

AGRICULTURAL LAND CLASSIFICATION
NORTHUMBERLAND MINERALS
LOCAL PLAN
LAND AT BOTHAL BURN AND
POTLAND BURN
JULY 1995

ADAS
Leeds Statutory Group

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SUMMARY

A reconnaissance ALC survey of 460 ha of land north west of Ashington was carried out in July 1995. The site is referred to as Bothal Burn/Potland Burn in the Northumberland Mineral Plan.

At the time of survey agricultural land was mostly in arable use in the west and centre of the site and grassland use in the east.

Ellington Road Waste Disposal site occurs in the north of the site.

Soils are derived from drift deposits, mostly boulder clay but with some lighter drift in the west. Some land in the east and north has been restored following open cast coal extraction in the 1940's.

50 ha were Subgrade 3a. Soils are medium to light textured and ALC grade is limited by soil wetness or droughtiness.

320 ha of Subgrade 3b land were mapped. Soil wetness limits ALC grade.

55 ha of Grade 4 land were found in the east. Either restored soils with a severe soil wetness limitation or micro relief problems determined ALC grade.

Urban, Woodland and Open Water occupy 20 ha, 10 ha and < 5 ha respectively.

CONTENTS

1. INTRODUCTION AND SITE CHARACTERISTICS
2. AGRICULTURAL LAND CLASSIFICATION GRADES

AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AT BOTHAL BURN AND POTLAND BURN

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

Approximately 460 ha of land 2 km north west of Ashington was the subject of a reconnaissance Agricultural Land Classification Survey (ALC) in July 1995. The site has a centroid Grid Reference of NZ 253 887 and is described in the Minerals Plan as Bothal Burn/Potland Burn. Soils on the site were examined by hand auger borings and appropriate soil inspection pits. Auger boring locations were determined by reference to the following information: published geology and soils maps, location of restored land, landform pattern and relief. Overall survey density was approximately one boring every 4 ha. 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.

1.2 Land Use and Relief

Relief is mostly level or gentle. However, subsidence in the east of the site has resulted in a complex pattern of micro relief which severely limits potential use of agricultural machinery. Average altitude is 25m A.O.D. The site contains a mixture of land uses. In the north adjacent to the A1068 is the Ellington Road Waste Disposal Site. Woodland occurs in several blocks across the site. Of the agricultural land arable uses dominate in the west and grassland uses in the east of the site.

1.3 Climate

Grid Reference	: NZ 253 887
Altitude (m)	: 25
Accumulated Temperature above 0°C (January - June)	: 1322 day°C
Average Annual Rainfall (mm)	: 671
Climatic Grade	: 1/2
Field Capacity Days	: 170
Moisture Deficit (mm) Wheat	: 97
Moisture Deficit (mm) Potatoes	: 86

1.4 Geology, Soils and Drainage

Upper Carboniferous Coal Measures do not outcrop within a metre of the surface on the site. Soils are all developed from drift deposits, mostly of boulder clay but with lighter drift in the west. Parts of the north and east of the site have been restored following open cast coal workings in the 1940's.

Boulder clay soils typically contain medium textured topsoils over clayey, slowly permeable subsoils. Profiles are soil Wetness Class IV.

Lighter textured drift found in the west of the site has produced better drained soils with slowly permeable layers absent or only present at depth. These soils are medium to light textured and soil Wetness Class I to III.

Restored profiles have medium to heavy textured topsoils over heavy textured, slowly permeable subsoils. These soils are generally Wetness Class IV.

Subsidence has adversely affected drainage in the east of the site.

2. 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	50	10.9
3b	320	69.6
4	55	12.9
5		
(Sub total)	(425)	(93.4)
Urban	20	4.4
Non Agricultural		
Woodland	10	2.2
Agricultural Buildings		
Open Water	< 5	< 1
Land not surveyed		
(Sub total)	(30.0)	(6.6)
	_____	_____
TOTAL	460	100
	_____	_____

2.1 Subgrade 3a

This subgrade contains soils developed from light textured drift deposits found in the west of the site. Soils are light to medium textured and soil Wetness Class I to III.

Droughtiness or soil wetness and workability limit the ALC grade of this land.

2.2 Subgrade 3b

Subgrade 3b land is widespread on the site. Soils have medium textured topsoils over clayey, slowly permeable subsoils. This Subgrade includes both undisturbed and some better restored soils. Soil wetness and workability are the ALC limiting factors.

2.3 Grade 4

Restored land in the east of the site with very poorly structured subsoils is included in this grade. Severe soil wetness problems limit ALC. Also graded 4 are fields in the east which have a severe micro relief limitation probably caused by subsidence.

2.4 Urban

The Ellington Road Waste disposal site is classed as urban.

2.5 Woodland

Several blocks of coniferous and deciduous woodland are found on the site.

2.6 Open Water

This is found in the centre of the site and is probably caused by subsidence disturbing drainage courses.

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