

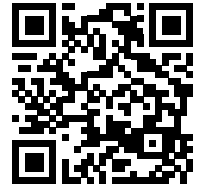
H. HazWasteOnline™ Classification Report

Report reference: V46ZU-N5QSU-SRBNH

Waste Classification Report

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

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



V46ZU-N5QSU-SRBNH

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

Report is invalid if pages are removed.

Job name

The Christie CT Redevelopment - P23 Input

Description/Comments

BH103A The logs indicate the presence of asphalt in the soils potentially explaining the elevated hydrocarbons identified in the sample from 0.10m

Project

The Christie CT Redevelopment - P23 Input

Site

The Christie Hospital, Greater Manchester

Classified by

Name: **Adam Packman**
Date: **12 Feb 2025 09:42 GMT**
Company: **Mott MacDonald Limited**
2 Callaghan Square, Cardiff
Cardiff
CF10 5AZ

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

HazWasteOnline™ Certification:

CERTIFIED

Course
Hazardous Waste Classification

Date
08 Jun 2023

Next 3 year Refresher due by Jun 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

The Christie Hospital, Withington, Greater Manchester

Post Code **M20 4BX**

SIC for the process giving rise to the waste

42990 Construction of other civil engineering projects n.e.c.

Description of industry/producer giving rise to the waste

Redevelopment of a hospital site including partial demolition of existing structures and construction of a new three-storey building with a basement.

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

Waste created during the excavation of the basement and foundation structures as well as site reprofiling where necessary.

Description of the waste

Made Ground comprising soft dark brown slightly sandy gravelly CLAY. Sand is fine to coarse . Gravel is fine to coarse sub-angular to sub-rounded brick, tarmac limestone and brick.
Natural soils comprising medium dense and dense orangish brown slightly clayey slightly gravelly SAND. Gravel comprises fine to coarse subangular sandstone.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH101	1.00	Non Hazardous		3
2	BH102	0.30	Non Hazardous		6
3	BH103	0.70	Non Hazardous		9
4	BH103A	0.10	Hazardous	HP 3(i), HP 7, HP 11	12
5	BH104	0.30	Hazardous	HP 7	15
6	TP101	0.40	Non Hazardous		18
7	TP104	0.30	Non Hazardous		21
8	TP105	0.50	Non Hazardous		24
9	TP106	0.40	Non Hazardous		27
10	TP107	0.40	Non Hazardous		30
11	WS101	0.80	Non Hazardous		33
12	WS102	0.80	Non Hazardous		36

Related documents

#	Name	Description
1	MM standard waste stream for soils	waste stream template used to create this Job

Report

Created by: Adam Packman

Created date: 12 Feb 2025 09:42 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	39
Appendix B: Rationale for selection of metal species	40
Appendix C: Version	41

Classification of sample: BH101

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

Sample details

Sample name: **BH101** LoW Code: **17: Construction and Demolition Wastes (including excavated soil from contaminated sites)**
Sample Depth: **1.00 m** Chapter: **17 05 04 (Soil and stones other than those mentioned in 17 05 03)**
Entry:

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<3.5 mg/kg	1.197	<4.19 mg/kg	<0.000419 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				<10 mg/kg	1.32	<13.203 mg/kg	<0.00132 %			<LOD
	033-003-00-0	215-481-4	1327-53-3								
3	barium { barium diboron tetraoxide }				77 mg/kg	1.623	125.007 mg/kg	0.0125 %			
	056-005-00-3	237-222-4	13701-59-2								
4	beryllium { beryllium oxide }				0.4 mg/kg	2.775	1.11 mg/kg	0.000111 %			
	004-003-00-8	215-133-1	1304-56-9								
5	boron { diboron trioxide }				<2.5 mg/kg	3.22	<8.05 mg/kg	<0.000805 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
6	cadmium { cadmium oxide }				0.8 mg/kg	1.142	0.914 mg/kg	0.0000914 %			
	048-002-00-0	215-146-2	1306-19-0								
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				8.6 mg/kg	1.462	12.569 mg/kg	0.00126 %			
		215-160-9	1308-38-9								
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
9	copper { dicopper oxide; copper (I) oxide }				35 mg/kg	1.126	39.406 mg/kg	0.00394 %			
	029-002-00-X	215-270-7	1317-39-1								
10	iron { iron (III) oxide }				31000 mg/kg	1.43	44322.09 mg/kg	4.432 %			
		215-168-2	1309-37-1								
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	50 mg/kg		50 mg/kg	0.005 %			
	082-001-00-6										
12	manganese { manganese sulphate }				810 mg/kg	2.749	2226.337 mg/kg	0.223 %			
	025-003-00-4	232-089-9	7785-87-7								
13	mercury { mercury dichloride }				0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %			
	080-010-00-X	231-299-8	7487-94-7								
14	molybdenum { molybdenum(VI) oxide }				<2 mg/kg	1.5	<3 mg/kg	<0.0003 %			<LOD
	042-001-00-9	215-204-7	1313-27-5								
15	nickel { dinickel hexacyanoferrate }				23 mg/kg	2.806	64.528 mg/kg	0.00645 %			
	028-037-00-8	238-946-3	14874-78-3								

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				25	mg/kg	1.785	44.63	mg/kg	0.00446 %		
	023-001-00-8	215-239-8	1314-62-1									
18	zinc { zinc sulphate }				55	mg/kg	2.469	135.811	mg/kg	0.0136 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19	pH				7.5	pH		7.5	pH	7.5 pH		
			PH									
20	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											
21	TPH (C6 to C40) petroleum group				<50	mg/kg		<50	mg/kg	<0.005 %		<LOD
			TPH									
22	confirm TPH has NOT arisen from diesel or petrol											
23	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
24	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
25	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
26	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
28	naphthalene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
29	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
30	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									
31	fluorene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-695-5	86-73-7									
32	phenanthrene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
		201-581-5	85-01-8									
33	anthracene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
		204-371-1	120-12-7									
34	fluoranthene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
		205-912-4	206-44-0									
35	pyrene				0.23	mg/kg		0.23	mg/kg	0.000023 %		
		204-927-3	129-00-0									
36	benzo[a]anthracene				0.14	mg/kg		0.14	mg/kg	0.000014 %		
	601-033-00-9	200-280-6	56-55-3									
37	chrysene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
	601-048-00-0	205-923-4	218-01-9									
38	benzo[b]fluoranthene				0.27	mg/kg		0.27	mg/kg	0.000027 %		
	601-034-00-4	205-911-9	205-99-2									
39	benzo[k]fluoranthene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
	601-036-00-5	205-916-6	207-08-9									
40	benzo[a]pyrene; benzo[def]chrysene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
	601-032-00-3	200-028-5	50-32-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
41	• indeno[123-cd]pyrene	205-893-2	193-39-5		0.18 mg/kg		0.18 mg/kg	0.000018 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.02 mg/kg		0.02 mg/kg	0.000002 %		
43	• benzo[ghi]perylene	205-883-8	191-24-2		0.13 mg/kg		0.13 mg/kg	0.000013 %		
44	phenol	604-001-00-2	203-632-7	108-95-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
Total:								4.712 %		

Key

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

Classification of sample: BH102

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

Sample details

Sample name: **BH102** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **0.30 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<3.5 mg/kg	1.197	<4.19 mg/kg	<0.000419 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				18 mg/kg	1.32	23.766 mg/kg	0.00238 %			
	033-003-00-0	215-481-4	1327-53-3								
3	barium { barium diboron tetraoxide }				240 mg/kg	1.623	389.633 mg/kg	0.039 %			
	056-005-00-3	237-222-4	13701-59-2								
4	beryllium { beryllium oxide }				1 mg/kg	2.775	2.775 mg/kg	0.000278 %			
	004-003-00-8	215-133-1	1304-56-9								
5	boron { diboron trioxide }				<2.5 mg/kg	3.22	<8.05 mg/kg	<0.000805 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
6	cadmium { cadmium oxide }				0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %			
	048-002-00-0	215-146-2	1306-19-0								
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6 mg/kg	1.462	8.769 mg/kg	0.000877 %			
		215-160-9	1308-38-9								
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
9	copper { dicopper oxide; copper (I) oxide }				48 mg/kg	1.126	54.043 mg/kg	0.0054 %			
	029-002-00-X	215-270-7	1317-39-1								
10	iron { iron (III) oxide }				31000 mg/kg	1.43	44322.09 mg/kg	4.432 %			
		215-168-2	1309-37-1								
11	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										
12	manganese { manganese sulphate }				660 mg/kg	2.749	1814.052 mg/kg	0.181 %			
	025-003-00-4	232-089-9	7785-87-7								
13	mercury { mercury dichloride }				0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %			
	080-010-00-X	231-299-8	7487-94-7								
14	molybdenum { molybdenum(VI) oxide }				<2 mg/kg	1.5	<3 mg/kg	<0.0003 %			<LOD
	042-001-00-9	215-204-7	1313-27-5								
15	nickel { dinickel hexacyanoferrate }				17 mg/kg	2.806	47.695 mg/kg	0.00477 %			
	028-037-00-8	238-946-3	14874-78-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg		<0.00112 %		<LOD
	034-002-00-8										
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				27 mg/kg	1.785	48.2 mg/kg		0.00482 %		
	023-001-00-8	215-239-8	1314-62-1								
18	zinc { zinc sulphate }				59 mg/kg	2.469	145.688 mg/kg		0.0146 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
19	pH				7.9 pH		7.9 pH		7.9 pH		
			PH								
20	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										
21	TPH (C6 to C40) petroleum group				<50 mg/kg		<50 mg/kg		<0.005 %		<LOD
			TPH								
22	confirm TPH has NOT arisen from diesel or petrol										
23	benzene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
24	toluene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3								
25	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4								
26	xylene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
28	naphthalene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
29	acenaphthylene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		205-917-1	208-96-8								
30	acenaphthene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		201-469-6	83-32-9								
31	fluorene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		201-695-5	86-73-7								
32	phenanthrene				0.03 mg/kg		0.03 mg/kg		0.000003 %		
		201-581-5	85-01-8								
33	anthracene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		204-371-1	120-12-7								
34	fluoranthene				0.07 mg/kg		0.07 mg/kg		0.000007 %		
		205-912-4	206-44-0								
35	pyrene				0.07 mg/kg		0.07 mg/kg		0.000007 %		
		204-927-3	129-00-0								
36	benzo[a]anthracene				0.04 mg/kg		0.04 mg/kg		0.000004 %		
	601-033-00-9	200-280-6	56-55-3								
37	chrysene				0.05 mg/kg		0.05 mg/kg		0.000005 %		
	601-048-00-0	205-923-4	218-01-9								
38	benzo[b]fluoranthene				0.06 mg/kg		0.06 mg/kg		0.000006 %		
	601-034-00-4	205-911-9	205-99-2								
39	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
	601-036-00-5	205-916-6	207-08-9								
40	benzo[a]pyrene; benzo[def]chrysene				0.03 mg/kg		0.03 mg/kg		0.000003 %		
	601-032-00-3	200-028-5	50-32-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
41	indeno[123-cd]pyrene	205-893-2	193-39-5		0.04 mg/kg		0.04 mg/kg	0.000004 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
43	benzo[ghi]perylene	205-883-8	191-24-2		0.03 mg/kg		0.03 mg/kg	0.000003 %		
44	phenol	604-001-00-2	203-632-7	108-95-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
Total:								4.707 %		

Key

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

Classification of sample: BH103

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

Sample details

Sample name: **BH103** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **0.70 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<3.5 mg/kg	1.197	<4.19 mg/kg	<0.000419 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				10 mg/kg	1.32	13.203 mg/kg	0.00132 %			
	033-003-00-0	215-481-4	1327-53-3								
3	barium { barium diboron tetraoxide }				110 mg/kg	1.623	178.582 mg/kg	0.0179 %			
	056-005-00-3	237-222-4	13701-59-2								
4	beryllium { beryllium oxide }				0.6 mg/kg	2.775	1.665 mg/kg	0.000167 %			
	004-003-00-8	215-133-1	1304-56-9								
5	boron { diboron trioxide }				<2.5 mg/kg	3.22	<8.05 mg/kg	<0.000805 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
6	cadmium { cadmium oxide }				0.5 mg/kg	1.142	0.571 mg/kg	0.0000571 %			
	048-002-00-0	215-146-2	1306-19-0								
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6.4 mg/kg	1.462	9.354 mg/kg	0.000935 %			
		215-160-9	1308-38-9								
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
9	copper { dicopper oxide; copper (I) oxide }				29 mg/kg	1.126	32.651 mg/kg	0.00327 %			
	029-002-00-X	215-270-7	1317-39-1								
10	iron { iron (III) oxide }				16000 mg/kg	1.43	22875.917 mg/kg	2.288 %			
		215-168-2	1309-37-1								
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	110 mg/kg		110 mg/kg	0.011 %			
	082-001-00-6										
12	manganese { manganese sulphate }				300 mg/kg	2.749	824.569 mg/kg	0.0825 %			
	025-003-00-4	232-089-9	7785-87-7								
13	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
14	molybdenum { molybdenum(VI) oxide }				<2 mg/kg	1.5	<3 mg/kg	<0.0003 %			<LOD
	042-001-00-9	215-204-7	1313-27-5								
15	nickel { dinickel hexacyanoferrate }				14 mg/kg	2.806	39.278 mg/kg	0.00393 %			
	028-037-00-8	238-946-3	14874-78-3								

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				19	mg/kg	1.785	33.919	mg/kg	0.00339 %		
	023-001-00-8	215-239-8	1314-62-1									
18	zinc { zinc sulphate }				50	mg/kg	2.469	123.465	mg/kg	0.0123 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19	pH				8.3	pH		8.3	pH	8.3 pH		
			PH									
20	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											
21	TPH (C6 to C40) petroleum group				100	mg/kg		100	mg/kg	0.01 %		
			TPH									
22	confirm TPH has NOT arisen from diesel or petrol											
23	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
24	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
25	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
26	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
28	naphthalene				0.02	mg/kg		0.02	mg/kg	0.000002 %		
	601-052-00-2	202-049-5	91-20-3									
29	acenaphthylene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
		205-917-1	208-96-8									
30	acenaphthene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		201-469-6	83-32-9									
31	fluorene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		201-695-5	86-73-7									
32	phenanthrene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
		201-581-5	85-01-8									
33	anthracene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		204-371-1	120-12-7									
34	fluoranthene				2.2	mg/kg		2.2	mg/kg	0.00022 %		
		205-912-4	206-44-0									
35	pyrene				2.2	mg/kg		2.2	mg/kg	0.00022 %		
		204-927-3	129-00-0									
36	benzo[a]anthracene				0.95	mg/kg		0.95	mg/kg	0.000095 %		
	601-033-00-9	200-280-6	56-55-3									
37	chrysene				1	mg/kg		1	mg/kg	0.0001 %		
	601-048-00-0	205-923-4	218-01-9									
38	benzo[b]fluoranthene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
	601-034-00-4	205-911-9	205-99-2									
39	benzo[k]fluoranthene				0.43	mg/kg		0.43	mg/kg	0.000043 %		
	601-036-00-5	205-916-6	207-08-9									
40	benzo[a]pyrene; benzo[def]chrysene				0.88	mg/kg		0.88	mg/kg	0.000088 %		
	601-032-00-3	200-028-5	50-32-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
41	indeno[123-cd]pyrene	205-893-2	193-39-5		0.52 mg/kg		0.52 mg/kg	0.000052 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.1 mg/kg		0.1 mg/kg	0.00001 %		
43	benzo[ghi]perylene	205-883-8	191-24-2		0.49 mg/kg		0.49 mg/kg	0.000049 %		
44	phenol	604-001-00-2	203-632-7		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
Total:								2.439 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: HP 3 Flammable (first indent) can be discounted as this is a solid waste without a free draining liquid phase. The waste does not display these hazardous properties.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.01%)

Classification of sample: BH103A

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

Sample details

Sample name:	LoW Code:
BH103A	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.10 m	

Hazard properties

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"

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.19%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.19%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.19%)

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<3.5 mg/kg	1.197	<4.19 mg/kg	<0.000419 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				11 mg/kg	1.32	14.524 mg/kg	0.00145 %			
	033-003-00-0	215-481-4	1327-53-3								
3	barium { barium diboron tetraoxide }				290 mg/kg	1.623	470.807 mg/kg	0.0471 %			
	056-005-00-3	237-222-4	13701-59-2								
4	beryllium { beryllium oxide }				1.1 mg/kg	2.775	3.053 mg/kg	0.000305 %			
	004-003-00-8	215-133-1	1304-56-9								
5	boron { diboron trioxide }				<2.5 mg/kg	3.22	<8.05 mg/kg	<0.000805 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
6	cadmium { cadmium oxide }				0.7 mg/kg	1.142	0.8 mg/kg	0.00008 %			
	048-002-00-0	215-146-2	1306-19-0								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		11 mg/kg	1.462	16.077 mg/kg	0.00161 %			
8	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
9	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	46 mg/kg	1.126	51.791 mg/kg	0.00518 %			
10	iron { iron (III) oxide }	215-168-2	1309-37-1		28000 mg/kg	1.43	40032.855 mg/kg	4.003 %			
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6		1	56 mg/kg		56 mg/kg	0.0056 %			
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7	490 mg/kg	2.749	1346.796 mg/kg	0.135 %			
13	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %			
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5	2.4 mg/kg	1.5	3.6 mg/kg	0.00036 %			
15	nickel { dinickel hexacyanoferrate }	028-037-00-8	238-946-3	14874-78-3	33 mg/kg	2.806	92.584 mg/kg	0.00926 %			
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %			<LOD
17	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	35 mg/kg	1.785	62.481 mg/kg	0.00625 %			
18	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]	55 mg/kg	2.469	135.811 mg/kg	0.0136 %			
19	pH				9 pH		9 pH	9pH			
20	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
21	TPH (C6 to C40) petroleum group				1900 mg/kg		1900 mg/kg	0.19 %			
22	confirm TPH has NOT arisen from diesel or petrol										
23	benzene	601-020-00-8	200-753-7	71-43-2	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
24	toluene	601-021-00-3	203-625-9	108-88-3	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
25	ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
26	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
28	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
29	acenaphthylene		205-917-1	208-96-8	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
30	acenaphthene	201-469-6	83-32-9		0.96 mg/kg		0.96 mg/kg	0.000096 %		
31	fluorene	201-695-5	86-73-7		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
32	phenanthrene	201-581-5	85-01-8		1.2 mg/kg		1.2 mg/kg	0.00012 %		
33	anthracene	204-371-1	120-12-7		1.1 mg/kg		1.1 mg/kg	0.00011 %		
34	fluoranthene	205-912-4	206-44-0		4.7 mg/kg		4.7 mg/kg	0.00047 %		
35	pyrene	204-927-3	129-00-0		4.7 mg/kg		4.7 mg/kg	0.00047 %		
36	benzo[a]anthracene	601-033-00-9	200-280-6		2.7 mg/kg		2.7 mg/kg	0.00027 %		
37	chrysene	601-048-00-0	205-923-4		2.9 mg/kg		2.9 mg/kg	0.00029 %		
38	benzo[b]fluoranthene	601-034-00-4	205-911-9		5.2 mg/kg		5.2 mg/kg	0.00052 %		
39	benzo[k]fluoranthene	601-036-00-5	205-916-6		1.9 mg/kg		1.9 mg/kg	0.00019 %		
40	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		4.4 mg/kg		4.4 mg/kg	0.00044 %		
41	indeno[123-cd]pyrene	205-893-2	193-39-5		4.5 mg/kg		4.5 mg/kg	0.00045 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.63 mg/kg		0.63 mg/kg	0.000063 %		
43	benzo[ghi]perylene	205-883-8	191-24-2		4.9 mg/kg		4.9 mg/kg	0.00049 %		
44	phenol	604-001-00-2	203-632-7		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
Total:								4.426 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)

because: HP 3 Flammable (first indent) can be discounted as this is a solid waste without a free draining liquid phase. The waste does not display these hazardous properties.

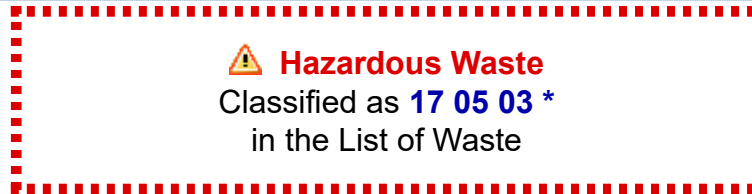
Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.19%)

Classification of sample: BH104



Sample details

Sample name:	LoW Code:
BH104	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.30 m	

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.: 0.21%)

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<3.5 mg/kg	1.197	<4.19 mg/kg	<0.000419 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				28 mg/kg	1.32	36.969 mg/kg	0.0037 %			
	033-003-00-0	215-481-4	1327-53-3								
3	barium { barium diboron tetraoxide }				560 mg/kg	1.623	909.145 mg/kg	0.0909 %			
	056-005-00-3	237-222-4	13701-59-2								
4	beryllium { beryllium oxide }				1.3 mg/kg	2.775	3.608 mg/kg	0.000361 %			
	004-003-00-8	215-133-1	1304-56-9								
5	boron { diboron trioxide }				<2.5 mg/kg	3.22	<8.05 mg/kg	<0.000805 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
6	cadmium { cadmium oxide }				1.1 mg/kg	1.142	1.257 mg/kg	0.000126 %			
	048-002-00-0	215-146-2	1306-19-0								
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6.5 mg/kg	1.462	9.5 mg/kg	0.00095 %			
		215-160-9	1308-38-9								
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
9	copper { dicopper oxide; copper (I) oxide }				120 mg/kg	1.126	135.107 mg/kg	0.0135 %			
	029-002-00-X	215-270-7	1317-39-1								
10	iron { iron (III) oxide }				39000 mg/kg	1.43	55760.048 mg/kg	5.576 %			
		215-168-2	1309-37-1								
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	2100 mg/kg		2100 mg/kg	0.21 %			
	082-001-00-6										
12	manganese { manganese sulphate }				650 mg/kg	2.749	1786.566 mg/kg	0.179 %			
	025-003-00-4	232-089-9	7785-87-7								
13	mercury { mercury dichloride }				1.1 mg/kg	1.353	1.489 mg/kg	0.000149 %			
	080-010-00-X	231-299-8	7487-94-7								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	molybdenum { molybdenum(VI) oxide }				3.1 mg/kg	1.5	4.651 mg/kg	0.000465 %			
	042-001-00-9	215-204-7	1313-27-5								
15	nickel { dinickel hexacyanoferrate }				24 mg/kg	2.806	67.334 mg/kg	0.00673 %			
	028-037-00-8	238-946-3	14874-78-3								
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %			<LOD
	034-002-00-8										
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				31 mg/kg	1.785	55.341 mg/kg	0.00553 %			
	023-001-00-8	215-239-8	1314-62-1								
18	zinc { zinc sulphate }				250 mg/kg	2.469	617.324 mg/kg	0.0617 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
19	pH		PH		8.5 pH		8.5 pH	8.5 pH			
20	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										
21	TPH (C6 to C40) petroleum group		TPH		<50 mg/kg		<50 mg/kg	<0.005 %			<LOD
22	confirm TPH has NOT arisen from diesel or petrol										
23	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
24	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
25	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
26	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
28	naphthalene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
29	acenaphthylene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
		205-917-1	208-96-8								
30	acenaphthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
		201-469-6	83-32-9								
31	fluorene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
		201-695-5	86-73-7								
32	phenanthrene				0.05 mg/kg		0.05 mg/kg	0.000005 %			
		201-581-5	85-01-8								
33	anthracene				0.05 mg/kg		0.05 mg/kg	0.000005 %			
		204-371-1	120-12-7								
34	fluoranthene				0.07 mg/kg		0.07 mg/kg	0.000007 %			
		205-912-4	206-44-0								
35	pyrene				0.07 mg/kg		0.07 mg/kg	0.000007 %			
		204-927-3	129-00-0								
36	benzo[a]anthracene				0.04 mg/kg		0.04 mg/kg	0.000004 %			
	601-033-00-9	200-280-6	56-55-3								
37	chrysene				0.05 mg/kg		0.05 mg/kg	0.000005 %			
	601-048-00-0	205-923-4	218-01-9								
38	benzo[b]fluoranthene				0.07 mg/kg		0.07 mg/kg	0.000007 %			
	601-034-00-4	205-911-9	205-99-2								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
39	benzo[k]fluoranthene				0.03 mg/kg		0.03 mg/kg	0.000003 %		
	601-036-00-5	205-916-6	207-08-9							
40	benzo[a]pyrene; benzo[def]chrysene				0.05 mg/kg		0.05 mg/kg	0.000005 %		
	601-032-00-3	200-028-5	50-32-8							
41	indeno[123-cd]pyrene				0.06 mg/kg		0.06 mg/kg	0.000006 %		
		205-893-2	193-39-5							
42	dibenz[a,h]anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
43	benzo[ghi]perylene				0.06 mg/kg		0.06 mg/kg	0.000006 %		
		205-883-8	191-24-2							
44	phenol				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
45	vinyl chloride; chloroethylene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
	602-023-00-7	200-831-0	75-01-4							
46	1,2-dibromoethane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	602-010-00-6	203-444-5	106-93-4							
Total:								6.157 %		

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

Classification of sample: TP101

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

Sample details

Sample name:	LoW Code:
TP101	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 m	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	 antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	3.5	mg/kg	1.197	<4.19	mg/kg	<0.000419 %		<LOD
2	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	14	mg/kg	1.32	18.485	mg/kg	0.00185 %		
3	 barium { barium diboron tetraoxide }	056-005-00-3	237-222-4	13701-59-2	110	mg/kg	1.623	178.582	mg/kg	0.0179 %		
4	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.8	mg/kg	2.775	2.22	mg/kg	0.000222 %		
5	 boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2	<2.5	mg/kg	3.22	<8.05	mg/kg	<0.000805 %		<LOD
6	 cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.7	mg/kg	1.142	0.8	mg/kg	0.00008 %		
7	 chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		6.9	mg/kg	1.462	10.085	mg/kg	0.00101 %		
8	 chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
9	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	49	mg/kg	1.126	55.169	mg/kg	0.00552 %		
10	 iron { iron (III) oxide }	215-168-2	1309-37-1		21000	mg/kg	1.43	30024.641	mg/kg	3.002 %		
11	 lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			92	mg/kg		92	mg/kg	0.0092 %		
12	 manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7	380	mg/kg	2.749	1044.454	mg/kg	0.104 %		
13	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
14	 molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5	<2	mg/kg	1.5	<3	mg/kg	<0.0003 %		<LOD
15	 nickel { dinickel hexacyanoferrate }	028-037-00-8	238-946-3	14874-78-3	14	mg/kg	2.806	39.278	mg/kg	0.00393 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %			<LOD
	034-002-00-8										
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				26 mg/kg	1.785	46.415 mg/kg	0.00464 %			
	023-001-00-8	215-239-8	1314-62-1								
18	zinc { zinc sulphate }				52 mg/kg	2.469	128.403 mg/kg	0.0128 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
19	pH				7.3 pH		7.3 pH	7.3 pH			
			PH								
20	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										
21	TPH (C6 to C40) petroleum group				92 mg/kg		92 mg/kg	0.0092 %			
			TPH								
22	confirm TPH has NOT arisen from diesel or petrol										
23	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
24	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
25	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
26	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
28	naphthalene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
29	acenaphthylene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
		205-917-1	208-96-8								
30	acenaphthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
		201-469-6	83-32-9								
31	fluorene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
		201-695-5	86-73-7								
32	phenanthrene				0.07 mg/kg		0.07 mg/kg	0.000007 %			
		201-581-5	85-01-8								
33	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
		204-371-1	120-12-7								
34	fluoranthene				0.14 mg/kg		0.14 mg/kg	0.000014 %			
		205-912-4	206-44-0								
35	pyrene				0.15 mg/kg		0.15 mg/kg	0.000015 %			
		204-927-3	129-00-0								
36	benzo[a]anthracene				0.07 mg/kg		0.07 mg/kg	0.000007 %			
	601-033-00-9	200-280-6	56-55-3								
37	chrysene				0.1 mg/kg		0.1 mg/kg	0.00001 %			
	601-048-00-0	205-923-4	218-01-9								
38	benzo[b]fluoranthene				0.12 mg/kg		0.12 mg/kg	0.000012 %			
	601-034-00-4	205-911-9	205-99-2								
39	benzo[k]fluoranthene				0.03 mg/kg		0.03 mg/kg	0.000003 %			
	601-036-00-5	205-916-6	207-08-9								
40	benzo[a]pyrene; benzo[def]chrysene				0.07 mg/kg		0.07 mg/kg	0.000007 %			
	601-032-00-3	200-028-5	50-32-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
41	indeno[123-cd]pyrene	205-893-2	193-39-5		0.07 mg/kg		0.07 mg/kg	0.000007 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
43	benzo[ghi]perylene	205-883-8	191-24-2		0.06 mg/kg		0.06 mg/kg	0.000006 %		
44	phenol	604-001-00-2	203-632-7	108-95-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
Total:								3.176 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)

because: HP 3 Flammable (first indent) can be discounted as this is a solid waste without a free draining liquid phase. The waste does not display these hazardous properties.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0092%)

Classification of sample: TP104

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

Sample details

Sample name: **TP104** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **0.30 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	<3.5	mg/kg	1.197	<4.19	mg/kg	<0.000419 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
3	barium { barium diboron tetraoxide }	056-005-00-3	237-222-4	13701-59-2	950	mg/kg	1.623	1542.299	mg/kg	0.154 %		
4	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.8	mg/kg	2.775	2.22	mg/kg	0.000222 %		
5	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2	<2.5	mg/kg	3.22	<8.05	mg/kg	<0.000805 %		<LOD
6	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.9	mg/kg	1.142	1.028	mg/kg	0.000103 %		
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		12	mg/kg	1.462	17.539	mg/kg	0.00175 %		
8	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
9	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	90	mg/kg	1.126	101.33	mg/kg	0.0101 %		
10	iron { iron (III) oxide }	215-168-2	1309-37-1		29000	mg/kg	1.43	41462.6	mg/kg	4.146 %		
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			210	mg/kg		210	mg/kg	0.021 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7	320	mg/kg	2.749	879.54	mg/kg	0.088 %		
13	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5	<2	mg/kg	1.5	<3	mg/kg	<0.0003 %		<LOD
15	nickel { dinickel hexacyanoferrate }	028-037-00-8	238-946-3	14874-78-3	23	mg/kg	2.806	64.528	mg/kg	0.00645 %		

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				33	mg/kg	1.785	58.911	mg/kg	0.00589 %		
	023-001-00-8	215-239-8	1314-62-1									
18	zinc { zinc sulphate }				370	mg/kg	2.469	913.64	mg/kg	0.0914 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19	pH				7.9	pH		7.9	pH	7.9 pH		
			PH									
20	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											
21	TPH (C6 to C40) petroleum group				<50	mg/kg		<50	mg/kg	<0.005 %		<LOD
			TPH									
22	confirm TPH has NOT arisen from diesel or petrol											
23	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
24	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
25	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
26	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
28	naphthalene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
29	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
30	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									
31	fluorene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-695-5	86-73-7									
32	phenanthrene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
		201-581-5	85-01-8									
33	anthracene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
		204-371-1	120-12-7									
34	fluoranthene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
		205-912-4	206-44-0									
35	pyrene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
		204-927-3	129-00-0									
36	benzo[a]anthracene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
	601-033-00-9	200-280-6	56-55-3									
37	chrysene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
	601-048-00-0	205-923-4	218-01-9									
38	benzo[b]fluoranthene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
	601-034-00-4	205-911-9	205-99-2									
39	benzo[k]fluoranthene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
	601-036-00-5	205-916-6	207-08-9									
40	benzo[a]pyrene; benzo[def]chrysene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
	601-032-00-3	200-028-5	50-32-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
41	• indeno[123-cd]pyrene	205-893-2	193-39-5		0.12 mg/kg		0.12 mg/kg	0.000012 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
43	• benzo[ghi]perylene	205-883-8	191-24-2		0.08 mg/kg		0.08 mg/kg	0.000008 %		
44	phenol	604-001-00-2	203-632-7	108-95-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
Total:								4.535 %		

Key

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

Classification of sample: TP105

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

Sample details

Sample name:	LoW Code:
TP105	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)
0.50 m	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				<3.5	mg/kg	1.197	<4.19	mg/kg	<0.000419 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				26	mg/kg	1.32	34.328	mg/kg	0.00343 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium diboron tetraoxide }				120	mg/kg	1.623	194.817	mg/kg	0.0195 %		
	056-005-00-3	237-222-4	13701-59-2									
4	beryllium { beryllium oxide }				0.7	mg/kg	2.775	1.943	mg/kg	0.000194 %		
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide }				<2.5	mg/kg	3.22	<8.05	mg/kg	<0.000805 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium oxide }				0.7	mg/kg	1.142	0.8	mg/kg	0.00008 %		
	048-002-00-0	215-146-2	1306-19-0									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				5.4	mg/kg	1.462	7.892	mg/kg	0.000789 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
9	copper { dicopper oxide; copper (I) oxide }				63	mg/kg	1.126	70.931	mg/kg	0.00709 %		
	029-002-00-X	215-270-7	1317-39-1									
10	iron { iron (III) oxide }				34000	mg/kg	1.43	48611.324	mg/kg	4.861 %		
		215-168-2	1309-37-1									
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	450	mg/kg		450	mg/kg	0.045 %		
	082-001-00-6											
12	manganese { manganese sulphate }				590	mg/kg	2.749	1621.653	mg/kg	0.162 %		
	025-003-00-4	232-089-9	7785-87-7									
13	mercury { mercury dichloride }				0.2	mg/kg	1.353	0.271	mg/kg	0.0000271 %		
	080-010-00-X	231-299-8	7487-94-7									
14	molybdenum { molybdenum(VI) oxide }				2.8	mg/kg	1.5	4.201	mg/kg	0.00042 %		
	042-001-00-9	215-204-7	1313-27-5									
15	nickel { dinickel hexacyanoferrate }				21	mg/kg	2.806	58.917	mg/kg	0.00589 %		
	028-037-00-8	238-946-3	14874-78-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg		<0.00112 %		<LOD
	034-002-00-8										
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				32 mg/kg	1.785	57.126 mg/kg		0.00571 %		
	023-001-00-8	215-239-8	1314-62-1								
18	zinc { zinc sulphate }				73 mg/kg	2.469	180.259 mg/kg		0.018 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
19	pH				7.8 pH		7.8 pH		7.8 pH		
			PH								
20	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										
21	TPH (C6 to C40) petroleum group				<50 mg/kg		<50 mg/kg		<0.005 %		<LOD
			TPH								
22	confirm TPH has NOT arisen from diesel or petrol										
23	benzene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
24	toluene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3								
25	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4								
26	xylene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
28	naphthalene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
29	acenaphthylene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		205-917-1	208-96-8								
30	acenaphthene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		201-469-6	83-32-9								
31	fluorene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		201-695-5	86-73-7								
32	phenanthrene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		201-581-5	85-01-8								
33	anthracene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		204-371-1	120-12-7								
34	fluoranthene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		205-912-4	206-44-0								
35	pyrene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		204-927-3	129-00-0								
36	benzo[a]anthracene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
	601-033-00-9	200-280-6	56-55-3								
37	chrysene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
	601-048-00-0	205-923-4	218-01-9								
38	benzo[b]fluoranthene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
	601-034-00-4	205-911-9	205-99-2								
39	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
	601-036-00-5	205-916-6	207-08-9								
40	benzo[a]pyrene; benzo[def]chrysene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
	601-032-00-3	200-028-5	50-32-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
41	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.02 mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
43	benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
44	phenol	604-001-00-2	203-632-7		<0.2 mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0		<0.02 mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5		<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
Total:									5.137 %		

Key

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

Classification of sample: TP106

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

Sample details

Sample name: **TP106** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **0.40 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<3.5 mg/kg	1.197	<4.19 mg/kg	<0.000419 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				<10 mg/kg	1.32	<13.203 mg/kg	<0.00132 %			<LOD
	033-003-00-0	215-481-4	1327-53-3								
3	barium { barium diboron tetraoxide }				100 mg/kg	1.623	162.347 mg/kg	0.0162 %			
	056-005-00-3	237-222-4	13701-59-2								
4	beryllium { beryllium oxide }				0.5 mg/kg	2.775	1.388 mg/kg	0.000139 %			
	004-003-00-8	215-133-1	1304-56-9								
5	boron { diboron trioxide }				<2.5 mg/kg	3.22	<8.05 mg/kg	<0.000805 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
6	cadmium { cadmium oxide }				0.5 mg/kg	1.142	0.571 mg/kg	0.0000571 %			
	048-002-00-0	215-146-2	1306-19-0								
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				5 mg/kg	1.462	7.308 mg/kg	0.000731 %			
		215-160-9	1308-38-9								
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
9	copper { dicopper oxide; copper (I) oxide }				32 mg/kg	1.126	36.028 mg/kg	0.0036 %			
	029-002-00-X	215-270-7	1317-39-1								
10	iron { iron (III) oxide }				17000 mg/kg	1.43	24305.662 mg/kg	2.431 %			
		215-168-2	1309-37-1								
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	330 mg/kg		330 mg/kg	0.033 %			
	082-001-00-6										
12	manganese { manganese sulphate }				240 mg/kg	2.749	659.655 mg/kg	0.066 %			
	025-003-00-4	232-089-9	7785-87-7								
13	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
14	molybdenum { molybdenum(VI) oxide }				<2 mg/kg	1.5	<3 mg/kg	<0.0003 %			<LOD
	042-001-00-9	215-204-7	1313-27-5								
15	nickel { dinickel hexacyanoferrate }				13 mg/kg	2.806	36.472 mg/kg	0.00365 %			
	028-037-00-8	238-946-3	14874-78-3								

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				21	mg/kg	1.785	37.489	mg/kg	0.00375 %		
	023-001-00-8	215-239-8	1314-62-1									
18	zinc { zinc sulphate }				66	mg/kg	2.469	162.974	mg/kg	0.0163 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19	pH				8.5	pH		8.5	pH	8.5 pH		
			PH									
20	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											
21	TPH (C6 to C40) petroleum group				<50	mg/kg		<50	mg/kg	<0.005 %		<LOD
			TPH									
22	confirm TPH has NOT arisen from diesel or petrol											
23	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
24	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
25	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
26	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
28	naphthalene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
	601-052-00-2	202-049-5	91-20-3									
29	acenaphthylene				0.02	mg/kg		0.02	mg/kg	0.000002 %		
		205-917-1	208-96-8									
30	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									
31	fluorene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-695-5	86-73-7									
32	phenanthrene				0.43	mg/kg		0.43	mg/kg	0.000043 %		
		201-581-5	85-01-8									
33	anthracene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
		204-371-1	120-12-7									
34	fluoranthene				0.62	mg/kg		0.62	mg/kg	0.000062 %		
		205-912-4	206-44-0									
35	pyrene				0.63	mg/kg		0.63	mg/kg	0.000063 %		
		204-927-3	129-00-0									
36	benzo[a]anthracene				0.28	mg/kg		0.28	mg/kg	0.000028 %		
	601-033-00-9	200-280-6	56-55-3									
37	chrysene				0.38	mg/kg		0.38	mg/kg	0.000038 %		
	601-048-00-0	205-923-4	218-01-9									
38	benzo[b]fluoranthene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
	601-034-00-4	205-911-9	205-99-2									
39	benzo[k]fluoranthene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
	601-036-00-5	205-916-6	207-08-9									
40	benzo[a]pyrene; benzo[def]chrysene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
	601-032-00-3	200-028-5	50-32-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
41	• indeno[123-cd]pyrene	205-893-2	193-39-5		0.17 mg/kg		0.17 mg/kg	0.000017 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
43	• benzo[ghi]perylene	205-883-8	191-24-2		0.2 mg/kg		0.2 mg/kg	0.00002 %		
44	phenol	604-001-00-2	203-632-7	108-95-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
Total:								2.584 %		

Key

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

Classification of sample: TP107

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

Sample details

Sample name:	LoW Code:
TP107	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 m	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<3.5 mg/kg	1.197	<4.19 mg/kg		<0.000419 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				78 mg/kg	1.32	102.985 mg/kg		0.0103 %		
	033-003-00-0	215-481-4	1327-53-3								
3	barium { barium diboron tetraoxide }				280 mg/kg	1.623	454.572 mg/kg		0.0455 %		
	056-005-00-3	237-222-4	13701-59-2								
4	beryllium { beryllium oxide }				1.2 mg/kg	2.775	3.33 mg/kg		0.000333 %		
	004-003-00-8	215-133-1	1304-56-9								
5	boron { diboron trioxide }				<2.5 mg/kg	3.22	<8.05 mg/kg		<0.000805 %		<LOD
	005-008-00-8	215-125-8	1303-86-2								
6	cadmium { cadmium oxide }				1.2 mg/kg	1.142	1.371 mg/kg		0.000137 %		
	048-002-00-0	215-146-2	1306-19-0								
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				8.2 mg/kg	1.462	11.985 mg/kg		0.0012 %		
		215-160-9	1308-38-9								
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg		<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0								
9	copper { dicopper oxide; copper (I) oxide }				210 mg/kg	1.126	236.437 mg/kg		0.0236 %		
	029-002-00-X	215-270-7	1317-39-1								
10	iron { iron (III) oxide }				33000 mg/kg	1.43	47181.579 mg/kg		4.718 %		
		215-168-2	1309-37-1								
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	590 mg/kg		590 mg/kg		0.059 %		
	082-001-00-6										
12	manganese { manganese sulphate }				880 mg/kg	2.749	2418.736 mg/kg		0.242 %		
	025-003-00-4	232-089-9	7785-87-7								
13	mercury { mercury dichloride }				0.5 mg/kg	1.353	0.677 mg/kg		0.0000677 %		
	080-010-00-X	231-299-8	7487-94-7								
14	molybdenum { molybdenum(VI) oxide }				<2 mg/kg	1.5	<3 mg/kg		<0.0003 %		<LOD
	042-001-00-9	215-204-7	1313-27-5								
15	nickel { dinickel hexacyanoferrate }				27 mg/kg	2.806	75.75 mg/kg		0.00758 %		
	028-037-00-8	238-946-3	14874-78-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg		<0.00112 %		<LOD
	034-002-00-8										
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				31 mg/kg	1.785	55.341 mg/kg		0.00553 %		
	023-001-00-8	215-239-8	1314-62-1								
18	zinc { zinc sulphate }				360 mg/kg	2.469	888.947 mg/kg		0.0889 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
19	pH				7.9 pH		7.9 pH		7.9 pH		
			PH								
20	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										
21	TPH (C6 to C40) petroleum group				<50 mg/kg		<50 mg/kg		<0.005 %		<LOD
			TPH								
22	confirm TPH has NOT arisen from diesel or petrol										
23	benzene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
24	toluene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3								
25	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4								
26	xylene				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg		<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
28	naphthalene				0.11 mg/kg		0.11 mg/kg		0.000011 %		
	601-052-00-2	202-049-5	91-20-3								
29	acenaphthylene				0.04 mg/kg		0.04 mg/kg		0.000004 %		
		205-917-1	208-96-8								
30	acenaphthene				<0.02 mg/kg		<0.02 mg/kg		<0.000002 %		<LOD
		201-469-6	83-32-9								
31	fluorene				0.03 mg/kg		0.03 mg/kg		0.000003 %		
		201-695-5	86-73-7								
32	phenanthrene				0.46 mg/kg		0.46 mg/kg		0.000046 %		
		201-581-5	85-01-8								
33	anthracene				0.06 mg/kg		0.06 mg/kg		0.000006 %		
		204-371-1	120-12-7								
34	fluoranthene				0.58 mg/kg		0.58 mg/kg		0.000058 %		
		205-912-4	206-44-0								
35	pyrene				0.6 mg/kg		0.6 mg/kg		0.00006 %		
		204-927-3	129-00-0								
36	benzo[a]anthracene				0.24 mg/kg		0.24 mg/kg		0.000024 %		
	601-033-00-9	200-280-6	56-55-3								
37	chrysene				0.37 mg/kg		0.37 mg/kg		0.000037 %		
	601-048-00-0	205-923-4	218-01-9								
38	benzo[b]fluoranthene				0.3 mg/kg		0.3 mg/kg		0.00003 %		
	601-034-00-4	205-911-9	205-99-2								
39	benzo[k]fluoranthene				0.1 mg/kg		0.1 mg/kg		0.00001 %		
	601-036-00-5	205-916-6	207-08-9								
40	benzo[a]pyrene; benzo[def]chrysene				0.25 mg/kg		0.25 mg/kg		0.000025 %		
	601-032-00-3	200-028-5	50-32-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
41	indeno[123-cd]pyrene	205-893-2	193-39-5		0.15 mg/kg		0.15 mg/kg	0.000015 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
43	benzo[ghi]perylene	205-883-8	191-24-2		0.17 mg/kg		0.17 mg/kg	0.000017 %		
44	phenol	604-001-00-2	203-632-7	108-95-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
Total:								5.211 %		

Key

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

Classification of sample: WS101

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

Sample details

Sample name: **WS101** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **0.80 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	<3.5 mg/kg	1.197	<4.19 mg/kg	<0.000419 %			<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	13 mg/kg	1.32	17.164 mg/kg	0.00172 %			
3	barium { barium diboron tetraoxide }	056-005-00-3	237-222-4	13701-59-2	170 mg/kg	1.623	275.99 mg/kg	0.0276 %			
4	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.7 mg/kg	2.775	1.943 mg/kg	0.000194 %			
5	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2	<2.5 mg/kg	3.22	<8.05 mg/kg	<0.000805 %			<LOD
6	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.6 mg/kg	1.142	0.685 mg/kg	0.0000685 %			
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		7.5 mg/kg	1.462	10.962 mg/kg	0.0011 %			
8	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
9	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	46 mg/kg	1.126	51.791 mg/kg	0.00518 %			
10	iron { iron (III) oxide }	215-168-2	1309-37-1		25000 mg/kg	1.43	35743.621 mg/kg	3.574 %			
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			56 mg/kg		56 mg/kg	0.0056 %			
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7	580 mg/kg	2.749	1594.167 mg/kg	0.159 %			
13	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %			<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5	<2 mg/kg	1.5	<3 mg/kg	<0.0003 %			<LOD
15	nickel { dinickel hexacyanoferrate }	028-037-00-8	238-946-3	14874-78-3	18 mg/kg	2.806	50.5 mg/kg	0.00505 %			

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				8.4	mg/kg	1.785	14.996	mg/kg	0.0015 %		
	023-001-00-8	215-239-8	1314-62-1									
18	zinc { zinc sulphate }				56	mg/kg	2.469	138.281	mg/kg	0.0138 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19	pH				7.6	pH		7.6	pH	7.6 pH		
			PH									
20	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											
21	TPH (C6 to C40) petroleum group				<50	mg/kg		<50	mg/kg	<0.005 %		<LOD
			TPH									
22	confirm TPH has NOT arisen from diesel or petrol											
23	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
24	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
25	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
26	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
28	naphthalene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
29	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
30	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									
31	fluorene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-695-5	86-73-7									
32	phenanthrene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-581-5	85-01-8									
33	anthracene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7									
34	fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-912-4	206-44-0									
35	pyrene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		204-927-3	129-00-0									
36	benzo[a]anthracene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-033-00-9	200-280-6	56-55-3									
37	chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-048-00-0	205-923-4	218-01-9									
38	benzo[b]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-034-00-4	205-911-9	205-99-2									
39	benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-036-00-5	205-916-6	207-08-9									
40	benzo[a]pyrene; benzo[def]chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-032-00-3	200-028-5	50-32-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
41	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.02 mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
43	benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
44	phenol	604-001-00-2	203-632-7		<0.2 mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0		<0.02 mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5		0.13 mg/kg		0.13	mg/kg	0.000013 %		
Total:									3.804 %		

Key

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

Classification of sample: WS102

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

Sample details

Sample name:	LoW Code:
WS102	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)
0.80 m	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				<3.5	mg/kg	1.197	<4.19	mg/kg	<0.000419 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				290	mg/kg	1.32	382.894	mg/kg	0.0383 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium diboron tetraoxide }				140	mg/kg	1.623	227.286	mg/kg	0.0227 %		
	056-005-00-3	237-222-4	13701-59-2									
4	beryllium { beryllium oxide }				<4	mg/kg	2.775	<11.101	mg/kg	<0.00111 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide }				<2.5	mg/kg	3.22	<8.05	mg/kg	<0.000805 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium oxide }				0.5	mg/kg	1.142	0.571	mg/kg	0.0000571 %		
	048-002-00-0	215-146-2	1306-19-0									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				2.7	mg/kg	1.462	3.946	mg/kg	0.000395 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
9	copper { dicopper oxide; copper (I) oxide }				41	mg/kg	1.126	46.161	mg/kg	0.00462 %		
	029-002-00-X	215-270-7	1317-39-1									
10	iron { iron (III) oxide }				18000	mg/kg	1.43	25735.407	mg/kg	2.574 %		
		215-168-2	1309-37-1									
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	190	mg/kg		190	mg/kg	0.019 %		
	082-001-00-6											
12	manganese { manganese sulphate }				390	mg/kg	2.749	1071.94	mg/kg	0.107 %		
	025-003-00-4	232-089-9	7785-87-7									
13	mercury { mercury dichloride }				0.2	mg/kg	1.353	0.271	mg/kg	0.0000271 %		
	080-010-00-X	231-299-8	7487-94-7									
14	molybdenum { molybdenum(VI) oxide }				<40	mg/kg	1.5	<60.008	mg/kg	<0.006 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
15	nickel { dinickel hexacyanoferrate }				12	mg/kg	2.806	33.667	mg/kg	0.00337 %		
	028-037-00-8	238-946-3	14874-78-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %			<LOD
	034-002-00-8										
17	vanadium { divanadium pentaoxide; vanadium pentoxide }				11 mg/kg	1.785	19.637 mg/kg	0.00196 %			
	023-001-00-8	215-239-8	1314-62-1								
18	zinc { zinc sulphate }				61 mg/kg	2.469	150.627 mg/kg	0.0151 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
19	pH				8.1 pH		8.1 pH	8.1 pH			
			PH								
20	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										
21	TPH (C6 to C40) petroleum group				110 mg/kg		110 mg/kg	0.011 %			
			TPH								
22	confirm TPH has NOT arisen from diesel or petrol										
23	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
24	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
25	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
26	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
27	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
28	naphthalene				0.53 mg/kg		0.53 mg/kg	0.000053 %			
	601-052-00-2	202-049-5	91-20-3								
29	acenaphthylene				0.87 mg/kg		0.87 mg/kg	0.000087 %			
		205-917-1	208-96-8								
30	acenaphthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
		201-469-6	83-32-9								
31	fluorene				0.6 mg/kg		0.6 mg/kg	0.00006 %			
		201-695-5	86-73-7								
32	phenanthrene				8.5 mg/kg		8.5 mg/kg	0.00085 %			
		201-581-5	85-01-8								
33	anthracene				1.1 mg/kg		1.1 mg/kg	0.00011 %			
		204-371-1	120-12-7								
34	fluoranthene				13 mg/kg		13 mg/kg	0.0013 %			
		205-912-4	206-44-0								
35	pyrene				12 mg/kg		12 mg/kg	0.0012 %			
		204-927-3	129-00-0								
36	benzo[a]anthracene				4.4 mg/kg		4.4 mg/kg	0.00044 %			
	601-033-00-9	200-280-6	56-55-3								
37	chrysene				4.2 mg/kg		4.2 mg/kg	0.00042 %			
	601-048-00-0	205-923-4	218-01-9								
38	benzo[b]fluoranthene				3.2 mg/kg		3.2 mg/kg	0.00032 %			
	601-034-00-4	205-911-9	205-99-2								
39	benzo[k]fluoranthene				1.3 mg/kg		1.3 mg/kg	0.00013 %			
	601-036-00-5	205-916-6	207-08-9								
40	benzo[a]pyrene; benzo[def]chrysene				2.8 mg/kg		2.8 mg/kg	0.00028 %			
	601-032-00-3	200-028-5	50-32-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
41	indeno[123-cd]pyrene	205-893-2	193-39-5		1.1 mg/kg		1.1 mg/kg	0.00011 %		
42	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.29 mg/kg		0.29 mg/kg	0.000029 %		
43	benzo[ghi]perylene	205-883-8	191-24-2		1.5 mg/kg		1.5 mg/kg	0.00015 %		
44	phenol	604-001-00-2	203-632-7	108-95-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
46	1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4	0.11 mg/kg		0.11 mg/kg	0.000011 %		
Total:								2.813 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)

because: HP 3 Flammable (first indent) can be discounted as this is a solid waste without a free draining liquid phase. The waste does not display these hazardous properties.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.011%)

Appendix A: Classifier defined and non GB MCL determinands

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

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

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

• **iron (III) oxide** (EC Number: 215-168-2, CAS Number: 1309-37-1)

Description/Comments:

Data source: C&L Inventory, Registered Substances database, SDS: Sigma-Aldrich dated 19/09/2012 (REACH compliant)

Data source date: 21 May 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

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

GB MCL index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A

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

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

• **pH** (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

GB MCL index number: 006-007-00-5

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

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

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

GB MCL index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

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

arsenic {arsenic trioxide}

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

barium {barium diboron tetraoxide}

No significant quantities of Cr(VI) to form worst case species (barium chromate) therefore second worst case species chosen instead.

beryllium {beryllium oxide}

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

boron {diboron trioxide}

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

cadmium {cadmium oxide}

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

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

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

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

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

copper {dicopper oxide; copper (I) oxide}

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

iron {iron (III) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Site not heavy industrial and as such, major source likely from natural strata

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

No significant quantities of Cr(VI) to form worst case species (lead chromate) therefore second worst case species chosen instead.

manganese {manganese sulphate}

Worst case CLP species based on hazard statements/molecular weight

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight

nickel {dinickel hexacyanoferrate}

No significant quantities of Cr(VI) to form worst case species (nickel chromate) therefore second worst case species chosen instead.

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

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

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case CLP species based on hazard statements/molecular weight

zinc {zinc sulphate}

No significant quantities of Cr(VI) to form worst case species (zinc chromate) therefore second worst case species chosen instead.

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

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

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.24.6453.11761 (25 Jan 2025)
HazWasteOnline Database: 2025.24.6453.11761 (25 Jan 2025)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

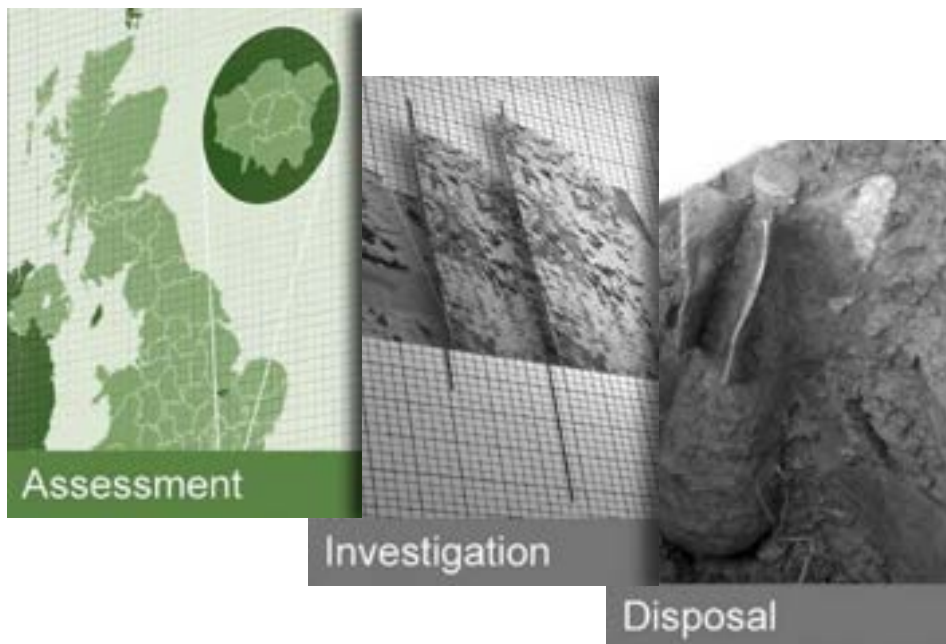
GB MCL List v2.0 - version 2.0 of 20th October 2023

GB MCL List v3.0 - version 3.0 of 11th January 2024

GB MCL List v4.0 - version 4.0 of 2nd March 2024

GB MCL List v5.0 - version 5.0 of 26th June 2024

I. Detailed UXO Desk Study



UXO Desk Study & Risk Assessment

Document Ref. P13822-23-R1

Revision A

Project Title Christie NHS Foundation Trust

Client Mott MacDonald

Date 14th December 2023

Drafted by Ross Sykes
Checked by James Major
Authorised by Stefan Lang

UXO DESK STUDY & RISK ASSESSMENT

EXECUTIVE SUMMARY

Key findings: No significant sources of Unexploded Ordnance (UXO) hazard have been identified.

Key actions: Proceed with works.

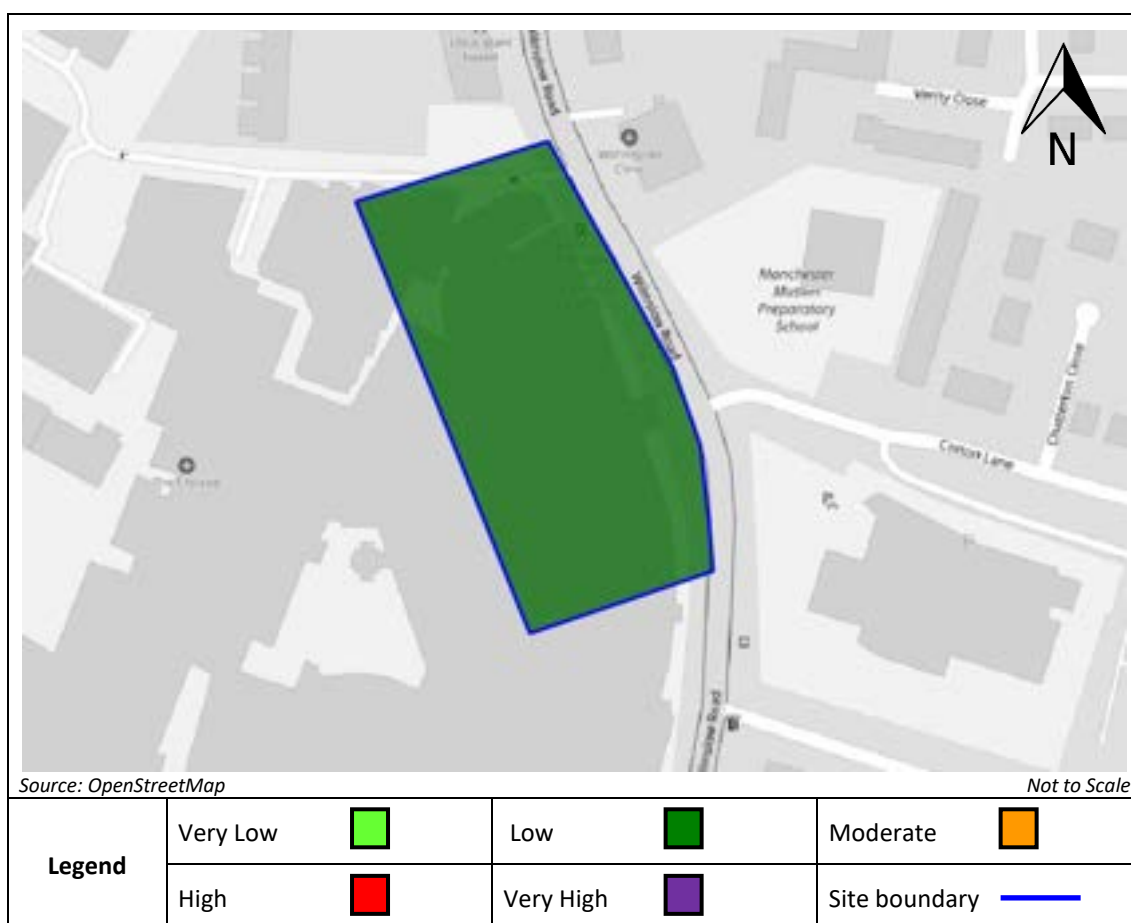
UXO hazard assessment

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in the following Figure, reproduced as Figure 3 in the main report.

The UXO hazard zone plan of the Site is also given in the accompanying P13822-23-R1-MAP01-A.

UXO hazard zone plan of the Site



The main findings of the report are summarised below.

- No records of military activity on the Site during World War One (WWI) or World War Two (WWII) have been found.
- During WWII the main strategic targets in the vicinity of the Site included Salford Docks, warehouses and wharves along the Manchester Ship Canal, the Fairey Aviation aircraft works, and Crosley Brothers Ltd engine works.

- No records have been found indicating that the Site was bombed during WWII. Records indicate that the nearest bomb was an Oil Bomb (OB) which fell approximately 20m west-southwest of the Site on the 1st October 1940.

Proposed works

It is understood that works on the Site will comprise the demolition of existing blocks of the hospital and construction of a new Computed Tomography (CT) department. Initial Ground Investigation (GI) works will involve exploratory holes to 18m below ground level (bgl).

It is assumed that works on the Site will include excavations, boreholes, and piling.

Risk assessment

The Table below, reproduced as Table 3 in the main report, provides a UXO risk assessment for the proposed works on the Site.

Further details on the risk assessment methodology are given in Section 7.2 of the main report.

UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Excavations	1	1	1	1	5	5	Low
	Boreholes/Piling	1	1	1	1	4	4	Low
Other UXO	Excavations	1	1	1	1	4	4	Low
	Boreholes/Piling	1	1	1	1	3	3	Low
PE = Probability of Encounter; PD = Probability of Detonation; P = Likelihood								

Risk mitigation plan

The Table below, reproduced as Table 4 in the main report, summarises the UXO risk for proposed works on the Site and recommended actions.

Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		Proceed with works – if additional comfort is required to address the residual UXO hazard, a formal UXO awareness briefing can be provided.
Boreholes/Piling		Proceed with works

In summary, no additional measures are considered essential to reduce the UXO risk on the Site to As Low As Reasonably Practicable (ALARP).

What do I do next?

If you have any comments or require further assistance, contact us and we can help.

	01993 886682		<u>uxo@zetica.com</u>		<u>zeticauxo.com</u>
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If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

CONTENTS

ABBREVIATIONS	VI
1 INTRODUCTION	1
1.1 Project outline	
1.2 Sources of information	
1.3 Data confidence level	
2 THE SITE	3
2.1 Site location	
3 MILITARY ACTIVITY	5
3.1 Defences	
3.2 Military airfields	
3.3 Aircraft crashes	
3.4 Explosives factories, munitions depots, and disposal areas	
3.5 Firing ranges and military training areas	
4 BOMBING	7
4.1 WWI bombing	
4.2 WWII bombing	
5 POST-WWII EXPLOSIVE ORDNANCE CLEARANCE (EOC) ACTIVITIES	13
5.1 EOC tasks	
6 UXO HAZARD ASSESSMENT	14
6.1 UXO hazard level	
7 UXO RISK ASSESSMENT	15
7.1 Proposed works	
7.2 Risk assessment methodology	
7.3 UXO risk level	
8 RISK MITIGATION PLAN	17
8.1 UXO risk summary	
8.2 Risk mitigation techniques	
8.3 What do I do next?	
APPENDICES	19
Appendix 1 Anticipated ordnance types	
Appendix 2 Sources of UXO hazard	
Appendix 3 Recent UXO finds	
Appendix 4 Glossary and definitions	
Appendix 5 Bibliography	
Appendix 6 General Notes	

Figures, plates, & tables

Figure 1 Site location map	3
Figure 2 Compiled bomb impact map for the vicinity of the Site	10
Figure 3 UXO hazard zone plan of the Site	14
Plate 1 Recent aerial photograph of the Site	4
Plate 2 Luftwaffe target photograph of aircraft and engine works in Manchester	8
Plate 3 Aerial photograph, 7 th May 1946	11
Table 1 Bombing statistics	9
Table 2 Estimated average maximum bomb penetration depths	12
Table 3 UXO risk assessment for the Site.....	16
Table 4 Summary of UXO risk and mitigation recommendations.....	17

Accompanying GIS data

P13822-23-R1-MAP01-A (UXO Desk Study)

ABBREVIATIONS

AA	Anti-Aircraft
AAP	Aircraft Acceptance Park
ALARP	As Low As Reasonably Practicable
AP	Anti-Personnel
ARP	Air Raid Precaution
AXO	Abandoned Explosive Ordnance
BGS	British Geological Survey
CIRIA	Construction Industry Research and Information Association
CLE	Central Landing Establishment
CLS	Central Landing School
CT	Computed Tomography
DCLG	Department of Communities and Local Government
EO	Explosive Ordnance
EOC	Explosive Ordnance Clearance
EOR	Explosive Ordnance Reconnaissance
ERW	Explosive Remnants of War
ESA	Explosive Substances and Articles
FPP	Ferry Pilots Pool
GI	Ground Investigation
HAA	Heavy Anti-Aircraft
HE	High Explosive
HER	Historic Environment Record
IB	Incendiary Bomb
IWM	Imperial War Museum
LAA	Light Anti-Aircraft
MoD	Ministry of Defence
NAF	National Aircraft Factory
NARA	National Archives & Records Administration
NCAP	National Collection of Aerial Photography
OB	Oil Bomb
OSNGR	Ordnance Survey National Grid Reference
PM	Parachute Mine
RAF	Royal Air Force
RE	Royal Engineers
RFC	Royal Flying Corps
UK	United Kingdom
UXAA	Unexploded Anti-Aircraft
UXB	Unexploded Bomb
UXO	Unexploded Ordnance
UXPM	Unexploded Parachute Mine
WO	War Office
WWI	World War One
WWII	World War Two
ZAA	Rocket Anti-Aircraft

UXO DESK STUDY & RISK ASSESSMENT

Please read: Zetica has colour coded each paragraph. Paragraphs with black text on a white background provide site-specific information or information specifically researched as part of this project.

Boxed paragraphs in a dark green text with a green background provide general information and, where appropriate, links to online resources giving further detail. These are all available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

1 INTRODUCTION

1.1 Project outline

Zetica Ltd was commissioned by Mott MacDonald, on behalf of Vinci Building, to carry out a detailed Unexploded Ordnance (UXO) Desk Study and Risk Assessment for an area of approximately 0.8 hectares (ha) off Wilmslow Road, in Withington, Greater Manchester (the 'Site').

The aim of this report is to gain a fair and representative view of the potential UXO hazard on or affecting the Site in accordance with the Construction Industry Research and Information Association (CIRIA) C681 'Unexploded Ordnance (UXO), a Guide for the Construction Industry'.

Where appropriate, this hazard assessment includes:

- Likelihood of ordnance being present.
- Type of ordnance (size, filling, fuze mechanisms).
- Quantity of ordnance.
- Potential for live ordnance.
- Probable location.
- Ordnance condition.

It should be noted that some military activity providing a source of UXO hazard may not be recorded and therefore there cannot be any guarantee that all UXO hazards affecting the Site have been identified in this report.

1.2 Sources of information

Zetica Ltd researched the World War One (WWI)/World War Two (WWII) bombing and military history of the Site and its surrounding area using a range of information sources. The main sources of information are detailed in the following sections and referenced at the end of this report.

1.2.1 Zetica Ltd records

Zetica Ltd's in-house records were consulted, including the Zetica Ltd bomb risk maps (<http://zeticauxo.com/downloads-and-resources/risk-maps/>), previous requests for information from government bodies, reference books, and archive materials from past work in the region.

Relevant documents have been cited in the bibliography of this report.

1.2.2 Historical records, maps, and drawings

Numerous reference documents including historical maps, aerial photographs and drawings have been consulted from sources such as the National Archives, the US National Archives & Records Administration (NARA), the Imperial War Museum (IWM), Historic England, National

Collection of Aerial Photography (NCAP), the Defence of Britain Project, and relevant archaeological bodies.

The British Geological Survey (BGS) was consulted for borehole information.

1.2.3 Local records

Manchester City Council, the Greater Manchester County Record Office, Manchester Central Library Archive, Manchester University, local historical groups, and the Greater Manchester Historic Environment Record (HER) were consulted for records.

1.3 Data confidence level

In general, there is a high level of confidence in the researched information sources used for this report. Further detail is given in the text of the report where appropriate.

Definitions of data confidence level		
Data Confidence Level		Definition
	Low	There are very few sources of information, and/or those available are lacking in detail.
	Moderate	There is a limited range of available sources of information, a key source of information is missing, and/or some sources may be contradictory or lacking in detail.
✓	High	There is a wide range of available sources of information, which are detailed and corroborate each other.

2 THE SITE

2.1 Site location

The Site is centred on Ordnance Survey National Grid Reference (OSNGR) SJ 849925. It is located approximately 5.3km south-southeast of central Manchester.

The Site comprises hardstanding, part of Christie Hospital, and crossed by Wilmslow Road. It is bounded to the north and south by commercial buildings and Wilmslow Road, to the east by Wilmslow Road, and to the west by the Christie Hospital.

Figure 1 is a Site location map and Plate 1 is a recent aerial photograph of the Site.

Figure 1 Site location map

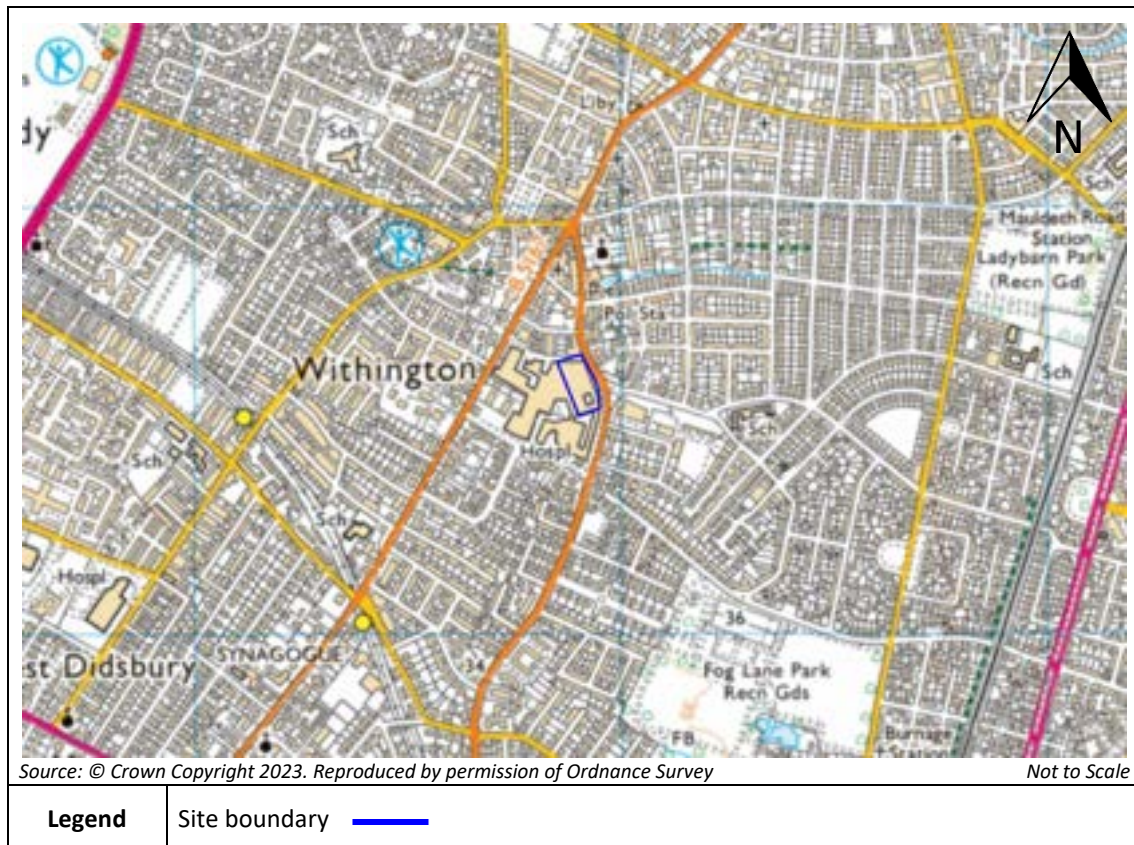
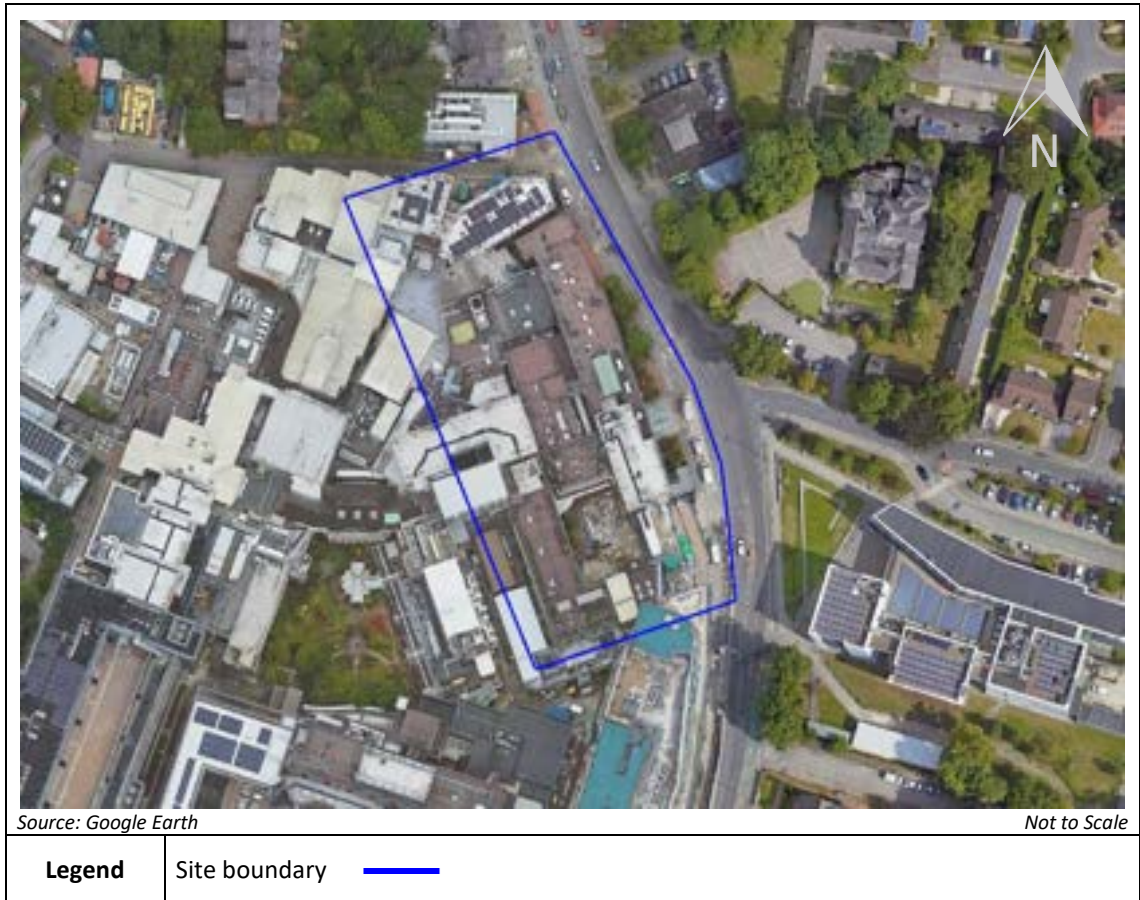


Plate 1 Recent aerial photograph of the Site



3 MILITARY ACTIVITY

The following sections outline the recorded military activity in the vicinity of the Site. The potential UXO hazard from WWI and WWII bombing is detailed in Section 4.

3.1 Defences

For further information on military defences, and the potential UXO hazards associated with them, follow the links below:

- [Anti-Aircraft Guns](#)
- [Anti-Invasion Defences](#)
- [Barrage Balloons](#)
- [Bombing Decoys](#)
- [Home Guard](#)
- [Mined Locations](#)
- [Mortar & Gun Emplacements](#)
- [Pillboxes](#)

No military defences have been identified on the Site. The nearest are described below.

3.1.1 Anti-Aircraft (AA) guns

During WWI there were 9No. AA batteries recorded within 10km of the Site. The nearest was located at Hough End (SD 825935), approximately 2.4km west-northwest of the Site. It was armed with 1No. 6-pounder (-pdr) gun.

During WWII there were 29No. Heavy AA (HAA) and Rocket AA (ZAA) batteries recorded within 10km of the Site. The nearest was located at Hough Ends Playing Fields (SJ 831934), approximately 1.9km northwest of the Site. It was initially armed with 4No. 4.5-inch (") guns.

Potential UXO hazard

Given the number of AA gun batteries in the surrounding area, the potential for an Unexploded AA (UXAA) shell to have fallen on the Site unnoticed, whilst unlikely, cannot be totally discounted.

3.2 Military airfields

For further information on military airfields, and the potential UXO hazards associated with them, follow the link below:

- [Military Airfields](#)

No records of any military airfields on or in close proximity to the Site have been found.

During WWI, the nearest operational airfield was Alexandra Park Aerodrome, approximately 0.8km northwest of the Site.

Alexandra Park Aerodrome operated as an Aircraft Acceptance Park (AAP) and was used for the testing and delivery of Royal Flying Corps (RFC) aircraft manufactured at works in Manchester, such as the Avro Works at Trafford Park, approximately 6.4km northwest of the Site, and National Aircraft Factory (NAF) No.2 at Heaton Chapel, approximately 2.3km east of the Site.

After WWI Alexandra Park Aerodrome reverted to civilian use and in May 1919 it accepted Manchester's first commercial flight. In 1922 the Lancashire Aero Club was also formed at Alexandra Park.

During WWII, the nearest operational airfield was Royal Air Force (RAF) Ringway, approximately 7.3km southwest of the Site.

RAF Ringway was home to the Central Landing School (CLS), later Central Landing Establishment (CLE), focused on parachute training, glider training, and developmental work. In 1942 the CLE was renamed the Airborne Forces Establishment.

The Fairey Aviation Company, based at Heaton Chapel approximately 2.8km east of the Site, and Avro, established aircraft production facilities at RAF Ringway and used the airfield for testing. RAF Ringway was also home to No. 3 (later No. 13) Ferry Pilots Pool (FPP), responsible for delivering aircraft to facilities around the United Kingdom (UK).

Post-WWII, Ringway airport re-opened for civil use, with military activity ceasing by 1957. Ringway is now known as Manchester International Airport.

Military airfields are not considered to provide a source of UXO hazard to the Site.

3.3 Aircraft crashes

For further information on military aircraft crashes, and the potential UXO hazards associated with them, follow the link below:

- [Aircraft Crashes](#)

No records of any aircraft crashes on or in close proximity to the Site have been found.

3.4 Explosives factories, munitions depots, and disposal areas

For further information on explosives factories, munitions depots and disposal areas, and the potential UXO hazards associated with them, follow the links below:

- [Explosives Factories](#)
- [Munitions Depots](#)
- [Munitions Disposal Areas](#)

No records of any explosives factories, munitions depots or munitions disposal areas on or in close proximity to the Site have been found. The nearest is detailed below.

3.5 Firing ranges and military training areas

For further information on firing ranges and military training areas, and the potential UXO hazards associated with them, follow the links below:

- [Artillery Ranges](#)
- [Bombing Ranges](#)
- [Military Training Areas](#)
- [Small Arms Ranges](#)

No records of any firing ranges or military training areas on or in close proximity to the Site have been found. The nearest is detailed below.

4 BOMBING

4.1 WWI bombing

For further information on WWI bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.1 or use the following link.

- [WWI Bombing](#)

No records have been found indicating that the Site was bombed during WWI.

4.2 WWII bombing

For further information on WWII bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.2 or use the following link.

- [WWII Bombing](#)

No records have been found indicating that the Site was bombed during WWII. Details of WWII bombing in the vicinity of the Site are provided in the following sections.

4.2.1 Bombing in Manchester

Manchester's industrial conurbations and port made it a principal target for enemy bombers. The Luftwaffe possessed detailed target photographs of many industrial complexes from as early as 1937.

Air raids on Manchester began in August 1940 and continued until 1945. The heaviest raid on the city occurred between the 22nd and 24th December 1940, the 'Manchester Blitz', during which more than 400No. High Explosive (HE) bombs and 30,000No. Incendiary Bombs (IB) fell on the city, approximately 4km north of the Site.

More than 1,710No. HE bombs and 115No. Parachute Mines (PM) fell across the Manchester region during WWII. Bombing was concentrated on central Manchester, approximately 5.3km north-northwest of the Site, Salford Docks, and major industrial works at Trafford Park, approximately 5.4km northwest of the Site.

Bombing densities generally decreased away from the city centre and far less damage was sustained by properties in these areas

4.2.2 Strategic targets

From prior to the declaration of war in 1939, Britain was subjected to reconnaissance flights by the Luftwaffe which was building up a photographic record of potential targets.

The Site was located in an area which contained numerous strategic targets, including Salford Docks, warehouses and wharves along the Manchester Ship Canal, the Fairey Aviation aircraft works, and Crosley Brothers Ltd engine works.

Plate 2 is a Luftwaffe target photograph of aircraft and engine works in Manchester, dated the 31st August 1940. This shows the Fairey Aviation aircraft works (GB 7467) and the Crosley Brothers Ltd engine works (GB 824), approximately 2.3km east of the Site.

8No. barrage balloons (a) have also been identified.

Plate 2 Luftwaffe target photograph of aircraft and engine works in Manchester



Source: NARA

Not to Scale

4.2.3 Bombing densities and incidents

Table 1 gives details of the overall bombing statistics recorded for the Local Authority Districts of the Site (highlighted by bold text) and surrounding districts. These were categorised as Rural Districts (RD), Urban Districts (UD), Municipal Borough (MB), Metropolitan Boroughs (MetB) and County Boroughs (CB). WWII bomb density levels are defined below:

<5 bombs per 405ha is a Very Low regional bombing density.

5-15 bombs per 405ha is Low.

15-50 bombs per 405ha is Moderate.

50-250 bombs per 405ha is High.

>250 bombs per 405ha is Very High.

Official UK bombing statistics have been compiled from both British and German sources. There were differences in the way the figures were originally reported and collated which has led to discrepancies in the summary data.

Note that Table 1 excludes the figures for IBs. Discrepancies between the below list and other records, such as bomb clearance records, demonstrate that this data is likely to under-represent actual bombing.

Table 1 Bombing statistics

Area	Bombs Recorded				Bombs per 405ha (1000 acres)
	High Explosive	Parachute Mines	Other	Total	
Manchester CB	712	18	7	737	27.0
Stretford MB	456	64	0	520	147.3
Stockport CB	76	1	3	80	10.0

It should be noted that during WWII, many Unexploded Bombs (UXBs) were mapped and subsequently removed as and when conditions and demands on Bomb Disposal teams allowed. Their removal was not always accurately recorded and sometimes records were later destroyed. In practice, most UXBs were probably removed and only a much smaller number were actually registered as officially abandoned bombs.

Details of the nearest recorded bombing incidents to the Site are given in the following section.

1st October 1940

1No. Oil Bomb (OB) bomb fell on the forecourt of Christie Hospital & Holt Radium Institute, approximately 20m west-southwest of the Site.

1No. HE bomb fell on land off Wilmslow Road, approximately 0.1km north-northeast of the Site.

3No. HE bombs fell on Wilmslow Road, between approximately 0.1km and 0.3km north of the Site.

1No. HE bomb fell on land south of Withington Cottage, approximately 0.3km south of the Site.

1No. HE bomb fell on Morris Street, approximately 0.5km north-northwest of the Site.

1No. HE bomb fell on Moorfield Street, approximately 0.5km north of the Site.

2nd January 1941

1No. PM fell on the ground of St Paul's Church, approximately 0.2km north of the Site. This was recorded as an Unexploded PM (UXPM).

10th September 1941

1No. HE bomb fell on Danesmoor Road, approximately 0.5km southwest of the Site.

1st February 1941

1No. PM fell on Burton Road, approximately 0.4km west-northwest of the Site.

Figure 2 is a map showing the approximate location of recorded bomb impacts in the immediate vicinity of the Site.

The map has been compiled from different sources, including air raid incident reports, historical aerial photographs, and bomb census maps.

The bomb map is also given in the accompanying P13822-23-R1-MAP01-A.

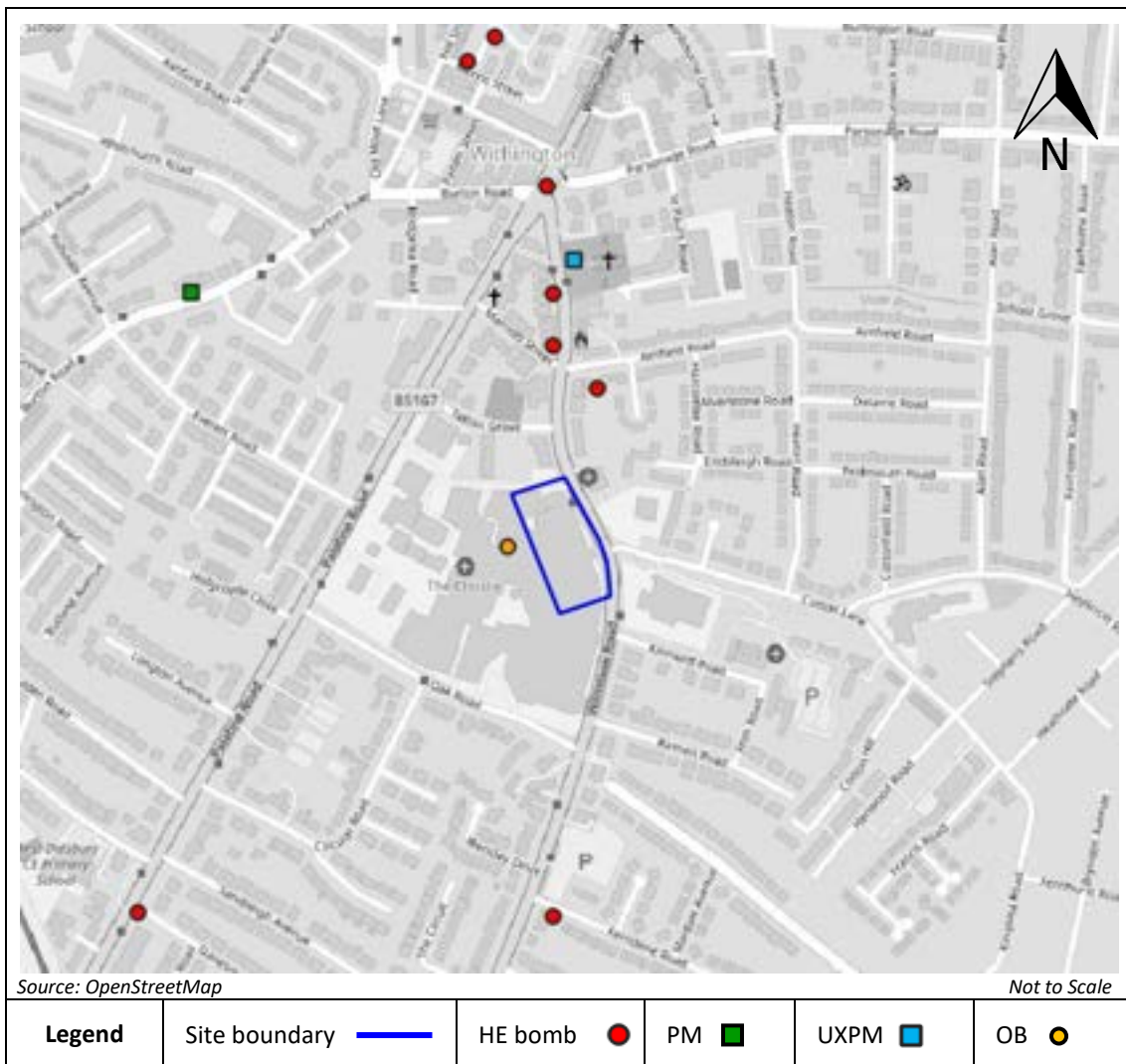
Figure 2 Compiled bomb impact map for the vicinity of the Site

Plate 3 is an aerial photograph dated the 7th May 1946. No bomb damage or cratering has been identified on or in the vicinity of the Site.

Plate 3 Aerial photograph, 7th May 1946

Potential UXO hazard

No records have been found indicating that the Site was bombed and no bomb damage has been identified on the Site on historical aerial photography.

WWII bombing is not considered to provide a source of UXO hazard to the Site.

4.2.4 Abandoned bombs

No records have been found indicating that any officially abandoned bombs are located on the Site.

4.2.5 Bomb penetration depths

At the time of writing, no Site-specific ground investigation data was available.

Information provided by the Client, BGS 1:50,000 Sheet 85 Manchester (Bedrock & Superficial) and BGS borehole records from nearby investigations have been consulted to get an indicative overview of the Site geology.

The WWII geology of the Site is understood to consist of Made Ground, over Devensian Till, overlying sandstone of the Wilmslow Sandstone Formation.

Table 2 provides an estimate of average maximum bomb penetration depths for the Site assuming WWII ground conditions of 1.5m of Made Ground, overlying 1m of sand, overlying more than 20m of soft rock.

Table 2 Estimated average maximum bomb penetration depths

Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	2.5m
	250kg	3.5m
	500kg	6.0m

These calculations can be refined on receipt of Site-specific information.

The estimated bomb penetration depths given in Table 2 are from the WWII ground level and are based on the following assumptions:

- a) High-level release of the bomb resulting in an impact velocity of 260m/s (>5,000m altitude).
- b) A strike angle of 10 to 15 ° to the vertical.
- c) That the bomb is stable, both in flight and on penetration.
- d) That no retarding units are fitted to the bomb.
- e) That the soil type is homogenous.

Assuming the above, a bomb will enter the ground and travel on the same trajectory until momentum is nearly lost. The bomb will then turn abruptly to the horizontal before coming to rest. The horizontal distance between the centre of the entry hole and the centre of the bomb at rest is known as the 'offset'. A marked horizontal movement from the original line of entry is common.

Low-level attacks may have an impact angle of 45° or more, which will frequently lead to a much greater amount of offset movement during soil penetration.

The average offset is one third of the penetration depth. If hardstanding or Made Ground were present during WWII, bomb penetration depths would have been significantly reduced but offset distances may have been up to four times greater.

5 POST-WWII EXPLOSIVE ORDNANCE CLEARANCE (EOC) ACTIVITIES

Based on data from 1939 to 1945, War Office statistics indicate that 200,195No. HE bombs exploded within Great Britain. Additionally, 25,195No. HE bombs (approximately 11%) were recorded as UXBs. However, records from the Royal Engineers (RE) who were responsible for bomb disposal at the time indicate that by 27th February 1946, more than 45,000No. UXBs were disposed of.

On average, 8.5% of UXBs later self-exploded. In some cases, the bombs had delayed action fuzes or were never intended to explode, their purpose being to cause inconvenience and fear. Given the discrepancy in records and the fact that UXBs are still being found unexpectedly, it is clear that the original figures are understated and provide only an approximation of the number of potential UXBs in the UK.

War Office (WO) statistics also show that between October 1940 and May 1941 most UXBs (93%) were either 50kg or 250kg. It should be noted that details of the recovery and size of the UXB were not always accurately reported.

The larger WWII UXBs are often difficult to recover due to both penetration depths and the presence of two or more fuzes, combined with more sensitive fillings of explosive mixtures including Amatol and Trialen.

5.1 EOC tasks

Zetica holds the following records of post-WWII EOC tasks having taken place in the vicinity of the Site.

31st October 2012

1No. WWI shell was discovered at a property in Burton Road, approximately 0.6km west of the Site. It was made safe and removed.

6 UXO HAZARD ASSESSMENT

6.1 UXO hazard level

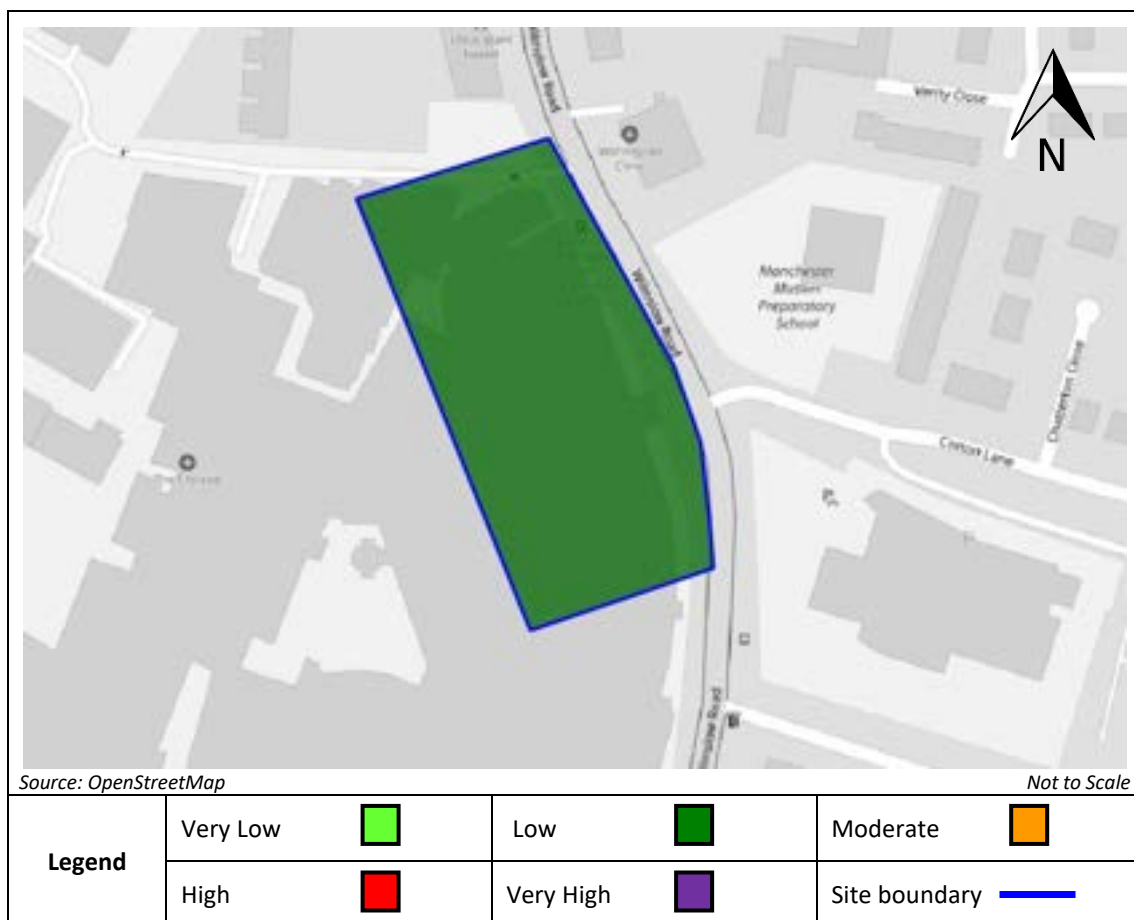
Definitions of UXO Hazard Level for a Site	
Hazard Level	Definition
Very Low	There is positive evidence that UXO is not present, e.g. through physical constraints or removal.
Low	There is no positive evidence that UXO is present, but its occurrence cannot be totally discounted.
Moderate	There is positive evidence that ordnance was present or that other uncharted ordnance may be present as UXO.
High	There is positive evidence that UXO is present.
Very High	As high, but requires immediate or special attention due to the potential hazard.

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in Figure 3.

The UXO hazard zone plan of the Site is also given in the accompanying P13822-23-R1-MAP01-A.

Figure 3 UXO hazard zone plan of the Site



7 UXO RISK ASSESSMENT

7.1 Proposed works

It is understood that works on the Site will comprise the demolition of existing blocks of the hospital and construction of a new Computed Tomography (CT) department. Initial Ground Investigation (GI) works will involve exploratory holes to 18m below ground level (bgl).

It is assumed that works on the Site will include excavations, boreholes, and piling.

7.2 Risk assessment methodology

A UXO risk assessment has been undertaken for the proposed works, taking into consideration the identified UXO hazard(s).

Firstly, the probability of encountering UXO (PE) has been considered and rated for the proposed construction techniques, as detailed below.

Probability of Encounter (PE)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Secondly, the probability of detonating an item of UXO (PD) has been considered and rated for the proposed construction techniques, as detailed below.

Probability of Detonation (PD)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Next, the probability of encountering and detonating the UXO (PE x PD) have been used to generate an overall likelihood rating (P).

P = PE x PD	LIKELIHOOD of Encounter and Detonation	Rating
21 to 25	Frequent, highly likely, almost certain.	5
16 to 20	Probable, more likely to happen than not.	4
6 to 15	Occasional, increased chance or probability.	3
2 to 5	Remote, unlikely to happen but could.	2
1	Improbable, highly unlikely.	1
0	Impossible	0
P ranges from 25, a certainty of UXO being encountered and detonated on the Site by engineering activity, to 0, a certainty that UXO does not occur on the Site and will not be detonated by engineering activity.		

The likelihood of encountering and detonating UXO during site works (P) is multiplied by the severity (S) of such an event occurring (P x S), to provide a risk level using the following matrix.

Severity (S)	Rating
Multiple fatalities	5
Major injury, long term health issues, single fatality.	4
Minor injury, short term health issues, no fatalities.	3
First aid case but no lost time or ill health.	2
Minor injuries, no first aid.	1
No injuries.	0

UXO Risk Matrix							
LIKELIHOOD (P)	SEVERITY (S)						
		5	4	3	2	1	0
	5	25	20	15	10	5	0
	4	20	16	12	8	4	0
	3	15	12	9	6	3	0
	2	10	8	6	4	2	0
	1	5	4	3	2	1	0
	0	0	0	0	0	0	0

7.3 UXO risk level

The UXO risk assessment for proposed works on the Site is given in Table 3.

Table 3 UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Excavations	1	1	1	1	5	5	Low
	Boreholes/Piling	1	1	1	1	4	4	Low
Other UXO	Excavations	1	1	1	1	4	4	Low
	Boreholes/Piling	1	1	1	1	3	3	Low

PE = Probability of Encounter; PD = Probability of Detonation; P = Likelihood

8 RISK MITIGATION PLAN

Key findings: No significant sources of UXO hazard have been identified.

Key actions: Proceed with works.

8.1 UXO risk summary

Table 4 summarises the UXO risk for proposed works on the Site and recommended actions.

Table 4 Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		Proceed with works – if additional comfort is required to address the residual UXO hazard, a formal UXO awareness briefing can be provided.
Boreholes/Piling		Proceed with works

In summary, no additional measures are considered essential to reduce the UXO risk on the Site to As Low As Reasonably Practicable (ALARP).

8.2 Risk mitigation techniques

Should you wish to provide staff involved in excavations with increased awareness regarding the potential (albeit low) for UXO encounter, this can be done through a formal briefing.

8.2.1 UXO awareness briefing

A formal UXO awareness briefing should ensure that those involved in intrusive works take appropriate action if a suspect item is uncovered. The briefing can be given to all site workers, but the aim is to provide the client's key staff with the tools to provide the same induction to new staff without the UXO specialist's attendance.

The briefing will offer some recognition skills for typical UXO, and suitably sensitise those involved in excavation to be vigilant.

The induction materials are provided as a file containing both hard and electronic copies with additional information and resources such as UXO awareness posters, ordnance data sheets and emergency contact cards for staff awareness.

By providing the UXO awareness briefing, it ensures that in the unlikely event that UXO is encountered:

- All site staff take appropriate action.
- A support mechanism and points of contact are established.
- The likelihood of harm to people or property is reduced.
- Significant delays to site work are prevented.

8.3 What do I do next?

If you have any comments or require further assistance, contact us and we can help.

	01993 886682		<u>uxo@zetica.com</u>		<u>zeticauxo.com</u>
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If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

APPENDICES

Appendix 1 Anticipated ordnance types

For a more comprehensive set of ordnance data sheets, see <http://zeticauxo.com/downloads-and-resources/ordnance-data-sheets/>.

Information Data Sheet

Category Bomb (Luftwaffe)

Type Sprengbombe-Cylindrisch (SC) 50kg

Variants 8

Body Dimensions 762 x 200mm (30" x 7.9")

Weight 55kg (122lbs)

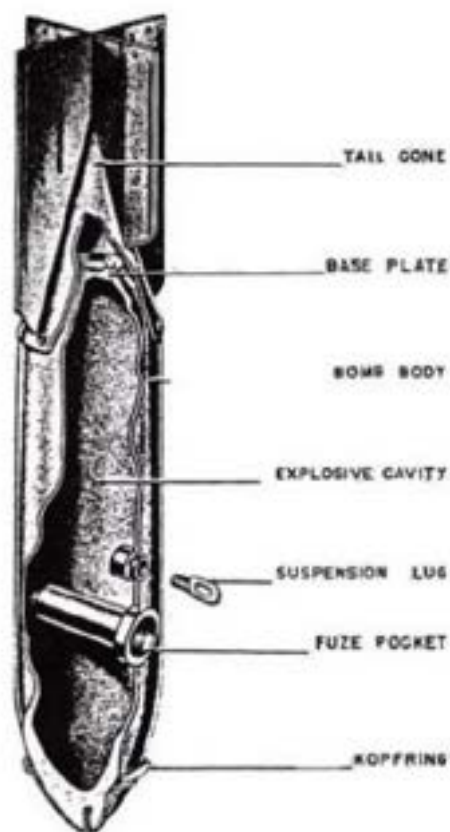
Charge Weight 25kg (54lbs)

Fuze Single electric impact fuze. Some have short time delay

Composition Sheet steel

Description Thick nose welded to a steel body. Nose may be attached to Kopfring (a triangular section steel ring) or spike. Suspension bolt in eye/body and sheet metal tail attached to body with rivets/screws. Originally painted green-grey with a yellow stripe on the tail. Cast TNT, Amatol or Trialen filling.

Function Designed to maximise shock waves through air, water and earth and for general demolition. Used against easily damageable targets, including roads, aircraft hangars, rolling stock and small buildings. Spike bombs/ 'Stabo' (SC 50) with spikes attached to nose) were used against rail lines and country roads, with Kopfring used against naval targets.



Information Data Sheet

Category Bomb

Type Sprengbombe-Cylindrisch (SC) 250kg

Variants 8

Body Dimensions 1194mm x 368mm (47" x 14.5")

Weight 249-264 kg (548-582lbs)

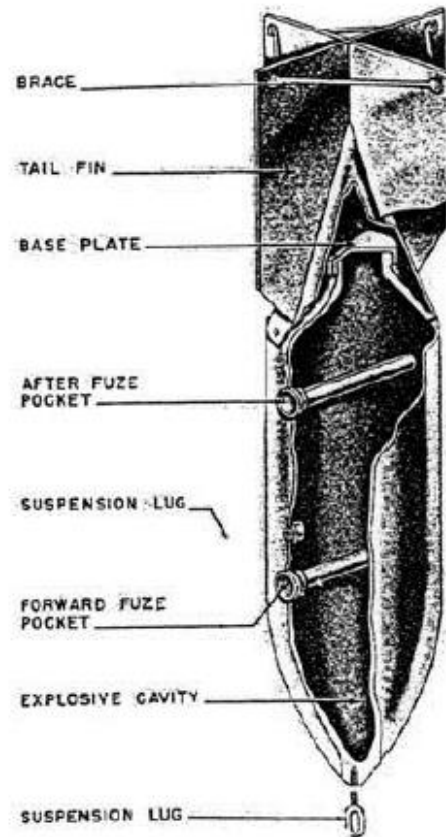
Charge Weight 130-145 kg (287-320lbs)

Fuze Electric impact fuze/electric clockwork time fuze & electric anti-disturbance fuze

Composition Sheet steel with stays

Description Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring) or spike. Sheet metal tail attached to body with rivets/ screws. Suspension eye bolt in the nose/body. Originally painted green-grey with a yellow stripe on the tail. TNT; amatol; TNT and aluminium powder, naphthalene, ammonium nitrate and wax/ wood meal filling.

Function Designed to maximise shock waves through air, water and earth and general demolition. Used against railway installations, large buildings, ammunition depots and below-ground installations (to 8m). Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) used against rail lines and country roads.



Information Data Sheet

Category Bomb

Type Sprengbombe-Cylindrisch (SC) 500kg

Variants -

Body Dimensions 1414–1486mm x 470mm (55.7-58.5" x 18.5")

Weight 500kg (1,100lbs)

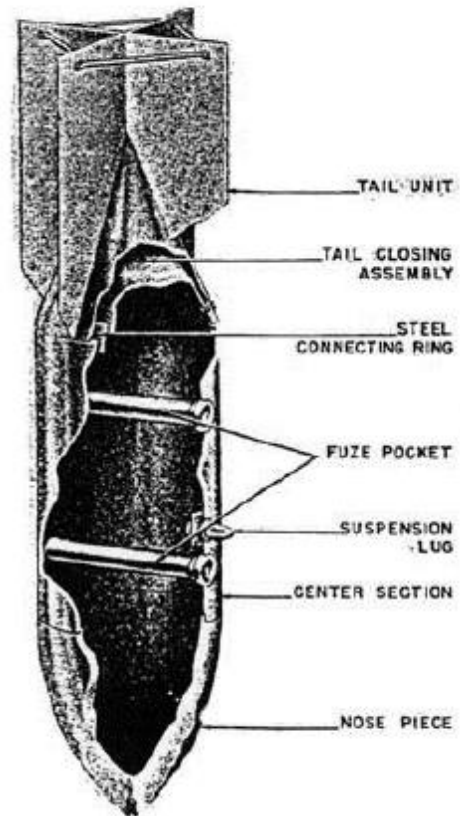
Charge Weight 220kg (484lbs)

Fuze Electric impact fuze/electric clockwork time fuze & electric anti-disturbance fuze.

Composition Sheet steel with stays or drum

Description Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring). Tail either steel sheet or drum-shaped. Suspension band. Originally painted green-grey/ buff (some later versions sky blue) with yellow stripe on tail. Filled with amatol, TNT or trialen.

Function Designed to maximise shock waves through air, water and earth and for general demolition. Used against railway property, large buildings, shipping and below-ground installations.



Information Data Sheet

Category Projectile
Type 3.7" Anti-Aircraft Shell

Variants 6

Body Dimensions 94mm x 360mm (3.7 x 14.7")

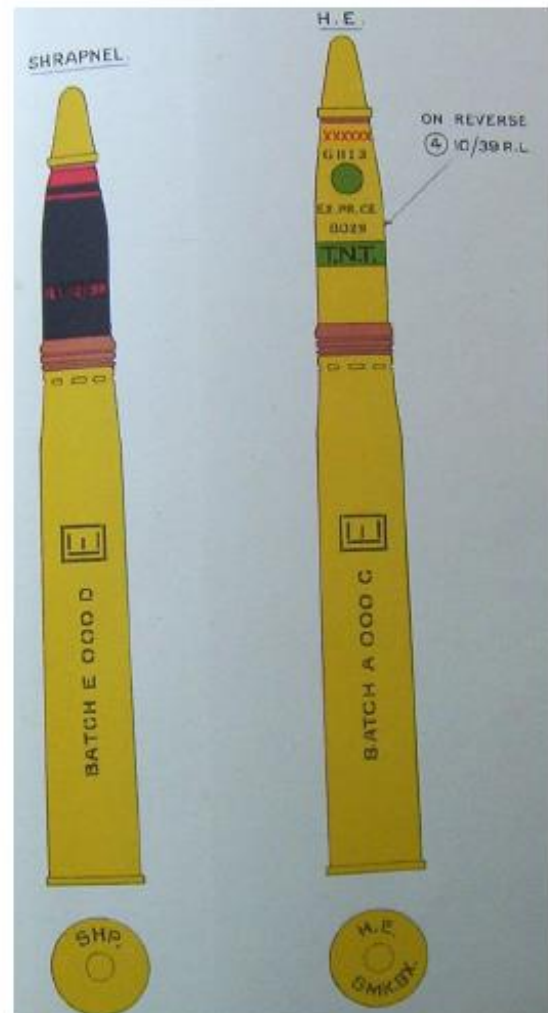
Weight 12.7kg (28lb)

Fuze Mechanical time fuze

Composition Cast steel

Description Brass cartridge case. Square-based shell with tapered nose, filled with Amatol, TNT or RDX/TNT. MK6 had forward centring bands and a wider driving band.

Function Used as a defence against enemy aircraft, fired from fixed batteries and mobile mountings. Could fire approximately 20 rounds per minute with a maximum ceiling of 41,000ft and horizontal range of 20,600 yards.



Information Data Sheet

Category Projectile
Type 4.5" Shell (Mark II – Anti-Aircraft)

Variants -

Body Dimensions 114mm x 566mm (4.5" x 21.9")

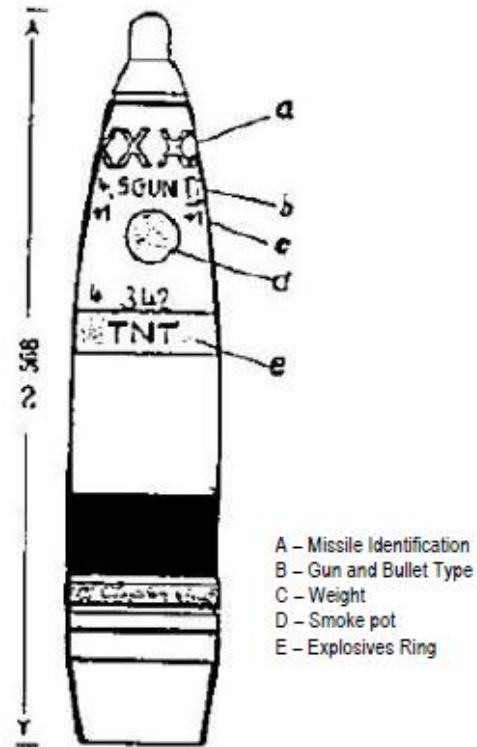
Weight 24.9kg (55lb)

Fuze Mechanical time fuze

Composition Cast steel

Description Square-based, tapered-nosed shell filled with TNT or Amatol. Steel casing, rotating band of either copper or gilding metal located 3.5" in front of the base end with single groove.

Function Used as field artillery and adapted for use in anti-aircraft defence from fixed batteries. Rate of fire of 8 rounds per minute, maximum ceiling of 44,000ft and horizontal range of 22,800 yards.



Appendix 2 Sources of UXO hazard

The sections below provide background information on the potential sources of UXO hazard affecting the Site. For a more comprehensive set of UXO information sheets, see <http://zeticauxo.com/downloads-and-resources/uxo-information-sheets/>.

Appendix 2.1 WWI bombing

Information Data Sheet

Category World War One (WWI) Bombing

Description:

During WWI, significant bombing took place across some areas of the UK. An estimated 9,000No. German bombs were dropped on Britain during the course of 51No. airship and 52No. aircraft raids. It was the first time that strategic aerial bombardment had been used.

Nearly 100No. air raids were carried out on London and Southeast England, over 40No. of which were by Zeppelin airships. Areas along the East Coast was also targeted regularly due to their proximity to the European continent. Bombing raids further inland were rare and West England and Wales were out of reach for German aircraft of the time.

Aerial bombing during WWI initially relied on visual aiming, with bombsights not developed until later in the war. The inaccuracy inherent in this method meant that bombs often fell some way from their intended targets.

The first recorded raid against England occurred on the 21st December 1914 when 2No. High Explosive (HE) bombs fell near the Admiralty Pier at Dover. Zeppelin raids intensified during 1915 and 1916, with aircraft raids becoming more frequent after 1917. The last raid of WWI took place on the 19th May 1918, when 38 Gotha and 3 Giant aircraft bombed London and surrounding districts, dropping a total of more than 2,500lbs of bombs.



A variety of WWI German bombs

Hazard:

The potential of coming across an Unexploded Bomb (UXB) from WWI is far less likely than an UXB from World War Two (WWII), given the lower bombing densities during raids in WWI.

Some areas which were subjected to sustained bombing raids recorded a higher number of UXBs. In these areas, where there has been no significant development for the last century, the potential of a UXB remaining from WWI cannot be totally discounted.

Appendix 2.2 WWII bombing

Information Data Sheet

Category World War Two (WWII) Bombing

Description:

Bombing raids began in summer 1940 and continued until the end of WWII. Bombing densities generally increased towards major cities, such as London, Birmingham, Coventry, and Hull, or strategic targets such as docks, harbours, industrial areas, and airfields. Coastal towns, such as Eastbourne, and cathedral cities, such as Canterbury were also heavily targeted.

The German bombing campaign saw the extensive use of both High Explosive (HE) bombs and Incendiary Bombs (IBs). 50kg and 250kg HE bombs were most commonly used, although 500kg were also used to a lesser extent. More rarely 1,000kg, 1,400kg and 1,800kg bombs were dropped. HE bombs tended to contain about half of their weight in explosives and were fitted with one or two fuzes. Not all HE bombs were intended to explode on impact and some contained timing mechanisms where detonation could occur more than 70 hours after impact.

Incendiary devices ranged from small 1kg thermite filled, magnesium bodied IBs, to 250kg and 500kg Oil Bombs (OB). Occasionally IBs were fitted with a bursting charge which exploded after the bomb had been alight for a few minutes, causing burning debris to be scattered over a greater area. Large OBs were similar in appearance to HE bombs, although their design was sufficiently different to warrant a specially trained unit of the Royal Engineer (RE) to deal with their disposal.



Variety of WWII bombs

Anti-Personnel (AP) bombs and Parachute Mines (PMs) were also deployed. The most common AP bombs were 1kg and 2kg, which could inflict injury across an area up to 150m away from the impact. PMs could be up to 4m in length and were typically detonated either magnetically or by noise/vibration. Anti-shipping PMs were commonly dropped over navigable rivers, dockland areas, and coastlines. Whilst the Royal Navy (RN) was responsible for ensuring that anti-shipping PMs were made safe, their removal and disposal was still the responsibility of the RE.

In 1944, new offensive weapons were introduced. The Flying Bomb (V1), a pilotless guided missile, exploded on impact and could cause significant damage. The Long Range Rocket (V2), a ballistic missile rocket, travelled at such speed that no one could see or hear its approach.

WWII bomb targeting was inaccurate, especially in the first year of the war. A typical bomb load of 50kg HE bombs mixed with IBs aimed at a specific location might not just miss the intended target but could fall a considerable distance away.

Local Civil Defence authorities in urban areas typically had a comprehensive system for reporting bomb incidents and dealing with Unexploded Bombs (UXB). In more rural and coastal areas where fewer bombing raids occurred, it is known that Air Raid Precaution (ARP) records under-represent the number and frequency of bombs falling. Bombs could be released as part of 'tip and run' raids where bomber crews would drop their bombs to avoid Anti-Aircraft (AA) fire or Allied fighter aircraft, on route to and from other strategic targets. Bombs dropped as a result of poor targeting or 'tip and run' raids often went unrecorded or were recorded as 'fell in open country' or 'fell in the sea'. The Luftwaffe are thought to have dropped approximately 75,000 tons of bombs on Britain throughout WWII and an estimated 11% of all bombs dropped during the war failed to detonate.



Removal of an UXB

Hazard:

The potential for a UXB hazard to exist on a site depends on a variety of factors:

- Were their strategic targets in the surrounding area?
- Was the site bombed and how heavy were the raids?
- Could an UXB impact have been missed, masked by rubble or debris?

Even in rural areas, the potential for UXBs cannot be totally discounted and therefore it is essential that detailed local bombing records are obtained when assessing the UXB hazard on any site.

Appendix 2.3 Anti-Aircraft defences**Information Data Sheet****Category** Anti-Aircraft (AA) Defences**Description:**

As aerial bombardment first began during World War One (WWI), AA gun batteries were gradually established throughout much of England to counter German bombing raids. By June 1916, there were approximately 271No. AA guns and 258No. searchlight installations defending London alone.

Common WWI AA defences included 3", 75mm, 6-pounder (pdr), and 1pdr guns. Many of these guns were mobile and would follow the course of an airship, firing from areas of open land.

During WWI, Unexploded AA (UXAA) shells, could land up to 13km from the firing point, although they more typically fell within 10km.



WWI 3-pdr mobile Vickers AA gun



WWII 3.7" static AA gun

During World War Two (WWII), AA gun batteries were used extensively to counter the threat posed by enemy aircraft. AA shells could be distributed over a wide area and could land up to 27km from the firing point, although they more typically fell within 15km.

3No. types of AA batteries existed:

- Heavy AA (HAA) – typically 3.7", 4.5", and 5.25" calibre guns designed to engage high flying bomber aircraft. These tended to be permanent gun emplacements.
- Light AA (LAA) – typically used 40mm shells and machine gun ammunition and designed to counter low flying aircraft. These were often mobile and were moved periodically.
- Rocket AA (ZAA) – fired 3" or 3.7" AA rockets with a maximum altitude of 5,800m and a ground range of 9km. These tended to be permanent gun emplacements.

Hazard:

AA batteries had munitions stores which stored shells for the batteries and Small Arms Ammunition (SAA) for troops manning the position. Such stores were typically removed at the end of WWII, although some disposal may have occurred in the immediate vicinity of the gun battery.

In areas heavily protected by AA batteries, it is prudent to consider the potential for UXAA shells in the area surrounding a battery, taking into consideration the likely extent within which shells would have fallen. Finding an UXAA shell immediately adjacent to a former gun battery is less likely.

Appendix 3 Recent UXO finds

Information Data Sheet

Category Recent UXO Finds

UXO finds in the UK are a regular occurrence, although they almost never result in an accidental detonation.

Explosives rarely lose effectiveness with age. In some instances, mechanisms such as fuzes and gaines can become more sensitive and more prone to detonation, regardless of whether the device has been submersed in water or embedded in silt, clay, or similar materials.

Zetica Ltd, and other commercial EOD companies, uncover and make safe thousands of items of UXO each year, though details are rarely made public knowledge.

Publicly recorded discoveries also occur regularly, as shown by the list of recent significant UXO finds in the UK below. Click [here](#) to keep up to date with the latest UXO finds.

On the 26th February 2021, a 1,000kg German "Hermann" UXB was discovered by builders at Exeter University campus (see below). It was investigated and detonated in-situ following the evacuation of nearby properties and University halls of residence.



1,000kg German UXB discovered in Exeter, 2021

On the 29th March 2021, 1No. 250lb UXB was discovered on the seabed near Hinkley Point C harbour, Bristol. A maritime exclusion was imposed while the item was investigated and then destroyed in a controlled explosion.

On the 1st June 2021, a cache of approximately 100No. WWII-era hand grenades were found in a Nottinghamshire forest, a possible relic from nearby WWII camps. They were destroyed.

On the 24th July 2021, 1No. 500lb British UXB was uncovered during construction works in Goole, East Yorkshire. Reports indicated that the UXB had been jettisoned by a Lancaster bomber aircraft prior to crashing nearby in WWII. The item was investigated and destroyed.

On the 18th August 2021, 1No. UXB was found by construction workers on a Site in Earl Sterndale, Derbyshire. Upon inspection the UXB was deemed to be dangerous, and a controlled detonation was undertaken.

On the 10th September 2021, EOD teams destroyed 25No. mortar bombs which had been washed up onto beaches around Nairn and Ardersier in Morayshire. These beaches had been used during WWII for training prior to the D-Day landings in Normandy.



Mortar bombs found on beaches in Nairn and Ardersier, 2021

On the 15th December 2021, approximately 200No. artillery shells were discovered at a construction site located within the former Royal Ordnance Factory at Swynnerton in Staffordshire. The shells were removed and destroyed.

On the 2nd January 2022, 1No. heavily deteriorated 105mm artillery shell was discovered by dogwalkers on a beach in Cumbria. This may have originated on one of the several offshore ranges which have been operational along the nearby coastline since WWII.

Between the 24th and 27th January 2022, 5No. empty artillery shells were uncovered at a construction site in Manchester. These were likely linked to a shell-production factory which had been active on the site during WWII.

On the 14th July 2022, 1No. 2" mortar bomb and several Small Arms Ammunition rounds were discovered on a beach near Ardnamurchan. An EOD team disposed of the items.

On the 28th November 2022, 45No. Self-Igniting Phosphorus grenades were discovered during construction works at a school in Swindon. They were disposed of by an EOD team.

On the 5th December 2022, 1No. UXB was discovered during construction at Biggin Hill Airport. An EOD team removed the UXB for safe disposal.

On the 7th February 2023 1No. 250kg bomb was found during dredging works in the River Yare, Great Yarmouth. It detonated unplanned whilst being disarmed by an Army EOD team.

On the 17th April 2023, 1No. unexploded mortar bomb was discovered at Cavenham Heath Nature Reserve. It was destroyed in a controlled explosion by an EOD team. This followed 2No. other similar discoveries on the 7th March and 12th March in the same stretch of canal.

On the 27th July 2023, 1No. 250kg WWII bomb was discovered off the coast of Guernsey by a recreational diver. It was detonated in situ by a Royal Navy EOD diver team.

Appendix 4 Glossary and definitions

Abandoned Explosive Ordnance (AXO)	Explosive ordnance that has not been used during an armed conflict, that has been left behind or disposed of by a party to an armed conflict, and which is no longer under control of that party. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use.
Demil	Derived from the term 'Demilitarisation', demil refers to the break down and the recycling or disposal of ordnance components.
Detonation	The high-speed chemical breakdown of an energetic material producing heat, pressure, flame, and a shock wave.
Device	Any component, sub-assembly or completed ordnance, which may or may not have an explosive risk. It can apply to detonators, primers, gaines, fuzes, shells, or bombs.
Explosive	Compounds forming energetic materials that under certain conditions chemically react, rapidly producing gas, heat, and pressure. These are extremely dangerous and should only be handled by qualified professionals.
Explosive Ordnance (EO)	All munitions containing explosives, nuclear fission or fusion materials, and biological and chemical agents. This includes bombs and warheads, missiles, artillery, mortar, rocket, Small Arms Ammunition, mines, torpedoes, depth charges, pyrotechnics, cluster bombs and dispensers, cartridge and propellant devices, electro-explosive devices, clandestine and improvised explosive devices, and all related items/components which are explosive in nature.
Explosive Ordnance Clearance (EOC)	The operation of ordnance detection, investigation, identification, and removal, with Explosive Ordnance Disposal being a separate operation.
Explosive Ordnance Disposal (EOD)	The detection, identification, on-site evaluation, rendering safe, recovery, and final disposal of Unexploded Ordnance.
Explosive Ordnance Reconnaissance (EOR)	The detection, identification, and on-site evaluation of Unexploded Ordnance before Explosive Ordnance Disposal.
Explosive Remnants of War (ERW)	Unexploded Ordnance and Abandoned Explosive Ordnance, excluding landmines.
Explosive Substances & Articles (ESA)	Explosive substances are solid or liquid substances (or a mixture) which are either: capable by a chemical reaction of producing gas at a speed, temperature, and pressure to cause damage to the surroundings; or designed to produce an effect by heat, light, sound, gas, or smoke (or a combination) as a result of a non-detonative, self-sustaining, exothermic reaction. One or more explosive substances form an explosive article.

Fuze	The part of an explosive device that initiates the main explosive charge to function. In common usage, the word fuze is used indiscriminately, but when being specific (and especially in a military context), fuze is used to mean a more complicated device, such as a device within military ordnance.
Gaine	Small explosive charge that is sometimes placed between the detonator and the main charge to ensure ignition.
Geophysical survey	A range of methods that can be used to detect objects or identify ground conditions without the need for intrusive methods (such as excavation or drilling). This is particularly suited to ordnance, as disturbance of ordnance is to be avoided where possible.
High Explosive (HE)	Secondary explosives (commonly known as HE) make up the main charge or filling of an ordnance device. They are usually less sensitive than primary explosives. Examples of secondary explosives are Nitro-glycerine (NG), Trinitrotoluene (TNT), Amatol (Ammonium nitrate and TNT), gunpowder, and Cyclotrimethylenetrinitramine (RDX).
Land Service Ammunition (LSA)	Items of ordnance thrown, propelled, or placed during land warfare, to include grenades, mortar bombs, projectiles, rockets, and landmines.
Munition	The complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological, or chemical material for use in military operations, including demolitions. This includes those munitions that have been modified for use in training, ceremonial, or non-operational purposes. These fall into three distinct categories: inert (contain no explosives), live (contain explosives and have not been fired), and blind (have fired but failed to function as intended.)
Primary Explosive	Explosives used to initiate less sensitive explosives and usually extremely sensitive to friction, heat, and pressure. Primary explosives are commonly found in detonators. Examples of primary explosives are lead azide, lead styphnate, and mercury fulminate.
Propellants	Provide ordnance with the ability to travel in a controlled manner and deliver the ordnance to a predetermined target. Propellants burn rapidly producing gas, pressure, and flame. Although usually in solid form they can be produced in liquid form. Examples of propellants are ballistite, often in flake form, and cordite, often in string form.
Pyrotechnic	An explosive article or substance designed to produce an effect by heat, light, sound, gas, or smoke (or a combination), as a result of non-detonative, self-sustaining, exothermic chemical reactions.
Small Arms Ammunition (SAA)	Projectiles around 12mm or less in calibre and no longer than approximately 100mm. They are fired from a variety of weapons, including rifles, pistols, shotguns, and machine guns.

Unexploded Anti-Aircraft (UXAA) Shell	Ordnance containing High Explosives, although they can also contain pyrotechnic compounds that produce smoke. They ranged from 2" to 5.25" calibre, although most common were 3.7" and 4.5" HE shells.
Unexploded Bomb (UXB)	A common term for unexploded air-dropped munitions.
Unexploded Ordnance (UXO)	Explosive ordnance that has been primed, fuzed, armed, or prepared for use and subsequently fired, dropped, launched, projected, or placed in such a manner as to present a hazard to operations, persons, or objects, and remains unexploded either by malfunction or design.
V1	The Vergeltungswaffe-1, also designated Fieseler Fi 103/FZG-76, known colloquially in English as the Flying Bomb, Pilotless Aircraft, Buzz Bomb, or Doodlebug, was the first guided missile used in WWII and the forerunner of today's cruise missile.
V2	The Vergeltungswaffe 2 ('Reprisal Weapon 2') was the first ballistic missile. It was used primarily against Belgian and British targets during the later stages of WWII. It was also the first man-made object launched into space, during test flights in 1944.

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