

MINERAL SAFEGUARDING ASSESSMENT



EASTFIELD, FEOFFEE COMMON LANE, BARMBY MOOR, YO42 1PG
PREPARED FOR MR ALAN FARROW

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QUALITY CONTROL

Project No.	GEOL24-7083	Client	Mr Alan Farrow
Report Type	Mineral Safeguarding Assessment		
Planning Ref.	23/00896/PLF		
Design Team	AMS Planning, Architecture and Development Consultants		
Project Type	Proposed holiday lodges with the excavation of a new lake		
Site Address	Eastfield, Feoffee Common Lane, Barmby Moor, YO42 1PG		
NGR	476320, 450350		
Date	22/03/2024		
Prepared by	Martin Davidson		
Qualifications	BSc (Hons)		
Position	Principal Geo-Environmental Engineer		
Approved by	Terry McMenam		
Qualifications	BSc (Hons) CSci CEnv FGS MIEEnvSc FCMI MIOd		
Position	Director		

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REPORT REVISION HISTORY				
Issue	Description	Date	Author	Approval
1	Final Issue	23/03/2024	MD	TMc

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1.0 Introduction

This report provides a Mineral Safeguarding Assessment to facilitate the construction of new holiday lodges together with the creation of a new lake on land located at Eastfield situated off Feoffee Common Lane, in Barmby Moor, East Riding of Yorkshire. The National Grid Reference for the centre of the development area is 476320, 450350. The site lies within a Mineral Safeguarding Area in accordance with East Riding of Yorkshire and Kingston upon Hull Joint Minerals Location Plan 2016 – 2033, Policies Map – November 2019. The primary safeguarding minerals below this site are sand deposits present at shallow depth. The National Planning Policy Framework (NPPF) advocates that known minerals resources should not be needlessly sterilised by development either above the resource or near to it. Local plans are therefore required to define 'Minerals Safeguarding Areas' (MSAs), MSA designation does not convey any presumption that working will take place. MSAs are often defined around the following mineral resources:

- ▼ Carboniferous limestone
- ▼ Clay (including brick shale and fireclay)
- ▼ Coal
- ▼ Igneous rock
- ▼ Sandstone
- ▼ Sand and gravel

Where a proposed non-mineral development would lead to the sterilisation of an identified mineral resource, the prior extraction of this mineral resource is encouraged where this would be practicable and environmentally acceptable.

2.0 Geological Setting

A summary of the sites geological and environmental setting can be seen below and on the following page. The information has been obtained from data procured from the British Geological Survey (BGS) and Landmark Information Group.

In accordance with published BGS maps the site is shown to be initially overlain by superficial (drift) deposits comprising Beilby Sand Member (silty, gravelly sand) formed between 11.8 and 116 thousand years ago during the Quaternary Period.

2.0 Geological Setting (Cont'd)

These deposits generally range in thickness between 1m and 2m but can exceed 6m in parts and may form elevated topographic features.

The underlying bedrock deposits at the site comprise the Mercia Mudstone Group (calcareous mudstone) formed between 201.3 and 252.2 million years ago during the Triassic Period.

An archive BGS borehole sunk to the north of the site within the same geological setting at Belsom Farm recorded sand deposits to a depth of 2m before clay deposits were recorded to a depth of 7m. Below these deposits marl (calcareous mudstone) bedrock deposits were recorded to a depth of 74m.

In accordance with published BGS mapping, no artificial ground (made ground or fill deposits) has been recorded over the site. A copy of the Landmark Information Group, Geology 1:50,000 maps obtained for this site can be seen attached in Appendix I.

3.0 Conclusions

The primary mineral present at shallow depth beneath the site is anticipated to be sand associated with the Bielby Sand Member and it has been deduced based on nearby archive BGS borehole data, this material is anticipated to be thin (c.2m thick) and as such we do not consider this to be a productive mineral worthy of extraction or safeguarding.

The clay and mudstone deposits present below the site are also largely unproductive resulting in limited opportunity for mineral extraction and similarly, we do not consider these to be productive minerals worthy of extraction or safeguarding.

End of Report

APPENDIX I

Landmark Information Group, Geology 1:50,000 Maps

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LSGR	Landscaped Ground (Undivided)	Artificially Modified Ground	Not Supplied - Holocene
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay and Silt	Not Supplied - Holocene
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	ALV	Alluvium	Sand And Clay	Not Supplied - Holocene
	BIES	Bielby Sand Member	Sand, Silty, Gravelly	Not Supplied - Devensian
	POCKG	Pocklington Gravel Formation	Gravel, Sandy	Not Supplied - Devensian
	SUTN	Sutton Sand Formation	Sand	Not Supplied - Devensian
	THOR	Thorganby Clay Member	Clay, Silty	Not Supplied - Devensian
	GFDU	Glaciofluvial Deposits	Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MMG	Mercia Mudstone Group	Mudstone	Not Supplied - Early Triassic
		Faults		



Geology 1:50,000 Maps

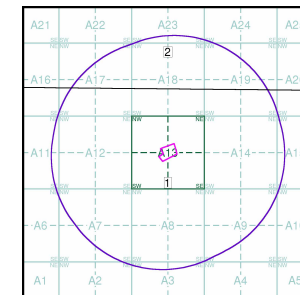
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	2	Map ID:	1
Map Sheet No:	063	Map Sheet No:	071
Map Name:	York	Map Name:	Selby
Map Date:	1959	Map Date:	2008
Bedrock Geology:	Available	Bedrock Geology:	Available
Superficial Geology:	Available	Superficial Geology:	Available
Artificial Geology:	Not Available	Artificial Geology:	Available
Faults:	Not Supplied	Faults:	Not Supplied
Landslip:	Not Available	Landslip:	Available
Rock Segments:	Not Supplied	Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

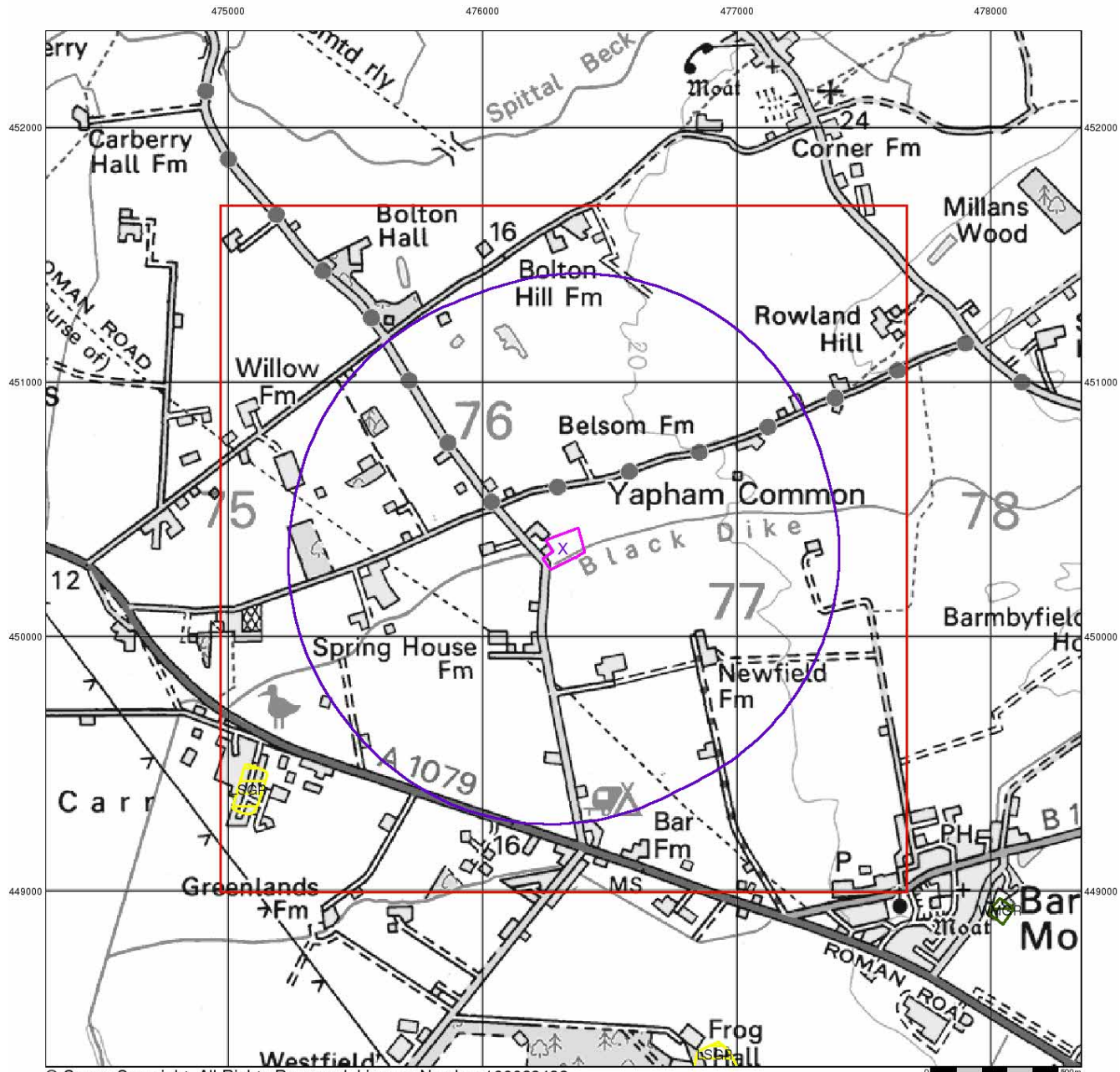
Order Number: 339628532_1_1
 Customer Reference: GEOL24-7083
 National Grid Reference: 476320, 450350
 Slice: A
 Site Area (Ha): 1.57
 Search Buffer (m): 1000

Site Details:

Eastfield, Feoffee Common Lane, Pocklington, YORK, YO42 1PG



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Artificial Ground and Landslip

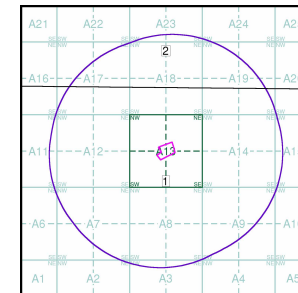
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

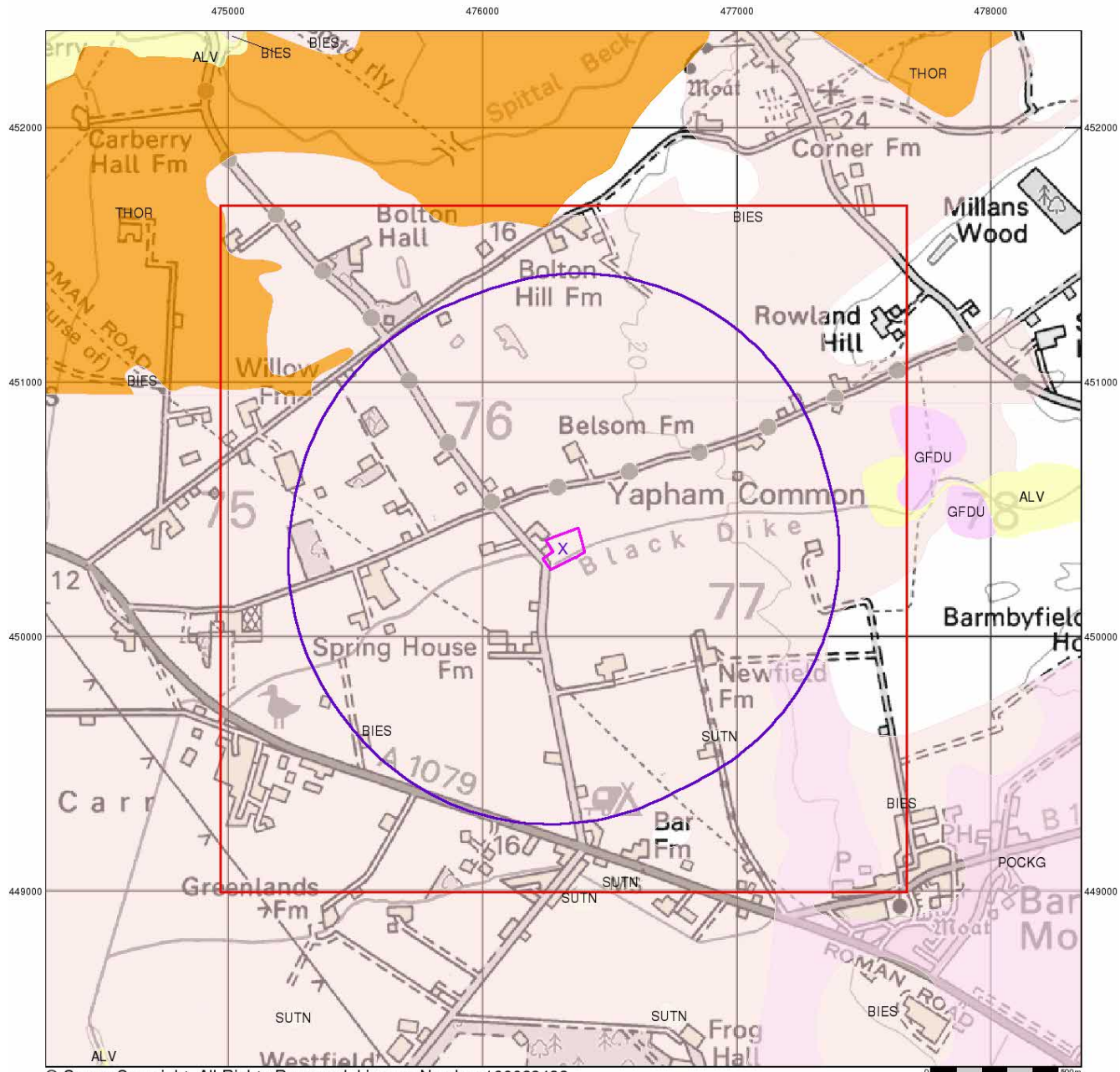
Order Number: 339628532_1_1
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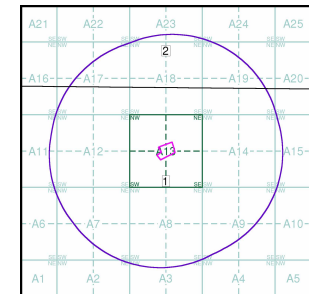
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

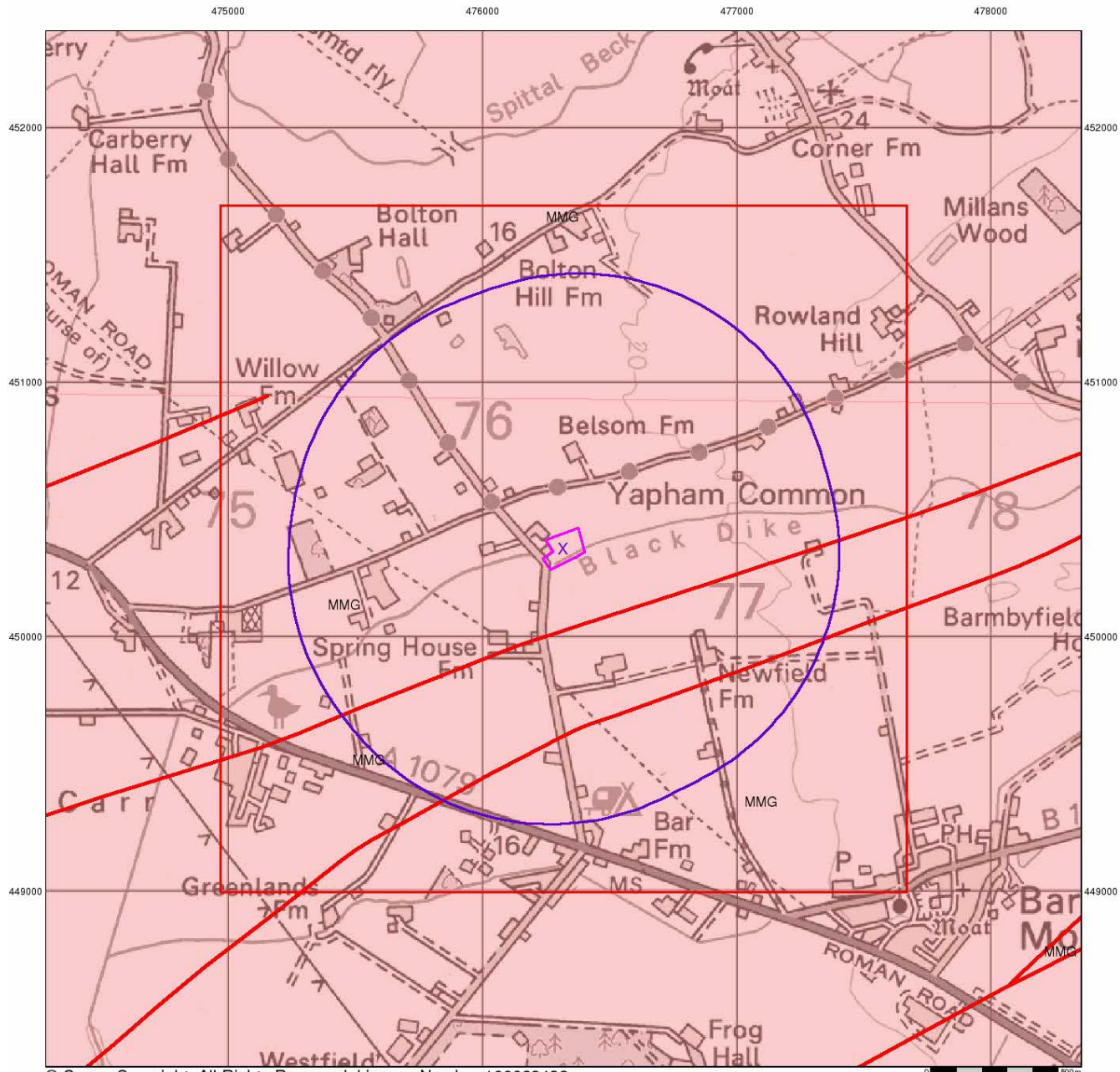
Order Number: 339628532_1_1
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Bedrock and Faults

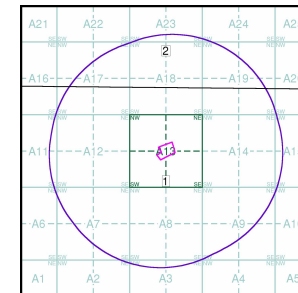
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

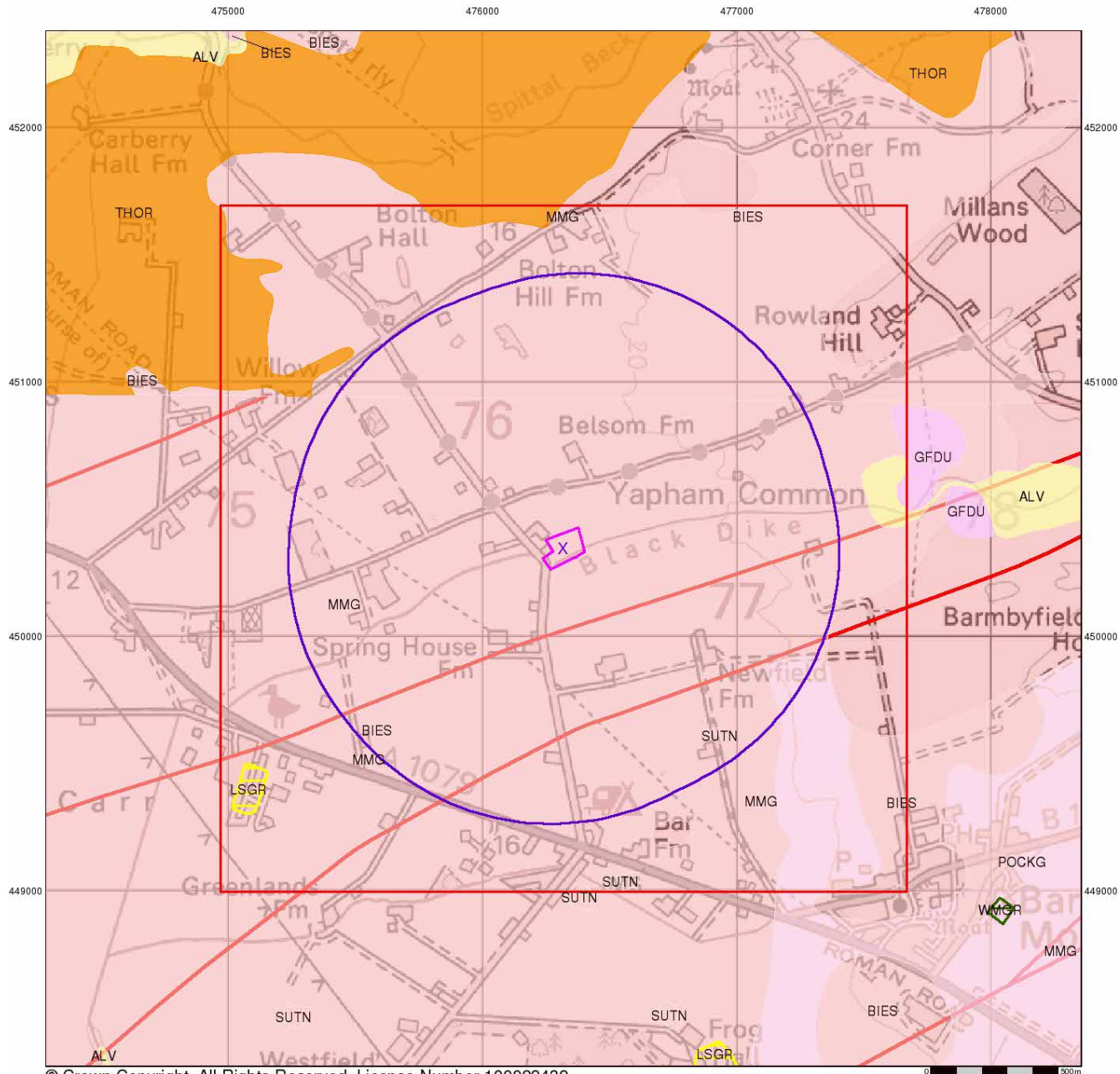
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

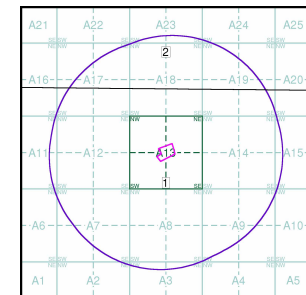
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
 Kingsley Dunham Centre
 Keyworth
 Nottingham
 NG12 5GG
 Telephone: 0115 936 3143
 Fax: 0115 936 3276
 email: enquiries@bgs.ac.uk
 website: www.bgs.ac.uk

Combined Geology Map - Slice A



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APPENDIX II

Archive BGS Borehole (SE75SE/11)



SE 75 SE 11

J.R. Triffitt & Sons,
Belsom Farm,
Yapham,
Focklington.

14 June 83.

Borehole strata.
Map reference SE.764507.

	<u>Thickness.</u>	<u>Depth.</u>
Sand.	7 { 2.0 m.	2.0 m.
Clay.	5.0 m.	7.0 m.
Marl.	110 { 67.0 m.	74.0 m.
Sandstone and marl.	43.0 m.	117.0 m.
Sandstone.	33 33.0 m.	150.0 m.

Casing : 250 mm. steel to 74 metres.

Standing water level : 12.42 m. below ground.



DATA ACQUISITION SHEET

SOUTHERN CS NORTHEAST EA 71

MJB/D/1678

NRA region: Yorks/Northumbria - York

MJB/193

File Number: SE PTD1 - SE64-75.

SE75/44

SE75SE/21

Pump Well Identification:

NRA id No:

BGS (WL) No: SE75/44

NGR: SE764 507

Elevation:

Measuring Point:

Site Name: Belson Farm

Locality: Yapham
Pocklington
N. Yorkshire

Well details:

depth of pumping well: 150 m

diameter: 250 mm

casing details: Plain Steel 250mm 0-74m

observation boreholes

number of obs bhs:

obs bh details:

Aquifer Details:

confined / semi-confined / unconfined

confining layer: Clay + marl

Borehole Stratigraphy	from	to	thick	units
Sand	0	2.0	2.0	
clay	2.0	7.0	5.0	
marl	7.0	74.0	67.0	
AQUIFER → Sandstone + marl	74.0	117.0	43.0	
Sandstone	117.0	150.0	33.0	

Pumping Test Details:

date of test: 10 June 1983

length of test: 24 hrs

RWL: 12.42 m
(OO=c 30.08 m)

PWL: c. 42.50 m

pumping rate: 768 m³/day



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
Calculated Recovery	36.8 m ² /d	
Residual Drawdown	36 ³⁷ m ² /d	

Confidence:

excellent very poor

Notes:



SE75 SE 11

SE75/44

J.R. Triffitt & Sons,
Balsam Farm,
Yapham,
Rocklington.

14 June 83.

Borehole strata.
Map reference SE.764507.

	<u>Thickness.</u>	<u>Depth.</u>
Sand.	7 { 2.0 m.	2.0 m.
Clay.	{ 5.0 m.	7.0 m.
Marl.	110 { 67.0 m.	74.0 m.
Sandstone and marl.	{ 43.0 m.	117.0 m.
Sandstone.	37 33.0 m.	150.0 m.

Casing : 250 mm. steel to 74 metres.

Standing water level : 12.42 m. below ground.



SE75/44

SE75SE11

YORKSHIRE WATER AUTHORITY - Survey of Existing Boreholes

I.G.S. Ref. No N.G.R. SE 764507.....

Licence No.

OWNERS NAME J.R. Tiffit & Sons.
ADDRESS Belsom Farm.
..... YAPHAM, Pocklington.

App No

Authorised Abstraction

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

STRA TA DETAILS	Thick 's	Depth
SAND	2.0	7.0
CLAY	5.0	74.0
Mar.	6.70	117.0
Sandstone & Mat.	43.0	150.0
Sandstone	33.0	

Dia. 250mm
Depth 150
Lining 250mm x 74 m std.
Well sinker MUMD.
Date 1983
R.W.L. 12.42
P.W.L. 42.50 at 31m 3/4
AS = 30.08

Transmission Coeff. 34.1 m/d K=0.002
Steady State 32.6 m/d
Saturated To