

Coal Mining Risk Assessment

Ref: 1057

Proposed Commercial Development

at

Greenside Mills

Skelmanthorpe

HD8 9EE

CMRA UK LIMITED
5 Sanders Close
Ashton Vale
Bristol
BS3 2BG

www.cmra-uk.com

Company No: 09787437

Coal Mining Risk Assessment

Residential Development at Greenside Mills Saville Road Huddersfield HD8 9EE

Existing Site Description

The proposed development site is a large sized parcel of land which contains the existing properties, occupying approximately 5000m^2 in a commercial part of Huddersfield. The site is located as per the area location plan; the site is adjacent to other commercial properties.

The shallow geology in this part of Huddersfield tends to consist of fill or soft dark soil, with sandstone and coal recorded at various depths.

Brief Local History

Mining was started by the monks from Byland Abbey in the Flockton area, possibly before the 14th century. As well as the bell pit method miners also dug what were called day holes or day eyes. These were worked by tunnelling a near horizontal adit into the shales from the side of the hill to obtain coal. Often miners who worked bell pits also had their own day hole for domestic use.

Later the introduction of mechanisation and deeper shafts increased the coal mining industry's extraction of the mineral as it gave access to deeper seams. The coal seams at Huddersfield dip towards the east, concealed by younger rocks. One of the larger coal mines in the district was the Denby Grange pit, north of Flockton, where several shafts were sunk. The pit was worked for 150 years in thin seams less than a metre thick from which a large tonnage of coal was extracted. In 1778 a new lease from the Denby Grange estate enabled more shafts to be sunk nearby which included Caphouse Colliery, now the National Mining Museum for England.

There are four main coal seams and a minor seam in the Huddersfield area between Lockwood and Castle Hill. The coals vary in thickness, hardness and sulphur content. These seams of coal were important in the past as they were mined by local people for domestic fuel. Industry also used local coal in the mills and factories for steam power during the industrial revolution. There were many pits in the Huddersfield area in the 1860s and as the coal was mined out new pits were opened. Many pits were individually owned, with few families or companies owning more than one pit at a time. An interesting account of local mining is given in the 'History of Kirkburton', written by Eli Exley in 1912.

He suggests that mining began "many generations ago" and describes the extent of the industry between 1850 -1910. In Kirkburton there were over 30 collieries of various sizes, employing at least 300 local men, so mining was clearly a major industry. The coal seams are not far beneath the surface, so many of the mines were day-holes rather than shafts. Some collieries however had shafts, the deepest of which was St. Helen's colliery, Moor Lane, at a depth of 50 metres. Coal mining became less important in the Huddersfield area during the first few decades of the 1900s, probably because the seams are generally thin. Deeper and more effective mines were opened further east towards Wakefield.

Coal Authority Report

A Residential Coal Authority Mining Report was ordered for this development site from the Coal Authority (Reference 51001106919001). The Authorities records indicate that the site is within the likely zone of influence from coal at near or close to the surface.

Any ground movement from these deep coal workings should have stopped by now. The site is also in an area where the Coal Authority believes there is coal at, or close to the surface, which may have been worked in the past (see comments on site investigation report).

The site is not in the likely zone of influence of any present underground workings and the Authority is currently not determining a licence for the removal of coal using underground or open cast surface methods, however, coal reserves exist in the local area which could be worked in the future. There are no known coal mine entries within, or within 20m, of the boundary of the site. The property is not within 800m of an open cast site or a site which is currently having an open cast license granted.

No notice of the risk of subsidence has been given under Section 33 of the Coal Mining Subsidence Act 1991 and there are no records of mine gas emission requiring action by the Coal Authority within the boundary of the site. There are no geological faults or lines of weakness recorded in the immediate area of the site which have, or could be, affected by mining or have caused damage to properties.

Whilst the site does lie in a former coal mining area based on the findings of the Non-Residential Coal Mining Report, the lack of Authority records indicating the presence of shallow coal however the age of the surrounding properties it is felt that the risk to any future development from coal workings should be classed as Medium.

However, in light of the proposal and the nature of current construction which investigation were carried out before that development the risk is reduced to Low and further detailed site investigation via site sample pits to assess the type of foundations, prior to any building work commencing will be required.



Simon Helm
25th February 2016

Area Location Map

Huddersfield, West Yorkshire HD8 9EE



Local Borehole

SE 21 SW/28

RECORD OF WELL

For Institute use only Licence No. N....14326

86/22 B

EXACT SITE OF WELL

At JOHN HAGGAS

(FAR FABRICS LTD) WAKEFIELD RD

Town or Village SKELMANTHORPE YORKS.

County YORKS.

Six-inch County Sheet YORKS 261 SE/W

Six-inch National Grid sheet and reference SE 2330-1094 SE 21 SW.

For JOHN HAGGAS.

State whether owner, tenant, builder, contractor, consultant, etc.:— OWNER.

Address (if different from above) .....

.....

Level of ground surface above sea level (O.D.) ..... ft (..... m)

*DELETE AS NECESSARY

If well top is not at ground level, state how far above:* below: .....ft (.....m)

SHAFT.....ft (.....m); diameter.....ft (.....m);

HEADINGS (please attach details—dimensions and directions)

BORE 246 ft (75 m); diameter: at top 8 in (200 cm); at bottom 8 in (200 cm)

Full details of permanent lining tubes (position, length, diameter, plain, slotted, etc.) .....

(NR') 4.5m x 200m.m. has been inserted in the Bore hole 13m (43') of which has been slotted and inserted at depths of 39m. (128')

.....

.....

Water struck at depths of (1) 20'-82' (2) 213' (3) ft (1) 6.09m (2) 25m (3) 65m m) below well top

TEST CONDITIONS

Rest level of water.....ft (.....m) above* below well top. Suction at.....ft (..... m)

Yield on 72 hours'* ~~days'~~ test pumping at 2000 galls (8.8396 l/s m³) per HR with

depression to.....ft (.....m) below well top. Recovery to rest level in ..... mins* hours

Capacity of pump 10,000 g.p.h. (12.628 4/5 m³/h)

Date of measurements 30.31.1.1/5/77.

NORMAL CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type..... Motive power.....

Capacity.....galls (.....m³) per hour. Suction at.....ft (..... m)

below well top. Amount pumped.....galls (.....m³) per day. Estimated

consumption.....galls (.....m³) per week

Well made by Farrads UK Ltd Date of sinking 1977

ADDITIONAL NOTES ANALYSIS (please attach copy if available)

LOG OF STRATA OVERLEAF

INSTITUTE OF GEOLOGICAL SCIENCES,
WATER DEPARTMENT,
SOUTH KENSINGTON,
LONDON, S.W.7.

Received from FARRODS (U.K) LTD.

Date 24.6.77

Observation well .....

Recorder.....

E.R. log .....

Site marked on Not found Since

1" map O

6" map O

Copy to (use symbol) DG Y+E Mids

.....

Date .....

For Institute use only Licence No. N. 14326

86/22B

SE21/11B

SE21SW/28

RECORD OF WELL

EXACT SITE OF WELL

At JOHN HAGGAS

(FUR FABRICS LTD) WAKEFIELD RD.

Town or Village SKELMANTHORPE YORKS.

County YORKS.

Six-inch County Sheet YORKS 261 SE/W

Six-inch National Grid sheet and reference SE 2330-1094 SE 21 SW.

For JOHN HAGGAS.

State whether owner, tenant, builder, contractor, consultant, etc.:— OWNER.

Address (if different from above)

Level of ground surface above sea level (O.D.) ..... ft (..... m)

*DELETE AS NECESSARY

If well top is not at ground level, state how far above:* below: .....ft (..... m)

SHAFT.....ft (.....m); diameter.....ft (.....m);

HEADINGS (please attach details—dimensions and directions)

BORE 246 ft (75. m); diameter: at top 8 in (200 cm); at bottom 8. in (200 cm)

Full details of permanent lining tubes (position, length, diameter, plain, slotted, etc.)

(142') 45m x 200mm. has been inserted in the Bore hole 13m (43') of which has been slotted and inserted at depths of 39m. (128')

Water struck at depths of (1) 20' - (2) 82' - (3) 213' ft (1) 6.09m (2) 25m. (3) 65m m) below well top

Rest level of water.....ft (.....m) above* below well top. Suction at.....ft (..... m)

TEST CONDITIONS

Yield on 72 hours'* ~~days'~~ test pumping at 7000. galls (8.8396 l/s ~~m³~~) per HR. with depression to.....ft (.....m) below well top. Recovery to rest level in ..... mins* hours

Capacity of pump 16,000 g.p.h. (12.628 l/s ~~m³/h~~)

Date of measurements 30-31. 1-/5/77.

NORMAL CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type..... Motive power.....

Capacity.....galls (.....m³) per hour. Suction at.....ft (..... m) below well top. Amount pumped.....galls (.....m³) per day. Estimated consumption.....galls (.....m³) per week

Well made by F.arrods UK Ltd. Date of sinking 1977

ADDITIONAL NOTES ANALYSIS (please attach copy if available)

LOG OF STRATA OVERLEAF

INSTITUTE OF GEOLOGICAL SCIENCES,
WATER DEPARTMENT,
SOUTH KENSINGTON,
LONDON, S.W.7.

Received from FARRODS (U.K) LTD.

Date 24.6.77

Observation well

Recorder

E.R. log

Site marked on Nat Grid Sheet

1" map O

6" map O

(use symbol)

Copy to D.G. Y+E. Mids

Date

SE 21 SW 728

86/22 B

(For Institute use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far.	THICKNESS Feet	Inches	Metres	DEPTH Feet	Inches	Metre
Head	CLAY			6m.			6m.
	SHALE			19m			25m
	SANDSTONE			4m			29m
CARBONIFEROUS Westphalian A	SHALE			4m			33m
	SANDSTONE			2m			35m
	SHALE			10			45m
	SANDSTONE			3			48m
	SHALE			27	246	–	75

77-77

86/22 B

(For Institute use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far.	THICKNESS Feet	Inches	Metres	DEPTH Feet	Inches	Metre
Head	CLAY			6m.			6m.
	SHALE			19m			25m
	SANDSTONE			4m			29m
Carboniferous	SHALE			4m			33m
Westphalian A	SANDSTONE			2m			35m
(Lower Coal Measures)	SHALE			10			45m
Aquifer: Lower Coal Measures	SANDSTONE			3			48m
CSE 22/2/99	SHALE			27	246	-	75

Per
E.A. SMITH
7/7/77

YORKSHIRE RIVER AUTHORITY - Survey of Existing Boreholes

I.G.S. Ref. No SE 21 SW/28 N.G.R. SE 233 109 Licence No. 2/27/8/91

OWNERS NAME John Haigh & Co. (Fur Fabrics Ltd.)

ADDRESS Skelmanthorpe

App No 5519

Authorised Abstraction

g.p.h.
g.p.d.
m.g.a.

Depth M	Thick"	STRATA DETAILS
6.00	6.00	Clay
25.00	19.00	Shale
29.00	4.00	Sandstone
33.00	4.00	Shale
35.00	2.00	Sandstone
45.00	10.00	Shale
48.00	3.00	Sandstone
75.00	27.00	Shale

Dia. 200 mm.....
Depth 75.00m.....
Lining 200mm x 25.00 m. Slotted 28-29 & 34-35 m.
Well sinker Fenoak....
Date June 72.....
R.W.L. 4.96 m.....
PWL 8.04 m at 7000 gpm.

Transmissivity 220 m²/d
steady state 250 m²/d.

Pump test result.

Additional Well Information:

- ☐ Well Loss Data: B..... C..... Efficiency.....
- ☐ Well Acidified
- ☐ Flow Logs
- ☐ Other Geophysical Logs
- ☐ Fissure Information: major inflows from.....to.....
  from.....to.....
  from.....to.....

Aquifer Parameters:

Analysis Type	Transmissivity	Storativity
Recovery	220 $m^2 d^{-1}$	
Theis	330 $m^2 d^{-1}$	

Confidence:

excellent ☐ ☐ ☐ ☑ ☐ very poor

Notes:

DATA GOING WERE QUITE SCATTERED

Additional Well Information:

- ☐ Well Loss Data: B..... C..... Efficiency.....
- ☐ Well Acidified
- ☐ Flow Logs
- ☐ Other Geophysical Logs
- ☐ Fissure Information: major inflows from.....to.....
  from.....to.....
  from.....to.....

Aquifer Parameters:

Analysis Type	Transmissivity	Storativity
Recovery Theis	220 $m^2 d^{-1}$ 330 $m^2 d^{-1}$	

Confidence:

excellent ☐ ☐ ☐ ☑ ☐ very poor

Notes:

DATA DOING WERE QUITE SCATTERED

INSPECTION REPORT	WATER QUALITY	DATE OF INSPECTION:-
Present Owner:-	Date	Other Comments:-
Access (Yes or No)	pH	
½" Probe	Total hard	
3" Instruments	Temp.hard	
Landrover	Alk.	
Access Agreed	Ca	
	Mg	
	Na	
	K	Sketch Plan of Location
Water Level at time of insp.	HCO_3	
..... metres below	SO_4	
Date	Cl	
Datum above O.D.	NO_3	
P.W.L. above O.D.	Fe	
Date		

DATA ACQUISITION SHEET

MJB/D/2785

SE21/11B

MJB 1/192

NRA region: North East (Leeds)

File Number: SE21

Pump Well Identification:

NRA id No:

BGS (WL) No: SE21/11B

NGR: SE 2330 1094

Elevation:

Measuring Point: 0.7m AGL

Site Name: John Haggas (Fur Fabrics) Ltd,

Locality: Wakefield Road Skelmanthorpe. Yorkshire

Well details:

depth of pumping well: 75 m

diameter: 200mm

casing details: 0-45m 200mm. "Two lengths slotted" (PTO)

☑ observation boreholes

number of obs bhs: 1

obs bh details:

Fields BH 12" x 396' SE 233 109

RWL 6.73m

PWL 8.20m

OD 1.47m

Aquifer Details:

confined / semi-confined / unconfined

confining layer:

Borehole Stratigraphy	from	to	thick	units
Head → clay	0	6	6	m
shale	6	25	19	m
Sandstone	25	29	4	m
Elland shale	29	33	4	m
Flags Sandstone	33	35	2	m
shale	35	45	10	m
Sandstone	45	48	3	m
shale	48	75	27	m

Carb, Westphalian A

Pumping Test Details:

date of test: 30 May 1977

length of test: 72 hrs.

RWL: 4.96 m

(OD) (4.07m)

PWL: 9.03 m

pumping rate: c.7,000 gph at end.

0-24hrs 3,430gph (1)

24-48hrs 6,000gph (2)

48-72hrs 6,900gph (3)

See over 6.42m 8.16m 9.03m

PWL's at end of "stage"

SE21/11B.

Additional Well Information:

- ☐ Well Loss Data: B..... C..... Efficiency.....
- ☐ Well Acidified
- ☐ Flow Logs
- ☐ Other Geophysical Logs
- ☐ Fissure Information: major inflows from.....to.....
  from.....to.....
  from.....to.....

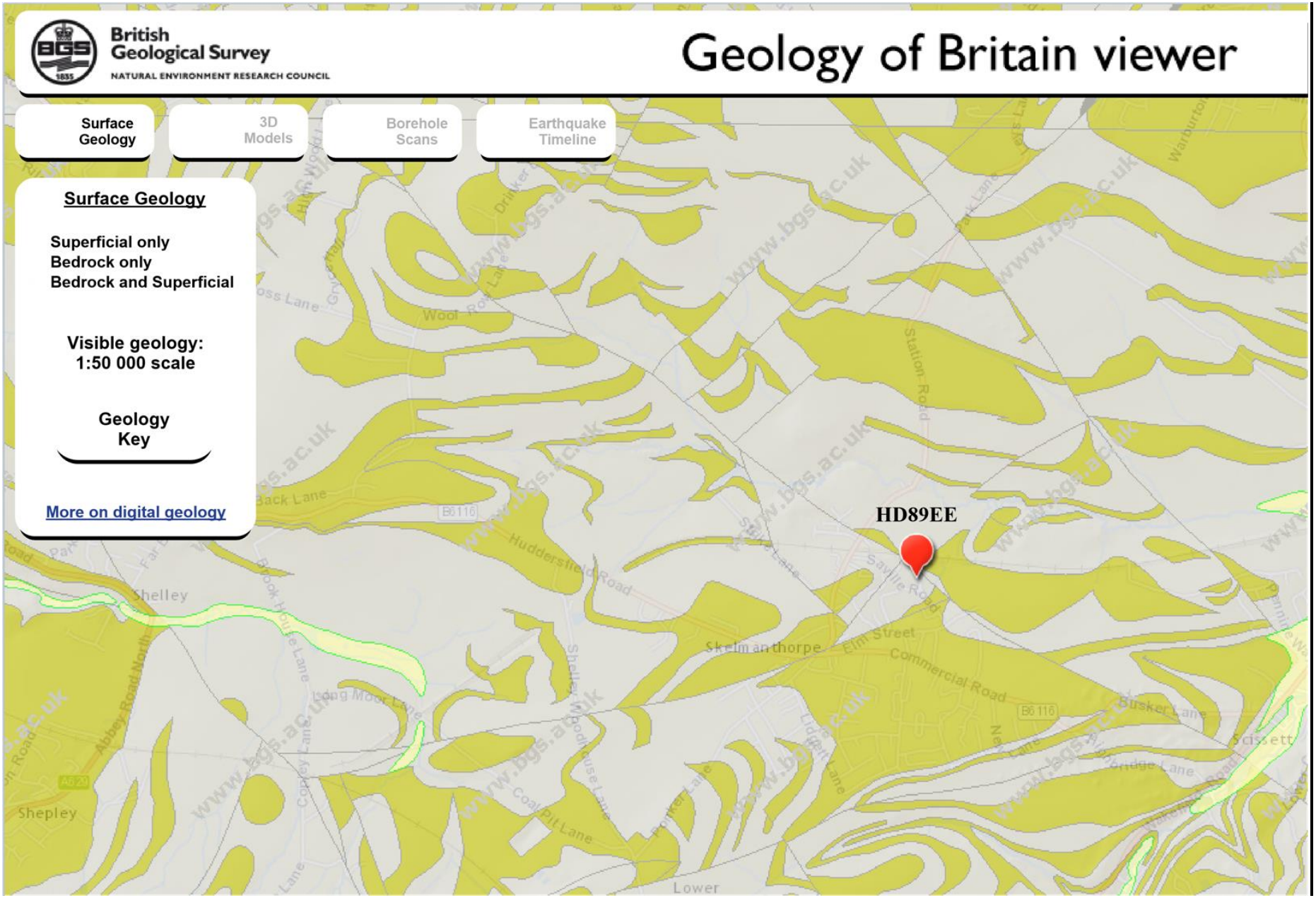
Aquifer Parameters:

Analysis Type		Transmissivity	Storativity
ABH	Recovery	220 m²/d	
	Steady state		
	① 3430 gpl	296 m²/d	
	② 6000 gpl	252 m²/d	
	③ 6900 gpl	231 m²/d	
OBH	Theis (1st stage)	330 m²/d	0.002 0.0009

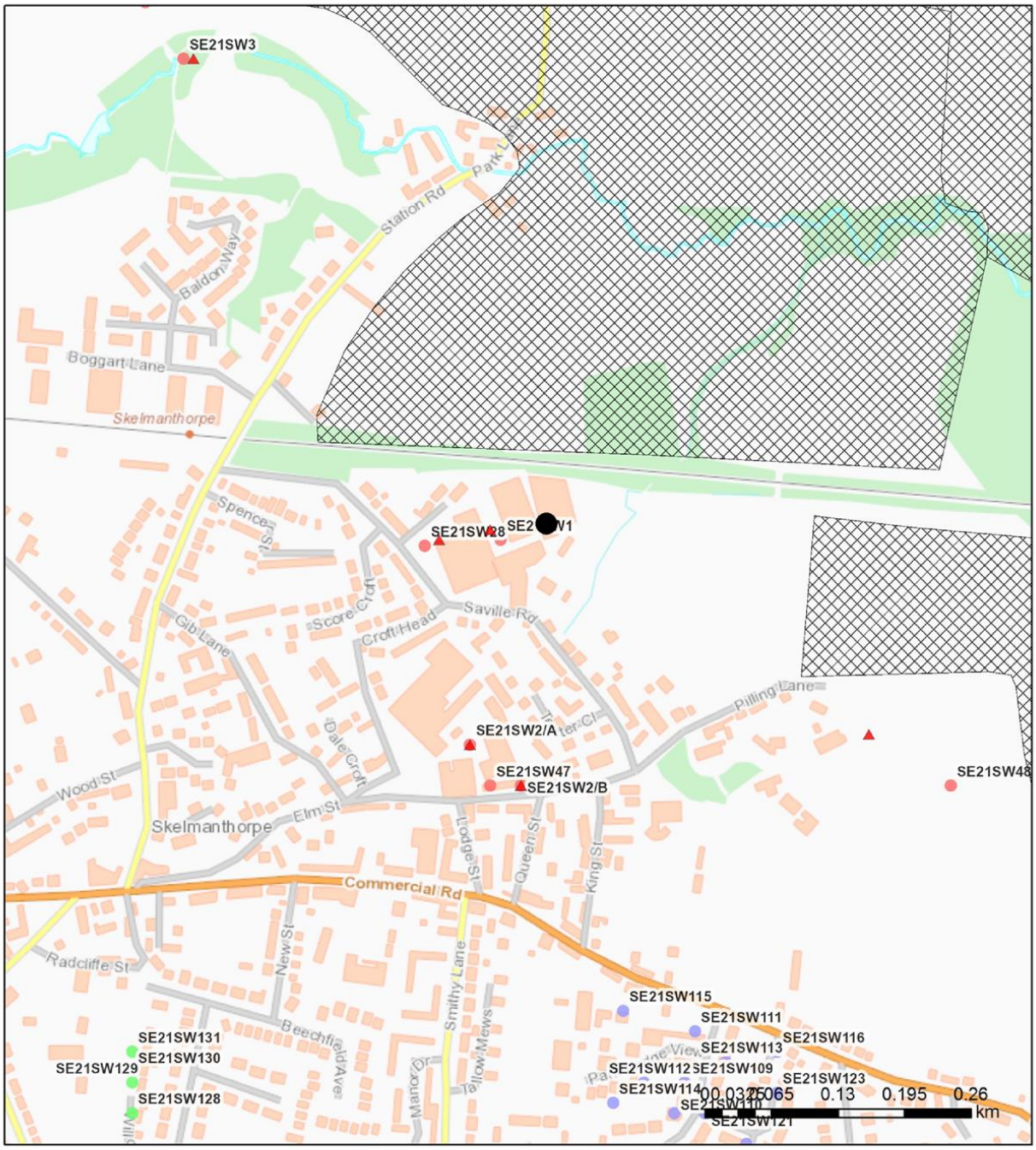
Confidence:

excellent ☐ ☑ ☐ ☐ ☐ very poor

Notes: Slotted casing is interspersed with plain casing. i.e. slotted sections are probably against sandstone horizons at 25-29m and 33-35m. (Not possible to tell exactly from log)


British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL
Geology of Britain viewer
Surface Geology
3D Models
Borehole Scans
Earthquake Timeline
Surface Geology
Superficial only
Bedrock only
Bedrock and Superficial
Visible geology: 1:50 000 scale
Geology Key
More on digital geology
HD89EE
Shelley
Shepley
Skelmanthorpe
Huddersfield Road
Elm Street
Commercial Road
Sassett
Lower
B6116

GeoIndex Report



Contains OS data © Crown Copyright and database right 2015

GeoIndex Onshore Data Sources: NERC, Natural England, English Heritage and Ordnance Survey