

JP Chick & Partners Ltd
Consulting Civil & Structural Engineers



**Flax Farm Barn
Stansfield Road
Poslingford
Sudbury
Suffolk, CO10 8RD**

PHASE II CONTAMINATED LAND ASSESSMENT



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ISSUE & REVISIONS RECORD

Document No:	Issue Date:	Issue Note:			Format Issued			
					Email	Disk	Digital upload	Post
IE20/040/PII/HP	29/04/2020	Issued to Ian Burnett			✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Document Revision No:	Issue Date:	Document Revision Comments	Revised by (INT):	Reviewed By (INT):				
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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1.0 EXECUTIVE SUMMARY

Site Name & Address:	Flax Farm Barn, Stansfield Road, Poslingford, Sudbury, CO10 8RD
Client:	Mr I Burnett
Local Planning Authority	West Suffolk Council (Formerly St. Edmundsbury Borough Council)
Historical Site Use:	Farm Buildings
Present Site Use:	Redundant Farm Buildings
Proposed Site Use:	Part Demolition, Part Conversion to form a residential dwelling
Date of most recent investigation:	3 rd April 2020
Objectives:	
<p>To explore and evaluate the existence and potential impact of plausible pollutant linkages identified by the previous desk study</p> <p>To obtain and analyse soil samples to further inform the human health risk assessment</p> <p>If appropriate, make recommendations on the extent of further intrusive investigations, which may be required to fully establish the condition of the site.</p>	
<u>Phase I</u>	
<p>The Phase 1 desk study established that the site had been in agricultural use since 1888, with structures present on-site from 1905 to the present day.</p> <p>Potential on-site sources of contamination included: made ground, storage of agricultural materials, stockpiled construction material, crushed stone sub-base, historical storage of hydrocarbons and potential asbestos containing materials (ACM's) within the shed.</p> <p>The historical review of the surrounding area identified 1 No. potentially infilled pond within 250m of the site, which was infilled sometime prior to 1958. Due to the time for the degradation of organic materials to have occurred and significant gas production to have ceased, this was considered to represent a Negligible to Low risk to the site.</p>	
<u>Site Investigation</u>	
<p>A total of 10No. trial pits were undertaken, mainly targeting future garden areas and areas of potential contamination. Most of the trial pits were excavated through concrete hardstanding (7 No.), while the remaining 3 No. established in open ground.</p> <p>The material under the concrete hardstanding comprised a concrete slab over crush rock sub-base, while in the trial pits in open ground an initial layer of topsoil was present, generally comprising of a brown silty slightly clayey topsoil.</p> <p>A combination of anthropogenic inclusions of brick, concrete, pottery, glass and tile were identified in most locations. The natural underlying geology was encountered in all trial pits, and generally comprised soft light brown Clay.</p> <p>Chemical analysis of the shallow on-site soils identified Lead above the 'Residential with home grown produce' screening criteria (SC) in 3 No. sample locations, and Arsenic above the SC in 1No. location.</p> <p>TPH concentrations were above the SC in 1No. location, and PAH concentrations were above the SC in 2No. locations. Chrysotile asbestos fibres were detected within the shallow soils in 2No. locations, at concentrations ranging between <0.001% - 0.002%.</p> <p>Fragments of asbestos cement sheet containing Chrysotile & Crocidolite were found on the surface across the site.</p>	



<p>None of the deeper soil samples exceeded the screening criteria for any of the tested for contaminants.</p>
<p>Risk Assessment:</p> <p>The sensitivity of the current land use will increase once the use changes to residential with garden. The risk to future site users, from exposure from exposure to on-site soils, is considered to be 'Moderate' to 'High', particularly for young children.</p> <p>Based on a maximum TPH concentration of 580mg/kg detected only within the shallow soils, and significant reduction with depth, we consider the risk from petroleum hydrocarbons to controlled waters to be Low. Although lead concentrations reduce significantly by 0.4m bgl, the peak concentration (18,000 mg/kg) detected at TP103, represents a 'Low-Moderate' risk to groundwater. This source of contamination will need to be remediated to remove any potential future risk to groundwater.</p> <p>During our Phase II intrusive investigation, no significant depth of made ground or quantities of organic material were identified within any of the trial pits. Made ground was identified to a maximum depth of 0.45m bgl, with the underlying natural geology proven within all the trial pit locations. As a result, the potential risk from ground gas migrating to and accumulating beneath the converted barn is 'Low'.</p> <p>Asbestos containing materials were identified on the surface of the site, in the form of fragments of cement sheet and within soil samples as fibres/ fibrous debris within 2No. of the tested samples. These represents a Moderate risk to future site users and construction workers.</p>
<p>Recommendations:</p> <p>As a result of our Phase II investigation, JPC Environmental Services would advise the following:</p> <p>A Remediation Strategy is likely to be required to address the risk posed from lead, TPHs, PAHs and asbestos within the soils. To facilitate the development of a sustainable and cost-effective strategy, we would recommend some further trial pitting, targeting areas of already identified sources, and particularly beneath areas of hard standing.</p> <p>The Remediation Strategy will most likely be centred around a combination of excavation, source removal/ and or screening of contaminated soils. Future garden and landscaped areas may require a 600mm thick cover system to be applied. Where buildings, hardstanding, driveways or parking are proposed the depth of excavation and soil removal could be limited to the depth of construction.</p> <p>Due to the presence of asbestos cement fragments (chrysotile & crocidolite) on the site surface, we would recommend a thorough hand pick of the site prior to any site works commencing. All asbestos fragments will need to be put into asbestos UN approved bags and double bagged with a clear outer. These will need to be disposed of at a suitably permitted waste site, with copies of all waste tickets retained to prove removal from site.</p> <p>Any imported topsoil to site, this will need to comply with BS3882:2015 and sourced from a reputable supplier. The soil should be accompanied by laboratory test results to confirm its condition and suitability for use on site.</p> <p>Based on the waste classification undertaken as part of the assessment, some surplus soils may be classified as 'Non-Hazardous' waste. However, soils from areas surrounding TP102 & TP103, are likely to be classified as 'Hazardous Waste'.</p> <p>We would recommend that a copy of this report be submitted to West Suffolk Council and Anglian Water.</p>



2.0 INTRODUCTION

2.01 Brief

2.01.1 JPC Environmental Services were appointed by our client Mr Ian Burnett to undertake a Phase II Contaminated Land Investigation for land at Flax Farm Barn, Stansfield Road, Poslingford, Sudbury, CO10 8RD (hereafter referred to as 'the site').

2.01.2 The investigation was broadly carried out in accordance with Contaminated Land Report 11 (CLR 11) and BS5930:2015 The Code of Practice for Ground Investigations. In producing this report, we have exercised all the reasonable skill, care and diligence to be expected of an appropriately qualified and competent consultant, experienced in carrying out equivalent services for similar developments.

2.01.3 Authority to carry out this work was received from Mr Ian Burnett, via email on 17 March 2020, for whom this report shall be for the private and confidential use of. It should not be reproduced in whole or in part or relied upon by a third party for any use without the express written authority of JPC Environmental Services.

2.01.4 In producing this report, we have exercised all the reasonable skill, care and diligence to be expected of an appropriately qualified and competent consultant, experienced in carrying out equivalent services for developments of a similar size, scope and complexity, value and purpose to the development.

2.02 Scope

2.02.1 The main objectives of the investigation were as follows: -

- To establish the depth & composition of any made ground present on site
- To collect samples of the underlying soils for chemical testing
- To utilise the resulting information to undertake a human and environmental risk assessment
- If appropriate, make recommendations on the extent of further intrusive investigations, which may be required to fully establish the condition of the site

2.02.2 The on-site intrusive ground investigation comprised the following: -

- The excavation of 10 No. trial pits extending to a maximum depth of 1.2m below ground level
- The collection of near surface and sub-surface soil samples for off-site chemical testing
- The recording of on-site geology.



2.03 Site Location

2.03.1 The full postal address of the site is:

Flax Farm Barn, Stansfield Road, Poslingford, Sudbury, CO10 8RD.

2.03.2 Map coordinates: Easting: 577470 Northing: 249410

2.03.3 A detailed map of the location is presented within the appendices.

2.04 Development Proposal

2.04.1 We understand that the intention is to demolish a series of outbuildings at the site and convert the main structure to form a new residential dwelling. The access will remain as existing.

2.04.2 At the time of writing this report the proposed layout has not been finalised, however the extract below from the architect's Block Plan drawing, shows the extent of the new property's curtilage. A full scale version of this drawing is presented within the appendices.



Figure 1 - Proposed Block Plan



3.0 PREVIOUS PHASE I ASSESSMENT

3.01 General

3.01.1 The site has been the subject of a Phase I desk study and walkover survey, undertaken by the Bright Green Environmental Consultancy Ltd (BGECLtd) to “evaluate the property’s suitability for a residential scheme”.

3.01.2 The report concluded that “harm could arise to future receptors from hazards and/or contaminants identified onsite, however ... if any harm were to occur it is likely that that the harm would be mild”. BGECLtd also noted within their report that “it is possible that land contamination issues will arise as a cost/liability for the land owner and some remedial works will be required in the long term to support safe and suitable development”.

3.02 Site History

3.02.1 As part of the Phase I report, BGECLtd undertook a historical review of the site, which revealed that the site has primarily been in agricultural use from the first available mapping in 1888 when Flax Farm is noted on the maps and the site appears to be agricultural fields.

3.02.2 By 1905 there appears to be a small structure at the junction of the access road and the highway with a further structure located on the northern boundary of the site by 1958. These appear to have been demolished by 1968 when a further small structure appears onsite. By 1984 the current onsite structures are present with no evident changes until the present day.

3.02.3 The walkover survey by BGECLtd identified potential on site sources of contamination include, typical contaminants which could arise from demolition/construction activities, hydrocarbon storage and/or agricultural activities. It was also noted that the fabric of the building(s) was likely to contain asbestos containing materials.

3.02.4 The historical review of the surrounding area (within 250m of the site) has shown that nearby activities are predominantly agricultural and residential in nature, although 1 No. potentially infilled pond was were identified within the south-west corner of Flax Farm. BGECLtd concluded that as the pond was infilled sometime prior to 1958, considerable time had passed, allowing for the degradation of organic materials to have occurred and gas production to have long since ceased. BGECLtd also noted the presence of an unspecified tank to the rear of the dwelling at Flax Farm however given its position the risk to the site was considered negligible.



3.03 Phase I Recommendations

3.03.1 Based on the findings of the Phase I report, BGEC Ltd recommended that a demolition asbestos survey should be completed and prior to construction, and an intrusive investigation (Phase II site investigation) should be carried out in order to provide site specific data on the nature of the near surface soil and the ground gas regime beneath the refine to permit the conceptual site model and risk assessment to be refined.

3.04 Geology, Hydrogeology and Hydrology

3.04.1 The 1:50,000 scale British Geological Survey (BGS) online referencing indicates that the site was likely to be underlain by superficial deposits comprising Lowestoft Formation (generally cohesive with variable sand and gravel) with Head (clay, silt, sand and gravel) to the west of the site. The bedrock deposits were recorded as Chalk of various formations which included Lewes Nodular, Seaford, Newhaven and Culver.

3.04.2 In relation to the overall hydrogeology, the superficial Lowestoft formation and Head deposits are classified as secondary aquifers, while the Chalk bedrock is classified as a principal aquifer. There are no identified points of groundwater or surface water abstraction within 2.0km of the site, while the site itself lies within Source Protection Zone 3 (Total Catchment). The site is recorded as being at risk from groundwater flooding.

3.04.3 Most of the site is currently laid to impermeable surfacing. The exception is the south eastern portion of the site (approximately a third of the total site area), which until recently has been part of a larger arable field. Historical activities on and surrounding the site may have resulted in a degree of made ground, which could affect the overall hydrology at the site.

3.04.4 A small watercourse runs parallel to the adjacent highway and there are a number of small isolated surface water features which are not identified on the OS mapping.



4.0 INTRUSIVE INVESTIGATION

4.01 Objectives

4.01.1 The objectives of the intrusive investigation were as follows:

To prove the extent of any Made Ground and the nature of the underlying geology

To obtain samples of the underlying soils for chemical testing

The above will enable a more accurate assessment of any potential risk to the receptors identified in the Phase I.

4.02 Site Works

4.02.1 The intrusive investigation, comprising 10 No. machine excavated trial pits, was conducted by JPC Environmental Services on Friday 3rd April 2020. A series of photographs documenting the extent of the investigations and on-site conditions, are presented in the appendices.

4.02.2 Stockpiled building materials are present off site adjacent to the East boundary, therefore have not been included within sampling, however trial pits have targeted the East boundary of the site. We understand that these stockpiles are to be removed by the adjacent site owner, to prevent any future possibility of them affecting the site.

4.02.3 The trial pits, which ranged in depth from 0.6m to 1.2m below ground level (bgl), were designed to explore the sub-base of the concrete hard standing, future garden areas and potential sources of contamination. The trial pit locations are shown in figure 2 overleaf and within the appendices, alongside their associated logs.

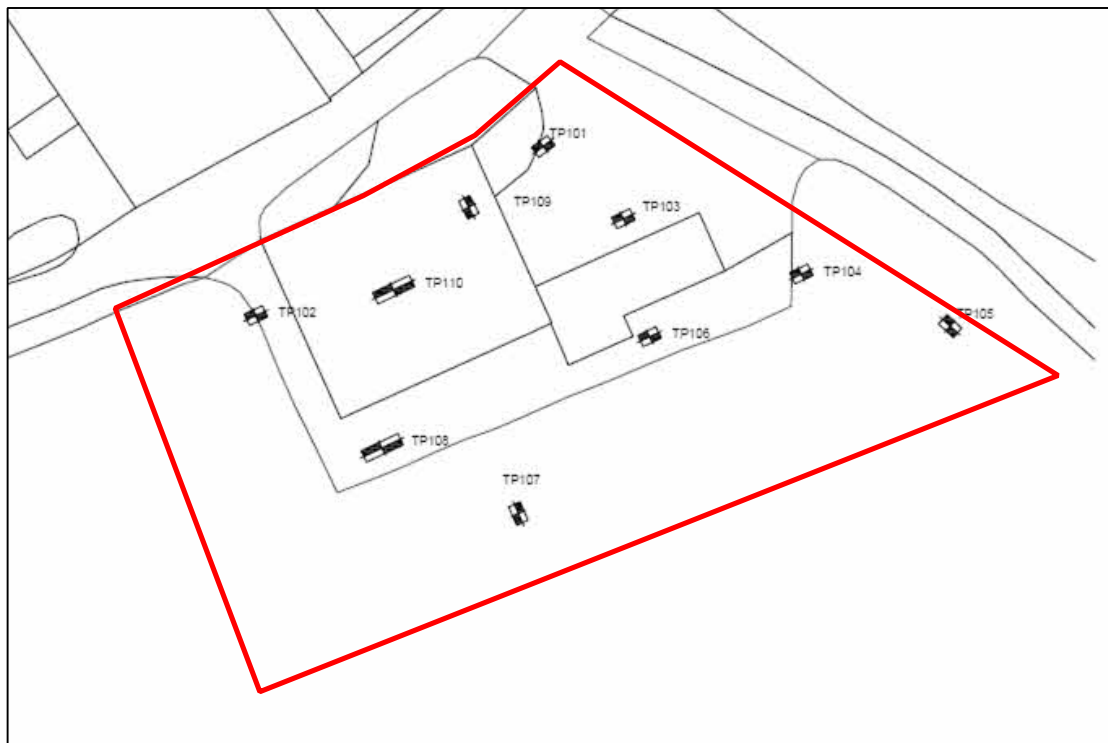


Figure 2. Extract from Trial Pit Location Plan

4.02.4 Disturbed samples of surface and sub-surface soils were collected from selected depths, based on the visible presence of made ground and potential for contamination. Selected samples were then scheduled for a range of chemical analyses based on the potential contaminants of concern (CoCs) identified by the previous report.

4.03 Ground Conditions

4.03.1 The majority of the trial pits, TP101, 102, 103, 106, 108, 109 & 110, were located in areas covered by a concrete slab. The slab was approximately 150mm thick with a thin layer of crushed rock sub-base was present beneath the slab.

4.03.2 The remainder of the trial pits TP104, 105 and 107 were located in areas of open ground where the conditions comprised soft silty Clay topsoil/Made Ground to a depth of approximately 0.45m bgl. A combination of anthropogenic inclusions of brick, concrete, glass, tile and fragments of partially burnt/partially decomposed wood were identified within the Made Ground. Groundwater was encountered consistently from 1.0m bgl across the site.

4.03.3 No suspect asbestos fragments were encountered within the made ground however there were a large number of suspect asbestos fragments spread over the concrete slab immediately to the south of the main structure.



4.03.4 The natural undisturbed ground beneath, which was encountered within all of the trial pits, comprised firm Clay of varying colours, orange yellow, grey, black and light brown with rare chalk gravels which extended beyond the base of the trial pits, 1.1m bgl.

4.04 Chemical Testing

4.04.1 A total of 20No. soil samples were collected from the 10No. trial pits, 10No. of which (a combination of shallow and deeper samples) were initially submitted for chemical testing, with another 6No. deeper samples submitted once the initial results had been received. 2No. suspect fragments of asbestos containing material (ACM) were also retrieved and submitted for Asbestos Identification (ID).

4.04.2 Samples were submitted to I2 Analytical, an MCerts & UKAS accredited contaminated land laboratory. All samples were transported from site to our Ipswich office in a cool box and collected the next day by the laboratory courier.

4.04.3 The 10No. initial soil samples were tested for the following contaminants:

General Inorganics	10
Total Phenols	10
Speciated PAHs	10
CLEA metals	10
TPH (3 band)	10
Asbestos ID	10

4.04.4 The 6No. deeper soil samples were tested for a combination of the following contaminants, with some samples being tested for more than one determinant due to the initial findings.

PAH's	2
Lead	3
Arsenic	1
Asbestos ID	2
Asbestos Quantification	2

4.04.5 2No. suspect fragments of asbestos were tested as follows:

Asbestos ID	2
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4.04.6 A full copy of the laboratory test report is presented within the appendices.



5.0 RESULTS OF INTRUSIVE INVESTIGATION

5.01 General

5.01.1 The 20No. soil samples collected as part of the intrusive element of this investigation were retrieved from depths ranging between 0.0 – 0.8m bgl, based on the likelihood of exposure and evidence of suspected contamination.

5.01.2 Near-surface samples were collected from 0.0 – 0.3m bgl, as this represents the zone most likely to be disturbed by any future human activity. All the near surface soil samples were submitted for analysis.

5.01.3 Deeper soil samples also were taken in all locations, with a selection submitted for testing. Deeper samples were also submitted for testing where near surface samples were found to exceed the selected screening criteria, to determine the vertical extent of any contamination. The deepest soil sample was retrieved from TP110 at 0.9 – 1.0m bgl.

5.02 Chemical Testing – Soil

5.02.1 To determine the condition or severity of any contamination, environmental consultants and regulators, such as the Environment Agency and local authorities use a range of screening criteria developed by Defra & the Environment Agency in 2009 ('Soil Guidance Values' SGV2), and Generic Assessment Criteria produced by the Chartered Institute of Environmental Health (CIEH) / Land Quality Management (LQM).

5.02.2 A series of Category 4 Screening Levels (C4SLs) were published by Defra (March 2014) for use in determining when land is not considered to be contaminated. These values have also been approved by many planning authorities, as a means for deciding when land is 'suitable for use'. The C4SLs were proposed to be more pragmatic, whilst still strongly precautionary, compared to existing generic screening levels. Where a C4SL exists, this has been utilised instead of the previous screening value.

5.02.3 In addition to the above the Chartered Institute of Environmental Health (CIEH) and Land Quality Management Ltd (LQM) have together published S4UL's were published in 2015. S4ULs are based on the principles of 'minimal' or 'tolerable' risk and are therefore sufficiently conservative for this type of generic quantitative risk assessment under the planning regime, which need only demonstrate that new development is 'safe' and 'suitable for use'.



5.02.4 While not published by the Environment Agency, the C4SL's and S4UL's are largely accepted by the various regulators as a suitable means of determining the risk to human health. This screening assessment will therefore utilise the most recent Defra C4SL's and LQM/CIEH S4UL's to evaluate the potential risk to human health.

5.02.5 As the potential 'availability' of contaminants can be affected by the proportion of organic matter in the soil (SOM), the C4SLs are calculated based on a SOM of 6%, whereas S4UL's are calculated on a SOM of 1%, 2.5% and 6%. For the purposes of this initial 'screen' the C4SL's will use the 6% values. Where on-site contaminant concentrations are close to or exceed these values, these will be interrogated further.

5.02.6 Where an LQM/ CIEH S4UL has been utilised, this has been selected by considering the SOM of all the soil samples tested. In this instance the laboratory test report indicates the organic matter content ranges between 0.7 – 5.8%, with an average SOM of 3.36%. Therefore, a SOM of 2.5% was used as this was more representative of the organic content.

5.02.7 The soil-based screening criteria (SC) utilised for this assessment, have been selected based on a 'Residential with home grown produce' land use. The adopted values are detailed in Table 1 below and overleaf:

Contaminant of Concern	Risk Assessment Screening Value	Source of Screening Value
	Residential (with home grown produce)	
Toxic & Phytotoxic metals (mg/kg)		
Arsenic	37	Defra C4SL (March 2014)
Cadmium	11	LQM/CIEH S4UL's (Nov 2014)
Chromium Hexavalent	6	LQM/CIEH S4UL's (Nov 2014)
Chromium (III)	910	LQM/CIEH S4UL's (Nov 2014)
Copper	2,400	LQM/CIEH S4UL's (Nov 2014)
Mercury	1.2	LQM/CIEH S4UL's (Nov 2014)
Nickel	180	LQM/CIEH S4UL's (Nov 2014)
Lead	200	Defra C4SL (March 2014)
Selenium	250	LQM/CIEH S4UL's (Nov 2014)
Zinc	3,700	LQM/CIEH S4UL's (Nov 2014)
Organic contaminants		
Benzo[a]pyrene	2.7	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)



Dibenz[a,h]anthracene	0.28	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Fluorene	400	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Naphthalene	5.6	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Acenaphthene	510	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Acenaphthylene	420	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Phenanthrene	220	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Anthracene	5,400	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Fluoranthene	560	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Pyrene	1,200	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Benz[a]anthracene	11	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Chrysene	22	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Benzo[b]fluoranthene	3.3	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Benzo[k]fluoranthene	93	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Indeno[123-cd]pyrene	36	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Benzo[g,h,i]perylene	340	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
TPH Combined EC8-10	65	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
EC10-21	180	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
EC21-40	1,500	LQM/CIEH S4UL's (Nov 2014) (2.5% SOM)
Asbestos		
Asbestos	Positive ID	CIRIA C733

Table 1 – Screening Criteria (Soils)

5.02.8 The table below provides a summary of the laboratory test results, associated with the on-site soils.

Contaminant	No. of samples tested	Range of concentrations (mg/kg)	Screening Criteria Residential with home grown produce	No. of samples exceeding screening criteria
Arsenic	14	12- 40	37	1 TP109- A (0.0-0.3m)
Cadmium	10	<0.2 – 0.7	11	0
Chromium Hexavalent	10	<4.0	6	0
Chromium (III)	10	22 - 34	910	0
Copper	10	13 - 120	2400	0



Mercury	10	<0.3 – 0.7	1.2	0
Nickel	10	15 - 61	180	0
Lead	14	21 – 18,000	200	3 TP102-A (0.0-0.3m) TP103-A (0.0-0.3m) TP108-A (0.0-0.3m)
Selenium	10	<1.0	250	0
Zinc	10	85 -580	3700	0
Benzo[a]pyrene	12	<0.05 – 5.1	2.7	1 TP104- A (0.0-0.3m)
Dibenz[a,h]anthracene	12	<0.05 – 0.57	0.28	2 TP104- A (0.0-0.3m) TP110- A (0.0-0.3m)
Fluorene	10	<0.05	400	0
Naphthalene	10	<0.05	5.6	0
Acenaphthene	10	<0.05	510	0
Acenaphthylene	10	<0.05	420	0
Phenanthrene	10	<0.05 – 2.2	220	0
Anthracene	10	<0.05 – 0.56	5400	0
Fluoranthene	10	<0.05 – 7.8	560	0
Pyrene	10	<0.05 – 7.2	1200	0
Benzo[a]anthracene	10	<0.05 – 5.2	11	0
Chrysene	10	<0.05 – 4.5	22	0
Benzo[b]fluoranthene	12	<0.05 – 5.1	3.3	1 TP104- A (0.0-0.3m)
Benzo[k]fluoranthene	10	<0.05 – 3.9	93	0
Indeno[123-cd]pyrene	10	<0.05 – 2.4	36	0
Benzo[g,h,i]perylene	10	<0.05 – 2.9	340	0
TPH Combined EC8-10	10	<0.1	65	0
EC10-21	10	<10 - 430	180	1 TP106- A (0.0-0.3m)
EC21-40	10	<10 - 150	1500	0
Asbestos	12	Chrysotile loose fibrous debris @0.002% Loose fibres @ <0.001% 2No. Fragments	Positive ID	2 TP108-A (0.0-0.3m) TP110- A (0.0-0.3m) plus 2No. Fragments – Chrysotile/ Crocidolite Hard/Cement

Table 2 – Results of Chemical Testing (Soils)



Metals / Metalloids

- 5.02.9 The concentrations of arsenic and lead were found to be above the 'Residential with home grown produce' screening criteria (SC) selected for this assessment.
- 5.02.10 Arsenic was only marginally above the SC at only one location, TP109 (0.0-0.3m), and the deeper soil sample (from 0.4m bgl) showed that the concentration of arsenic had reduced to 12mg/kg, meeting the SC.
- 5.02.11 Lead was above the screening criteria in 3 No. of the shallow soil samples retrieved from across the site at depths of 0.0 - 0.3m bgl. The highest Lead concentration (18,000mg/kg) was detected at TP103 within the shallow soils collected from within the 'yard', outside the main access to the barn. Again, the elevated concentrations were localised to the shallow soils, with the concentration of Lead had declining to 140mg/kg by 0.4m bgl.
- 5.02.12 At TP102 (0.0-0.3m), the collected soil contained a Lead concentration of 1,100mg/kg and at TP108 (0.0-0.3m), a concentration of 600mg/kg was reported. As with TP103, the lead content of the deeper soils at both locations (0.4m bgl) were below the SC.
- 5.02.13 This shows that the metal contamination is generally limited to the top 0.4m of made ground, and does not extend into the natural underlying sub-soils.

Polycyclic Aromatic Hydrocarbons (PAHs)

- 5.02.14 The background concentration of total PAH's within surface soils were recorded at levels between <0.80 mg/kg and 47.3 mg/kg.
- 5.02.15 While no screening criteria exists for total PAH's, LQM / CIEH have derived generic assessment criteria for the top 16 PAH compounds, recognised by the Environment Agency as potential human carcinogens.
- 5.02.16 The concentration of Benzo(a)pyrene, Dibenz(a,h)anthracene and Benzo[b]fluoranthene at TP104 (0.0-0.3m bgl) were above their respective screening criteria. Although the deeper soil sample at TP104 showed that concentrations had reduced to below the laboratory's limit of detection by 0.4m bgl.
- 5.02.17 Concentrations of Dibenz(a,h)anthracene, at TP110 (0.0-0.3m), were also above the SC however by 0.4m bgl the concentration was below the laboratory's limit of detection.



Total Petroleum Hydrocarbons (TPHs)

5.02.18 10No. samples were submitted for a ‘3-band’ TPH suite, which divides TPH concentrations into the gasoline range (C8 – C10), diesel range (C10 – C21) and the mineral range (C21 – C40). While this is less detailed than the full TPHCWG suite it allows us to undertake a conservative assessment of risk on those sites where TPH contamination is not considered to pose a significant risk, and where no olfactory evidence of hydrocarbon contamination is detected on-site.

5.02.19 Most of the TPH concentrations were below their respective screening criteria, with the exception of 1 No. sample at TP106 (0.0-0.3m bgl), where a concentration of 430mg/kg was detected in the diesel range (C10-21) at the base of the former tank area. Within the deeper sample, collected at 0.4m bgl, the concentration of diesel range (C10-21) had reduced to 86mg/kg, below the SC.

5.02.20 With reference to Anglian Water’s information for developers on pipe selection in contaminated land, 8No. of the tested samples were found to be above TPH C11-C20 limits, required for standard polyethylene (PE) pipe. As a result, standard PE pipe is not likely to be suitable for any new potable water connection to the site, and therefore PVC or Barrier Pipe may be required. See pipe selection table below.

Parameter group		Pipe material					
		All threshold concentrations are in mg/kg					
		PE	PVC	Barrier pipe (PE-Al-PE)	Wrapped Steel	Wrapped Ductile Iron	Copper
1	Extended VOC suite by purge and trap or head space and GC-MS with TIC	0.5	0.125	Pass	Pass	Pass	Pass
1a	+ BTEX + MTBE	0.1	0.03	Pass	Pass	Pass	Pass
2	SVOCs TIC by purge and trap or head space and GC-MS with TIC (aliphatic and aromatic C5-C10)	2	1.4	Pass	Pass	Pass	Pass
2e	+ Phenols	2	0.4	Pass	Pass	Pass	Pass
2f	+ Cresols and chlorinated phenols	2	0.04	Pass	Pass	Pass	Pass
3	Mineral oil C11-C20	10	Pass	Pass	Pass	Pass	Pass
4	Mineral oil C21-C40	500	Pass	Pass	Pass	Pass	Pass

Figure 3 – Extract from Anglian Waters Information for Developers

Asbestos Screen

5.02.21 10No. soil samples were initially screened for the presence of asbestos, to determine the existence of fibres in the on-site soil.

5.02.22 2No. of the 10No. soil samples were found to contain asbestos fibres (Chrysotile – Loose Fibres & Debris), both ‘soil’ samples were collected from beneath the existing concrete slab which forms the foundation of the barn and concrete apron around the building (TP108 & TP110). To enable the risk to human health to be assessed, the two soil samples were submitted for



asbestos quantification. The laboratory reported chrysotile loose fibrous debris at a concentration of 0.002% in the soil from TP108, and loose fibres at a concentration of <0.001% in the soil from TP110.

5.02.23 As a result, the deeper soil samples (0.4-0.6m bgl) from each location were submitted for asbestos identification. The results showed no asbestos was detected within either sample.

5.02.24 In addition to the soil samples submitted for asbestos ID, 2No. fragments of suspected asbestos cement were retrieved for material testing. These were collected from the surface of the concrete apron. The laboratory found one fragment to contain Chrysotile asbestos in Hard/Cement type matrix. The other fragment contained a mixture of Chrysotile and Crocidolite in the same Hard/Cement matrix.

5.02.25 Abundant fragments of similar material were identified on the surface of the site, including across areas of concrete hard standings and bare made ground.

5.03 Developed Conceptual Site Model

5.03.1 Based on the information obtained and reviewed as part of this assessment, we have been able to refine the conceptual site model set out in the Phase I report. This is shown in the table below.

Possible Pollutant Linkage			RISK CHARACTERISATION
Potential Sources	Pathways	Receptors	
Chrysotile fibres within near surface soils (0.0-0.3m) TP108 (0.002%) & TP110 (<0.001%) (beneath slab)	Inhalation	Future Site Users	Low/ Moderate
		Construction Workers	Moderate
Chrysotile & Crocidolite Cement Fragments on surface of whole site	Further physical damage during construction (release of fibres) Inhalation	Future Site Users Construction Workers	Moderate
Arsenic above SC (TP109-A 0.0-0.3m)	Inhalation / ingestion / dermal absorption	Future Site Users Construction Workers	Moderate- High (Children)
Lead above SC (TP102A, 103A & 108A 0.0-0.3m)	Leaching of contaminants into soil	On Site Soils Buried Services Controlled Waters	Low- Moderate
TPH EC10-21 above SC (TP106A 0.0-0.3m)	Leaching of contaminants into soil	On Site Soils Buried Services Controlled Waters	Low/ Moderate



	Inhalation / ingestion	Future Site Users/ Construction Workers	Low/ Moderate
TP104A & 110A Benzo(a)pyrene Dibenz(a,h)anthracene Benzo(b)fluoranthene above SC at 0.0-0.3m bgl	Inhalation / ingestion / dermal absorption	Future Site Users/ Construction Workers	
	Leaching of contaminants into soil	On Site Soils Buried Services	

Table 3 – Developed Conceptual Site Model

5.04.2 The level of potential risk ascribed to each linkage is based on the following criteria:

Risk Classification	Description
Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without appropriate remedial action.
High risk	Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remedial action.
Moderate risk	It is possible that without appropriate remedial action harm could arise to a designated receptor but it is relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely that such harm would be relatively mild.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard but is likely that, at worst, this harm if realised would normally be mild.
Negligible risk	The presence of an identified hazard does not give rise to the potential to cause significant harm to a designated receptor.

Table 4 - Risk Classification



6.0 ENVIRONMENTAL ASSESSMENT

6.01 Summary of Site Conditions

6.01.1 The site is predominantly laid to concrete hardstanding, forming the floor slab of the existing structures, concrete apron around the buildings and an access road/yard area. The remainder of the site is laid to bare earth. A stockpile of construction materials was noted off the eastern boundary of the site and a tank base lies immediately south of the main structure.

6.01.2 The soils excavated during our investigation showed that there was evidence of anthropogenic material including brick, rubble, crushed rock, concrete, glass and tile within disturbed soils in most locations. Evidence of bonfire and fragments of burnt wood were observed at TP102.

6.01.3 Asbestos fibres were identified within the shallow soils beneath the concrete slab in TP108 & TP110 and an abundance of asbestos cement fragments were identified on the concrete apron around the site.

6.01.4 Chemical analysis of the relatively shallow deposits of made ground has identified Lead at concentrations above the 'Residential with home grown produce' screening criteria (SC) in 3 No. locations, but subsequent testing of deeper soils found that this did not extend beyond 0.4m. Arsenic was marginally above the SC in 1 No. location, but again did not continue beyond 0.4m bgl.

6.01.5 In addition to the elevated metal concentrations, PAH compounds Benzo(a)pyrene, Dibenz(a,h)anthracene and Benzo[b]fluoranthene were present above their respective SC within shallow soils at TP104 & TP110. Some localised, low level petroleum hydrocarbon contamination was identified at TP106.

6.02 Environmental Risk Assessment

Human Health

6.02.1 Under the client's proposal, some of the existing agricultural buildings are to be demolished with the larger structure converted to form a single residential dwelling, with a garden land. The creation of a residential dwelling with garden, will increase the sensitivity of the current land use, as there will be increased opportunities for exposure and the potential for the cultivation and consumption of home-grown produce.



- 6.02.2 The identified contaminants found in various locations across the site represent a risk to future occupants of the new dwelling. As a result, some form of remediation will be required to make the site safe for residential use.
- 6.02.3 The presence of fragmented asbestos cement on the concrete apron and intact within the fabric of the redundant farm buildings represents a risk to both construction workers and on-site soils, unless carefully removed by a qualified and competent contractor.
- 6.02.4 Based on the soil test results we consider that the risk to future occupants is 'Moderate' - 'High' (Children).

Controlled Waters

- 6.02.5 The bedrock geology is classified as a Principal Aquifer and the site lies within Source Catchment Zone III (Total Catchment). The underlying natural deposits encountered on the site, generally comprised topsoil over soft light brown Clay, indicative of the Lowestoft Formation in this area.
- 6.02.6 Based on a maximum TPH concentration of 580mg/kg detected, we consider the risk to controlled waters posed by petroleum hydrocarbons is Low. However, the concentration of Lead within shallow on-site soils (18,000 mg/kg) could represent an increased risk to groundwater once the degree of impermeable hard standing is reduced. The metals concentration represents a 'Low-Moderate' risk to groundwater. Some form of remediation will be required to reduce / eliminate the potential future risk to groundwater.

Buildings

- 6.02.7 No significant potential sources of ground gas were identified during the Phase I desk study. It was considered that the risk was likely to be Low - Negligible.
- 6.02.8 During our Phase II intrusive investigation, no significant deposits of made ground or quantities of buried organic material or wood were encountered within any of the trial pits. The maximum depth of made ground was 0.45m bgl, with the underlying natural geology proved within all exploratory holes.
- 6.02.9 The potential risk from ground gas migrating towards and accumulating beneath, any new or converted structure, is considered Low.



6.03 Waste Classification

6.03.1 We have undertaken an assessment of the laboratory results to determine a likely waste classification for any soils requiring excavation and disposal from the site. The assessment has been undertaken in line with the Environment Agency's Guidance on the 'Classification and Assessment of Waste (Version 1.1) Technical Guidance WM3' (EA, 2018).

6.03.2 The waste classification has been undertaken by running the laboratory test results through 'HazWasteOnline' to produce a waste classification report.

6.03.3 The assessment was undertaken on 16No. laboratory results, where a full set of typical contaminants had been tested for. The sample depths ranged from 0.0m bgl to 0.6m bgl.

6.03.4 Based on the soil laboratory test results, most of the made ground would be classified as 'Non Hazardous' if it was removed from site, requiring a list of waste code of 17.05.04 (soil and stones other than those mentioned in 17.05.03*). As the organic matter content was approximately 3.5% and due to a mixture of anthropogenic inclusions such as brick and concrete in many of the locations, we consider it unlikely that any soils would be considered 'Inert'.

6.03.5 Where natural sub-soils are excavated, and the organic matter is <3.0%, this material MAY be classified as Inert, subject to additional testing.

TP102 & TP103 - Hazardous Waste

6.03.6 At TP102 & TP103, which were undertaken to the west of the main structure and within the front yard respectively, the concentration of lead within these samples would result in soils being classified as 'Hazardous' waste. A list of waste code of 17.09.03* 'Other construction and demolition waste (including mixed wastes) containing hazardous substances' would need to be used on all consignment notes for removal of the material from site.

6.03.7 The above waste classification is only indicative of the soil samples taken to date and it is possible that haulage contractors or landfill facilities may request a Waste Acceptance Criteria (WAC) test before removing any waste soil from the site, particularly when disposing of clean sub-soils as 'Inert'. The soil test results attached to this report should be provided to the waste disposal contractor to ensure the waste is disposed of at a suitably permitted site, which is licensed to accept the waste.



6.03.8 An extract from the 'HazWasteOnline' software showing the waste classification of each soil sample is presented below. A full copy of the waste classification report is presented within the appendices.

#	Sample Name	Depth [m]	Classification Result	Hazard properties
1	TP101A	0.00-0.30	Non Hazardous	
2	TP102A	0.00-0.30	Hazardous	HP 7
3	TP103A	0.00-0.30	Hazardous	HP 7, HP 10, HP 14
4	TP104A	0.00-0.30	Non Hazardous	
5	TP105A	0.00-0.30	Non Hazardous	
6	TP106A	0.00-0.30	Non Hazardous	
7	TP106B	0.40-0.60	Non Hazardous	
8	TP108A	0.00-0.30	Non Hazardous	
9	TP109A	0.00-0.30	Non Hazardous	
10	TP110A	0.00-0.30	Non Hazardous	
11	TP102B	0.40-0.60	Non Hazardous	
12	TP103B	0.40-0.60	Non Hazardous	
13	TP104B	0.40-0.60	Non Hazardous	
14	TP108B	0.40-0.60	Non Hazardous	
15	TP109B	0.40-0.60	Non Hazardous	
16	TP110B	0.40-0.60	Non Hazardous	

Figure 4 - Extract from HazWasteOnline

6.04 Liaison with Regulators

6.04.1 As part of any future planning application it may be necessary to submit a copy of this Phase II report to the Council for their consideration and comments. Based on our findings and the nature of the proposed end-use, we consider it likely that the local planning authority will apply a planning condition requiring the submission of a Remediation Strategy.

6.05 Liaison with Water Supply Company

6.05.1 When arranging for a new potable water connection, Anglian Water may require a copy of this report, to assure themselves that there is no risk to their infrastructure. Standard PE water supply pipe can become compromised by certain contaminants, most notably petroleum hydrocarbons, and therefore the extent of any contamination must be identified by the developer.

6.05.2 Based on the laboratory test results, it is our opinion that standard PE pipe is not likely to be suitable, and that the local water company may stipulate that PVC or Barrier Pipe be used. Further discussion with Anglian Water is recommended.



6.06 Environmental Protection

6.06.1 As part of general good working procedures, there are a number of practices that should be considered to minimise any future potential impact on the environment. These are listed below:

The removal of any ACM debris prior to the mobilisation of large machinery or disturbance of the existing hard standing

Consider dust suppression during dry periods

Clean any construction related vehicles prior to them leaving site e.g. rumble / vibration grid, physical scrape of material and / or wheel wash, to prevent the spread of mud

All imported topsoil should be sourced from a reputable supplier and be accompanied by laboratory test results to confirm its condition and suitability for use on site

Careful segregation of soils based on inclusions of construction materials and any visible/ olfactory presence of contaminants.



7.0 RECOMMENDATIONS

7.01.1 As a result of the Phase II Investigation, JPC Environmental Services would make the following recommendations:

A Remediation Strategy is likely to be required to address the risk posed from lead, TPHs, PAHs and asbestos within on-site soils. To facilitate the development of a sustainable and cost-effective strategy, we would recommend some further trial pitting, targeting areas of already identified sources, and particularly beneath areas of hard standing.

The Remediation Strategy will most likely be centred around a combination of excavation, source removal/ and or screening of contaminated soils.

Future garden and landscaped areas may require a 600mm thick cover system to be applied. Where buildings, hardstanding, driveways or parking are proposed the depth of excavation and soil removal could be limited to the depth of construction.

Due to the presence of asbestos cement fragments (chrysotile & crocidolite) on the site surface, we would recommend a thorough hand pick of the site prior to any site works commencing. All asbestos fragments will need to be put into asbestos UN approved bags and double bagged with a clear outer. These will need to be disposed of at a suitably permitted waste site, with copies of all waste tickets retained to prove removal from site. Any imported topsoil will need to comply with BS3882:2015 and be sourced from a reputable supplier. The soil should be accompanied by laboratory test results to confirm its condition and suitability for use on site.

Based on the waste classification undertaken as part of the assessment, some surplus soil may be classified as 'Non-Hazardous' waste. However, soils excavated from the vicinity of TP102 & TP103, are likely to be classified as 'Hazardous Waste'.

We would recommend that a copy of this report be submitted to West Suffolk Council and Anglian Water.

7.01.2 The opinions and recommendations expressed in this report are based on the ground conditions encountered on site, the results of field and laboratory testing and the interpretation between exploratory holes.

7.01.3 It should also be noted that the material encountered and the samples obtained represent only a small proportion of the soils present on site, and it is therefore possible that other conditions may prevail on the site, which have not been revealed by this investigation.

7.01.4 This report has been prepared in accordance with our understanding of current best practice. However, changes to best practice, guidance or legislation may necessitate revision of this report after the date of issue.



APPENDIX A

Site Location Plan



Flax Farm, Stansfield Road, Poslingford, Sudbury, CO10 8RD.



APPENDIX B

Plan of Site Boundaries





APPENDIX C

Photographs



Yard Area in Front of Main Structures



Stockpiled Material off Eastern Boundary



Concrete Apron to South of Main Structure with Visible ACM Fragments on Surface



Concrete Apron to West of Main Structure



Base of Historical Hydrocarbon Storage (TP206)



Trial pit through Concrete Slab under Main Structure (TP109)



Agricultural field which forms Southern Portion of Site

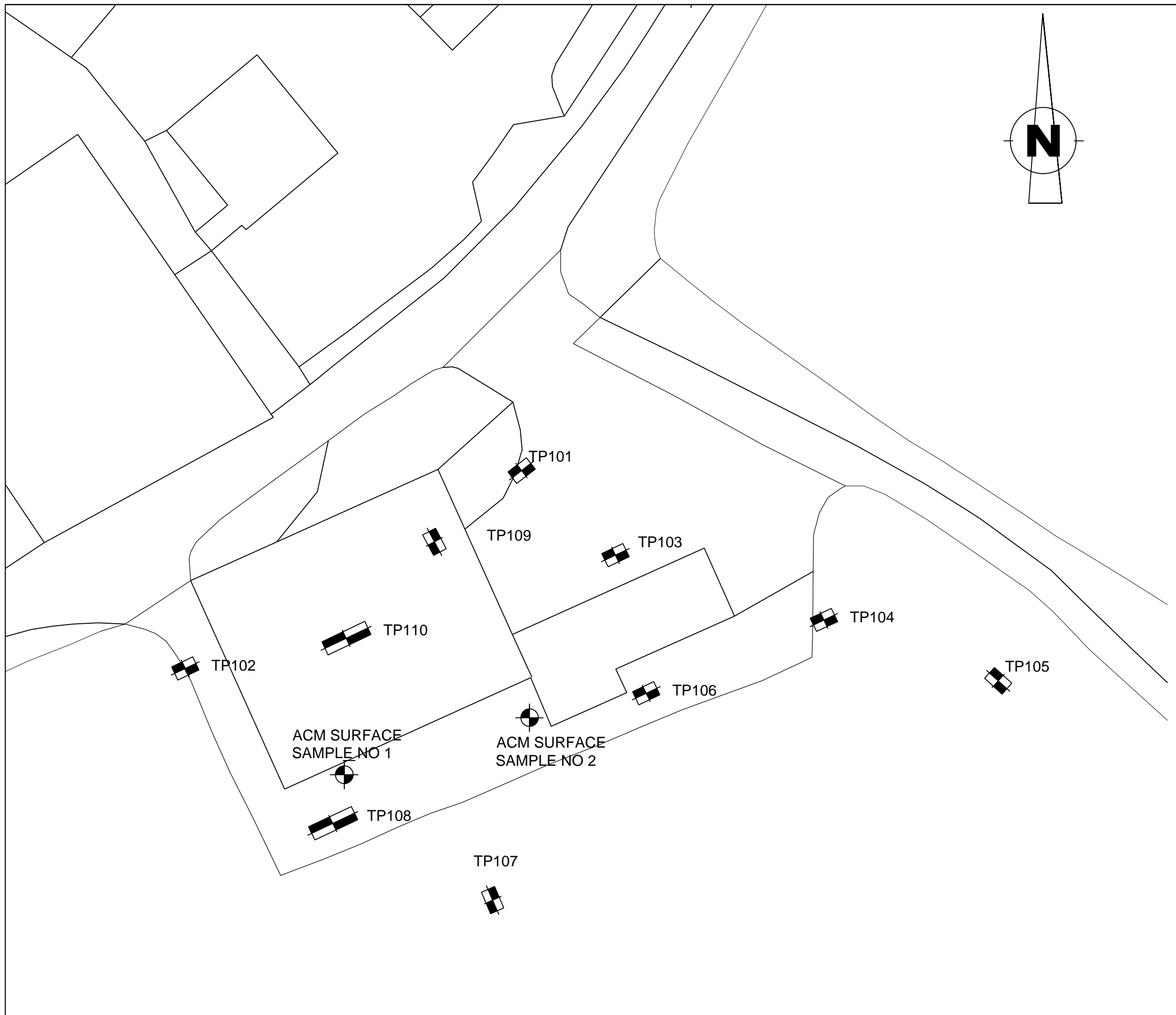


Trial pit through Concrete Apron to rear of Main Structure (TP108)



APPENDIX D

Trial Pit Location Plan



Notes

Rev.	Date	By	Amendment	Chk	App
P2	04/20	LRC	ADDITION OF ACM		
P1	04/20	GJB	PRELIMINARY ISSUE		

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Client
IAN BURNETT

Project
**FLAX FARM
 POSLINGFORD
 SUDBURY**

Drawing Title
TRIAL PIT LOCATION PLAN


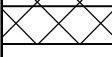
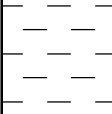
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Date APRIL 2020	Drawn By GJB	

Drawing Number IE20/040/SK01	Rev P2
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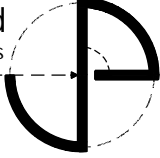
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	Note Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
---------------------------	------------------------

Recorded By	HP	Date of Trial Pit	101	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing				
				Types	Depth	W	PL	LL	PI	
Concrete slab			0.000 (0.150)							
Crushed rock sub-base; brick rubble and concrete MADE GROUND			0.150 (0.100) 0.250							
Firm grey brown CLAY with partings of firm blue CLAY with occasional medium chalk gravels			(0.350)							
Trial Pit Terminated @ 0.600m			0.600							

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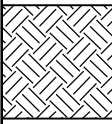
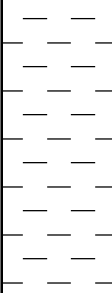
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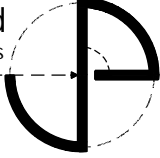
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Equipment/Drilling Method	Midi Tracked Excavator
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Recorded By	HP	Date of Trial Pit	102	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing				
				Types	Depth	W	PL	LL	PI	
Soft dark brown silty clayey TOPSOIL/MADE GROUND with inclusions of partially burnt decomposed wood.			0.000 (0.300) 0.300							
Soft light brown CLAY with partitions of weathered chalk and occasional coarse gravels of chalk			(0.800) 1.100							
Water strike @ 1.0m										
Trial Pit Terminated @ 1.100m										

Project **FLAX FARM, POSLINGFORD, SUDBURY**



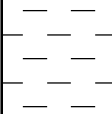
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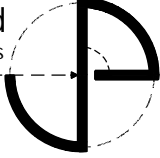
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	Note Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
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Recorded By	HP	Date of Trial Pit	103	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing				
				Types	Depth	W	PL	LL	PI	
Concrete slab			0.000 (0.200)							
Crushed rock sub-base; brick rubble and concrete MADE GROUND			0.200 (0.250)							
Firm grey blue CLAY with firm dark grey black partings and slight organic odour			0.450 (0.350)							
Trial Pit Terminated @ 0.800m			0.800							

Project **FLAX FARM, POSLINGFORD, SUDBURY**

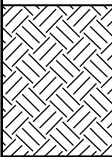
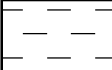
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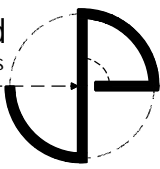
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	<u>Note</u> Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
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Recorded By	HP	Date of Trial Pit	104	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing				
				Types	Depth	W	PL	LL	PI	
Soft dark brown silty clayey TOPSOIL/MADE GROUND with inclusions of brick, tile, concrete and glass.			0.000 (0.400)							
Soft orange yellow CLAY with rare chalk gravels.			0.400 (0.200)							
Trial Pit Terminated @ 0.600m			0.600							

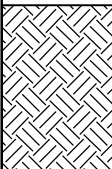
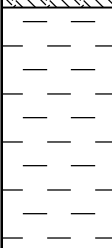
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	Scale N.T.S	Drg. No. IE20/040/SK05	Rev.

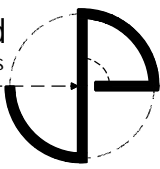
Key GL = Ground Level % W = Moisture Content % PI = Plasticity Index % PL = Plastic Limit % LL = Liquid Limit % D = Disturbed Sample	Location Plan Refer to site layout for borehole and trial pit locations
	Note Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
---------------------------	------------------------

Recorded By	HP	Date of Trial Pit	105	3/04/2020
-------------	----	-------------------	-----	-----------

Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing			
				Types	Depth	W	PL	LL	PI
Soft brown silty clayey TOPSOIL/MADE GROUND with inclusions of small brick and charcoal fragments and occasional medium chalk gravels			0.000 (0.450)						
Firm light brown CLAY with rare fine chalk gravels			0.450 (0.650)						
Ground water seepage @ 1.100m			1.100						
Trial Pit Terminated @ 1.100m									

Project **FLAX FARM, POSLINGFORD, SUDBURY**


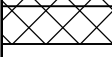
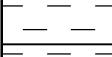
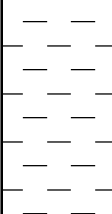
JP Chick & Partners Ltd Consulting Civil & Structural Engineers  7 Museum Street, Ipswich, Suffolk. IP1 1HQ. T: (01473) 280699 F: (01473) 280701 W: www.chick.co.uk E: ipswich@chick.co.uk	Drawn By GJB	Date APRIL 2020	Checked By
	Scale N.T.S	Drg. No. IE20/040/SK06	Rev.

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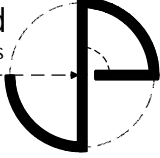
Key GL = Ground Level % W = Moisture Content % PI = Plasticity Index % PL = Plastic Limit % LL = Liquid Limit % D = Disturbed Sample	Location Plan Refer to site layout for borehole and trial pit locations
	Note Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
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Recorded By	HP	Date of Trial Pit	106	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing				
				Types	Depth	W	PL	LL	PI	
Concrete slab			0.000 (0.150)							
Crushed rock sub-base; brick rubble and concrete MADE GROUND			0.150 (0.100) 0.250							
Soft orange CLAY with occasional medium gravels of chalk and flint			(0.150) 0.400							
Soft light yellow grey CLAY with partings of weathered chalk and medium chalk gravels			(0.600)							
Trial Pit Terminated @ 1.000m			1.000							

Project **FLAX FARM, POSLINGFORD, SUDBURY**


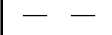
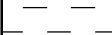
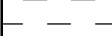

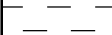



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	Scale	Drg. No.	Rev.
	GJB	APRIL 2020	
	N.T.S	IE20/040/SK07	

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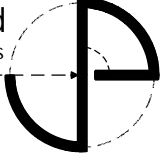
Key GL = Ground Level % W = Moisture Content % PI = Plasticity Index % PL = Plastic Limit % LL = Liquid Limit % D = Disturbed Sample	Location Plan Refer to site layout for borehole and trial pit locations
	Note Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
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Recorded By	HP	Date of Trial Pit	107	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing			
				Types	Depth	W	PL	LL	PI
Soft brown silty clayey TOPSOIL			0.000 (0.150)						
Soft light brown CLAY with occasional medium chalk gravels			0.150 (0.150)						
Firm brown CLAY with occasional medium chalk gravels			0.300						
									
									
			(0.900)						
									
Ground water seepage @ 1.100m									
Trial Pit Terminated @ 1.200m			1.200						

Project	FLAX FARM, POSLINGFORD, SUDBURY
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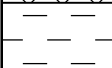
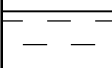
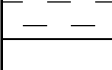

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	Scale	Drg. No.	Rev.
	GJB	APRIL 2020	
	N.T.S	IE20/040/SK08	

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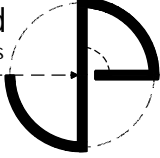
Key GL = Ground Level % W = Moisture Content % PI = Plasticity Index % PL = Plastic Limit % LL = Liquid Limit % D = Disturbed Sample	Location Plan Refer to site layout for borehole and trial pit locations
	Note Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
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Recorded By	HP	Date of Trial Pit	108	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing				
				Types	Depth	W	PL	LL	PI	
Concrete slab			0.000 (0.150)							
Crushed rock sub-base; brick rubble and concrete MADE GROUND			0.150 (0.200)							
Soft grey slightly silty CLAY with inclusions of brick and charcoal and medium chalk gravel			0.200 (0.400)							
Soft light yellow grey CLAY with partings of weathered chalk and rare gravels of chalk			0.400 (0.250)							
Ground water seepage @ 0.600m			0.250							
Trial Pit Terminated @ 0.650m			0.650							

Project **FLAX FARM, POSLINGFORD, SUDBURY**



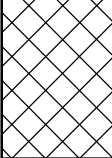
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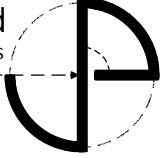
Key GL = Ground Level % W = Moisture Content % PI = Plasticity Index % PL = Plastic Limit % LL = Liquid Limit % D = Disturbed Sample	Location Plan Refer to site layout for borehole and trial pit locations
	Note Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
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Recorded By	HP	Date of Trial Pit	109	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing				
				Types	Depth	W	PL	LL	PI	
Concrete slab			0.000 (0.150)							
Crushed rock sub-base; brick rubble and concrete MADE GROUND			0.150 (0.100) 0.250							
Soft brown clayey MADE GROUND with inclusions of partially decomposed wood and rare medium chalk gravels			(0.450)							
Trial Pit Terminated @ 0.700m			0.700							

Project **FLAX FARM, POSLINGFORD, SUDBURY**



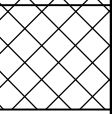
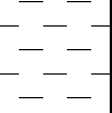

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	N.T.S	IE20/040/SK10	

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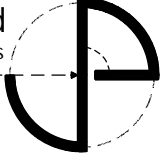
Key GL = Ground Level % W = Moisture Content % PI = Plasticity Index % PL = Plastic Limit % LL = Liquid Limit % D = Disturbed Sample	Location Plan Refer to site layout for borehole and trial pit locations
	Note Depths: All depths and reduced levels in metres. Thicknesses given in brackets in depth column

Equipment/Drilling Method	Midi Tracked Excavator
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Recorded By	HP	Date of Trial Pit	110	3/04/2020
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Descriptions and Field Observations	Reduced Level	Legend	Depth Metres	Samples		Laboratory Testing			
				Types	Depth	W	PL	LL	PI
Concrete slab			0.000 (0.150)						
Crushed rock sub-base; brick rubble and concrete MADE GROUND			0.150 (0.050) 0.200						
Soft grey black slightly sandy clayey MADE GROUND			(0.400)						
Firm black silty CLAY with rare medium gravels and decomposed fragments of wood (buried topsoil) with slight organic odour			0.600 (0.400)						
Soft grey CLAY with occasional medium chalk gravels			1.000						
Ground water seepage @ 1.000m									
Trial Pit Terminated @ 1.000m									

Project **FLAX FARM, POSLINGFORD, SUDBURY**

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	Scale N.T.S	Drg. No. IE20/040/SK11	Rev.

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APPENDIX E

Laboratory Testing Results



Hannah Purkis

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Ipswich
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7 Woodshots Meadow,
Croxley Green
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Watford,
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t: 01923 225404

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e: reception@i2analytical.com

e: Hannah.Purkis@chick.co.uk

Analytical Report Number : 20-95847

Replaces Analytical Report Number : 20-95847, issue no. 1

Additional analysis undertaken.

Project / Site name:	Flax Farm, Poslingford	Samples received on:	07/04/2020
Your job number:	IE20 040	Samples instructed on:	07/04/2020
Your order number:	IE20 040	Analysis completed by:	23/04/2020
Report Issue Number:	2	Report issued on:	28/04/2020
Samples Analysed:	2 bulk samples - 10 soil samples		

Signed: 

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.

Iss No 20-95847-2 Flax Farm, Poslingford IE20 040

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The results included within the report are representative of the samples submitted for analysis.

Page 1 of 13



Analytical Report Number: 20-95847

Project / Site name: Flax Farm, Poslingford

Your Order No: IE20 040

Lab Sample Number	1490732			1490733			1490734			1490735			1490736		
Sample Reference	TP101A			TP102A			TP103A			TP104A			TP105A		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	0.00-0.30			0.00-0.30			0.00-0.30			0.00-0.30			0.00-0.30		
Date Sampled	03/04/2020			03/04/2020			03/04/2020			03/04/2020			03/04/2020		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Soil Analysis)															
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	17	19	17	17	19	17	17	19	17	17	19
Total mass of sample received	kg	0.001	NONE	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.0	7.9	8.5	7.8	8.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	390	840	2000	800	730
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	55	52	160	62	32
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	q/l	0.00125	MCERTS	0.027	0.026	0.080	0.031	0.016
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	27.4	26.1	80.1	31.2	16.0
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	19	< 1.0	< 1.0
Organic Matter	%	0.1	MCERTS	2.1	4.5	1.8	4.5	4.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 20-95847

Project / Site name: Flax Farm, Poslingford

Your Order No: IE20 040

Lab Sample Number	1490732	1490733	1490734	1490735	1490736
Sample Reference	TP101A	TP102A	TP103A	TP104A	TP105A
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.00-0.30	0.00-0.30	0.00-0.30	0.00-0.30	0.00-0.30
Date Sampled	03/04/2020	03/04/2020	03/04/2020	03/04/2020	03/04/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied

Analytical Parameter (Soil Analysis)								
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Speciated PAHs

Compound	Unit	Limit	MCERTS	1490732	1490733	1490734	1490735	1490736
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.36	1.7	0.66	2.2	1.8
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.31	< 0.05	0.56	0.24
Fluoranthene	mg/kg	0.05	MCERTS	0.77	3.7	1.6	7.8	2.7
Pyrene	mg/kg	0.05	MCERTS	0.72	3.4	1.4	7.2	2.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.46	2.4	0.90	5.2	1.5
Chrysene	mg/kg	0.05	MCERTS	0.48	1.9	0.78	4.5	1.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.40	2.2	0.85	5.1	1.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.33	1.2	0.57	3.9	1.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.37	1.8	0.74	5.1	1.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.92	0.35	2.4	0.58
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.57	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1.1	0.45	2.9	0.67

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.89	20.6	8.38	47.3	14.8
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Analytical Report Number: 20-95847

Project / Site name: Flax Farm, Poslingford

Your Order No: IE20 040

Lab Sample Number	1490732		1490733		1490734		1490735		1490736	
Sample Reference	TP101A		TP102A		TP103A		TP104A		TP105A	
Sample Number	None Supplied		None Supplied		None Supplied		None Supplied		None Supplied	
Depth (m)	0.00-0.30		0.00-0.30		0.00-0.30		0.00-0.30		0.00-0.30	
Date Sampled	03/04/2020		03/04/2020		03/04/2020		03/04/2020		03/04/2020	
Time Taken	None Supplied		None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)										

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	12	12	13	13
Boron (water soluble)	mg/kg	0.2	MCERTS	1.9	2.3	1.2	4.2	4.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.5	0.3	0.8	0.4
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	26	22	29	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20	32	120	25	28
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	1100	18000	120	150
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	0.7	0.4	0.7	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	34	24	15	25	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	95	180	580	170	120

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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TPH (C10 - C25)	mg/kg	10	MCERTS	< 10	27	34	41	20
TPH (C25 - C40)	mg/kg	10	MCERTS	< 10	68	57	88	34



Analytical Report Number: 20-95847

Project / Site name: Flax Farm, Poslingford

Your Order No: IE20 040

Lab Sample Number	1490737			1490738			1490739			1490740			1490741		
Sample Reference	TP106A			TP106B			TP108A			TP109A			TP110A		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	0.00-0.30			0.40-0.60			0.00-0.30			0.00-0.30			0.00-0.30		
Date Sampled	03/04/2020			03/04/2020			03/04/2020			03/04/2020			03/04/2020		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Soil Analysis)															
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	19	18	23	26	27							
Total mass of sample received	kg	0.001	NONE	1.3	1.3	1.3	1.4	1.2							

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	0.002	-	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	0.002	-	< 0.001

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.0	8.6	8.1	8.0	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	580	240	650	790	1100
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	47	37	39	180	250
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	q/l	0.00125	MCERTS	0.024	0.019	0.019	0.088	0.12
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	23.7	18.6	19.3	88.2	123
Sulphide	mg/kg	1	MCERTS	< 1.0	1.5	6.2	1.9	6.0
Organic Matter	%	0.1	MCERTS	2.4	0.7	3.4	4.2	5.8

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 20-95847

Project / Site name: Flax Farm, Poslingford

Your Order No: IE20 040

Lab Sample Number	1490737			1490738			1490739			1490740			1490741		
Sample Reference	TP106A			TP106B			TP108A			TP109A			TP110A		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	0.00-0.30			0.40-0.60			0.00-0.30			0.00-0.30			0.00-0.30		
Date Sampled	03/04/2020			03/04/2020			03/04/2020			03/04/2020			03/04/2020		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Soil Analysis)															
Speciated PAHs															
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.55	1.1	1.5	1.1	1.5	1.1	1.5	1.5	
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.29	< 0.05	< 0.05	< 0.05	< 0.05	0.29	
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.6	2.5	3.9	1.6	2.5	1.6	2.5	3.9	
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.5	2.3	3.6	1.5	2.3	1.5	2.3	3.6	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.1	1.3	2.8	1.1	1.3	1.1	1.3	2.8	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.0	1.5	1.8	1.0	1.5	1.0	1.5	1.8	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.92	1.1	2.4	0.92	1.1	0.92	1.1	2.4	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.68	1.1	1.2	0.68	1.1	0.68	1.1	1.2	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.88	1.2	1.9	0.88	1.2	0.88	1.2	1.9	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.47	0.49	0.97	0.47	0.49	0.47	0.49	0.97	
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.30	< 0.05	< 0.05	< 0.05	< 0.05	0.30	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.53	0.76	1.1	0.53	0.76	0.53	0.76	1.1	
Total PAH															
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	9.23	13.3	21.7	9.23	13.3	9.23	13.3	21.7	



Analytical Report Number: 20-95847

Project / Site name: Flax Farm, Poslingford

Your Order No: IE20 040

Lab Sample Number				1490737	1490738	1490739	1490740	1490741
Sample Reference				TP106A	TP106B	TP108A	TP109A	TP110A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.30	0.40-0.60	0.00-0.30	0.00-0.30	0.00-0.30
Date Sampled				03/04/2020	03/04/2020	03/04/2020	03/04/2020	03/04/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	12	16	40	16
Boron (water soluble)	mg/kg	0.2	MCERTS	3.0	1.8	2.3	4.1	6.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.4	0.4	0.4
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	33	34	26	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	13	34	31	31
Lead (aqua regia extractable)	mg/kg	1	MCERTS	95	21	600	68	91
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	< 0.3	0.7	< 0.3	0.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	31	29	61	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100	85	160	260	180

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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TPH (C10 - C25)	mg/kg	10	MCERTS	430	86	< 10	27	26
TPH (C25 - C40)	mg/kg	10	MCERTS	150	44	< 10	140	53



Analytical Report Number: 20-95847

Project / Site name: Flax Farm, Poslingford

Lab Sample Number				1490742	1490743			
Sample Reference				ACM 1	ACM 2			
Sample Number				None Supplied	None Supplied			
Depth (m)				None Supplied	None Supplied			
Date Sampled				03/04/2020	03/04/2020			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Bulk Analysis)								
Asbestos Identification				Chrysotile- Hard/Cement Type Material	Chrysotile, Crocidolite- Hard/Cement Type Material			
	Type	N/A	ISO 17025					



Analytical Report Number: 20-95847
Project / Site name: Flax Farm, Poslingford
Your Order No: IE20 040

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
1490739	TP108A	0.00-0.30	103	Loose Fibrous Debris	Chrysotile	0.002	0.002
1490741	TP110A	0.00-0.30	125	Loose Fibres	Chrysotile	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.



Analytical Report Number : 20-95847

Project / Site name: Flax Farm, Poslingford

* 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 *
1490732	TP101A	None Supplied	0.00-0.30	Brown clay and loam with gravel.
1490733	TP102A	None Supplied	0.00-0.30	Brown loam and clay with gravel.
1490734	TP103A	None Supplied	0.00-0.30	Brown loam and clay with gravel.
1490735	TP104A	None Supplied	0.00-0.30	Brown loam and clay with gravel.
1490736	TP105A	None Supplied	0.00-0.30	Brown loam and clay with gravel.
1490737	TP106A	None Supplied	0.00-0.30	Brown loam and clay with gravel.
1490738	TP106B	None Supplied	0.40-0.60	Brown clay with gravel.
1490739	TP108A	None Supplied	0.00-0.30	Brown clay with gravel.
1490740	TP109A	None Supplied	0.00-0.30	Brown clay with gravel.
1490741	TP110A	None Supplied	0.00-0.30	Brown clay with gravel.



Analytical Report Number : 20-95847

Project / Site name: Flax Farm, Poslingford

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
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
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Free cyanide in soil	Determination of free 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
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	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
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
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
PRO (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	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
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
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
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
Thiocyanate in soil	Determination of thiocyanate in soil by extraction in water followed by acidification followed by addition of ferric nitrate followed by discrete analyser (spectrophotometer).	In-house method	L082-PL	D	NONE



Analytical Report Number : 20-95847

Project / Site name: Flax Farm, Poslingford

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH Oils (Soils)	Determination of extractable hydrocarbons in soil by GC-MS/FID.	In-house method with silica gel split/clean up.	L076-PL	D	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.

Sample Deviation Report



Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
TP101A		S	20-95847	1490732	b	PRO (Soil)	L088-PL	b
TP102A		S	20-95847	1490733	b	PRO (Soil)	L088-PL	b
TP103A		S	20-95847	1490734	b	PRO (Soil)	L088-PL	b
TP104A		S	20-95847	1490735	b	PRO (Soil)	L088-PL	b
TP105A		S	20-95847	1490736	b	PRO (Soil)	L088-PL	b
TP106A		S	20-95847	1490737	b	PRO (Soil)	L088-PL	b
TP106B		S	20-95847	1490738	b	PRO (Soil)	L088-PL	b
TP108A		S	20-95847	1490739	b	PRO (Soil)	L088-PL	b
TP109A		S	20-95847	1490740	b	PRO (Soil)	L088-PL	b
TP110A		S	20-95847	1490741	b	PRO (Soil)	L088-PL	b



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Analytical Report Number : 20-96780

Project / Site name:	Flax Farm, Poslingford	Samples received on:	07/04/2020
Your job number:	IE20 040	Samples instructed on:	20/04/2020
Your order number:	IE20 040	Analysis completed by:	23/04/2020
Report Issue Number:	1	Report issued on:	23/04/2020
Samples Analysed:	6 soil samples		

Signed: 

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.



Analytical Report Number: 20-96780

Project / Site name: Flax Farm, Poslingford

Your Order No: IE20 040

Lab Sample Number	1495543			1495544		1495545		1495546		1495547	
Sample Reference	TP102B			TP103B		TP104B		TP108B		TP109B	
Sample Number	None Supplied			None Supplied		None Supplied		None Supplied		None Supplied	
Depth (m)	0.40-0.60			0.40-0.60		0.40-0.60		0.40-0.60		0.40-0.60	
Date Sampled	03/04/2020			03/04/2020		03/04/2020		03/04/2020		03/04/2020	
Time Taken	None Supplied			None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)											
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	20	21	19	19	19	19	20	20
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	Not-detected	-
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Speciated PAHs

Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	49	140	-	23	-



Analytical Report Number: 20-96780

Project / Site name: Flax Farm, Poslingford

Your Order No: IE20 040

Lab Sample Number	1495548							
Sample Reference	TP110B							
Sample Number	None Supplied							
Depth (m)	0.40-0.60							
Date Sampled	03/04/2020							
Time Taken	None Supplied							
Analytical Parameter (Soil Analysis)								
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	25				
Total mass of sample received	kg	0.001	NONE	1.0				

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				
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Speciated PAHs

Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-				
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05				

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-				



Analytical Report Number : 20-96780

Project / Site name: Flax Farm, Poslingford

* 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 *
1495543	TP102B	None Supplied	0.40-0.60	Brown clay and sand with gravel.
1495544	TP103B	None Supplied	0.40-0.60	Brown clay and sand with gravel.
1495545	TP104B	None Supplied	0.40-0.60	Brown clay and sand with gravel.
1495546	TP108B	None Supplied	0.40-0.60	Brown clay and sand with gravel.
1495547	TP109B	None Supplied	0.40-0.60	Brown clay and sand with gravel.
1495548	TP110B	None Supplied	0.40-0.60	Brown clay and sand with gravel.



Analytical Report Number : 20-96780

Project / Site name: Flax Farm, Poslingford

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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
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

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.



APPENDIX F

Waste Classification Report

Waste Classification Report



7275X-45K28-9TMNB

Job name

Flax Farm Barn, Sudbury_1

Description/Comments

10No. samples of made ground
6No. samples of natural underlying soils

Project

IE20/040

Site

Flax Farm Barns, Stansfield Road, Poslingford, Sudbury, CO10 8RD

Related Documents

#	Name	Description
1	Classification Report-Elm Tree Farm, Parham.pdf	Classification for Job: Elm Tree Farm, Parham
2	Classification Report-Whitehouse Farm Barns.pdf	Classification for Job: Whitehouse Farm Barns

Waste Stream Template

Metals, PAH's, Asbestos, Cyanide, TPH 3 Band

Classified by

Name:	Company:	HazWasteOnline™ Training Record:	
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Date:	7 Museum Street	Hazardous Waste Classification	-
24 Apr 2020 15:38 GMT	Ipswich	Advanced Hazardous Waste Classification	-
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Report

Created by: Caroline Jooste
Created date: 24 Apr 2020 15:38 GMT

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Classification of sample: TP101A

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

Sample details

Sample Name: TP101A	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.00-0.30 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 17% (no correction)		

Hazard properties

None identified

Determinands

Moisture content: 17% 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	arsenic { arsenic }				15 mg/kg		15 mg/kg	0.0015 %		
	033-001-00-X	231-148-6	7440-38-2							
2	boron { diboron trioxide; boric oxide }				1.9 mg/kg	3.22	6.118 mg/kg	0.000612 %		
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium fluoride }				<0.2 mg/kg	1.338	<0.268 mg/kg	<0.0000268 %		<LOD
	048-006-00-2	232-222-0	7790-79-6							
4	chromium in chromium(III) compounds { chromium(III) oxide }				28 mg/kg	1.462	40.924 mg/kg	0.00409 %		
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				20 mg/kg	1.74	34.796 mg/kg	0.00348 %		
	029-020-00-8	235-113-6	12069-69-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	130 mg/kg		130 mg/kg	0.013 %		
	082-001-00-6									
8	mercury { mercury }				0.4 mg/kg		0.4 mg/kg	0.00004 %		
	080-001-00-0	231-106-7	7439-97-6							
9	nickel { nickel }			7	34 mg/kg		34 mg/kg	0.0034 %		
	028-002-00-7	231-111-4	7440-02-0							
10	selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							
11	zinc { zinc powder - zinc dust (stabilised) }				95 mg/kg		95 mg/kg	0.0095 %		
	030-001-01-9	231-175-3	7440-66-6							
12	pH				8 pH		8 pH	8pH		
			PH							
13	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	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	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
17	phenanthrene	201-581-5	85-01-8		0.36 mg/kg		0.36 mg/kg	0.000036 %		
18	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	fluoranthene	205-912-4	206-44-0		0.77 mg/kg		0.77 mg/kg	0.000077 %		
20	pyrene	204-927-3	129-00-0		0.72 mg/kg		0.72 mg/kg	0.000072 %		
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.46 mg/kg		0.46 mg/kg	0.000046 %		
22	chrysene	601-048-00-0	205-923-4	218-01-9	0.48 mg/kg		0.48 mg/kg	0.000048 %		
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.33 mg/kg		0.33 mg/kg	0.000033 %		
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.37 mg/kg		0.37 mg/kg	0.000037 %		
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
29	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
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.4 mg/kg		0.4 mg/kg	0.00004 %		
Total:								0.0381 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: TP102A

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

Sample details

Sample Name:	LoW Code:	
TP102A	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
0.00-0.30 m		
Moisture content:		
17%		
(no correction)		

Hazard properties

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

Hazard Statements hit:











Carc. 1A; 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:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 0.11%)

Determinands

Moisture content: 17% 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	 arsenic { arsenic }				12 mg/kg		12 mg/kg	0.0012 %		
	033-001-00-X	231-148-6	7440-38-2							
2	 boron { diboron trioxide; boric oxide }				2.3 mg/kg	3.22	7.406 mg/kg	0.000741 %		
	005-008-00-8	215-125-8	1303-86-2							
3	 cadmium { cadmium fluoride }				0.5 mg/kg	1.338	0.669 mg/kg	0.0000669 %		
	048-006-00-2	232-222-0	7790-79-6							
4	 chromium in chromium(III) compounds { chromium(III) oxide }				26 mg/kg	1.462	38 mg/kg	0.0038 %		
		215-160-9	1308-38-9							
5	 chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	 copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				32 mg/kg	1.74	55.673 mg/kg	0.00557 %		
	029-020-00-8	235-113-6	12069-69-1							
7	 lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	1100 mg/kg		1100 mg/kg	0.11 %		
	082-001-00-6									
8	 mercury { mercury }				0.7 mg/kg		0.7 mg/kg	0.00007 %		
	080-001-00-0	231-106-7	7439-97-6							
9	 nickel { nickel }			7	24 mg/kg		24 mg/kg	0.0024 %		
	028-002-00-7	231-111-4	7440-02-0							
10	 selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	M/C Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
11	zinc { zinc powder - zinc dust (stabilised) }				180	mg/kg		180	mg/kg	0.018 %		
	030-001-01-9	231-175-3	7440-66-6									
12	pH				7.9	pH		7.9	pH	7.9 pH		
			PH									
13	naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
15	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9									
16	fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7									
17	phenanthrene				1.7	mg/kg		1.7	mg/kg	0.00017 %		
		201-581-5	85-01-8									
18	anthracene				0.31	mg/kg		0.31	mg/kg	0.000031 %		
		204-371-1	120-12-7									
19	fluoranthene				3.7	mg/kg		3.7	mg/kg	0.00037 %		
		205-912-4	206-44-0									
20	pyrene				3.4	mg/kg		3.4	mg/kg	0.00034 %		
		204-927-3	129-00-0									
21	benzo[a]anthracene				2.4	mg/kg		2.4	mg/kg	0.00024 %		
	601-033-00-9	200-280-6	56-55-3									
22	chrysene				1.9	mg/kg		1.9	mg/kg	0.00019 %		
	601-048-00-0	205-923-4	218-01-9									
23	benzo[k]fluoranthene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
	601-036-00-5	205-916-6	207-08-9									
24	benzo[a]pyrene; benzo[def]chrysene				1.8	mg/kg		1.8	mg/kg	0.00018 %		
	601-032-00-3	200-028-5	50-32-8									
25	dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3									
26	benzo[ghi]perylene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
		205-883-8	191-24-2									
27	indeno[123-cd]pyrene				0.92	mg/kg		0.92	mg/kg	0.000092 %		
		205-893-2	193-39-5									
28	TPH (C6 to C40) petroleum group				95	mg/kg		95	mg/kg	0.0095 %		
			TPH									
29	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	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5											
30	benzo[b]fluoranthene				2.2	mg/kg		2.2	mg/kg	0.00022 %		
	601-034-00-4	205-911-9	205-99-2									
Total:										0.154 %		

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 Determinand - 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 hydrocarbon odours/ liquids or staining observed


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0095%)

Classification of sample: TP103A

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

Sample details

Sample Name:	LoW Code:
TP103A	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.00-0.30 m	
Moisture content:	
19%	
(no correction)	

Hazard properties

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

Hazard Statements hit:

Carc. 1A; 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:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 1.8%)

HP 10: Toxic for reproduction "waste which has adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in the offspring"

Hazard Statements hit:

Repr. 1A; H360Df "May damage the unborn child. Suspected of damaging fertility."

Because of determinand:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 1.8%)

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:





Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinand:

lead compounds with the exception of those specified elsewhere in this Annex (worst case): (Note 1 conc.: 1.8%)

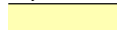




Determinands

Moisture content: 19% 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	 arsenic { arsenic }				12	mg/kg		12	mg/kg	0.0012 %		
	033-001-00-X	231-148-6	7440-38-2									
2	 boron { diboron trioxide; boric oxide }				1.2	mg/kg	3.22	3.864	mg/kg	0.000386 %		
	005-008-00-8	215-125-8	1303-86-2									
3	 cadmium { cadmium fluoride }				0.3	mg/kg	1.338	0.401	mg/kg	0.0000401 %		
	048-006-00-2	232-222-0	7790-79-6									
4	 chromium in chromium(III) compounds { chromium(III) oxide }				22	mg/kg	1.462	32.154	mg/kg	0.00322 %		
		215-160-9	1308-38-9									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		<LOD
	024-017-00-8											
6	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				120	mg/kg	1.74	208.775	mg/kg	0.0209 %		
	029-020-00-8	235-113-6	12069-69-1									
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	18000	mg/kg		18000	mg/kg	1.8 %		
	082-001-00-6											
8	mercury { mercury }				0.4	mg/kg		0.4	mg/kg	0.00004 %		
	080-001-00-0	231-106-7	7439-97-6									
9	nickel { nickel }			7	15	mg/kg		15	mg/kg	0.0015 %		
	028-002-00-7	231-111-4	7440-02-0									
10	selenium { selenium }				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2									
11	zinc { zinc powder - zinc dust (stabilised) }				580	mg/kg		580	mg/kg	0.058 %		
	030-001-01-9	231-175-3	7440-66-6									
12	pH				8.5	pH		8.5	pH	8.5 pH		
13	naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
15	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9									
16	fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7									
17	phenanthrene				0.66	mg/kg		0.66	mg/kg	0.000066 %		
		201-581-5	85-01-8									
18	anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7									
19	fluoranthene				1.6	mg/kg		1.6	mg/kg	0.00016 %		
		205-912-4	206-44-0									
20	pyrene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
		204-927-3	129-00-0									
21	benzo[a]anthracene				0.9	mg/kg		0.9	mg/kg	0.00009 %		
	601-033-00-9	200-280-6	56-55-3									
22	chrysene				0.78	mg/kg		0.78	mg/kg	0.000078 %		
	601-048-00-0	205-923-4	218-01-9									
23	benzo[k]fluoranthene				0.57	mg/kg		0.57	mg/kg	0.000057 %		
	601-036-00-5	205-916-6	207-08-9									
24	benzo[a]pyrene; benzo[def]chrysene				0.74	mg/kg		0.74	mg/kg	0.000074 %		
	601-032-00-3	200-028-5	50-32-8									
25	dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3									
26	benzo[ghi]perylene				0.45	mg/kg		0.45	mg/kg	0.000045 %		
		205-883-8	191-24-2									
27	indeno[123-cd]pyrene				0.35	mg/kg		0.35	mg/kg	0.000035 %		
		205-893-2	193-39-5									
28	TPH (C6 to C40) petroleum group				91	mg/kg		91	mg/kg	0.0091 %		
29	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	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5											
30	benzo[b]fluoranthene				0.85	mg/kg		0.85	mg/kg	0.000085 %		
	601-034-00-4	205-911-9	205-99-2									
Total:										1.896 %		

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 Determinand - 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 hydrocarbon odours/ liquids or staining observed**

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0091%)

Classification of sample: TP104A

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

Sample details

Sample Name: TP104A	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.00-0.30 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 17% (no correction)		

Hazard properties

None identified





Determinands

Moisture content: 17% 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	arsenic { arsenic }				13 mg/kg		13 mg/kg	0.0013 %		
	033-001-00-X	231-148-6	7440-38-2							
2	boron { diboron trioxide; boric oxide }				4.2 mg/kg	3.22	13.523 mg/kg	0.00135 %		
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium fluoride }				0.8 mg/kg	1.338	1.07 mg/kg	0.000107 %		
	048-006-00-2	232-222-0	7790-79-6							
4	chromium in chromium(III) compounds { chromium(III) oxide }				29 mg/kg	1.462	42.385 mg/kg	0.00424 %		
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				25 mg/kg	1.74	43.495 mg/kg	0.00435 %		
	029-020-00-8	235-113-6	12069-69-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	120 mg/kg		120 mg/kg	0.012 %		
	082-001-00-6									
8	mercury { mercury }				0.7 mg/kg		0.7 mg/kg	0.00007 %		
	080-001-00-0	231-106-7	7439-97-6							
9	nickel { nickel }			7	25 mg/kg		25 mg/kg	0.0025 %		
	028-002-00-7	231-111-4	7440-02-0							
10	selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							
11	zinc { zinc powder - zinc dust (stabilised) }				170 mg/kg		170 mg/kg	0.017 %		
	030-001-01-9	231-175-3	7440-66-6							
12	pH				7.8 pH		7.8 pH	7.8 pH		
			PH							
13	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	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	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
15	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
16	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
17	phenanthrene	201-581-5	85-01-8		2.2 mg/kg		2.2 mg/kg	0.00022 %			
18	anthracene	204-371-1	120-12-7		0.56 mg/kg		0.56 mg/kg	0.000056 %			
19	fluoranthene	205-912-4	206-44-0		7.8 mg/kg		7.8 mg/kg	0.00078 %			
20	pyrene	204-927-3	129-00-0		7.2 mg/kg		7.2 mg/kg	0.00072 %			
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	5.2 mg/kg		5.2 mg/kg	0.00052 %			
22	chrysene	601-048-00-0	205-923-4	218-01-9	4.5 mg/kg		4.5 mg/kg	0.00045 %			
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	3.9 mg/kg		3.9 mg/kg	0.00039 %			
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	5.1 mg/kg		5.1 mg/kg	0.00051 %			
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.57 mg/kg		0.57 mg/kg	0.000057 %			
26	benzo[ghi]perylene	205-883-8	191-24-2		2.9 mg/kg		2.9 mg/kg	0.00029 %			
27	indeno[123-cd]pyrene	205-893-2	193-39-5		2.4 mg/kg		2.4 mg/kg	0.00024 %			
28	TPH (C6 to C40) petroleum group		TPH		129 mg/kg		129 mg/kg	0.0129 %			
29	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	
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	5.1 mg/kg		5.1 mg/kg	0.00051 %			
								Total:	0.0616 %		

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
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 hydrocarbon odours/ liquids or staining observed

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0129%)

Classification of sample: TP105A

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

Sample details

Sample Name: TP105A	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.00-0.30 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 19% (no correction)		

Hazard properties

None identified

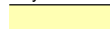



Determinands

Moisture content: 19% 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	arsenic { arsenic }				13 mg/kg		13 mg/kg	0.0013 %		
	033-001-00-X	231-148-6	7440-38-2							
2	boron { diboron trioxide; boric oxide }				4.4 mg/kg	3.22	14.167 mg/kg	0.00142 %		
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium fluoride }				0.4 mg/kg	1.338	0.535 mg/kg	0.0000535 %		
	048-006-00-2	232-222-0	7790-79-6							
4	chromium in chromium(III) compounds { chromium(III) oxide }				26 mg/kg	1.462	38 mg/kg	0.0038 %		
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				28 mg/kg	1.74	48.714 mg/kg	0.00487 %		
	029-020-00-8	235-113-6	12069-69-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	150 mg/kg		150 mg/kg	0.015 %		
	082-001-00-6									
8	mercury { mercury }				0.7 mg/kg		0.7 mg/kg	0.00007 %		
	080-001-00-0	231-106-7	7439-97-6							
9	nickel { nickel }			7	26 mg/kg		26 mg/kg	0.0026 %		
	028-002-00-7	231-111-4	7440-02-0							
10	selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							
11	zinc { zinc powder - zinc dust (stabilised) }				120 mg/kg		120 mg/kg	0.012 %		
	030-001-01-9	231-175-3	7440-66-6							
12	pH				8.5 pH		8.5 pH	8.5 pH		
			PH							
13	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	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	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
17	phenanthrene	201-581-5	85-01-8		1.8 mg/kg		1.8 mg/kg	0.00018 %		
18	anthracene	204-371-1	120-12-7		0.24 mg/kg		0.24 mg/kg	0.000024 %		
19	fluoranthene	205-912-4	206-44-0		2.7 mg/kg		2.7 mg/kg	0.00027 %		
20	pyrene	204-927-3	129-00-0		2.3 mg/kg		2.3 mg/kg	0.00023 %		
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	1.5 mg/kg		1.5 mg/kg	0.00015 %		
22	chrysene	601-048-00-0	205-923-4	218-01-9	1.5 mg/kg		1.5 mg/kg	0.00015 %		
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.1 mg/kg		1.1 mg/kg	0.00011 %		
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.3 mg/kg		1.3 mg/kg	0.00013 %		
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		0.67 mg/kg		0.67 mg/kg	0.000067 %		
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.58 mg/kg		0.58 mg/kg	0.000058 %		
28	TPH (C6 to C40) petroleum group		TPH		54 mg/kg		54 mg/kg	0.0054 %		
29	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
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.2 mg/kg		1.2 mg/kg	0.00012 %		
Total:								0.0491 %		

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
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 hydrocarbon odours/ liquids or staining observed

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0054%)

Classification of sample: TP106A

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

Sample details

Sample Name: TP106A	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.00-0.30 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 19% (no correction)		

Hazard properties

None identified

Determinands

Moisture content: 19% 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	arsenic { arsenic }				13 mg/kg		13 mg/kg	0.0013 %		
	033-001-00-X	231-148-6	7440-38-2							
2	boron { diboron trioxide; boric oxide }				3 mg/kg	3.22	9.66 mg/kg	0.000966 %		
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium fluoride }				<0.2 mg/kg	1.338	<0.268 mg/kg	<0.0000268 %		<LOD
	048-006-00-2	232-222-0	7790-79-6							
4	chromium in chromium(III) compounds { chromium(III) oxide }				28 mg/kg	1.462	40.924 mg/kg	0.00409 %		
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				19 mg/kg	1.74	33.056 mg/kg	0.00331 %		
	029-020-00-8	235-113-6	12069-69-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	95 mg/kg		95 mg/kg	0.0095 %		
	082-001-00-6									
8	mercury { mercury }				0.6 mg/kg		0.6 mg/kg	0.00006 %		
	080-001-00-0	231-106-7	7439-97-6							
9	nickel { nickel }			7	24 mg/kg		24 mg/kg	0.0024 %		
	028-002-00-7	231-111-4	7440-02-0							
10	selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							
11	zinc { zinc powder - zinc dust (stabilised) }				100 mg/kg		100 mg/kg	0.01 %		
	030-001-01-9	231-175-3	7440-66-6							
12	pH				8 pH		8 pH	8pH		
			PH							
13	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	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	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
15	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
16	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
17	phenanthrene	201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
18	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
19	fluoranthene	205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
20	pyrene	204-927-3	129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
22	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
28	TPH (C6 to C40) petroleum group		TPH		580 mg/kg		580 mg/kg	0.058 %			
29	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	
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
Total:									0.0908 %		

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
- 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 hydrocarbon odours/ liquids or staining observed


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.058%)

Classification of sample: TP106B

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

Sample details

Sample Name: TP106B	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.40-0.60 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 18% (no correction)		

Hazard properties

None identified

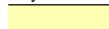



Determinands

Moisture content: 18% 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	arsenic { arsenic }				12 mg/kg		12 mg/kg	0.0012 %		
	033-001-00-X	231-148-6	7440-38-2							
2	boron { diboron trioxide; boric oxide }				1.8 mg/kg	3.22	5.796 mg/kg	0.00058 %		
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium fluoride }				<0.2 mg/kg	1.338	<0.268 mg/kg	<0.0000268 %		<LOD
	048-006-00-2	232-222-0	7790-79-6							
4	chromium in chromium(III) compounds { chromium(III) oxide }				33 mg/kg	1.462	48.231 mg/kg	0.00482 %		
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				13 mg/kg	1.74	22.617 mg/kg	0.00226 %		
	029-020-00-8	235-113-6	12069-69-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	21 mg/kg		21 mg/kg	0.0021 %		
	082-001-00-6									
8	mercury { mercury }				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-001-00-0	231-106-7	7439-97-6							
9	nickel { nickel }			7	31 mg/kg		31 mg/kg	0.0031 %		
	028-002-00-7	231-111-4	7440-02-0							
10	selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							
11	zinc { zinc powder - zinc dust (stabilised) }				85 mg/kg		85 mg/kg	0.0085 %		
	030-001-01-9	231-175-3	7440-66-6							
12	pH				8.6 pH		8.6 pH	8.6 pH		
			PH							
13	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	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	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
15	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
16	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
17	phenanthrene	201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
18	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
19	fluoranthene	205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
20	pyrene	204-927-3	129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
22	chrysene	601-048-00-0	205-923-4	218-01-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
28	TPH (C6 to C40) petroleum group		TPH		130 mg/kg		130 mg/kg	0.013 %			
29	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	
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
Total:									0.0368 %		

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
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 hydrocarbon odours/ liquids or staining observed


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.013%)

Classification of sample: TP108A

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

Sample details














Sample Name: TP108A	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.00-0.30 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 23% (no correction)		

Hazard properties

None identified

Determinands

Moisture content: 23% 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	 arsenic { arsenic }				16 mg/kg		16 mg/kg	0.0016 %		
	033-001-00-X	231-148-6	7440-38-2							
2	 boron { diboron trioxide; boric oxide }				2.3 mg/kg	3.22	7.406 mg/kg	0.000741 %		
	005-008-00-8	215-125-8	1303-86-2							
3	 cadmium { cadmium fluoride }				0.4 mg/kg	1.338	0.535 mg/kg	0.0000535 %		
	048-006-00-2	232-222-0	7790-79-6							
4	 chromium in chromium(III) compounds { chromium(III) oxide }				34 mg/kg	1.462	49.693 mg/kg	0.00497 %		
		215-160-9	1308-38-9							
5	 chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	 copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				34 mg/kg	1.74	59.153 mg/kg	0.00592 %		
	029-020-00-8	235-113-6	12069-69-1							
7	 lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	600 mg/kg		600 mg/kg	0.06 %		
	082-001-00-6									
8	 mercury { mercury }				0.7 mg/kg		0.7 mg/kg	0.00007 %		
	080-001-00-0	231-106-7	7439-97-6							
9	 nickel { nickel }			7	29 mg/kg		29 mg/kg	0.0029 %		
	028-002-00-7	231-111-4	7440-02-0							
10	 selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							
11	 zinc { zinc powder - zinc dust (stabilised) }				160 mg/kg		160 mg/kg	0.016 %		
	030-001-01-9	231-175-3	7440-66-6							
12	 pH				8.1 pH		8.1 pH	8.1 pH		
			PH							
13	 naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	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	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
17	phenanthrene	201-581-5	85-01-8		0.55 mg/kg		0.55 mg/kg	0.000055 %		
18	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	fluoranthene	205-912-4	206-44-0		1.6 mg/kg		1.6 mg/kg	0.00016 %		
20	pyrene	204-927-3	129-00-0		1.5 mg/kg		1.5 mg/kg	0.00015 %		
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	1.1 mg/kg		1.1 mg/kg	0.00011 %		
22	chrysene	601-048-00-0	205-923-4	218-01-9	1 mg/kg		1 mg/kg	0.0001 %		
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.68 mg/kg		0.68 mg/kg	0.000068 %		
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.88 mg/kg		0.88 mg/kg	0.000088 %		
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		0.53 mg/kg		0.53 mg/kg	0.000053 %		
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.47 mg/kg		0.47 mg/kg	0.000047 %		
28	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
29	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
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.92 mg/kg		0.92 mg/kg	0.000092 %		
Total:								0.0953 %		

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
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: TP109A

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

Sample details

Sample Name: TP109A	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.00-0.30 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 26% (no correction)		

Hazard properties

None identified

Determinands

Moisture content: 26% 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	arsenic { arsenic }				40 mg/kg		40 mg/kg	0.004 %		
	033-001-00-X	231-148-6	7440-38-2							
2	boron { diboron trioxide; boric oxide }				4.1 mg/kg	3.22	13.201 mg/kg	0.00132 %		
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium fluoride }				0.4 mg/kg	1.338	0.535 mg/kg	0.0000535 %		
	048-006-00-2	232-222-0	7790-79-6							
4	chromium in chromium(III) compounds { chromium(III) oxide }				26 mg/kg	1.462	38 mg/kg	0.0038 %		
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				31 mg/kg	1.74	53.934 mg/kg	0.00539 %		
	029-020-00-8	235-113-6	12069-69-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	68 mg/kg		68 mg/kg	0.0068 %		
	082-001-00-6									
8	mercury { mercury }				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-001-00-0	231-106-7	7439-97-6							
9	nickel { nickel }			7	61 mg/kg		61 mg/kg	0.0061 %		
	028-002-00-7	231-111-4	7440-02-0							
10	selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							
11	zinc { zinc powder - zinc dust (stabilised) }				260 mg/kg		260 mg/kg	0.026 %		
	030-001-01-9	231-175-3	7440-66-6							
12	pH				8 pH		8 pH	8pH		
			PH							
13	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	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	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
15	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
16	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
17	phenanthrene	201-581-5	85-01-8		1.1 mg/kg		1.1 mg/kg	0.00011 %			
18	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
19	fluoranthene	205-912-4	206-44-0		2.5 mg/kg		2.5 mg/kg	0.00025 %			
20	pyrene	204-927-3	129-00-0		2.3 mg/kg		2.3 mg/kg	0.00023 %			
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	1.3 mg/kg		1.3 mg/kg	0.00013 %			
22	chrysene	601-048-00-0	205-923-4	218-01-9	1.5 mg/kg		1.5 mg/kg	0.00015 %			
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.1 mg/kg		1.1 mg/kg	0.00011 %			
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.2 mg/kg		1.2 mg/kg	0.00012 %			
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
26	benzo[ghi]perylene	205-883-8	191-24-2		0.76 mg/kg		0.76 mg/kg	0.000076 %			
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.49 mg/kg		0.49 mg/kg	0.000049 %			
28	TPH (C6 to C40) petroleum group		TPH		167 mg/kg		167 mg/kg	0.0167 %			
29	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	
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.1 mg/kg		1.1 mg/kg	0.00011 %			
								Total:	0.0726 %		

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
- 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 hydrocarbon odours/ liquids or staining observed

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0167%)

Classification of sample: TP110A

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

Sample details

Sample Name: TP110A	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.00-0.30 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 27% (no correction)		

Hazard properties

None identified

Determinands

Moisture content: 27% 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	arsenic { arsenic }				16 mg/kg		16 mg/kg	0.0016 %		
	033-001-00-X	231-148-6	7440-38-2							
2	boron { diboron trioxide; boric oxide }				6.2 mg/kg	3.22	19.963 mg/kg	0.002 %		
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium fluoride }				0.4 mg/kg	1.338	0.535 mg/kg	0.0000535 %		
	048-006-00-2	232-222-0	7790-79-6							
4	chromium in chromium(III) compounds { chromium(III) oxide }				22 mg/kg	1.462	32.154 mg/kg	0.00322 %		
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	1.923	<7.692 mg/kg	<0.000769 %		<LOD
	024-017-00-8									
6	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				31 mg/kg	1.74	53.934 mg/kg	0.00539 %		
	029-020-00-8	235-113-6	12069-69-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	91 mg/kg		91 mg/kg	0.0091 %		
	082-001-00-6									
8	mercury { mercury }				0.6 mg/kg		0.6 mg/kg	0.00006 %		
	080-001-00-0	231-106-7	7439-97-6							
9	nickel { nickel }			7	23 mg/kg		23 mg/kg	0.0023 %		
	028-002-00-7	231-111-4	7440-02-0							
10	selenium { selenium }				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	034-001-00-2	231-957-4	7782-49-2							
11	zinc { zinc powder - zinc dust (stabilised) }				180 mg/kg		180 mg/kg	0.018 %		
	030-001-01-9	231-175-3	7440-66-6							
12	pH				8.2 pH		8.2 pH	8.2 pH		
			PH							
13	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							

#	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	acenaphthylene	205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
15	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
16	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
17	phenanthrene	201-581-5	85-01-8		1.5 mg/kg		1.5 mg/kg	0.00015 %			
18	anthracene	204-371-1	120-12-7		0.29 mg/kg		0.29 mg/kg	0.000029 %			
19	fluoranthene	205-912-4	206-44-0		3.9 mg/kg		3.9 mg/kg	0.00039 %			
20	pyrene	204-927-3	129-00-0		3.6 mg/kg		3.6 mg/kg	0.00036 %			
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	2.8 mg/kg		2.8 mg/kg	0.00028 %			
22	chrysene	601-048-00-0	205-923-4	218-01-9	1.8 mg/kg		1.8 mg/kg	0.00018 %			
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.2 mg/kg		1.2 mg/kg	0.00012 %			
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.9 mg/kg		1.9 mg/kg	0.00019 %			
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.3 mg/kg		0.3 mg/kg	0.00003 %			
26	benzo[ghi]perylene	205-883-8	191-24-2		1.1 mg/kg		1.1 mg/kg	0.00011 %			
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.97 mg/kg		0.97 mg/kg	0.000097 %			
28	TPH (C6 to C40) petroleum group		TPH		79 mg/kg		79 mg/kg	0.0079 %			
29	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	
30	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	2.4 mg/kg		2.4 mg/kg	0.00024 %			
								Total:	0.0529 %		

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
- 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 hydrocarbon odours/ liquids or staining observed


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0079%)

Classification of sample: TP102B

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

Sample details



Sample Name: TP102B	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.40-0.60 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 20% (no correction)		

Hazard properties



None identified

Determinands


Moisture content: **20% 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	 lead {  lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	49 mg/kg		49 mg/kg	0.0049 %		
	082-001-00-6									
Total:								0.0049 %		

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: TP103B

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

Sample details



Sample Name:	LoW Code:	
TP103B	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40-0.60 m		
Moisture content:		
21%		
(no correction)		

Hazard properties



None identified

Determinands

Moisture content: 21% 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	 lead {  lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	140 mg/kg		140 mg/kg	0.014 %		
	082-001-00-6									
Total:								0.014 %		

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: TP104B

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

Sample details

Sample Name: TP104B	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.40-0.60 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 19% (no correction)		

Hazard properties

None identified

Determinands


Moisture content: **19% 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	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
2	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
3	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
Total:								0.00001 %		

Key

- User supplied data
- Determinand values ignored for classification, see column 'Conc. Not Used' for reason
- <LOD** Below limit of detection
- ND** Not detected

Classification of sample: TP108B

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

Sample details



Sample Name: TP108B	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: 0.40-0.60 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: 19% (no correction)		

Hazard properties



None identified

Determinands


Moisture content: 19% 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	 lead {  lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	23 mg/kg		23 mg/kg	0.0023 %		
	082-001-00-6									
Total:								0.0023 %		

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: TP109B

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

Sample details


Sample Name:	LoW Code:	
TP109B	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40-0.60 m		
Moisture content:		
20%		
(no correction)		

Hazard properties


None identified

Determinands


Moisture content: 20% 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	 arsenic { arsenic }				12 mg/kg		12 mg/kg	0.0012 %		
	033-001-00-X	231-148-6	7440-38-2							
Total:								0.0012 %		

Key

- User supplied data
-  Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration

Classification of sample: TP110B

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

Sample details

Sample Name:	LoW Code:	
TP110B	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40-0.60 m		
Moisture content:		
25%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 25% 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	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
Total:								5.0e-06 %		

Key

- User supplied data
- Determinand values ignored for classification, see column 'Conc. Not Used' for reason
- <LOD** Below limit of detection
- ND** Not detected

Appendix A: Classifier defined and non CLP determinands

arsenic (EC Number: 231-148-6, CAS Number: 7440-38-2)

CLP index number: 033-001-00-X

Description/Comments: Worst Case: IARC considers arsenic Group 1; Carcinogenic to humans

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

Additional Hazard Statement(s): Carc. 1A H350

Reason for additional Hazards Statement(s):

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

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

CLP index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 1; Carcinogenic to humans; Lead REACH Consortium considers some lead compounds Carcinogenic category 1A

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

Additional Hazard Statement(s): Carc. 1A H350

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

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

Conversion factor: 1.462

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

♦ 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

• **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

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

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

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

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

• **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

Appendix B: Rationale for selection of metal species

arsenic {arsenic}

Used for agricultural purposes such as wood preservatives, animal feed, and insecticides, which could have historically been used, as surround area former farm.

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

Lead Chromate dismissed, due to levels of chromium within all soil samples.

boron {diboron trioxide; boric oxide}

Used in enamels and the starting material for other boron compounds.

cadmium {cadmium fluoride}

Used in brake linings, which could have been within former vehicles used on site.

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

Historically may have been used in paints and may be found in soil.

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Historically may have been used in wood preservatives and may be found in soil.

copper {copper(II) carbonate – copper(II) hydroxide (1:1)}

Historically could have been used in pesticides, animal feed, fungicides in surrounding farm.

mercury {mercury}

Could have historically been used in thermometers, fluorescent lamps.

nickel {nickel}

Is used in steel, nonferrous alloys and super-alloys, electroplating and a few other niche uses.

selenium {selenium}

is used in refining ores, the production of glass, alloys, manganese electrolysis and a few other niche uses.

zinc {zinc powder - zinc dust (stabilised)}

zinc is used in alkaline batteries, paints, grease, lubricants, brake lining, machinery and vehicles, which could have all been present on and surrounding the site.

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}

Former Farm

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2020.113.4250.8416 (22 Apr 2020)

HazWasteOnline Database: 2020.113.4250.8416 (22 Apr 2020)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1stEditionv1.1-May2018

CLP Regulation - Regulation1272/2008/ECof16December2008

1st ATP - Regulation790/2009/ECof10August2009

2nd ATP - Regulation286/2011/ECof10March2011

3rd ATP - Regulation618/2012/EUof10July2012

4th ATP - Regulation487/2013/EUof8May2013

Correction to 1st ATP - Regulation758/2013/EUof7August2013

5th ATP - Regulation944/2013/EUof2October2013

6th ATP - Regulation605/2014/EUof5June2014

WFD Annex III replacement - Regulation1357/2014/EUof18December2014

Revised List of Wastes 2014 - Decision2014/955/EUof18December2014

7th ATP - Regulation2015/1221/EUof24July2015

8th ATP - Regulation(EU)2016/918of19May2016

9th ATP - Regulation(EU)2016/1179of19July2016

10th ATP - Regulation(EU)2017/776of4May2017

HP14 amendment - Regulation(EU)2017/997of8June2017

13th ATP - Regulation(EU)2018/1480of4October2018

POPs Regulation 2004 - Regulation850/2004/ECof29April2004

1st ATP to POPs Regulation - Regulation756/2010/EUof24August2010

2nd ATP to POPs Regulation - Regulation757/2010/EUof24August2010