

STATEMENT OF PHYSICAL CHARACTERISTICS
AND
AGRICULTURAL LAND CLASSIFICATION
TANCRED QUARRY, SCORTON
N. YORKS
PROPOSED LANDFILL SITE
FEBRUARY 1993

ADAS
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SUMMARY

A Statement of Physical Characteristics and Agricultural Land Classification survey of 9.8ha of land at Tancred Quarry, Scorton was carried out in February 1993.

At the time of the survey most of this consisted of uncultivated restored agricultural land all of which falls within Grade 4. Soil profiles are well drained (Wetness Class I) and formed of light to medium textured moderately stony topsoil material mixed in many places with the underlying very stony subsoil. Profiles are often impenetrable below about 50cm because of the many medium and large hardstones. The site, which has been restored since previous gravel extraction, is limited to Grade 4 by severe droughtiness and workability problems resulting from the stoniness.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED LANDFILL SITE AT TANCRED QUARRY, SCORTON, N. YORKS.

1. INTRODUCTION AND STATEMENT OF PHYSICAL CHARACTERISTICS

1.1 Location and Survey Methods

The site lies 2km north of Catterick on the northern side of the River Swale. It is centred on Grid Reference SE 241999 and covers a total of 9.8ha. Survey work was carried out in February 1993 when soils were examined by hand auger borings at a density of 1 boring per ha at points predetermined by the National Grid. Two soil inspection pits were dug to allow detailed descriptions of soil structure to be made. Land quality was assessed 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).

1.2 Land Use and Relief

At the time of the survey the majority of the site was uncultivated, except for a small area of pasture in the north west corner. Site altitude varies from 55m AOD to approximately 60m AOD. The land is level to gently sloping.

1.3 Climate

Grid Reference	: SE 241999
Altitude (m)	: 54
Accumulated Temperature above 0°C (January-June)	: 1328 day°C
Average Annual Rainfall (mm)	: 690
Climatic Grade	: 1
Field Capacity Days	: 175
Moisture Deficit (mm) Wheat	: 98
Moisture Deficit (mm) Potatoes	: 86

1.4 Geology, Soils and Drainage

The area is underlain by the Upper Magnesian Limestone and the Middle Permian Marl over which there is a considerable thickness of glacial and post glacial drift including river terrace gravels. The soils which are restored are formed on terrace deposits and are light to medium textured, consisting typically of medium sandy loams and medium sandy clay loams. All soils are well drained (Wetness Class I). Topsoils are moderately stony (16-20%) but are often mixed with the underlying very stony (50%) restored subsoil material.

1.5 Soil Properties

One main soil type occurs on this site, descriptions of which are given below. "Topsoil" and "subsoil" resources are also shown on the accompanying maps along with soil thickness and volume information.

- (a) Soil Type 1:- Light to medium textured restored soils (Unit T1/S1)
(Full Profile Description, Table 1)

This soil formed on terrace gravels occurs over the whole site. It is characterised by light to medium textured moderately stony topsoils over but often mixed with light textured very stony subsoil material.

1.6 Soil Resources

(i) Topsoils

Unit T1

Unit T1 occurs over the whole site. It is light to medium textured and typically consists of medium sandy loam or sandy clay loam, which is moderately stony, containing 16-20% medium to very coarse angular to rounded hard stones. This topsoil has a weakly developed medium to coarse granular structure and a median thickness of 30cm. Inclusions of subsoil material are common in places.

(ii) Unit S1

Unit S1 occurs over the whole of the site. It is light to medium textured and consists of medium sandy loam and sandy clay loam. It is very stony (40-50%), containing many medium and large sub angular to rounded hard stones. It has a very weak fine to medium granular to single grain structure and a mean thickness of 20cm.

2. SOIL PROFILE DESCRIPTIONS

Table 1 Light textured soil. Medium textured soil, T1/S1

Profile Pit 1 (Near auger boring 11)

Slope:- 1°

Land Use: Uncultivated

Weather:- Cold and overcast.

Depth cm	Horizon Description
0-25	Dark brown (75YR4/2) medium sandy loam; no mottles; moderately stony (approximately 20% medium and very coarse angular to rounded hard stones); moist; weakly developed medium to coarse granular structure; friable; moderately porous; few medium fibrous roots; slightly sticky; slightly plastic; non calcareous; clear wavy boundary.
25-50	Yellowish brown (10YR5/4) loamy coarse sand; no mottles; very stony (approximately 40% medium and very coarse angular to rounded hard stones); moist; very weakly developed fine to medium granular to single grain structure, friable; moderately porous; few fine roots; non sticky; non-plastic; non calcareous.
50+	Medium and large subangular and rounded hard stones.

3. AGRICULTURAL LAND CLASSIFICATION

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

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
1		
2		
3a		
3b		
4	8.9	90.8
5		
(Subtotal)	(8.9)	(90.8)
Urban	0.9	9.2
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Subtotal)	(0.9)	(9.2)
TOTAL	9.8	100

Grade 4

Land in this grade occurs over the whole site. Soils are well drained (Wetness Class I) and consist of moderately stony (approximately 16-20% medium and large subangular to rounded hard stones) medium sandy loam or medium sandy clay loam topsoils and very stony (approximately 40-50% medium and large sub angular to rounded hard stones) medium sandy loam, loamy medium sand or sandy clay loam subsoils. Topsoil and subsoil material is mixed in places. Impenetrable layers of medium and large stones occur below 50cm. The land which is restored from previous gravel extraction is limited to Grade 4 by droughtiness and workability problems.

Urban

Urban areas consist of an access road and a deep trench on the eastern edge of the site.

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MAPS