[4] EIC/AGS/CL:AIRE, "Soil Generic Assessment Criteria for Human Health Risk Assessment," 2010.

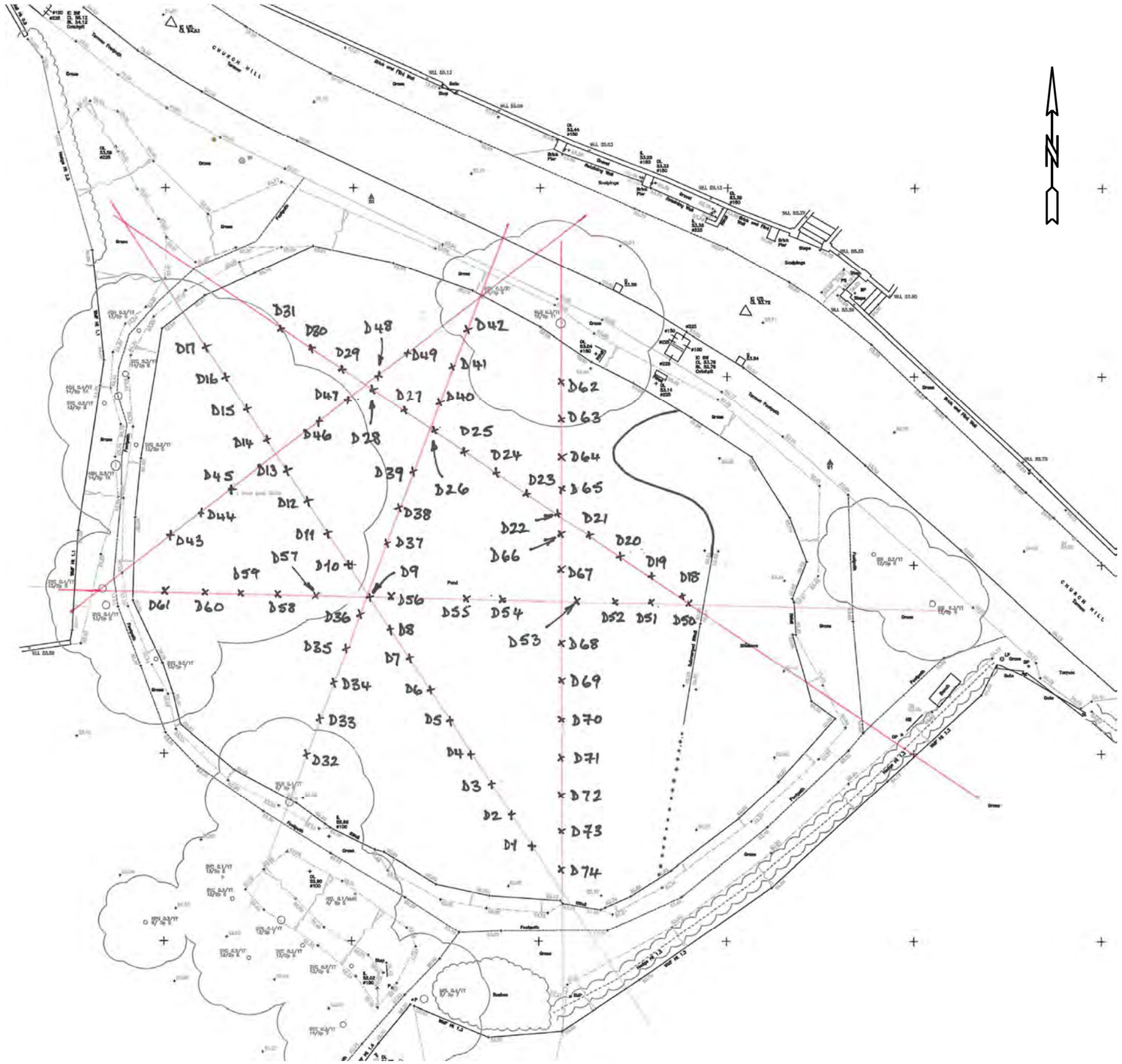
APPENDIX A –SITE PLANS



NB: Positions of Boreholes and/or Trial Pits are only indicative unless dimensioned

Site: Slindon Pond	STL:J14617	Fig No: 1
Date: 07 December 2020	Site Location	

Southern Testing
Southern Testing: Keeble House, Stuart Way, East Grinstead, West Sussex RH19 4QA
ST Consult: Twigden Barns, Brixworth Road, Creaton, Northampton NN6 8NN
ST Consult



Probe No.	Depth of Silt (m)
D1	0
D2	0
D3	0.25
D4	0.42
D5	0.5
D6	0.7
D7	0.77
D8	0.9
D9	0.93
D10	0.75
D11	0.65
D12	0.55
D13	0.43
D14	0.35
D15	0.3
D16	0.15
D17	0.15
D18	0
D19	0.55
D20	0.53
D21	0.5
D22	0.51
D23	0.56
D24	0.48
D25	0.45
D26	0.65
D27	0.49
D28	0.4
D29	0.45
D30	0.52
D31	0.05
D32	0
D33	0.2
D34	0.55
D35	0.5
D36	0.5

Probe No.	Depth of Silt (m)
D37	0.6
D38	0.57
D39	0.7
D40	0.35
D41	0.02
D42	0
D43	0
D44	0.25
D45	0.2
D46	0.35
D47	0.17
D48	0.02
D49	0
D50	0
D51	0.02
D52	0.5
D53	0.4
D54	0.75
D55	0.75
D56	0.9
D57	0.65
D58	0.4
D59	0.15
D60	0.15
D61	0.1
D62	0.1
D63	0.05
D64	0.14
D65	0.25
D66	0.7
D67	0.77
D68	0.5
D69	0.45
D70	0.4
D71	0.07
D72	0
D73	0.05
D74	0

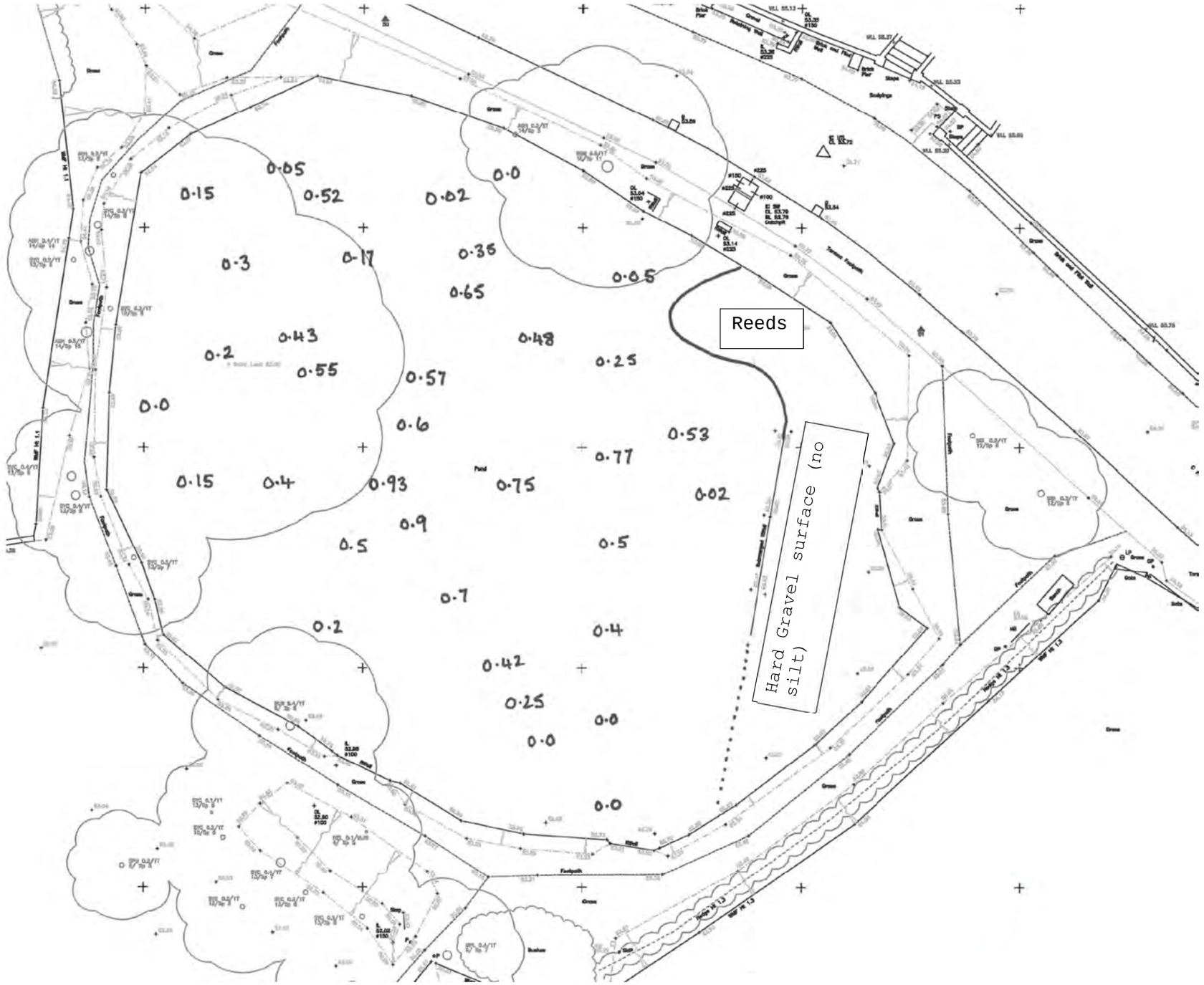
NB: Positions of Boreholes and/or Trial Pits are only indicative unless dimensioned

Site: Slindon Pond	STL:J14617	Fig No: 2
Date: 07 December 2020	Silt Depth	

Southern Testing

Southern Testing: Keeble House, Stuart Way, East Grinstead, West Sussex RH19 4QA
ST Consult: Twigden Barns, Brixworth Road, Creaton, Northampton NN6 8NN

ST Consult



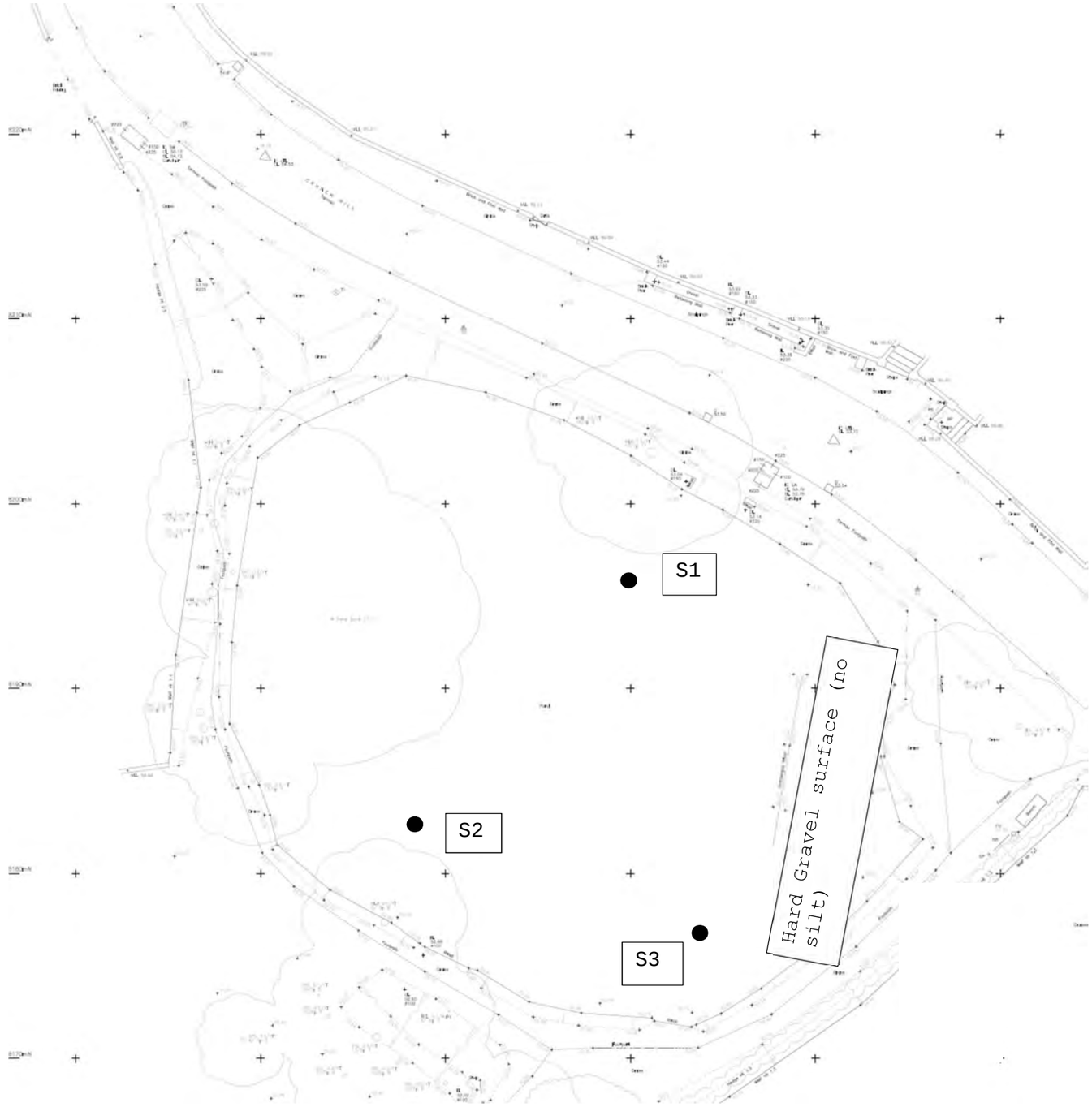
NB: Positions of Boreholes and/or Trial Pits are only indicative unless dimensioned

Site: Slindon Pond	STL:J14617	Fig No: 2
Date: 07 December 2020	Silt Depth (Simplified) – all values in metres	

Southern Testing

Southern Testing: Keeble House, Stuart Way, East Grinstead, West Sussex RH19 4QA
ST Consult: Twigden Barns, Brixworth Road, Creaton, Northampton NN6 8NN

ST Consult



NB: Positions of Boreholes and/or Trial Pits are only indicative unless dimensioned

Site: Slindon Pond	STL:J14617	Fig No: 4
Date: 07 December 2020	Location of silt samples	

Southern Testing

Southern Testing: Keeble House, Stuart Way, East Grinstead, West Sussex RH19 4QA
ST Consult: Twigden Barns, Brixworth Road, Creaton, Northampton NN6 8NN

ST Consult

APPENDIX B – SCREENING VALUES

These screening values are valid at the time of writing but may be subject to change and any such changes will have implications for the assessments based on them. Their validity should be confirmed at the time of site development.

Table 1 – Tier 1 Screening Values							
Contaminant	**Units**	**Proposed Land Use**					
		Residential with home grown produce consumption	**Residential without home grown produce consumption**	**Open Space * (Residential)**	**Open Space * (Park)**	**Allotments**	**Commercial / Industrial**
Arsenic (As) [2]	mg/kg	37	40	79	170	43	640
Cadmium (Cd) [2]	mg/kg	11	85	120	555	1.9	190
Trivalent Chromium (CrIII) [2]	mg/kg	910	910	1,500	33,000	18,000	8600
Hexavalent Chromium (CrVI) [2]	mg/kg	6	6	7.7	220	1.8	33
Lead (Pb) [3]	mg/kg	200	310	630	1300	80	2330
Mercury (Hg) [1,2,7]	mg/kg	7.6-11	9.2-15	40	68-71	6.0	29-320
Selenium (Se) [2]	mg/kg	250	430	1,100	1,800	88	12,000
Nickel (Ni) [2,4]	mg/kg	130	180	230	800	53	980
Copper (Cu) [2,4]	mg/kg	2,400	7,100	12,000	44,000	520	68,000
Zinc (Zn) [2,4]	mg/kg	3,700	40,000	81,000	170,000	620	730,000
Phenol [1,2]	mg/kg	120-380	440-1200	440-1300	440-1300	23-83	440-1300
Benzo[a]pyrene [1,5]	mg/kg	1.7-2.4	2.6	4.9	10	0.67-2.7	36
Naphthalene [1,2]	mg/kg	2.3-1.3	2.3-13	77-430+	77-430+	4.1-24	77-430+
Total Cyanide (CN) [6]	mg/kg	/	/	/	/	/	/
Free Cyanide [6]	mg/kg	/	/	/	/	/	/
Complex Cyanides [6]	mg/kg	/	/	/	/	/	/
Thiocyanate [6]	mg/kg	/	/	/	/	/	/

Notes:

* Open Space levels calculated on the basis of the exposure modelling developed in the C4SL research.

+ Screening values constrained to saturation limit. Higher values may be acceptable on a site specific basis.

[1] Where ranges of values are given for organic contaminants the screening value is dependent on the Soil +Organic Matter.

[2] LQM/CIEH S4UL (2014). Copyright Land Quality Management Ltd. reproduced with permission; Publication Number S4UL 3116. All rights reserved.

[3] C4SL (DEFRA 2014).

[4] Copper, Zinc and Nickel may have phototoxic effects at the given concentrations. Alternative criteria should be adopted for importation of Topsoil or other soils for cultivation. BS3882:2015 and BS8601:2013 suggest values of 200 to 300mg/kg for Zn, 100 to 200mg/kg for Cu, and 60 to 110mg/kg for Ni, for topsoil and subsoil, depending on pH.

[5] Based on the Surrogate Marker approach and modelled using the modified exposure parameters of C4SL but retaining 'minimal risk' HCV.

[6] Screening criteria derived on a site specific basis if test results indicate.

[7] S4UL for Methyl Mercury, higher concentrations may be tolerable if inorganic mercury is the only species present. Lower concentrations apply for elemental Mercury.

APPENDIX C – CONTAMINATION TEST RESULTS

Contam Results
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Analytical Report Number : 20-43614

Project / Site name:	J14617	**Samples received on:**	25/11/2020
Your job number:	J14617	**Samples instructed on/ Analysis started on:**	25/11/2020
Your order number:	J14617-1	**Analysis completed by:**	04/12/2020
Report Issue Number:	1	**Report issued on:**	04/12/2020
Samples Analysed:	3 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 20-43614
Project / Site name: J14617
Your Order No: J14617-1

Lab Sample Number				1696888	1696889	1696890
Sample Reference				S1	S2	S3
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.00	0.00	0.00
Date Sampled				23/11/2020	23/11/2020	23/11/2020
Time Taken				0930	1000	1000
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	57	69	72
Total mass of sample received	kg	0.001	NONE	1.5	1.2	1.5
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
General Inorganics						
pH - Automated	pH Units	N/A	MCERTS	8	8	8.1
Total Cyanide	mg/kg	1	MCERTS	4	< 1	< 1
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.1	1.8	1.1
Sulphide	mg/kg	1	MCERTS	150	220	220
Organic Matter	%	0.1	MCERTS	8.4	9.1	10
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	0.68	1.1	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	2	2.5	0.77
Acenaphthene	mg/kg	0.05	MCERTS	2.6	2.3	0.44
Fluorene	mg/kg	0.05	MCERTS	3.7	3.3	0.63
Phenanthrene	mg/kg	0.05	MCERTS	38	30	6.1
Anthracene	mg/kg	0.05	MCERTS	8.9	7.3	1.5
Fluoranthene	mg/kg	0.05	MCERTS	110	98	23
Pyrene	mg/kg	0.05	MCERTS	95	88	21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	53	48	11
Chrysene	mg/kg	0.05	MCERTS	41	47	11
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	50	67	16
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	40	32	7.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	54	61	14
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	39	35	8.5
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	11	8.6	2.1
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	46	41	10
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	590	573	134

Analytical Report Number: 20-43614
Project / Site name: J14617
Your Order No: J14617-1

Lab Sample Number				1696888	1696889	1696890
Sample Reference				S1	S2	S3
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.00	0.00	0.00
Date Sampled				23/11/2020	23/11/2020	23/11/2020
Time Taken				0930	1000	1000
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	17	13
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.9	1.1	0.9
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	23	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	31	42	32
Lead (aqua regia extractable)	mg/kg	1	MCERTS	230	210	120
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	23	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	200	140
Petroleum Hydrocarbons						
TPH C10 - C40	mg/kg	10	MCERTS	2300	1200	1200
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH C6 - C40	mg/kg	10	NONE	2300	1200	1200

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 20-43614
Project / Site name: J14617

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1696888	S1	None Supplied	0	Brown clay and sand with gravel.
1696889	S2	None Supplied	0	Brown clay and sand with gravel.
1696890	S3	None Supplied	0	Brown clay and sand with gravel.

Analytical Report Number : 20-43614
Project / Site name: J14617

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method.	L076-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Contam Results
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Analytical Report Number : 20-43617

Project / Site name:	J14617	**Samples received on:**	25/11/2020
Your job number:	J14617	**Samples instructed on/ Analysis started on:**	25/11/2020
Your order number:	J14617-1	**Analysis completed by:**	07/12/2020
Report Issue Number:	1	**Report issued on:**	07/12/2020
Samples Analysed:	1 wac multi sample		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results

Report No:	**20-43617**						
					Client:	**SOUTHERNT**	
Location	**J14617**						
Lab Reference (Sample Number)	1696903				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/11/2020				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WAC1						
Depth (m)	0.00						
Solid Waste Analysis							
TOC (%)**	6.7				3%	5%	6%
Loss on Ignition (%) **	14				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	670				500	--	--
Total PAH (WAC-17) (mg/kg)	431				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mol / kg)	5.5				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.011	< 0.010		0.051	0.5	2	25
Barium *	0.10	0.24		2.2	20	100	300
Cadmium *	< 0.0005	< 0.0005		0.0041	0.04	1	5
Chromium *	< 0.0010	< 0.0010		< 0.0050	0.5	10	70
Copper *	0.010	0.011		0.11	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.014	< 0.0030		0.039	0.5	10	30
Nickel *	0.0021	0.0018		0.019	0.4	10	40
Lead *	0.0090	0.0053		0.058	0.5	10	50
Antimony *	0.010	0.0074		0.077	0.06	0.7	5
Selenium *	< 0.010	< 0.010		0.068	0.1	0.5	7
Zinc *	0.022	0.0184		0.19	4	50	200
Chloride *	26	4.3		68	800	15000	25000
Fluoride	0.15	0.081		0.88	10	150	500
Sulphate *	25	270		2400	1000	20000	50000
TDS*	330	450		4300	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	41	11		150	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	33						
Moisture (%)	67						
Stage 1							
Volume Eluate L2 (litres)	< 0.00						
Filtered Eluate VE1 (litres)	0.20						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 20-43617
Project / Site name: J14617

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1696903	WAC1	None Supplied	0	Brown clay and sand with gravel.

Analytical Report Number : 20-43617
Project / Site name: J14617

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Preparation WAC leachate		In-house method	L043-PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025

Analytical Report Number : 20-43617
Project / Site name: J14617

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Waste Classification Report

YWQZM-KWXTS-HDJZL

Job name

Slindon

Description/Comments

Project

J14617

Site

Slindon Pond, Church Hill, Slindon, West Sussex

Related Documents

#	Name	Description
None		

Waste Stream Template

STL Contaminated Soils waste - WM3 v1.1 May 2018

Classified by

Name:
Robert Jiagge
Date:
15 Dec 2020 16:07 GMT
Telephone:
01342 333100

Company:
Southern Testing Ltd
Unit 5, Hannington Farm
Hannington
RG26 5TZ

HazWasteOnline™ Training Record:

Course	Date
Hazardous Waste Classification	03 Jun 2020
Advanced Hazardous Waste Classification	04 Jun 2020

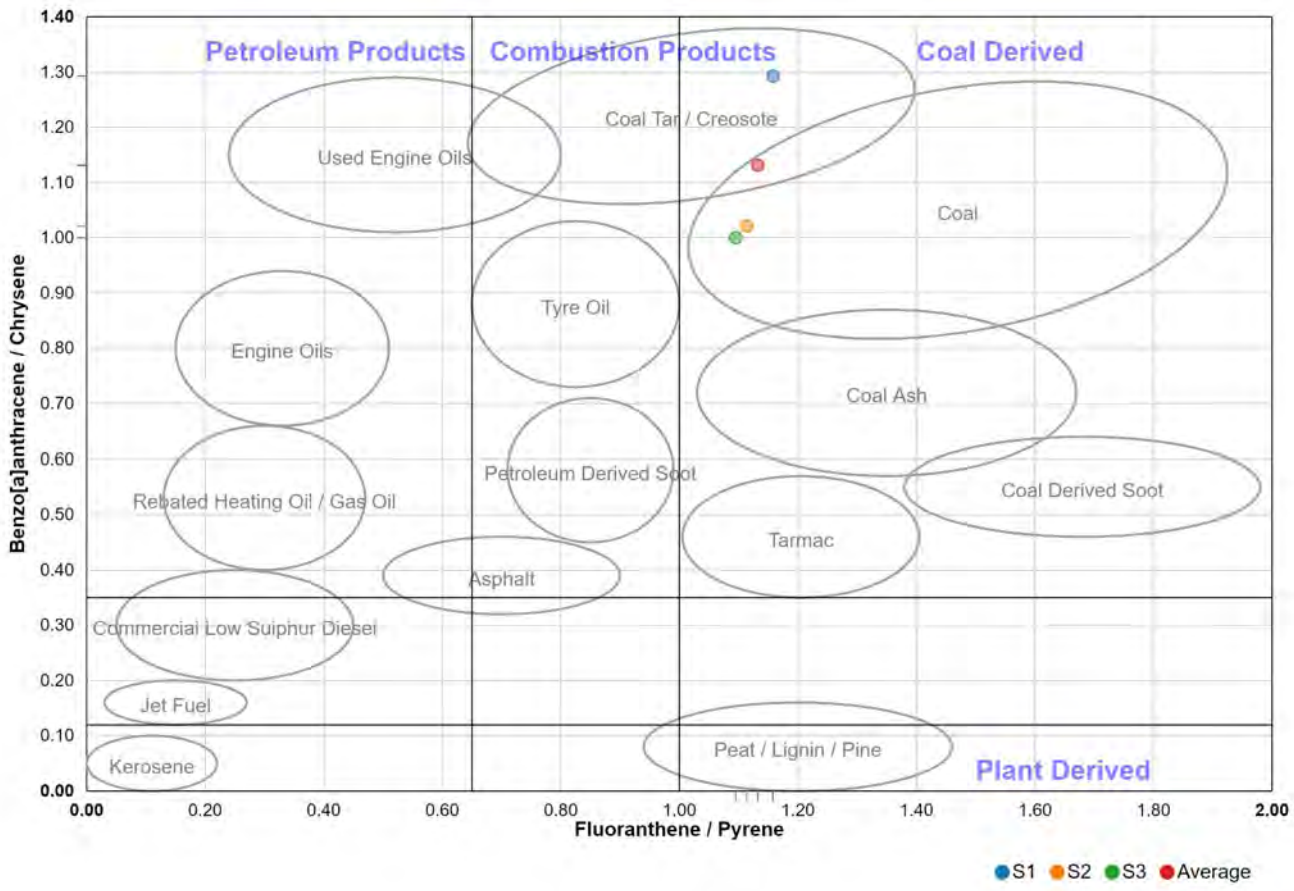
Report

Created by: Robert Jiagge
Created date: 15 Dec 2020 16:07 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	S1		Hazardous	HP 7, HP 11	3
2	S2		Non Hazardous		6
3	S3		Non Hazardous		8
4	Average		Non Hazardous		10

Double Ratio PAH Plot



Disclaimer

The domains, oval areas and the plotted points are **indicators only** and must be combined with other lines of evidence to form conclusions. Samples marked with an empty circle are not plotted as they fall outside of the graph's boundaries.

Credits

The domains and the horizontal and vertical lines are derived from Yunker et al. 2002 (Organic Geochemistry 33, 489-515)
The oval areas and their labels are with kind permission of Jones Environmental Forensics Limited (now Element Materials Technology)

Classification of sample: S1

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

Sample details

Sample Name:
S1
Moisture content:
57%
(dry weight correction)

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

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.146%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.146%)

Determinands

Moisture content: 57% Dry Weight Moisture Correction applied (MC)

#		Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number / EC Number / CAS Number							
1		pH PH		8 pH		8 pH	8pH		
2		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		4 mg/kg	1.884	4.8 mg/kg	0.00048 %	✓	
3		phenol 604-001-00-2 / 203-632-7 / 108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		**<LOD**
4		arsenic { arsenic trioxide } 033-003-00-0 / 215-481-4 / 1327-53-3		12 mg/kg	1.32	10.092 mg/kg	0.00101 %	✓	
5		cadmium { cadmium oxide } 048-002-00-0 / 215-146-2 / 1306-19-0		0.9 mg/kg	1.142	0.655 mg/kg	0.0000655 %	✓	
6		chromium in chromium(III) compounds { chromium(III) oxide (worst case) } 215-160-9 / 1308-38-9		16 mg/kg	1.462	14.895 mg/kg	0.00149 %	✓	

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
7		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		<**LOD**
8		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		31	mg/kg	1.126	22.231	mg/kg	0.00222 %	✓	
9		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	230	mg/kg	1.56	228.508	mg/kg	0.0146 %	✓	
10		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
11		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15	mg/kg	2.976	28.436	mg/kg	0.00284 %	✓	
12		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<**LOD**
13		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		130	mg/kg	2.774	229.706	mg/kg	0.023 %	✓	
14		naphthalene	601-052-00-2	202-049-5	91-20-3		0.68	mg/kg		0.433	mg/kg	0.0000433 %	✓	
15		acenaphthylene		205-917-1	208-96-8		2	mg/kg		1.274	mg/kg	0.000127 %	✓	
16		acenaphthene		201-469-6	83-32-9		2.6	mg/kg		1.656	mg/kg	0.000166 %	✓	
17		fluorene		201-695-5	86-73-7		3.7	mg/kg		2.357	mg/kg	0.000236 %	✓	
18		phenanthrene		201-581-5	85-01-8		38	mg/kg		24.204	mg/kg	0.00242 %	✓	
19		anthracene		204-371-1	120-12-7		8.9	mg/kg		5.669	mg/kg	0.000567 %	✓	
20		fluoranthene		205-912-4	206-44-0		110	mg/kg		70.064	mg/kg	0.00701 %	✓	
21		pyrene		204-927-3	129-00-0		95	mg/kg		60.51	mg/kg	0.00605 %	✓	
22		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		53	mg/kg		33.758	mg/kg	0.00338 %	✓	
23		chrysene	601-048-00-0	205-923-4	218-01-9		41	mg/kg		26.115	mg/kg	0.00261 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		50	mg/kg		31.847	mg/kg	0.00318 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		40	mg/kg		25.478	mg/kg	0.00255 %	✓	
26		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		54	mg/kg		34.395	mg/kg	0.00344 %	✓	
27		indeno[123-cd]pyrene		205-893-2	193-39-5		39	mg/kg		24.841	mg/kg	0.00248 %	✓	
28		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		11	mg/kg		7.006	mg/kg	0.000701 %	✓	
29		benzo[ghi]perylene		205-883-8	191-24-2		46	mg/kg		29.299	mg/kg	0.00293 %	✓	
30		TPH (C6 to C40) petroleum group			TPH		2300	mg/kg		1464.968	mg/kg	0.146 %	✓	
31		confirm TPH has NOT arisen from diesel or petrol					☑							
											Total:	0.231 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No liquid sample.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.146%)

Classification of sample: S2

Non Hazardous Waste
Classified as **17 05 06**
in the List of Waste

Sample details

Sample Name:
S2
Moisture content:
69%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 06 (Dredging spoil other than those mentioned in 17 05 05)

Hazard properties

None identified

Determinands

Moisture content: 69% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
1	pH PH		8 pH		8 pH	8pH		
2	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		<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	phenol 604-001-00-2 / 203-632-7 / 108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
4	arsenic { arsenic trioxide } 033-003-00-0 / 215-481-4 / 1327-53-3		17 mg/kg	1.32	13.281 mg/kg	0.00133 %	✓	
5	cadmium { cadmium oxide } 048-002-00-0 / 215-146-2 / 1306-19-0		1.1 mg/kg	1.142	0.744 mg/kg	0.0000744 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) } 215-160-9 / 1308-38-9		23 mg/kg	1.462	19.891 mg/kg	0.00199 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide } 024-001-00-0 / 215-607-8 / 1333-82-0		<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
8	copper { dicopper oxide; copper (I) oxide } 029-002-00-X / 215-270-7 / 1317-39-1		42 mg/kg	1.126	27.981 mg/kg	0.0028 %	✓	
9	lead { lead chromate } 082-004-00-2 / 231-846-0 / 7758-97-6	1	210 mg/kg	1.56	193.823 mg/kg	0.0124 %	✓	
10	mercury { mercury dichloride } 080-010-00-X / 231-299-8 / 7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
11	nickel { nickel chromate } 028-035-00-7 / 238-766-5 / 14721-18-7		23 mg/kg	2.976	40.505 mg/kg	0.00405 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8		<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
13	zinc { zinc chromate } 024-007-00-3 / 236-878-9 / 13530-65-9		200 mg/kg	2.774	328.301 mg/kg	0.0328 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		naphthalene				1.1	mg/kg		0.651	mg/kg	0.0000651 %	✓	
		601-052-00-2	202-049-5	91-20-3									
15	●	acenaphthylene				2.5	mg/kg		1.479	mg/kg	0.000148 %	✓	
			205-917-1	208-96-8									
16	●	acenaphthene				2.3	mg/kg		1.361	mg/kg	0.000136 %	✓	
			201-469-6	83-32-9									
17	●	fluorene				3.3	mg/kg		1.953	mg/kg	0.000195 %	✓	
			201-695-5	86-73-7									
18	●	phenanthrene				30	mg/kg		17.751	mg/kg	0.00178 %	✓	
			201-581-5	85-01-8									
19	●	anthracene				7.3	mg/kg		4.32	mg/kg	0.000432 %	✓	
			204-371-1	120-12-7									
20	●	fluoranthene				98	mg/kg		57.988	mg/kg	0.0058 %	✓	
			205-912-4	206-44-0									
21	●	pyrene				88	mg/kg		52.071	mg/kg	0.00521 %	✓	
			204-927-3	129-00-0									
22		benzo[a]anthracene				48	mg/kg		28.402	mg/kg	0.00284 %	✓	
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				47	mg/kg		27.811	mg/kg	0.00278 %	✓	
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				67	mg/kg		39.645	mg/kg	0.00396 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				32	mg/kg		18.935	mg/kg	0.00189 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				61	mg/kg		36.095	mg/kg	0.00361 %	✓	
		601-032-00-3	200-028-5	50-32-8									
27	●	indeno[123-cd]pyrene				35	mg/kg		20.71	mg/kg	0.00207 %	✓	
			205-893-2	193-39-5									
28		dibenz[a,h]anthracene				8.6	mg/kg		5.089	mg/kg	0.000509 %	✓	
		601-041-00-2	200-181-8	53-70-3									
29	●	benzo[ghi]perylene				41	mg/kg		24.26	mg/kg	0.00243 %	✓	
			205-883-8	191-24-2									
30	●	TPH (C6 to C40) petroleum group				1200	mg/kg		710.059	mg/kg	0.071 %	✓	
				TPH									
31	●	confirm TPH has NOT arisen from diesel or petrol				☑							
										Total:	0.162 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No liquid sample.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.071%)

Classification of sample: S3

Non Hazardous Waste
Classified as **17 05 06**
in the List of Waste

Sample details

Sample Name:
S3
Moisture content:
72%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 06 (Dredging spoil other than those mentioned in 17 05 05)

Hazard properties

None identified

Determinands

Moisture content: 72% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.1 pH		8.1 pH	8.1 pH		
2	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				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	phenol	604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13 mg/kg	1.32	9.979 mg/kg	0.000998 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.9 mg/kg	1.142	0.598 mg/kg	0.0000598 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		23 mg/kg	1.462	19.544 mg/kg	0.00195 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		32 mg/kg	1.126	20.947 mg/kg	0.00209 %	✓	
9	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	120 mg/kg	1.56	108.824 mg/kg	0.00698 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21 mg/kg	2.976	36.338 mg/kg	0.00363 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		140 mg/kg	2.774	225.803 mg/kg	0.0226 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		**<LOD**
		601-052-00-2	202-049-5	91-20-3									
15		acenaphthylene				0.77	mg/kg		0.448	mg/kg	0.0000448 %	✓	
			205-917-1	208-96-8									
16		acenaphthene				0.44	mg/kg		0.256	mg/kg	0.0000256 %	✓	
			201-469-6	83-32-9									
17		fluorene				0.63	mg/kg		0.366	mg/kg	0.0000366 %	✓	
			201-695-5	86-73-7									
18		phenanthrene				6.1	mg/kg		3.547	mg/kg	0.000355 %	✓	
			201-581-5	85-01-8									
19		anthracene				1.5	mg/kg		0.872	mg/kg	0.0000872 %	✓	
			204-371-1	120-12-7									
20		fluoranthene				23	mg/kg		13.372	mg/kg	0.00134 %	✓	
			205-912-4	206-44-0									
21		pyrene				21	mg/kg		12.209	mg/kg	0.00122 %	✓	
			204-927-3	129-00-0									
22		benzo[a]anthracene				11	mg/kg		6.395	mg/kg	0.00064 %	✓	
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				11	mg/kg		6.395	mg/kg	0.00064 %	✓	
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				16	mg/kg		9.302	mg/kg	0.00093 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				7.3	mg/kg		4.244	mg/kg	0.000424 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				14	mg/kg		8.14	mg/kg	0.000814 %	✓	
		601-032-00-3	200-028-5	50-32-8									
27		indeno[123-cd]pyrene				8.5	mg/kg		4.942	mg/kg	0.000494 %	✓	
			205-893-2	193-39-5									
28		dibenz[a,h]anthracene				2.1	mg/kg		1.221	mg/kg	0.000122 %	✓	
		601-041-00-2	200-181-8	53-70-3									
29		benzo[ghi]perylene				10	mg/kg		5.814	mg/kg	0.000581 %	✓	
			205-883-8	191-24-2									
30		TPH (C6 to C40) petroleum group				1200	mg/kg		697.674	mg/kg	0.0698 %	✓	
				TPH									
31		confirm TPH has NOT arisen from diesel or petrol				☑							
											Total:	0.117 %	

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No liquid sample.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0698%)

Classification of sample: Average

Non Hazardous Waste
Classified as **17 05 06**
in the List of Waste

Sample details

Sample Name:
Average
Moisture content:
66%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 06 (Dredging spoil other than those mentioned in 17 05 05)

Hazard properties

None identified

Determinands

Moisture content: 66% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.033 pH		8.033 pH	8.033 pH		
2	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				4 mg/kg	1.884	4.54 mg/kg	0.000454 %	✓	
3	phenol	604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14 mg/kg	1.32	11.135 mg/kg	0.00111 %	✓	
5	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.967 mg/kg	1.142	0.665 mg/kg	0.0000665 %	✓	
6	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20.667 mg/kg	1.462	18.196 mg/kg	0.00182 %	✓	
7	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		35 mg/kg	1.126	23.739 mg/kg	0.00237 %	✓	
9	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	186.667 mg/kg	1.56	175.401 mg/kg	0.0112 %	✓	
10	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19.667 mg/kg	2.976	35.261 mg/kg	0.00353 %	✓	
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		156.667 mg/kg	2.774	261.817 mg/kg	0.0262 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		naphthalene				0.89	mg/kg		0.536	mg/kg	0.0000536 %	✓	
		601-052-00-2	202-049-5	91-20-3									
15	●	acenaphthylene				1.757	mg/kg		1.058	mg/kg	0.000106 %	✓	
			205-917-1	208-96-8									
16	●	acenaphthene				1.78	mg/kg		1.072	mg/kg	0.000107 %	✓	
			201-469-6	83-32-9									
17	●	fluorene				2.543	mg/kg		1.532	mg/kg	0.000153 %	✓	
			201-695-5	86-73-7									
18	●	phenanthrene				24.7	mg/kg		14.88	mg/kg	0.00149 %	✓	
			201-581-5	85-01-8									
19	●	anthracene				5.9	mg/kg		3.554	mg/kg	0.000355 %	✓	
			204-371-1	120-12-7									
20	●	fluoranthene				77	mg/kg		46.386	mg/kg	0.00464 %	✓	
			205-912-4	206-44-0									
21	●	pyrene				68	mg/kg		40.964	mg/kg	0.0041 %	✓	
			204-927-3	129-00-0									
22		benzo[a]anthracene				37.333	mg/kg		22.49	mg/kg	0.00225 %	✓	
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				33	mg/kg		19.88	mg/kg	0.00199 %	✓	
		601-048-00-0	205-923-4	218-01-9									
24		benzo[b]fluoranthene				44.333	mg/kg		26.707	mg/kg	0.00267 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				26.433	mg/kg		15.924	mg/kg	0.00159 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				43	mg/kg		25.904	mg/kg	0.00259 %	✓	
		601-032-00-3	200-028-5	50-32-8									
27	●	indeno[123-cd]pyrene				27.5	mg/kg		16.566	mg/kg	0.00166 %	✓	
			205-893-2	193-39-5									
28		dibenz[a,h]anthracene				7.233	mg/kg		4.357	mg/kg	0.000436 %	✓	
		601-041-00-2	200-181-8	53-70-3									
29	●	benzo[ghi]perylene				32.333	mg/kg		19.478	mg/kg	0.00195 %	✓	
			205-883-8	191-24-2									
30	●	TPH (C6 to C40) petroleum group				1566.667	mg/kg		943.775	mg/kg	0.0944 %	✓	
				TPH									
31	●	confirm TPH has NOT arisen from diesel or petrol				☑							
										Total:	0.168 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No liquid sample.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0944%)

Appendix A: Classifier defined and non CLP determinands

pH (CAS Number: PH)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix B: Rationale for selection of metal species

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)

arsenic {arsenic trioxide}

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

cadmium {cadmium oxide}

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

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

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

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

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

copper {dicopper oxide; copper (I) oxide}

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

lead {lead chromate}

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

mercury {mercury dichloride}

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

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)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018
HazWasteOnline Classification Engine Version: 2020.346.4563.8832 (11 Dec 2020)
HazWasteOnline Database: 2020.346.4563.8832 (11 Dec 2020)

This classification utilises the following guidance and legislation:
WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019