

AGRICULTURAL LAND CLASSIFICATION
AND
STATEMENT OF PHYSICAL CHARACTERISTICS

PROPOSED EXTENSION TO
SMAW'S LIMESTONE QUARRY,
TADCASTER,
NORTH YORKSHIRE

MAFF
Leeds Regional Office

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AGRICULTURAL LAND CLASSIFICATION REPORT:
PROPOSED EXTENSION TO SMAW'S QUARRY, TADCASTER

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:- SE 464430
Location Details:- 2 km west of Tadcaster
immediately north of the A659.

Site Size:- 15.2 ha including existing
quarry. Proposed extension
area is 8.8 ha.

1.2 Survey Methods

Date Surveyed:- 18 September 1991.

Boring Density and Spacing Basis:- 1 boring per hectare at 100 m
intervals predetermined by the
National Grid.

Sampling Method:- By hand auger to a depth of 1 m
or to rock if at less than 1 m.

Number of Borings:- 11

Number of Soil Pits (used for):- 1 to determine soil depth and
structure.

All land quality assessments were made using the methods described in
"Agricultural Land Classification of England and Wales: Revised
Guidelines and Criteria for grading the quality of agricultural land
(MAFF 1988)".

1.3 Land Use:- All agricultural land is in arable use.

1.4 Climate and Relief

Average Annual Rainfall (AAR):- 675 mm

Accumulated Temperature above 0°C (January-June):- 1359 day °C

Field Capacity Days:- 157 days

Altitude average:- 45 m a.o.d.
maximum:- 50 m a.o.d.
minimum:- 40 m a.o.d.

Climatic limitation (based on interaction of rainfall and temperature values):- None

Relief:-

Slopes (°):- 1-2°

Gradient Limitations:- None

1.5 Geology and Soil

Solid Strata:- Permian Magnesian Limestone.

Depth of solid rock from surface:- 0.5 m on average.

Drift types:- Loamy material formed from weathered limestone.

Thickness of drift and distribution:- About 0.5 m thick over most of the site, but more than 1.0 m thick in the south eastern corner.

Soil Types and Distribution:- Thin well drained loamy soils over weathered limestone.

Soil Textures (topsoils and subsoils):- Medium clay loam topsoils and subsoils. Some sandy loams in the south eastern corner.

Soil Series/Associations:-

On 1/250000 map:- Aberford.

Identified on site:- Aberford.

Soil Limitations and type:- Shallow depth and droughtiness.

1.6 Drainage

Soil type and Wetness Class:- All soils are well drained (Wetness Class I).

Drainage Limitations:- None.

2.0 Agricultural Land Classification Grades

The ALC grades occurring on the site are as follows:-

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Agricultural Area</u>	<u>Percentage of Total Area</u>
2	0.8	9.1%	5.3
3a	8.0	90.9%	52.6
Urban (active quarry area)	5.5		36.2 5.9
Other (wooded disused quarry)	0.9		
Total	<u>15.2</u>	<u>100</u>	<u>100</u>

Grade 2

Distribution on site:-

South eastern corner.

Soil Type(s) and Texture(s):-

Deep sandy loams or medium clay loams.

Depth to Slowly Permeable Layers:-

None present.

Wetness and Drainage Class:-

Well drained - Wetness Class I.

Stone Percentage and Type:-

About 5% of small and medium limestones.

Grade Limiting Factors:-

Slight droughtiness and soil variability.

Subgrade 3a

Distribution on site:-

All of the agricultural land surrounding the present quarry.

Soil Type(s) and Texture(s):-

Shallow slightly stony medium textured soils over weathering limestone at about 50 cm.

Depth to Slowly Permeable Layers:-

None present.

Wetness and Drainage Class:-

Well drained - Wetness Class I.

Stone Percentage and Type:-

Topsoil:- 5-10% limestone.
Subsoil:- 5-20% limestone.

Grade Limiting Factors:-

Droughtiness caused by shallow (about 50 cm) soil depth.

Urban

Type of land use included:-

Existing quarry area including the access road. A wooded disused quarry is indicated separately on the ALC map.

3.0 STATEMENT OF PHYSICAL CHARACTERISTICS (SOIL PROPERTIES AND RESOURCES)

3.1 Soil Properties

Two soil types occur on the site. Their distribution along with soil depth and quantity information are shown on the accompanying maps.

Soil Type 1:-	Thin well drained loamy soil over weathered limestone.
Occurrence:-	Majority of the site.
Textures:-	Medium clay loam top and subsoils.
Stone content:-	Topsoil:- 5-10% Subsoil:- 5-20%
Horizon thicknesses:-	Mean topsoil thickness:- 30 cm. Mean subsoil thickness:- 20 cm.
Profile pit features:-	Moderately developed medium subangular blocky structure over similarly structured subsoil. Calcareous.
Soil Type 2:-	Deep well drained loamy to coarse loamy soil.
Occurrence:-	South eastern corner of the site.
Textures:-	Medium clay loam or medium sandy loam top and subsoils.
Stone content:-	0-10%

Horizon thicknesses:-

Topsoil:- 30 cm.

Subsoil:- 70 cm.

Profile pit features:-

Moderately developed subangular blocky structures. Relatively stone free.

3.2 Soil Resources

Topsoils

Unit T1

Texture/stone content:-

Medium textured slightly stony.

Structure:-

Moderately developed subangular blocky.

Occurrence:-

Covers the whole agricultural area.

Thickness:-

Mean thickness 30 cm.

Subsoils

Unit S1

Texture group/stone content:-

Medium textured slightly to moderately stony.

Structure:-

Moderately developed coarse subangular or angular blocky.

Occurrence:- All of the agricultural area
except the south east corner.

Thickness:- Mean thickness:- 20 cm.

Unit S2

Texture group/stone content:- Medium to light textured,
stoneless to slightly stony.

Structure:- Moderately developed medium and
coarse subangular blocky.

Occurrence:- South east corner of the site.

Thickness:- Mean thickness:- 70 cm.

Resource Planning Group
Leeds Regional Office
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MAP(S)