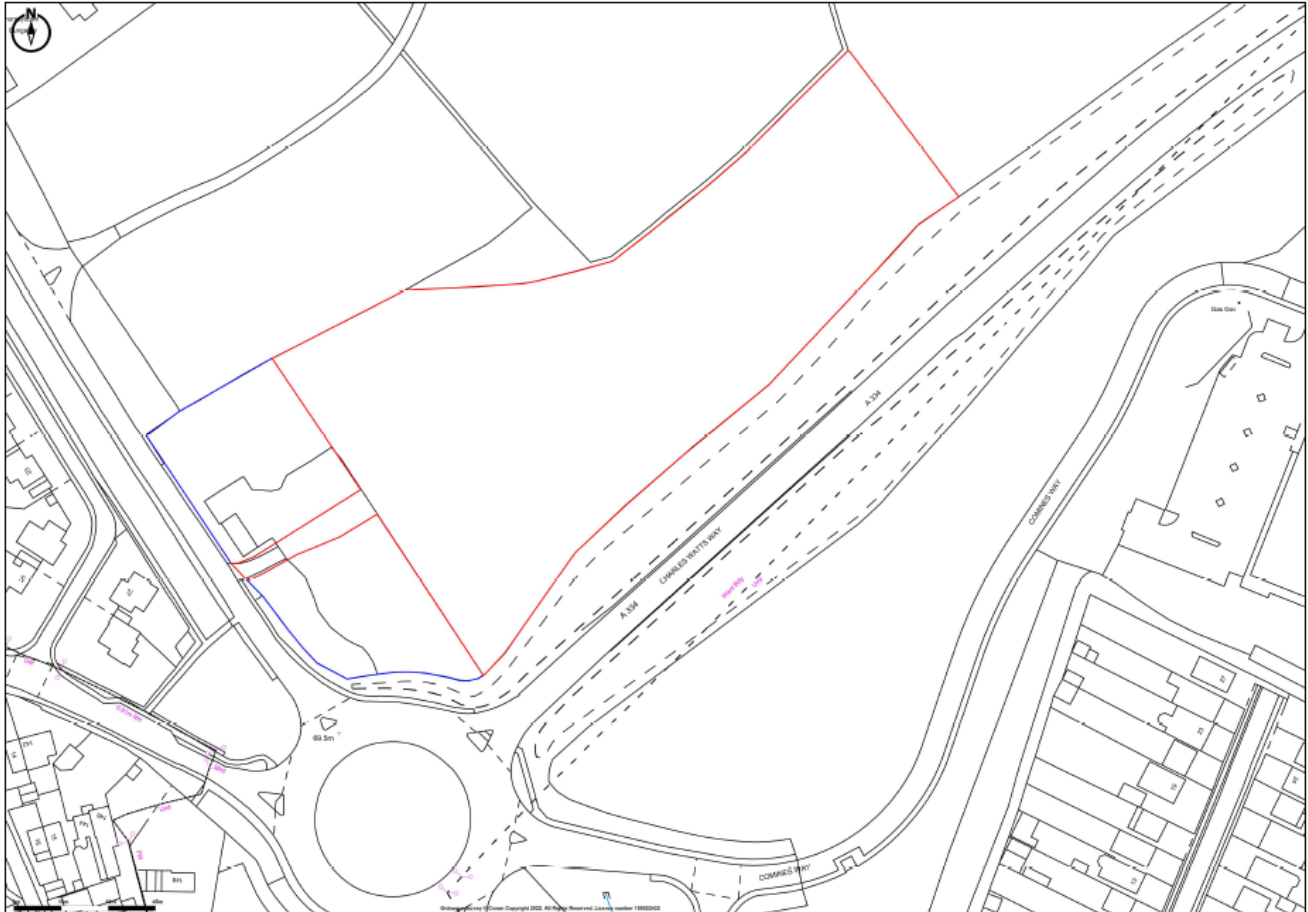




Thorneydown Farm

Minerals Assessment

30 March 2022

Contents

1.	Introduction	3
2.	Minerals Consultation Area.....	4
3.	Geology	5
4.	Site Investigation.....	7
5.	Conclusions	9

Appendices

Appendix I BGS Borehole Data

Report title: Thorneydown Farm

Prepared by: Mark Leivers

Status: Final

Draft date: 30 March 2022

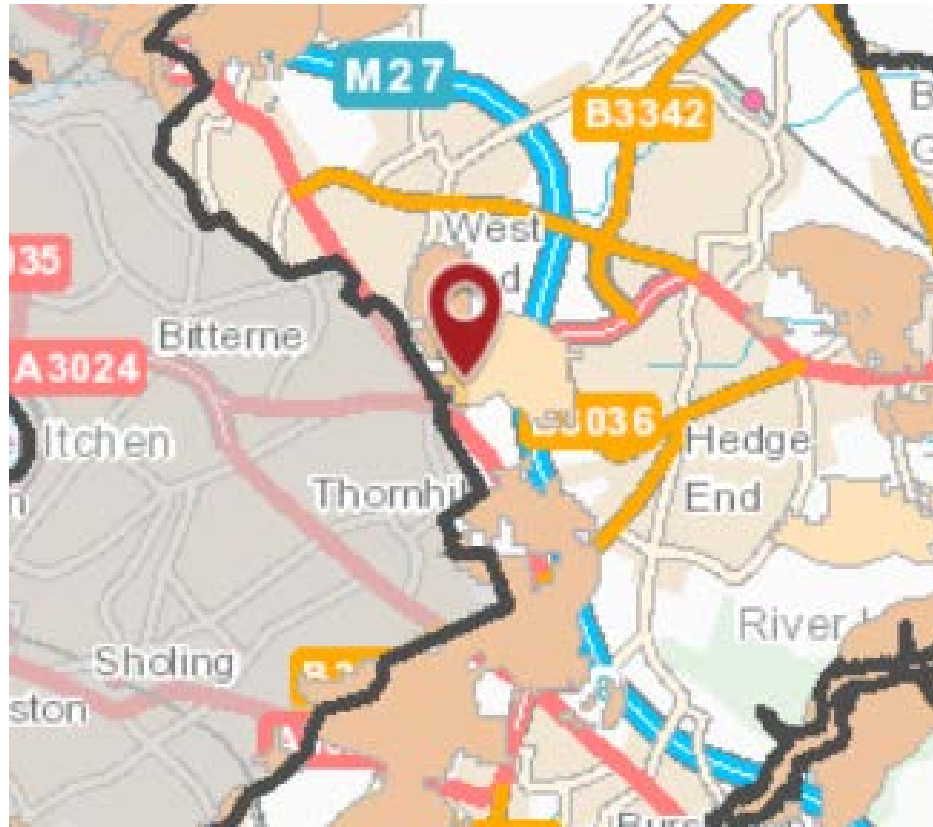
For and on behalf of Avison Young (UK) Limited

1. Introduction

- 1.1 Thorneydown Farm is centred around Grid Reference SU 47413 13120 and comprises a cluster of small, redundant farm buildings and a single open field bounded by mature trees.
- 1.2 The site falls within a Minerals Consultation Area (MCA) Is Published by Hampshire County Council. These areas are based on the Mineral Safeguarding Areas (MSA) as identified in the adopted Hampshire Mineral and Waste Local Plan adopted in 2013. Mineral resources in the MSA are considered to be commercially viable mineral deposits. Where proposals for non-mineral development are proposed within the MCA, there is a requirement for the district and borough councils to consult with the Mineral Planning Authority (Hampshire County Council).
- 1.3 As explained in the Minerals and Waste Plan in paragraph 6.20:
- "Any non-mineral proposal falling within the MSA will require exploratory work prior to development, in order to investigate further the mineral resource that the present and the potential for its extraction".*
- 1.4 The owners of the land are considering developing their site as a caravan park and have instructed Avison Young to undertake an assessment of the mineral resource, in line with the requirements of the Mineral Local Plan. The findings of the assessment are set out below.
- 1.5 This assessment has been undertaken by Mark Leivers BSc(hons) MRICS CEnv, a minerals chartered surveyor with over 35 years experience. Mark is a director of Avison Young who has previously worked in the minerals industry specifically on site finding and mineral evaluation work for one of the largest aggregate companies in the UK. As a consultant, he has prepared several Mineral Assessment Reports relating to development within Mineral Safeguarding Areas.

2. Minerals Consultation Area

- 2.1 Hampshire County Council have an interactive online Minerals Policy plan. The site is located within a soft sand Consultation Area, as shown by the extract below:



- 2.2 The light brown area which stretches from the site (as denoted by the red place marker) across the M27 represents the MCA for soft sand in this area.
- 2.3 As a consequence of this designation further evaluation of the mineral is required to establish whether it is economically viable to extract prior to any further development at the site.

3. Geology

- 3.1 The British Geological Society (BGS) superficial and bedrock geology database has been used to establish possible mineral deposits within the application site.
- 3.2 The site appears to fall into two geological areas, namely the London Clay Formation and Wittering Formation. The site also appears to run alongside a narrow section of the Whitecliff Sand Member. The deposits in context with the site are shown on plan TF/Geo/01.
- 3.3 London Clay Formation is a bedrock deposit of blue-grey or grey-brown, slightly calcareous, 72, very silty clay, clay, silt, and sometimes silt, with some layers of sandy clay. The formation was laid down between 56 and 47.8 million years ago during the Palaeogene period.
- 3.4 Wittering Formation is described by the BGS as greyish-brown laminated clay with lenticular bedded sand interbedded with clay in equal proportions and rests on London Clay.
- 3.5 The BGS information appears to be at odds with the MCA area defined within the Mineral Local Plan.
- 3.6 The BGS also retain data of any boreholes which have been drilled across the country. In respect of the application site, four boreholes were drilled in 1968 within the site, which provides further detail on the local geology of the area. The location of the four boreholes is noted on the BGS extract below:



-
- 3.7 Borehole SU41SE40 confirms the presence of gravel in a matrix of brown and grey sandy clay to a depth of 1.5 feet (0.5m), below which is located stiff brown-grey silty clay with pockets of brown sand to a depth of 10 feet (3m), which is underlain by stiff dark grey sandy clay.
- 3.8 Borehole SU41SE41 does not identify any gravel only soft brown sandy clay to a depth of 5.5 feet (1.7m) underlain by 10.5m (3.2 m) of so grey-brown silty clay.
- 3.9 Borehole SU41SU42 only identifies silty clay with pockets of brown, fine sand down to a depth of 18 feet (5.5 m) underlain by very stiff dark grey sandy clay.
- 3.10 Borehole SU41SE43 similarly, only identifies sandy clay to a depth of 22 feet (6.7m) underlain by stiff dark silty clay.

4. Site Investigation

4.1 In February 2022 a small trial was opened up using a back excavator in a central location of the site. The excavation went down approximately 4 m and the arisings were evaluated.

4.2 Photographs of the carpet and the risings are shown below:

Photo 1 – location of trial pit



Photo 2 – depth of trial pit



Photo 3 – Close up of arisings



- 4.3 As is evident from the photographs, the trial pit confirms the presence of very clayey sandy clay within the site, which supports the information obtained from the BGS borehole database.
- 4.4 Whilst only a single trial pit was dug, this is considered appropriate for the size of the site and the nature of the underlying geology, i.e. London Clay Formation which has little variation.

5. Conclusions

- 5.1 The application site lies within a Mineral Consultation Area, as defined by the Hampshire County Council Mineral and Waste Local Plan, adopted in 2013.
- 5.2 It is concluded, based on the historic and recent geological evidence that there are no economically viable soft sand or sand deposits within the site.

Appendix I

BGS Borehole Data

RECORD OF SHAFT OR BORE FOR MINERALS

6-inch Map Registered No.

S U 41 SE / 4

Nat. Grid Reference
SU 4744 1307

1° N.S.Map No. 315	1° O.S.Map No.	Confidential or not
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1° N.S.Map No. 315	1° O.S.Map No.	Confidential or not
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British Geological Survey

109' hole

GEOLOGICAL SURVEY OF GREAT BRITAIN

RECORD OF SHAFT OR BORE FOR MINERALS

(For Survey use only)

6-inch Map Registered No.

Name of Shaft or Bore given by Geological Survey:

S U 41 S E / 43

Name and Number given by owner: No. 87

Nat. Grid Reference

SU 4752 1316

For whom made Min. of Transpt. S.E. R.C.U. Hampshire SubUnit

Town or Village West End County Hampshire

Exact site

Attach a tracing from a map, or a sketch-map, if possible.

Purpose for which made Road construction

Ground Level at shaft bore relative to O.D. 176.9' If not ground level give O.D. of beginning of shaft bore -

Made by Date of sinking July 1968

Information from Ministry of Transport Report Date received

Examined by

SPECIMEN NUMBERS AND ADDITIONAL NOTES

(For Survey use only)
GEOLOGICAL
CLASSIFICATION

DESCRIPTION OF STRATA

THICKNESS

DEPTH

FT.

IN.

FT.

IN.

Topsoil

1

-

1

-

Soft grey-brown sandy clay

1

-

2

-

Stiff brown and grey silty clay

6

6

8

6

Stiff light brown and grey silty clay
with pockets of brown sand

4

-

12

6

Stiff light grey and brown sandy clay

5

-

17

6

Stiff fissured dark brown-grey sandy clay

5

6

23

-

Very stiff fissured dark grey silty clay
with some pockets of fine sand

7

-

30

-

END OF BOREHOLE AT 30'0"

RECORD OF SHAFT OR BORE FOR MINERALS

6-inch Map Registered No.

\$ U 4 1 S E / 4 2

Nat. Grid Reference
SU 4751 1319

1" N.S. Map No.	1" O.S. Map No.	Confidential or not
315		

Exact site _____ { Attach a tracing from
a map, or a sketch-
map, if possible.

Ground Level at ^{shaft} ~~base~~ relative to O.D. 178.1' If not ground level give O.D. of beginning of ^{shaft} ~~base~~ —

Information from Ministry of Transport Report Date received _____

Examined by.

[illegible][illegible]

Contact details

Enquiries

Mark Leivers



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