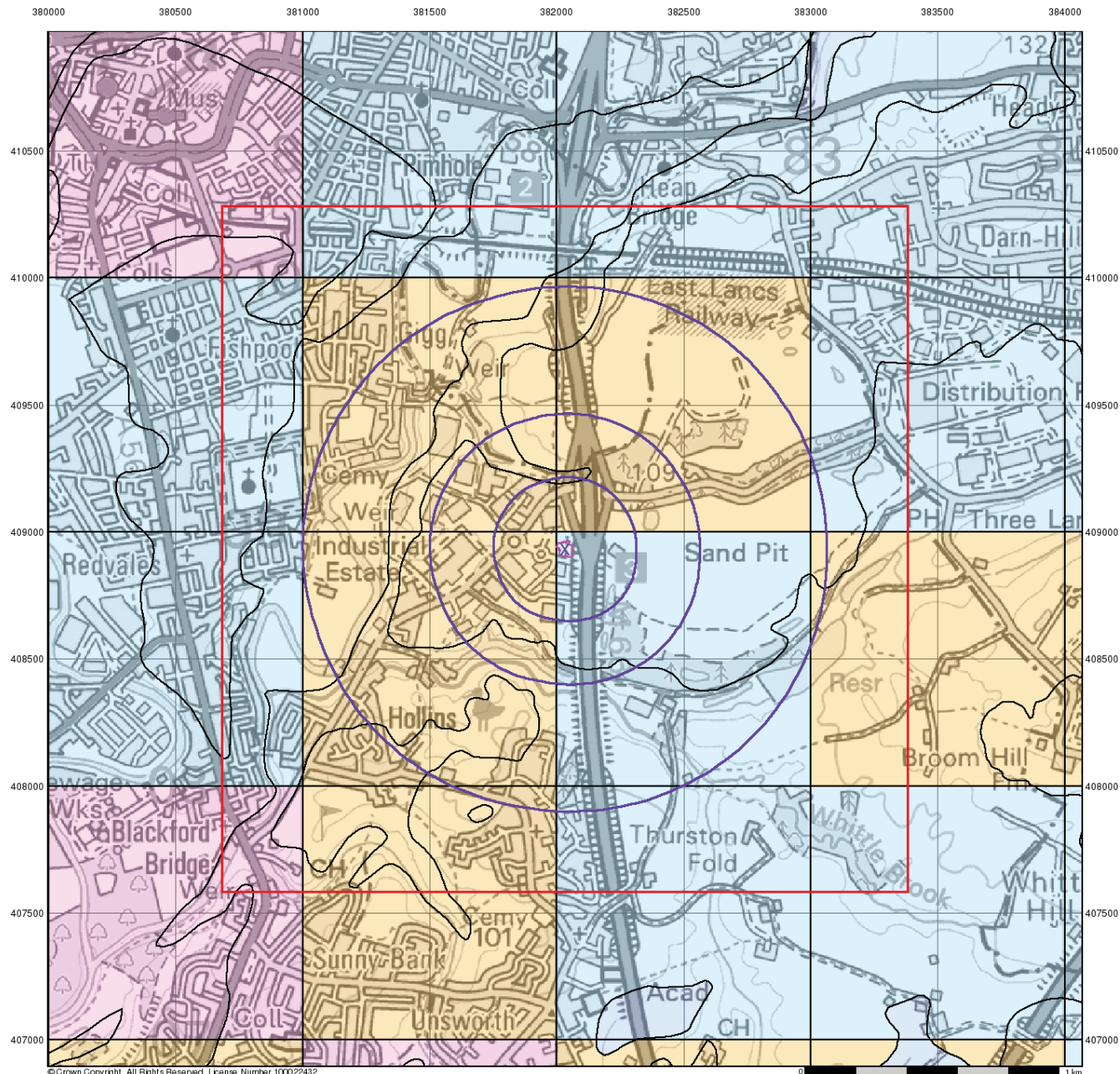




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Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Bedrock Aquifers

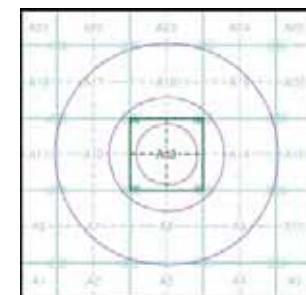
- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

- Unproductive Aquifer
- Soluble Rock

Site Sensitivity Context Map - Slice A

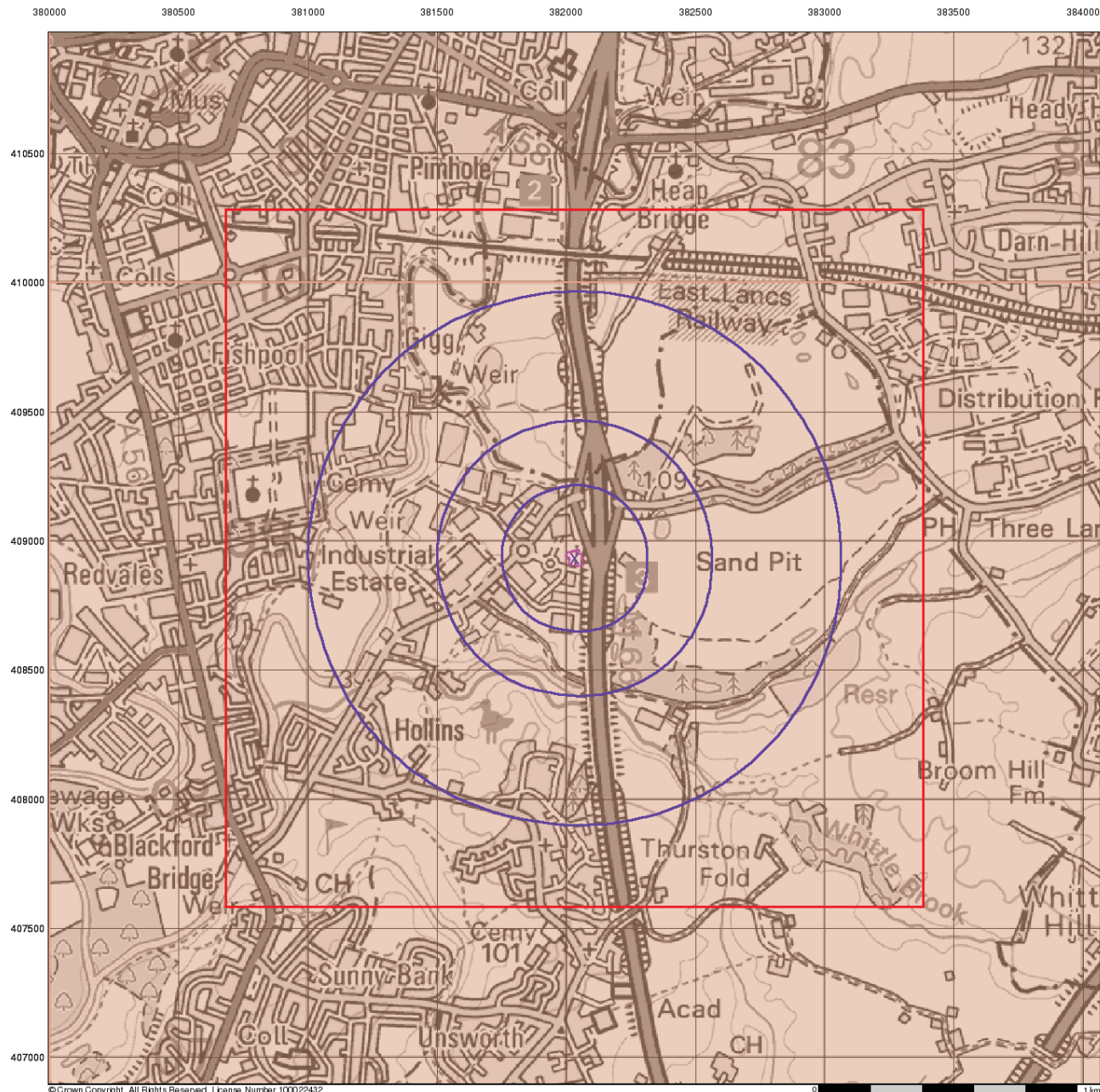


Order Details

Order Number: 38052118_1
 Customer Ref: UK23.63025
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



Bedrock Aquifer Designation

General

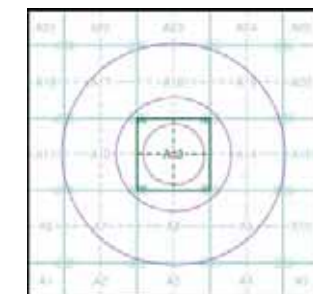
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

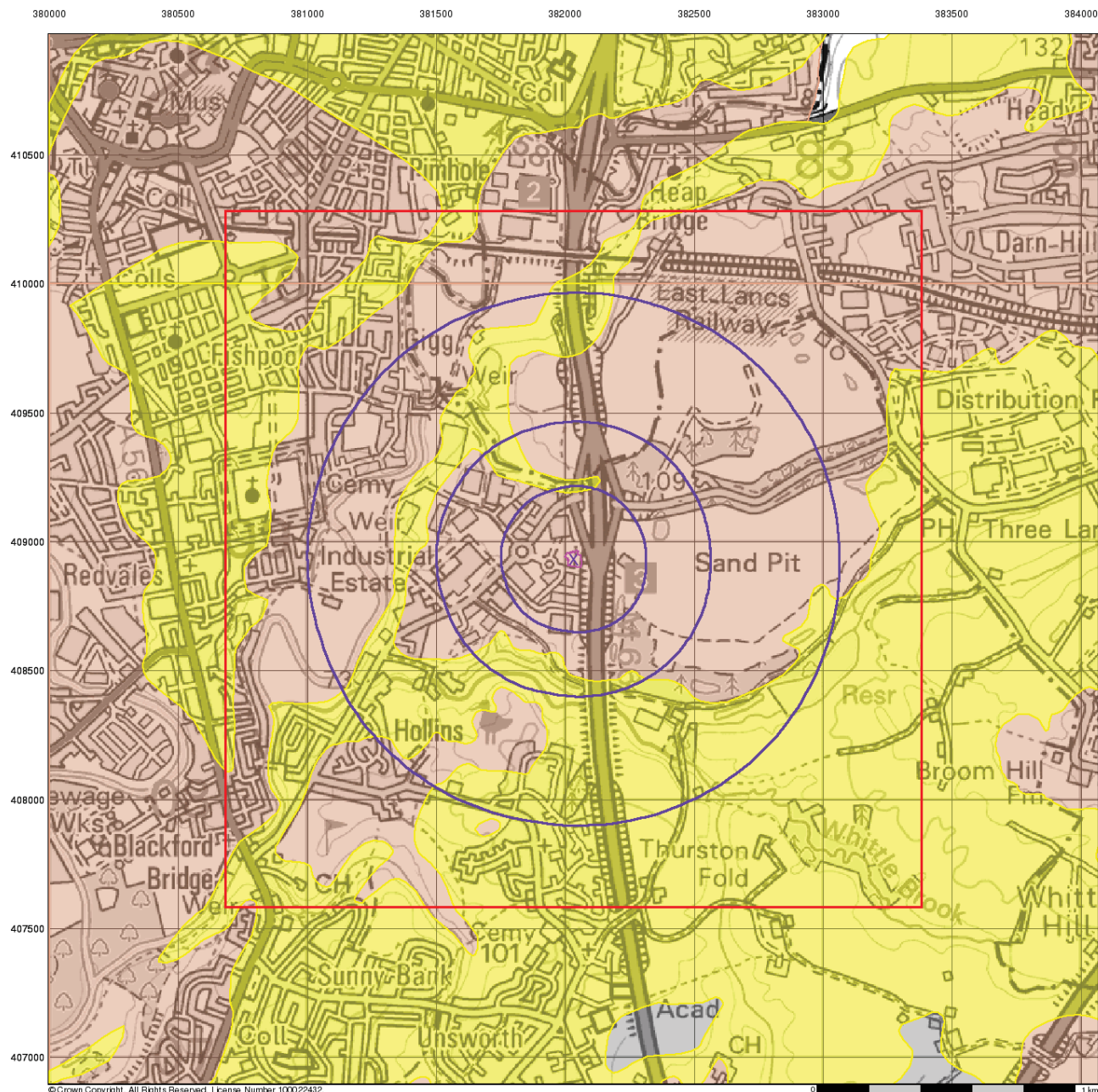


Order Details

Order Number: 308052118_1_1
 Customer Ref: UK23.63025
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



Superficial Aquifer Designation

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

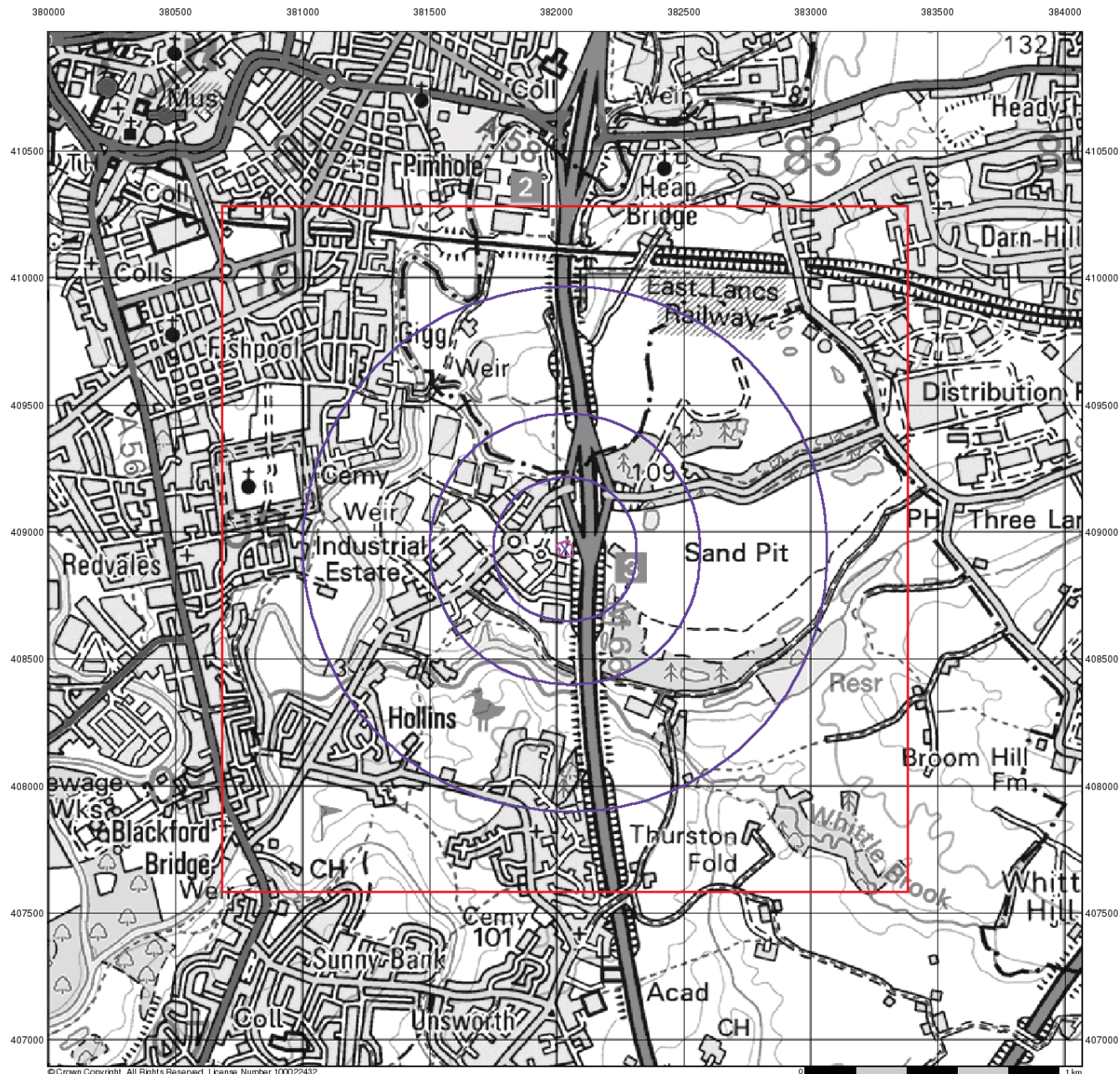


Order Details

Order Number: 308052118_1_1
 Customer Ref: UK23.63025
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



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Source Protection Zones

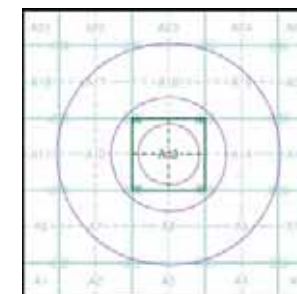
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A

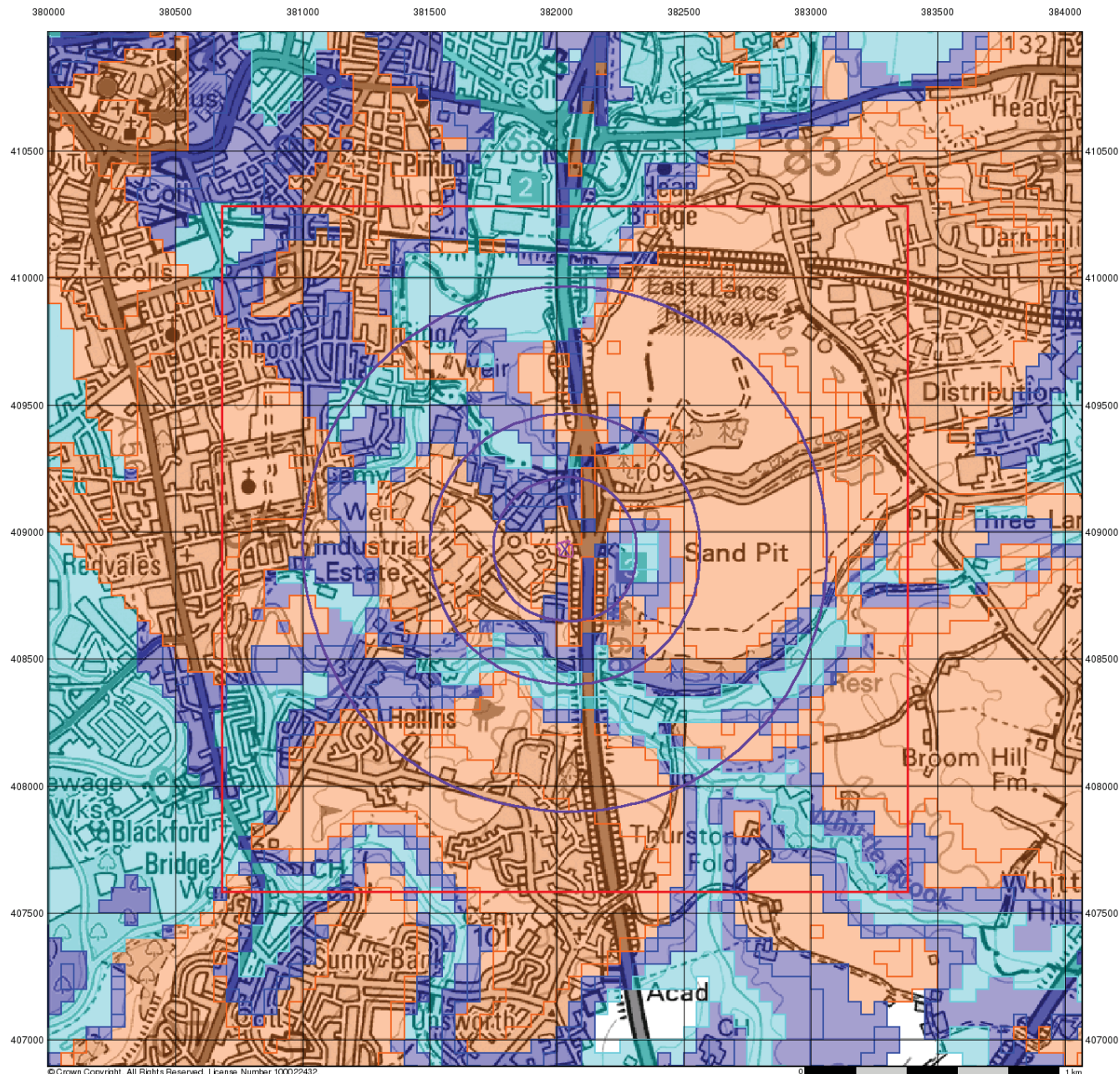


Order Details

Order Number: 308052118_1_1
 Customer Ref: UK23.6302b
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



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Envirocheck LANDMARK INFORMATION GROUP®

BGS Flood GFS Data

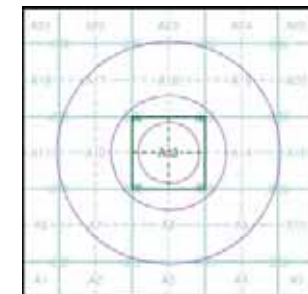
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 308052118_1_1
 Customer Ref: UK23.6302b
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS

Landmark
 LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

APPENDIX F

A Selection of Historic Maps

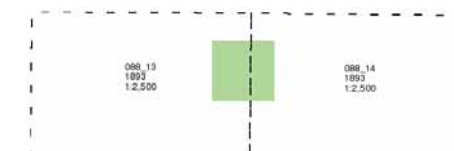
Lancashire And Furness

Published 1893

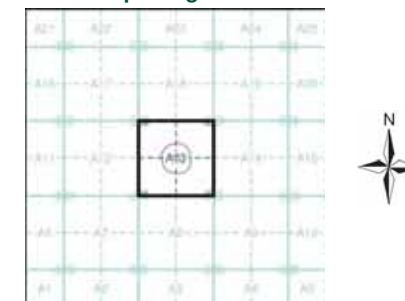
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

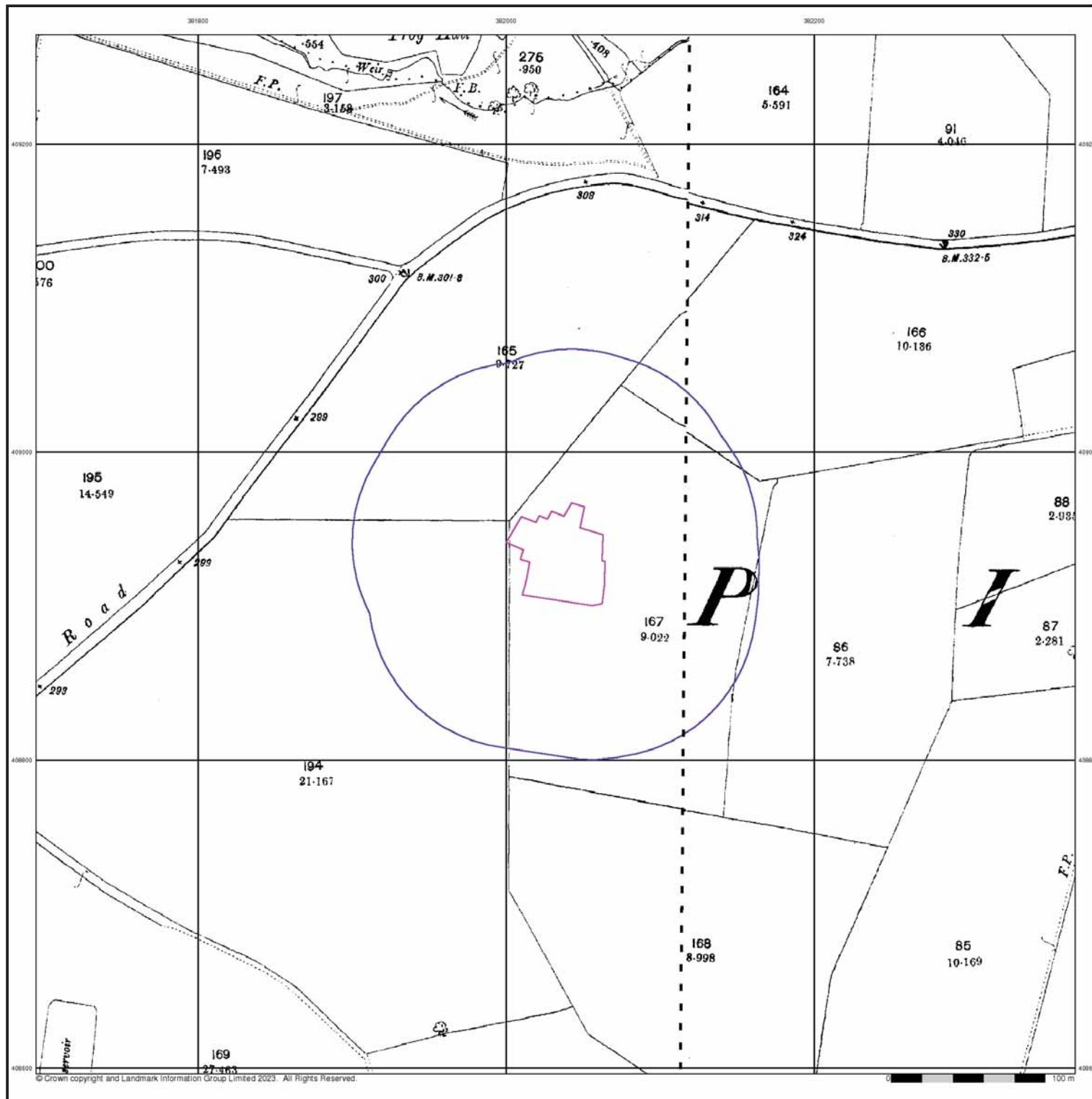


Order Details

Order Number: 308052118_1_1
 Customer Ref: UK23.6302b
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 100

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



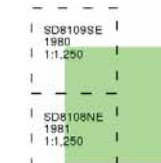
Additional SIMs

Published 1980 - 1981

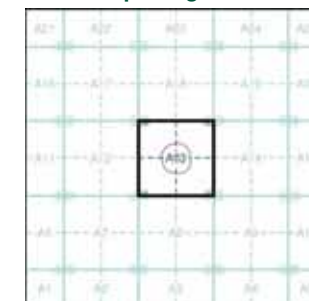
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

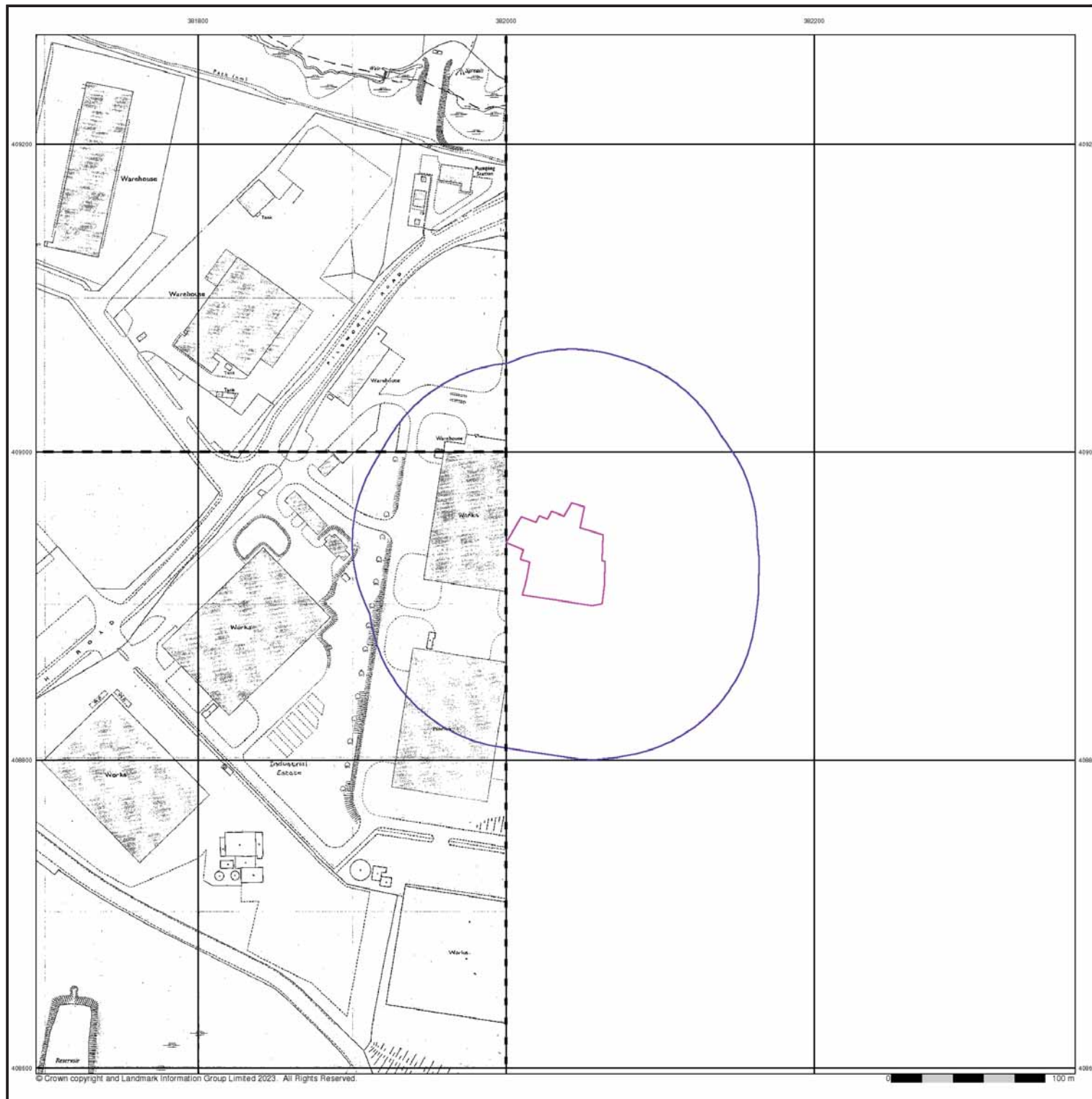


Order Details

Order Number: 308052118_1_1
 Customer Ref: UK23.6302b
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 100

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



Additional SIMs

Published 1981

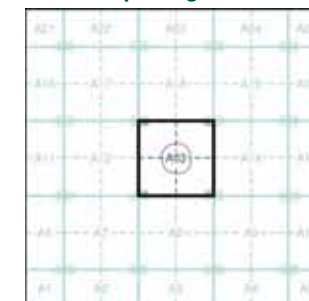
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD8209	1981	1:2,500
SD8208	1981	1:2,500

Historical Map - Segment A13

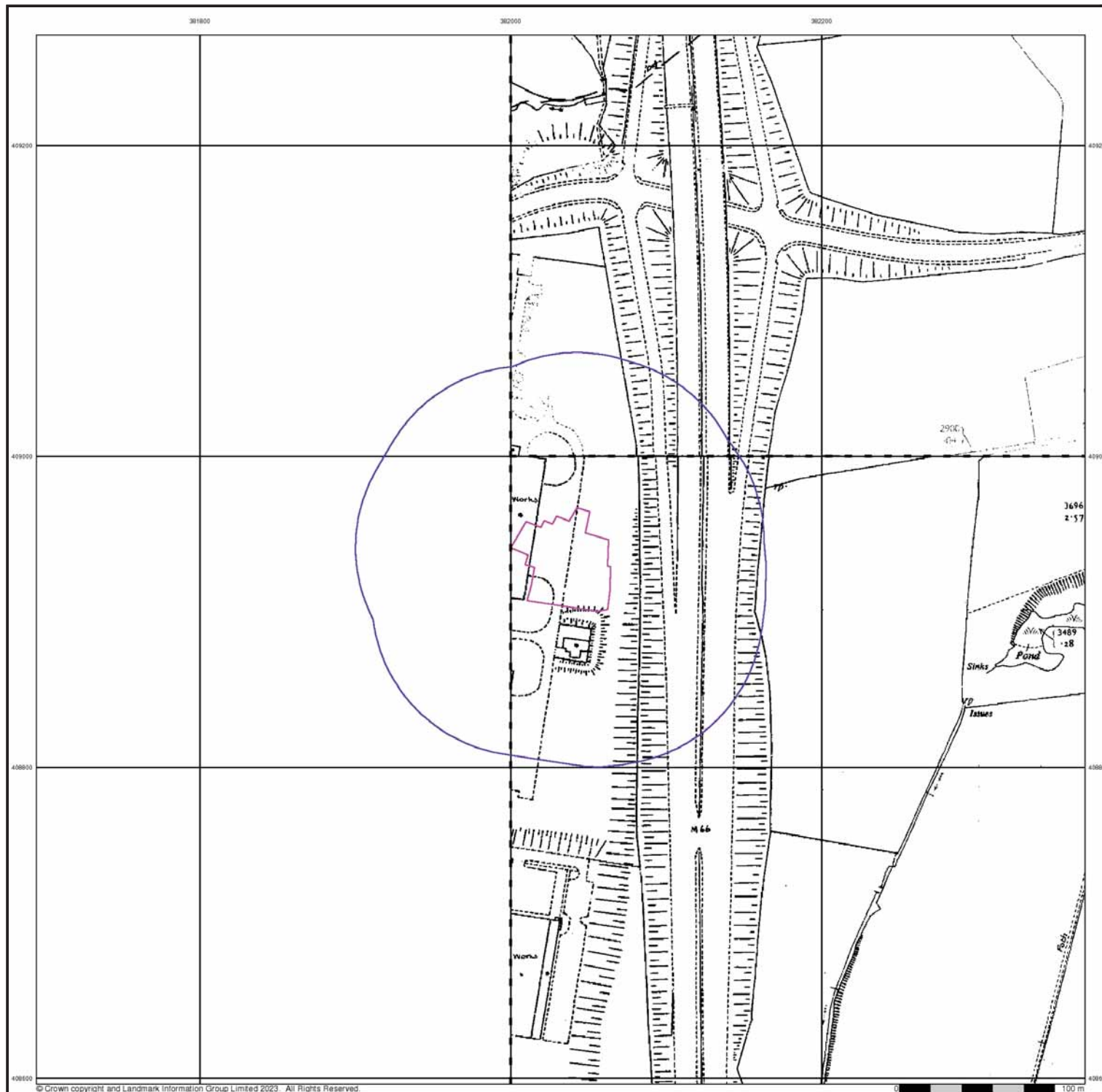


Order Details

Order Number: 308052118_1_1
 Customer Ref: UK23.6302b
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 100

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



Large-Scale National Grid Data

Published 1992

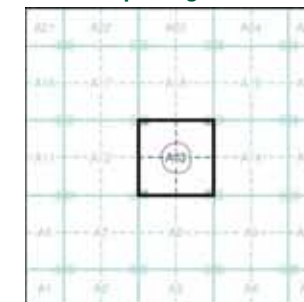
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD8109SE	1992	1:1,250
SD8108NE	1992	1:1,250
SD8208NW	1992	1:1,250

Historical Map - Segment A13

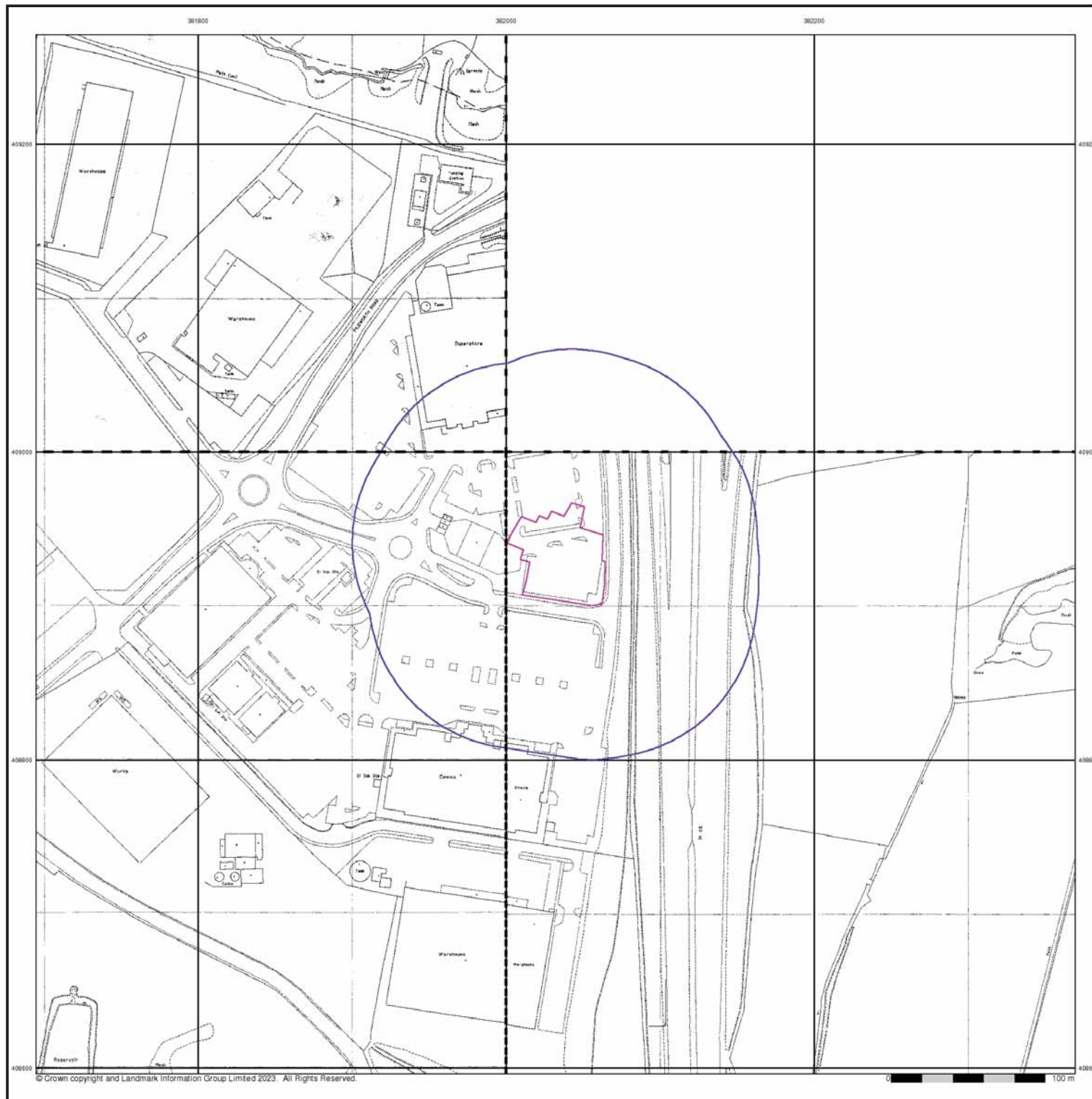


Order Details

Order Number: 308052118_1_1
 Customer Ref: UK23.6302b
 National Grid Reference: 382030, 408930
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 100

Site Details

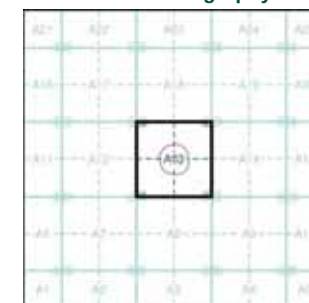
ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



Historical Aerial Photography Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 308052118_1_1
Customer Ref: UK23.6302b
National Grid Reference: 382030, 408930
Slice: A
Site Area (Ha): 0.29
Search Buffer (m): 100

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS

10k Raster Mapping

Published 2006

Source map scale - 1:10,000

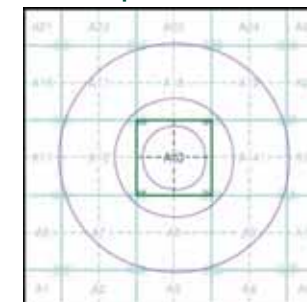
The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SD81SW
2006
1:10,000

SD80NW
2006
1:10,000

Historical Map - Slice A

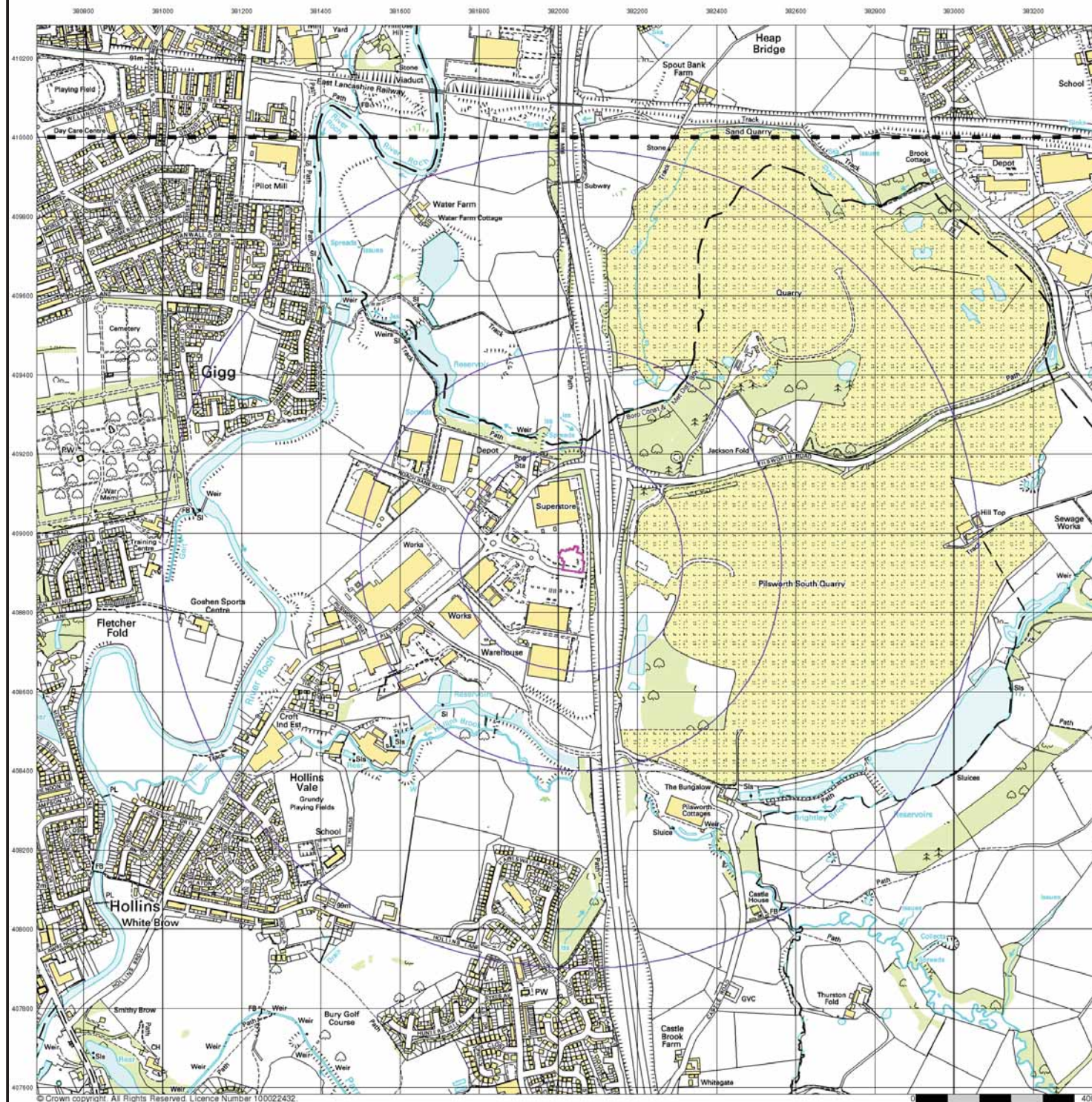


Order Details

Order Number: 308052118_1_1
Customer Ref: UK23.6302b
National Grid Reference: 382030, 408930
Slice: A
Site Area (Ha): 0.29
Search Buffer (m): 1000

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



VectorMap Local

Published 2022

Source map scale - 1:10,000

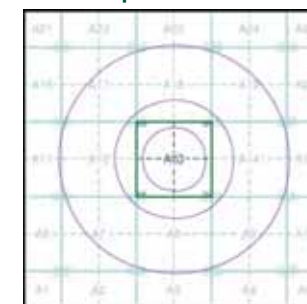
VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SD81SW
2022
Variable

SD80NW
2022
Variable

Historical Map - Slice A

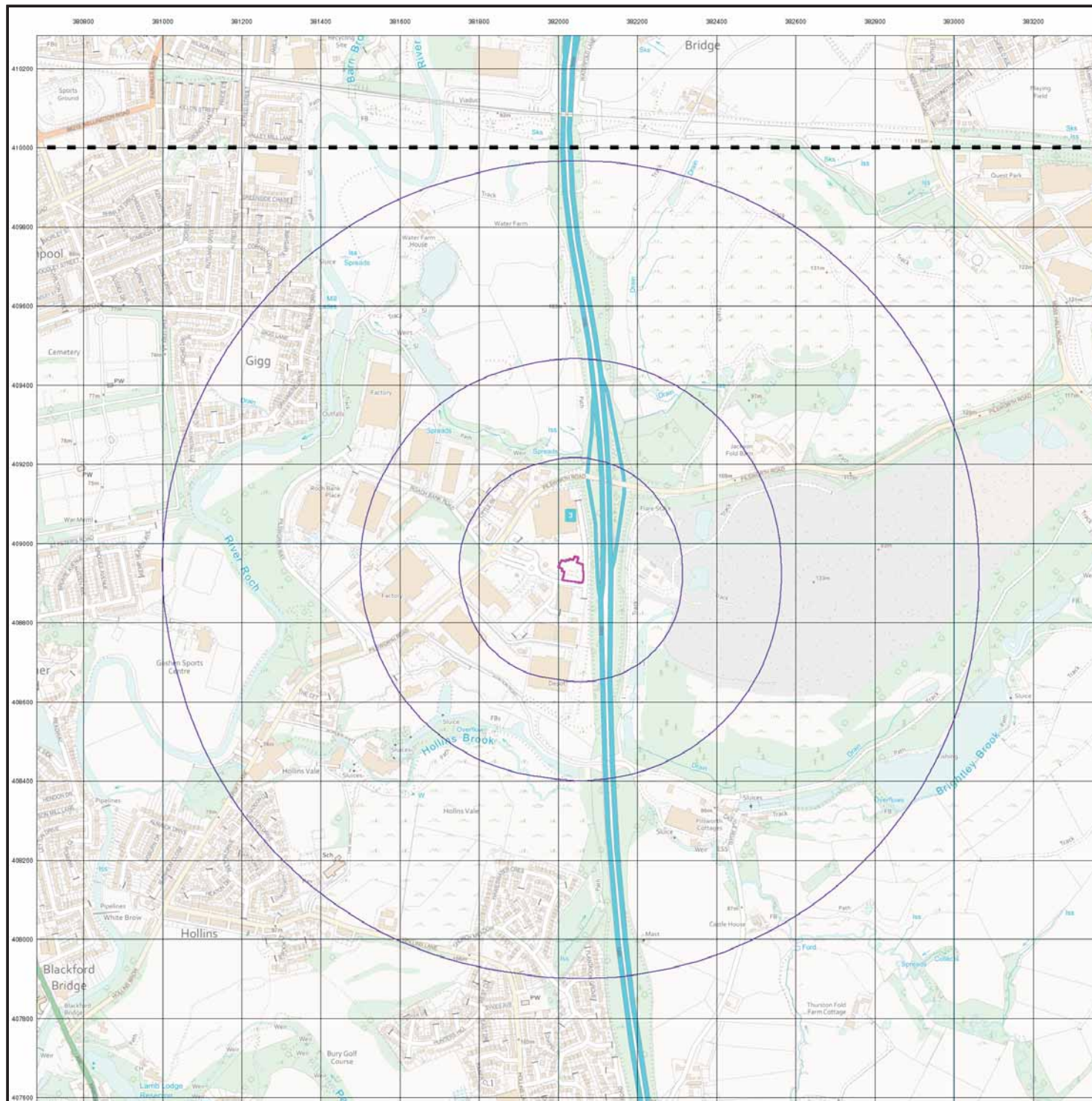


Order Details

Order Number: 308052118_1_1
Customer Ref: UK23.6302b
National Grid Reference: 382030, 408930
Slice: A
Site Area (Ha): 0.29
Search Buffer (m): 1000

Site Details

ASDA Pilsworth, Pilsworth Road, Bury, BL9 8RS



APPENDIX G

Site Specific Borehole Logs



Borehole Log

Borehole No.

WS01

Sheet 1 of 1

Project Name: ASDA Pilsworth

Project No.
UK23.6302b

Co-ords: -252999E - 7090394N

Hole Type
WS

Location: Pilsworth

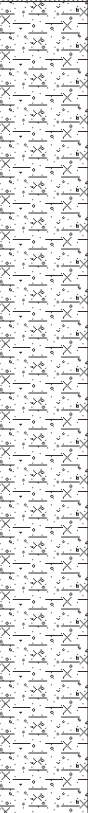
Level:

Scale
1:25

Client: EuroGarages

Dates: 26/04/2023

Logged By
WT

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	In Situ Results					
					0.15			Asphalt Core	
					0.45			MADE GROUND - Grey/brown slightly sandy slightly clayey GRAVEL subbase material. Tarmac and concrete fragments observed.	
					0.70			MADE GROUND - Red/black GRAVEL material consisting of fragmented red bricks	
		0.70	ES					Firm brown slightly silty slightly sandy slightly gravelly CLAY. Gravels observed to be generally fine with some coarse clasts, of mixed lithologies. Groundwater encountered at approximately 3.4m. (DEVENSIAN GLACIAL DEPOSITS)	1
		1.00	SPT	N=14 (3,3/3,4,3,4)					
		1.20	D						
		1.50	PID	PID=0.00					
		2.00	SPT	N=9 (1,0/1,2,3,3)					2
		2.10	ES						
		3.00	SPT	N=12 (2,2/2,2,4,4)					3
		3.10	ES						
		3.40	B						
		3.40	PID	PID=0.00				Smear Zone	
		4.00	SPT	N=16 (2,2/3,4,4,5)					4
					5.00			End of Borehole at 5.000m	5

Remarks

Target depth achieved. Groundwater encountered at approximately 3.4m. Further than made ground, no evidence of gross contamination observed.





Borehole Log

Borehole No.

WS02

Sheet 1 of 1

Project Name: ASDA Pilsworth

Project No.
UK23.6302b

Co-ords: -252961E - 7090394N

Hole Type
WS

Location: Pilsworth

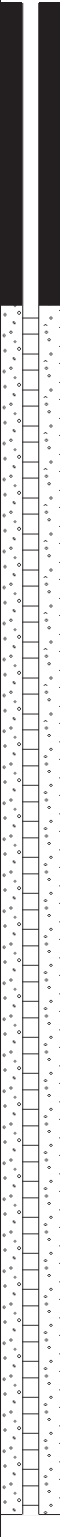
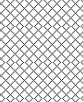
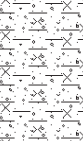
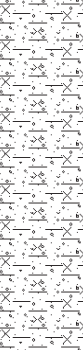
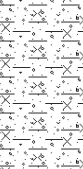
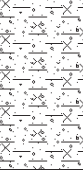
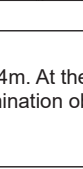
Level:

Scale
1:25

Client: EuroGarages

Dates: 26/04/2023

Logged By
WT

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	In Situ Results					
								Asphalt Core	
		0.20	ES		0.15			MADE GROUND - Black/brown slightly sandy slightly clayey GRAVEL subbase material. Tarmac and concrete fragments observed.	
					0.50			<u>Fragment of metal found</u>	
		0.60	ES					Soft to firm brown slightly silty slightly sandy slightly gravelly CLAY. Gravels observed to be generally fine with some coarse clasts, of mixed lithologies. Groundwater encountered at approximately 3.4m with increased silt content below this depth. (DEVENSIAN GLACIAL DEPOSITS)	
		0.70	PID	PID=0.00					
		1.00	SPT	N=7 (1,1/1,2,2,2)					1
									
		1.90	PID	PID=0.00					
		2.00	SPT	N=10 (1,2/2,3,2,3)					2
									
		2.50	D						
		3.00	SPT	N=13 (2,2/2,3,4,4)					3
		3.40	ES					<u>Smear zone</u>	
		3.50	PID	PID=0.00					
		4.00	SPT	N=13 (2,3/2,3,4,4)				<u>Sandy lense</u>	4
		4.50	PID	PID=0.00					
		5.00	SPT		5.00			End of Borehole at 5.000m	5

Remarks

Target depth achieved. Groundwater encountered at approximately 3.4m. At the conclusion of site works it was measured to be at 4.35m bgl. Further than made ground, no evidence of gross contamination observed.





Borehole Log

Borehole No.

WS03

Sheet 1 of 1

Project Name: ASDA Pilsworth

Project No.
UK23.6302b

Co-ords: -253004E - 7090360N

Hole Type
WS

Location: Pilsworth

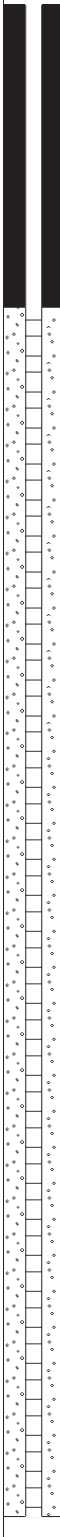
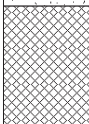
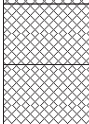
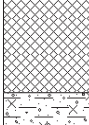
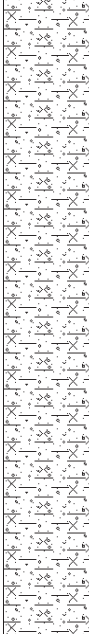
Level:

Scale
1:25

Client: EuroGarages

Dates: 26/04/2023

Logged By
WT

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	In Situ Results						
					0.10			Asphalt Core	1	
								MADE GROUND - Grey/brown slightly sandy slightly clayey GRAVEL subbase material. Tarmac and concrete fragments observed.		
					0.50			MADE GROUND - Black/brown slightly sandy slightly clayey GRAVEL material.		
					0.70			MADE GROUND - Red/black GRAVEL material consisting of fragmented red bricks.		
		0.90	ES	N=45 (15,10/17,12,8,8) PID=0.00	1.20			Firm brown slightly silty slightly sandy slightly gravelly CLAY. Gravels observed to be generally fine with some coarse clasts, of mixed lithologies. Groundwater encountered at approximately 3.4m. (DEVENSIAN GLACIAL DEPOSITS)	2	
		1.00	SPT							
		1.00	PID							
		1.40	B							
		1.90	D	N=11 (3,2/2,2,4,3) PID=0.00					3	
		2.00	SPT							
		2.00	PID							
		2.20	ES							
		2.90	ES	N=11 (2,2/2,3,3,3) PID=0.00					4	
		3.00	SPT							
		3.00	PID							
						<u>Smear Zone</u>			5	
		4.00	SPT	N=14 (2,2/3,3,4,4) PID=0.00						
		4.00	PID							
5.00	SPT	N=13 (2,3/3,3,3,4)	5.00		End of Borehole at 5.000m					

Remarks

Target depth achieved. Groundwater encountered at approximately 3.4m. Further than made ground, no evidence of gross contamination observed.



APPENDIX H

Laboratory Results – Environmental



Certificate of Analysis

Certificate Number 23-10644

Issued: 16-May-23

Client EPS (Leeds) Ltd
10-12 East Parade
Leeds
LS1 2BH

Our Reference 23-10644

Client Reference UK23.6302b

Order No 31937

Contract Title ASDA Pillsworth

Description 9 Soil samples, 2 Leachate samples.

Date Received 04-May-23

Date Started 04-May-23

Date Completed 16-May-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read "K. Bridgewood", written over a light blue circular stamp.

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 23-10644

Client Ref UK23.6302b

Contract Title ASDA Pillsworth

Lab No	2166413	2166414	2166415	2166416	2166417	2166418	2166419
Sample ID	WS02	WS02	WS02	WS01	WS01	WS01	WS01
Depth	0.20-0.40	3.40-3.70	0.60-0.70	0.70-0.90	2.10-2.30	3.10-3.30	0.90-1.00
Other ID	ES1	ES2	ES3	ES1	ES2	ES3	ES1
Sample Type	ES	ES	ES	ES	ES	ES	ES
Sampling Date	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Chromatogram	*	0		N					
Preparation									
Moisture Content	DETSC 1004	0.1	%		14		20		
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg		4.9		21	6.6	
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg				< 0.2		
Cadmium	DETSC 2301#	0.1	mg/kg		0.1		0.4	0.2	
Chromium	DETSC 2301#	0.15	mg/kg		11		13	18	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0		< 1.0		
Copper	DETSC 2301#	0.2	mg/kg		18		67	26	
Lead	DETSC 2301#	0.3	mg/kg		12		100	13	
Mercury	DETSC 2325#	0.05	mg/kg		< 0.05		0.87	< 0.05	
Nickel	DETSC 2301#	1	mg/kg		16		20	26	
Selenium	DETSC 2301#	0.5	mg/kg		< 0.5		< 0.5	< 0.5	
Zinc	DETSC 2301#	1	mg/kg		40		41	54	
Inorganics									
pH	DETSC 2008#		pH			7.9		8.2	8.0 8.1
Cyanide, Total	DETSC 2130#	0.1	mg/kg				< 0.1		
Organic matter	DETSC 2002#	0.1	%				1.6		
Sulphate Aqueous Extract as SO ₄ (2:1)	DETSC 2076#	10	mg/l			52		41	< 10
Sulphide	DETSC 2024*	10	mg/kg				20		
Sulphur as S, Total	DETSC 2320	0.01	%			0.08		0.08	< 0.01
Sulphate as SO ₄ , Total	DETSC 2321#	0.01	%			0.04		0.03	0.04 < 0.01
Petroleum Hydrocarbons									
Aliphatic C5-C6: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01	< 0.01	
Aliphatic C6-C8: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01	< 0.01	
Aliphatic C8-C10: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01	< 0.01	
Aliphatic C10-C12: EH_CU_1D_AL	DETSC 3072#	1.5	mg/kg	< 1.5				< 1.5	
Aliphatic >EC10-EC12: EH_2D_AL	DETSC 3521#	1.5	mg/kg		< 1.50		2.10		
Aliphatic C12-C16: EH_CU_1D_AL	DETSC 3072#	1.2	mg/kg	< 1.2				< 1.2	
Aliphatic >EC12-EC16: EH_2D_AL	DETSC 3521#	1.2	mg/kg		1.41		1.59		
Aliphatic C16-C21: EH_CU_1D_AL	DETSC 3072#	1.5	mg/kg	< 1.5				< 1.5	
Aliphatic >EC16-EC21: EH_2D_AL	DETSC 3521#	1.5	mg/kg		< 1.50		< 1.50		
Aliphatic C21-C35: EH_CU_1D_AL	DETSC 3072#	3.4	mg/kg	< 3.4				< 3.4	
Aliphatic >EC21-EC35: EH_2D_AL	DETSC 3521#	3.4	mg/kg		< 3.40		< 3.40		
Aliphatic C5-C35: EH_CU+HS_1D_AL	DETSC 3072*	10	mg/kg	< 10				< 10	
Aliphatic C5-C35: EH_2D+HS_1D_AL	DETSC 3521*	10	mg/kg		< 10.00		< 10.00		
Aromatic C5-C7: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01	< 0.01	
Aromatic C7-C8: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01	< 0.01	
Aromatic C8-C10: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01	< 0.01	
Aromatic C10-C12: EH_CU_1D_AR	DETSC 3072#	0.9	mg/kg	< 0.9				< 0.9	
Aromatic >EC10-EC12: EH_2D_AR	DETSC 3521#	0.9	mg/kg		< 0.90		< 0.90		

Summary of Chemical Analysis

Soil Samples

Our Ref 23-10644

Client Ref UK23.6302b

Contract Title ASDA Pillsworth

Lab No	2166413	2166414	2166415	2166416	2166417	2166418	2166419
Sample ID	WS02	WS02	WS02	WS01	WS01	WS01	WS01
Depth	0.20-0.40	3.40-3.70	0.60-0.70	0.70-0.90	2.10-2.30	3.10-3.30	0.90-1.00
Other ID	ES1	ES2	ES3	ES1	ES2	ES3	ES1
Sample Type	ES	ES	ES	ES	ES	ES	ES
Sampling Date	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Aromatic C12-C16: EH_CU_1D_AR	DETS 3072#	0.5	mg/kg	< 0.5				< 0.5	
Aromatic >EC12-EC16: EH_2D_AR	DETS 3521#	0.5	mg/kg		< 0.50	1.51			
Aromatic C16-C21: EH_CU_1D_AR	DETS 3072#	0.6	mg/kg	< 0.6				0.8	
Aromatic >EC16-EC21: EH_2D_AR	DETS 3521#	0.6	mg/kg		2.22	3.34			
Aromatic C21-C35: EH_CU_1D_AR	DETS 3072#	1.4	mg/kg	< 1.4				< 1.4	
Aromatic >EC21-EC35: EH_2D_AR	DETS 3521#	1.4	mg/kg		< 1.40	8.49			
Aromatic C5-C35: EH_CU+HS_1D_AR	DETS 3072*	10	mg/kg	< 10				< 10	
Aromatic C5-C35: EH_2D+HS_1D_AR	DETS 3521*	10	mg/kg		< 10.00	13.33			
TPH Ali/Aro Total C5-C35: EH_CU+HS_1D_Total	DETS 3072*	10	mg/kg	< 10				< 10	
TPH Ali/Aro Total C5-C35: EH_2D+HS_1D_Total	DETS 3521*	10	mg/kg		< 10.00	13.33			
Benzene	DETS 3321#	0.01	mg/kg	< 0.01				< 0.01	
Ethylbenzene	DETS 3321#	0.01	mg/kg	< 0.01				< 0.01	
Toluene	DETS 3321#	0.01	mg/kg	< 0.01				< 0.01	
Xylene	DETS 3321#	0.01	mg/kg	< 0.01				< 0.01	
MTBE	DETS 3321	0.01	mg/kg	< 0.01					
PAHs									
Naphthalene	DETS 3303#	0.03	mg/kg		< 0.03	0.06			
Acenaphthylene	DETS 3303#	0.03	mg/kg		< 0.03	< 0.03			
Acenaphthene	DETS 3303#	0.03	mg/kg		< 0.03	0.05			
Fluorene	DETS 3303	0.03	mg/kg		< 0.03	< 0.03			
Phenanthrene	DETS 3303#	0.03	mg/kg		< 0.03	0.65			
Anthracene	DETS 3303	0.03	mg/kg		< 0.03	0.10			
Fluoranthene	DETS 3303#	0.03	mg/kg		< 0.03	0.88			
Pyrene	DETS 3303#	0.03	mg/kg		< 0.03	0.82			
Benzo(a)anthracene	DETS 3303#	0.03	mg/kg		< 0.03	0.30			
Chrysene	DETS 3303	0.03	mg/kg		< 0.03	0.38			
Benzo(b)fluoranthene	DETS 3303#	0.03	mg/kg		< 0.03	0.31			
Benzo(k)fluoranthene	DETS 3303#	0.03	mg/kg		< 0.03	0.15			
Benzo(a)pyrene	DETS 3303#	0.03	mg/kg		< 0.03	0.25			
Indeno(1,2,3-c,d)pyrene	DETS 3303#	0.03	mg/kg		< 0.03	0.10			
Dibenzo(a,h)anthracene	DETS 3303#	0.03	mg/kg		< 0.03	< 0.03			
Benzo(g,h,i)perylene	DETS 3303#	0.03	mg/kg		< 0.03	0.13			
Naphthalene	DETS 3301	0.1	mg/kg				< 0.1		
Acenaphthylene	DETS 3301	0.1	mg/kg				< 0.1		
Acenaphthene	DETS 3301	0.1	mg/kg				< 0.1		
Fluorene	DETS 3301	0.1	mg/kg				< 0.1		
Phenanthrene	DETS 3301	0.1	mg/kg				< 0.1		
Anthracene	DETS 3301	0.1	mg/kg				< 0.1		
Fluoranthene	DETS 3301	0.1	mg/kg				< 0.1		
Pyrene	DETS 3301	0.1	mg/kg				< 0.1		

Summary of Chemical Analysis Soil Samples

Our Ref 23-10644

Client Ref UK23.6302b

Contract Title ASDA Pillsworth

Lab No	2166413	2166414	2166415	2166416	2166417	2166418	2166419
Sample ID	WS02	WS02	WS02	WS01	WS01	WS01	WS01
Depth	0.20-0.40	3.40-3.70	0.60-0.70	0.70-0.90	2.10-2.30	3.10-3.30	0.90-1.00
Other ID	ES1	ES2	ES3	ES1	ES2	ES3	ES1
Sample Type	ES	ES	ES	ES	ES	ES	ES
Sampling Date	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg					< 0.1	
Chrysene	DETSC 3301	0.1	mg/kg					< 0.1	
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg					< 0.1	
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg					< 0.1	
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg					< 0.1	
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg					< 0.1	
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg					< 0.1	
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg					< 0.1	
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10		4.2		
PAH 16 Total	DETSC 3301	1.6	mg/kg					< 1.6	
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg					0.5	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-10644

Client Ref UK23.6302b

Contract Title ASDA Pillsworth

Lab No	2166420	2166421
Sample ID	WS03	WS03
Depth	2.20-2.30	2.90-3.00
Other ID	ES2	ES3
Sample Type	ES	ES
Sampling Date	26/04/2023	26/04/2023
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Chromatogram	*	0		N	
Preparation					
Moisture Content	DETSC 1004	0.1	%	2.5	
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	5.0	
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg		
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	
Chromium	DETSC 2301#	0.15	mg/kg	13	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	
Copper	DETSC 2301#	0.2	mg/kg	19	
Lead	DETSC 2301#	0.3	mg/kg	11	
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	
Nickel	DETSC 2301#	1	mg/kg	17	
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	
Zinc	DETSC 2301#	1	mg/kg	63	
Inorganics					
pH	DETSC 2008#		pH	8.1	8.0
Cyanide, Total	DETSC 2130#	0.1	mg/kg	< 0.1	
Organic matter	DETSC 2002#	0.1	%	0.8	
Sulphate Aqueous Extract as SO ₄ (2:1)	DETSC 2076#	10	mg/l	57	49
Sulphide	DETSC 2024*	10	mg/kg		
Sulphur as S, Total	DETSC 2320	0.01	%		0.08
Sulphate as SO ₄ , Total	DETSC 2321#	0.01	%	0.04	0.05
Petroleum Hydrocarbons					
Aliphatic C5-C6: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	
Aliphatic C6-C8: HS_1D_AL	DETSC 3321*	0.01	mg/kg	0.04	
Aliphatic C8-C10: HS_1D_AL	DETSC 3321*	0.01	mg/kg	6.4	
Aliphatic C10-C12: EH_CU_1D_AL	DETSC 3072#	1.5	mg/kg		
Aliphatic >EC10-EC12: EH_2D_AL	DETSC 3521#	1.5	mg/kg	< 1.50	
Aliphatic C12-C16: EH_CU_1D_AL	DETSC 3072#	1.2	mg/kg		
Aliphatic >EC12-EC16: EH_2D_AL	DETSC 3521#	1.2	mg/kg	1.53	
Aliphatic C16-C21: EH_CU_1D_AL	DETSC 3072#	1.5	mg/kg		
Aliphatic >EC16-EC21: EH_2D_AL	DETSC 3521#	1.5	mg/kg	< 1.50	
Aliphatic C21-C35: EH_CU_1D_AL	DETSC 3072#	3.4	mg/kg		
Aliphatic >EC21-EC35: EH_2D_AL	DETSC 3521#	3.4	mg/kg	< 3.40	
Aliphatic C5-C35: EH_CU+HS_1D_AL	DETSC 3072*	10	mg/kg		
Aliphatic C5-C35: EH_2D+HS_1D_AL	DETSC 3521*	10	mg/kg	< 10.00	
Aromatic C5-C7: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	
Aromatic C7-C8: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	
Aromatic C8-C10: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	
Aromatic C10-C12: EH_CU_1D_AR	DETSC 3072#	0.9	mg/kg		
Aromatic >EC10-EC12: EH_2D_AR	DETSC 3521#	0.9	mg/kg	< 0.90	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-10644

Client Ref UK23.6302b

Contract Title ASDA Pillsworth

Lab No	2166420	2166421
Sample ID	WS03	WS03
Depth	2.20-2.30	2.90-3.00
Other ID	ES2	ES3
Sample Type	ES	ES
Sampling Date	26/04/2023	26/04/2023
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Aromatic C12-C16: EH_CU_1D_AR	DETS 3072#	0.5	mg/kg		
Aromatic >EC12-EC16: EH_2D_AR	DETS 3521#	0.5	mg/kg	< 0.50	
Aromatic C16-C21: EH_CU_1D_AR	DETS 3072#	0.6	mg/kg		
Aromatic >EC16-EC21: EH_2D_AR	DETS 3521#	0.6	mg/kg	< 0.60	
Aromatic C21-C35: EH_CU_1D_AR	DETS 3072#	1.4	mg/kg		
Aromatic >EC21-EC35: EH_2D_AR	DETS 3521#	1.4	mg/kg	< 1.40	
Aromatic C5-C35: EH_CU+HS_1D_AR	DETS 3072*	10	mg/kg		
Aromatic C5-C35: EH_2D+HS_1D_AR	DETS 3521*	10	mg/kg	< 10.00	
TPH Ali/Aro Total C5-C35: EH_CU+HS_1D_Total	DETS 3072*	10	mg/kg		
TPH Ali/Aro Total C5-C35: EH_2D+HS_1D_Total	DETS 3521*	10	mg/kg	< 10.00	
Benzene	DETS 3321#	0.01	mg/kg	< 0.01	
Ethylbenzene	DETS 3321#	0.01	mg/kg	0.05	
Toluene	DETS 3321#	0.01	mg/kg	< 0.01	
Xylene	DETS 3321#	0.01	mg/kg	0.57	
MTBE	DETS 3321	0.01	mg/kg	< 0.01	
PAHs					
Naphthalene	DETS 3303#	0.03	mg/kg	< 0.03	
Acenaphthylene	DETS 3303#	0.03	mg/kg	< 0.03	
Acenaphthene	DETS 3303#	0.03	mg/kg	< 0.03	
Fluorene	DETS 3303	0.03	mg/kg	< 0.03	
Phenanthrene	DETS 3303#	0.03	mg/kg	< 0.03	
Anthracene	DETS 3303	0.03	mg/kg	< 0.03	
Fluoranthene	DETS 3303#	0.03	mg/kg	< 0.03	
Pyrene	DETS 3303#	0.03	mg/kg	< 0.03	
Benzo(a)anthracene	DETS 3303#	0.03	mg/kg	< 0.03	
Chrysene	DETS 3303	0.03	mg/kg	< 0.03	
Benzo(b)fluoranthene	DETS 3303#	0.03	mg/kg	< 0.03	
Benzo(k)fluoranthene	DETS 3303#	0.03	mg/kg	< 0.03	
Benzo(a)pyrene	DETS 3303#	0.03	mg/kg	< 0.03	
Indeno(1,2,3-c,d)pyrene	DETS 3303#	0.03	mg/kg	< 0.03	
Dibenzo(a,h)anthracene	DETS 3303#	0.03	mg/kg	< 0.03	
Benzo(g,h,i)perylene	DETS 3303#	0.03	mg/kg	< 0.03	
Naphthalene	DETS 3301	0.1	mg/kg		
Acenaphthylene	DETS 3301	0.1	mg/kg		
Acenaphthene	DETS 3301	0.1	mg/kg		
Fluorene	DETS 3301	0.1	mg/kg		
Phenanthrene	DETS 3301	0.1	mg/kg		
Anthracene	DETS 3301	0.1	mg/kg		
Fluoranthene	DETS 3301	0.1	mg/kg		
Pyrene	DETS 3301	0.1	mg/kg		

Summary of Chemical Analysis Soil Samples

Our Ref 23-10644

Client Ref UK23.6302b

Contract Title ASDA Pillsworth

Lab No	2166420	2166421
Sample ID	WS03	WS03
Depth	2.20-2.30	2.90-3.00
Other ID	ES2	ES3
Sample Type	ES	ES
Sampling Date	26/04/2023	26/04/2023
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg		
Chrysene	DETSC 3301	0.1	mg/kg		
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg		
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg		
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg		
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg		
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg		
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg		
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	
PAH 16 Total	DETSC 3301	1.6	mg/kg		
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-10644
Client Ref UK23.6302b
Contract Title ASDA Pillsworth
Sample Id WS02 ES2 3.40-3.70

Sample Numbers 2166414 2166422
Date Analysed 16/05/2023

Test Results On Waste		
Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	1.8
DETSC 2003# Loss On Ignition	%	3.2
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# EPH (C10 - C40): EH_1D_Total	mg/kg	< 10
DETSC 3301 PAHs	mg/kg	< 1.6
DETSC2008# pH	pH Units	
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg	
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg	

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	0.39	< 0.01
DETSC 2306 Barium as Ba	16	0.16
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02
DETSC 2306 Chromium as Cr	< 0.25	< 0.1
DETSC 2306 Copper as Cu	3.3	0.033
DETSC 2306 Mercury as Hg	< 0.010	< 0.002
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1
DETSC 2306 Nickel as Ni	< 0.50	< 0.1
DETSC 2306 Lead as Pb	0.18	< 0.05
DETSC 2306 Antimony as Sb	< 0.17	< 0.05
DETSC 2306 Selenium as Se	0.73	< 0.03
DETSC 2306 Zinc as Zn	< 1.3	< 0.01
DETSC 2055 Chloride as Cl	1900	< 100
DETSC 2055* Fluoride as F	< 100	< 0.1
DETSC 2055 Sulphate as SO4	4400	< 100
DETSC 2009* Total Dissolved Solids	32000	320
DETSC 2130 Phenol Index	< 100	< 1
DETSC 2085 Dissolved Organic Carbon	2300	< 50

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

Additional Information

DETSC 2008 pH	7.0
DETSC 2009 Conductivity uS/cm	46.0
* Temperature*	19.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.095

Stage 1

Volume of Leachant L2*	0.935
Volume of Eluate VE1*	0.88

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

* DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-10644
Client Ref UK23.6302b
Contract Title ASDA Pillsworth
Sample Id WS01 ES1 0.70-0.90

Sample Numbers 2166416 2166423
Date Analysed 16/05/2023

Test Results On Waste		
Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	8.8
DETSC 2003# Loss On Ignition	%	6.7
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# EPH (C10 - C40): EH_1D_Total	mg/kg	24.0
DETSC 3301 PAHs	mg/kg	6.3
DETSC2008# pH	pH Units	
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg	
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg	

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	5.4	0.054
DETSC 2306 Barium as Ba	29	0.29
DETSC 2306 Cadmium as Cd	0.05	< 0.02
DETSC 2306 Chromium as Cr	0.54	< 0.1
DETSC 2306 Copper as Cu	5.3	0.053
DETSC 2306 Mercury as Hg	0.033	< 0.002
DETSC 2306 Molybdenum as Mo	4.9	< 0.1
DETSC 2306 Nickel as Ni	0.5	< 0.1
DETSC 2306 Lead as Pb	2.8	< 0.05
DETSC 2306 Antimony as Sb	0.94	< 0.05
DETSC 2306 Selenium as Se	1.9	< 0.03
DETSC 2306 Zinc as Zn	< 1.3	< 0.01
DETSC 2055 Chloride as Cl	13000	130
DETSC 2055* Fluoride as F	310	3.1
DETSC 2055 Sulphate as SO4	13000	130
DETSC 2009* Total Dissolved Solids	100000	1000
DETSC 2130 Phenol Index	< 100	< 1
DETSC 2085 Dissolved Organic Carbon	4400	< 50

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

Additional Information

DETSC 2008 pH	7.1
DETSC 2009 Conductivity uS/cm	146.0
* Temperature*	19.0

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.942
Volume of Eluate VE1*	0.89

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

* DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.

Summary of Asbestos Analysis Soil Samples

Our Ref 23-10644

Client Ref UK23.6302b

Contract Title ASDA Pillsworth

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2166414	WS02 ES2 3.40-3.70	SOIL	NAD	none	Ben Rose
2166416	WS01 ES1 0.70-0.90	SOIL	NAD	none	Ben Rose
2166417	WS01 ES2 2.10-2.30	SOIL	NAD	none	Ben Rose
2166420	WS03 ES2 2.20-2.30	SOIL	NAD	none	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-10644
Client Ref UK23.6302b
Contract ASDA Pillsworth

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2166413	WS02 0.20-0.40 SOIL	26/04/23	GJ 250ml, GJ 60ml		
2166414	WS02 3.40-3.70 SOIL	26/04/23	GJ 250ml, GJ 60ml, PT 1L		
2166415	WS02 0.60-0.70 SOIL	26/04/23	GJ 60ml	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2166416	WS01 0.70-0.90 SOIL	26/04/23	GJ 250ml, GJ 60ml, PT 1L		
2166417	WS01 2.10-2.30 SOIL	26/04/23	GJ 250ml, GJ 60ml	pH + Conductivity (7 days)	
2166418	WS01 3.10-3.30 SOIL	26/04/23	GJ 60ml	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2166419	WS01 0.90-1.00 SOIL	26/04/23	GJ 60ml	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2166420	WS03 2.20-2.30 SOIL	26/04/23	GJ 250ml, GJ 60ml	pH + Conductivity (7 days)	
2166421	WS03 2.90-3.00 SOIL	26/04/23	GJ 60ml	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2166422	WS02 3.40-3.70 LEACHATE	26/04/23	GJ 250ml, GJ 60ml, PT 1L		
2166423	WS01 0.70-0.90 LEACHATE	26/04/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass J-Jar P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Information in Support of the Analytical Results

List of HWOL Acronyms and Operators

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det	Acronym
Aliphatic C5-C6	HS_1D_AL
Aliphatic C6-C8	HS_1D_AL
Aliphatic C8-C10	HS_1D_AL
Aliphatic C10-C12	EH_CU_1D_AL
Aliphatic >EC10-EC12	EH_2D_AL
Aliphatic C12-C16	EH_CU_1D_AL
Aliphatic >EC12-EC16	EH_2D_AL
Aliphatic C16-C21	EH_CU_1D_AL
Aliphatic >EC16-EC21	EH_2D_AL
Aliphatic C21-C35	EH_CU_1D_AL
Aliphatic >EC21-EC35	EH_2D_AL
Aliphatic C5-C35	EH_CU+HS_1D_AL
Aliphatic C5-C35	EH_2D+HS_1D_AL
Aromatic C5-C7	HS_1D_AR
Aromatic C7-C8	HS_1D_AR
Aromatic C8-C10	HS_1D_AR
Aromatic C10-C12	EH_CU_1D_AR
Aromatic >EC10-EC12	EH_2D_AR
Aromatic C12-C16	EH_CU_1D_AR
Aromatic >EC12-EC16	EH_2D_AR
Aromatic C16-C21	EH_CU_1D_AR
Aromatic >EC16-EC21	EH_2D_AR
Aromatic C21-C35	EH_CU_1D_AR
Aromatic >EC21-EC35	EH_2D_AR
Aromatic C5-C35	EH_CU+HS_1D_AR
Aromatic C5-C35	EH_2D+HS_1D_AR
TPH Ali/Aro Total C5-C35	EH_CU+HS_1D_Total



TPH Ali/Aro Total C5-C35
TPH (C10-C40)

EH_2D+HS_1D_Total
EH_1D_Total

End of Report

APPENDIX I

Waste Classification Report



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)



125R4-10QJT-10MKH

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

Job name

UK23.6302b ASDA Pilsworth

Description/Comments

Project

UK23.6303b

Site

ASDA Pilsworth

Classified by

Name: **Lee Anderson**
Date: **30 May 2023 10:18 GMT**
Telephone: **0113 8730211**

Company: **Environmental Strategies Ltd EPS**
10-12 East Parade
Leeds
LS1 2BH

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
03 Dec 2020

Next 3 year Refresher due by Dec 2023

Purpose of classification

2 - Material Characterisation

Address of the waste

ASDA Pilsworth

Post Code BL9 8RS

SIC for the process giving rise to the waste

41201 Construction of commercial buildings

Description of industry/producer giving rise to the waste

Development of former car park area to a drive thru restaurant

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

Waste created during development activities including the digging of foundations

Description of the waste

Soils persisting beneath site



Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS02 ES1/0.20-0.40/2023-04-26	0.2-0.4	Non Hazardous		3
2	WS02 ES2/3.40-3.70/2023-04-26	3.4-3.7	Non Hazardous		4
3	WS01 ES1/0.70-0.90/2023-04-26	0.7-0.9	Non Hazardous		6
4	WS01 ES2/2.10-2.30/2023-04-26	2.1-2.3	Non Hazardous		8
5	WS03 ES2/2.20-2.30/2023-04-26	2.2-2.3	Non Hazardous		11

Related documents

#	Name	Description
1	23-10644.hwol	DETS North .hwol file used to populate the Job
2	DETS North	waste stream template used to create this Job

Report

Created by: Lee Anderson

Created date: 30 May 2023 10:18 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	14
Appendix B: Rationale for selection of metal species	15
Appendix C: Version	16



Classification of sample: WS02 ES1/0.20-0.40/2023-04-26

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

Sample details

Sample name: **WS02 ES1/0.20-0.40/2023-04-26** LoW Code: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **0.2-0.4 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% Wet Weight 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	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
2	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
3	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
4	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
5	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
6	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							
Total:								0.001 %		

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)
<LOD	Below limit of detection



Classification of sample: WS02 ES2/3.40-3.70/2023-04-26

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

Sample details

Sample name: **WS02 ES2/3.40-3.70/2023-04-26** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **3.4-3.7 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
Moisture content: **14%**
(wet weight correction)

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	4.9 mg/kg	1.32	5.564 mg/kg	0.000556 %	✔	
2	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		11 mg/kg	1.462	13.826 mg/kg	0.00138 %	✔	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8			<1 mg/kg	2.27	<2.27 mg/kg	<0.000227 %		<LOD
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	18 mg/kg	1.126	17.429 mg/kg	0.00174 %	✔	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	12 mg/kg	1.56	16.097 mg/kg	0.00103 %	✔	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	16 mg/kg	2.976	40.953 mg/kg	0.0041 %	✔	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5	<0.5 mg/kg	2.554	<1.277 mg/kg	<0.000128 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	40 mg/kg	2.774	95.431 mg/kg	0.00954 %	✔	
10	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
11	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
12	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
13	acenaphthene	201-469-6	83-32-9		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	fluorene	201-695-5	86-73-7		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
15	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<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								
16	anthracene	204-371-1	120-12-7		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
17	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
18	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
19	benzo[a]anthracene	601-033-00-9	200-280-6		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
20	chrysene	601-048-00-0	205-923-4		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
21	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
22	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
23	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
24	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
27	cadmium (non-pyrophoric); [1] cadmium oxide (non-pyrophoric) [2]	048-002-00-0	231-152-8 [1] 215-146-2 [2]		0.1 mg/kg		0.086 mg/kg	0.0000086 %	✓		
Total:									0.0198 %		

Key

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



Classification of sample: WS01 ES1/0.70-0.90/2023-04-26

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

Sample details

Sample name:	LoW Code:	
WS01 ES1/0.70-0.90/2023-04-26	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)
0.7-0.9 m		
Moisture content:		
20%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 20% Wet Weight 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	arsenic { arsenic trioxide }				21 mg/kg	1.32	22.181 mg/kg	0.00222 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				13 mg/kg	1.462	15.2 mg/kg	0.00152 %	✓	
		215-160-9	1308-38-9							
3	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1 mg/kg	2.27	<2.27 mg/kg	<0.000227 %		<LOD
		024-017-00-8								
4	copper { dicopper oxide; copper (I) oxide }				67 mg/kg	1.126	60.348 mg/kg	0.00603 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
5	lead { lead chromate }			1	100 mg/kg	1.56	124.785 mg/kg	0.008 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
6	mercury { mercury dichloride }				0.87 mg/kg	1.353	0.942 mg/kg	0.0000942 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
7	nickel { nickel chromate }				20 mg/kg	2.976	47.62 mg/kg	0.00476 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
8	selenium { nickel selenate }				<0.5 mg/kg	2.554	<1.277 mg/kg	<0.000128 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
9	zinc { zinc chromate }				41 mg/kg	2.774	90.992 mg/kg	0.0091 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
10	TPH (C6 to C40) petroleum group				13.33 mg/kg		10.664 mg/kg	0.00107 %	✓	
			TPH							
11	naphthalene				0.06 mg/kg		0.048 mg/kg	0.0000048 %	✓	
	601-052-00-2	202-049-5	91-20-3							
12	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-917-1	208-96-8							
13	acenaphthene				0.05 mg/kg		0.04 mg/kg	0.000004 %	✓	
		201-469-6	83-32-9							
14	fluorene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-695-5	86-73-7							
15	phenanthrene				0.65 mg/kg		0.52 mg/kg	0.000052 %	✓	
		201-581-5	85-01-8							



#	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							
16	anthracene	204-371-1	120-12-7		0.1 mg/kg		0.08 mg/kg	0.000008 %	✓	
17	fluoranthene	205-912-4	206-44-0		0.88 mg/kg		0.704 mg/kg	0.0000704 %	✓	
18	pyrene	204-927-3	129-00-0		0.82 mg/kg		0.656 mg/kg	0.0000656 %	✓	
19	benzo[a]anthracene	601-033-00-9	200-280-6		0.3 mg/kg		0.24 mg/kg	0.000024 %	✓	
20	chrysene	601-048-00-0	205-923-4		0.38 mg/kg		0.304 mg/kg	0.0000304 %	✓	
21	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.31 mg/kg		0.248 mg/kg	0.0000248 %	✓	
22	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.15 mg/kg		0.12 mg/kg	0.000012 %	✓	
23	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.25 mg/kg		0.2 mg/kg	0.00002 %	✓	
24	indeno[123-cd]pyrene	205-893-2	193-39-5		0.1 mg/kg		0.08 mg/kg	0.000008 %	✓	
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		0.13 mg/kg		0.104 mg/kg	0.0000104 %	✓	
27	cadmium (non-pyrophoric); [1] cadmium oxide (non-pyrophoric) [2]	048-002-00-0	231-152-8 [1] 215-146-2 [2]		0.4 mg/kg		0.32 mg/kg	0.000032 %	✓	
Total:								0.0335 %		

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 because Contained within soil matrix and therefore reduced flammability

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00107%)



Classification of sample: WS01 ES2/2.10-2.30/2023-04-26

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

Sample details

Sample name: **WS01 ES2/2.10-2.30/2023-04-26** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **2.1-2.3 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% Wet Weight 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		arsenic { arsenic trioxide }				6.6	mg/kg	1.32	8.714	mg/kg	0.000871 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		boron { diboron trioxide; boric oxide }				<0.2	mg/kg	3.22	<0.644	mg/kg	<0.0000644 %		<LOD
		005-008-00-8	215-125-8	1303-86-2									
3		copper { dicopper oxide; copper (I) oxide }				26	mg/kg	1.126	29.273	mg/kg	0.00293 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
4		lead { lead chromate }			1	13	mg/kg	1.56	20.278	mg/kg	0.0013 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
5		mercury { mercury dichloride }				<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
6		nickel { nickel chromate }				26	mg/kg	2.976	77.383	mg/kg	0.00774 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
7		selenium { nickel selenate }				<0.5	mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<LOD
		028-031-00-5	239-125-2	15060-62-5									
8		zinc { zinc chromate }				54	mg/kg	2.774	149.804	mg/kg	0.015 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
9		pH				8.2	pH		8.2	pH	8.2 pH		
				PH									
10		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.1	mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<LOD
		006-007-00-5											
11		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
12		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
13		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
15		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
17	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
18	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
19	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
20	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
21	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
22	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
23	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
24	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
25	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
26	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
27	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
28	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
29	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
30	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
31	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
32	cadmium (non-pyrophoric); [1] cadmium oxide (non-pyrophoric) [2]				0.2 mg/kg		0.2 mg/kg	0.00002 %		✓	
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]								
33	chromium { chromium(VI) oxide }				18 mg/kg	1.923	34.616 mg/kg	0.00346 %		✓	
	024-001-00-0	215-607-8	1333-82-0								
34	monohydric phenols				0.5 mg/kg		0.5 mg/kg	0.00005 %		✓	
			P1186								
Total:									0.0327 %		

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
•	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because Specific hexavalent testing has been conducted showing no detections

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."



Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00346%)



Classification of sample: WS03 ES2/2.20-2.30/2023-04-26

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

Sample details

Sample name:	LoW Code:
WS03 ES2/2.20-2.30/2023-04-26	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
2.2-2.3 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2.5%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 2.5% Wet Weight 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	arsenic { arsenic trioxide }				5 mg/kg	1.32	6.437	mg/kg	0.000644 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
2	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				13 mg/kg	1.462	18.525	mg/kg	0.00185 %	✓	
		215-160-9	1308-38-9								
3	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1 mg/kg	2.27	<2.27	mg/kg	<0.000227 %		<LOD
		024-017-00-8									
4	copper { dicopper oxide; copper (I) oxide }				19 mg/kg	1.126	20.857	mg/kg	0.00209 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
5	lead { lead chromate }			1	11 mg/kg	1.56	16.729	mg/kg	0.00107 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				17 mg/kg	2.976	49.332	mg/kg	0.00493 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	selenium { nickel selenate }				<0.5 mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
9	zinc { zinc chromate }				63 mg/kg	2.774	170.402	mg/kg	0.017 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
10	pH		PH		8.1 pH		8.1	pH	8.1 pH		
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.1 mg/kg	1.884	<0.188	mg/kg	<0.0000188 %		<LOD
		006-007-00-5									
12	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
13	benzene				<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
14	toluene				<0.01 mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3								



#	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							
15	ethylbenzene 601-023-00-4	202-849-4	100-41-4		0.05 mg/kg		0.0488 mg/kg	0.00000487 %	✓	
16	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		0.57 mg/kg		0.556 mg/kg	0.0000556 %	✓	
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
18	acenaphthylene 205-917-1	208-96-8			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	acenaphthene 201-469-6	83-32-9			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
20	fluorene 201-695-5	86-73-7			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
21	phenanthrene 201-581-5	85-01-8			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
22	anthracene 204-371-1	120-12-7			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
23	fluoranthene 205-912-4	206-44-0			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
24	pyrene 204-927-3	129-00-0			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
30	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
32	benzo[ghi]perylene 205-883-8	191-24-2			<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
33	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
34	cadmium (non-pyrophoric); [1] cadmium oxide (non-pyrophoric) [2] 048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]		0.2 mg/kg		0.195 mg/kg	0.0000195 %	✓	
35	monohydric phenols P1186				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
Total:								0.0292 %		

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 because Contained within soil matrix and therefore reduced flammability

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

ethylbenzene: (conc.: 4.88e-06%)

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

Because of determinand:

xylene: (conc.: 0.00005%)



Appendix A: Classifier defined and non GB MCL determinands

• **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

• **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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 21 Aug 2015

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

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

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

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

Data source date: 21 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

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

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

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

Data source date: 23 Jul 2015

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

• **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

• **chromium(VI) oxide** (EC Number: 215-607-8, CAS Number: 1333-82-0)

EU CLP index number: 024-001-00-0

Description/Comments:

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

)

Hazard Statements: Ox. Sol. 1; H271 , Carc. 1A; H350 , Muta. 1B; H340 , Repr. 2; H361f , Acute Tox. 2; H330 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 1; H372 , Skin Corr. 1A; H314 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT SE 3; H335 >= 1 %

• **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 £ conc. < 3 % , Eye Irrit. 2; H319 1 £ conc. < 3 % , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

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

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

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

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

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

copper {dicopper oxide; copper (I) oxide}

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

lead {lead chromate}

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

mercury {mercury dichloride}

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



nickel {nickel chromate}

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

selenium {nickel selenate}

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

zinc {zinc chromate}

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

boron {diboron trioxide; boric oxide}

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

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

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

chromium {chromium(VI) oxide}

Worst case

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**
HazWasteOnline Classification Engine Version: 2023.111.5569.10274 (22 Apr 2023)
HazWasteOnline Database: 2023.111.5569.10274 (22 Apr 2023)

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

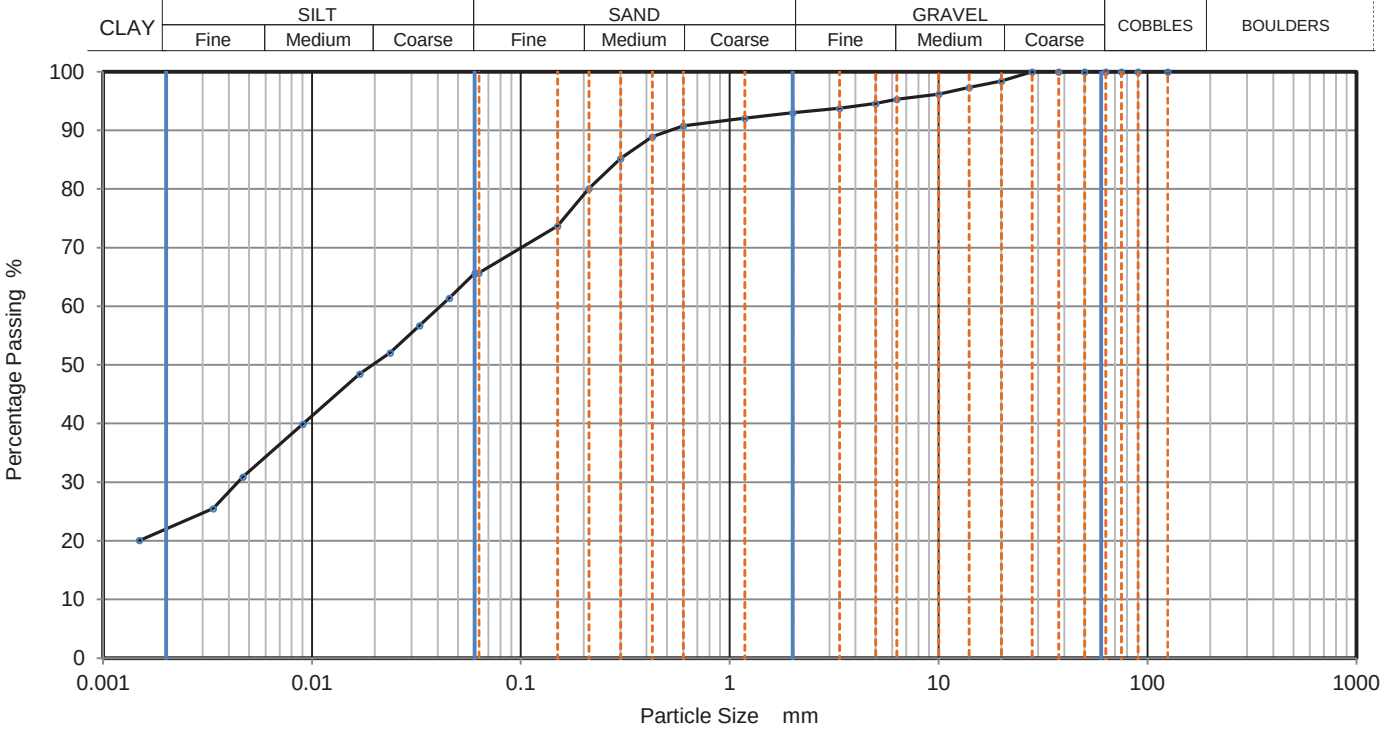
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

APPENDIX J

Laboratory Results – Geotechnical

GQF-008-55 Issue 01 - Oct 22	PARTICLE SIZE DISTRIBUTION			Job Ref	J235503
				Borehole/Pit No.	WS01
Project Name	ASDA Pilsworth			Sample No.	1
Soil Description	Brown slightly sandy slightly gravelly CLAY.			Depth, m	3.40
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clauses 9.2 and 9.5			KeyLAB ID	TTLP202305231



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0603	66
90	100	0.0455	61
75	100	0.0328	57
63	100	0.0236	52
50	100	0.0170	49
37.5	100	0.0090	40
28	100	0.0047	31
20	98	0.0034	26
14	97	0.0015	20
10	96		
6.3	95		
5	95		
3.35	94		
2	93		
1.18	92		
0.6	91	Particle density (assumed) 2.65 Mg/m ³	
0.425	89		
0.3	85		
0.212	80		
0.15	74		
0.063	66		

Dry Mass of sample, g	1602
-----------------------	------

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	27
Silt	44
Clay	22

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Printed	24/05/2023
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PSD

APPENDIX K

Generic Screening Criteria

EPS Generic Quantitative Risk Assessment - Commercial Landuse

Contaminant	Soil Targets		
	Human Health	Controlled Waters	
		Surface Water	Groundwater
Unit	mg/kg		
Arsenic	See C4SL	n/c	n/c
Cadmium	See C4SL	n/c	n/c
Chromium III	8600	n/c	n/c
Chromium VI	See C4SL	n/c	n/c
Copper	68000	n/c	n/c
Mercury (elemental)	58	0.085	1.22
Nickel	980	n/c	n/c
Lead	See C4SL	n/c	n/c
Selenium	12000	n/c	n/c
Zinc	730000	n/c	n/c
Benzene	See C4SL	0.064	0.0064
Toluene	56000* (869)	1.33	12.6
Ethylbenzene	5700* (518)	0.77	11.5
Xylene (Para)	5900** (576)	1.18	19.6
MTBE#	7900	4.41	0.026
Benzo(a)Pyrene	see C4SL	n/c	n/c
Naphthalene	190** (76.4)	0.11	0.11
Aliphatic C5-C6	3200** (304)	4.06	0.81
Aliphatic C6-C8	7800** (144)	17.8	3.57
Aliphatic C8-C10	2000** (78)	n/c	n/c
Aliphatic C10-C12	9700** (48)	n/c	n/c
Aliphatic C12-C16	59000** (24)	n/c	n/c
Aliphatic C16-C35	1600000	n/c	n/c
Aromatic C8-C10	3500* (613)	6.71	1.34
Aromatic C10-C12	16000** (364)	10.6	2.13
Aromatic C12-C16	36000** (169)	21.2	4.23
Aromatic C16-C21	28000	n/c	n/c
Aromatic C21-C35	28000	n/c	n/c
Tetrachloroethene	See C4SL	0.24	0.24
Trichloroethene	See C4SL	0.13	0.13
cis-1,2 Dichloroethene		0.21	0.21
Vinyl Chloride	See C4SL	0.0012	0.0012

Human Health	Groundwater Targets	
	Controlled Waters	
	Surface Water	Groundwater
Unit	µg/l	
n/c	50	10
n/c	2.5#	5
n/c	4.7	50
n/c	3.4	50
n/c	93.1#	2000
95 (sol)	1	1
n/c	14.8#	20
n/c	27.7#	10
n/c	10	10
n/c	373#	3000
20,000	10	1
21,000,000 (sol)	74	700
960,000 (sol)	20	300
980,000 (sol)	30	500
7,800,000	2600	15
n/c	0.005 (0.00017)	0.01
23,000 (sol)	2	2
190,000 (sol)	50	10
150,000 (sol)	50	10
5,700 (sol)	50	10
3,600 (sol)	50	10
n/c	50	10
n/c	50	10
190,000 (sol)	50	10
660,000 (sol)	50	10
3,700,000 (sol)	50	10
n/c	50	10
n/c	50	10
4,600	10	10
530	10	10
13,000	50	50
63	0.5	0.5

Notes:

f = Oral, dermal and inhalation exposure compared with oral HCV N/C = Not Calculated

* = S4UL exceeds vapour saturation limit (in brackets) ** = S4UL exceeds solubility saturation limit (in brackets)

Human Health Groundwater GAC with (sol) exceed aqueous solubility

n/c = not calculated. Under normal conditions contaminant exhibits low solubility /volatility, therefore risks from leaching and or vapour pathways are considered low.

To establish suitable compliance criteria for Surface Water review of baseline groundwater quality in England and Wales was completed following research reported in Shand, P, Edmunds, W M, Lawrence, A R, Smedley, P L, and Burke, S. 2007. The natural (baseline) quality of groundwater in England and Wales. British Geological Survey Research Report No. RR/07/06. Where compliance criteria was found below the 97.7 percentile of baseline value, the latter was adopted as GAC.

Soil Targets

Targets for Human Health have been taken from S4ULs 'Suitable For Use Levels for Human Health Risk Assessment' – LQM and CIEH (2014) derived using standard sandy loam soil with 1% SOM, except (#) = EIC/AGS/CL/AIRE GAC 'Soil Generic Assessment Criteria' (2010). For sites where ground conditions differ significantly from sandy loam or site-specific SOM and pH are available, the generic human health targets may be revised.

Targets for Controlled waters have been derived using EA Remedial Targets Worksheet (v3.1) - using standard Sandy Loam ground conditions as described in Science Report SC050021/SR3, assuming no degradation for a 10m compliance distance with criteria of EQS or UKDWS for Surface Water and Groundwater respectively (see notes for GW targets).

Groundwater Targets

For Surface Water, targets have been taken as Freshwater EQS where available. For MTBE Predicted No Effect Concentration (European Risk Assessment Report, 2002) was used. For individual TPH fractions, in absence of UK EQS, a 5 times multiplier of UKDWS has been taken.

For Groundwater, targets have been taken as UKDWS where available. In the absence of UK targets internationally recognised criteria were adopted. For MTBE, WHO taste threshold has been adopted.

Targets for Human Health have been taken from Society of Brownfield Risk Assessment (SoBRA) 'Development of Generic Assessment Criteria for Assessing Vapour Risks to Human Health from Volatile Contaminants in Groundwater' - Version 1.0, February 2017, derived using sandy soil and 1%SOM. GAC were set up assuming source at 50cm below typical ground bearing slab of 15cm thickness. GAC were derived for vapour pathways only. For sites where ground conditions, or differ significantly from described above, the generic human health targets may be revised.



EPS Generic Quantitative Risk Assessment

Generic Screening Criteria (C4SLs) - All Land Uses

	Soil Targets					
Contaminant	Residential		Allotments	Commercial	Public Open Spaces	
	With Home Grown Produce	Without Home Grown Produce			Residential	Parks
Unit	mg/kg					
Arsenic	37	40	49	640	79	168
Benzene	0.87	3.3	0.18	98	140	230
Benzo(a)pyrene	5	5.3	5.7	76	10	21
Cadmium	26	149	4.9	410	220	880
Chromium (VI)	21	21	170	49	23	250
Lead	200	310	80	2330	630	1300
Chloroethene (Vinyl Chloride)	0.017	0.029	0.0058	2.2	7.8	19
Trichloroethene (TCE)	0.043	0.045	0.16	3.4	79	69
Tetrachloroethene (PCE)	1.6	1.6	11	130	3400	2500

Notes:

Targets for Human Health have been taken from the publicly available Category 4 Screening Levels (C4SLs) for assessment of land affected by contamination issued by DEFRA/CL:AIRE in December 2013 and May 2021.

Within the modelling for C4SLs, a Soil Organic Matter content of 6% has been used. Reference to site-specific data should be made where possible.

The C4SLs for the contaminant benzene along with the three chlorinated solvents are the most susceptible to changes in SOM.

May-22

APPENDIX L

Method Statement for Encountering Unexpected Contamination



METHOD STATEMENT

ACTIONS TO BE TAKEN IN THE EVENT OF DISCOVERING UNEXPECTED CONTAMINATION DURING INTRUSIVE GROUNDWORKS

If at any point during intrusive groundworks at a site, evidence of unforeseen contamination is encountered in the form of significant noxious odours, discolouration, or instability within soils or sheen/ discolouration in groundwater, the following actions will be taken:

- Intrusive works in the immediate area of the impacted ground will be suspended and the continuation of work in other areas of the site will be considered within the context of the site specific health & safety plan.
- Environmental Protection Strategies Ltd (EPS) will be contacted and appraised of the situation so that arrangements can be made to characterise the impact and determine what action may be necessary in addition to the scheduled site works. Where possible / health & safety plan permits, digital photographs of the impacted ground will be taken and emailed to EPS at the address below to assist in the initial assessment
- It may well be necessary for EPS to attend site to undertake visual inspection and obtain samples for field and/or laboratory analysis, although the actions taken will be dependent on the nature of what is encountered
- In cases where EPS consider the unforeseen contamination likely to pose a significant risk of significant harm to adjacent site users or local environmental receptors, the local authority and the Environment Agency will be informed of the situation and the actions being taken
- Once appropriate action has been agreed and undertaken, a written summary will be produced by EPS for submission to the Local Authority, (and where relevant, the Environment Agency) in accordance with planning requirements. The submission will include details of work undertaken, analytical results of investigative and validation samples obtained and conclusions and recommendations for any further actions considered necessary
- Where regulatory bodies have been involved, site works should only recommence following their agreement and in all cases should only recommence when the site manager considers it safe to do so within the context of the site specific health & safety plan.

EPS Contact Details:

Marcus Bell	Associate Director	Tel: 0787 206 9979
Will Evans	Director	Tel: 0781 253 9655
Steve Bullock	Director	Tel: 0786 694 9221

Email: info@epstrategies.co.uk (Automatically forwarded to the above and office-based personnel)



10-12 East Parade
Leeds
LS1 2BH

T +44(0) 113 873 0211
F +44(0) 1954 710677
E info@epstrategies.co.uk
W www.epstrategies.co.uk

Registered Number: 12124295

