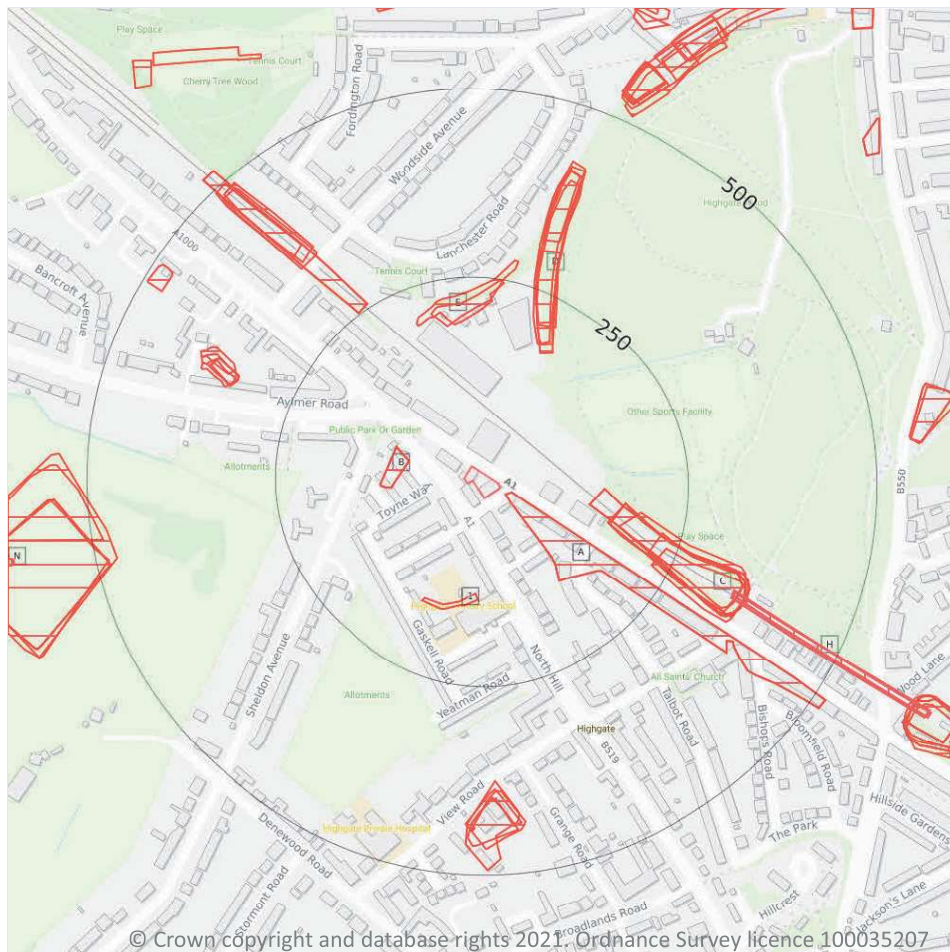


18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

22

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Land Use	Year of mapping	Mapping scale
A	12m SE	Brick Field	1879	1:10560
A	12m SE	Brick Field	1869	1:10560
B	77m W	Pond	1879	1:10560
B	77m W	Pond	1869	1:10560
C	121m E	Cuttings	1879	1:10560
C	121m E	Cuttings	1869	1:10560
1	128m S	Pond	1879	1:10560
C	151m E	Cuttings	1949	1:10560
C	153m E	Cuttings	1958	1:10560
C	153m E	Cuttings	1965	1:10560
C	153m E	Cuttings	1974	1:10000
C	153m E	Cuttings	1996	1:10000
C	167m E	Cuttings	1894	1:10560
D	175m NE	Cuttings	1920	1:10560
D	184m NE	Cuttings	1949	1:10560
D	186m NE	Cuttings	1938	1:10560
E	189m N	Unspecified Ground Workings	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
E	190m N	Unspecified Heap	1920	1:10560
D	207m NE	Cuttings	1911	1:10560
D	210m NE	Cuttings	1894	1:10560
C	215m SE	Cuttings	1938	1:10560
C	226m SE	Cuttings	1920	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

23

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Land Use	Year of mapping	Mapping scale
H	340m SE	Tunnel	1869	1:10560
H	340m SE	Tunnel	1879	1:10560
H	340m SE	Tunnel	1879	1:10560
H	340m SE	Tunnels	1965	1:10560
H	340m SE	Tunnels	1974	1:10000
H	340m SE	Tunnels	1995	1:10000
H	340m SE	Tunnels	1958	1:10560
N	607m W	Unspecified Shaft	1965	1:10560
N	607m W	Unspecified Shaft	1974	1:10000
N	607m W	Unspecified Shaft	1995	1:10000
-	684m NE	Unspecified Shaft	1965	1:10560
-	684m NE	Unspecified Shaft	1974	1:10000
-	684m NE	Unspecified Shaft	1995	1:10000
-	799m NE	Unspecified Shaft	1965	1:10560
-	801m SE	Tunnel	1869	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	801m SE	Tunnel	1879	1:10560
-	801m SE	Tunnel	1879	1:10560
-	803m SE	Tunnels	1965	1:10560
-	803m SE	Tunnels	1974	1:10000
-	803m SE	Tunnels	1995	1:10000
-	803m SE	Tunnels	1958	1:10560
-	806m NE	Unspecified Shaft	1974	1:10000
-	806m NE	Unspecified Shaft	1995	1:10000

This data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.



18.8 JPB mining areas

Records on site	0
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Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0
-----------------	---

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0
-----------------	---

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

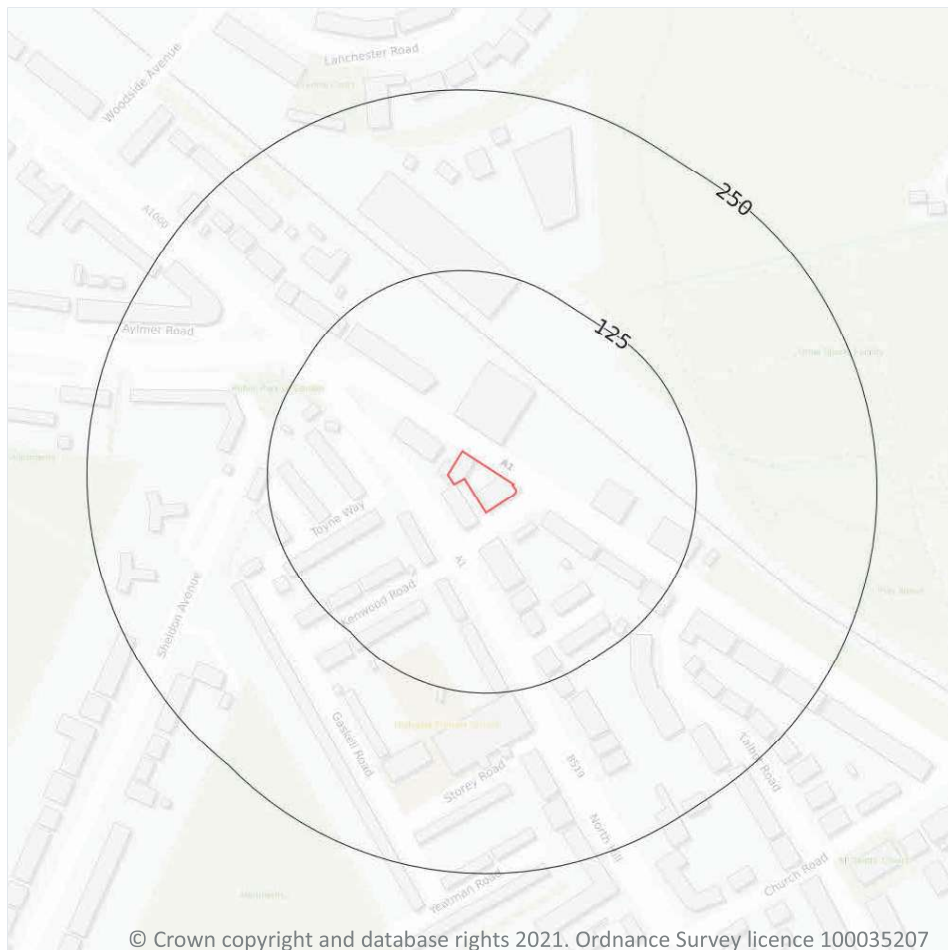
Records on site
0

Generalised areas that may be affected by kaolin and ball clay extraction.

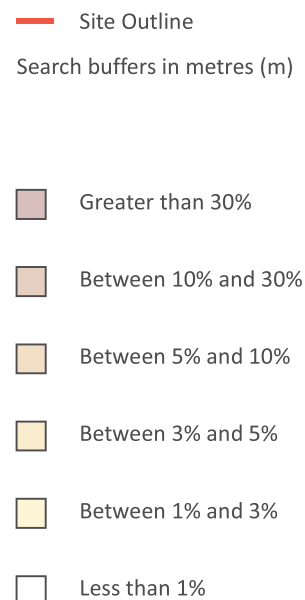
This data is sourced from the Kaolin and Ball Clay Association (UK).



19 Radon



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19.1 Radon

Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 94**

Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None**

This data is sourced from the British Geological Survey and Public Health England.



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

4

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	No data	No data	No data	No data	No data	No data	No data
On site	No data	No data	No data	No data	No data	No data	No data
37m E	No data	No data	No data	No data	No data	No data	No data
37m NE	No data	No data	No data	No data	No data	No data	No data

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

6

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	21	3.7	204	140	0.4	139	45	20	15
On site	22	3.8	220	151	0.5	133	44	21	16
16m NW	21	3.7	253	174	0.5	153	54	22	17
17m SW	22	3.8	258	177	0.5	140	49	24	18
37m NE	20	3.5	160	110	0.4	127	38	18	13



Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
37m SE	22	3.8	188	129	0.4	124	39	19	15

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

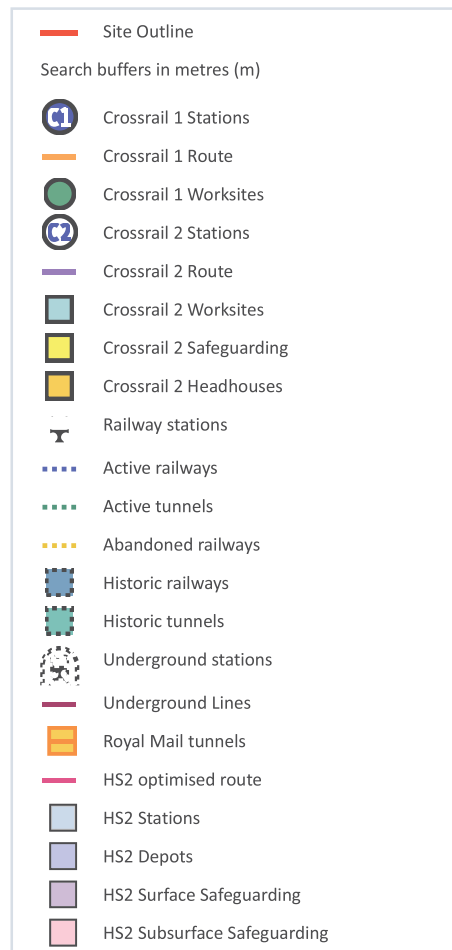
0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



21.1 Underground railways (London)

Records within 250m

1

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

Features are displayed on the Railway infrastructure and projects map on **page 97**

Location	Line Name	Line Section	Track Type	Depth (m bgl)	Operational hours
69m NE	Northern Line	Northern Line	Surface Track	0	Mon-Thu: Early 0512 Late 2358 Fri-Sun: Early 0522

This data is sourced from publicly available information by Groundsure.

